GALLAGHER BASSETT | TECHNICAL SERVICES

# REMEDIAL INVESTIGATION WORK PLAN

## Vanguard Village I+II

### Clinton, Hudson, and Jarvis Streets
### City of Binghamton, Broome County, New York

**NYSDEC BCP Site: C704063**

**February 2026**

**GBTS Project: 23003-0060**

**Technical Services Division**

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**February 2026**

**GBTS Project: 22003-0092**

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The undersigned have reviewed this Remedial Investigation Work Plan and certify to The Metro Group Properties, Inc. and to the New York State Department of Environmental Conservation that the information provided in this document is accurate as of the date of issuance by this office.

I, Erick Salazar, CHMM, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Remedial Investigation Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

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# 1.0 INTRODUCTION

## 1.1 Purpose

This Remedial Investigation (RI) Work Plan (RIWP) describes actions proposed by Gallagher Bassett Technical Services (GBTS) to investigate the property located at Clinton, Hudson, and Jarvis Streets, City of Binghamton, Broome County, New York (the Site) in accordance with the requirements of the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP). The Brownfield Cleanup Agreement (BCA; DATE-TBD) identifies the Site as "Vanguard Village I+II" (C704063). This RIWP proposes an investigation to document environmental conditions at the Site (this work supplements earlier fieldwork conducted during previous due diligence activities). Work will be conducted in accordance with a Site-specific Health and Safety Plan (HASP, Appendix A), Quality Assurance Project Plan (QAPP, Appendix B), and a Community Air Monitoring Plan (CAMP, Appendix C).

## 1.2 Site Location and Description

The Site consists of the 4.79-acre property located at 181, 185, and 187 Clinton Street, 7 Hudson Street, and 34 Jarvis Street, City of Binghamton, Broome County, New York (six contiguous City tax lots: Section 160.22, Block 1, Lots 1 through 5). The property is located in a developed urban area generally comprised of residential and commercial uses. Figure 1 shows the Site location.

The Site is an irregular parcel, which has approximately 241 feet of frontage on the eastern side of Jarvis Street, 434 feet of frontage on the southern side of Clinton Street, and 430 feet of frontage on the western side of Hudson Street. The property is a vacant, former industrial site generally containing remnant concrete building slabs and paved areas. Adjoining properties include a filling station to the west (across Jarvis Street), railroad tracks to the south, and residential and/or commercial uses. Site features are shown on Figure 2 and all Figures show the BCP Site boundaries. Development plans for the Site include construction of two, new slab on grade five-story residential buildings (100% affordable housing) and several small commercial (retail) uses fronting Clinton Street.

## 1.3 Physical Setting

### 1.3.1 Site Topography

Local area topography is generally somewhat hilly. Surface relief at and near the Site is relatively uniform, with overall gentle downward slopes to the east towards the Chenango River, located approximately 0.7 mile to the east. The Site has surface elevations generally in the range of 855 to 860 feet above sea level (see Figure 2 and Figure 3).

### 1.3.2 Site Geology and Hydrogeology

Soils encountered at the Site during previous environmental investigations (maximum boring depth of 25 feet below ground surface [bgs]) generally consisted of fill (sand, gravel, brick, cinders and ash) from the surface to as deep as approximately 8 feet bgs, underlain by native sand and gravel with little to trace silt

(bedrock was not encountered). Groundwater was present between approximately 15 to 20 feet bgs, and direction of shallow groundwater flow was determined to be easterly. A geotechnical investigation in 2024 documented fill as deep as approximately 12 feet bgs over glacial outwash with scattered silt and clay seams. Bedrock was not encountered to a maximum depth of 50 feet bgs and wet soils were found at approximately 20 to 23 feet bgs.

### 1.3.3 Surface Waters, Wetlands, and other Natural Resources

There are no surface waters, federal or state designated wetland areas, or other similar natural resource features, including fish and wildlife, on or within a half-mile radius of the Site (see Figures 3 to 5). Based on these findings, a fish and wildlife resource impact analysis (FWRIA) is not anticipated to be required at the Site. The Site is not in a flood hazard area.

### 1.3.4 Local Area Land Use

The Site is located on the periphery of a well-developed urban setting. Land use within a half-mile of the Site is generally residential, with typical commercial (small retail and larger chain stores), and limited manufacturing and institutional, uses; see Figure 6). Data from previous environmental reports as well as the NYSDEC online "DECinfo Locator" show no significant known contaminated properties, including NYSDEC remedial program sites and open spills, in close proximity to the Site (the adjoining property to the west is a fully remediated IHWDS [Anitec Image Corporation, Site Code: 704022, classification "C"]). No significant environmental receptors (daycare facilities, schools, etc.) having a likely potential to be impacted by Site contamination and/or remediation have been identified within a half mile of the Site[1]. The NYSDEC Water Wells Map does not indicate any private wells within one-quarter mile.

## 1.4 Summary of Previous Environmental Investigations

The following previous environmental reports document Site history, and known and/or suspect media that are contaminated above applicable Standards, Criteria, and Guidance (SCG):

- *Phase I ESA*, Nelson, Pope & Voorhis, LLC (NPV), March 2022;
- *Phase I ESA*, Gallagher Bassett Technical Services (GBTS), February 2023.
- *Phase II Environmental Investigation*, GBTS, February 2023.
- *Summary Report of Subsurface Investigation*, GBTS, September 2025

The NPV report describes findings from several earlier reports (several referenced documents were not provided in the Phase I ESA appendices), including:

- *Environmental Site Assessment*, Enviro Testing, 1995*;*
- *Limited Phase II Environmental Site Assessment* (ESA), GeoLogic NY, Inc. (GeoLogic), July 2000;

[1] The New York Office of Children and Family Services' Child Care Regulated Programs Map indicates three childcare centers and one elementary school within a half mile; the nearest facility, however, is located at least 500 feet south (cross gradient) from the Site.

- *Tank Removal Report*, Geologic, July 2000
- *Additional Site Investigation Letter Report*, GeoLogic, 2001; and,
- *Phase I ESA and Direct Push Sampling Report*, GeoLogic, 2008.

Note: The 1995 to 2008 documents appear to have been intended to generally be inclusive of a former industrial facility (Vail-Ballou) that had been located on Site Lot 2 as well as adjoining off-site locations; the following discussion describes relevant findings for the Site based on the available information.

According to NPV, the 1995 Enviro Testing report stated that: "*Site inspection indicated there was a partially vacant 196,000-square foot industrial building, currently used for storage of computer supplies and an auto repair business…numerous drums, containers, temporary mixing vats, etc. still exist on site and some are corroded and leaking unknown materials…Vail-Ballou listed as storing developing chemicals, diazo solutions, activators, stabilizers and fixers, most of which are used in photo processing… evidence of possible Class V underground injection wells were identified inside the building and may be receiving waste (i.e. oils, gas, antifreeze) from the auto repair operation.*"

Based on the reported building size, as well as a 1995 aerial photograph reviewed by GBTS, this description likely includes one or more structures formerly located on Site Lot 2.

The 2000 Geologic Phase II ESA noted that Enviro Testing stated that there were possible "Class V injection wells" at the property (including near the automotive repair facility) and that there were potential buried railroad cars used as fuel tanks, which were located at an adjoining property (later reports make clear that this property is located off-Site east of Hudson Street, but that fuel lines carried oil onto the southeastern portion of the Site). The report summarized installation of three borings around the foundation of the former building(s) at Lot 2, soil sampling, conversion of three borings to groundwater monitoring wells, and groundwater sampling. No notable field evidence of contamination was observed during the fieldwork, and no significant contamination was reported in soil or groundwater. The GeoLogic Tank Removal Report documented removal of three underground storage tanks (USTs; 275-gallon fuel oil, and 1,000-gallon naphtha and gasoline tanks) at the northwestern portion of Lot 2. Although holes were observed in the fuel-oil UST, and the other tanks were pitted, no field evidence of contamination was observed and soil testing documented an absence of contamination (note, however, that testing was limited to petroleum compounds only; samples were not analyzed for either chlorinated solvents or PCBs).

According to NPV, the 2001 Enviro Testing report stated that additional work was completed based on the discovery of petroleum in a manhole located on the southeast corner of the property. Five borings were drilled (one near the former gasoline station, one along the southern property line, one in the central portion of the property and two at the southeast corner of the property) and six test pits were excavated in the southeast corner of the property. Cut pipes with residual petroleum, extending from the adjoining property to the east, were encountered and removed from test pits along the eastern side of the property. Soil samples from the southeastern portion of the property had field evidence of petroleum contamination and elevated levels of petroleum compounds. The piping was reportedly "likely connected to the four underground storage tanks that had been located on the east side of Hudson Street. These

former tanks were reported to be buried railroad cars with a capacity of 10,300 gallons. These tanks provided fuel to the Vail-Ballou boiler room that had been located near the southeastern portion of the property)." Groundwater impacts were limited to low-level exceedances for acetone and chloroform, and low levels of petroleum (at the southeast corner).

According to NPV, the 2008 Enviro Testing Phase I ESA and Direct Push Sampling Report stated that a floor drain present in the automotive repair facility likely discharged on the subject property. Two existing groundwater monitoring wells were sampled and borings were extended at multiple locations, including "downgradient of the property boundary", in the vicinity of the former gasoline station and the 2000 tank removal area, near the former petroleum pipes, and several other areas. Groundwater sampling documented chloroform, tetrachloroethene, acetone, and several polycyclic aromatic hydrocarbons at concentrations below NYSDEC groundwater standards. No soils samples appear to have been submitted for laboratory analysis.

The 2008 Phase I Environmental Site Assessment identified historical automotive repair activities from circa 1933 to at least 2020, historical use of USTs (gasoline and other materials) at the western portion of the Site, and a fuel-oil spill event (No. 1702628) at a southwestern adjoining property as well as several historical nearby gasoline filling stations. The 2023 GBTS Phase I ESA generally confirmed the 2008 findings and indicated that all Site structures had been demolished by circa 2018-2019.

The 2023 Phase II Environmental Investigation documented collection of twenty (20) surface soil samples, and the 2025 Summary Report of Subsurface Investigation documented extension of fourteen (14) test pits and collection of subsurface soil, and confirmed the presence of fill materials. Contamination above NYSDEC Soil Cleanup Objectives (SCOs) for Restricted-Residential Use (RRU) were reported throughout the Site including polycyclic aromatic hydrocarbons (PAHs) and metals (including arsenic, barium, chromium, copper, lead, and mercury). Lead and several PAHs were documented at concentrations over 30 times RRU SCOs, and arsenic is reported over 9 times the RRU (maximum 149 ppm). Site investigation data from GBTS is summarized below (analyte values and RRU SCOs in parts per million [ppm]):

**Table 1.4 – Summary of GBTS Soil Data 2023 and 2025**

| Analytes Above RRU SCOs | Detections | Maximum Value | RRU SCO | Depth |
|---|---|---|---|---|
| benzo(a)anthracene | 5 | 25.7 | 1 | 4 |
| benzo(a)pyrene | 5 | 21.7 | 1 | 4 |
| benzo(b)fluoranthene | 5 | 31.1 | 1 | 4 |
| benzo(k)fluoranthene | 2 | 11.2 | 3.9 | 4 |
| chrysene | 2 | 25.0 | 3.9 | 4 |
| dibenzo(a,h)anthracene | 3 | 11.1 | 0.33 | 4 |
| indeno(1,2,3-cd)pyrene | 6 | 16.7 | 0.5 | 4 |
| arsenic | 13 | 149 | 16 | 2 |
| barium | 7 | 2,550 | 400 | 0-0.33 |
| copper | 3 | 738 | 270 | 2 |
| lead | 13 | 16,900 | 400 | 3 |
| mercury | 4 | 1.37 | 0.81 | 8 |

Previous building and UST locations are shown on Figure 7, relevant previous sampling data are shown on Figure 8, and excerpts of previous reports are provided in Appendix D.

## 1.5 Areas of Concern

Based on documented Site history and the results of previous environmental investigations, the following areas of concern (AOC), requiring additional investigation, have been identified:

**AOC 1 Documented Soil Contamination**:

Soil with debris (poor-quality urban fill) is present throughout the Site. Existing laboratory data document the presence of metals at concentrations above RRU SCOs (Figure 8). Previous results were for surface soils, only, with a limited set of analytes, and do not provide delineation data for known metal impacts.

**AOC 2 Potential Impacts to Groundwater and Soil Vapor Quality**:

Historical Site uses may have resulted in impacts to groundwater and/or vapor; groundwater and soil vapor quality at the Site is unknown.

# 2.0 REMEDIAL INVESTIGATION WORK PLAN

This RIWP details activities proposed by GBTS to further characterize the Site so that a comprehensive assessment of Site conditions, as required by the NYSDEC BCP guidelines, is completed.

Previous environmental fieldwork will be supplemented by the work described below to complete a Remedial Investigation in compliance with NYSDEC *Technical Guidance for Site Investigation and Remediation* (DER-10), Section 3. Additional investigation will be completed to fully characterize contamination associated with the identified areas of concern (known significant impacts to soil and unknown groundwater and soil vapor quality), and establish a comprehensive data set for all NYSDEC Part 375 analytical parameters in accordance with BCP requirements.

A Remedial Investigation Map depicting relevant Site features, and previous and proposed sampling locations is provided as Figure 9, and an alpha-numeric Grid Map is provided as Figure 10. All proposed work will be conducted in accordance with a site-specific HASP (Appendix A), QAPP (Appendix B), and CAMP (Appendix C).

For the purpose of the work detailed in this RIWP, the Volunteer is Think City Partners, who will contract with the environmental consultant/remediation firm (hereafter referred to as the On-site Coordinator [OSC]) to provide the services detailed below. The OSC shall be a firm with experience in investigating NYSDEC BCP sites, with the capability to certify the final Remedial Investigation Report (RIR) in conformance with DER-10 Section 1.5.

## 2.1 Overview of Proposed Investigative Services

The proposed investigative services described in detail in subsequent sections of this RIWP consist of the following:

- Documentation of Underground Structures (2.2.3);
- Initiation of air monitoring during ground intrusive activities (Section 2.3.1);
- Extension of twenty-five (25) soil borings, and collection of one or more soil samples from each boring, to document soil conditions (Section 2.3.4);
- Installation of seven (7) permanent groundwater monitoring wells, and sampling to document groundwater quality (Section 2.3.5);
- Collection of fourteen (14) soil vapor samples to define on-Site contamination and any potential off-Site impacts (Section 2.3.3); and,
- Preparation of a RIR for the Volunteer and NYSDEC (Section 2.4)

Prior to, or in conjunction with, the initiation of these actions (see Section 2.3), the tasks detailed in Section 2.2, below, will also be conducted.

## 2.2 Proposed Site Preparation Services

This section of the RIWP provides details of activities and services necessary to be initiated and/or completed prior to the implementation of Site remediation services.

### 2.2.1 Agency Notification and Reporting

The NYSDEC will be notified in writing at least five (5) business days prior to the start of fieldwork. Notification of subsequent field activities will be in accordance with reasonable business practice, with verbal notification for immediate (within 48 hours) activities and written notification otherwise. Written notifications will be transmitted to the NYSDEC via facsimile or electronic mail. Daily reports will be provided to NYSDEC and New York State Department of Health (NYSDOH) by the end of the following business day.

A final list of the names, contact information, roles, and qualifications of the principal personnel who will participate in the investigation (including the project manager and contractors) will be provided to NYSDEC prior to the start of fieldwork. If the principal personnel designated on the project change, information for new personnel will be submitted to NYSDEC for approval. Relevant information is also provided in the QAPP (Appendix B) and CAMP (Appendix C).

### 2.2.2 Utility Markout

Prior to the implementation of any of the investigative tasks outlined in Section 2.3, below, a request for a complete utility markout of the Site will be submitted as required by New York State Department of Labor regulations. Confirmation of underground utility locations will be secured, a field check of the utility markout will be conducted prior to the initiation of work.

### 2.2.3 Documentation of Underground Structures

The presence or absence of relevant underground structures will be documented throughout accessible areas of the Site, either using ground penetrating radar (GPR) or other means if GPR technology is determined to not be suitable to the Site (e.g., metal reinforcement in building slabs may be a significant limiting factor). A GPR survey will be of sufficient density to document the presence or absence of small subgrade structures, including tanks. Results will be provided to the OSC and NYSDEC prior to the extension of borings (which may be relocated based on the findings) and will be recorded on Site maps for inclusion in the RIR. Should the use of GPR not be feasible, an alternative methodology will be proposed to NYSDEC for review and approval.

### 2.2.4 Quality Assurance Project Plan (QAPP)

The QAPP (Appendix B) details necessary procedures to generate data of sufficient quality and quantity to represent successful performance of the Remedial Investigation. The QAPP includes a Sampling and Analysis Plan (SAP) for all media, which identifies methods for sample collection and handling.

A photo-ionization detector (PID) will be utilized to screen encountered materials for the presence of volatile vapors. The PID will be calibrated at the onset of each workday, and a written calibration log will

be maintained for this project. The PID will be calibrated to read ppm gas equivalents of isobutylene in accordance with protocols set forth by the equipment manufacturer.

All samples will be collected in accordance with applicable DER-10 requirements and NYSDEC and NYSDOH guidance documents, and will be submitted to a NYSDOH Environmental Laboratory Approval Program (ELAP) certified laboratory using appropriate chain of custody procedures. Dedicated, laboratory supplied containers will be used for sample collection. Field personnel will maintain all samples at cold temperatures, as necessary, and complete all chain of custody forms. Laboratory reports will include detailed Quality Assurance/Quality Control (QA/QC) analyses, including sample duplicates, rinse blanks (for non-dedicated sampling equipment), and trip blanks.

A Data Usability Summary Report (DUSR) will be prepared by a third, independent party, which has been deemed acceptable by NYSDEC.

### 2.2.5 Subcontractor Coordination

Subcontractors will perform services under the direct supervision of the OSC and will be given a copy of the Health and Safety Plan (Section 2.2.6) prior to the start of fieldwork. All insurance certificates will be secured from subcontractors by the Volunteer and/or OSC. It is anticipated that the following subcontractors will be used during the RI: geophysical, driller, laboratory, and data validator.

### 2.2.6 Health and Safety Plan (HASP)

The Site-specific HASP (Appendix A) will be reviewed with on-Site personnel (including subcontractors) prior to the initiation of fieldwork. It is anticipated that all work will be performed in "Level D" personal protective equipment; however, all field personnel will be prepared to continue services wearing more protective levels of equipment as warranted by field conditions. The HASP provides practices to be implemented in order to protect off-Site receptors, such as users of adjoining sidewalks and/or adjoining properties.

### 2.2.7 Site Security

The Volunteer will secure the property with a six-foot fence and locking gates to prevent unauthorized access to the BCP Site. [Note: While egress points must be determined based on actual Site conditions and practical considerations for the utilization of heavy equipment, all efforts will be made to avoid locating such areas in proximity to adjoining sensitive uses.]

## 2.3 Proposed Specific Investigation Services

This section of the RIWP provides a detailed description of the investigative tasks that will be conducted at the Site.

### 2.3.1 Community Air Monitoring Plan (CAMP)

A CAMP (Appendix C; inclusive of the NYSDOH Generic CAMP [DER-10 Appendix 1A]) will document the presence or absence of specific compounds in the air surrounding the work zone, which may migrate off-site due to fieldwork activities. The CAMP will be implemented: 1) at all times that fieldwork activities that

are likely to generate emissions are occurring; and 2) for the duration of all ground intrusive and soil handling activities.

This plan provides guidance on the need for implementing more stringent dust and emission controls based on air quality data. Air monitoring will be conducted for VOCs and for dust. Water misting will be used to control dust (as needed) during all ground intrusive activities, which will be limited to the extension of soil borings and installation of the monitoring wells (hand-held equipment and portable water tanks will be supplied by the driller).

Site investigation activities are not expected to expose impacted soil or other media in quantities likely to generate vapor emissions creating a public nuisance or that could pose a health hazard to workers and the general public. The CAMP, however, specifies that the fieldwork team must be prepared to stop work in response to excess vapor conditions in order to evaluate appropriate response actions, which may include the use of an odor/vapor suppressant, such as BioSolve®, capable of suppressing vapor releases (see documentation in CAMP), or limiting work to cooler or less windy times of day.

### 2.3.2 General Fieldwork Methodology

Fieldwork methodology will be in conformance with the QAPP (including sample handling and custody for per- and polyfluoroalkyl substances [PFAS]), which includes copies of applicable Standard Operating Procedures (SOPs) for fieldwork activities. The QAPP provides tables indicating appropriate types of sample containers, sampling frequency and the approved USEPA Methods for laboratory analysis.

All sampling locations will be determined in the field, documented using a handheld GPS unit (accuracy ±0.5 foot), and recorded in fieldwork logs for use in production of all final maps. Anticipated sampling locations, and planned new monitoring wells, are depicted on the Remedial Investigation Map (Figure 9).

An assessment of media characteristics, including soil type, presence or absence of foreign materials, field indications of contamination (e.g., unusual coloration patterns or odors), and instrument (PID) readings, will be made by the OSC during all investigative work. In accordance with DER-10, sampling media and/or other materials will be considered “grossly” contaminated based on the presence of sources or substantial quantities of mobile contamination in the form of non-aqueous phase liquids (NAPL) that is identifiable either visually, through strong odor, by elevated contaminant vapor levels, or is otherwise readily detectable without laboratory analysis. Site contamination that is concentrated and likely to or known to exceed applicable standards, criteria, and guidance, will be considered as a “hot spot” potentially requiring targeted evaluation and response actions (hot spots may serve as source areas of mobile contamination impacting other Site locations or off-Site areas).

The OSC will be responsible for identifying any materials that require special handling (media that may contain elevated concentrations of contaminants or is grossly contaminated, hazardous materials, etc.) and will ensure that they are properly securely stored on-site (soil stockpiled on plastic and covered, or soil and water placed in approved containers), pending characterization and proper disposition. The OSC will ensure that unforeseen environmental conditions are managed in accordance with applicable federal and state regulations.

Any proposed significant changes to the assessment program for soil, groundwater, and/or vapor (e.g., change in number or location of samples, or modifications to installation methodologies for monitoring wells or vapor probes) will be made in consultation with NYSDEC, and may require submission of an approved Work Plan.

For the purposes of the RI, references to "Part 375 analytes" shall mean:

- Organic compounds (VOCs and SVOCs) on the USEPA Target Compound List (TCL) plus 30 tentatively identified compounds (TICs), with analysis of 1,4-dioxane by 8270 SIM;
- All remaining compounds identified in NYSDEC Part 375-6.8 Soil Cleanup Objective tables, including USEPA Target Analyte List (TAL) metals with $Cr^{+6}$, polychlorinated biphenyls (PCBs), pesticides, herbicides, and cyanide; and,
- PFAS (Method 1633 analyte list, in accordance with the most recent NYSDEC guidance).

Analysis of samples may be modified in consultation with the NYSDEC Project Manager based on initial sampling results, including the presence or absence of field evidence of contamination. Additional analysis may be performed based repository requirements for waste characterization prior to off-site disposal.

### 2.3.3 Soil Assessment

Soil Borings

Soil collection during the RI will be based on the totality of fieldwork observations and a complete review of laboratory analyses, such that final reported data complies with requirements of 6NYCRR 375-3.8(b) for investigations to determine the full nature and extent of contamination, including additional fieldwork rounds for the advancement of soil borings and/or installation of monitoring wells to fully delineate the areal and vertical extent of contamination, and to determine if contamination extends or is migrating off-site (the need for an expanded investigation scope will be determine in consultation with NYSDEC). Borings will be extended until an aquitard or confining bed is encountered, or until refusal (see below). A determination that the vertical extent of the soil sampling program has been sufficient will be made in consultation with NYSDEC prior to submission of the final Remedial Investigation Report.

A planned total of twenty-five (25) soil borings (SB-01 to SB-25) will initially be extended during the RI, with additional step-out borings as needed (based on the presence of gross contamination, or professional evaluation of lesser indications of contamination, including low-level staining, odors, PID readings, or the presence of foreign materials) in order to define the extent of Site soils containing analyte concentrations above the applicable SCOs.

Borings will be extended using mechanized equipment (or hand-held equipment, as necessary), capable of collecting soil cores at discreet intervals. Soil is anticipated to be collected using coring barrels (4 or 5 feet in length) lined with disposable acetate sleeves (split spoons may be utilized based on Site conditions and equipment availability).

Based on the findings of the previous Site investigations (see Section 1.4), refusal on bedrock is not expected. A final determination of boring refusal will be made in consultation with the qualified drilling sub-contractor, including field observations of equipment behavior, time required to advance the boring, and examination of the cutting shoe for damage and/or the presence of materials resisting boring advancement (obvious bedrock, dense gravel layer, etc.), and review of available geological reports. The failure to reach targeted depths, based on a determination of refusal, will result in modification of the boring plan as necessary, including the use of step out borings, the use of alternative means of boring (e.g., a sonic drill rig replaces direct-push equipment in order to move through a dense gravel layer), or the use of equipment capable of extending test pits. All instances of refusal will be fully documented in field logbooks and relevant information will be promptly provided to NYSDEC.

Sampling Methodology

Soil will be continuously recovered from borings, and material in each sampling interval will be characterized in order to identify existing subsurface physical conditions and any overt evidence of contamination. Sampling of recovered material for laboratory submission will be conducted from all boring intervals, as warranted, to fully define contaminants in soil and provide sufficient areal and vertical delineation. Samples will be collected (at a minimum) from the surface (0-2 inches bgs), fill materials, the soil stratum intercepting the groundwater table, and from soil exhibiting field evidence of impacts (if encountered) or at soil strata corresponding to previously identified contamination in nearby boring locations (for delineation).

Sampling events may occur in multiple rounds to ensure complete Site characterization in compliance with DER-10, Chapter 3. Examples of secondary events include collection of shallow, near surface soils as warranted based of laboratory results from sampling the more extensive parent interval of upper soils, and additional characterization of existing soils proposed to remain in place as a clean cover system (based on Site development requirements, the characterization of in situ cover soils may be conducted in full or part during a Pre-design Investigation). Any additional rounds of sampling will be conducted only after proposed sample locations or procedures are reviewed by NYSDEC.

Samples will be collected directly from the freshly cut open sleeve, using disposable plastic trowels or properly decontaminated stainless steel instruments, or may be manually collected directly from exposed soil or the sampling instrument using dedicated disposable latex gloves.

Soil sampling for VOCs will follow USEPA Method 5035 protocols, using disposable 5-gram plastic syringes to place material into laboratory-supplied glass vials (prepared with stirs bars and appropriate preservatives).

Sample Submission

All soil samples will be analyzed for Part 375 analytes.

### 2.3.4 Groundwater Assessment

The RI will identify current and potential groundwater uses at the Site and document current groundwater conditions. A minimum of seven (7) new permanent monitoring wells (GMW-01 to GMW-06) are proposed to be installed within the overburden and sampled. Monitoring wells may be relocated or extended into bedrock, or their number modified, based on encountered Site subsurface conditions, including the absence of saturated soil, or the presence of gross contamination. The need for installation of paired "deep" wells (e.g., to evaluate impacts from VOCs with a high specific gravity) will be determined following review of initial laboratory data. All monitoring wells will be sampled.

Well installation, well development, and sample collection and laboratory submission are detailed below.

Monitoring Well Installation

Based on previous environmental reports, groundwater is expected between approximately 15 to 23 feet bgs, within the overburden, and a drill rig with 8-inch auger (or similar equipment) will be used to advance borings to likely final depths from approximately 25 to 33 feet bgs. All well casings will be constructed of two-inch PVC, with 0.01-inch slotted PVC screening across the water table (screen length 10 feet with a minimum of 2 feet of screening above the water table). No glue will be used to thread the casing lengths. If paired, deeper wells are required, screening depths will be determined in consultation with NYSDEC. The need for bedrock wells is not anticipated at this time. The annular space between the well screen and the borehole will be backfilled with clean silica sand to a depth of approximately two feet above the well screen. A seal consisting of hydrated bentonite clay will be placed above the sand pack (minimum of least 12 inches at shallow wells, and the depth required to exclude the upper water column at deep wells) and the remaining annular space will be grouted with cement. If bedrock wells are required, borings will be implemented using either air-rotary or sonic equipment, based on encountered Site conditions and the recommendation of the driller. Two-inch (minimum diameter) PVC or metal casing will be extended through the overburden soils and socketed into the upper portion of the bedrock in order to prevent contact with vadose zone media and/or contaminants. The open borehole within the bedrock will be extended to a depth sufficient to ensure a minimum water column depth of 8 feet (screening may be used within the borehole if bedrock does not appear to be competent).

For all monitoring wells, a locked cap with vent will be installed at the top of the PVC riser and the wells will be protected by secure metal covers or casings.

All wells will be surveyed to determine the elevation of the top of the PVC well riser, for use in determining groundwater elevations and direction of flow. Relative elevations (documented using a transit) will initially be utilized in order to provide guidance during implementation of the RI, and absolute elevations based on NAD 83 will be determined by a licensed surveyor at the conclusion of the RI fieldwork activities. Well locations and relative elevations will be recorded in field logs and indicated on all fieldwork maps.

Monitoring Well Development

One week following installation, wells will be developed with a decontaminated mechanical pump and dedicated polyethylene tubing in order to clear fine-grained material that may have settled around the well screen and to enhance the natural hydraulic connection between the well screen and the surrounding soils. Well development will begin at the top of the screened interval to prevent pump clogging. Development will be discontinued when the discharge water is free of obvious sediment, turbidity is below 50 NTUs and indicator parameters (e.g., dissolved oxygen, temperature, etc.) have stabilized. The pump assembly will be removed from the well while the pump is running to avoid discharge of purged water back into the well. Development water will be securely stored on-site pending laboratory analysis.

Sampling Methodology

All Site monitoring wells will be sampled one week following development using USEPA Low-Stress ("low flow") methodology. Sampling will be conducted using the following protocol:

1. Basic weather conditions and all field observations will be recorded in the field logbook. Sampling will begin at the potentially least contaminated well (as determined from well location and/or previous data) and proceed to the potentially most contaminated well. Wells will be checked for damage or evidence of tampering before initiating sampling.
2. If permissible under QAPP requirements, plastic sheeting will be placed around wells to minimize potential contamination of sampling equipment from the ground surface, and all monitoring, purging and sampling equipment will be placed on the sheeting.
3. The protective casing on the well will be unlocked, the air in the well head will be screened with a PID, and the static water level (relative to the top of the casing) will be measured with a decontaminated water-level meter. A peristaltic pump with plastic tubing (or equivalent equipment) will be used for sampling. The tubing (or a submersible pump attached to tubing, if required by Site conditions) will be slowly lowered until reaching two to three feet off of the well bottom to prevent disturbance of sediment.
4. The water level will be measured before the pump is started and at three to five minute intervals. Pumping rates will be reduced (as needed) to the minimum capabilities of the pump to ensure stabilization of the water level (drawdown of 0.3 feet or less).
5. During pumping, field indicator parameters (turbidity, temperature, specific conductance, pH, redox potential, and dissolved oxygen) will be monitored and recorded approximately every five minutes. The well will be considered stabilized when the indicator parameters have stabilized for three consecutive readings (the minimum purge interval will be at least 15 minutes).
6. All groundwater samples will be collected in a manner consistent with the QAPP.
7. The protective cap on the well will be replaced and locked, and the field sampling crew will move to the next most contaminated well and the process will be repeated.

Sample Submission

All groundwater samples will be analyzed for Part 375 analytes.

Groundwater Flow Calculations

The direction of groundwater flow will be determined based on elevations of static groundwater as measured at all wells, measured prior to water quality sample collection. Measurements will be collected with an electronic depth meter with an accuracy of +/- 0.01 foot. All data will be recorded in field logs and presented on a Direction of Groundwater Flow Map in the RIR.

### 2.3.5 Vapor Assessment

A total of fourteen (14) vapor samples (SV-01 to SV-14) will be collected during the RI to define potential VOC contamination, and to help determine the potential for off-Site migration of vapor. All sampling will be in accordance with NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006, and subsequent updates. Supplementary sampling (e.g. additional depths) may be conducted, in consultation with NYSDEC, to provide increased spatial resolution of VOC impacts as warranted.

Sampling Methodology

Vapor probes will be constructed by advancing a boring, using mechanized direct-push equipment, and inserting sampling tubing to a depth corresponding to the lowest elevation of the planned building slabs or to approximately 4 feet bgs in areas without planned new structures. The end of the tubing will be protected with a stainless steel screen or ceramic gas diffuser (air stone) to prevent particulates from entering the tubing. The sample collection interval (approximately 1 foot) will be backfilled with clean sand that will surround the end of the tubing. Several inches of dry bentonite clay will be placed above the sand, and the remaining upper portion of the borehole and the surface opening will be filled and sealed with hydrated clay to prevent surface air, or vapor from non-target intervals, from entering the system.

All locations will utilize approved tubing (0.188-inch inner diameter Teflon), be screened with a PID for VOCs prior to purging, and will be checked for a proper surface seal. A tracer gas will be used to verify that there is no significant infiltration of outside air. The space surrounding the sampling point will be enclosed and sealed (e.g., with a metal hemisphere and clay seal, over plastic sheeting) in order to introduce helium into the area surrounding the probe. Real-time sampling equipment (Radiodetection Multi-vapor Leak Locator, model MDG 2002, or equivalent) will be utilized to determine when the interior atmosphere in the enclosure reaches a concentration of 80%, and the tubing for the vapor implant will then be sampled for helium. If helium is detected in vapor at a concentration greater than 10%, the annular seal will be repaired and gas tracing performed again until less than 10% helium is detected.

Successful exclusion of the tracer gas will be considered adequate documentation that sampling techniques are sufficiently preventing air infiltration (screening will be conducted at additional locations, as needed, based on any variable conditions encountered in the field).

For all vapor sampling locations, the exact purge volume will be dependent on boring depth and tubing length. Three borehole and tubing volumes will be purged prior to collection. The purge rate will not exceed 0.2 liters per minute. All vapor samples will be collected into laboratory-certified clean Summa canisters (rate not exceeding 0.2 L/minute), equipped with two-hour flow regulators.

Sample Submission

Vapor samples will be analyzed for VOCs using USEPA method TO-15.

### 2.3.6 Sampling Summary

The overall sampling rationale is to delineate the nature and extent of contamination in all Site media, assess potential human exposures and/or off-Site environmental impacts, and to provide information sufficient for developing potential remedial response actions. Site-wide sampling will include collection of: soil from borings using a mechanized Geoprobe with macro-core barrel (multiple depths) to address AOC 1; and groundwater from permanent monitoring wells using USEPA low-flow methodology, and vapor using probes installed in borings, following relevant NYSDOH protocols, to address AOC 2. Additional soil sampling will be conducted from step-out borings as needed, based on any observed contamination conditions or based on any newly documented "hot spots" indicated by laboratory analysis. Manual confirmatory endpoint soil sampling will be conducted in any excavation areas associated with removal of on-Site USTs (details regarding any UST excavation activities and associated remedial actions will be provided in a Work Plan for the review and approval of NYSDEC). The location, number, and depth of these samples will be based on encountered field conditions.

The following tables summarize proposed Site investigation sampling, including matrix type, location, sampling collection method, laboratory analytical parameters, sampling rationale, and required QA/QC samples as needed. All laboratory analysis, minimum reporting limits, and QA/QC sampling as per the QAPP, including TICs, duplicates, and blanks.

**Table 2.3.6a - Summary of Sample Analytical Parameters and Sampling Rationale**

| Sample Matrix | Analytical Parameters | Sampling Rationale |
|---|---|---|
| Soil (borings or test pits) | Full Part 375 list; PFAS | Site-wide analysis of upper fill materials and the soil interval intercepting groundwater table, as well as other soil intervals that may exhibit overt contamination and/or for delineation |
| Soil (excavation endpoints) | Full Part 375 list; PFAS | Document any releases at excavation areas (USTs and/or buried hydraulic equipment) |
| Groundwater | Full Part 375 list (includes dissolved metals); PFAS | Site-wide analysis of groundwater (concurrently allows determining direction of groundwater flow) |
| Vapor | TO-15 VOCs | Site-wide analysis of vapor and potential for off-Site impacts |

*Notes:*

- *Reporting limits for all analytical parameters are provided in Attachment E of the QAPP (RIWP Appendix B)*
- *Part 375 list includes TCL VOCs/SVOCs +30 TICs, TAL metals with $Cr^{+6}$, cyanide, pesticides, PCBs, herbicides, PFAS 1633, and 1,4-dioxane 8270 SIM*
- *Analyte list may be modified in consultation with NYSDEC*

| Table 2.3.6b - Sample Location, Depth, and Collection Method | | | | | |
|---|---|---|---|---|---|
| **Sample ID** | **Grid Location** | **Sample Matrix** | **Sample Depth (*see notes*)** | **Collection Method** | **AOC (Notes)** |
| SB-01 | I1 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-02 | K1 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-03 | Q1 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-04 | D4 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-05 | H4 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-06 | L4 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-07 | N4 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-08 | R4 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-09 | C6 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-10 | F6 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-11 | M6 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-12 | P6 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-13 | R5 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-14 | E8 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-15 | H8 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-16 | L8 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-17 | P8 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-18 | G11 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-19 | J10 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-20 | N10 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-21 | R10 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-22 | J12 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-23 | P11 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-24 | Q14 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| SB-25 | T12 | soil | surface, 0-5, groundwater interval | Geoprobe macro-core | AOC 1 |
| GMW-01 | B2 | water | TBD based on final well construction detail | USEPA low-flow | AOC 2 |
| GMW-02 | N1 | water | | USEPA low-flow | AOC 2 |
| GMW-03 | J6 | water | | USEPA low-flow | AOC 2 |
| GMW-04 | E10 | water | | USEPA low-flow | AOC 2 |
| GMW-05 | M12 | water | | USEPA low-flow | AOC 2 |
| GMW-06 | S8 | water | | USEPA low-flow | AOC 2 |
| GMW-07 | U15 | water | | USEPA low-flow | AOC 2 |
| SV-01 | C2 | vapor | TBD in consultation with NYSDEC | NYSDOH (Summa canister) | AOC 2 (plus screen for off-Site impacts) |
| SV-02 | I3 | vapor | | NYSDOH (Summa canister) | AOC 2 (plus screen for off-Site impacts) |
| SV-03 | O2 | vapor | | NYSDOH (Summa canister) | AOC 2 (plus screen for off-Site impacts) |
| SV-04 | Q3 | vapor | | NYSDOH (Summa canister) | AOC 2 (plus screen for off-Site impacts) |
| SV-05 | B4 | vapor | | NYSDOH (Summa canister) | AOC 2 (plus screen for off-Site impacts) |
| SV-06 | D6 | vapor | | NYSDOH (Summa canister) | AOC 2 (plus screen for off-Site impacts) |

| Table 2.3.6b - Sample Location, Depth, and Collection Method | | | | | |
|---|---|---|---|---|---|
| **Sample ID** | **Grid Location** | **Sample Matrix** | **Sample Depth (*see notes*)** | **Collection Method** | **AOC (Notes)** |
| SV-07 | F5 | vapor | TBD in consultation with NYSDEC | NYSDOH (Summa canister) | AOC 2 (plus screen for off-Site impacts) |
| SV-08 | H5 | vapor | | NYSDOH (Summa canister) | AOC 2 (plus screen for off-Site impacts) |
| SV-09 | F10 | vapor | | NYSDOH (Summa canister) | AOC 2 (plus screen for off-Site impacts) |
| SV-10 | K8 | vapor | | NYSDOH (Summa canister) | AOC 2 |
| SV-11 | P9 | vapor | | NYSDOH (Summa canister) | AOC 2 |
| SV-12 | S7 | vapor | | NYSDOH (Summa canister) | AOC 2 (plus screen for off-Site impacts) |
| SV-13 | L13 | vapor | | NYSDOH (Summa canister) | AOC 2 (plus screen for off-Site impacts) |
| SV-14 | T15 | vapor | | NYSDOH (Summa canister) | AOC 2 (plus screen for off-Site impacts) |

*Notes:*
- *Surface = 0 to 2 inches; 0-5 = sleeve interval from surface to 5 feet bgs*
- *Soil samples to be collected at additional depth intervals as required; see Section 2.3.3 for details*
- *Sampling at any excavation areas requires prior review and approval of a work plan by NYSDEC*

| Table 2.3.6c - QAPP Required Duplicates and Blanks | |
|---|---|
| **Required QAPP Samples** | **Number of Samples** |
| Duplicates, MS/MSD | 1 for every 20 samples (minimum 1/week), as per sample collection requirements |
| Trip Blank (PFAS) | 1 per sample cooler (each day of sampling) |
| Trip Blank (VOCs) | 1 per sample cooler (each day of sampling) |
| Field Blank (PFAS) | 1 per sampling day (each matrix) |
| Equipment Blank | 1 for every 20 samples (non-dedicated), as per sample collection requirements |
| Duplicates, MS/MSD | 1 for every 20 samples (minimum 1/week), as per sample collection requirements |

### 2.3.7 Management of Investigation-Derived Waste

Any soil cuttings will be backfilled within the originating borehole to within 12-inches of the surface, unless the following conditions exist: soil is grossly contaminated; the boring has penetrated a confining layer; a path for vertical migration would be completed; cuttings do not fit in the borehole; or the boring will be converted to a monitoring point for groundwater or soil vapor.

Waste soil generated during the investigation will be stored on plastic sheeting or within approved DOT containers prior to being returned to the bore hole. Any materials remaining at the Site at the end of the workday will be properly covered and secured and all materials remaining after completion of the fieldwork will be containerized and disposed off-site at a permitted facility. In the event that soil stockpiles are utilized, the following conditions will apply:

- All stockpile activities will be compliant with applicable laws and regulations. Stockpile areas will be appropriately graded to control run-off and will be located in areas not subject to flooding or excessive sheet flow during storm events. Material to be stockpiled will be placed within an area designed and constructed to contain the materials from all sides and prevent runoff and dispersion. Stockpiles of excavated soils and other materials shall be located at least of 50 feet from the property boundaries, where possible.

- Excavated soil from known and/or suspected areas of contamination (e.g., petroleum spill areas, drains, etc.) will be stockpiled separately and will be segregated from clean soil and construction materials. Stockpiles will be used only when necessary and will be removed as soon as practicable. Excavated soils will be stockpiled on, at minimum, double layers of 8-mil minimum sheeting. Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced. Results of inspections will be recorded in a logbook maintained at the Site and available for inspection by NYSDEC.
- Soil stockpiles will be continuously encircled with silt fences. Hay bales (or equivalent) will be used as needed near catch basins, surface waters and other discharge points.
- Water will be available on-Site at suitable supply and pressure for use in dust control.

Monitoring well purge water and other fluids will be securely stored on-site in properly labeled, DOT-approved closed containers, pending the results of groundwater sampling and/or waste characterization, and disposed at an appropriate facility. Discarded personal protective equipment and other fieldwork supplies will be disposed as municipal solid waste.

### 2.3.8 Management of Contingency Conditions

General Methodology

Identification of unknown contamination source areas during invasive Site work will be promptly communicated to NYSDEC's Project Manager, and petroleum spills will be reported to the NYSDEC Spill Hotline. These findings will be included in the daily report. If previously unidentified sources of gross contamination are found during the investigation, sampling will be performed on targeted material and surrounding soils; chemical analytical testing will be performed in accordance with the QAPP and any NYSDEC directives.

On-site personnel should be prepared to respond appropriately if the following previously unknown materials are encountered (if encountered, this material could result in a recommendation from the QEP for an immediate, temporary shutdown of construction activities):

- Previously unknown tanks (including drums) containing a liquid product that is not likely to be water and is likely to present a threat to worker health or safety;
- Previously unknown demolition debris, which could contain significant quantities of asbestos, the disturbance of which is determined, based on field observations, to violate or likely to violate Federal, State, or local asbestos regulations; and,
- Material which cannot be readily identified.

Procedures for Encountered Underground Storage Tanks (USTs)

If a UST is encountered, all accessible portions of the tank will be inspected and documented, including tank integrity and the presence or absence of liquids and/or sludge. If accessible, any significant quantities of materials in the tank will be identified, and be removed by a qualified contractor and disposed off-Site at a permitted facility. Manifests of liquid waste management will be maintained by the OSC and be included in final documentation submitted to NYSDEC. Soil sampling in the vicinity of the tank will be completed in accordance with the QAPP and DER-10 (3.9), after consultation with NYSDEC. The removal of any tanks and/or ancillary piping will be performed only in accordance with an approved Site-specific Work Plan.

Procedures for Encountered Demolition Debris

To the extent practical, any investigation derived wastes that contain clearly identifiable material suspected of containing asbestos will be handled separately from other wastes, following all applicable Federal, State and local asbestos regulations. The presence of significant quantities of asbestos will result in a temporary shutdown of the Site.

Procedures for Encountered Unknown Material

Material which cannot be readily identified but which is considered, based on field observations, to be material that needs further investigation before disposal will be properly segregated. Unknown material will be screened with a PID and all recorded levels will be documented. Samples will be collected and analyzed for full Part 375 parameters to identify the compounds present and to assist in determining appropriate disposal practices. Until determined by laboratory analysis otherwise, this material will be considered a hazardous substance. A plan to describe the handling and disposal of such materials will be submitted to NYSDEC for review and approval.

## 2.4 Documentation of Environmental Conditions

A RIR will be prepared at the completion of all fieldwork services, in accordance with DER-10, summarizing the nature of environmental conditions for all identified areas of concern. The RIR will: summarize Site history and all previous investigations; document Site conditions and the investigative work performed during implementation of the RIWP; provide complete analytical findings and compare results to applicable SCG; and include an on-site and off-site Qualitative Human Health Exposure Assessment in accordance with DER-10(3.3)(c)(4). An on-site and off-site qualitative fish and wildlife resource exposure assessment (identification of impacts to fish and wildlife resources from Site contaminants of ecological concern) will be completed if it is determined that there are likely to be ecological resources present on or in close vicinity of the Site. Any potential groundwater uses within a 0.25-mile radius will be identified.

The RIR will provide complete data summary tables, figures showing all exceedances of SCGs, fieldwork and construction logs, laboratory and data validation reports, CAMP monitoring data and waste disposal documentation. All laboratory data presented in the RIR will be submitted to NYSDEC in an acceptable electronic data deliverable (EDD) format.

## 2.5 Principal Personnel and Contact Information

Principal personnel are shown below (GBTS resumes are provided in QAPP Attachment D).

| Role | Name | Phone / Email Address |
|---|---|---|
| Qualified Environmental Professional (QEP) | Erick Salazar, CHMM<br>Gallagher Bassett Technical Services | (845) 867-4716<br>erick_salazar@gbtpa.com |
| Site Investigation Project Manager | Richard Hooker<br>Gallagher Bassett Technical Services | (845) 867-4715<br>richard_hooker@gbtpa.com |
| Quality Assurance Officer | Scott Spitzer<br>Gallagher Bassett Technical Services | (845) 867-4717<br>richard_hooker@gbtpa.com |
| Site Investigation On-site Manager | Szabolcs David<br>Gallagher Bassett Technical Services | (845) 867 4724<br>szabolcs_david@gbtpa.com |
| Site Investigation Fieldwork Personnel | TBD | TBD |

## 2.6 Green and Sustainable Remediation Practices

NYSDEC DER-31 *Green Remediation* requires that Green and Sustainable Remediation (GSR) concepts be considered and/or implemented in all phases of site investigation and cleanup, and that reports required under the BCP document all GSR efforts.

The following general goals, consistent with DER-31, are applicable to the proposed RI:

- Reduce total energy use and increase the percentage of energy from renewable resources.
- Reduce air pollutants and greenhouse gas (GHG) emissions.
- Reduce water use and preserve water quality.
- Conserve material resources and reduce waste.
- Protect land and ecosystem services.

In support of these goals, the following best management practices to minimize the environmental footprint of the RI will be implemented (to the extent feasible) and documented in the RIR:

- Schedule fieldwork to minimize mobilization of equipment, field personnel, and supplies;
- Plan fieldwork to efficiently manage: use of equipment utilizing fuel/generating exhaust, including heavy machinery, generators, and/or personal vehicles; of water for decontamination activities; and minimize travel distances by using local contractors;
- Minimize waste generation through efficient material use, and re-use or recycling of materials that could be considered wastes (e.g., use acceptable drilling spoils for on-Site backfill); and,
- Conduct fieldwork such that soil compaction, soil erosion, and surface runoff are limited.

Documentation of GSR practices implemented at the Site during the RI will be documented in the RIR, including quantitative reporting using an approved environmental footprint analysis calculator, such as the USEPA's SEFA (Spreadsheets for Environmental Footprint Analysis) or SiteWise™ from the Sustainable Remediation Forum (SURF).

## 3.0 PROJECT SCHEDULE

The following schedule is anticipated for this project (Week 1 based on date of RIWP approval):

| Week | Task(s) |
|---|---|
| 1 | NYSDEC notification, utility markout and geophysical survey; selection of driller; secure insurance |
| 2 to 3 | Installation of borings; collection of soil and vapor samples, completion of monitoring wells |
| 4 to 5 | Well development; collection of groundwater samples; establish groundwater elevations |
| 5-7 | Laboratory analysis of media samples completed; removal of investigation derived wastes |
| 8-11 | Preparation of RIR |
| 12 | Submission of RIR to NYSDEC (a Remedial Alternatives Report and Remedial Action Work Plan may also be submitted at this time) |

# FIGURES

All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

## Figure 1: Site Location Map

Vanguard Village I+II (BCP: C704063)
Clinton, Hudson and Jarvis Streets
City of Binghamton, New York

Legend:

BCP Site Boundary

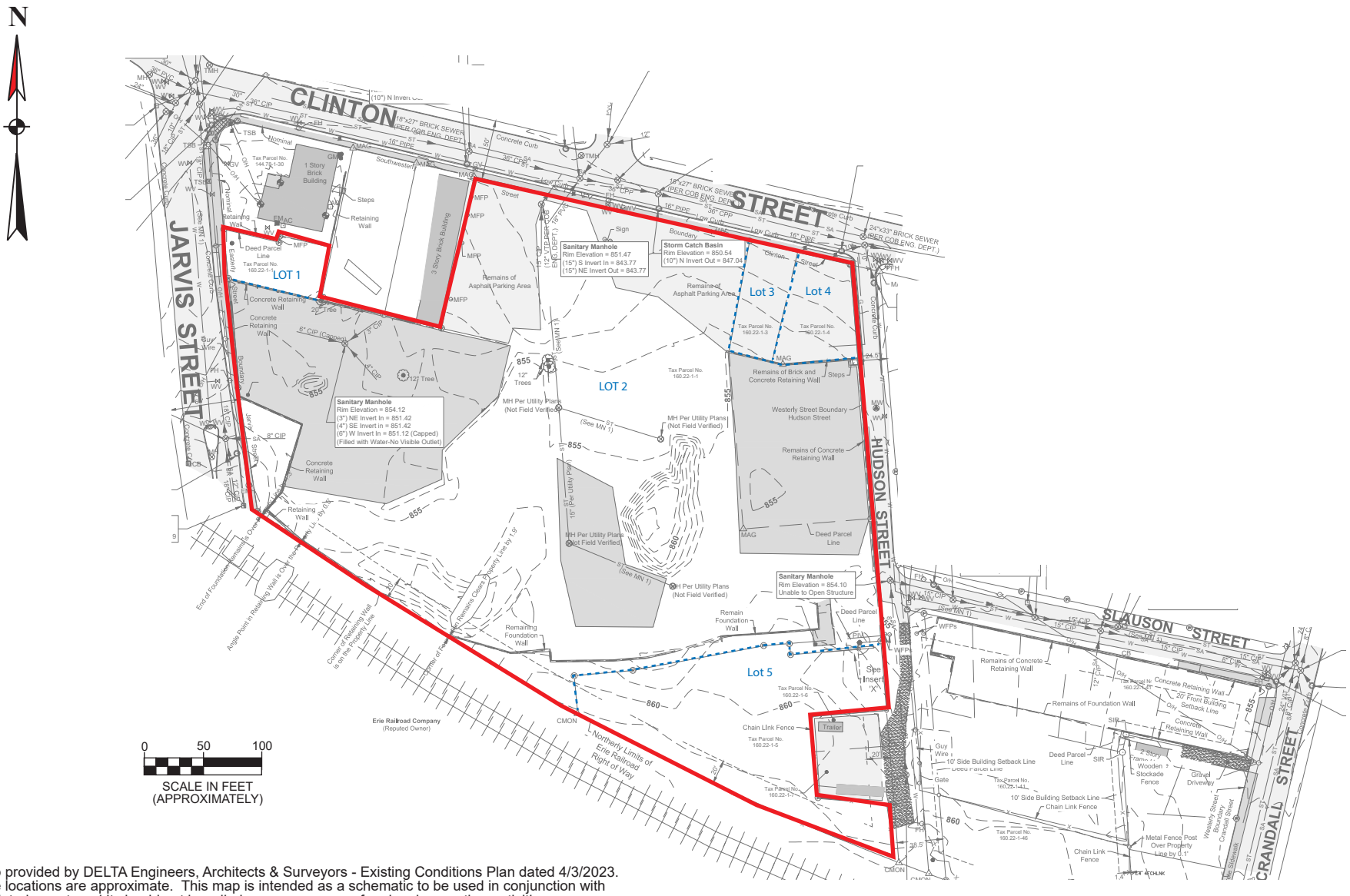
Longitude = -75° 55' 42.403" West
Latitude = 42° 6' 19.863" North

File: 23003-0060

February 2026

Scale as shown

Figures




Base map provided by DELTA Engineers, Architects & Surveyors - Existing Conditions Plan dated 4/3/2023. All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

## Figure 2: Site Map

Vanguard Village I+II (BCP: C704063)
Clinton, Hudson and Jarvis Streets
City of Binghamton, New York

Legend:

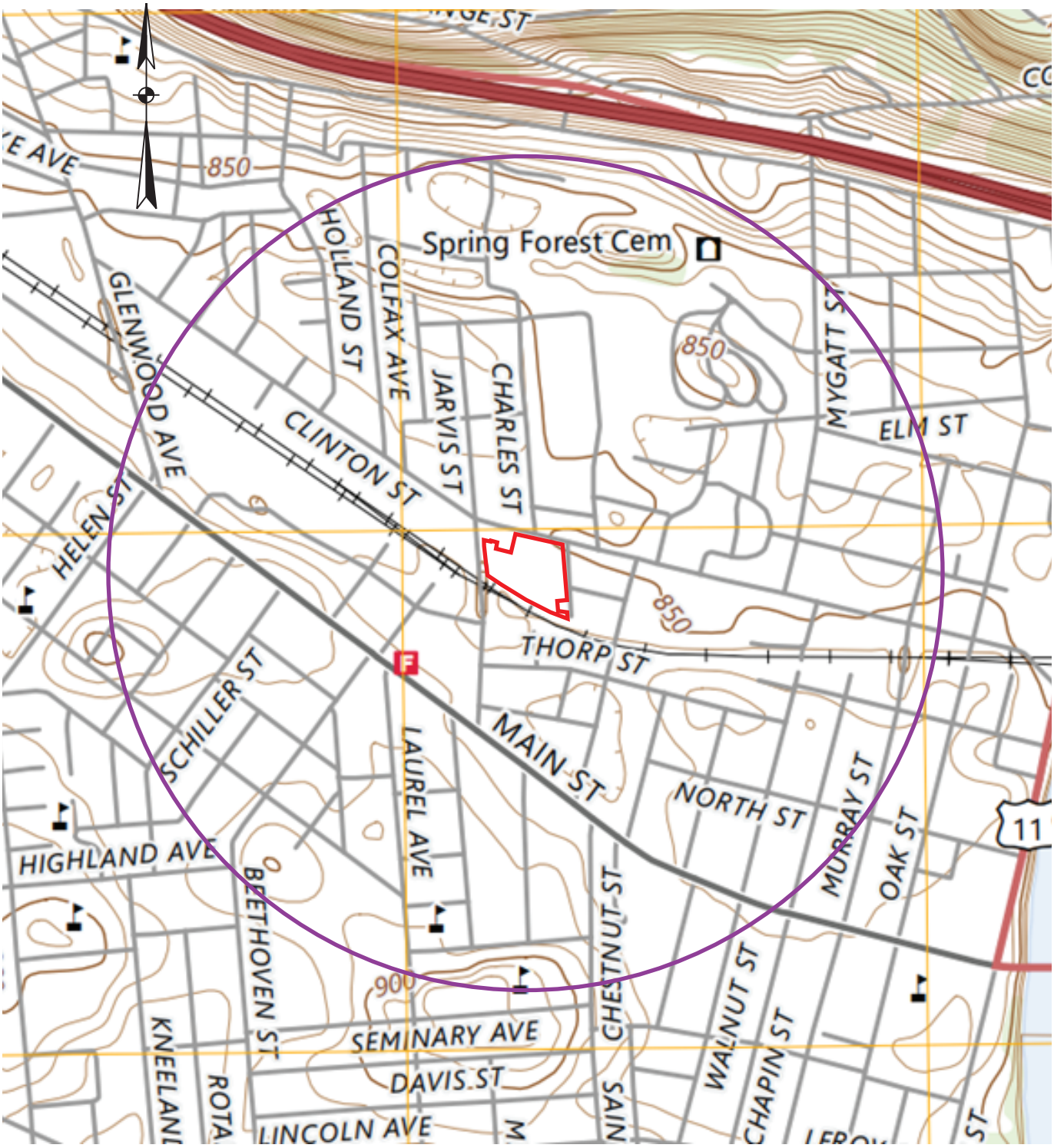
- BCP Site Boundary
- lot lines
- remains of building foundations
- remains of asphalt parking area

File: 23003-0060

February 2026

Scale as shown

Figures




Source: USGS Topographic Map of the Binghamton West, New York Quadrangle dated 2023, digital image provided by https://ngmdb.usgs.gov/topoview

**Figure 3: Topographic Map**

Vanguard Village I+II (BCP: C704063)
Clinton, Hudson and Jarvis Streets
City of Binghamton, New York

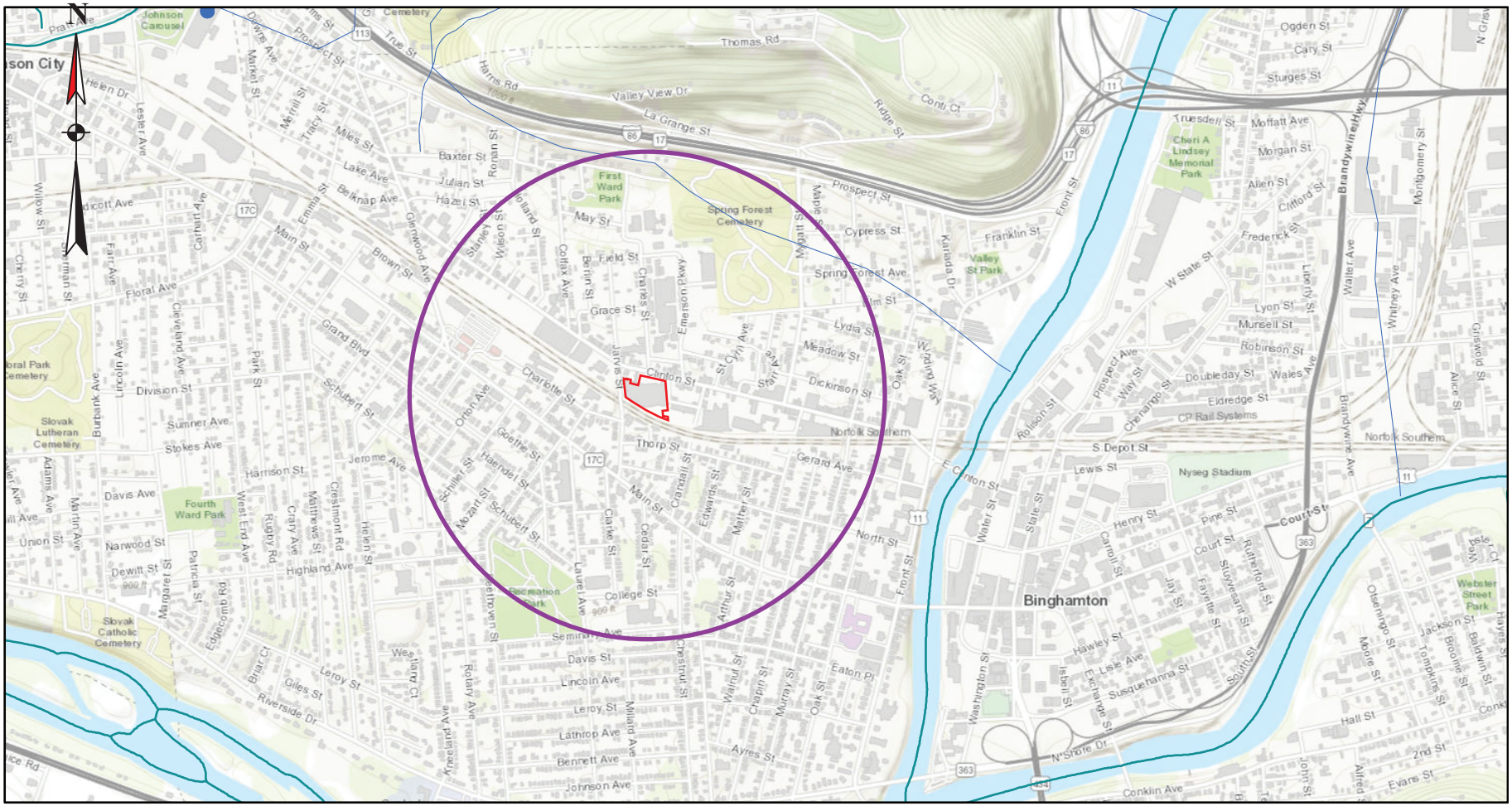
Legend:

- BCP Site Boundary
- 1/2 mile radius

File: 23003-0060

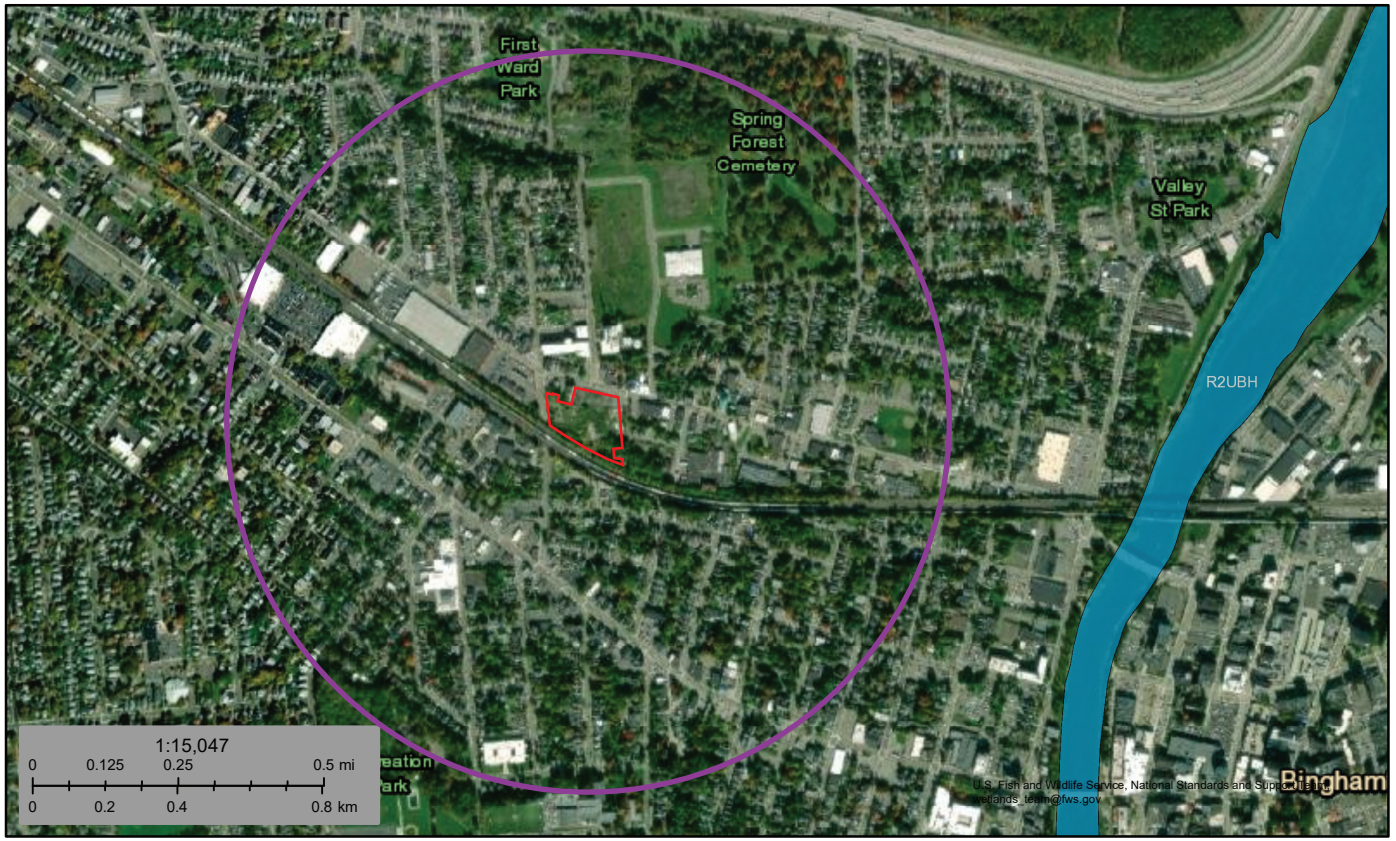
February 2026

Figures


N
Binghamton
Johnson City
Thomas Rd
Valley View Dr
La Grange St
Harris Rd
Prospect St
Spring Forest Cemetery
First Ward Park
Fourth Ward Park
Valley St Park
Cheri A Lindsey Memorial Park
Recreation Park
Nyseg Stadium
Norfolk Southern
CP Rail Systems
Slovak Lutheran Cemetery
Slovak Catholic Cemetery
Johnson Carousel
Clinton St
Jarvis St
Hudson St
Court St
Main St
Front St
Water St
State St
Chenango St
Brandywine Hwy
Brandywine Ave
Conklin Ave
N Shore Dr
Ogden St
Cary St
Sturges St
Truesdell St
Moffatt Ave
Morgan St
Allen St
Clifford St
Frederick St
Lyon St
Munsell St
Robinson St
Wales Ave
Doubleday St
Eldredge St
S Depot St
Lewis St
Henry St
Pine St
Hawley St
Lisle Ave
Susquehanna St
Exchange St
Isabell St
Washington St
Hall St
2nd St
Evans St
Webster Street Park
Jackson St
Broome St
Tompkins St
Baldwin St
Moore St
Otsiningo St
Montgomery St
Whitney Ave
Walter Ave
Griswold St
Alice St
Rollison St
Prospect Ave
Way St
Oak St
Wyoming Way
Meadow St
Dickinson St
Lydia St
Spring Forest Ave
Cypress St
Franklin St
Karlada Dr
Emerson Pkwy
Charles St
Cortlax Ave
Berlin St
Grace St
May St
Field St
Prospect St
Ridge St
Conti Ct
Baxter St
Julian St
Hazel St
Lake Ave
Belknap Ave
Brown St
Grand Blvd
Floral Ave
Division St
Sumner Ave
Stokes Ave
Harrison St
Jerome Ave
Schubert St
Charlotte St
Thorp St
Gerard Ave
Orton Ave
Goethe St
Haendel St
Mozart St
Schubert St
Clarke St
Cedar St
Edwards St
Matter St
Cardiff St
Arthur St
North St
College St
Laurel Ave
Seminary Ave
Davis St
Lincoln Ave
Leroy St
Lathrop Ave
Bennett Ave
Johnson Ave
Ayres St
Eaton Pl
Murray St
Chapin St
Walnut St
Chestnut St
Rotary Ave
Kneeland Ave
Wes Haney Ct
Briar Ct
Giles St
Riverside Dr
Leroy St
Edgecomb Rd
Margaret St
Dewitt St
Narwood St
Union St
Davis Ave
Highland Ave
Crary Ave
Rugby Rd
West End Ave
Crestmont Rd
Matthews St
Helen St
Patricia St
Martin Ave
Burbank Ave
Lincoln Ave
Park St
Cleveland Ave
Carhart Ave
Main St
Emma St
Lake Ave
Belknap Ave
Glenwood Ave
Stanley St
Wilson St
Willard St
Roman St
Baxter St
Julian St
Hazel St
Miles St
Tracy St
Merrill St
Market St
Owens Ave
Prospect St
Helen Dr
Lester Ave
Willow St
Cherry St
Sherman St
Pratt Ave
Floral Park Cemetery
Adams Ave
Union St
Davis Ave
Sumner Ave
Stokes Ave
Division St
Schubert St
Grand Blvd
Floral Ave
Brown St
Glenwood Ave
Belknap Ave
Lake Ave

N

U.S. Fish and Wildlife Service
National Wetlands Inventory




July 29, 2024

**Wetlands**

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

## Figure 5: Federal Wetlands Map

Vanguard Village I+II (BCP: C704063)
Clinton, Hudson and Jarvis Streets
City of Binghamton, New York

Legend:

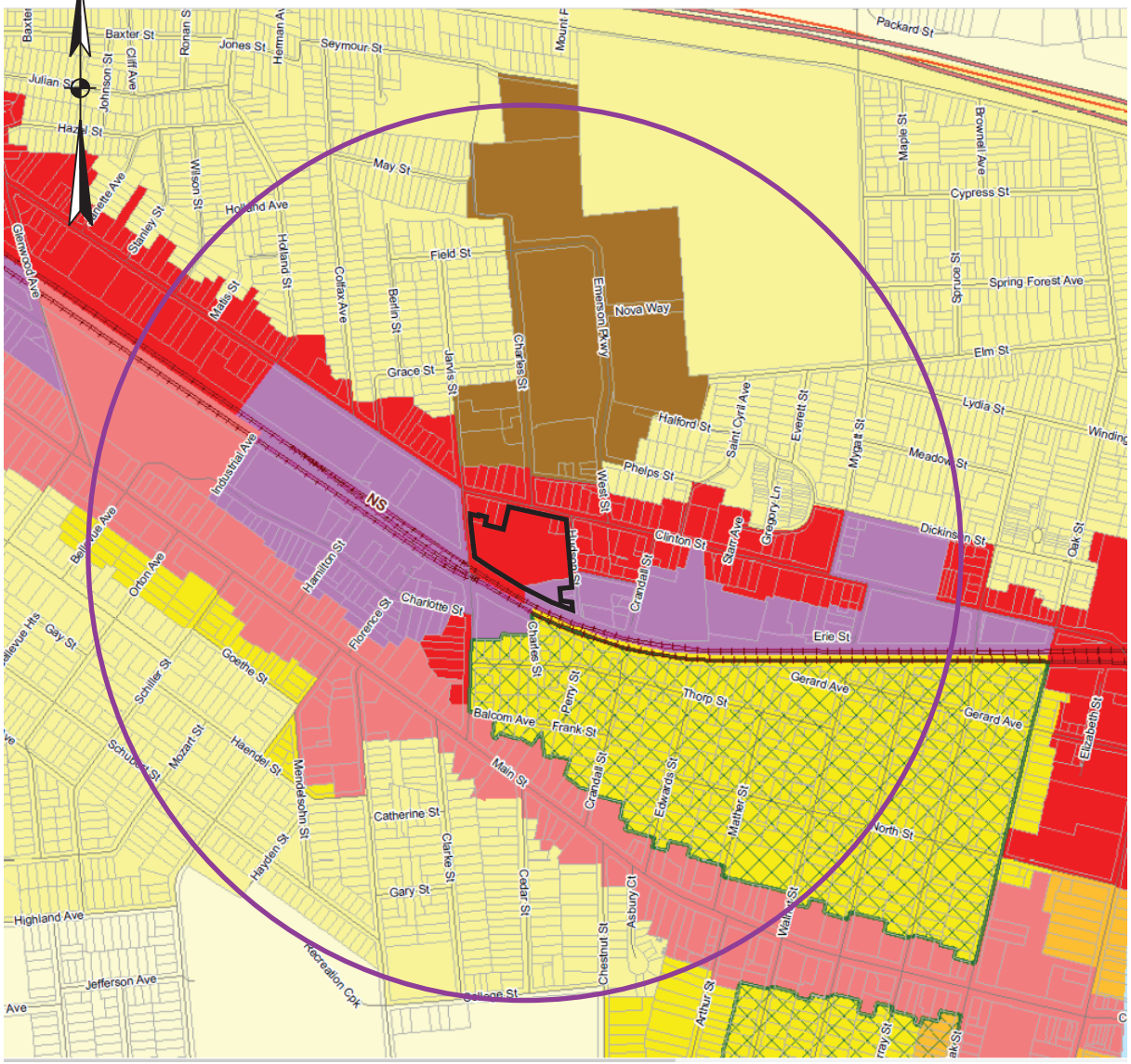
- BCP Site Boundary
- 1/2 mile radius

File: 23003-0060

February 2026

Scale as shown

Figures




Source: City of Binghamton Zoning Map - https://gis.broomecountyny.gov/Website/GISWeb/maps/Zoning/city_zoning.pdf

**Figure 6: Land Use Map**

Vanguard Village I+II (BCP: C704063)
Clinton, Hudson and Jarvis Streets
City of Binghamton, New York

Legend:

- BCP Site Boundary
- 1/2 mile radius

File: 23003-0060

February 2026

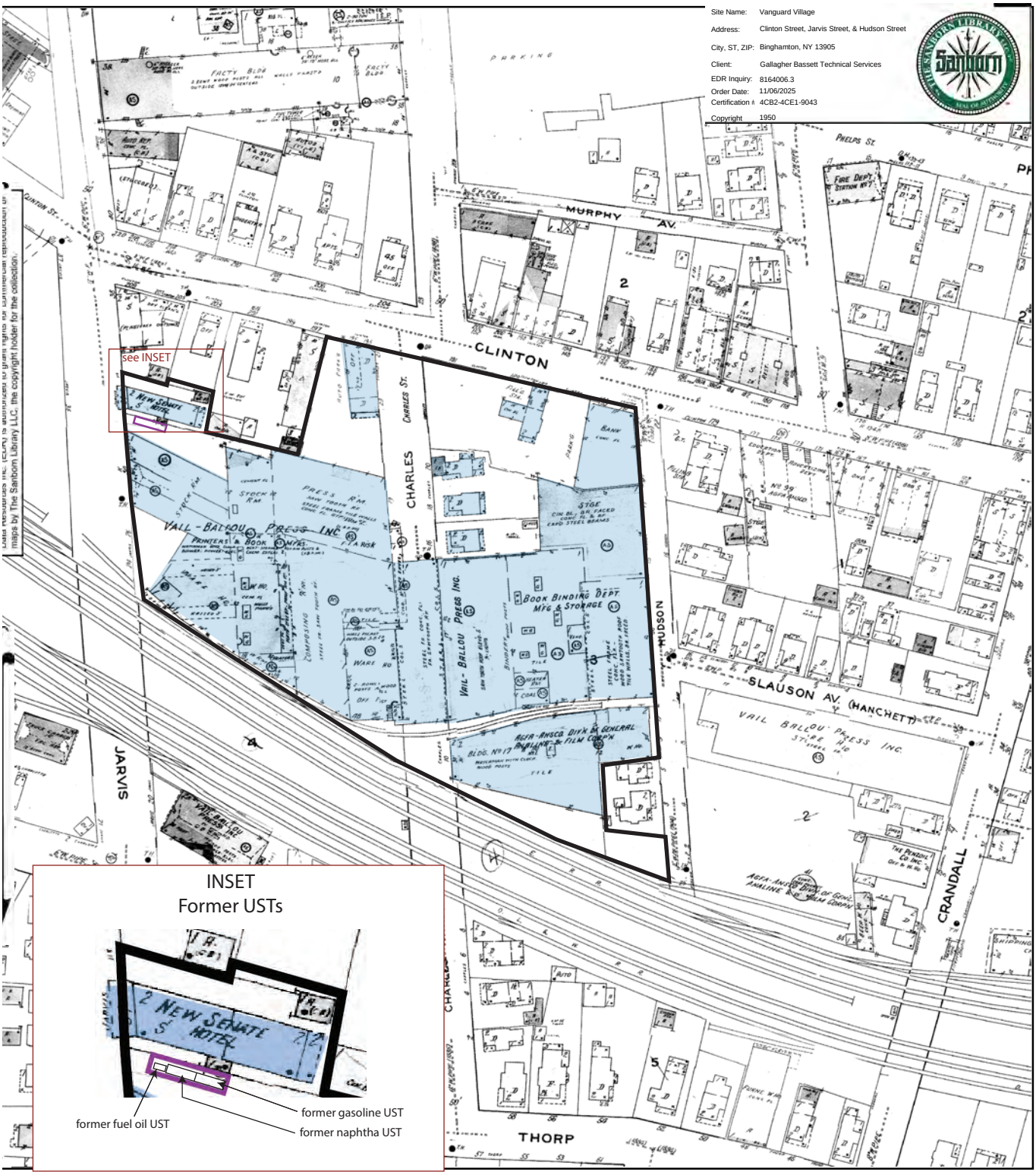
Figures

EDR

# Certified Sanborn® Map

1950

Site Name: Vanguard Village
Address: Clinton Street, Jarvis Street, & Hudson Street
City, ST, ZIP: Binghamton, NY 13905
Client: Gallagher Bassett Technical Services
EDR Inquiry: 8164006.3
Order Date: 11/06/2025
Certification #: 4CB2-4CE1-9043
Copyright: 1950

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## Figure 7: Previous Structures

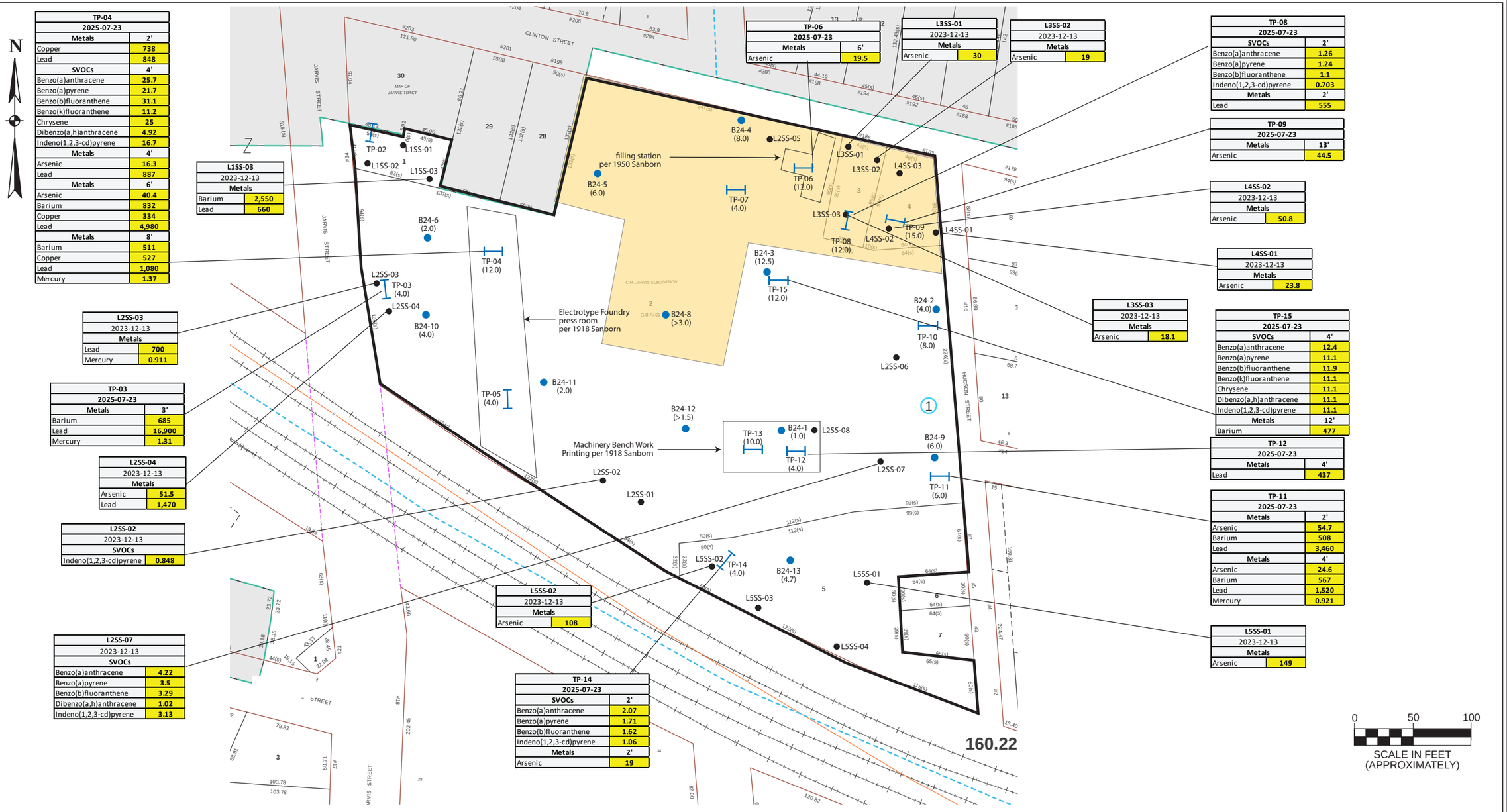
Vanguard Village I+II (BCP: C704063)
Clinton, Hudson and Jarvis Streets
City of Binghamton, New York

Legend:
- BCP boundary
- previous structures per 1950 Sanborn map
- reported location of three former USTs (see INSET)

File: 23003-0060

February 2026

Figures




| TP-04 | |
|---|---|
| 2025-07-23 | |
| **Metals** | **2'** |
| Copper | 738 |
| Lead | 848 |
| **SVOCs** | **4'** |
| Benzo(a)anthracene | 25.7 |
| Benzo(a)pyrene | 21.7 |
| Benzo(b)fluoranthene | 31.1 |
| Benzo(k)fluoranthene | 11.2 |
| Chrysene | 25 |
| Dibenzo(a,h)anthracene | 4.92 |
| Indeno(1,2,3-cd)pyrene | 16.7 |
| **Metals** | **4'** |
| Arsenic | 16.3 |
| Lead | 887 |
| **Metals** | **6'** |
| Arsenic | 40.4 |
| Barium | 832 |
| Copper | 334 |
| Lead | 4,980 |
| **Metals** | **8'** |
| Barium | 511 |
| Copper | 527 |
| Lead | 1,080 |
| Mercury | 1.37 |

| L1SS-03 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Barium | 2,550 |
| Lead | 660 |

| L2SS-03 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Lead | 700 |
| Mercury | 0.911 |

| TP-03 | |
|---|---|
| 2025-07-23 | |
| **Metals** | **3'** |
| Barium | 685 |
| Lead | 16,900 |
| Mercury | 1.31 |

| L2SS-04 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Arsenic | 51.5 |
| Lead | 1,470 |

| L2SS-02 | |
|---|---|
| 2023-12-13 | |
| **SVOCs** | |
| Indeno(1,2,3-cd)pyrene | 0.848 |

| L2SS-07 | |
|---|---|
| 2023-12-13 | |
| **SVOCs** | |
| Benzo(a)anthracene | 4.22 |
| Benzo(a)pyrene | 3.5 |
| Benzo(b)fluoranthene | 3.29 |
| Dibenzo(a,h)anthracene | 1.02 |
| Indeno(1,2,3-cd)pyrene | 3.13 |

| TP-06 | |
|---|---|
| 2025-07-23 | |
| **Metals** | **6'** |
| Arsenic | 19.5 |

| L3SS-01 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Arsenic | 30 |

| L3SS-02 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Arsenic | 19 |

| L3SS-03 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Arsenic | 18.1 |

| L5SS-02 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Arsenic | 108 |

| TP-14 | |
|---|---|
| 2025-07-23 | |
| **SVOCs** | **2'** |
| Benzo(a)anthracene | 2.07 |
| Benzo(a)pyrene | 1.71 |
| Benzo(b)fluoranthene | 1.62 |
| Indeno(1,2,3-cd)pyrene | 1.06 |
| **Metals** | **2'** |
| Arsenic | 19 |

| TP-08 | |
|---|---|
| 2025-07-23 | |
| **SVOCs** | **2'** |
| Benzo(a)anthracene | 1.26 |
| Benzo(a)pyrene | 1.24 |
| Benzo(b)fluoranthene | 1.1 |
| Indeno(1,2,3-cd)pyrene | 0.703 |
| **Metals** | **2'** |
| Lead | 555 |

| TP-09 | |
|---|---|
| 2025-07-23 | |
| **Metals** | **13'** |
| Arsenic | 44.5 |

| L4SS-02 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Arsenic | 50.8 |

| L4SS-01 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Arsenic | 23.8 |

| TP-15 | |
|---|---|
| 2025-07-23 | |
| **SVOCs** | **4'** |
| Benzo(a)anthracene | 12.4 |
| Benzo(a)pyrene | 11.1 |
| Benzo(b)fluoranthene | 11.9 |
| Benzo(k)fluoranthene | 11.1 |
| Chrysene | 11.1 |
| Dibenzo(a,h)anthracene | 11.1 |
| Indeno(1,2,3-cd)pyrene | 11.1 |
| **Metals** | **12'** |
| Barium | 477 |

| TP-12 | |
|---|---|
| 2025-07-23 | |
| **Metals** | **4'** |
| Lead | 437 |

| TP-11 | |
|---|---|
| 2025-07-23 | |
| **Metals** | **2'** |
| Arsenic | 54.7 |
| Barium | 508 |
| Lead | 3,460 |
| **Metals** | **4'** |
| Arsenic | 24.6 |
| Barium | 567 |
| Lead | 1,520 |
| Mercury | 0.921 |

| L5SS-01 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Arsenic | 149 |

Legend:
- BCP boundary
- test pit location
- Geotechnical boring location
- (#) depth to native material
- Phase II boring location
- GPR location

*Data in mg/Kg*
**Analyte Above RRU SCO**

All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

# Figure 8: Site Contamination Map

Vanguard Village I+II (BCP: C704063)
Clinton, Hudson and Jarvis Streets
City of Binghamton, New York

File: 23003-0060

Scale as shown

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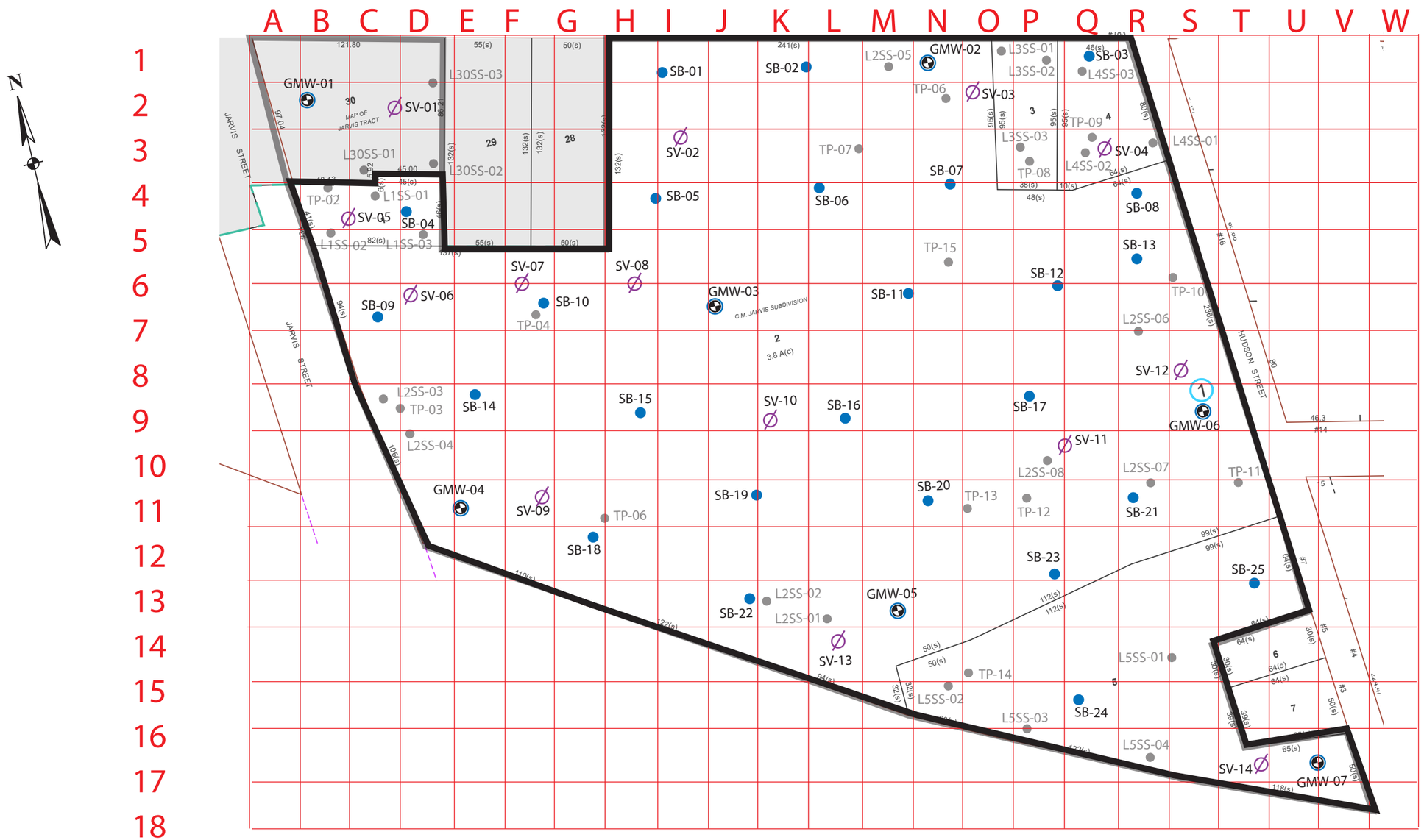
GALLAGHER BASSETT | TECHNICAL SERVICES

CLINTON STREET




0 50 100

SCALE IN FEET
(APPROXIMATELY)

All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Legend:

- BCP boundary
- proposed boring location
- proposed soil vapor location
- proposed boring completed as monitoring well
- previous sample location

## Figure 9: Remedial Investigation Map

Vanguard Village I+II (BCP: C704063)
Clinton, Hudson and Jarvis Streets
City of Binghamton, New York

File: 23003-0060

Scale as shown

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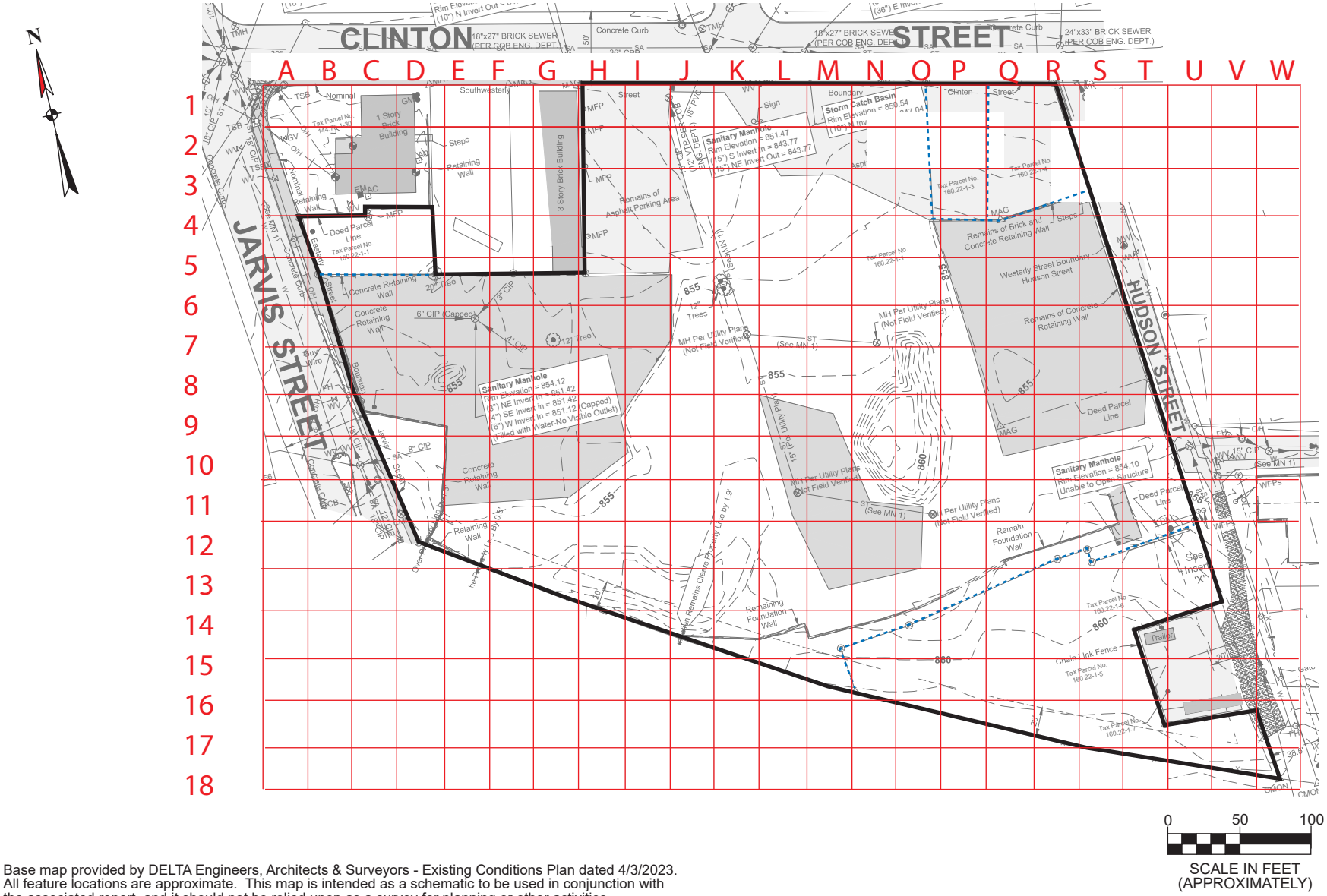


Base map provided by DELTA Engineers, Architects & Surveyors - Existing Conditions Plan dated 4/3/2023.
All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

## Figure 10: Grid Map

Vanguard Village I+II (BCP: C704063)
Clinton, Hudson and Jarvis Streets
City of Binghamton, New York

Legend:

- BCP Site Boundary
- lot lines

File: 23003-0060

February 2026

Scale as shown

Figures

# APPENDIX A – Health and Safety Plan

GALLAGHER BASSETT | TECHNICAL SERVICES

# SITE INVESTIGATION
# HEALTH AND SAFETY PLAN

## Vanguard Village I+II

**Clinton, Hudson, and Jarvis Streets**
**City of Binghamton, Broome County, New York**

**NYSDEC BCP Site: C704063**

**February 2026**

**GBTS Project: 23003-0060**

**Technical Services Division**

24 Davis Ave., Poughkeepsie, NY 12603 T: 845-452-1658 F: 845-485-7083
www.gallagherbassett.com/risk-control/environmental-health-safety/; www.wcdgroup.com

# SITE INVESTIGATION
# HEALTH AND SAFETY PLAN

**February 2026**

**GBTS Project: 23003-0060**

**Prepared By:**

**Gallagher Bassett Technical Services**
**22 IBM Road, Suite 101**
**Poughkeepsie, New York 12601**

**Prepared For:**

**The Metro Group Properties, Inc.**
**P.O. Box 10**
**Blue Point, New York 11715**

The undersigned have reviewed this Site Investigation Health and Safety Plan and certify to The Metro Group Properties, Inc. and to the New York State Department of Environmental Conservation that the information provided in this document is accurate as of the date of issuance by this office.

Scott Spitzer
Gallagher Bassett Technical Services
Technical Director – Environmental Consulting

Richard Hooker
Gallagher Bassett Technical Services
Manager – Environmental Consulting

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**Attachments**

Figure: Remedial Investigation Map

# 1.0 INTRODUCTION

## 1.1 Purpose

This Site Investigation Health and Safety Plan (HASP) has been developed to provide the requirements and general procedures to be followed by Gallagher Bassett Technical Services (GBTS) and on-site subcontractors while performing investigative services at the Vanguard Village I+II BCP Site (C704063) located in the City of Binghamton, Broome County, New York.

This HASP incorporates policies, guidelines and procedures intended to protect the public health of the community during fieldwork activities, and therefore serves as a Community Health and Safety Plan. The objectives of the HASP are met by establishing guidelines to minimize potential exposures during fieldwork, and by planning for and responding to emergencies affecting the public adjacent to the site.

This HASP describes the responsibilities, training requirements, protective equipment and standard operating procedures to be utilized by all personnel while on the Site. All on-site personnel and visitors shall follow the guidelines, rules, and procedures contained in this HASP. The Project Manager or Site Health and Safety Officer (SHSO) may impose any other procedures or prohibitions necessary for safe operations. This HASP incorporates by reference applicable Occupational Safety and Health Administration (OSHA) requirements in 29 CFR 1910 and 1926.

The requirements and guidelines in this HASP are based on a review of available information and evaluation of potential on-site hazards. This HASP will be discussed with Site personnel and will be available on-site for review while work is underway. On-site personnel will report to the SHSO in matters of health and safety. The on-site project supervisor(s) are responsible for the enforcement and implementation of this HASP, which is applicable to all on-site field personnel, including contractors and subcontractors.

This HASP is specifically intended for the conduct of activities within the defined scope of work in specified areas of the Site. Changes in conditions or future actions that may be conducted at the Site may necessitate the modification of the requirements of the HASP. Although this HASP can be made available to interested persons for informational purposes, GBTS cannot be held accountable for the interpretations or activities of any other persons or entities other than the employees of GBTS or its subcontractors.

## 1.2 Site Location and Fieldwork Area

The Site is defined as Vanguard Village I+II, located at 181-187 Clinton Street, 7 Hudson Street, and 34 Jarvis Street, City of Binghamton, Broome County, New York. A Remedial Investigation Map illustrating the Site configuration is attached to this HASP.

### 1.3 Work Activities

Previous investigations documented poor-quality urban fill soils, which are impacted by metals and semi-volatile organic compounds above NYSDEC Soil Cleanup Objectives for Restricted-Residential Use. Low-level contamination by volatile organic compounds (VOCs) was found in groundwater. Soil-vapor quality is unknown at this time. Proposed remedial investigative actions include extension of soil borings, installation of monitoring wells and soil vapor probes, and collection of soil, groundwater, and vapor samples to document and delineate on-Site contamination conditions. All work will be in accordance with the NYSDEC-approved Remedial Investigation Work Plan (RIWP), which is incorporated by reference into this HASP.

## 2.0 HEALTH AND SAFETY HAZARDS

### 2.1 Hazard Overview for On-Site Personnel

The potential exists for the presence of elevated levels of organic and inorganic compounds in Site soils and groundwater, and VOCs in soil vapor. The possibility exists for on-site personnel to have contact with contaminated soils, groundwater and/or vapor during fieldwork activities. Contact with contaminated substances may present a skin contact, inhalation and/or ingestion hazard. These potential hazards are addressed in Sections 3.0 through 11.0, below.

### 2.2 Potential Hazards to the Public from Fieldwork Activities

The potential exists for the public to be exposed to contaminated soils, groundwater, and/or vapor, which may present a skin contact, inhalation, and/or ingestion hazard. Additional potential hazards to the public that are associated with fieldwork activities include mechanical/physical hazards, traffic hazards from fieldwork vehicles, and noise impacts associated with operation of mechanical equipment. Impacts to public health and safety are expected to be limited to hazards that could directly affect on-Site visitors and/or trespassers. These effects will be mitigated through site access and control measures (see Section 6.0, below). Specific actions taken to protect the public health (presented in Sections 3.0 through 11, below) are anticipated to minimize any potential off-site impacts from contaminant migration, noise, and traffic hazards.

## 3.0 PERSONAL PROTECTIVE EQUIPMENT

The levels of protection identified for the services specified in the RAWP represent a best estimate of exposure potential and protective equipment needed for that exposure. Determination of levels was based on data provided by previous studies of the Site and information reviewed on current and past Site usage. Personal protective equipment (PPE) will be worn at all times, as designated by this HASP.

The level of protective clothing and equipment selected for this project is Level D, which provides minimal skin protection and no respiratory protection, and is used when the atmosphere contains no known hazard, oxygen concentrations are not less than 19.5%, and work activities exclude splashes, immersion or the potential for unexpected inhalation or contact with hazardous levels of chemicals. Workers will wear protective clothing including, but not limited to, a hard hat, steel-toed boots, nitrile gloves (when handling soils and/or groundwater), approved hearing protection, and safety goggles (in areas of exposed groundwater and when decontaminating equipment). Personal protective equipment (PPE) will be worn at all times, as designated by this HASP.

Disposable gloves will be changed immediately following the handling of contaminated media or equipment. Tyvek suits will be worn during activities likely to excessively expose work clothing to contaminated dust or soil (chemically-resistant over garments will be required in situations where exposures could lead to penetration of clothing and direct dermal contact by contaminants).

The requirement for the use of PPE by official on-site visitors shall be determined by the SHSO, based on the most restrictive PPE requirement for a particular Work Zones (see Section 6 for Work Zone definitions). All on-site visitors shall, at a minimum, be required to wear an approved hardhat and be provided with appropriate hearing protection as necessary.

The need for an upgrade in PPE will be determined based upon encountered Site conditions, including measurements taken in the breathing zone of the work area using a photo-ionization detector (PID). An upgrade to a higher level of protection (Level C) will begin when specific action levels are reached (see Section 5.0, below), or as otherwise required by the SHSO. Level C PPE includes a full-face or half-mask air-purifying respirator (NIOSH approved for compound[s] of concern), hooded chemical-resistant clothing, outer and inner chemical-resistant gloves, and (as needed) coveralls, outer boots/boot covers, escape mask, and face shield. Level C PPE may be used only when: oxygen concentrations are not less than 19.5%; contaminant contact will not adversely affect exposed skin; types of air contaminants have been identified, concentrations measured, and a cartridge/canister is available that can remove the contaminant; atmospheric contaminant concentrations do not exceed immediately dangerous to life or health (IDLH) levels; and job functions do not require self-contained breathing apparatus (SCBAs). The need for Level B or Level A PPE is not anticipated for the planned remedial activities at this Site.

If any equipment fails and/or any employee experiences a failure or other alteration of their protective equipment that may affect its protective ability, that person will immediately leave the work area. The Project Manager and the SHSO will be notified and, after reviewing the situation, determine the effect of the failure on the continuation of on-going operations. If the failure affects the safety of personnel, the work site, or the surrounding environment, personnel will be evacuated until appropriate corrective actions have been taken.

## 4.0 CONTAMINANT CONTROL

Precautions will be taken during dry weather (e.g., wetting or covering exposed soils) to avoid generating and breathing dust-generated from soils. A PID (or equivalent equipment) will be used to monitor potential contaminant levels. Response to the monitoring will be in accordance with the action levels provided in Section 5.0.

Fieldwork activities near the Site perimeter will not be conducted during times with high off-Site pedestrian activity, including but not limited to, school pick-up and drop-off.

Vehicles exiting the Site will be examined for the presence or absence of soil or other materials on tires, etc., and will be brushed to remove materials adhering to surfaces in order to prevent off-Site tracking. Any soil or other materials that escape the Site will be immediately contained and removed using generally accepted best construction practices (any such materials exhibiting field evidence of contamination or otherwise known to be significantly contaminated will be handled in accordance with applicable NYSDEC and NYSDOH regulations, including reporting of spill events as warranted).

## 5.0 MONITORING AND ACTION LEVELS

Concentrations of volatile compounds in the air are expected to be below the OSHA Permissible Exposure Limits (PELs). Air monitoring will be conducted during Site investigation in accordance with a Community Air Monitoring Plan (CAMP, RIWP Appendix B). Monitoring will be conducted at all times that fieldwork includes ground intrusive activities or other work likely to generate emissions. PID and dust readings consistently in excess of CAMP limits will be used as an indication of the need to initiate personnel monitoring, increase worker protective measures, and/or modify or cease on-site operations in order to mitigate off-site community exposure. [Note: the CAMP includes special requirements for: a) work within 20 feet of potentially exposed individuals or structures; and, b) indoor work with co-located residences or facilities.]

PID readings that consistently exceed background in the breathing zone (during any proposed tasks) will necessitate moving away from the source or implementing a higher PPE level.

<u>Special Requirements for Work within 20 Feet of Potentially Exposed Individuals or Structures</u>

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the

planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring should occur within the occupied structure(s). Depending upon the nature of contamination, chemical-specific colorimetric tubes of sufficient sensitivity may be necessary for comparing the exposure point concentrations with appropriate pre-determined response levels (response actions should also be predetermined). Background readings in the occupied spaces must be taken and discussed with NYSDOH prior to commencement of the work.

If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 mcg/$m^3$, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/$m^3$ or less at the monitoring point.

Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, and carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each site.

Special Requirements for Indoor Work with Co-Located Residences or Facilities

Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements shall be as stated above under "Special Requirements for Work within 20 Feet of Potentially Exposed Individuals or Structures" except that in this instance "nearby/occupied structures" would be adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential vapor pathways (openings, conduits, etc.) relative to adjoining rooms, should be understood and the monitoring locations established accordingly. In these situations, it is strongly recommended that exhaust fans or other engineering controls be used to create negative air pressure within the work area during remedial activities. Additionally, it is strongly recommended that the planned work be implemented during hours (e.g., weekends or evenings) when building occupancy is at a minimum.

## 6.0 SITE CONTROL/WORK ZONES

Site control procedures will be established to reduce the possibility of worker/visitor contact with environmental contaminants, to protect the public in the area surrounding the Site and to limit access to the Site to only those persons required to be in the work zone. Notices placed near the Site will warn the public not to enter fieldwork areas and direct visitors to report to the Project Manager or SHSO.

Measures will be taken to limit the entry of unauthorized personnel into the specific areas of field activity and to safely direct and control all vehicular traffic in and near the Site (e.g., placement of traffic cones and warning tape).

Work Areas are defined as follows:

**Exclusion Zone** - The exclusion zone will be that area immediately surrounding the work being performed to accomplish fieldwork activities involving the handling or potential exposures to contaminated media. Only individuals with appropriate PPE and training are allowed into this zone. It is the responsibility of the SHSO to prevent unauthorized personnel from entering the exclusion zone. When necessary (e.g., high traffic areas) the exclusion zone will be delineated with barricade tape, cones and/or barricades.

The exclusion zone will encompass the adjacent off-Site sidewalks when fieldwork is conducted in close proximity to the Site perimeter.

**Dedicated Decontamination Area** - A dedicated decontamination area for personnel and equipment (including contamination reduction and support zones) is not anticipated to be required during completion of fieldwork activities, but will be established and utilized, as warranted, based on changes in Site conditions. Care will be taken at all times to remove gloves, excess soil from boots, and soiled clothing (if necessary) before entering the Intermediate Zone.

**Intermediate Zone** - The intermediate zone, also known as the decontamination zone, is where patient decontamination should take place, if necessary. A degree of contamination still is found in this zone and some PPE is required, although it is usually of a lesser degree than that required for the exclusion zone.

**Command Zone** - The command zone is located outside the decontamination zone. All exposed individuals and equipment from the exclusion zone and the decontamination zone should be decontaminated before entering the command zone. Access to all zones must be controlled. Keeping onlookers, media, etc. well away from the Site is critical and will be the responsibility of both the SHSO and the Project Manager, and other Site personnel as appropriate.

## 7.0 NOISE CONTROL

All fieldwork activities will be conducted in a manner designed to reduce unnecessary noise generation, and to minimize the potential for both on-site and off-site harmful noise levels. The Project Manager and SHSO will establish noise reduction procedures (as appropriate to the Site and the work) to meet these requirements.

## 8.0 PERSONNEL TRAINING

Work zones that will accomplish the general objective stated above will be established by the Project Manager and the SHSO. Site access will be monitored by the SHSO, who will maintain a log-in sheet for personnel that will include, at the minimum, personnel on the Site, their arrival and departure times and their destination on the Site. All workers will be properly trained in accordance with OSHA requirements (29 CFR 1910). Personnel exiting the work zone(s) will be decontaminated prior to exiting the Site.

Site-specific training will be provided to each employee. Personnel will be briefed by the SHSO as to the potential hazards to be encountered.

Topics will include:

- Availability of this HASP;
- General site hazards and specific hazards in the work areas, including those attributable to known of suspect on-site contaminants;
- Selection, use, testing, and care of the body, eye, hand, and foot protection being worn, with the limitations of each;
- Decontamination procedures for personnel, their personal protective equipment, and other equipment used on the Site;
- Emergency response procedures and requirements;
- Emergency alarm systems and other forms of notification, and evacuation routes to be followed; and,
- Methods to obtain emergency assistance and medical attention.

## 9.0 DECONTAMINATION

The SHSO will establish a decontamination system and decontamination procedures (appropriate to the Site and the work) that will prevent potentially hazardous materials from leaving the Site, including the brushing of vehicles prior to existing the Site in order to remove materials adhering to surfaces. All fieldwork protocols will be in accordance with RIWP Appendix B, Quality Assurance Project Plan, Attachment B Field Sampling and Decontamination Standard Operating Procedures).

Sampling equipment will be segregated and, after decontamination, stored separately from PPE, and all decontaminated or clean sampling equipment not in use will be protected and stored in a designated, controlled storage area.

# 10.0 EMERGENCY RESPONSE

## 10.1 Notification of Site Emergencies

In the event of an emergency, the SHSO will be immediately notified of the nature and extent of the emergency (the names and contact information for key site safety and management personnel, as well as other site safety contact telephone numbers, shall be posted at the Site).

Table 1 in this HASP contains Emergency Response Telephone Numbers, and immediately following is a map detailing the directions to the nearest hospital emergency room. This information will be maintained at the work Site by the SHSO. The location of the nearest telephone will be determined prior to the initiation of on-site activities. In addition to any permanent phone lines, a cellular phone will be in the possession of the SHSO, or an authorized designee, at all times.

## 10.2 Responsibilities

Prior to the initiation of on-site work activities, the SHSO will:

- Notify individuals, authorities and/or health care facilities of the potentially hazardous activities and potential wastes that may develop as a result of the remedial activities;
- Confirm that first aid supplies and a fire extinguisher are available on-site;
- Have a working knowledge of safety equipment available; and,
- Confirm that a map detailing the most direct route to the hospital is prominently posted with the emergency telephone numbers.

The SHSO will be responsible for directing notification, response and follow-up actions and for contacting outside response personnel (ambulance, fire department, or others). In the case of an evacuation, the SHSO will account for personnel. A log of individuals entering and leaving the Site will be kept so that everyone can be accounted for in an emergency.

Upon notification of an exposure incident, the SHSO will contact the appropriate emergency response personnel for recommended medical diagnosis and, if necessary, treatment. The SHSO will determine whether and at what levels exposure actually occurred, the cause of such exposure, and the means to prevent similar incidents from occurring.

## 10.3 Accidents and Injuries

In the event of an accident or injury, measures will be taken to assist those who have been injured or exposed and to protect others from hazards. If an individual is transported to a hospital or doctor, a copy of the HASP will accompany the individual.

The SHSO will be notified and respond according to the severity of the incident. The SHSO will investigate the incident and prepare a signed and dated report documenting the investigation. An exposure-incident report will also be completed by the SHSO and the exposed individual. The form will be filed with the employee's medical and safety records to serve as documentation of the incident and the actions taken.

### 10.4 Communication

No special hand signals will be utilized within the work zone. Field personnel will utilize standard hand signals during the operation of heavy equipment.

### 10.5 Safe Refuge

Vehicles and on-site structures will serve as the immediate place of refuge in the event of an emergency. If evacuation from the area is necessary, project vehicles will be used to transport on-site personnel to safety.

### 10.6 Site Security and Control

Site security and control during emergencies, accidents and incidents will be monitored by the SHSO. The SHSO is responsible for limiting access to the Site to authorized personnel and for oversight of reaction activities.

### 10.7 Emergency Evacuation

In case of an emergency, personnel will evacuate to the safe refuge identified by the SHSO, both for their personal safety and to prevent the hampering of response/rescue efforts.

### 10.8 Resuming Work

A determination that it is safe to return to work will be made by the SHSO and/or any personnel assisting in the emergency, e.g., fire department, police department, utility company, etc. No personnel will be allowed to return to the work areas until a full determination has been made by the above-identified personnel that all field activities can continue unobstructed. Such a determination will depend upon the nature of the emergency (e.g., downed power lines -- removal of all lines from the property; fire -- extinguished fire; injury -- safe transport of the injured party to a medical facility with either assurance of acceptable medical care present or completion of medical care; etc.). Before on-site work is resumed following an emergency, necessary emergency equipment will be recharged, refilled or replaced. Government agencies will be notified as appropriate. An Incident Report Form will be filed.

### 10.9 Fire Fighting Procedures

A fire extinguisher will be available in the work zone during on-site activities. This extinguisher is intended for small fires. When a fire cannot be controlled with the extinguisher, the area will be

evacuated immediately. The SHSO will be responsible for directing notification, response and follow-up actions and for contacting ambulance and fire department personnel.

### 10.10 Emergency Decontamination Procedure

The extent of emergency decontamination depends on the severity of the injury or illness and the nature of the contamination. Whenever possible, minimum decontamination will consist of washing, rinsing and/or removal of contaminated outer clothing and equipment. If time does not permit decontamination, the person will be given first aid treatment and then wrapped in plastic or a blanket prior to transport.

### 10.11 Emergency Equipment

The SHSO will maintain a dedicated vehicle containing the following on-site equipment for safety and emergency response: fire extinguisher; first-aid kit; and, extra copy of this HASP.

## 11.0 SPECIAL PRECAUTIONS AND PROCEDURES

The activities associated with this remediation may involve potential risks of exposure to both chemical and physical hazards. The potential for chemical exposure to hazardous or regulated substances will be significantly reduced through the use of monitoring, personal protective clothing, engineering controls, and implementation of safe work practices.

### 11.1 Heat/Cold Stress

Training in prevention of heat/cold stress will be provided as part of the site-specific training. The timing of this project is such that heat/cold stress may pose a threat to the health and safety of personnel. Work/rest regimens will be employed, as necessary, so that personnel do not suffer adverse effects from heat/cold stress. Special clothing and appropriate diet and fluid intake regimens will be recommended to personnel to further reduce this temperature-related hazard. Rest periods will be recommended in the event of high/low temperatures and/or humidity to counter the negative effects of heat/cold stress.

### 11.2 Heavy Equipment

Working in the vicinity of heavy equipment is the primary safety hazard at the Site. Physical hazards in working near heavy construction equipment include the following: overhead hazards, slips/trip/falls, hand and foot injuries, moving part hazards, improper lifting/back injuries and noise. All workers will be properly trained in accordance with OSHA requirements (29 CFR 1910). No workers will be permitted within any excavated areas without proper personal protective equipment (PPE), including, as warranted, any necessary Level C equipment (e.g., respirators and protective suits). Air monitoring in excavation areas will be conducted for VOCs in accordance with Section 5.0.

### 11.3 Additional Safety Practices

The following are important safety precautions which will be enforced during the remedial activities.

Medicine and alcohol can aggravate the effect of exposure to certain compounds. Controlled substances and alcoholic beverages will not be consumed during remedial activities. Consumption of prescribed drugs will only be at the discretion of a physician familiar with the person's work.

Eating, drinking, chewing gum or tobacco, smoking, or other practices that increase the probability of hand-to-mouth transfer and ingestion of material is prohibited except in areas designated by the SHSO.

Contact with potentially contaminated surfaces will be avoided whenever possible. Workers will not unnecessarily walk through puddles, mud or other discolored surfaces; kneel on the ground; or lean, sit, or place equipment on drums, containers, vehicles, or the ground.

Personnel and equipment in the work areas will be minimized, consistent with effective site operations.

Unsafe equipment left unattended will be identified by a "DANGER, DO NOT OPERATE" tag.

Work areas for various operational activities will be established.

### 11.4 Daily Log Contents

The SHSO will establish a system appropriate to the Site, the work and the work zones that will record, at a minimum, the following information:

- Personnel on the Site (arrival and departure times) and their destination on the Site;
- Incidents and unusual activities Site such as (but not limited to) accidents, spills, breaches of security, injuries, equipment failures and weather-related problems;
- Changes to the HASP; and,
- Daily information, including: changes to work plans, work accomplished and current Site status, and monitoring results.

## 12.0 EMERGENCY INFORMATION

### 12.1 Emergency Contact Information

The following page presents a table indicating emergency contact information. This table should be copied and freely distributed and/or posted at the Site to ensure ready access.

# Emergency Contact Information

| Emergency Agencies | Phone Numbers |
|---|---|
| **EMERGENCY** | **911** |
| **HOSPITAL**<br>Guthrie Lourdes Hospital<br>Guthrie Lourdes Hospital | **(607) 763-6311 or 911** |
| **POLICE**<br>38 Hawley Street<br>Binghamton | **(607) 723-5321 or 911** |
| **FIRE** | **(607) 772-7016 or 911** |
| City Hall | **(607) 772-7001** |
| Water and Sewer Services | **(607) 772-7021** |
| Site Health and Safety Officer, Richard Hooker, GBTS | (845) 452-1658 |

### 12.2 Directions to Hospital

Approximately 5 minutes travel time – 1.3 mile

**South** on Jarvis Street (0.1 mile)

**Right** on Charlotte Street (436 feet)

**Left** on Florence Street (404 feet)

**Continue Onto** Beethoven Street (0.9 mile)

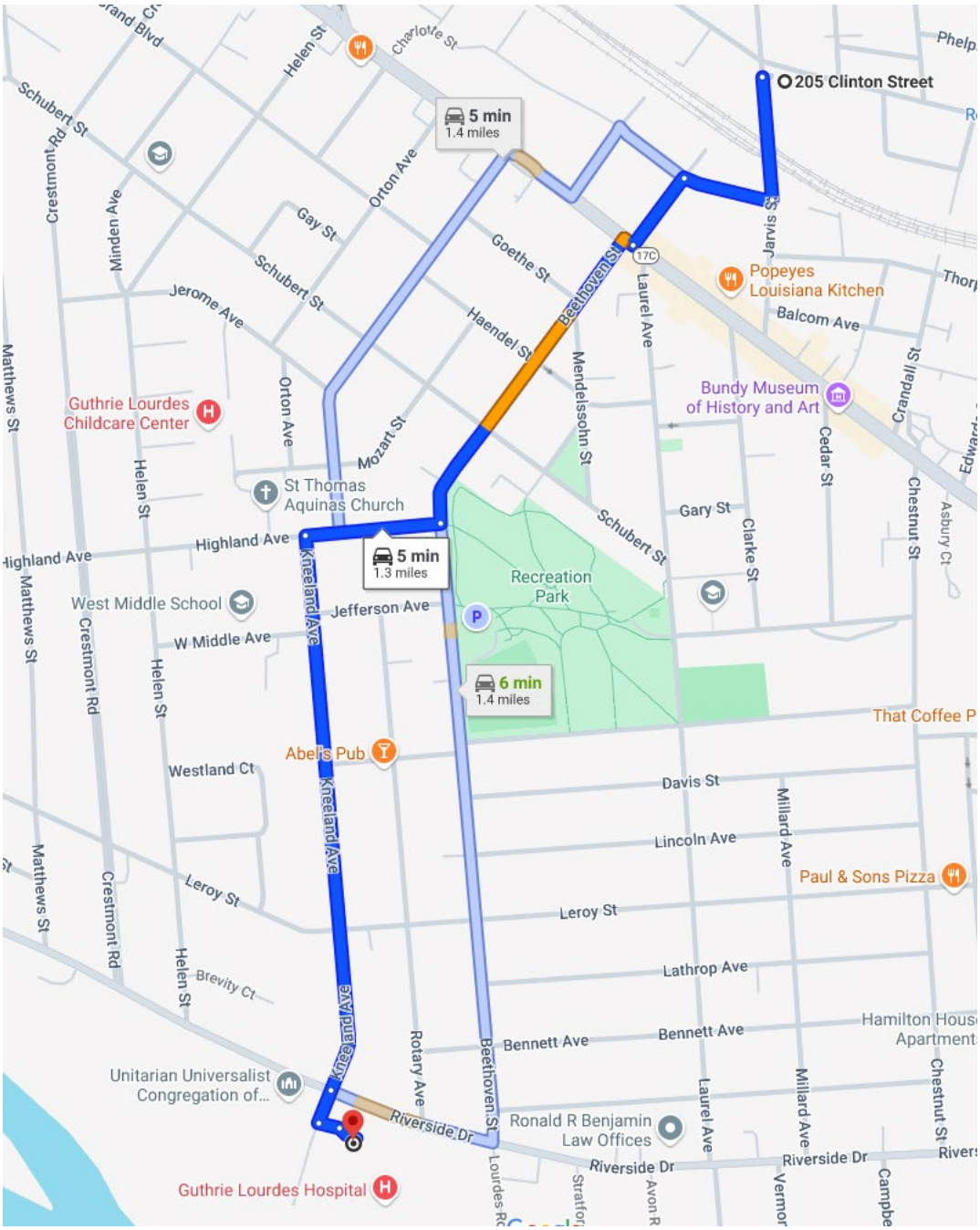
**Right** on Highland Avenue (0.1 mile)

**Left** on Kneeland Avenue (0.5 mile)

**Continue Onto** Lourdes Hospital Drive

**Hospital on Left**, follow signs to Emergency Room

## 12.3 Map to Hospital

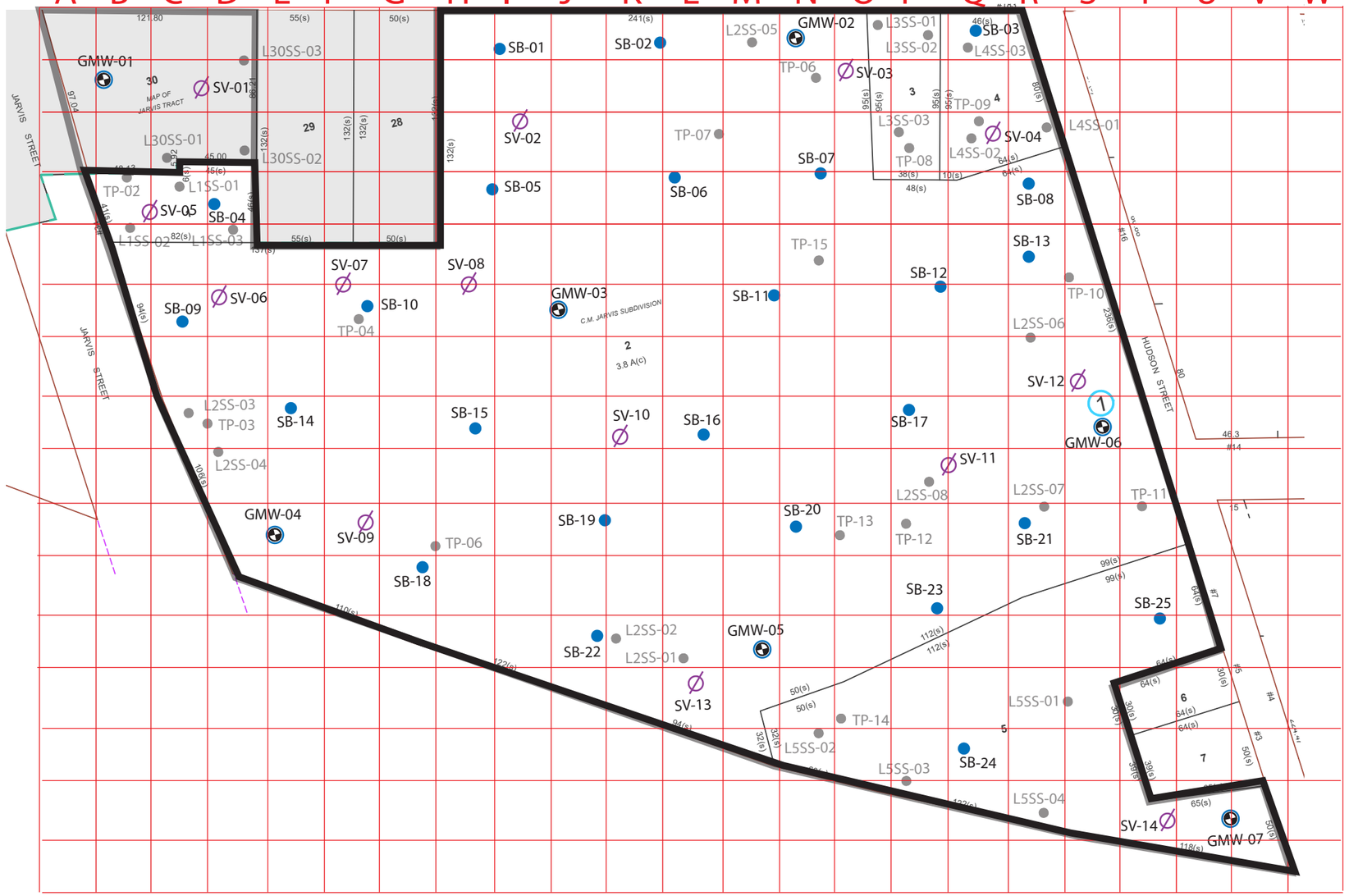


GALLAGHER BASSETT | TECHNICAL SERVICES

CLINTON STREET

A B C D E F G H I J K L M N O P Q R S T U V W

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18




0 50 100

SCALE IN FEET
(APPROXIMATELY)

All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Legend:

- BCP boundary
- proposed boring location
- proposed soil vapor location
- proposed boring completed as monitoring well
- previous sample location

# Remedial Investigation Map

Vanguard Village I+II (BCP: C704063)
Clinton, Hudson and Jarvis Streets
City of Binghamton, New York

File: 23003-0060

Scale as shown

February 2026 | Figures

# APPENDIX B – Quality Assurance Project Plan

GALLAGHER BASSETT | TECHNICAL SERVICES

# SITE INVESTIGATION
# QUALITY ASSURANCE PROJECT PLAN

## Vanguard Village I+II

**Clinton, Hudson, and Jarvis Streets**
**City of Binghamton, Broome County, New York**

**NYSDEC BCP Site: C704063**

**February 2026**

**GBTS Project: 23003-0060**

**Technical Services Division**

24 Davis Ave., Poughkeepsie, NY 12603 T: 845-452-1658 F: 845-485-7083
www.gallagherbassett.com/risk-control/environmental-health-safety www.wcdgroup.com

GALLAGHER BASSETT | TECHNICAL SERVICES

# SITE INVESTIGATION
## QUALITY ASSURANCE PROJECT PLAN

**February 2026**

**GBTS Project: 22003-0020**

**Prepared By:**

**Gallagher Bassett Technical Services**
**22 IBM Road, Suite 101**
**Poughkeepsie, New York 12601**

**Prepared For:**

**The Metro Group Properties, Inc.**
**P.O. Box 10**
**Blue Point, New York 11715**

The undersigned have reviewed this Quality Assurance Project Plan and certify to The Metro Group Properties, Inc. and to the New York State Department of Environmental Conservation that the information provided in this document is accurate as of the date of issuance by this office.

Scott Spitzer
Gallagher Bassett Technical Services
Technical Director – Environmental Consulting

Richard Hooker
Gallagher Bassett Technical Services
Manager – Environmental Consulting

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B Fieldwork SOPs
C Soil Cleanup Objectives
D Resumes
E Laboratory Documents

# 1.0 PROJECT MANAGEMENT

## 1.1 Project/Task Organization

Major participants in the project are shown below along with their specific responsibilities and authorities. Resumes for Gallagher Bassett Technical Services (GBTS) personnel and the Data Validator are provided in Attachment D this Quality Assurance Project Plan (QAPP).

**Thea Barbelet** New York State Department of Environmental Conservation (NYSDEC)

Thea Barbelet is the project manager for the NYSDEC, responsible for review and approval of all project submittals.

**Erick Salazar** Project Manager, GBTS

Erick Salazar, CHMM is the Qualified Environmental Professional (QEP) for the project, responsible for overview of all project activities. Mr. Salazar has authority over all GBTS personnel and subcontractors and will be responsible for final review and approval of all project submittals prior to submission to the NYSDEC.

**Scott Spitzer** Technical Director, Environmental Consulting, GBTS

Scott Spitzer will be the Project Manager, responsible for directing and coordinating all project activities, reviewing all project documents, and ensuring that project plans are followed. Mr. Spitzer has authority to direct the activities of the field team (OSC and subcontractors).

**Richard Hooker** Quality Assurance Officer (QAO), GBTS

Richard Hooker, PhD will be responsible for reviewing all sampling procedures and certifying that the data was collected and analyzed using the appropriate procedures, and will assist in the development of the sampling and analytical portion of a site-specific quality assurance project plan (QAPP).

**Szabolcs David** On-Site Coordinator (OSC), GBTS

Szabolcs David is the OSC, responsible for the completion of all on-site fieldwork, collection of all samples, completion of the field log, and chains of custody. The OSC will have authority over all on-site subcontractors.

**Laboratory** York Analytical Laboratories

York Analytical Laboratories, will be responsible for analysis of samples, and is New York State Department of Health (NYSDOH) Environmental Laboratory Approved Program (ELAP) certified in the appropriate categories, including PFOA and PFOS in drinking water by EPA Method 537.1 or ISO 25101.

**Subcontractors** *To be determined*

Subcontractors will be responsible for the operation of special equipment and providing technical assistance as needed.

## 1.2 Principal Data Users

The principal users of the generated data in this project are listed below.

1. Residents of the City of Binghamton, especially those residing in the vicinity of the Site
2. Think City Partners (the Volunteer)
3. NYSDEC

## 1.3 Problem Definition/Background

The Site is being investigated under the NYSDEC Brownfields Cleanup Program (BCP ID: C704063) to document the presence or absence of contamination in Site media. Previous investigations documented poor-quality urban fill soils, which are impacted by metals and semi-volatile organic compounds (SVOCs) above NYSDEC Soil Cleanup Objectives (SCOs) for Restricted-Residential Use. Low-level contamination by volatile organic compounds (VOCs) was found in groundwater. Soil-vapor quality is unknown at this time.

## 1.4 Project/Task Description

The project will meet its objective through compliance with applicable requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, and with this QAPP. Proposed remedial investigative actions include extension of soil borings, installation of monitoring wells and soil vapor probes, and collection of soil, groundwater, and vapor samples to document and delineate on-Site contamination conditions.

## 1.5 Quality Objectives and Criteria

The data collected in this project will be used for the following purposes:

- To document Site environmental conditions.

In order to meet data quality objectives of precision, accuracy, representation, comparability, and completeness the following actions will be implemented:

- All media sampling will be conducted in accordance with the NYSDEC-approved Remedial Investigation Work Plan (RIWP) and QAPP Sections 2 and 3.
- Data generated during the Remedial Investigation (RI) will be submitted for review by a third, independent party (see Section 3.2.1, below).

Prior to field activities, the QEP, Project Manager, and the OSC will review the RIWP to ensure that the data quality objectives of precision, accuracy, representation, comparability, and completeness will be met during the field activities. At the completion of field activities, the Project Manager will review field logs and chains of custody to ensure that field activities met the intent of the RIWP. If a problem is identified, the Project Manager and the QAO will meet to determine any necessary corrective measures to meet the data quality objectives.

### 1.6 Documents and Records

Electronic and paper copies of all fieldwork observations and measurements will be retained by GBTS, which will be provided in the final RIR.

## 2.0 SAMPLING AND ANALYSIS PLAN

Sample collection, handling, and laboratory analysis is summarized below. A Remedial Investigation Map indicating Site features and planned fieldwork locations is provided as Attachment A.

### 2.1 Sampling Overview

Borings will be extended in order to recover representative soil samples at various depths and to allow for the collection of soil vapor samples. Several borings will be completed as permanent groundwater monitoring wells to allow for the collection of reproducible groundwater quality samples.

### 2.2 Fieldwork and Sampling Methodology

All fieldwork activities, including collection and handling of media samples, will be in accordance with the Standard Operating Procedures (SOPs) provided in Attachment B. Sampling will occur for per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane ("emerging contaminants") and guidelines for such sampling will be strictly followed by all field and laboratory personnel. Basic SOP components are summarized below.

#### 2.2.1 General Fieldwork

The OSC will be responsible for compliance with the SOPs, including:

- Documentation of all fieldwork activities in logbooks for inclusion in final reports;
- Assessment of media characteristics (soil type, presence or absence of foreign materials, field indications of contamination), and instrument readings using properly calibrated and operated precision instruments;
- Identification of materials requiring special handling (media that may contain elevated concentrations of contaminants or is grossly contaminated, hazardous materials, etc.) and ensuring proper secure on-site storage, pending characterization and disposition;

- Ensuring that unforeseen environmental conditions are managed in accordance with applicable federal and state regulations;
- Sample collection, including procedures to minimize potential cross-contamination; and,
- Implementation of decontamination procedures.

Sample collection and laboratory analysis for PFAS will comply with current NYSDEC guidance (Sampling, Analysis, and Assessment of Per-and Polyfluoroalkyl Substances [PFAS] Under NYSDEC's Part 375 Remedial Programs, April 2023), provided in Attachment B (SOPs), which includes a target list of PFAS compounds (see also Section 2.4, Analytical Methods).

Guidelines for sampling of soil and/or groundwater for PFAS include the following (detailed protocols, including lists of prohibited behaviors and materials, are provided in the SOP):

- Sampling for PFAS will be conducted prior to sampling for other analytes, as practicable, to minimize cross contamination from sample containers utilized for other methods;
- Sampling personnel will comply with specific prohibitions in regard to field equipment, PPE, rain gear, personal clothing and body-care, food, etc.;
- Sample coolers will be held at low temperature using only water ice (plastic freezer packs are prohibited);
- Decontamination protocols specific to PFAS will be followed, including use of "PFAS free" water and approved cleaning agents (Liquinox is prohibited); and,
- Compliance with laboratory requirements for sampling containers, field blanks, etc. (laboratory fieldwork SOPs for PFAS are included in Attachment B).

### 2.2.2 Extension of Borings and Soil Sampling

It is anticipated that a total of thirty (30) soil borings will be extended for this project, with additional "step out" borings as needed to provide delineation data. Borings will be extended using mechanized equipment (or hand-held boring equipment, as necessary), capable of collecting soil cores at discreet intervals. Borings will be extended to 15 feet below ground surface (bgs) or to one sample interval below the groundwater interface (whichever is deepest), or until refusal is reached (all borings to be completed as groundwater monitoring wells will be extended to a minimum depth that allows for proper installation of the well screen). Additional fieldwork rounds for the advancement of soil borings and/or installation of monitoring wells may be required to fully delineate identified contamination, and to determine if contamination extends or is migrating off-site (the need for an expanded investigation scope will be determined in consultation with NYSDEC).

Soil is anticipated to be collected using coring barrels lined with disposable acetate sleeves (split spoons may be utilized based on Site conditions and equipment availability).

Samples will be collected (at a minimum) from the soil stratum intercepting the groundwater table, any fill material, and from soil exhibiting field evidence of contamination (if encountered) or at soil strata corresponding to previously identified contamination in nearby boring locations (for delineation).

Samples will be collected directly from the freshly cut open sleeve, using disposable plastic trowels or properly decontaminated stainless steel instruments, or may be manually collected directly from exposed soil or the sampling instrument using dedicated disposable latex gloves.

Soil sampling for VOCs will follow USEPA Method 5035 protocols, using disposable 5-gram plastic syringes to place material into laboratory-supplied glass vials (prepared with stirs bars and appropriate preservatives).

### 2.2.3 Installation of Monitoring Wells and Groundwater Sampling

Six (6) permanent monitoring wells will be installed within the overburden. All well casings will be constructed of two-inch PVC, with 0.01-inch slotted PVC screening across the water table (minimum of 2 feet of screening above the water table, as practicable). No glue will be used to thread the casing lengths. If paired, deeper wells are required, they will be constructed with the screening located to intercept the lowest level of the water column. The annular space between the well screen/casing and the borehole will be backfilled with clean silica sand and hydrated bentonite and/or cement grout. Wells will be secured with locked caps and metal covers. The elevation of the top of the well riser, relative to a permanent on-site marker, will be documented for use in determining relative groundwater elevations (absolute elevations based on NAD 83 will be determined by a licensed surveyor at the conclusion of the RI fieldwork activities). The wells will be developed one week following installation.

All Site monitoring wells will be purged and sampled using USEPA Low Flow methodology. Sampling will begin at the potentially least contaminated well and proceed to the potentially most contaminated well.

Prior to purging, the air in the well head will be screened with a PID and the static water level (relative to the top of the casing) will be measured with a decontaminated water-level meter. A peristaltic pump with plastic tubing (or equivalent equipment) will be used for sampling. The tubing (or a submersible pump attached to tubing, if required by Site conditions) will be slowly lowered until reaching two to three feet off of the well bottom to prevent disturbance and re-suspension of any remaining sediment.

The water level will be measured before the pump is started and at intervals of every three to five minutes. Pumping rates will be reduced (as needed) to the minimum capabilities of the pump to ensure stabilization of the water level (drawdown of 0.3 feet or less). During pumping, field indicator parameters (turbidity, temperature, specific conductance, pH, redox potential, and dissolved oxygen) will be monitored and recorded approximately every five minutes.

The well will be considered stabilized, and sampling may proceed, when the indicator parameters have stabilized for three consecutive readings (minimum purge interval at least 15 minutes).

### 2.2.4 Soil Vapor Sampling

Eight (8) soil vapor samples will be collected. Soil vapor sampling will be in accordance with applicable NYSDOH guidance, including use of a tracer gas to confirm adequate surface seals. If the tracer is detected in vapor at a concentration greater than 10%, the annular seal will be repaired and gas tracing performed again until less than 10% is detected. Successful exclusion of the tracer gas will be considered adequate documentation that sampling techniques are sufficiently preventing air infiltration (screening will be conducted at additional locations, as needed, based on any variable conditions encountered in the field).

For this project, soil vapor samples will be collected over a two-hour period (rate not exceeding 0.2 liters per minute) into individual laboratory-certified clean Summa canisters equipped with two-hour flow regulators.

### 2.2.5 Other Materials

Any non-soil solid materials requiring laboratory analysis will be placed into laboratory supplied glassware when possible, or will alternatively be placed into double locking plastic bags and then boxed in order to prevent a tear or other breach in the bags. Liquid samples from excavations, collection pits, or drums/tanks, etc., will be sampled using a dedicated disposal sampling device.

## 2.3 Sample Handling and Custody

### 2.3.1 Sample Containers

The following laboratory-supplied containers will be used for sample collection (as applicable):

| Media | Analyte Class | Collection Container (subject to laboratory requirements) | Preservation |
|---|---|---|---|
| Soil | PFAS | 1, 250-ml HDPE plastic (fill halfway) | 6° C |
| Soil | VOCs | Laboratory prepared 5035 VOA kit, (4, 40-ml glass vials) | Method 5035 |
| Soil | SVOCs, metals, pesticides, herbicides, PCBs, cyanide | 1, 8-oz. glass jar | 4° C |
| Soil | PFAS MS/MSD | 1, 250-ml HDPE plastic (fill halfway), (may use soil from a sample container) | 6° C |
| Soil | All other MS/MSD | additional 8-oz. glass jar | 4° C |
| Water | PFAS | 2, 250-ml HDPE plastic (fill to neck) | 6° C |
| Water | VOCs | 4, 40-ml prepared glass vials | 4° C, HCl |
| Water | SVOCs, pesticides, herbicides, PCBs | 1-liter amber glass (jar quantity per laboratory requirements) | 4° C |
| Water | Metals - total | 1, 500-ml HDPE plastic | 4° C |

| Media | Analyte Class | Collection Container (subject to laboratory requirements) | Preservation |
|---|---|---|---|
| Water | Metals - dissolved | 1, 500-ml HDPE plastic | 4° C, $HNO_3$ |
| Water | Cyanide | 1, 500-ml HDPE plastic | 4° C, NaOH |
| Water | Trip blank (PFAS) | 2, 250-ml HDPE plastic (fill to neck) | 4° C |
| Water | Field blank (PFAS) | 1, 250-ml HDPE plastic (fill to neck) | 4° C |
| Water | Trip blank (VOCs) | 3, 40-ml prepared glass vials | 4° C, HCl |
| Water | Field blank (other analytes) | As per sample collection requirements | See above |
| Vapor | VOCs | 1, 6-liter Summa canister (or equivalent) | none |

### 2.3.2 Sampling Frequency

Sampling and laboratory analysis of 1,4-dioxane and PFAS will be in accordance with current NYSDEC guidance, including use of Method 1633 for PFAS and Method 8270 SIM for 1,4-dioxane.

Analysis of samples may be modified in consultation with the NYSDEC Project Manager based on initial sampling results, including the presence or absence of field evidence of contamination.

Additional analysis may be performed based repository requirements for waste characterization prior to off-site disposal.

Sampling for NYSDEC Part 375-6.8 parameters includes USEPA Target Compound List (TCL) VOCs and SVOCs plus 30 tentatively identified compounds (TICs), USEPA Target Analyte List (TAL) metals, $Cr^{+6}$, polychlorinated biphenyls (PCBs), pesticides, herbicides, and cyanide.

**Soil:** All boring locations will be sampled for soil. Based on twenty-five (25) soil boring locations and the collection of soil from the surface, fill materials, and the interval intercepting the groundwater table, a minimum of seventy-five (75) soil samples will be analyzed for Part 375 parameters and PFAS.

**Water:** All six (6) groundwater monitoring wells will be sampled and analyzed for Part 375 parameters and PFAS.

**Vapor:** Samples from all fourteen (14) soil vapor implants will be analyzed for VOCs.

The proposed number of sampling locations is summarized below (the final number may vary, in consultation with NYSDEC, based on encountered field conditions).

| Quantity | Fieldwork Element | Purpose |
|---|---|---|
| 25 | Extend Soil Borings | Collect soil samples from multiple depths |
| 6 | Install Monitoring Wells | Collect groundwater samples from fixed locations |
| 14 | Install Soil Vapor Implants | Collect soil vapor samples from fixed locations |

The estimated approximate number of samples to be collected is outlined below (actual number of samples may vary based on conditions encountered during the investigation).

| Media /QC Parameter | Number of Samples [a] | Analytes (USEPA Method) [b, c] |
|---|---|---|
| Soil | 75 | TCL VOCs +10 and SVOCs +20 (8260C/8270D); TAL metals (6010D and 7473); hexavalent chromium (7196A); cyanide (9010C); pesticides (8081); PCBs (8082); herbicides (8151A) PFAS NYSDEC target list (1633); |
| Groundwater | 6 | TCL VOCs +10 and SVOCs +20 (8260C/8270D); TAL metals, total & dissolved (6010D and 7473); hexavalent chromium (7196A); cyanide (9010C); pesticides (8081); PCBs (8082); herbicides (8151A) PFAS NYSDEC target list (1633); |
| Soil Vapor | 14 | VOCs (TO-15) |
| Trip Blank (PFAS) | 1 per sample cooler (each day of sampling) | PFAS NYSDEC target list (1633) |
| Trip Blank (VOCs) | 1 per sample cooler (each day of sampling) | TCL VOCs +10 (8260) |
| Field Blank (PFAS) | 1 per sampling day | PFAS NYSDEC target list (1633) |
| Equipment Blank [d] | 1 for every 20 samples (non-dedicated) | As per sample collection requirements |
| Duplicates, MS/MSD | 1 for every 20 samples (minimum 1/week) | As per sample collection requirements; PFAS soil MS/MSD may be from same container as sample |

Notes

a Assumes a minimum of 3 soil samples from each of 25 borings (possible additional samples to be collected based on overt field evidence of contamination).

b PFAS will be analyzed using methodologies based on EPA Method 1633; additional methods may include SPLP (EPA Method 1312), and/or Total Oxidizable Precursor (TOP) Assay.

c 1,4-dioxane by 8270 SIM.

d Equipment blanks (when required) to be collected at a minimum of one per day for each matrix.

### 2.3.3 Sample Custody

Samples will be handled by the OSC, and kept at cold temperatures (per Table 2.3.1) as warranted. Upon the completion of each day of sample collection activities, all samples will be shipped via either courier or overnight delivery (per laboratory requirements) to a NYSDOH ELAP certified laboratory under proper chain of custody. Laboratory personnel will record the cooler temperature upon receipt and analyze the samples prior to the expiration of the hold times as specified in the NYSDEC Analytical Services Protocols (ASP).

## 2.4 Analytical Methods

Media samples will be analyzed as indicated in Section 2.3.2. Analytical methods for the samples will be implemented as follows:

| Matrix | Sample Analysis (Holding Time) | USEPA Analytical Method |
|---|---|---|
| Vapor | VOCs (30 days) | TO-15 |
| Soil | PFAS (28 days) | 1633 (reporting limit 0.5 µg/kg) |
| Soil | TCL VOCs+10 (14 days) | 8260C; 8270 for 1,4-dioxane (1,4-dioxane reporting limit 0.1 mg/kg) [a] |
| Soil | TCL SVOCs+20 (14 days) | 8270B |
| Soil | TAL metals (180 days; mercury 28 days) | 6010C/7471B |
| Soil | Cyanide (14 days) | 9010C |
| Soil | Pesticides/PCBs/herbicides (14 days [b]) | 8081A/8082/8151A |
| Water | PFAS (28 days) | 1633 (reporting limit 2 ng/L) |
| Water | TCL VOCs+10 (14 days) | 8260C; 8270 SIM for 1,4-dioxane (1,4-dioxane reporting limit 0.35 µg/L) [a] |
| Water | TCL SVOCs+20 (7 days [b]) | 8270B |
| Water | TAL metals (180 days; mercury 28 days) | 6010C/7471B |
| Water | Cyanide (14 days) | 9010C |
| Water | Pesticides/PCBs/herbicides (7 days [b]) | 8081A/8082/8151A |
| a Laboratory will meet required reporting limits running standard USEPA Method 8270<br>b Days for extraction, 40 days after extraction for laboratory analysis | | |

NYSDEC PFAS target compounds are shown below. Laboratory reporting limits for PFOA and PFOS should not exceed 0.50 µg/kg for soil and 2.00 ng/l for water (reporting limits for all other PFAS in soil and water should be as close to these limits as possible). The NYSDEC PFAS target list is shown below, and laboratory SOPs for collection analysis of PFAS are provided in Attachment E.

| Group | Chemical Name | Abbreviation | CAS Number |
|---|---|---|---|
| perfluoroalkyl sulfonic acids | perfluorobutanesulfonic acid | PFBS | 375-73-5 |
| | perfluoropentanesulfonic acid | PFPeS | 2706-91-4 |
| | perfluorohexanesulfonic acid | PFHxS | 355-46-4 |
| | perfluoroheptanesulfonic acid | PFHpS | 375-92-8 |

| Group | Chemical Name | Abbreviation | CAS Number |
|---|---|---|---|
| perfluoroalkyl sulfonic acids | perfluorooctanesulfonic acid | PFOS | 1763-23-1 |
| | perfluorononanesulfonic acid | PFNS | 68259-12-1 |
| | perfluorodecanesulfonic acid | PFDS | 335-77-3 |
| | perfluorododecanesulfonic acid | PFDoS | 79780-39-5 |
| perfluoroalkyl carboxylic acids | perfluorobutanoic acid | PFBA | 375-22-4 |
| | perfluoropentanoic acid | PFPeA | 2706-90-3 |
| | perfluorohexanoic acid | PFHxA | 307-24-4 |
| | perfluoroheptanoic acid | PFHpA | 375-85-9 |
| perfluoroalkyl carboxylic acids | perfluorooctanoic acid | PFOA | 335-67-1 |
| | perfluorononanoic acid | PFNA | 375-95-1 |
| | perfluorodecanoic acid | PFDA | 335-76-2 |
| | perfluoroundecanoic acid | PFUnA | 2058-94-8 |
| | perfluorododecanoic acid | PFDoA | 307-55-1 |
| | perfluorotridecanoic acid | PFTrDA | 72629-94-8 |
| | perfluorotetradecanoic acid | PFTeDA | 376-06-7 |
| per-and polyfluoroether carboxylic acids | hexafluoropropylene oxide dimer acid | HFPO-DA | 13252-13-6 |
| | 4,8-dioxa-3h-perfluorononanoic acid | ADONA | 919005-14-4 |
| | perfluoro-3-methoxypropanoic acid | PFMPA | 377-73-1 |
| | perfluoro-4-methoxybutanoic acid | PFMBA | 863090-89-5 |
| | nonafluoro-3,6-dioxaheptanoic acid | NFDHA | 151772-58-6 |
| fluorotelomer sulfonic acids | 4:2 fluorotelomer sulfonic acid | 4:2-FTS | 757124-72-4 |
| | 6:2 fluorotelomer sulfonic acid | 6:2-FTS | 27619-97-2 |
| | 8:2 fluorotelomer sulfonic acid | 8:2-FTS | 39108-34-4 |
| fluorotelomer carboxylic acids | 3:3 fluorotelomer carboxylic acid | 3:3 FTCA | 356-02-5 |
| | 5:3 fluorotelomer carboxylic acid | 5:3 FTCA | 914637-49-3 |
| | 7:3 fluorotelomer carboxylic acid | 7:3 FTCA | 812-70-4 |
| perfluorooctane sulfonamides | perfluorooctane sulfonamide | PFOSA | 754-91-6 |
| | n-methylperfluorooctane sulfonamide | NMeFOSA | 31506-32-8 |
| | n-ethylperfluorooctane sulfonamide | NEtFOSA | 4151-50-2 |
| perfluorooctane sulfonamidoacetic acids | n-methylperfluorooctane sulfonamidoacetic acid | N-MeFOSAA | 2355-31-9 |
| | n-ethylperfluorooctane sulfonamidoacetic acid | N-EtFOSAA | 2991-50-6 |
| perfluorooctane sulfonamide ethanols | n-methylperfluorooctane sulfonamidoethanol | MeFOSE | 24448-09-7 |
| | n-ethylperfluorooctane sulfonamidoethanol | EtFOSE | 1691-99-2 |
| ether sulfonic acids | 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | 9Cl-PF3ONS | 756426-58-1 |
| | 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | 11Cl-PF3OUdS | 763051-92-9 |
| | perfluoro(2-ethoxyethane) sulfonic acid | PFEESA | 113507-82-7 |

## 2.5 Quality Control

Accuracy and precision will be determined by repeated analysis of laboratory standards, and matrix effects and recovery will be determined through use of spiked samples. The laboratory will run standards, blanks, and spiked samples during sample analysis.

Duplicate sampling (for all parameters), and matrix spike (MS)/matrix spike duplicate (MSD) analyses, will be performed in accordance with Section 2.3.2. For each day of sampling, a trip blank will be included with each sample cooler and be analyzed for PFAS or VOCs, as applicable.

Samples will be identified using a unique ID number. This ID will be recorded on the sampling log and/or field record and the sampling container (samples for each day of fieldwork will be assigned to a Sample Delivery Group [SDG] by the laboratory). In accordance with current best fieldwork practices, permanent marker will not be utilized to label samples planned for analysis for PFAS. Samples for each day of fieldwork will be shipped via courier to the laboratory under proper chain of custody procedures.

## 2.6 Quality Assurance

### 2.6.1 Instrument/Equipment, Testing, Inspection, and Maintenance

Field measurements will be conducted using monitoring equipment specialized for each task, including use of a PID during fieldwork to screen for volatile organic vapors. All equipment will be properly stored (within buildings or construction trailers when not in use) and calibrated (as warranted) in accordance with the manufacturer's instructions (instrument malfunction is normally apparent during calibration). In the event of malfunction, equipment will be cleaned and tested. Equipment testing, inspection, and maintenance will be the responsibility of the Project Manager and OSC. Any other equipment selected for field measurements will be similarly managed.

### 2.6.2 Inspection/Acceptance of Supplies and Consumables

All supplies and consumables will be inspected and tested (if necessary) by either the Project Manager or the OSC upon receipt.

The following supplies and consumables will be used for each sample:

- Laboratory-supplied sampling containers, as specified in Section 2.3.1
- Laboratory-supplied materials for PFAS sampling, including trip blanks and PFAS-free cooler
- Plastic tubing for groundwater and soil vapor sampling
- PFAS-free water for decontamination
- Disposable gloves (nitrile or equivalent)

### 2.6.3 Data Management

For the purpose of data management, the data can be divided into field and laboratory data.

Field data will be recorded at the time of measurement on written field logs. Laboratory data will be reviewed upon receipt and summarized in data summary tables. The NYSDEC electronic data deliverable format for the analytical data will be requested from the testing laboratory. NYSDEC ASP Category B Data Deliverables will be requested from the testing laboratory and forwarded to an independent third party data validator for the development of Data Usability Summary Report (DUSR).

# 3.0 DATA REVIEW, VALIDATION AND USABILITY

## 3.1 Field Measurements

If field instruments are determined to be functioning correctly through calibration and measurements of standards, and if there are no inconsistencies between written records and data recorded in the meters, the data will be assumed to be valid and will be accepted as an indication of field conditions.

If instruments malfunction prior to field measurement, they will be restored to proper function prior to re-use. If they malfunction immediately after field measurements are taken, the measurements will be retaken as soon as possible. Inconsistencies between written records and recorded meter data will be resolved by re-testing the material, if possible. If re-testing is not possible, (i.e. the sample has been shipped to the laboratory), the inconsistency will be described in appropriate subsequent reporting and the laboratory analysis will be utilized to classify the material.

All field data will be reviewed by the Project Manager for consistency and plausibility.

## 3.2 Laboratory Analysis

A NYSDOH ELAP-certified laboratory will provide a NYSDEC ASP Category B data package and NYSDEC Electronic Data Deliverable format for the determinative sample analyses.

## 3.3 Standards, Criteria and Guidance

The following Standards, Criteria, and Guidance (SCGs) are applicable for this Site:

**SOIL**

Soil results are compared to SCOs provided in 6 NYCRR Subpart 375, Table 375-6.8(a) Unrestricted Use SCOs and 6.8(b) Restricted-Residential Use SCOs, and (as needed) Supplemental SCOs and/or Soil Cleanup Levels in NYSDEC CP-51 Soil Cleanup Guidance, Tables 1 to 3. SCOs are provided as Attachment C.

**WATER**

Water results are compared to NYSDEC Division of Water Ambient Water Quality Standards and Guidance Values (AWQS), provided in Technical and Operational Guidance Series 1.1.1.

**VAPOR**

The State of New York does not have any SCG for volatile chemicals in subsurface or sub-slab vapors. Laboratory results will be reviewed and evaluated in comparison to Site data as a whole, inclusive of an analysis of potential vapor intrusion concerns, as warranted, in accordance with applicable current NYSDOH guidance.

## 3.4 Verification and Validation Methods

### 3.4.1 Verification Method

Laboratory data will go to the Project Manager for review and verification (determination of proper sampling and collection, and completeness of all field and laboratory logs). A DUSR will be prepared by a third, independent party. A current resume of the individual preparing the DUSR (indicating education and relevant experience) is provided in Attachment D.

### 3.4.2 Authority for Verification

Authority for verification, validation, and resolution of data issues will be distributed among the investigators. Authority to resolve issues regarding verification of field measurements will rest with the Project Manager and the QAO.

# 4.0 REPORTING REQUIREMENTS

Following review, validation, and verification, all data will be conveyed to users via a Remedial Investigation Report (RIR) in accordance with the requirements of NYSDEC DER-10 Section 3.1.4.

The RIR will summarize all data collected during implementation of the RIWP (and any additional work), and will include, at a minimum:

- Descriptions of fieldwork activities and observations;
- Summaries of laboratory analytical results from sampling events, described in the report text and provided in data summary tables, as well as DUSRs for all data;
- Characterization of contamination sources (including environmental fate and transport);
- A qualitative human exposure assessment;
- Accounts of any deviations from RIWP procedural requirements;
- Conclusions drawn from applicable, available data; and,
- A summary of required Green and Sustainable Remediation (GSR) metrics.

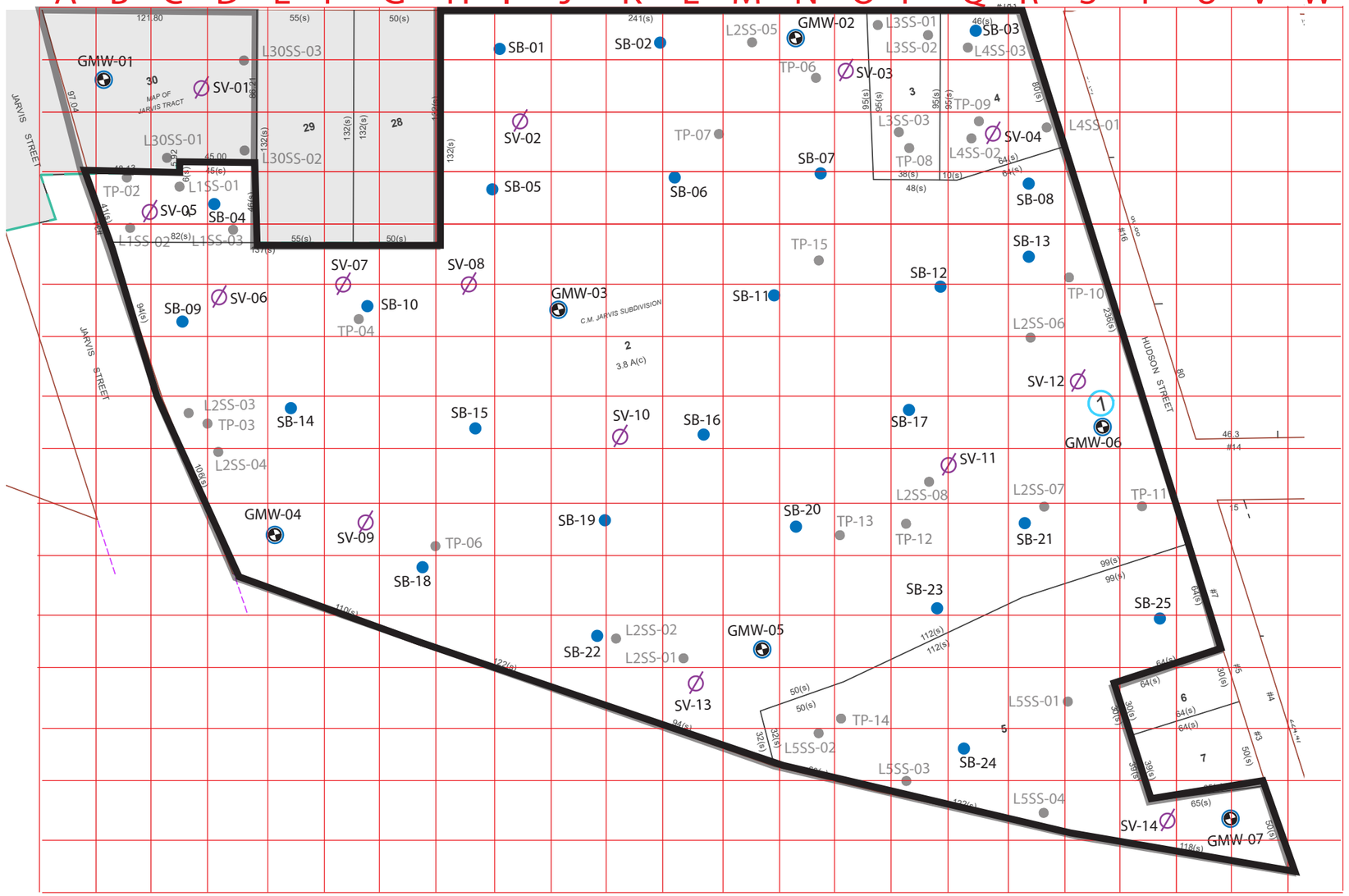
# Attachment A: Figures

GALLAGHER BASSETT | TECHNICAL SERVICES

CLINTON STREET

A B C D E F G H I J K L M N O P Q R S T U V W

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18




0 50 100

SCALE IN FEET
(APPROXIMATELY)

All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Legend:

- BCP boundary
- proposed boring location
- proposed soil vapor location
- proposed boring completed as monitoring well
- previous sample location

# Remedial Investigation Map

Vanguard Village I+II (BCP: C704063)
Clinton, Hudson and Jarvis Streets
City of Binghamton, New York

File: 23003-0060

Scale as shown

February 2026 | Figures

# Attachment B: Fieldwork SOPs

GALLAGHER BASSETT | TECHNICAL SERVICES

# STANDARD OPERATING PROCEDURES

## Fieldwork Sampling
## and
## Decontamination

**Updated October 2025**

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**SUPPLEMENTAL DOCUMENTATION**

Supplement A Model Fieldwork Logs

Supplement B USEPA Groundwater Sampling

Supplement C NYSDOH Vapor and Air Sampling

Supplement D Decontamination

Supplement E PFAS Sampling Guidance

# I. INTRODUCTION

This document provides Standard Operating Procedures (SOPs) for use by Gallagher Bassett Technical Services (GBTS) personnel during fieldwork events that require the collection of soil, groundwater, soil vapor and/or air samples. General procedures are presented below; detailed protocols, as available, are provided in the supplemental documentation. Equipment checklists, forms and calibration documents are maintained at GBTS offices. All SOPs and supporting documentation are periodically updated.

# II. FIELDWORK SAMPLING

Fieldwork sampling procedures are described below (model field logs are provided in Supplement A). Selection of field equipment will be based on anticipated site conditions (updated check-lists of equipment and supplies required for sampling activities are maintained at the local field office). All equipment operations will be in accordance with applicable operating manuals and specifications, and will be conducted (as needed) by an experienced subcontractor holding applicable permits/licenses. Decontamination procedures will be implemented as warranted during all fieldwork activities. Special requirements for PFAS sampling are noted in Section III.

## A. Procedures to be Conducted Prior to Fieldwork

Prior to the initiation of any ground-intrusive fieldwork, a request for a complete utility markout of the fieldwork site will be submitted to an appropriate service, as required by state regulations. Confirmation of underground utility locations will be secured and a field check of the utility markout will be conducted prior to the extension of soil borings[1].

A Fieldwork Map and Work Plan, indicating sampling locations and objectives, will be prepared prior to fieldwork activities, and sampling locations will be confirmed and located prior to starting work.

## B. General Fieldwork Methodology

At the start of the wok day, all on-site personnel, including environmental subcontractors and observers, will be briefed on planned activities and the contents of the site-specific Health and Safety Plan (HASP). Independent field logs will be utilized to document relevant information, including arrival and departure times of on-site personnel, safety meetings, basic weather conditions, and detailed notes and drawings documenting all fieldwork activities and/or any other relevant events and conditions.

On-site personnel will be properly dressed for the intended activities[2] and the anticipated weather conditions, including use of personnel protective equipment in accordance with the HASP.

Sampling locations will be determined in the field, measured to the nearest 0.5-foot relative to a fixed on-site marker, and will be recorded in logbooks for inclusion in all final maps.

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[1] Markout requirements apply to any ground intrusive methodologies, including the extension of test pits.

[2] Special care is required when for sampling of PFAS; see Section IV

Media will be collected in accordance with the Quality Assurance Project Plan (QAPP) and in a manner consistent with NYSDEC and/or NYSDOH requirements, including protocols for handling and custody. New, dedicated disposable nitrile gloves will be worn at each sampling location, and will be changed frequently based on field conditions. Fieldwork personnel will assess media characteristics (e.g., soil type, presence of debris, indications of contamination, etc.) and record all observations in log books.

On-site senior personnel will be responsible for: a) identifying any materials that require special handling, such as media that may contain high levels of contaminants or is grossly contaminated or likely to be hazardous; b) ensuring that identified materials are properly securely stored on-site (stockpiled on plastic and covered, or placed in approved containers), pending characterization and proper disposition; and, c) ensuring that unforeseen environmental conditions are managed in accordance with applicable federal and state regulations.

Sample collection from recovered media will be performed without unnecessary delay. Samples will be placed into labeled containers provided by the laboratory, stored in dedicated coolers kept at 4 (+/-2) °C and handled under proper chain of custody. All samples will be shipped to a NYSDOH ELAP certified laboratory via laboratory courier (either upon completion of each day of sample collection activities, or the following day after overnight storage in a dedicated sample refrigerator).

**C. Extension of Soil Borings**

Soil borings will be extended using either hand-held or mechanized equipment, based on site conditions and Work Plan requirements. Mechanized equipment includes using either direct push technology (DPT) or rotary methods, including hollow stem auger (HSA) and sonic drilling. The small size of DPT rigs allows for sampling in tight spaces and areas that are sensitive to the use of heavy equipment. DPT can be used in overburden soils where the soil texture allows for direct push of sampling equipment. A HSA or sonic rig will be utilized if significant subsurface obstructions (e.g., large cobbles, boulders, concrete, etc) are (or are expected to be) encountered.

Hand borings will be extended (as warranted) using manual DPT equipment (e.g., Geoprobe), which includes a collection barrel lined with disposable acetate sleeves, extension rods and a slide hammer. The barrel will collect samples from discreet intervals of 2 feet. Hand boring methods are generally restricted to shallow soil sampling (0 to 6’ below grade) and may be employed/attempted if access by mechanized equipment is not practical.

DPT will typically be utilized during the extension of borings in overburden soils. The DPT rig will be equipped with a macro-core sampling barrel (minimum diameter 4”) lined with disposable acetate sleeves. The barrel will collect samples from discreet intervals of either 4 or 5 feet. HSA rigs will use a continuous hollow stem auger with a split-spoon (collection interval of 2 feet) or other collection device. This system drives drill cuttings to the surface as drilling progresses, which will require management. Sonic drill rigs will utilize coring barrels of various lengths lined with plastic tubing.

Bore hole openings will be periodically screened with a photoionization detector (PID).

**D. Installation and Development of Monitoring wells**

Groundwater monitoring wells will be installed by the drilling subcontractor. Unless otherwise specified, monitoring wells will be constructed of two-inch PVC casing with a ten-foot length of 0.01-inch slotted PVC well screening across the water table. No glue will be used to thread the casing lengths. A minimum of 2 feet of screening will extend above the water table, with approximately 8 feet below the water level (depth to water will be inferred based on saturated soils encountered during installation, or from data from existing groundwater monitoring wells).

The annular space between the well screen and the borehole will be backfilled with clean silica sand to approximately two feet above the screen. A seal consisting of at least 12 inches of hydrated bentonite clay will be placed above the sand pack and the remaining annular space will be grouted with cement.

A locked cap with vent will be installed at the top of the PVC riser (well protection will be in accordance with the Work Plan, including use of secure “drive-over” metal cover or stick-up metal outer casing). A surveyor’s transit level will be used to determine the elevation of the top of the PVC well riser, relative to a permanent on-site marker, for use in determining relative groundwater elevations. Well locations and relative elevations will be recorded in field logs and indicated on all fieldwork maps.

The wells will be developed one week following installation. The wells will be developed with a properly decontaminated mechanical pump and dedicated polyethylene tubing in order to clear fine-grained material that may have settled around the well screen and to enhance the natural hydraulic connection between the well screen and the surrounding soils. Well development will begin at the top of the screened interval to prevent clogging of the pump within the well casing. Well development will be discontinued when the discharge water is free of obvious sediment, turbidity is below 50 NTUs and indicator parameters (e.g., dissolved oxygen, temperature, etc.) have stabilized. Upon completion, the pump assembly will be removed from the well while the pump is still running to avoid discharge of purged water back into the well. Development water will be securely stored on-site pending laboratory analysis.

**E. Soil Sampling**

Recovered sampling equipment will be placed on a clean surface (folding table, plastic sheeting, etc.) and opened (liners will be sliced with a clean razor knife). Recovered soils will be observed for potential contamination through observation and use of properly calibrated field instruments, e.g., PID. Samples will be collected directly from the sampling device. The volume of material collected will be sufficient for the required analyses and for reasonably anticipated potential additional analyses. Soil to be analyzed for volatile organic compounds (VOCs) will be collected following USEPA Method 5035 protocols, using laboratory sampling kits. Samples to be analyzed for parameters other than VOCs will be collected as either grab or composite samples, using disposable plastic trowels or properly decontaminated stainless steel instruments, or directly by the fieldwork technician using dedicated, fresh disposable nitrile gloves.

**F. Groundwater Sampling**

Groundwater sampling will be conducted using USEPA "Low-Stress" protocols (detailed in Supplement B). Sampling will be conducted using the following general procedures:

1. Groundwater sampling will begin at the potentially least contaminated well (as determined from well location and/or previous data) and proceed to the potentially most contaminated well. The field technician will check and record the condition of all monitoring wells for damage or evidence of tampering before initiating sampling. Plastic will be placed around wells to minimize potential contamination of sampling equipment from the ground surface, and all monitoring, purging and sampling equipment will be placed on the sheeting.
2. The protective casing on the well will be unlocked, the air in the well head will be screened with a PID, and static water level (from the top of the casing) will be measured with a decontaminated water-level meter. A peristaltic pump with plastic tubing, or a submersible pump attached to tubing (if required by Site conditions, e.g., well depth) will be used for sampling. The tubing (or pump attached to tubing) will be slowly lowered until reaching two to three feet off of the well bottom to prevent disturbance and re-suspension of any remaining sediment.
3. Depth to water will be measured to nearest 0.01 feet, relative to a reference measuring point on the well casing (if no pre-existing reference point is found, a reference point will be marked on the inner casing and noted in the field logbook). The water level will be measured before the pump is started and at intervals of every three to five minutes. Pumping rates will be reduced (as needed) to the minimum capabilities of the pump to ensure stabilization of the water level (drawdown of 0.3 feet or less).
4. During pumping, field indicator parameters (turbidity, temperature, specific conductance, pH, redox potential, and dissolved oxygen) will be monitored and recorded approximately every five minutes. The well will be considered stabilized when the indicator parameters have stabilized for three consecutive readings (the minimum purge interval will be at least 15 minutes).
5. All groundwater samples will be collected in a manner consistent with the QAPP.
6. The protective cap on the well will be replaced and locked following sampling, and the field sampling crew will move to the next most contaminated well and the process will be repeated.

**G. Soil Vapor Sampling**

Soil vapor sampling will be conducted consistent with applicable NYSDOH guidance and fieldwork protocols (detailed in Supplement C). Sampling will be conducted using the following general procedures:

Soil vapor samples may be collected from beneath building foundations or paved areas, or from exterior areas not otherwise covered by material that trap soil vapor at the surface. Concrete slabs and exterior pavement will generally be breached with rotary equipment, which produce a small-diameter hole. The hole will be extended into underlying soil/sub-base to a depth required by the sampling technology

(typically 6 to 12 inches below the base of the overlying materials for temporary installations). Sampling at exterior areas will require extension of a borehole to at least 3 to 4 feet below the surface (greater depths may be specified by the Work Plan).

Construction details for soil vapor implants are provided in the Supplement C. All soil vapor probes will be installed with a properly sealed surface opening to prevent ambient air from entering the system.

A tracer gas (e.g., helium) will be used at soil vapor sampling locations to verify that adequate sampling techniques are being implemented (i.e. to verify the absence of significant infiltration of outside air), in accordance with applicable NYSDOH guidance. The space around the sampling point will be enclosed and sealed (with a metal hemisphere and clay) in order to introduce a tracer gas (helium) into the area surrounding the probe point. Real-time sampling equipment (Radiodetection Multi-vapor Leak Locator, model MDG 2002, or equivalent) will be utilized to determine when the interior atmosphere in the enclosure reaches a concentration of 80%, and the tubing for the vapor implant will then be sampled for the tracer gas. If helium is detected in vapor at a concentration greater than 10%, the annular seal will be repaired and gas tracing performed again until less than 10% helium is detected.

Vapor in the sampling tubing will be screened with a PID for VOCs prior to purging. For all sampling locations, the exact purge volume will be dependent on the boring depth and subsequent length of tubing. Three borehole and tubing volumes will be purged prior to collection. The purge rate will not exceed 0.2 liters per minute. Following purging of ambient air from the collection device, soil vapor samples will be (at a rate not exceeding 0.2 liters per minute) into individual laboratory-certified clean Summa canisters equipped with flow regulators (sampling period as specified in the Work Plan).

## III. GENERAL DECONTAMINATION PROTOCOL

Consistent decontamination methods will be used to reduce or eliminate contamination and cross-contamination of samples by field equipment, other samples or personnel, and to minimize potential exposures caused by the spread of contaminants. Decontamination will occur any time a sampling tool or instrument used in field investigations contacts sampled media or personnel using the equipment. These procedures will be used in conjunction with all non-dedicated (i.e. reusable) equipment used during the handling, sampling or measuring of environmental media, and will be implemented primarily on-site at the point of use or at a designated equipment decontamination station at the project site.

Types of equipment usually requiring decontamination include pumps, gauges, augers and sampling barrels. Drilling equipment, water level meters, submersible pumping equipment, and any other non-dedicated monitoring and sampling equipment will be decontaminated prior to the start of fieldwork, after the collection of each media sample, and between boring intervals and/or sampling locations. Water quality parameter sensors and flow-through cell will be cleaned between sampling locations in accordance with the manufacturer's recommendations.

Materials and methods for decontamination are provided in Supplement D.

## IV. PFAS SAMPLING - SPECIAL REQUIREMENTS

Special requirements apply to all fieldwork procedures during sampling for per- and polyfluoroalkyl substances (PFAS). Because of the potential presence of PFAS in common consumer products and in equipment typically used to collect media and the need for very low reporting limits, special handling and care must be taken when collecting samples for PFAS analysis to avoid sample contamination. There is only limited research regarding how the use of various procedures and materials affect sample results, and this SOP therefore represent a conservative approach. Field personnel should take precautions to avoid items that are likely to contain PFAS at the sampling site as well as avoid specific items during the sampling event, and must frequently check for updates to this SOP. The most recent NYSDEC guidance document, as well as a *PFAS Sampling Quick Reference Field Guide* (provided by Michigan Department of Environment, Great Lakes, and Energy), are provided in Supplement E.

### A. EQUIPMENT AND SUPPLIES

Avoid personal protective equipment (PPE, including clothing chemically treated for UV protection) and field supplies that may include PFAS and which could cross-contaminate field samples. Personal body products such as shampoos, moisturizers and cosmetics may contain PFAS and should be used with care the day of sampling. Sunblock and insect repellent ingredients need to be verified to ensure that they do not contain PFAS before use in the field.

Food and food packaging should not enter the sampling zone.

Water resistant, waterproof, stain-treated, clothing recently washed with fabric softeners, and new clothing should be avoided. If sampling in inclement weather a canopy tent may be a good option (note, however, that water resistant/waterproof material likely contains PFAS and disposable gloves should be worn when putting up and/or moving the tent.

Waterproof field books may contain PFAS and should not be used. Documentation of field activities should be on loose paper on an aluminum clipboard or in a waterproof field book that does not use PFAS. Field notes should be taken with a ball point pen (avoid large felt tip markers; fine and ultra-fine point Sharpie® markers are acceptable). Sticky notes, etc., may contain PFAS and should be avoided (pre-printed labels should be verified PFAS-free.

Disposable, powderless, nitrile gloves must be worn during PFAS sampling and handling activities and should be changed frequently during and between sampling activities.

Sealed laboratory-supplied sampling containers may be placed into LDPE resealable storage bags (e.g., Ziploc®) that will not contact the sample media.

Chemical ice packs should not be used unless it is verified that they are PFAS-free. Samples for PFAS analysis should be placed on water ice immediately and should ideally be received by the laboratory at a temperature less than 6º Celsius.

## B. GENERAL SAMPLING PROCEDURES

Sampling must be conducted in accordance with the project-specific QAPP, including use of laboratory-supplied sample containers.

If non-dedicated non-disposable equipment is used for sampling, proper decontamination is necessary. Decontamination reagents should be checked to ensure that they do not contain PFAS before use. Similarly, water used for decontamination should be checked (i.e. field equipment blanks) to verify that it does not contain PFAS. It may be necessary to collect samples of decontamination water prior to use to ensure that water being used for decontamination does not contain PFAS.

Soil samples should be collected using stainless steel, acetate, or polypropylene constructed equipment. Liners for soil sampling should not contain PFAS.

If a monitoring well has dedicated tubing that may contain PFAS, the dedicated tubing should be removed, and silicone or HDPE tubing should be used to sample for PFAS following at least one well volume purge prior to sampling for PFAS. The recommended length of time that dedicated tubing should be removed, and the recommended amount of purging conducted prior to sampling where dedicated tubing has been present is variable. If it is anticipated that dedicated tubing may be a source of PFAS cross contamination extra precaution, such as removal of the tubing 14 days prior to sampling or purging of three well volumes, should be considered.

Care should be taken to not cross contaminate PFAS samples if samples for non-PFAS analyses are being collected. For example, if VOCs and PFAS water samples are being collected, the VOCs would be collected using a peristaltic pump with HDPE and silicone tubing, and then a second set of samples would be collected for PFAS after changing gloves and switching sample container sets.

If transfer bottles are necessary for surface water sample collection, they should be PFAS-free and made of the same material as the laboratory provided sample containers.

If a water supply is to be sampled, both a pre- and post-treatment sample may be necessary. Carbon filtration, reverse osmosis, and other filter media may bias laboratory results for PFAS. Water should be allowed to run freely until water quality parameter stabilization has occurred, typically between 3 and 5 minutes. Water flow rate should be reduced for minimal aeration.

Do not filter samples for PFAS analysis.

## C. DECONTAMINATION OF PFAS SAMPLING EQUIPMENT

Special requirements apply to decontaminating non-dedicated equipment used for PFAS sampling. Laboratory supplied PFAS-free deionized water is preferred for decontamination (commercially available deionized water in an HDPE container, and municipal drinking water, may be used for decontamination if verified to be PFAS-free. Sampling equipment can be scrubbed using a polyethylene or polyvinyl chloride (PVC) brush to remove particulates. Decontamination procedures should include triple rinsing with PFAS-free water. Note that a QAPP prepared for NYSDEC program sites prohibits use of Liquinox®.

## V. INVESTIGATION DERIVED WASTES

Disposal of any waste materials will be in accordance with provisions of the applicable site-specific Work Plan. If not otherwise specified: 1) discarded personal protective equipment and other fieldwork supplies not significantly impacted by free petroleum or other gross contaminants will be disposed as municipal solid waste; and, 2) well development purge water, spent absorbents or other significantly contaminated materials, and/or any recovered free-petroleum, will be properly stored on-site, in properly labeled and secured containers, pending final off-site disposal at a permitted facility.

# Supplement A - Model Fieldwork Logs

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| **Boring ID** | **Site ID:** | **GBTS Project** |
|---|---|---|
| Page____of____ | Date: Driller (Rig)<br>GBTS Staff: Weather: | |

| Boring Interval (recovery) | Surface Material:<br>**Soil / Material Description** | Moisture | PID (ppm) | Odors | Staining | NAPL | Samples Collected |
|---|---|---|---|---|---|---|---|
| ___–___<br>(___%) | | | | | | | |
| ___–___<br>(___%) | | | | | | | |
| ___–___<br>(___%) | | | | | | | |
| ___–___<br>(___%) | | | | | | | |
| ___–___<br>(___%) | | | | | | | |
| ___–___<br>(___%) | | | | | | | |

***Notes*** Fill, water conditions, field evidence of contamination, well installation details, etc

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **P** (plastic) **LP** (low plastic) **NP** (non-plastic)

# GROUNDWATER MONITORING WELL PURGE DATA SHEET

GALLAGHER BASSETT | TECHNICAL SERVICES

**Project Name:** _____ **Well ID:** _____
**GBTS PROJECT #:** _____ **PID Reading:** _____
**Date:** _____ **Depth of well:** _____
**Field Personnel:** _____ **Depth to water:** _____
**Weather:** _____ **Pump type:** _____

| Time | Temp (°C) | pH | ORP (mv) | Specific Conductivity (ms/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Depth to Water (ft) | Purge Rate (mL/m) | Comments (e.g. color/clarity) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
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***** STABILIZATION CRITERIA*****

**Temp** +/- 3% **pH** +/- 0.1 **ORP** +/- 10 **Spec Cond** +/- 3% **Turb** +/- 10% **DO** +/- 10%

NOTES:

*****PURGED WATER DETAILS*****

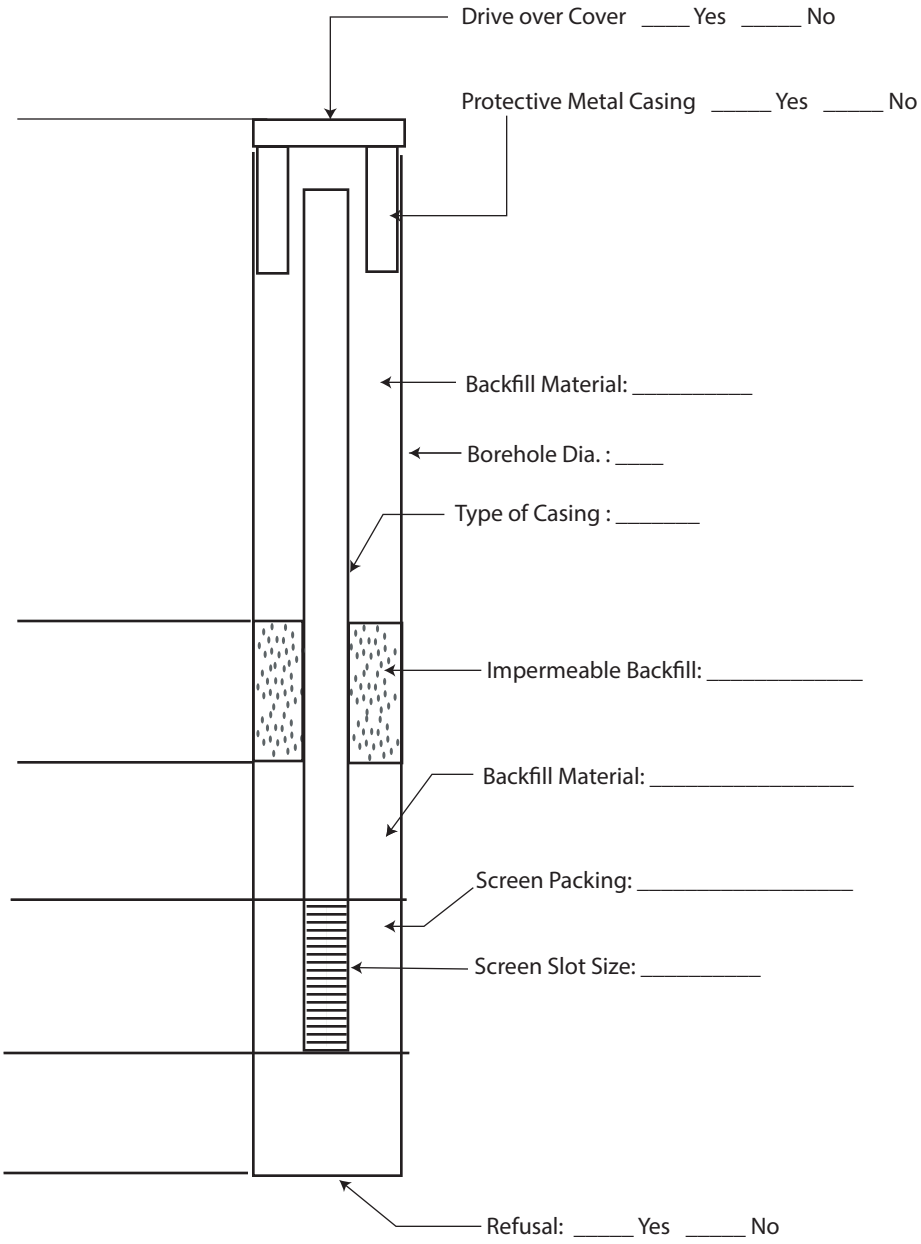
**Start/End time:** _____
**Total purge time:** _____
**Total volume:** _____
**Purge rate:** _____

**CHARACTERISTICS:**

**Odor**: none | slight | moderate | strong

**Sheen**: none | slight | moderate | strong

**L/DNAPL:** Yes | No **L/DNAPL thickness (in.)**:_____




Materials Used:

- Screen (PVC)
- Riser (PVC)
- Plug (PVC)
- Silica Sand
- Bentonite clay

**Monitor Well Construction Log - Well ID:**

Site:

| | |
|---|---|
| Project: | |
| Date: | |
| Appendix: | |

# Supplement B - USEPA Groundwater Sampling

# U.S. ENVIRONMENTAL PROTECTION AGENCY
# REGION I

## LOW STRESS (low flow) PURGING AND SAMPLING PROCEDURE FOR THE COLLECTION OF GROUNDWATER SAMPLES FROM MONITORING WELLS

Quality Assurance Unit
U.S. Environmental Protection Agency – Region 1
11 Technology Drive
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Prepared by:_____ _____
(Robert Reinhart, Quality Assurance Unit) Date

Approved by:_____ _____
(John Smaldone, Quality Assurance Unit) Date

## Revision Page

| Date | Rev # | Summary of changes | Sections |
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| 3/23/17 | 3 | Updated | All sections |
| 9/20/17 | 4 | Updated | Section 7.0 |
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## 1.0 USE OF TERMS

Equipment blank: The equipment blank shall include the pump and the pump's tubing. If tubing is dedicated to the well, the equipment blank needs only to include the pump in subsequent sampling rounds. If the pump and tubing are dedicated to the well, the equipment blank is collected prior to its placement in the well. If the pump and tubing will be used to sample multiple wells, the equipment blank is normally collected after sampling from contaminated wells and not after background wells.

Field duplicates: Field duplicates are collected to determine precision of the sampling procedure. For this procedure, collect duplicate for each analyte group in consecutive order (VOC original, VOC duplicate, SVOC original, SVOC duplicate, etc.).

Indicator field parameters: This SOP uses field measurements of turbidity, dissolved oxygen, specific conductance, temperature, pH, and oxidation/reduction potential (ORP) as indicators of when purging operations are sufficient and sample collection may begin.

Matrix Spike/Matrix Spike Duplicates: Used by the laboratory in its quality assurance program. Consult the laboratory for the sample volume to be collected.

Potentiometric Surface: The level to which water rises in a tightly cased well constructed in a confined aquifer. In an unconfined aquifer, the potentiometric surface is the water table.

QAPP: Quality Assurance Project Plan

SAP: Sampling and Analysis Plan

SOP: Standard operating procedure

Stabilization: A condition that is achieved when all indicator field parameter measurements are sufficiently stable (as described in the “Monitoring Indicator Field Parameters” section) to allow sample collection to begin.

Temperature blank: A temperature blank is added to each sample cooler. The blank is measured upon receipt at the laboratory to assess whether the samples were properly cooled during transit.

Trip blank (VOCs): Trip blank is a sample of analyte-free water taken to the sampling site and returned to the laboratory. The trip blanks (one pair) are added to each sample cooler that contains VOC samples.

## 2.0 SCOPE & APPLICATION

The goal of this groundwater sampling procedure is to collect water samples that reflect the total mobile organic and inorganic loads (dissolved and colloidal sized fractions) transported through the subsurface under ambient flow conditions, with minimal physical and chemical alterations from sampling operations. This standard operating procedure (SOP) for collecting groundwater samples will help ensure that the project's data quality objectives (DQOs) are met under certain low-flow conditions.

The SOP emphasizes the need to minimize hydraulic stress at the well-aquifer interface by maintaining low water-level drawdowns, and by using low pumping rates during purging and sampling operations. Indicator field parameters (e.g., dissolved oxygen, pH, etc.) are monitored during purging in order to determine when sample collection may begin. Samples properly collected using this SOP are suitable for analysis of groundwater contaminants (volatile and semi-volatile organic analytes, dissolved gases, pesticides, PCBs, metals and other inorganics), or naturally occurring analytes. This SOP is based on Puls, and Barcelona (1996).

This procedure is designed for monitoring wells with an inside diameter (1.5-inches or greater) that can accommodate a positive lift pump with a screen length or open interval ten feet or less and with a water level above the top of the screen or open interval (Hereafter, the "screen or open interval" will be referred to only as "screen interval"). This SOP is not applicable to other well-sampling conditions.

While the use of dedicated sampling equipment is not mandatory, dedicated pumps and tubing can reduce sampling costs significantly by streamlining sampling activities and thereby reducing the overall field costs.

The goal of this procedure is to emphasize the need for consistency in deploying and operating equipment while purging and sampling monitoring wells during each sampling event. This will help to minimize sampling variability.

This procedure describes a general framework for groundwater sampling. Other site specific information (hydrogeological context, conceptual site model (CSM), DQOs, etc.) coupled with systematic planning must be added to the procedure in order to develop an appropriate site specific SAP/QAPP. In addition, the site specific SAP/QAPP must identify the specific equipment that will be used to collect the groundwater samples.

This procedure does not address the collection of water or free product samples from wells containing free phase LNAPLs and/or DNAPLs (light or dense non-aqueous phase

liquids). For this type of situation, the reader may wish to check: Cohen, and Mercer (1993) or other pertinent documents.

This SOP is to be used when collecting groundwater samples from monitoring wells at all Superfund, Federal Facility and RCRA sites in Region 1 under the conditions described herein. Request for modification of this SOP, in order to better address specific situations at individual wells, must include adequate technical justification for proposed changes. All changes and modifications must be approved and included in a revised SAP/QAPP before implementation in field.

## 3.0 BACKGROUND FOR IMPLEMENTATION

It is expected that the monitoring well screen has been properly located (both laterally and vertically) to intercept existing contaminant plume(s) or along flow paths of potential contaminant migration. Problems with inappropriate monitoring well placement or faulty/improper well installation cannot be overcome by even the best water sampling procedures. This SOP presumes that the analytes of interest are moving (or will potentially move) primarily through the more permeable zones intercepted by the screen interval.

Proper well construction, development, and operation and maintenance cannot be overemphasized. The use of installation techniques that are appropriate to the hydrogeologic setting of the site often prevent "problem well" situations from occurring. During well development, or redevelopment, tests should be conducted to determine the hydraulic characteristics of the monitoring well. The data can then be used to set the purging/sampling rate, and provide a baseline for evaluating changes in well performance and the potential need for well rehabilitation. Note: if this installation data or well history (construction and sampling) is not available or discoverable, for all wells to be sampled, efforts to build a sampling history should commence with the next sampling event.

The pump intake should be located within the screen interval and at a depth that will remain under water at all times. It is recommended that the intake depth and pumping rate remain the same for all sampling events. The mid-point or the lowest historical midpoint of the saturated screen length is often used as the location of the pump intake. For new wells, or for wells without pump intake depth information, the site's SAP/QAPP must provide clear reasons and instructions on how the pump intake depth(s) will be selected, and reason(s) for the depth(s) selected. If the depths to top and bottom of the well screen are not known, the SAP/QAPP will need to describe how the sampling depth will be determined and how the data can be used.

Stabilization of indicator field parameters is used to indicate that conditions are suitable for sampling to begin. Achievement of turbidity levels of less than 5 NTU, and stable drawdowns of less than 0.3 feet, while desirable, are not mandatory. Sample collection

may still take place provided the indicator field parameter criteria in this procedure are met. If after 2 hours of purging indicator field parameters have not stabilized, one of three optional courses of action may be taken: a) continue purging until stabilization is achieved, b) discontinue purging, do not collect any samples, and record in log book that stabilization could not be achieved (documentation must describe attempts to achieve stabilization), c) discontinue purging, collect samples and provide full explanation of attempts to achieve stabilization (note: there is a risk that the analytical data obtained, especially metals and strongly hydrophobic organic analytes, may reflect a sampling bias and therefore, the data may not meet the data quality objectives of the sampling event).

It is recommended that low-flow sampling be conducted when the air temperature is above 32°F (0°C). If the procedure is used below 32°F, special precautions will need to be taken to prevent the groundwater from freezing in the equipment. Because sampling during freezing temperatures may adversely impact the data quality objectives, the need for water sample collection during months when these conditions are likely to occur should be evaluated during site planning and special sampling measures may need to be developed. Ice formation in the flow-through-cell will cause the monitoring probes to act erratically. A transparent flow-through-cell needs to be used to observe if ice is forming in the cell. If ice starts to form on the other pieces of the sampling equipment, additional problems may occur.

## 4.0 HEALTH & SAFETY

When working on-site, comply with all applicable OSHA requirements and the site's health/safety procedures. All proper personal protection clothing and equipment are to be worn. Some samples may contain biological and chemical hazards. These samples should be handled with suitable protection to skin, eyes, etc.

## 5.0 CAUTIONS

The following cautions need to be considered when planning to collect groundwater samples when the below conditions occur.

If the groundwater degasses during purging of the monitoring well, dissolved gases and VOCs will be lost. When this happens, the groundwater data for dissolved gases (e.g., methane, ethene, ethane, dissolved oxygen, etc.) and VOCs will need to be qualified. Some conditions that can promote degassing are the use of a vacuum pump (e.g., peristaltic pumps), changes in aperture along the sampling tubing, and squeezing/pinching the pump's tubing which results in a pressure change.

When collecting the samples for dissolved gases and VOCs analyses, avoid aerating the groundwater in the pump's tubing. This can cause loss of the dissolved gases and VOCs in

the groundwater. Having the pump's tubing completely filled prior to sampling will avoid this problem when using a centrifugal pump or peristaltic pump.

Direct sun light and hot ambient air temperatures may cause the groundwater in the tubing and flow-through-cell to heat up. This may cause the groundwater to degas which will result in loss of VOCs and dissolved gases. When sampling under these conditions, the sampler will need to shade the equipment from the sunlight (e.g., umbrella, tent, etc.). If possible, sampling on hot days, or during the hottest time of the day, should be avoided. The tubing exiting the monitoring well should be kept as short as possible to avoid the sun light or ambient air from heating up the groundwater.

Thermal currents in the monitoring well may cause vertical mixing of water in the well bore. When the air temperature is colder than the groundwater temperature, it can cool the top of the water column. Colder water which is denser than warm water sinks to the bottom of the well and the warmer water at the bottom of the well rises, setting up a convection cell. "During low-flow sampling, the pumped water may be a mixture of convecting water from within the well casing and aquifer water moving inward through the screen. This mixing of water during low-flow sampling can substantially increase equilibration times, can cause false stabilization of indicator parameters, can give false indication of redox state, and can provide biological data that are not representative of the aquifer conditions" (Vroblesky 2007).

Failure to calibrate or perform proper maintenance on the sampling equipment and measurement instruments (e.g., dissolved oxygen meter, etc.) can result in faulty data being collected.

Interferences may result from using contaminated equipment, cleaning materials, sample containers, or uncontrolled ambient/surrounding air conditions (e.g., truck/vehicle exhaust nearby).

Cross contamination problems can be eliminated or minimized through the use of dedicated sampling equipment and/or proper planning to avoid ambient air interferences. Note that the use of dedicated sampling equipment can also significantly reduce the time needed to complete each sampling event, will promote consistency in the sampling, and may reduce sampling bias by having the pump's intake at a constant depth.

Clean and decontaminate all sampling equipment prior to use. All sampling equipment needs to be routinely checked to be free from contaminants and equipment blanks collected to ensure that the equipment is free of contaminants. Check the previous equipment blank data for the site (if they exist) to determine if the previous cleaning procedure removed the contaminants. If contaminants were detected and they are a concern, then a more vigorous cleaning procedure will be needed.

## 6.0 PERSONNEL QUALIFICATIONS

All field samplers working at sites containing hazardous waste must meet the requirements of the OSHA regulations. OSHA regulations may require the sampler to take the 40 hour OSHA health and safety training course and a refresher course prior to engaging in any field activities, depending upon the site and field conditions.

The field samplers must be trained prior to the use of the sampling equipment, field instruments, and procedures. Training is to be conducted by an experienced sampler before initiating any sampling procedure.

The entire sampling team needs to read, and be familiar with, the site Health and Safety Plan, all relevant SOPs, and SAP/QAPP (and the most recent amendments) before going onsite for the sampling event. It is recommended that the field sampling leader attest to the understanding of these site documents and that it is recorded.

## 7.0 EQUIPMENT AND SUPPLIES

### A. Informational materials for sampling event

A copy of the current Health and Safety Plan, SAP/QAPP, monitoring well construction data, location map(s), field data from last sampling event, manuals for sampling, and the monitoring instruments' operation, maintenance, and calibration manuals should be brought to the site.

### B. Well keys.

### C. Extraction device

Adjustable rate, submersible pumps (e.g., centrifugal, bladder, etc.) which are constructed of stainless steel or polytetrafluoroethylene (PTFE, i.e. Teflon®) are preferred. PTFE, however, should not be used when sampling for per- and polyfluoroalkyl substances (PFAS) as it is likely to contain these substances.

Note: If extraction devices constructed of other materials are to be used, adequate information must be provided to show that the substituted materials do not leach contaminants nor cause interferences to the analytical procedures to be used. Acceptance of these materials must be obtained before the sampling event.

If bladder pumps are selected for the collection of VOCs and dissolved gases, the pump setting should be set so that one pulse will deliver a water volume that is sufficient to fill a 40 mL VOC vial. This is not mandatory, but is considered a "best practice". For the proper operation, the bladder pump will need a minimum amount of water above the pump; consult the manufacturer for the recommended submergence. The pump's recommended submergence value should be determined during the planning stage, since it may influence well construction and placement of dedicated pumps where water-level fluctuations are significant.

Adjustable rate, peristaltic pumps (suction) are to be used with caution when collecting samples for VOCs and dissolved gases (e.g., methane, carbon dioxide, etc.) analyses. Additional information on the use of peristaltic pumps can be found in Appendix A. If peristaltic pumps are used, the inside diameter of the rotor head tubing needs to match the inside diameter of the tubing installed in the monitoring well.

Inertial pumping devices (motor driven or manual) are not recommended. These devices frequently cause greater disturbance during purging and sampling, and are less easily controlled than submersible pumps (potentially increasing turbidity and sampling variability, etc.). This can lead to sampling results that are adversely affected by purging and sampling operations, and a higher degree of data variability.

**D. Tubing**

PTFE (Teflon®) or PTFE-lined polyethylene tubing are preferred when sampling is to include VOCs, SVOCs, pesticides, PCBs and inorganics. As discussed in the previous section, PTFE tubing should not be used when sampling for PFAS. In this case, a suitable alternative such as high-density polyethylene tubing should be used.

PVC, polypropylene or polyethylene tubing may be used when collecting samples for metal and other inorganics analyses.

Note: If tubing constructed of other materials is to be used, adequate information must be provided to show that the substituted materials do not leach contaminants nor cause interferences to the analytical procedures to be used. Acceptance of these materials must be obtained before the sampling event.

The use of 1/4 inch or 3/8 inch (inside diameter) tubing is recommended. This will help ensure that the tubing remains liquid filled when operating at very low pumping rates when using centrifugal and peristaltic pumps.

Silastic tubing should be used for the section around the rotor head of a peristaltic pump. It should be less than a foot in length. The inside diameter of the tubing used at the pump rotor head must be the same as the inside diameter of tubing placed in the well. A tubing connector is used to connect the pump rotor head tubing to the well tubing. Alternatively, the two pieces of tubing can be connected to each other by placing the one end of the tubing inside the end of the other tubing. The tubing must not be reused.

**E. The water level measuring device**

Electronic ”tape”, pressure transducer, water level sounder/level indicator, etc. should be capable of measuring to 0.01 foot accuracy. Recording pressure transducers, mounted above the pump, are especially helpful in tracking water levels during pumping operations, but their use must include check measurements with a water level “tape” at the start and end of each sampling event.

**F. Flow measurement supplies**

Graduated cylinder (size according to flow rate) and stopwatch usually will suffice.

Large graduated bucket used to record total water purged from the well.

**G. Interface probe**

To be used to check on the presence of free phase liquids (LNAPL, or DNAPL) before purging begins (as needed).

**H. Power source (generator, nitrogen tank, battery, etc.)**

When a gasoline generator is used, locate it downwind and at least 30 feet from the well so that the exhaust fumes do not contaminate samples.

**I. Indicator field parameter monitoring instruments**

Use of a multi-parameter instrument capable of measuring pH, oxidation/reduction potential (ORP), dissolved oxygen (DO), specific conductance, temperature, and coupled with a flow-through-cell is required when measuring all indicator field parameters, except turbidity. Turbidity is collected using a separate instrument. Record equipment/instrument identification (manufacturer, and model number).

Transparent, small volume flow-through-cells (e.g., 250 mLs or less) are preferred. This allows observation of air bubbles and sediment buildup in the cell, which can interfere with the operation of the monitoring instrument probes, to be easily detected. A small volume

cell facilitates rapid turnover of water in the cell between measurements of the indicator field parameters.

It is recommended to use a flow-through-cell and monitoring probes from the same manufacturer and model to avoid incompatibility between the probes and flow-through-cell.

Turbidity samples are collected before the flow-through-cell. A "T" connector coupled with a valve is connected between the pump's tubing and flow-through-cell. When a turbidity measurement is required, the valve is opened to allow the groundwater to flow into a container. The valve is closed and the container sample is then placed in the turbidimeter.

Standards are necessary to perform field calibration of instruments. A minimum of two standards are needed to bracket the instrument measurement range for all parameters except ORP which use a Zobell solution as a standard. For dissolved oxygen, a wet sponge used for the 100% saturation and a zero dissolved oxygen solution are used for the calibration.

Barometer (used in the calibration of the Dissolved Oxygen probe) and the conversion formula to convert the barometric pressure into the units of measure used by the Dissolved Oxygen meter are needed.

**J. Decontamination supplies**

Includes (for example) non-phosphate detergent, distilled/deionized water, isopropyl alcohol, etc.

**K. Record keeping supplies**

Logbook(s), well purging forms, chain-of-custody forms, field instrument calibration forms, etc.

**L. Sample bottles**

**M. Sample preservation supplies (as required by the analytical methods)**

**N. Sample tags or labels**

**O. PID or FID instrument**

If appropriate, to detect VOCs for health and safety purposes, and provide qualitative field evaluations.

### P. Miscellaneous Equipment

Equipment to keep the sampling apparatus shaded in the summer (e.g., umbrella) and from freezing in the winter. If the pump's tubing is allowed to heat up in the warm weather, the cold groundwater may degas as it is warmed in the tubing.

## 8.0 EQUIPMENT/INSTRUMENT CALIBRATION

Prior to the sampling event, perform maintenance checks on the equipment and instruments according to the manufacturer's manual and/or applicable SOP. This will ensure that the equipment/instruments are working properly before they are used in the field.

Prior to sampling, the monitoring instruments must be calibrated and the calibration documented. The instruments are calibrated using U.S Environmental Protection Agency Region 1 *Calibration of Field Instruments (temperature, pH, dissolved oxygen, conductivity/specific conductance, oxidation/reduction [ORP], and turbidity),* March 23, 2017, or latest version or from one of the methods listed in 40CFR136, 40CFR141 and SW-846.

The instruments shall be calibrated at the beginning of each day. If the field measurement falls outside the calibration range, the instrument must be re-calibrated so that all measurements fall within the calibration range. At the end of each day, a calibration check is performed to verify that instruments remained in calibration throughout the day. This check is performed while the instrument is in measurement mode, not calibration mode. If the field instruments are being used to monitor the natural attenuation parameters, then a calibration check at mid-day is highly recommended to ensure that the instruments did not drift out of calibration. Note: during the day if the instrument reads zero or a negative number for dissolved oxygen, pH, specific conductance, or turbidity (negative value only), this indicates that the instrument drifted out of calibration or the instrument is malfunctioning. If this situation occurs the data from this instrument will need to be qualified or rejected.

## 9.0 PRELIMINARY SITE ACTIVITIES (as applicable)

Check the well for security (damage, evidence of tampering, missing lock, etc.) and record pertinent observations (include photograph as warranted).

If needed, lay out a sheet of clean polyethylene for monitoring and sampling equipment, unless equipment is elevated above the ground (e.g., on a table, etc.).

Remove well cap and if appropriate measure VOCs at the rim of the well with a PID or FID instrument and record reading in field logbook or on the well purge form.

If the well casing does not have an established reference point (usually a V-cut or indelible mark in the well casing), make one. Describe its location and record the date of the mark in the logbook (consider a photographic record as well). All water level measurements must be recorded relative to this reference point (and the altitude of this point should be determined using techniques that are appropriate to site's DQOs.

If water-table or potentiometric surface map(s) are to be constructed for the sampling event, perform synoptic water level measurement round (in the shortest possible time) before any purging and sampling activities begin. If possible, measure water level depth (to 0.01 ft.) and total well depth (to 0.1 ft.) the day before sampling begins, in order to allow for re-settlement of any particulates in the water column. This is especially important for those wells that have not been recently sampled because sediment buildup in the well may require the well to be redeveloped. If measurement of total well depth is not made the day before, it should be measured after sampling of the well is complete. All measurements must be taken from the established referenced point. Care should be taken to minimize water column disturbance.

Check newly constructed wells for the presence of LNAPLs or DNAPLs before the initial sampling round. If none are encountered, subsequent check measurements with an interface probe may not be necessary unless analytical data or field analysis signal a worsening situation. This SOP cannot be used in the presence of LNAPLs or DNAPLs. If NAPLs are present, the project team must decide upon an alternate sampling method. All project modifications must be approved and documented prior to implementation.

If available check intake depth and drawdown information from previous sampling event(s) for each well. Duplicate, to the extent practicable, the intake depth and extraction rate (use final pump dial setting information) from previous event(s). If changes are made in the intake depth or extraction rate(s) used during previous sampling event(s), for either portable or dedicated extraction devices, record new values, and explain reasons for the changes in the field logbook.

## 10.0 PURGING AND SAMPLING PROCEDURE

Purging and sampling wells in order of increasing chemical concentrations (known or anticipated) are preferred.

The use of dedicated pumps is recommended to minimize artificial mobilization and entrainment of particulates each time the well is sampled. Note that the use of dedicated sampling equipment can also significantly reduce the time needed to complete each sampling event, will promote consistency in the sampling, and may reduce sampling bias by having the pump's intake at a constant depth.

**A. Initial Water Level**

Measure the water level in the well before installing the pump if a non-dedicated pump is being used. The initial water level is recorded on the purge form or in the field logbook.

**B. Install Pump**

Lower pump, safety cable, tubing and electrical lines slowly (to minimize disturbance) into the well to the appropriate depth (may not be the mid-point of the screen/open interval). The Sampling and Analysis Plan/Quality Assurance Project Plan should specify the sampling depth (used previously), or provide criteria for selection of intake depth for each new well. If possible keep the pump intake at least two feet above the bottom of the well, to minimize mobilization of particulates present in the bottom of the well.

Pump tubing lengths, above the top of well casing should be kept as short as possible to minimize heating the groundwater in the tubing by exposure to sun light and ambient air temperatures. Heating may cause the groundwater to degas, which is unacceptable for the collection of samples for VOC and dissolved gases analyses.

**C. Measure Water Level**

Before starting pump, measure water level. Install recording pressure transducer, if used to track drawdowns, to initialize starting condition.

**D. Purge Well**

From the time the pump starts purging and until the time the samples are collected, the purged water is discharged into a graduated bucket to determine the total volume of groundwater purged. This information is recorded on the purge form or in the field logbook.

Start the pump at low speed and slowly increase the speed until discharge occurs. Check water level. Check equipment for water leaks and if present fix or replace the affected equipment. Try to match pumping rate used during previous sampling event(s). Otherwise, adjust pump speed until there is little or no water level drawdown. If the

minimal drawdown that can be achieved exceeds 0.3 feet, but remains stable, continue purging.

Monitor and record the water level and pumping rate every five minutes (or as appropriate) during purging. Record any pumping rate adjustments (both time and flow rate). Pumping rates should, as needed, be reduced to the minimum capabilities of the pump to ensure stabilization of the water level. Adjustments are best made in the first fifteen minutes of pumping in order to help minimize purging time. During pump start-up, drawdown may exceed the 0.3 feet target and then "recover" somewhat as pump flow adjustments are made. Purge volume calculations should utilize stabilized drawdown value, not the initial drawdown. If the initial water level is above the top of the screen do not allow the water level to fall into the well screen. The final purge volume must be greater than the stabilized drawdown volume plus the pump's tubing volume. If the drawdown has exceeded 0.3 feet and stabilizes, calculate the volume of water between the initial water level and the stabilized water level. Add the volume of the water which occupies the pump's tubing to this calculation. This combined volume of water needs to be purged from the well after the water level has stabilized before samples are collected.

Avoid the use of constriction devices on the tubing to decrease the flow rate because the constrictor will cause a pressure difference in the water column. This will cause the groundwater to degas and result in a loss of VOCs and dissolved gasses in the groundwater samples.

Note: the flow rate used to achieve a stable pumping level should remain constant while monitoring the indicator parameters for stabilization and while collecting the samples.

Wells with low recharge rates may require the use of special pumps capable of attaining very low pumping rates (e.g., bladder, peristaltic), and/or the use of dedicated equipment. For new monitoring wells, or wells where the following situation has not occurred before, if the recovery rate to the well is less than 50 mL/min., or the well is being essentially dewatered during purging, the well should be sampled as soon as the water level has recovered sufficiently to collect the volume needed for all anticipated samples. The project manager or field team leader will need to make the decision when samples should be collected, how the sample is to be collected, and the reasons recorded on the purge form or in the field logbook. A water level measurement needs to be performed and recorded before samples are collected. If the project manager decides to collect the samples using the pump, it is best during this recovery period that the pump intake tubing not be removed, since this will aggravate any turbidity problems. Samples in this specific situation may be collected without stabilization of indicator field parameters. Note that field conditions and efforts to overcome problematic situations must be recorded in order to support field decisions to deviate from normal procedures described in this SOP. If this type of problematic situation persists in a well, then water sample collection should be

changed to a passive or no-purge method, if consistent with the site's DQOs, or have a new well installed.

**E. Monitor Indicator Field Parameters**

After the water level has stabilized, connect the "T" connector with a valve and the flow-through-cell to monitor the indicator field parameters. If excessive turbidity is anticipated or encountered with the pump startup, the well may be purged for a while without connecting up the flow-through-cell, in order to minimize particulate buildup in the cell (This is a judgment call made by the sampler). Water level drawdown measurements should be made as usual. If possible, the pump may be installed the day before purging to allow particulates that were disturbed during pump insertion to settle.

During well purging, monitor indicator field parameters (turbidity, temperature, specific conductance, pH, ORP, DO) at a frequency of five minute intervals or greater. The pump's flow rate must be able to "turn over" at least one flow-through-cell volume between measurements (for a 250 mL flow-through-cell with a flow rate of 50 mLs/min., the monitoring frequency would be every five minutes; for a 500 mL flow-through-cell it would be every ten minutes). If the cell volume cannot be replaced in the five minute interval, then the time between measurements must be increased accordingly. Note: during the early phase of purging, emphasis should be put on minimizing and stabilizing pumping stress, and recording those adjustments followed by stabilization of indicator parameters. Purging is considered complete and sampling may begin when all the above indicator field parameters have stabilized. Stabilization is considered to be achieved when three consecutive readings are within the following limits:

**Turbidity** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized),
**Dissolved Oxygen** (10% for values greater than 0.5 mg/L, if three Dissolved Oxygen values are less than 0.5 mg/L, consider the values as stabilized),
**Specific Conductance** (3%),
**Temperature** (3%),
**pH** (± 0.1 unit),
**Oxidation/Reduction Potential** (±10 millivolts).

All measurements, except turbidity, must be obtained using a flow-through-cell. Samples for turbidity measurements are obtained before water enters the flow-through-cell. Transparent flow-through-cells are preferred, because they allow field personnel to watch for particulate build-up within the cell. This build-up may affect indicator field parameter values measured within the cell. If the cell needs to be cleaned during purging operations, continue pumping and disconnect cell for cleaning, then reconnect after cleaning and

continue monitoring activities. Record start and stop times and give a brief description of cleaning activities.

The flow-through-cell must be designed in a way that prevents gas bubble entrapment in the cell. Placing the flow-through-cell at a 45 degree angle with the port facing upward can help remove bubbles from the flow-through-cell (see Appendix B Low-Flow Setup Diagram). Throughout the measurement process, the flow-through-cell must remain free of any gas bubbles. Otherwise, the monitoring probes may act erratically. When the pump is turned off or cycling on/off (when using a bladder pump), water in the cell must not drain out. Monitoring probes must remain submerged in water at all times.

**F. Collect Water Samples**

When samples are collected for laboratory analyses, the pump's tubing is disconnected from the "T" connector with a valve and the flow-through-cell. The samples are collected directly from the pump's tubing. Samples must not be collected from the flow-through-cell or from the "T" connector with a valve.

VOC samples are normally collected first and directly into pre-preserved sample containers. However, this may not be the case for all sampling locations; the SAP/QAPP should list the order in which the samples are to be collected based on the project's objective(s). Fill all sample containers by allowing the pump discharge to flow gently down the inside of the container with minimal turbulence.

If the pump's flow rate is too high to collect the VOC/dissolved gases samples, collect the other samples first. Lower the pump's flow rate to a reasonable rate and collect the VOC/dissolved gases samples and record the new flow rate.

During purging and sampling, the centrifugal/peristaltic pump tubing must remain filled with water to avoid aeration of the groundwater. It is recommended that 1/4 inch or 3/8 inch (inside diameter) tubing be used to help ensure that the sample tubing remains water filled. If the pump tubing is not completely filled to the sampling point, use the following procedure to collect samples: collect non-VOC/dissolved gases samples first, then increase flow rate slightly until the water completely fills the tubing, collect the VOC/dissolved gases samples, and record new drawdown depth and flow rate.

For bladder pumps that will be used to collect VOC or dissolved gas samples, it is recommended that the pump be set to deliver long pulses of water so that one pulse will fill a 40 mL VOC vial.

Use pre-preserved sample containers or add preservative, as required by analytical methods, to the samples immediately after they are collected. Check the analytical methods

(e.g. EPA SW-846, 40 CFR 136, water supply, etc.) for additional information on preservation.

If determination of filtered metal concentrations is a sampling objective, collect filtered water samples using the same low flow procedures. The use of an in-line filter (transparent housing preferred) is required, and the filter size (0.45 µm is commonly used) should be based on the sampling objective. Pre-rinse the filter with groundwater prior to sample collection. Make sure the filter is free of air bubbles before samples are collected. Preserve the filtered water sample immediately. Note: filtered water samples are not an acceptable substitute for unfiltered samples when the monitoring objective is to obtain chemical concentrations of total mobile contaminants in groundwater for human health or ecological risk calculations.

Label each sample as collected. Samples requiring cooling will be placed into a cooler with ice or refrigerant for delivery to the laboratory. Metal samples after acidification to a pH less than 2 do not need to be cooled.

### G. Post Sampling Activities

If a recording pressure transducer is used to track drawdown, re-measure water level with tape.

After collection of samples, the pump tubing may be dedicated to the well for re-sampling (by hanging the tubing inside the well), decontaminated, or properly discarded.

Before securing the well, measure and record the well depth (to 0.1 ft.), if not measured the day before purging began. Note: measurement of total well depth annually is usually sufficient after the initial low stress sampling event. However, a greater frequency may be needed if the well has a “silting” problem or if confirmation of well identity is needed.

Secure the well.

## 11.0 DECONTAMINATION

Decontaminate sampling equipment prior to use in the first well, and then following sampling of each subsequent well. Pumps should not be removed between purging and sampling operations. The pump, tubing, support cable and electrical wires which were in contact with the well should be decontaminated by one of the procedures listed below.

The use of dedicated pumps and tubing will reduce the amount of time spent on decontamination of the equipment. If dedicated pumps and tubing are used, only the initial sampling event will require decontamination of the pump and tubing.

Note if the previous equipment blank data showed that contaminant(s) were present after using the below procedure or the one described in the SAP/QAPP, a more vigorous procedure may be needed.

Procedure 1

Decontaminating solutions can be pumped from either buckets or short PVC casing sections through the pump and tubing. The pump may be disassembled and flushed with the decontaminating solutions. It is recommended that detergent and alcohol be used sparingly in the decontamination process and water flushing steps be extended to ensure that any sediment trapped in the pump is removed. The pump exterior and electrical wires must be rinsed with the decontaminating solutions, as well. The procedure is as follows:

Flush the equipment/pump with potable water.

Flush with non-phosphate detergent solution. If the solution is recycled, the solution must be changed periodically.

Flush with potable or distilled/deionized water to remove all of the detergent solution. If the water is recycled, the water must be changed periodically.

Optional - flush with isopropyl alcohol (pesticide grade; must be free of ketones {e.g., acetone}) or with methanol. This step may be required if the well is highly contaminated or if the equipment blank data from the previous sampling event show that the level of contaminants is significant.

Flush with distilled/deionized water. This step must remove all traces of alcohol (if used) from the equipment. The final water rinse must not be recycled.

Procedure 2

Steam clean the outside of the submersible pump.

Pump hot potable water from the steam cleaner through the inside of the pump. This can be accomplished by placing the pump inside a three or four inch diameter PVC pipe with end cap. Hot water from the steam cleaner jet will be directed inside the PVC pipe and the pump exterior will be cleaned. The hot water from the steam cleaner will then be pumped from the PVC pipe through the pump and collected into another container. Note: additives or solutions should not be added to the steam cleaner.

Pump non-phosphate detergent solution through the inside of the pump. If the solution is recycled, the solution must be changed periodically.

Pump potable water through the inside of the pump to remove all of the detergent solution. If the solution is recycled, the solution must be changed periodically.

Pump distilled/deionized water through the pump. The final water rinse must not be recycled.

## 12.0 FIELD QUALITY CONTROL

Quality control samples are required to verify that the sample collection and handling process has not compromised the quality of the groundwater samples. All field quality control samples must be prepared the same as regular investigation samples with regard to sample volume, containers, and preservation. Quality control samples include field duplicates, equipment blanks, matrix spike/matrix spike duplicates, trip blanks (VOCs), and temperature blanks.

## 13.0 FIELD LOGBOOK

A field log shall be kept to document all groundwater field monitoring activities (see Appendix C, example table), and record the following for each well:

Site name, municipality, state.

Well identifier, latitude-longitude or state grid coordinates.

Measuring point description (e.g., north side of PVC pipe).

Well depth, and measurement technique.

Well screen length.

Pump depth.

Static water level depth, date, time and measurement technique.

Presence and thickness of immiscible liquid (NAPL) layers and detection method.

Pumping rate, drawdown, indicator parameters values, calculated or measured total volume pumped, and clock time of each set of measurements.

Type of tubing used and its length.

Type of pump used.

Clock time of start and end of purging and sampling activity.

Types of sample bottles used and sample identification numbers.

Preservatives used.

Parameters requested for analyses.

Field observations during sampling event.

Name of sample collector(s).

Weather conditions, including approximate ambient air temperature.

QA/QC data for field instruments.

Any problems encountered should be highlighted.

Description of all sampling/monitoring equipment used, including trade names, model number, instrument identification number, diameters, material composition, etc.

## 14.0 DATA REPORT

Data reports are to include laboratory analytical results, QA/QC information, field indicator parameters measured during purging, field instrument calibration information, and whatever other field logbook information is needed to allow for a full evaluation of data usability.

Note: the use of trade, product, or firm names in this sampling procedure is for descriptive purposes only and does not constitute endorsement by the U.S. EPA.

## 15.0 REFERENCES

Cohen, R.M. and J.W. Mercer, 1993, *DNAPL Site Evaluation*; C.K. Smoley (CRC Press), Boca Raton, Florida.

Robert W. Puls and Michael J. Barcelona, *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures*, April 1996 (EPA/540/S-95/504).

U.S. Environmental Protection Agency, 1992, *RCRA Ground-Water Monitoring: Draft Technical Guidance*; Washington, DC (EPA/530-R-93-001).

U.S. Environmental Protection Agency, 1987, *A Compendium of Superfund Field Operations Methods*; Washington, DC (EPA/540/P-87/001).

U.S Environmental Protection Agency, Region 1, *Calibration of Field Instruments (temperature, pH, dissolved oxygen, conductivity/specific conductance, oxidation/reduction [ORP], and turbidity),* March 23, 2017 or latest version.

U.S Environmental Protection Agency, EPA SW-846.

U.S Environmental Protection Agency, 40 CFR 136.

U.S Environmental Protection Agency, 40 CFR 141.

Vroblesky, Don A., Clifton C. Casey, and Mark A. Lowery, Summer 2007, Influence of Dissolved Oxygen Convection on Well Sampling, *Ground Water Monitoring & Remediation* 27, no. 3: 49-58.

## APPENDIX A

# PERISTALTIC PUMPS

Before selecting a peristaltic pump to collect groundwater samples for VOCs and/or dissolved gases, (e.g., methane, carbon dioxide, etc.) consideration should be given to the following:

- The decision of whether or not to use a peristaltic pump is dependent on the intended use of the data.
- If the additional sampling error that may be introduced by this device is NOT of concern for the VOC/dissolved gases data's intended use, then this device may be acceptable.
- If minor differences in the groundwater concentrations could affect the decision, such as to continue or terminate groundwater cleanup or whether the cleanup goals have been reached, then this device should NOT be used for VOC/dissolved gases sampling. In these cases, centrifugal or bladder pumps are a better choice for more accurate results.

EPA and USGS have documented their concerns with the use of the peristaltic pumps to collect water sample in the below documents.

- "Suction Pumps are not recommended because they may cause degassing, pH modification, and loss of volatile compounds" *A Compendium of Superfund Field Operations Methods*, EPA/540/P-87/001, December 1987.
- "The agency does not recommend the use of peristaltic pumps to sample ground water particularly for volatile organic analytes" *RCRA Ground-Water Monitoring Draft Technical Guidance*, EPA Office of Solid Waste, November 1992.
- "The peristaltic pump is limited to shallow applications and can cause degassing resulting in alteration of pH, alkalinity, and volatiles loss", *Low-flow (Minimal drawdown) Ground-Water Sampling Procedures*, by Robert Puls & Michael Barcelona, April 1996, EPA/540/S-95/504.
- "Suction-lift pumps, such as peristaltic pumps, can operate at a very low pumping rate; however, using negative pressure to lift the sample can result in the loss of volatile analytes", USGS Book 9 Techniques of Water-Resources Investigation, Chapter A4. (Version 2.0, 9/2006).

## APPENDIX B

# SUMMARY OF SAMPLING INSTRUCTIONS

These instructions are for using an adjustable rate, submersible pump or a peristaltic pump with the pump's intake placed at the midpoint of a 10 foot or less well screen or an open interval. The water level in the monitoring well is above the top of the well screen or open interval, the ambient temperature is above 32°F, and the equipment is not dedicated. Field instruments are already calibrated. The equipment is setup according to the diagram at the end of these instructions.

1. Review well installation information. Record well depth, length of screen or open interval, and depth to top of the well screen. Determine the pump's intake depth (e.g., mid-point of screen/open interval).

2. On the day of sampling, check security of the well casing, perform any safety checks needed for the site, lay out a sheet of polyethylene around the well (if necessary), and setup the equipment. If necessary a canopy or an equivalent item can be setup to shade the pump's tubing and flow-through-cell from the sun light to prevent the sun light from heating the groundwater.

3. Check well casing for a reference mark. If missing, make a reference mark. Measure the water level (initial) to 0.01 ft. and record this information.

4. Install the pump's intake to the appropriate depth (e.g., midpoint) of the well screen or open interval. Do not turn-on the pump at this time.

5. Measure water level and record this information.

6. Turn-on the pump and discharge the groundwater into a graduated waste bucket. Slowly increase the flow rate until the water level starts to drop. Reduce the flow rate slightly so the water level stabilizes. Record the pump's settings. Calculate the flow rate using a graduated container and a stop watch. Record the flow rate. Do not let the water level drop below the top of the well screen.

If the groundwater is highly turbid or discolored, continue to discharge the water into the bucket until the water clears (visual observation); this usually takes a few minutes. The turbid or discolored water is usually from the well-being disturbed during the pump installation. If the water does not clear, then you need to make a choice whether to continue purging the well (hoping that it will clear after a reasonable time) or continue to

the next step. Note, it is sometimes helpful to install the pump the day before the sampling event so that the disturbed materials in the well can settle out.

If the water level drops to the top of the well screen during the purging of the well, stop purging the well, and do the following:

> Wait for the well to recharge to a sufficient volume so samples can be collected. This may take a while (pump may be removed from well, if turbidity is not a problem). The project manager will need to make the decision when samples should be collected and the reasons recorded in the site's log book. A water level measurement needs to be performed and recorded before samples are collected. When samples are being collected, the water level must not drop below the top of the screen or open interval. Collect the samples from the pump's tubing. Always collect the VOCs and dissolved gases samples first. Normally, the samples requiring a small volume are collected before the large volume samples are collected just in case there is not sufficient water in the well to fill all the sample containers. All samples must be collected, preserved, and stored according to the analytical method. Remove the pump from the well and decontaminate the sampling equipment.

If the water level has dropped 0.3 feet or less from the initial water level (water level measure before the pump was installed); proceed to Step 7. If the water level has dropped more than 0.3 feet, calculate the volume of water between the initial water level and the stabilized water level. Add the volume of the water which occupies the pump's tubing to this calculation. This combined volume of water needs to be purged from the well after the water level has stabilized before samples are be collected.

7. Attach the pump's tubing to the "T" connector with a valve (or a three-way stop cock). The pump's tubing from the well casing to the "T" connector must be as short as possible to prevent the groundwater in the tubing from heating up from the sun light or from the ambient air. Attach a short piece of tubing to the other end of the end of the "T" connector to serve as a sampling port for the turbidity samples. Attach the remaining end of the "T" connector to a short piece of tubing and connect the tubing to the flow-through-cell bottom port. To the top port, attach a small piece of tubing to direct the water into a calibrated waste bucket. Fill the cell with the groundwater and remove all gas bubbles from the cell. Position the flow-through-cell in such a way that if gas bubbles enter the cell they can easily exit the cell. If the ports are on the same side of the cell and the cell is cylindrical shape, the cell can be placed at a 45-degree angle with the ports facing upwards; this position should keep any gas bubbles entering the cell away from the monitoring probes and allow the gas bubbles to exit the cell easily (see Low-Flow Setup Diagram). Note:

make sure there are no gas bubbles caught in the probes' protective guard; you may need to shake the cell to remove these bubbles.

8. Turn-on the monitoring probes and turbidity meter.

9. Record the temperature, pH, dissolved oxygen, specific conductance, and oxidation/reduction potential measurements. Open the valve on the "T" connector to collect a sample for the turbidity measurement, close the valve, do the measurement, and record this measurement. Calculate the pump's flow rate from the water exiting the flow-through-cell using a graduated container and a stop watch, and record the measurement. Measure and record the water level. Check flow-through-cell for gas bubbles and sediment; if present, remove them.

10. Repeat Step 9 every 5 minutes or as appropriate until monitoring parameters stabilized. Note: at least one flow-through-cell volume must be exchanged between readings. If not, the time interval between readings will need to be increased. Stabilization is achieved when three consecutive measurements are within the following limits:

**Turbidity** (10% for values greater than 5 NTUs; if three Turbidity values are less than 5 NTUs, consider the values as stabilized),
**Dissolved Oxygen** (10% for values greater than 0.5 mg/L, if three Dissolved Oxygen values are less than 0.5 mg/L, consider the values as stabilized),
**Specific Conductance** (3%),
**Temperature** (3%),
**pH** (± 0.1 unit),
**Oxidation/Reduction Potential** (±10 millivolts).

If these stabilization requirements do not stabilize in a reasonable time, the probes may have been coated from the materials in the groundwater, from a buildup of sediment in the flow-through-cell, or a gas bubble is lodged in the probe. The cell and the probes will need to be cleaned. Turn-off the probes (not the pump), disconnect the cell from the "T" connector and continue to purge the well. Disassemble the cell, remove the sediment, and clean the probes according to the manufacturer's instructions. Reassemble the cell and connect the cell to the "T" connector. Remove all gas bubbles from the cell, turn-on the probes, and continue the measurements. Record the time the cell was cleaned.

11. When it is time to collect the groundwater samples, turn-off the monitoring probes, and disconnect the pump's tubing from the "T" connector. If you are using a centrifugal or peristaltic pump check the pump's tubing to determine if the tubing is completely filled with water (no air space).

All samples must be collected and preserved according to the analytical method. VOCs and dissolved gases samples are normally collected first and directly into pre-preserved sample containers. However, this may not be the case for all sampling locations; the SAP/QAPP should list the order in which the samples are to be collected based on the project's objective(s). Fill all sample containers by allowing the pump discharge to flow gently down the inside of the container with minimal turbulence.

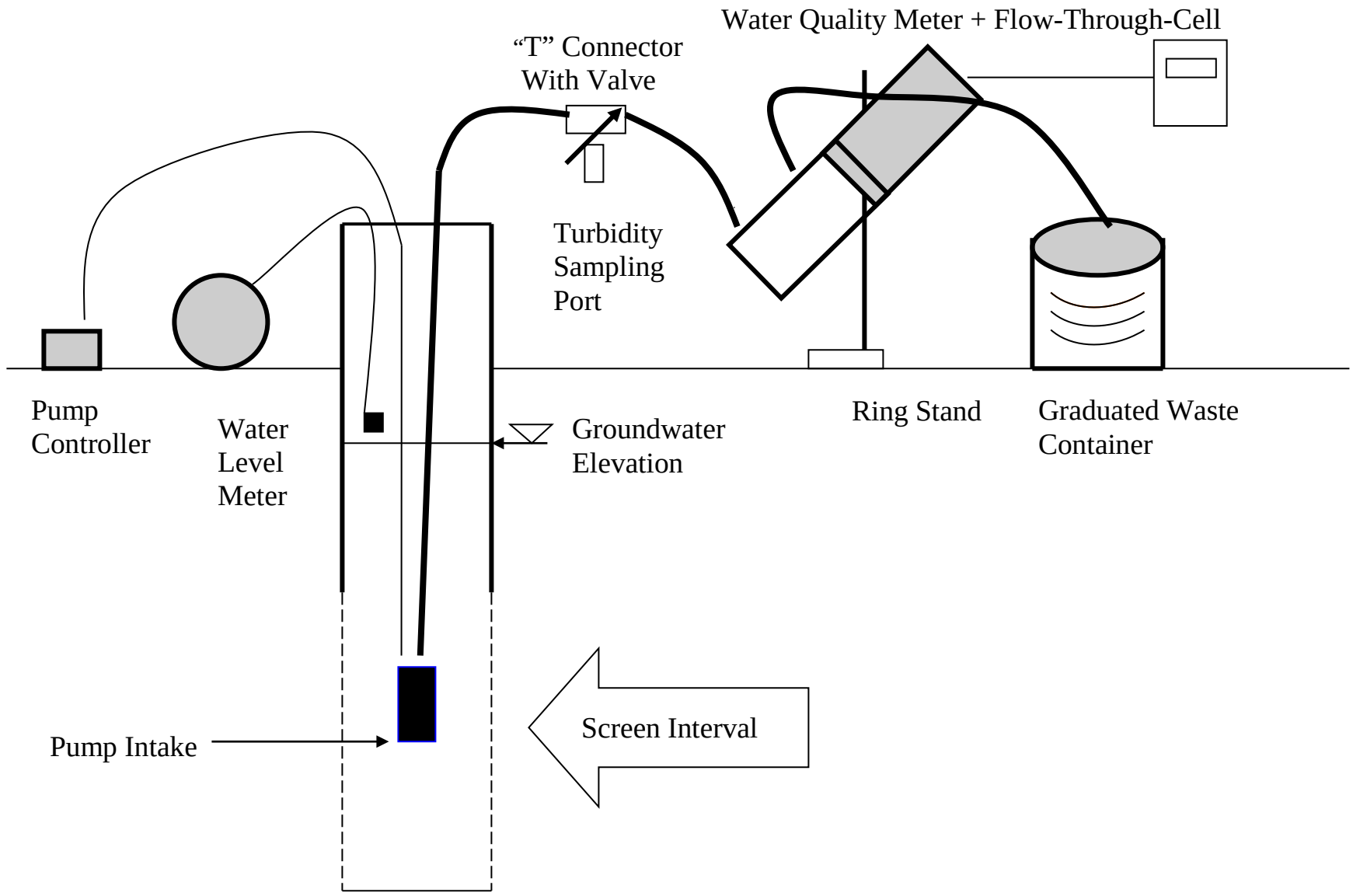
If the pump's tubing is not completely filled with water and the samples are being collected for VOCs and/or dissolved gases analyses using a centrifugal or peristaltic pump, do the following:

> All samples must be collected and preserved according to the analytical method. The VOCs and the dissolved gases (e.g., methane, ethane, ethene, and carbon dioxide) samples are collected last. When it becomes time to collect these samples increase the pump's flow rate until the tubing is completely filled. Collect the samples and record the new flow rate.

12. Store the samples according to the analytical method.

13. Record the total purged volume (graduated waste bucket). Remove the pump from the well and decontaminate the sampling equipment.

# Low-Flow Setup Diagram



APPENDIX C

EXAMPLE (Minimum Requirements)

# WELL PURGING-FIELD WATER QUALITY MEASUREMENTS FORM

Location (Site/Facility Name)_____ Depth to _____/_____ of screen
Well Number_____ Date_____ (below MP) top bottom
Field Personnel_____ Pump Intake at (ft. below MP)_____
Sampling Organization_____ Purging Device; (pump type)_____
Identify MP_____ Total Volume Purged _____

| Clock Time 24 HR | Water Depth below MP ft | Pump Dial[1] | Purge Rate ml/min | Cum. Volume Purged liters | Temp. "C | Spec. Cond.[2] µS/cm | pH | ORP[3] mv | DO mg/L | Tur-bidity NTU | Comments |
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| | | | | | | | | | | | |
| Stabilization Criteria | | | | | 3% | 3% | ±0.1 | ±10 mv | 10% | 10% | |

1. Pump dial setting (for example: hertz, cycles/min, etc).
2. µSiemens per cm(same as µmhos/cm)at 25°C.
3. Oxidation reduction potential (ORP)

# Supplement C - NYSDOH Vapor and Air Sampling

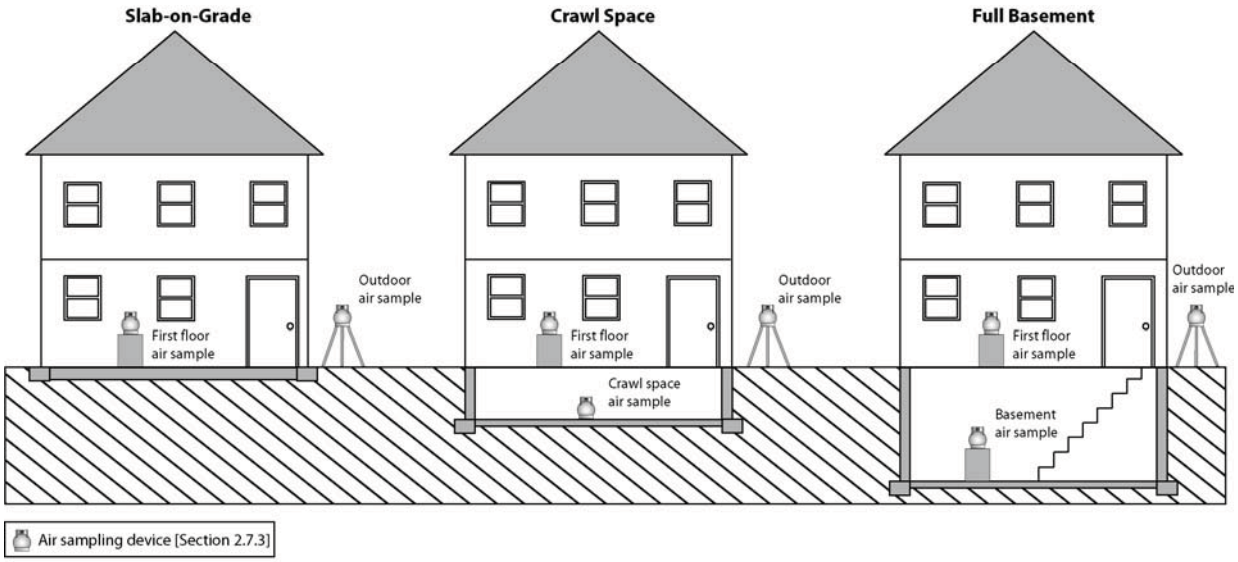


**Figure 2.1**
Schematic of indoor and outdoor air sampling locations

2.6.4 Outdoor air

Typically, an outdoor air sample is collected outside of each building where an indoor air sample is collected. However, if several buildings are being sampled within a localized area, representative outdoor air samples may be appropriate. For example, one outdoor air sample may be sufficient for three houses being sampled in a cul-de-sac. Outdoor air samples should be collected from a representative upwind location, away from wind obstructions (e.g., trees or bushes), and at a height above the ground to represent breathing zones (3 to 5 feet) [Figure 2.1]. A representative sample is one that is not biased toward obvious sources of volatile chemicals (e.g., automobiles, lawn mowers, oil storage tanks, gasoline stations, industrial facilities, etc.). For buildings with HVAC systems that draw outdoor air into the building, an outdoor air sample collected near the outdoor air intake may be appropriate.

## 2.7 Sampling protocols

The procedures recommended here may be modified depending on site-specific conditions, the sampling objectives, or emerging technologies and methodologies. Alternative sampling procedures should be described thoroughly and proposed in a work plan submitted for review by the State. The State will review and comment on the proposed procedure and consider the efficacy of the alternative sampling procedure based on the objectives of investigation. In all cases, work plans should thoroughly describe the proposed sampling procedure. Similarly, the procedures that were implemented in the field should be documented and included in the final report of the sampling results.

### 2.7.1 Soil vapor

Soil vapor probe installations [Figure 2.2] may be permanent, semi-permanent or temporary. In general, permanent or semi-permanent installations are preferred for data consistency reasons and to ensure outdoor air infiltration does not occur. Temporary probes should only be used if measures are taken to ensure that an adequate surface seal is created to prevent outdoor air infiltration and if tracer gas is used at every sampling location. [See Section 2.7.5 for additional information about the use of tracer gas when collecting soil vapor samples.] Soil vapor implants or probes should be constructed in the same manner at all sampling locations to minimize possible discrepancies. The following procedures should be included in any permanent construction protocol:

a. implants should be installed using an appropriate method based on site conditions (e.g., direct push, manually driven, auger — if necessary to attain the desired depth or if sidewall smearing is a concern, etc.);

b. porous, inert backfill material (e.g., glass beads, washed #1 crushed stone, etc.) should be used to create a sampling zone 1 to 2 feet in length;

c. implants should be fitted with inert tubing (e.g., polyethylene, stainless steel, nylon, Teflon®, etc.) of the appropriate size (typically 1/8 inch to 1/4 inch diameter) and of laboratory or food grade quality to the surface;

d. soil vapor probes should be sealed above the sampling zone with a bentonite slurry for a minimum distance of 3 feet to prevent outdoor air infiltration and the remainder of the borehole backfilled with clean material;

e. for multiple probe depths, the borehole should be grouted with bentonite between probes to create discrete sampling zones or separate nested probes should be installed [Figure 2.2]; and

f. steps should be taken to minimize infiltration of water or outdoor air and to prevent accidental damage (e.g., setting a protective casing around the top of the probe tubing and grouting in place to the top of bentonite, sloping the ground surface to direct water away from the borehole like a groundwater monitoring well, etc.).

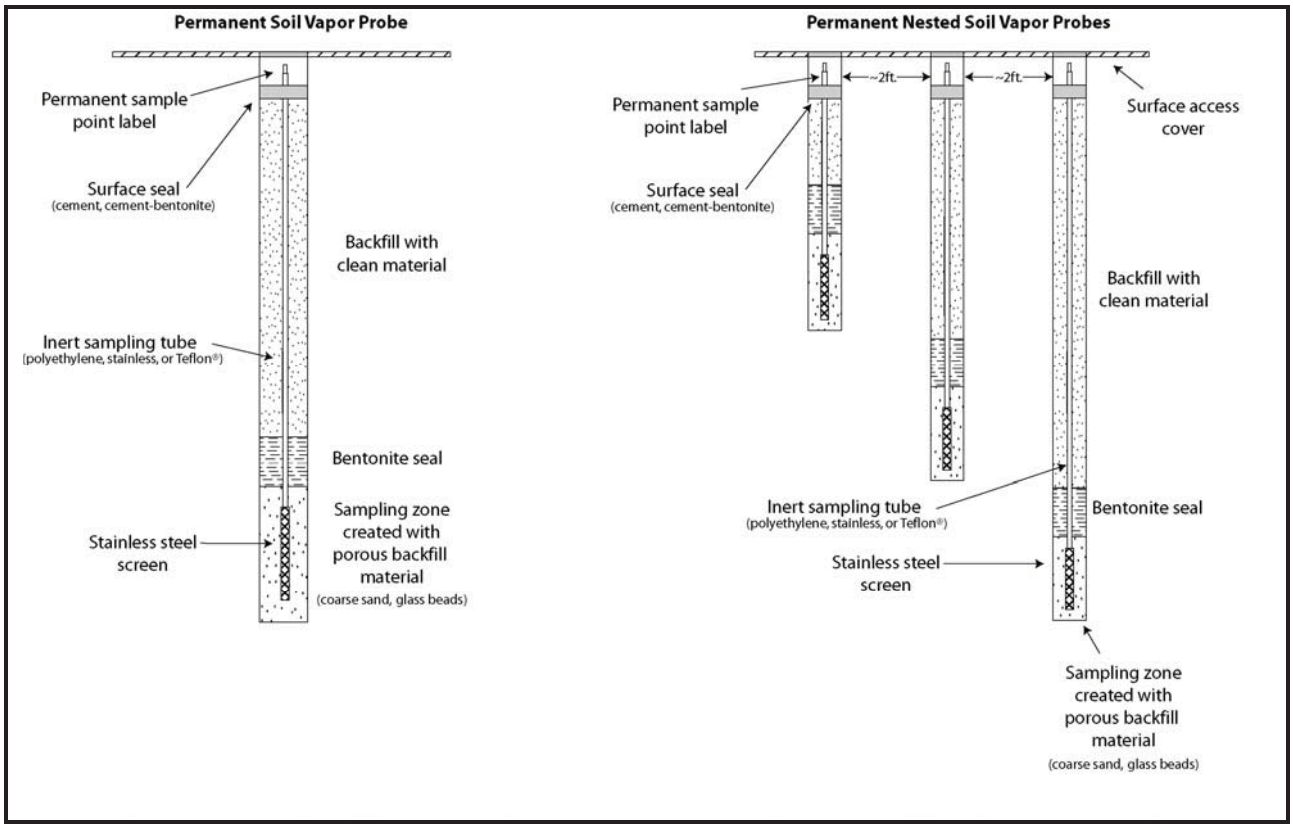


**Figure 2.2**

Schematics of a generic permanent soil vapor probe
and permanent nested soil vapor probes

[Note: Many variations exist and may be proposed in a work plan. Proposed installations should meet the sampling objectives and requirements of the analytical methods.]

To obtain representative samples and to minimize possible discrepancies, soil vapor samples should be collected in the following manner at all locations:

a. at least 24 hours after the installation of permanent probes and shortly after the installation of temporary probes, one to three implant volumes (i.e., the volume of the sample probe and tube) should be purged prior to collecting the samples;

b. flow rates for both purging and collecting should not exceed 0.2 liters per minute to minimize outdoor air infiltration during sampling;

c. samples should be collected, using conventional sampling methods, in an appropriate container — one which

    i. meets the objectives of the sampling (e.g., investigation of areas where low or high concentrations of volatile chemicals are expected; to minimize losses of volatile chemicals that are susceptible to photodegradation),

    ii. is consistent with the sampling and analytical methods (e.g., low flow rate; Summa® canisters if analyzing by using EPA Method TO-15), and

    iii. is certified clean by the laboratory;

d. sample size depends upon the volume of that will achieve minimum reporting limits [Section 2.9]; and

e. a tracer gas (e.g., helium, butane, sulfur hexafluoride, etc.) should be used when collecting soil vapor samples to verify that adequate sampling techniques are being implemented (i.e., to verify infiltration of outdoor air is not occurring) [Section 2.7.5].

In some cases, weather conditions may present certain limitations on soil vapor sampling. For example, condensation in the sample tubing may be encountered during winter sampling due to low outdoor air temperatures. Devices, such as tube warmers, may be used to address these conditions. Anticipated limitations to the sampling should be discussed prior to the sampling event so appropriate measures can be taken to address these difficulties and produce representative and reliable data.

When soil vapor samples are collected, the following actions should be taken to document local conditions during sampling that may influence interpretation of the results:

a. if sampling near a commercial or industrial building, uses of volatile chemicals during normal operations of the facility should be identified;

b. outdoor plot sketches should be drawn that include the site, area streets, neighboring commercial or industrial facilities (with estimated distance to the site), outdoor air sampling locations (if applicable), and compass orientation (north);

c. weather conditions (e.g., precipitation and outdoor temperature) should be noted for the past 24 to 48 hours; and

d. any pertinent observations should be recorded, such as odors and readings from field instrumentation.

Additional information that could be gathered to assist in the interpretation of the results includes barometric pressure, wind speed and wind direction.

The field sampling team should maintain a sample log sheet summarizing the following:

a. sample identification,

b. date and time of sample collection,

c. sampling depth,

d. identity of samplers,

e. sampling methods and devices,

f. purge volumes,

g. volume of soil vapor extracted,

h. if canisters used, the vacuum before and after samples were collected,

i. apparent moisture content (dry, moist, saturated, etc.) of the sampling zone, and

j. chain of custody protocols and records used to track samples from sampling point to analysis.

2.7.2 Sub-slab vapor

During colder months, heating systems should be operating to maintain normal indoor air temperatures (i.e., 65 – 75 °F) for at least 24 hours prior to and during the scheduled sampling time. Prior to installation of the sub-slab vapor probe, the building floor should be inspected and any penetrations (cracks, floor drains, utility perforations, sumps, etc.) should be noted and recorded. Probes should be installed at locations where the potential for ambient air infiltration via floor penetrations is minimal.

Sub-slab vapor probe installations [Figure 2.3] may be permanent, semi-permanent or temporary. A vacuum should not be used to remove drilling debris from the sampling port. Sub-slab implants or probes should be constructed in the same manner at all sampling locations to minimize possible discrepancies. The following procedures should be included in any construction protocol:

a. permanent recessed probes should be constructed with brass or stainless steel tubing and fittings;

b. temporary probes should be constructed with inert tubing (e.g., polyethylene, stainless steel, nylon, Teflon®, etc.) of the appropriate size (typically 1/8 inch to 1/4 inch diameter), and of laboratory or food grade quality;

c. tubing should not extend further than 2 inches into the sub-slab material;

d. porous, inert backfill material (e.g., glass beads, washed #1 crushed stone, etc.) should be added to cover about 1 inch of the probe tip for permanent installations; and

e. the implant should be sealed to the surface with non-VOC-containing and non-shrinking products for temporary installations (e.g., permagum grout, melted beeswax, putty, etc.) or cement for permanent installations.

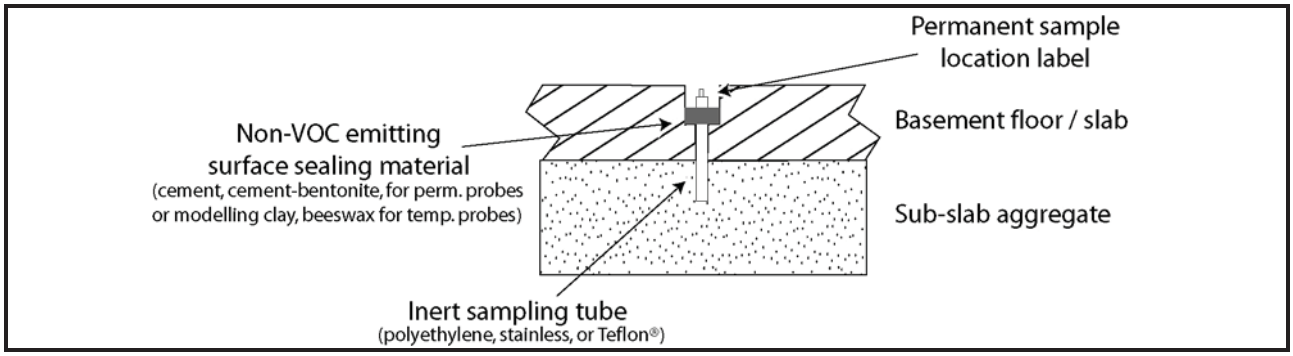


**Figure 2.3**

Schematic of a generic sub-slab vapor probe

[Note: Many variations exist and may be proposed in a work plan. Proposed installations should meet the sampling objectives and requirements of the analytical methods.]

To obtain representative samples that meet the data quality objectives, sub-slab vapor samples should be collected in the following manner:

a. after installation of the probes, one to three volumes (i.e., the volume of the sample probe and tube) must be purged prior to collecting the samples to ensure samples collected are representative;

b. flow rates for both purging and collecting must not exceed 0.2 liters per minute to minimize ambient air infiltration during sampling; and

c. samples should be collected, using conventional sampling methods, in an appropriate container — one which

    i. meets the objectives of the sampling (e.g., investigation of areas where low or high concentrations of volatile chemicals are expected; to minimize losses of volatile chemicals that are susceptible to photodegradation),

    ii. is consistent with the sampling and analytical methods (e.g., low flow rate; Summa® canisters if analyzing by using EPA Method TO-15), and

    iii. is certified clean by the laboratory;

d. sample size depends upon the volume of that will achieve minimum reporting limits [Section 2.9], the flow rate, and the sampling duration; and

e. ideally, samples should be collected over the same period of time as concurrent indoor and outdoor air samples.

When sub-slab vapor samples are collected, the following actions should be taken to document conditions during sampling and ultimately to aid in the interpretation of the sampling results [Section 3]:

a. historic and current storage and uses of volatile chemicals should be identified, especially if sampling within a commercial or industrial building (e.g., use of volatile chemicals in commercial or industrial processes and/or during building maintenance);

b. the use of heating or air conditioning systems during sampling should be noted;

c. floor plan sketches should be drawn that include the floor layout with sampling locations, chemical storage areas, garages, doorways, stairways, location of basement sumps or subsurface drains and utility perforations through building foundations, HVAC system air supply and return registers, compass orientation (north), footings that create separate foundation sections, and any other pertinent information should be completed;

d. outdoor plot sketches should be drawn that include the building site, area streets, outdoor air sampling locations (if applicable), compass orientation (north), and paved areas;

e. weather conditions (e.g., precipitation and indoor and outdoor temperature) and ventilation conditions (e.g., heating system active and windows closed) should be reported; and

f. any pertinent observations, such as spills, floor stains, smoke tube results, odors and readings from field instrumentation (e.g., vapors via PID, ppbRAE, Jerome Mercury Vapor Analyzer, etc.), should be recorded.

Additional documentation that could be gathered to assist in the interpretation of the results includes information about air flow patterns and pressure relationships obtained by using smoke tubes or other devices (especially between floor levels and between suspected

contaminant sources and other areas), the barometric pressure and photographs to accompany floor plan sketches.

The field sampling team should maintain a sample log sheet summarizing the following:

a. sample identification,
b. date and time of sample collection,
c. sampling depth,
d. identity of samplers,
e. sampling methods and devices,
f. soil vapor purge volumes,
g. volume of soil vapor extracted,
h. if canisters used, vacuum of canisters before and after samples collected,
i. apparent moisture content (dry, moist, saturated, etc.) of the sampling zone, and
j. chain of custody protocols and records used to track samples from sampling point to analysis.

### 2.7.3 Indoor air

[Reference: NYSDOH's *Indoor Air Sampling & Analysis Guidance (February 1, 2005)*]

During colder months, heating systems should be operating to maintain normal indoor air temperatures (i.e., 65 – 75 °F) for at least 24 hours prior to and during the scheduled sampling time. If possible, prior to collecting indoor samples, a pre-sampling inspection [Section 2.11.1] should be performed to evaluate the physical layout and conditions of the building being investigated, to identify conditions that may affect or interfere with the proposed sampling, and to prepare the building for sampling. This process is described in Section 2.11.1.

In general, indoor air samples should be collected in the following manner:

a. sampling duration should reflect the exposure scenario being evaluated without compromising the detection limit or sample collection flow rate (e.g., an 8 hour sample from a workplace with a single shift versus a 24 hour sample from a workplace with multiple shifts). To ensure that air is representative of the locations sampled and to avoid undue influence from sampling personnel, samples should be collected for at least 1 hour. If the goal of the sampling is to represent average concentrations over longer periods, then longer duration sampling periods may be appropriate. Typically, 24 hour samples are collected from residential settings;
b. personnel should avoid lingering in the immediate area of the sampling device while samples are being collected;
c. sample flow rates must conform to the specifications in the sample collection method and, if possible, should be consistent with the flow rates for concurrent outdoor air and sub-slab samples; and
d. samples must be collected, using conventional sampling methods, in an appropriate container — one which

i. meets the objectives of the sampling (e.g., investigation of areas where low or high concentrations of volatile chemicals are expected; to minimize losses of volatile chemicals that are susceptible to photodegradation),

ii. is consistent with the sampling and analytical methods (e.g., low flow rate; Summa® canisters if analyzing by using EPA Method TO-15), and

iii. is certified clean by the laboratory.

At sites with tetrachloroethene contamination, passive air monitors that are specifically analyzed for tetrachloroethene (i.e., "perc badges") are commonly used to collect indoor and outdoor air samples. If site characterization activities indicate that degradation products of tetrachloroethene also represent a vapor intrusion concern, perc badges may be used to indicate the likelihood of vapor intrusion (i.e., by using tetrachloroethene as a surrogate) followed, as appropriate, by more comprehensive sampling and laboratory analyses to quantify both tetrachloroethene and its degradation products. Perc badge samples ideally should be collected over a twenty-four hour period, but for no less than eight hours.

The following actions should be taken to document conditions during indoor air sampling and ultimately to aid in the interpretation of the sampling results [Section 3]:

a. historic and current uses and storage of volatile chemicals should be identified, especially if sampling within a commercial or industrial building (e.g., use of volatile chemicals in commercial or industrial processes and/or during building maintenance);

b. a product inventory survey documenting sources of volatile chemicals present in the building during the indoor air sampling that could potentially influence the sample results should be completed [Section 2.11.2];

c. the use of heating or air conditioning systems during sampling should be noted;

d. floor plan sketches should be drawn that include the floor layout with sampling locations, chemical storage areas, garages, doorways, stairways, location of basement sumps or subsurface drains and utility perforations through building foundations, HVAC system supply and return registers, compass orientation (north), footings that create separate foundation sections, and any other pertinent information should be completed;

e. outdoor plot sketches should be drawn that include the building site, area streets, outdoor air sampling locations (if applicable), compass orientation (north), and paved areas;

f. weather conditions (e.g., precipitation and indoor and outdoor temperature) and ventilation conditions (e.g., heating system active and windows closed) should be reported; and

g. any pertinent observations, such as spills, floor stains, smoke tube results, odors and readings from field instrumentation (e.g., vapors via PID, ppbRAE, Jerome Mercury Vapor Analyzer, etc.), should be recorded.

Additional documentation that could be gathered to assist in the interpretation of the results includes information about air flow patterns and pressure relationships obtained by using smoke tubes or other devices (especially between floor levels and between suspected contaminant sources and other areas), the barometric pressure and photographs to accompany floor plan sketches.

The field sampling team should maintain a sample log sheet summarizing the following:

a. sample identification,
b. date and time of sample collection,
c. sampling height,
d. identity of samplers,
e. sampling methods and devices,
f. depending upon the method, volume of air sampled,
g. if canisters are used, vacuum of canisters before and after samples collected, and
h. chain of custody protocols and records used to track samples from sampling point to analysis.

### 2.7.4 Outdoor air

Outdoor air samples should be collected simultaneously with indoor air samples to evaluate the potential influence, if any, of outdoor air on indoor air quality. They may also be collected simultaneously with soil vapor samples to identify potential outdoor air interferences associated with infiltration of outdoor air into the sampling apparatus while the soil vapor was collected. To obtain representative samples that meet the data quality objectives, outdoor air samples should be collected in a manner consistent with that for indoor air samples (described in Section 2.7.3).

The following actions should be taken to document conditions during outdoor air sampling and ultimately to aid in the interpretation of the sampling results [Section 3]:

a. outdoor plot sketches should be drawn that include the building site, area streets, outdoor air sampling locations, the location of potential interferences (e.g., gasoline stations, factories, lawn movers, etc.), compass orientation (north), and paved areas;
b. weather conditions (e.g., precipitation and outdoor temperature) should be reported; and
c. any pertinent observations, such as odors, readings from field instrumentation, and significant activities in the vicinity (e.g., operation of heavy equipment or dry cleaners) should be recorded.

### 2.7.5 Tracer gas

When collecting soil vapor samples as part of a vapor intrusion evaluation, a tracer gas serves as a quality assurance/quality control measure to verify the integrity of the soil vapor probe seal. Without the use of a tracer, there is no way to verify that a soil vapor sample has not been diluted by outdoor air.

Depending on the nature of the contaminants of concern, a number of different compounds can be used as a tracer. Typically, sulfur hexafluoride ($SF_6$) or helium are used as tracers because they are readily available, have low toxicity, and can be monitored with portable measurement devices. Butane and propane (or other gases) could also be used as a tracer in some situations. Compounds other than those mentioned here may be appropriate, provided they meet project-specific data quality objectives. Where applicable, steps should

be taken to ensure that the gas used by the laboratory to clean the air sampling container is different from the gas used as a tracer during sampling (e.g., helium).

The protocol for using a tracer gas is straightforward: simply enrich the atmosphere in the immediate vicinity of the area where the probe intersects the ground surface with the tracer gas, and measure a vapor sample from the probe for the presence of high concentrations (> 10%) of the tracer. A cardboard box, a plastic pail, or even a garbage bag can serve to keep the tracer gas in contact with the probe during the testing. If there are concerns about infiltration of ambient air through other parts of the sampling train (such as around the fittings, not just at the probe/ground interface), then consideration should be given to ensuring that the tracer gas is in contact with the entire sampling apparatus. In these cases, field personnel may prefer to use a liquid tracer — soaking paper towels with a liquid tracer and placing the towels around the probe/ground interface, around fittings, and/or in the corner of a shroud.

There are two basic approaches to testing for the tracer gas:

1. include the tracer gas in the list of target analytes reported by the laboratory; or
2. use a portable monitoring device to analyze a sample of soil vapor for the tracer prior to and after sampling for the compounds of concern. (Note that the tracer gas samples can be collected via syringe, Tedlar® bag etc. They need not be collected in Summa® canisters or minicans.)

The advantage of the second approach is that the real time tracer sampling results can be used to confirm the integrity of the probe seals prior to formal sample collection.

Figure 2.4 depicts common methods for using tracer gas. In examples a, b and c, the tracer gas is released in the enclosure prior to initially purging the sample point. Care should be taken to avoid excessive purging prior to sample collection. Care should also be taken to prevent pressure build-up in the enclosure during introduction of the tracer gas. Inspection of the installed sample probe, specifically noting the integrity of the surface seal and the porosity of the soil in which the probe is installed, will help to determine the tracer gas setup. Figure 2.4a may be most effective at preventing tracer gas infiltration, however, it may not be appropriate in some situations depending on site-specific conditions. Figures 2.4b and 2.4c may be sufficient for probes installed in tight soils with well-constructed surface seals. Figure 2d provides an example of using a liquid tracer. In all cases, the same tracer gas application should be used for all probes at any given site.

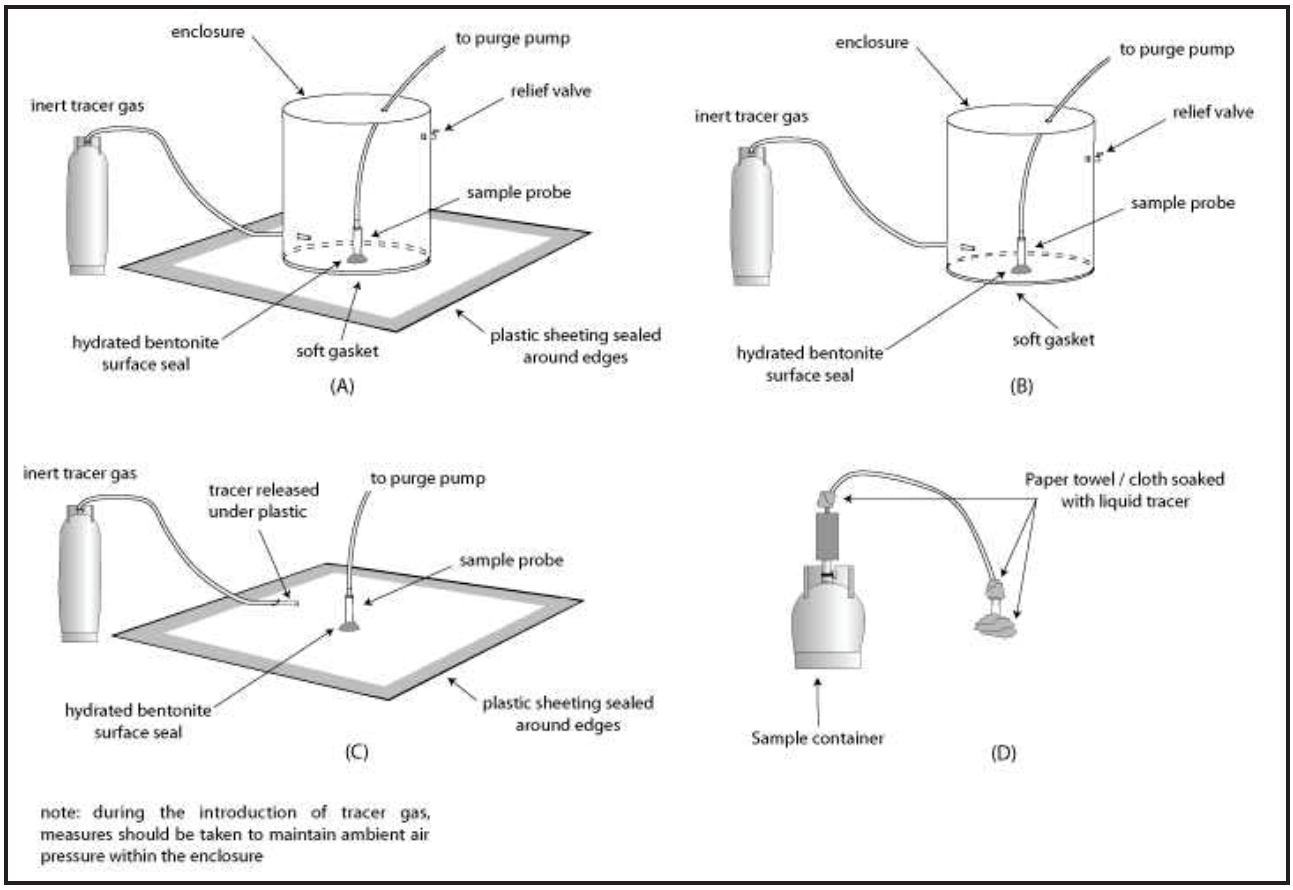


**Figure 2.4**
Schematics of generic tracer gas applications when collecting soil vapor samples

Because minor leakage around the probe seal should not materially affect the usability of the soil vapor sampling results, the mere presence of the tracer gas in the sample should not be a cause for alarm. Consequently, portable field monitoring devices with detection limits in the low ppm range are more than adequate for screening samples for the tracer. If high concentrations (> 10%) of tracer gas are observed in a sample, the probe seal should be enhanced to reduce the infiltration of outdoor air.

Where permanent or semi-permanent sampling probes are used, tracer gas samples should be collected at each of the sampling probes during the initial stages of a soil vapor sampling program. If the results of the initial samples indicate that the probe seals are adequate, reducing the number of locations at which tracer gas samples are employed may be considered. At a minimum, tracer gas samples should be collected with at least 10% of the soil vapor samples collected in subsequent sampling rounds. When using permanent soil vapor probes as part of a long-term monitoring program, annual testing of the probe integrity is recommended. Where temporary probes are used, tracer gas should be used at every sampling location, every time.

# Supplement D - Decontamination

## 1.0 Purpose and Scope

This SOP supplement provides guidance to project personnel for the decontamination of field equipment, but does not specifically address all of the required procedures, and is intended to be used in conjunction with available operating manuals supplied by equipment manufacturers. Decontamination must be performed in accordance with other relevant project-specific documentation, including work plans, sampling and analysis plans, health and safety plans, quality assurance project plans, and additional SOPs, as appropriate.

## 2.0 General

Decontamination of sampling and heavy equipment, as well as personal protective equipment (PPE), is performed as a quality assurance measure and a safety precaution. Decontamination prevents cross-contamination between samples, minimizes contaminant transport (it is critical that equipment used in one area not serve as a source of contamination of another), and helps to maintain a clean working environment for the safety of field personnel. General decontamination requirements will be specified in project plans. Note: All decontamination procedures must comply with specific requirements when sampling for per- and polyfluoroalkyl substances (PFAS).

Field personnel will review and be familiar with required decontamination procedures, including those for cleaning field equipment, proper storage of cleaned field equipment, and for properly disposing of waste generated from decontamination procedures. Decontamination conducted on site will be performed in a designated, controlled location that will not impact collected samples. Decontamination activities will be appropriately documented in the field notes. Wastes generated in the field will be collected, stored, and properly disposed in accordance with applicable project requirements.

Decontamination consists of physically removing contaminants from the surface of equipment and/or materials potentially exposed to contaminants. A decontamination plan assumes that protective clothing and equipment that leave the exclusion zone are contaminated, and a system is established to wash and rinse non-disposable equipment and dispose of disposable equipment.

Decontamination procedures will vary depending on project-specific requirements as listed in the project-specific work plan, type of equipment, and the required analytical parameters. The effectiveness of the decontamination procedure is verified by collecting and analyzing equipment blank samples (as required).

To minimize or eliminate the need for decontamination, it is recommended that dedicated disposable equipment be used whenever possible.

Document all decontamination activities, and flag equipment with decontamination issues, in fieldwork log books and related fieldwork forms.

## 3.0 Responsibilities

### 3.1 Fieldwork Manager

The Fieldwork Manager (FM), in conjunction with the Project Manager (PM), is responsible for overall compliance with SOPs. The FM, or designee, is responsible for ensuring and verifying that all equipment and materials are decontaminated, as required.

### 3.2 Site Personnel

Site personnel are required to read SOP documentation before engaging in fieldwork activities. The FM will inform personnel who will be responsible for decontamination of specific equipment.

## 4.0 Procedures

These are standard (typically applicable) operating procedures, which may be varied or changed as required, dependent on site conditions, equipment limitations or limitations imposed by the procedure. In all instances, the ultimate procedures employed should be documented. All decontamination procedures are to be modified, as appropriate, when sampling for PFAS (see applicable sampling SOPs).

Decontaminate non-disposable sampling equipment used at the site both before activities begin and after each sample is collected. Decontaminate drilling and excavation equipment both before activities begin and between each investigation location. Take care that materials and solutions used for decontamination procedures are themselves not hazardous or could potentially contaminate samples (e.g., solvents, acids).

### 4.1 Decontamination Area

A localized decontamination area should be establish where decontamination fluids and soil wastes can be managed and controlled with minimal risk to the surrounding environment. Decontamination should be performed in a non-contaminated area (as possible), that is large enough to allow temporary storage of cleaned equipment and materials before use, as well as to stage drums of decontamination investigation-derived waste (IDW).

In the case of large decontamination areas (e.g., hollow-stem-auger decontamination), line each area with a heavy-gauge plastic sheeting and include a collection system designed to capture potential decontamination IDW. Decontamination areas will, in all cases, be laid out in such a way as to prevent overspray while performing equipment and personnel decontamination.

Smaller decontamination tasks, such as the cleaning of soil or water sampling equipment, and Geoprobe drive rods and barrels, may take place at the sampling location. In this case, all required decontamination supplies and equipment must be brought to the sampling location. This decontamination will use various containment systems to capture the decontamination IDW, which can then be transferred to larger containers as needed.

### 4.2 Health and Safety Precautions

Decontamination procedures may involve exposure to contaminants in site media and/or dangerous materials used during decontamination (e.g., solvents or acids), and physical hazards associated with the operation of the decontamination equipment. All work should be performed in accordance with the HASP, including decontamination of PPE. Safety Data Sheets for any solvents/chemical stored or used during fieldwork should be available at the site. At a minimum, eye protection, safety shoes, and gloves are to be worn. There are several types of gloves that may be worn, depending on equipment being cleaned, type and extent of equipment contamination, and cleaning solutions or solvents being used. Nitrile gloves (or similar) may be worn when the equipment to be decontaminated is not heavily coated with constituents such as tars/oils. In cases where heavy accumulations of tars/oils are present on the equipment, neoprene or similar chemically compatible gloves are recommended. If a potential for skin contact exists, protective clothing should be worn.

### 4.3 General Equipment Decontamination Procedures

All sampling equipment must be decontaminated before use to ensure that contaminants have not been introduced to the sample during the sampling process through contact with the sampling device. Monitoring well riser pipes, screens and drilling augers must also be decontaminated, as appropriate, to prevent the introduction of contaminants.

Unless the decontaminated sampling devices that will come in contact with samples are to be used immediately, they should be wrapped in aluminum foil, shiny side out, and stored in a designated “clean” area. Field equipment can also be stored in plastic bags to eliminate the potential for contamination. Larger size equipment, such drill rods, backhoe buckets, etc. need not be wrapped or covered, but must not be stored directly on the ground surface. Field equipment should be inspected and decontaminated prior to use if the equipment has been stored for long periods of time.

### 4.4 Decontamination Equipment

The following is a list equipment and materials typically needed to perform decontamination:

- Health and safety equipment, including appropriate PPE
- Plastic sheeting (to serve as secondary containment for liquids and protect equipment)
- Brushes and flat-bladed scrapers
- Garden-type water sprayers (without oil-lubricated, moving parts)
- High-pressure washer or portable steam cleaner
- Sump or collection system for contaminated liquid
- Wash basins and buckets
- Spray and rinse bottles
- Potable water, distilled/deionized water (DIW), and laboratory-grade detergent

- Isopropyl alcohol (free of ketones) or methanol (can be wipes or diluted with DIW)
- Airtight, sealable plastic baggies
- Plastic waste bags
- Leak-tight liquid waste containers (55-gallon drums or similar)
- Bulk solid waste containers (55-gallon drums, or similar)

### 4.5 Specific Decontamination Procedures

For all procedures, decontamination fluids and other wastes may be transferred from smaller to larger containers (e.g., 55-gallon drums or 5-gallon buckets, with tight fitting lids, and transported to the IDW storage facility.

#### 4.5.1 Sampling Equipment

Conduct consistent decontamination of sampling equipment to ensure the quality of the samples collected. Decontaminate all sampling equipment that comes into contact with potentially contaminated samples. Disposable equipment intended for one-time use that is factory-wrapped generally does not need to be decontaminated before use, unless evidence of contamination is present.

Disposable equipment (e.g., water bailers, plastic scoops, VOC sampling syringes) is preferred over reusable equipment; use wherever appropriate. Decontaminate sampling equipment, including split-spoon samplers, Geoprobe Macro-Core cutting shoes, hand augers, reusable bailers, spoons, trowels, and shovels used to collect samples for chemical analyses before sampling at a new sampling location. All decontamination fluids will be captured in a containment system as appropriate.

Take the following steps to decontaminate non-dedicated, non-disposable sampling equipment:

1. Remove as much gross contamination (such as pieces of soil) as possible off equipment at the sampling site.
2. Wash water-resistant equipment thoroughly and vigorously with potable water containing non-phosphate laboratory-grade detergent such as Liquinox®, Alconox®, or equivalent, and using a bristle brush or similar utensil to remove any remaining residual contamination.
3. Rinse equipment thoroughly with potable water.
4. Repeat the first three steps as necessary until all residue is removed.
5. Rinse equipment thoroughly with DIW.
6. If metals are a constituent of interest, rinse with 10% nitric acid and then with DIW.
7. If organics are constituents of interest, rinse with methanol and allow to air dry on a clean surface.

8. Air dry at a location where dust or other fugitive contaminants may not contact the sample equipment. Alternatively, wet equipment maybe dried with a clean, disposable paper towel to assist the drying process. All equipment should be dry before reuse.
9. If the equipment is not used soon after decontamination, it should be covered or wrapped in new, oil-free aluminum foil or new, unused plastic bags to protect the decontaminated equipment from fugitive contaminants before reuse.
10. Store decontaminated equipment at a secure, unexposed location out of the weather and any potential contaminant exposure.

### 4.5.2 Groundwater Sampling Pumps

[Note: This procedure does not apply to dedicated submersible pumps which have been permanently installed in wells.] Proper decontamination between wells is essential to avoid introducing contaminants from the sampling equipment to another well. If peristaltic pumps are being used, it is necessary only to replace the pump head tubing after sampling each well. If sampling with submersible pumps that come into direct contact with groundwater, the equipment must be decontaminated. The following procedure will be used to decontaminate submersible pumps and non-dedicated tubing before and between sample collection points, as well as the end of each day of use.

Preparation

Pre-clean appropriately sized buckets and prepare cleaning solutions (detergent solution, tap water rinse, distilled/deionized water rinse) and field blank water.

Detergent wash and tap water rinse

a) Put on disposable, powderless gloves. Rest pump in a washbasin or pail partially filled with detergent solution and clean exterior of pump and tubing with a soft brush. Rinse thoroughly with tap water. (DIW can be used instead of tap water, but is less efficient in detergent removal and requires a greater volume of water than tap water).
b) Place pump into bucket, add detergent solution to level above pump intake, and route the intake and discharge ends of pump tubing into the bucket. Begin pumping. Circulate detergent solution for several minutes. If possible, pump detergent solution through tubing at alternating high and low speeds.
c) Change gloves. Manually rinse detergent from pump, tubing and bucket with tap water.
d) Place pump into bucket, add tap water to level above pump intake, and route the intake and discharge ends of pump tubing into the bucket. Begin pumping. Circulate tap water for several minutes. If possible, pump tap water through tubing at alternating high and low speeds. Replace water in bucket and repeat cycle until no sudsing is observed. Change gloves as needed.

DIW Rinse

If a pump will be used to collect inorganic samples, manually rinse pump and tubing with DIW, then place in clean bucket, add DIW to level above pump intake, and route the discharge end of pump tubing outside the bucket. Begin pumping to rinse DIW through the equipment without recirculating. Collect water for use as a field blank, as required, from the pump discharge.

Equipment Storage

1. Place pump into a clean, non-contaminating storage bag and tie the bag shut.
2. Cover the pump reel and tubing with plastic bags or sheeting for transport to the next site.
3. On reaching the next monitoring well, place the pump in the well casing and wipe dry the power and discharge lines with a chemical-free paper towel as the pump is lowered.
4. For long-term storage (longer than 3 days), the pump and exterior and interior of the tubing must be dry before being placed into plastic bags.

### 4.5.3 Measurement Devices & Monitoring Equipment

For water quality instruments, oil-water interface indicators, water level indicators, continuous water level data loggers, and other field instruments that have the potential to come into contact with site media, at a minimum, wash with dilute laboratory-grade detergent (e.g., Alconox) and double rinse with tap water and DIW before and after each use or by using a similar procedure as discussed in Section 4.4.1. All decontamination fluids will be captured in a containment system as appropriate.

### 4.5.4 Subsurface Drilling Equipment

Drilling equipment and associated materials (drill bits, augers, and drilling stems) will be decontaminated by the drilling contractor prior to any drilling operations and between borings. These decontamination activities should be performed in the defined decontamination area as described in Section 4.1.

All down-hole Geoprobe tools (drive rods, Macro-Core barrels, etc.) that come in direct contact with potentially contaminated soil or groundwater shall be decontaminated between each sampling location, and may take place at the sampling location using a mobile decontamination platform with a containment system or other means to capture the decontamination IDW.

Decontamination will be performed using the following basic sequence:

1. Remove as much gross contamination as possible off equipment at the sampling site.
2. Wash equipment thoroughly and vigorously with potable water using a high-pressure washer and/or steam cleaner. A bristle brush is also suggested to remove any persistent gross contamination.
3. Air dry at a location where dust or other contaminants may not contact the sample equipment. All equipment should be dry before reuse.
4. Store decontaminated equipment at a location away from any potential exposure from fugitive contamination.

### 4.5.5 Heavy Equipment

Wash earthwork equipment (such as excavators and back-hoes) with high-pressure potable water, if possible, before leaving a contaminated area using similar steps as outlined in Section 4.4.4, otherwise the equipment may be moved to the decontamination area discussed in Section 4.1. Hand washing with a brush and detergent, followed by a potable water rinse, can also be used. In some instances, tires and tracks of equipment maybe only need to be thoroughly brushed with a dry brush. Take particular care with the components in direct contact with contaminants, such as tires and backhoe buckets.

Any part of earthwork equipment that may come in direct contact with analytical samples (that is, sampling from the excavator bucket) must be thoroughly decontaminated before excavation activities and between sample locations.

## 4.6 Quality Assurance/Quality Control

To ensure that sampling equipment is cleaned properly and sample cross-contamination does not occur, field rinsate blanks may be collected if required by project plans. A rinsate blank will consist of pouring deionized organic-free water over the specific sampling device or pouring it through the device after it has been cleaned. The rinsate sample is collected in the field under the same conditions as occurred for the sampling activity, and is handled exactly like any other samples collected that day.

Generally, one rinsate blank is collected each day of sampling or at a rate of 1 per 20 for each parameter, whichever is less, for each matrix being sampled or for each type of sampling instrument decontaminated and reused per day. The rinsate samples are analyzed for the specific parameters of concern (for each matrix). Rinsate blanks should be labeled like a routine environmental sample, and laboratory analysis instructions should be included on the chain-of-custody form. Rinsate blanks are not required if dedicated sampling equipment is used. Additional quality assurance samples may be collected if deemed necessary by project specific requirements.

# Supplement E - PFAS Sampling Guidance

NEW YORK STATE OF OPPORTUNITY.

Department of Environmental Conservation

# SAMPLING, ANALYSIS, AND ASSESSMENT OF PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)

## Under NYSDEC's Part 375 Remedial Programs

April 2023

www.dec.ny.gov

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ERRATA SHEET for

*SAMPLING, ANALYSIS, AND ASSESSMENT OF PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) Under NYSDEC's Part 375 Remedial Programs* Issued January 17, 2020

| Citation and Page Number | Current Text | Corrected Text | Date |
|---|---|---|---|
| Title of Appendix I, page 32 | Appendix H | Appendix I | 2/25/2020 |
| Document Cover, page 1 | Guidelines for Sampling and Analysis of PFAS | Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Part 375 Remedial Programs | 9/15/2020 |
| Data Assessment and Application to Site Cleanup Page 3 | Until such time as Ambient Water Quality Standards (AWQS) and Soil Cleanup Objectives (SCOs) for PFOA and PFOS are published | Until such time as Soil Cleanup Objectives (SCOs) for PFOA and PFOS are published | 3/28/2023 |
| Water Sample Results Page 3 | PFOA and PFOS should be further assessed and considered as potential contaminants of concern in groundwater or surface water if PFOA or PFOS is detected in any water sample at or above 10 ng/L (ppt) and is determined to be attributable to the site, either by a comparison of upgradient and downgradient levels, or the presence of soil source areas, as defined below. | NYSDEC has adopted ambient water quality guidance values for PFOA and PFOS. Groundwater samples should be compared to the human health criteria of 6.7 ng/l (ppt) for PFOA and 2.7 ng/l (ppt) for PFOS. These guidance values also include criteria for surface water for PFOS applicable for aquatic life, which may be applicable at some sites. Drinking water sample results should be compared to the NYS maximum contaminant level (MCL) of 10 ng/l (ppt).Analysis to determine if PFOA and PFOS concentrations are attributable to the site should include a comparison between upgradient and downgradient levels, and the presence of soil source areas, as defined below. | 3/28/2023 |
| Soil Sample Results Page 3 | Soil cleanup objectives for PFOA and PFOS have been proposed in an upcoming revision to 6 NYCRR Part 375-6. Until SCOs are in effect, the following are to be used as guidance values: | NYSDEC will delay adding soil cleanup objectives for PFOA and PFOS to 6 NYCRR Part 375-6 until the PFAS rural soil background study has been completed. Until SCOs are in effect, the following are to be used as guidance values: | 3/28/2023 |
| Protection of Groundwater Page 3 | PFOA (ppb) 1.1<br>PFOS (ppb) 3.7 | PFOA (ppb) 0.8<br>PFOS (ppb) 1.0 | 3/28/2023 |

| Citation and Page Number | Current Text | Corrected Text | Date |
|---|---|---|---|
| Footnote 2 Page 3 | The movement of PFAS in the environment is being aggressively researched at this time; that research will eventually result in more accurate models for the behaviors of these chemicals. In the meantime, DEC has calculated the guidance value for the protection of groundwater using the same procedure used for all other chemicals, as described in Section 7.7 of the Technical Support Document (http://www.dec.ny.gov/docs/remediation_hudson_pdf/techsuppdoc.pdf). | The Protection of Groundwater values are based on the above referenced ambient groundwater guidance values. Details on that calculation are available in the following document, prepared for the February 2022 proposed changes to Part 375 (https://www.dec.ny.gov/docs/remediation_hudson_pdf/part375techsupport.pdf). The movement of PFAS in the environment is being aggressively researched at this time; that research will eventually result in more accurate models for the behaviors of these chemicals. In the meantime, DEC has calculated the guidance value for the protection of groundwater using the same procedure used for all other chemicals, as described in Section 7.7 of the Technical Support Document (http://www.dec.ny.gov/docs/remediation_hudson_pdf/techsuppdoc.pdf). | 3/28/2023 |
| Testing for Imported Soil Page 4 | If the concentrations of PFOA and PFOS in leachate are at or above 10 ppt (the Maximum Contaminant Levels established for drinking water by the New York State Department of Health), then the soil is not acceptable. | If the concentrations of PFOA and PFOS in leachate are at or above the ambient water quality guidance values for groundwater, then the soil is not acceptable. | 3/28/2023 |
| Routine Analysis, page 9 | "However, laboratories analyzing environmental samples…PFOA and PFOS in drinking water by EPA Method 537, 537.1 or ISO 25101." | "However, laboratories analyzing environmental samples…PFOA and PFOS in drinking water by EPA Method 537, 537.1, ISO 25101, or Method 533." | 9/15/2020 |
| Additional Analysis, page 9, new paragraph regarding soil parameters | None | "In cases where site-specific cleanup objectives for PFOA and PFOS are to be assessed, soil parameters, such as Total Organic Carbon (EPA Method 9060), soil pH (EPA Method 9045), clay content (percent), and cation exchange capacity (EPA Method 9081), should be included in the analysis to help evaluate factors affecting the leachability of PFAS in site soils." | 9/15/2020 |

| Citation and Page Number | Current Text | Corrected Text | Date |
|---|---|---|---|
| Data Assessment and Application to Site Cleanup Page 10 | Until such time as Ambient Water Quality Standards (AWQS) and Soil Cleanup Objectives (SCOs) for PFAS are published, the extent of contaminated media potentially subject to remediation should be determined on a case-by-case basis using the procedures discussed below and the criteria in DER-10. Target levels for cleanup of PFAS in other media, including biota and sediment, have not yet been established by the DEC. | Until such time as Ambient Water Quality Standards (AWQS) and Soil Cleanup Objectives (SCOs) for PFOA and PFOS are published, the extent of contaminated media potentially subject to remediation should be determined on a case-by-case basis using the procedures discussed below and the criteria in DER-10. Preliminary target levels for cleanup of PFOA and PFOS in other media, including biota and sediment, have not yet been established by the DEC. | 9/15/2020 |
| Water Sample Results Page 10 | PFAS should be further assessed and considered as a potential contaminant of concern in groundwater or surface water (…)<br>If PFAS are identified as a contaminant of concern for a site, they should be assessed as part of the remedy selection process in accordance with Part 375 and DER-10. | PFOA and PFOS should be further assessed and considered as potential contaminants of concern in groundwater or surface water (…)<br>If PFOA and/or PFOS are identified as contaminants of concern for a site, they should be assessed as part of the remedy selection process in accordance with Part 375 and DER-10. | 9/15/2020 |

| Citation and Page Number | Current Text | Corrected Text | Date |
|---|---|---|---|
| Soil Sample Results, page 10 | "The extent of soil contamination for purposes of delineation and remedy selection should be determined by having certain soil samples tested by Synthetic Precipitation Leaching Procedure (SPLP) and the leachate analyzed for PFAS. Soil exhibiting SPLP results above 70 ppt for either PFOA or PFOS (individually or combined) are to be evaluated during the cleanup phase." | "Soil cleanup objectives for PFOA and PFOS will be proposed in an upcoming revision to 6 NYCRR Part 375-6. Until SCOs are in effect, the following are to be used as guidance values. "<br><br>[Interim SCO Table]<br>"PFOA and PFOS results for soil are to be compared against the guidance values listed above. These guidance values are to be used in determining whether PFOA and PFOS are contaminants of concern for the site and for determining remedial action objectives and cleanup requirements. Site-specific remedial objectives for protection of groundwater can also be presented for evaluation by DEC. Development of site-specific remedial objectives for protection of groundwater will require analysis of additional soil parameters relating to leachability. These additional analyses can include any or all the parameters listed above (soil pH, cation exchange capacity, etc.) and/or use of SPLP.<br><br>As the understanding of PFAS transport improves, DEC welcomes proposals for site-specific remedial objectives for protection of groundwater. DEC will expect that those may be dependent on additional factors including soil pH, aqueous pH, % organic carbon, % Sand/Silt/Clay, soil cations: K, Ca, Mg, Na, Fe, Al, cation exchange capacity, and anion exchange capacity. Site-specific remedial objectives should also consider the dilution attenuation factor (DAF). The NJDEP publication on DAF can be used as a reference: https://www.nj.gov/dep/srp/guidance/rs/daf.pdf. " | 9/15/2020 |

| Citation and Page Number | Current Text | Corrected Text | Date |
|---|---|---|---|
| Testing for Imported Soil Page 11 | Soil imported to a site for use in a soil cap, soil cover, or as backfill is to be tested for PFAS in general conformance with DER-10, Section 5.4(e) for the PFAS Analyte List (Appendix F) using the analytical procedures discussed below and the criteria in DER-10 associated with SVOCs. If PFOA or PFOS is detected in any sample at or above 1 µg/kg, then soil should be tested by SPLP and the leachate analyzed for PFAS. If the SPLP results exceed 10 ppt for either PFOA or PFOS (individually) then the source of backfill should be rejected, unless a site-specific exemption is provided by DER. SPLP leachate criteria is based on the Maximum Contaminant Levels proposed for drinking water by New York State's Department of Health, this value may be updated based on future Federal or State promulgated regulatory standards. Remedial parties have the option of analyzing samples concurrently for both PFAS in soil and in the SPLP leachate to minimize project delays. Category B deliverables should be submitted for backfill samples, though a DUSR is not required. | Testing for PFAS should be included any time a full TAL/TCL analyte list is required. Results for PFOA and PFOS should be compared to the applicable guidance values. If PFOA or PFOS is detected in any sample at or above the guidance values then the source of backfill should be rejected, unless a site-specific exemption is provided by DER based on SPLP testing, for example. If the concentrations of PFOA and PFOS in leachate are at or above 10 ppt (the Maximum Contaminant Levels established for drinking water by the New York State Department of Health), then the soil is not acceptable.<br><br>PFOA, PFOS and 1,4-dioxane are all considered semi-volatile compounds, so composite samples are appropriate for these compounds when sampling in accordance with DER-10, Table 5.4(e)10. Category B deliverables should be submitted for backfill samples, though a DUSR is not required. | 9/15/2020 |

| Citation and Page Number | Current Text | Corrected Text | Date |
|---|---|---|---|
| Footnotes | None | [1] TOP Assay analysis of highly contaminated samples, such as those from an AFFF (aqueous film-forming foam) site, can result in incomplete oxidation of the samples and an underestimation of the total perfluoroalkyl substances.<br>[2] The movement of PFAS in the environment is being aggressively researched at this time; that research will eventually result in more accurate models for the behaviors of these chemicals. In the meantime, DEC has calculated the soil cleanup objective for the protection of groundwater using the same procedure used for all other chemicals, as described in Section 7.7 of the Technical Support Document (http://www.dec.ny.gov/docs/remediation_hudson_pdf/techsuppdoc.pdf). | 9/15/2020 |
| Additional Analysis, page 9 | In cases… soil parameters, such as Total Organic Carbon (EPA Method 9060), soil… | In cases… soil parameters, such as Total Organic Carbon (Lloyd Kahn), soil… | 1/8/2021 |
| Appendix A, General Guidelines, fourth bullet | List the ELAP-approved lab(s) to be used for analysis of samples | List the ELAP- certified lab(s) to be used for analysis of samples | 1/8/2021 |
| Appendix E, Laboratory Analysis and Containers | Drinking water samples collected using this protocol are intended to be analyzed for PFAS by ISO Method 25101. | Drinking water samples collected using this protocol are intended to be analyzed for PFAS by EPA Method 537, 537.1, 533, or ISO Method 25101 | 1/8/2021 |
| Water Sample Results Page 9 | "In addition, further assessment of water may be warranted if either of the following screening levels are met:<br>a. any other individual PFAS (not PFOA or PFOS) is detected in water at or above 100 ng/L; or<br>b. total concentration of PFAS (including PFOA and PFOS) is detected in water at or above 500 ng/L" | Deleted | 6/15/2021 |

| Citation and Page Number | Current Text | Corrected Text | Date |
|---|---|---|---|
| Routine Analysis, Page XX | Currently, New York State Department of Health's Environmental Laboratory Approval Program (ELAP)… criteria set forth in the DER's laboratory guidelines for PFAS in non-potable water and solids (Appendix H - Laboratory Guidelines for Analysis of PFAS in Non-Potable Water and Solids). | Deleted | 5/31/2022 |
| Analysis and Reporting, Page XX | As of October 2020, the United States Environmental Protection Agency (EPA) does not have a validated method for analysis of PFAS for media commonly analyzed under DER remedial programs (non-potable waters, solids). DER has developed the following guidelines to ensure consistency in analysis and reporting of PFAS. | Deleted | 5/31/2022 |
| Routine Analysis, Page XX | LC-MS/MS analysis for PFAS using methodologies based on EPA Method 537.1 is the procedure to use for environmental samples. Isotope dilution techniques should be utilized for the analysis of PFAS in all media. | EPA Method 1633 is the procedure to use for environmental samples. | |
| Soil Sample Results, Page XX | Soil cleanup objectives for PFOA and PFOS will be proposed in an upcoming revision to 6 NYCRR Part 375-6 | Soil cleanup objectives for PFOA and PFOS have been proposed in an upcoming revision to 6 NYCRR Part 375-6 | |
| Appendix A | "Include in the text… LC-MS/MS for PFAS using methodologies based on EPA Method 537.1" | "Include in the text ….EPA Method 1633" | |
| Appendix A | "Laboratory should have ELAP certification for PFOA and PFOS in drinking water by EPA Method 537, 537.1, EPA Method 533, or ISO 25101" | Deleted | |
| Appendix B | "Samples collected using this protocol are intended to be analyzed for PFAS using methodologies based on EPA Method 537.1" | "Samples collected using this protocol are intended to be analyzed for PFAS using EPA Method 1633" | |

| Citation and Page Number | Current Text | Corrected Text | Date |
|---|---|---|---|
| Appendix C | "Samples collected using this protocol are intended to be analyzed for PFAS using methodologies based on EPA Method 537.1" | "Samples collected using this protocol are intended to be analyzed for PFAS using EPA Method 1633" | |
| Appendix D | "Samples collected using this protocol are intended to be analyzed for PFAS using methodologies based on EPA Method 537.1" | "Samples collected using this protocol are intended to be analyzed for PFAS using EPA Method 1633" | |
| Appendix G | | Updated to include all forty PFAS analytes in EPA Method 533 | |
| Appendix H | | Deleted | |
| Appendix I | Appendix I | Appendix H | |
| Appendix H | "These guidelines are intended to be used for the validation of PFAS analytical results for projects within the Division of Environmental Remediation (DER) as well as aid in the preparation of a data usability summary report." | "These guidelines are intended to be used for the validation of PFAS using EPA Method 1633 for projects within the Division of Environmental Remediation (DER)." | |
| Appendix H | "The holding time is 14 days…" | "The holding time is 28 days…" | |
| Appendix H, Initial Calibration | "The initial calibration should contain a minimum of five standards for linear fit…" | "The initial calibration should contain a minimum of six standards for linear fit…" | |
| Appendix H, Initial Calibration | Linear fit calibration curves should have an $R^2$ value greater than 0.990. | Deleted | |
| Appendix H, Initial Calibration Verification | Initial Calibration Verification Section | Deleted | |
| Appendix H | secondary Ion Monitoring Section | Deleted | |
| Appendix H | Branched and Linear Isomers Section | Deleted | |

# Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Part 375 Remedial Programs

## Objective

New York State Department of Environmental Conservation's Division of Environmental Remediation (DER) performs or oversees sampling of environmental media and subsequent analysis of PFAS as part of remedial programs implemented under 6 NYCRR Part 375. To ensure consistency in sampling, analysis, reporting, and assessment of PFAS, DER has developed this document which summarizes currently accepted procedures and updates previous DER technical guidance pertaining to PFAS.

## Applicability

All work plans submitted to DEC pursuant to one of the remedial programs under Part 375 shall include PFAS sampling and analysis procedures that conform to the guidelines provided herein.

As part of a site investigation or remedial action compliance program, whenever samples of potentially affected media are collected and analyzed for the standard Target Analyte List/Target Compound List (TAL/TCL), PFAS analysis should also be performed. Potentially affected media can include soil, groundwater, surface water, and sediment. Based upon the potential for biota to be affected, biota sampling and analysis for PFAS may also be warranted as determined pursuant to a Fish and Wildlife Impact Analysis. Soil vapor sampling for PFAS is not required.

## Field Sampling Procedures

DER-10 specifies technical guidance applicable to DER's remedial programs. Given the prevalence and use of PFAS, DER has developed "best management practices" specific to sampling for PFAS. As specified in DER-10 Chapter 2, quality assurance procedures are to be submitted with investigation work plans. Typically, these procedures are incorporated into a work plan, or submitted as a stand-alone document (e.g., a Quality Assurance Project Plan). Quality assurance guidelines for PFAS are listed in Appendix A - Quality Assurance Project Plan (QAPP) Guidelines for PFAS.

Field sampling for PFAS performed under DER remedial programs should follow the appropriate procedures outlined for soils, sediments, or other solids (Appendix B), non-potable groundwater (Appendix C), surface water (Appendix D), public or private water supply wells (Appendix E), and fish tissue (Appendix F).

QA/QC samples (e.g. duplicates, MS/MSD) should be collected as specified in DER-10, Section 2.3(c). For sampling equipment coming in contact with aqueous samples only, rinsate or equipment blanks should be collected. Equipment blanks should be collected at a minimum frequency of one per day per site or one per twenty samples, whichever is more frequent.

## Analysis and Reporting

The investigation work plan should describe analysis and reporting procedures, including laboratory analytical procedures for the methods discussed below. As specified in DER-10 Section 2.2, laboratories should provide a full Category B deliverable. In addition, a Data Usability Summary Report (DUSR) should be prepared by an independent, third-party data validator. Electronic data submissions should meet the requirements provided at: https://www.dec.ny.gov/chemical/62440.html.

DER has developed a *PFAS Analyte List* (Appendix G) for remedial programs to understand the nature of contamination at sites. It is expected that reported results for PFAS will include, at a minimum, all the compounds listed. If lab and/or matrix specific issues are encountered for any analytes, the DER project manager, in consultation with the DER chemist, will make case-by-case decisions as to whether certain analytes may be temporarily or permanently discontinued from analysis at each site. As with other contaminants that are analyzed for at a site, the *PFAS Analyte List* may be refined for future sampling events based on investigative findings.

### Routine Analysis

EPA Method 1633 is the procedure to use for environmental samples. Reporting limits for PFOA and PFOS in aqueous samples should not exceed 2 ng/L. Reporting limits for PFOA and PFOS in solid samples should not exceed 0.5 µg/kg. Reporting limits for all other PFAS in aqueous and solid media should be as close to these limits as possible. If laboratories indicate that they are not able to achieve these reporting limits for the entire *PFAS Analyte List*, site-specific decisions regarding acceptance of elevated reporting limits for specific PFAS can be made by the DER project manager in consultation with the DER chemist. Data review guidelines were developed by DER to ensure data comparability and usability (Appendix H - Data Review Guidelines for Analysis of PFAS in Non-Potable Water and Solids).

### Additional Analysis

Additional laboratory methods for analysis of PFAS may be warranted at a site, such as the Synthetic Precipitation Leaching Procedure (SPLP) and Total Oxidizable Precursor Assay (TOP Assay).

In cases where site-specific cleanup objectives for PFOA and PFOS are to be assessed, soil parameters, such as Total Organic Carbon (Lloyd Kahn), soil pH (EPA Method 9045), clay content (percent), and cation exchange capacity (EPA Method 9081), should be included in the analysis to help evaluate factors affecting the leachability of PFAS in site soils.

SPLP is a technique used to determine the mobility of chemicals in liquids, soils and wastes, and may be useful in determining the need for addressing PFAS-containing material as part of the remedy. SPLP by EPA Method 1312 should be used unless otherwise specified by the DER project manager in consultation with the DER chemist.

Impacted materials can be made up of PFAS that are not analyzable by routine analytical methodology. A TOP Assay can be utilized to conceptualize the amount and type of oxidizable PFAS which could be liberated in the environment, which approximates the maximum concentration of perfluoroalkyl substances that could be generated if all polyfluoroalkyl substances were oxidized. For example, some polyfluoroalkyl substances may degrade or transform to form perfluoroalkyl substances (such as PFOA or PFOS), resulting in an increase in perfluoroalkyl substance concentrations as contaminated groundwater moves away from a source. The TOP Assay converts, through oxidation, polyfluoroalkyl substances (precursors) into perfluoroalkyl substances that can be detected by routine analytical methodology.[1]

[1] TOP Assay analysis of highly contaminated samples, such as those from an AFFF (aqueous film-forming foam) site, can result in incomplete oxidation of the samples and an underestimation of the total perfluoroalkyl substances.

Commercial laboratories have adopted methods which allow for the quantification of targeted PFAS in air and biota. The EPA's Office of Research and Development (ORD) is currently developing methods which allow for air emissions characterization of PFAS, including both targeted and non-targeted analysis of PFAS. Consult with the DER project manager and the DER chemist for assistance on analyzing biota/tissue and air samples.

## Data Assessment and Application to Site Cleanup

Until such time as Soil Cleanup Objectives (SCOs) for PFOA and PFOS are published, the extent of contaminated media potentially subject to remediation should be determined on a case-by-case basis using the procedures discussed below and the criteria in DER-10. Preliminary target levels for cleanup of PFOA and PFOS in other media, including biota and sediment, have not yet been established by the DEC.

### Water Sample Results

NYSDEC has adopted ambient water quality guidance values for PFOA and PFOS. Groundwater samples should be compared to the human health criteria of 6.7 ng/l (ppt) for PFOA and 2.7 ng/l (ppt) for PFOS. These human health criteria should also be applied to surface water that is used as a water supply. This guidance also includes criteria for surface water for PFOS applicable for aquatic life, which may be applicable at some sites. Drinking water sample results should be compared to the NYS maximum contaminant level (MCL) of 10 ng/l (ppt). Analysis to determine if PFOA and PFOS concentrations are attributable to the site should include a comparison between upgradient and downgradient levels, and the presence of soil source areas, as defined below.

If PFOA and/or PFOS are identified as contaminants of concern for a site, they should be assessed as part of the remedy selection process in accordance with Part 375 and DER-10.

### Soil Sample Results

NYSDEC will delay adding soil cleanup objectives for PFOA and PFOS to 6 NYCRR Part 375-6 until the PFAS rural soil background study has been completed. Until SCOs are in effect, the following are to be used as guidance values:

| Guidance Values for Anticipated Site Use | PFOA (ppb) | PFOS (ppb) |
|---|---|---|
| Unrestricted | 0.66 | 0.88 |
| Residential | 6.6 | 8.8 |
| Restricted Residential | 33 | 44 |
| Commercial | 500 | 440 |
| Industrial | 600 | 440 |
| Protection of Groundwater[2] | 0.8 | 1.0 |

PFOA and PFOS results for soil are to be compared against the guidance values listed above. These guidance values are to be used in determining whether PFOA and PFOS are contaminants of concern for the site and for determining remedial action objectives and cleanup requirements. Site-specific remedial objectives for protection of groundwater can also be presented for evaluation by DEC. Development of site-specific remedial objectives for protection of groundwater will require analysis of additional soil parameters relating to leachability. These

[2] The Protection of Groundwater values are based on the above referenced ambient groundwater guidance values. Details on that calculation are available in the following document, prepared for the February 2022 proposed changes to Part 375 (https://www.dec.ny.gov/docs/remediation_hudson_pdf/part375techsupport.pdf). The movement of PFAS in the environment is being aggressively researched at this time; that research will eventually result in more accurate models for the behaviors of these chemicals. In the meantime, DEC has calculated the guidance value for the protection of groundwater using the same procedure used for all other chemicals, as described in Section 7.7 of the Technical Support Document (http://www.dec.ny.gov/docs/remediation_hudson_pdf/techsuppdoc.pdf).

additional analyses can include any or all the parameters listed above (soil pH, cation exchange capacity, etc.) and/or use of SPLP.

As the understanding of PFAS transport improves, DEC welcomes proposals for site-specific remedial objectives for protection of groundwater. DEC will expect that those may be dependent on additional factors including soil pH, aqueous pH, % organic carbon, % Sand/Silt/Clay, soil cations: K, Ca, Mg, Na, Fe, Al, cation exchange capacity, and anion exchange capacity. Site-specific remedial objectives should also consider the dilution attenuation factor (DAF). The NJDEP publication on DAF can be used as a reference: https://www.nj.gov/dep/srp/guidance/rs/daf.pdf.

## Testing for Imported Soil

Testing for PFAS should be included any time a full TAL/TCL analyte list is required. Results for PFOA and PFOS should be compared to the applicable guidance values. If PFOA or PFOS is detected in any sample at or above the guidance values then the source of backfill should be rejected, unless a site-specific exemption is provided by DER based on SPLP testing, for example. If the concentrations of PFOA and PFOS in leachate are at or above the ambient water quality guidance values for groundwater, then the soil is not acceptable.

PFOA, PFOS and 1,4-dioxane are all considered semi-volatile compounds, so composite samples are appropriate for these compounds when sampling in accordance with DER-10, Table 5.4(e)10. Category B deliverables should be submitted for backfill samples, though a DUSR is not required.

# Appendix A - Quality Assurance Project Plan (QAPP) Guidelines for PFAS

The following guidelines (general and PFAS-specific) can be used to assist with the development of a QAPP for projects within DER involving sampling and analysis of PFAS.

## General Guidelines in Accordance with DER-10

- Document/work plan section title – Quality Assurance Project Plan
- Summarize project scope, goals, and objectives
- Provide project organization including names and resumes of the project manager, Quality Assurance Officer (QAO), field staff, and Data Validator
    - The QAO should not have another position on the project, such as project or task manager, that involves project productivity or profitability as a job performance criterion
- List the ELAP certified lab(s) to be used for analysis of samples
- Include a site map showing sample locations
- Provide detailed sampling procedures for each matrix
- Include Data Quality Usability Objectives
- List equipment decontamination procedures
- Include an "Analytical Methods/Quality Assurance Summary Table" specifying:
    - Matrix type
    - Number or frequency of samples to be collected per matrix
    - Number of field and trip blanks per matrix
    - Analytical parameters to be measured per matrix
    - Analytical methods to be used per matrix with minimum reporting limits
    - Number and type of matrix spike and matrix spike duplicate samples to be collected
    - Number and type of duplicate samples to be collected
    - Sample preservation to be used per analytical method and sample matrix
    - Sample container volume and type to be used per analytical method and sample matrix
    - Sample holding time to be used per analytical method and sample matrix
- Specify Category B laboratory data deliverables and preparation of a DUSR

## Specific Guidelines for PFAS

- Include in the text that sampling for PFAS will take place
- Include in the text that PFAS will be analyzed by EPA Method 1633
- Include the list of PFAS compounds to be analyzed (*PFAS Analyte List*)
- Include the laboratory SOP for PFAS analysis
- List the minimum method-achievable Reporting Limits for PFAS
    - Reporting Limits should be less than or equal to:
        - Aqueous – 2 ng/L (ppt)
        - Solids – 0.5 µg/kg (ppb)
- Include the laboratory Method Detection Limits for the PFAS compounds to be analyzed
- 
- Include detailed sampling procedures
    - Precautions to be taken
    - Pump and equipment types
    - Decontamination procedures
    - Approved materials only to be used
- Specify that regular ice only will be used for sample shipment
- Specify that equipment blanks should be collected at a minimum frequency of 1 per day per site for each matrix

# Appendix B - Sampling Protocols for PFAS in Soils, Sediments and Solids

## General

The objective of this protocol is to give general guidelines for the collection of soil, sediment and other solid samples for PFAS analysis. The sampling procedure used should be consistent with Sampling Guidelines and Protocols – Technological Background and Quality Control/Quality Assurance for NYS DEC Spill Response Program – March 1991 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf), with the following limitations.

## Laboratory Analysis and Containers

Samples collected using this protocol are intended to be analyzed for PFAS using EPA Method 1633.

The preferred material for containers is high density polyethylene (HDPE). Pre-cleaned sample containers, coolers, sample labels, and a chain of custody form will be provided by the laboratory.

## Equipment

Acceptable materials for sampling include stainless steel, HDPE, PVC, silicone, acetate, and polypropylene. Additional materials may be acceptable if pre-approved by New York State Department of Environmental Conservation's Division of Environmental Remediation.

No sampling equipment components or sample containers should come in to contact with aluminum foil, low density polyethylene, glass, or polytetrafluoroethylene (PTFE, Teflon™) materials including sample bottle cap liners with a PTFE layer.

A list of acceptable equipment is provided below, but other equipment may be considered appropriate based on sampling conditions.

- stainless steel spoon
- stainless steel bowl
- steel hand auger or shovel without any coatings

## Equipment Decontamination

Standard two step decontamination using detergent (Alconox is acceptable) and clean, PFAS-free water will be performed for sampling equipment. All sources of water used for equipment decontamination should be verified in advance to be PFAS-free through laboratory analysis or certification.

## Sampling Techniques

Sampling is often conducted in areas where a vegetative turf has been established. In these cases, a pre-cleaned trowel or shovel should be used to carefully remove the turf so that it may be replaced at the conclusion of sampling. Surface soil samples (e.g. 0 to 6 inches below surface) should then be collected using a pre-cleaned, stainless steel spoon. Shallow subsurface soil samples (e.g. 6 to ~36 inches below surface) may be collected by digging a hole using a pre-cleaned hand auger or shovel. When the desired subsurface depth is reached, a pre-cleaned hand auger or spoon shall be used to obtain the sample.

When the sample is obtained, it should be deposited into a stainless steel bowl for mixing prior to filling the sample containers. The soil should be placed directly into the bowl and mixed thoroughly by rolling the material into the middle until the material is homogenized. At this point the material within the bowl can be placed into the laboratory provided container.

## Sample Identification and Logging

A label shall be attached to each sample container with a unique identification. Each sample shall be included on the chain of custody (COC).

## Quality Assurance/Quality Control

- Immediately place samples in a cooler maintained at 4 ± 2º Celsius using ice
- Collect one field duplicate for every sample batch, minimum 1 duplicate per 20 samples. The duplicate shall consist of an additional sample at a given location
- Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, minimum 1 MS/MSD per 20 samples. The MS/MSD shall consist of an additional two samples at a given location and identified on the COC
- Request appropriate data deliverable (Category B) and an electronic data deliverable

## Documentation

A soil log or sample log shall document the location of the sample/borehole, depth of the sample, sampling equipment, duplicate sample, visual description of the material, and any other observations or notes determined to be appropriate. Additionally, care should be performed to limit contact with PFAS containing materials (e.g. waterproof field books, food packaging) during the sampling process.

## Personal Protection Equipment (PPE)

For most sampling Level D PPE is anticipated to be appropriate. The sampler should wear nitrile gloves while conducting field work and handling sample containers.

Field staff shall consider the clothing to be worn during sampling activities. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFAS materials should be avoided. All clothing worn by sampling personnel should have been laundered multiple times.

Appropriate rain gear (PVC, polyurethane, or rubber rain gear are acceptable), bug spray, and sunscreen should be used that does not contain PFAS. Well washed cotton coveralls may be used as an alternative to bug spray and/or sunscreen.

PPE that contains PFAS is acceptable when site conditions warrant additional protection for the samplers and no other materials can be used to be protective. Documentation of such use should be provided in the field notes.

# Appendix C - Sampling Protocols for PFAS in Monitoring Wells

## General

The objective of this protocol is to give general guidelines for the collection of groundwater samples for PFAS analysis. The sampling procedure used should be consistent with Sampling Guidelines and Protocols – Technological Background and Quality Control/Quality Assurance for NYS DEC Spill Response Program – March 1991 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf), with the following limitations.

## Laboratory Analysis and Container

Samples collected using this protocol are intended to be analyzed for PFAS using EPA Method 1633.

The preferred material for containers is high density polyethylene (HDPE). Pre-cleaned sample containers, coolers, sample labels, and a chain of custody form will be provided by the laboratory.

## Equipment

Acceptable materials for sampling include: stainless steel, HDPE, PVC, silicone, acetate, and polypropylene. Additional materials may be acceptable if pre-approved by New York State Department of Environmental Conservation's Division of Environmental Remediation.

No sampling equipment components or sample containers should come in contact with aluminum foil, low density polyethylene, glass, or polytetrafluoroethylene (PTFE, Teflon™) materials including plumbers tape and sample bottle cap liners with a PTFE layer.

A list of acceptable equipment is provided below, but other equipment may be considered appropriate based on sampling conditions.

- stainless steel inertia pump with HDPE tubing
- peristaltic pump equipped with HDPE tubing and silicone tubing
- stainless steel bailer with stainless steel ball
- bladder pump (identified as PFAS-free) with HDPE tubing

## Equipment Decontamination

Standard two step decontamination using detergent (Alconox is acceptable) and clean, PFAS-free water will be performed for sampling equipment. All sources of water used for equipment decontamination should be verified in advance to be PFAS-free through laboratory analysis or certification.

## Sampling Techniques

Monitoring wells should be purged in accordance with the sampling procedure (standard/volume purge or low flow purge) identified in the site work plan, which will determine the appropriate time to collect the sample. If sampling using standard purge techniques, additional purging may be needed to reduce turbidity levels, so samples contain a limited amount of sediment within the sample containers. Sample containers that contain sediment may cause issues at the laboratory, which may result in elevated reporting limits and other issues during the sample preparation that can compromise data usability. Sampling personnel should don new nitrile gloves prior to sample collection due to the potential to contact PFAS containing items (not related to the sampling equipment) during the purging activities.

## Sample Identification and Logging

A label shall be attached to each sample container with a unique identification. Each sample shall be included on the chain of custody (COC).

## Quality Assurance/Quality Control

- Immediately place samples in a cooler maintained at 4 ± 2º Celsius using ice
- Collect one field duplicate for every sample batch, minimum 1 duplicate per 20 samples. The duplicate shall consist of an additional sample at a given location
- Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, minimum 1 MS/MSD per 20 samples. The MS/MSD shall consist of an additional two samples at a given location and identified on the COC
- Collect one equipment blank per day per site and minimum 1 equipment blank per 20 samples. The equipment blank shall test the new and decontaminated sampling equipment utilized to obtain a sample for residual PFAS contamination. This sample is obtained by using laboratory provided PFAS-free water and passing the water over or through the sampling device and into laboratory provided sample containers
- Additional equipment blank samples may be collected to assess other equipment that is utilized at the monitoring well
- Request appropriate data deliverable (Category B) and an electronic data deliverable

## Documentation

A purge log shall document the location of the sample, sampling equipment, groundwater parameters, duplicate sample, visual description of the material, and any other observations or notes determined to be appropriate. Additionally, care should be performed to limit contact with PFAS containing materials (e.g. waterproof field books, food packaging) during the sampling process.

## Personal Protection Equipment (PPE)

For most sampling Level D PPE is anticipated to be appropriate. The sampler should wear nitrile gloves while conducting field work and handling sample containers.

Field staff shall consider the clothing to be worn during sampling activities. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFAS materials should be avoided. All clothing worn by sampling personnel should have been laundered multiple times.

Appropriate rain gear (PVC, polyurethane, or rubber rain gear are acceptable), bug spray, and sunscreen should be used that does not contain PFAS. Well washed cotton coveralls may be used as an alternative to bug spray and/or sunscreen.

PPE that contains PFAS is acceptable when site conditions warrant additional protection for the samplers and no other materials can be used to be protective. Documentation of such use should be provided in the field notes.

# Appendix D - Sampling Protocols for PFAS in Surface Water

## General

The objective of this protocol is to give general guidelines for the collection of surface water samples for PFAS analysis. The sampling procedure used should be consistent with Sampling Guidelines and Protocols – Technological Background and Quality Control/Quality Assurance for NYS DEC Spill Response Program – March 1991 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf), with the following limitations.

## Laboratory Analysis and Container

Samples collected using this protocol are intended to be analyzed for PFAS using EPA Method 1633.

The preferred material for containers is high density polyethylene (HDPE). Pre-cleaned sample containers, coolers, sample labels, and a chain of custody form will be provided by the laboratory.

## Equipment

Acceptable materials for sampling include: stainless steel, HDPE, PVC, silicone, acetate, and polypropylene. Additional materials may be acceptable if pre-approved by New York State Department of Environmental Conservation's Division of Environmental Remediation.

No sampling equipment components or sample containers should come in contact with aluminum foil, low density polyethylene, glass, or polytetrafluoroethylene (PTFE, Teflon™) materials including sample bottle cap liners with a PTFE layer.

A list of acceptable equipment is provided below, but other equipment may be considered appropriate based on sampling conditions.

- stainless steel cup

## Equipment Decontamination

Standard two step decontamination using detergent (Alconox is acceptable) and clean, PFAS-free water will be performed for sampling equipment. All sources of water used for equipment decontamination should be verified in advance to be PFAS-free through laboratory analysis or certification.

## Sampling Techniques

Where conditions permit, (e.g. creek or pond) sampling devices (e.g. stainless steel cup) should be rinsed with site medium to be sampled prior to collection of the sample. At this point the sample can be collected and poured into the sample container.

If site conditions permit, samples can be collected directly into the laboratory container.

## Sample Identification and Logging

A label shall be attached to each sample container with a unique identification. Each sample shall be included on the chain of custody (COC).

## Quality Assurance/Quality Control

- Immediately place samples in a cooler maintained at 4 ± 2º Celsius using ice
- Collect one field duplicate for every sample batch, minimum 1 duplicate per 20 samples. The duplicate shall consist of an additional sample at a given location
- Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, minimum 1 MS/MSD per 20 samples. The MS/MSD shall consist of an additional two samples at a given location and identified on the COC
- Collect one equipment blank per day per site and minimum 1 equipment blank per 20 samples. The equipment blank shall test the new and decontaminated sampling equipment utilized to obtain a sample for residual PFAS contamination. This sample is obtained by using laboratory provided PFAS-free water and passing the water over or through the sampling device and into laboratory provided sample containers
- Request appropriate data deliverable (Category B) and an electronic data deliverable

## Documentation

A sample log shall document the location of the sample, sampling equipment, duplicate sample, visual description of the material, and any other observations or notes determined to be appropriate. Additionally, care should be performed to limit contact with PFAS containing materials (e.g. waterproof field books, food packaging) during the sampling process.

## Personal Protection Equipment (PPE)

For most sampling Level D PPE is anticipated to be appropriate. The sampler should wear nitrile gloves while conducting field work and handling sample containers.

Field staff shall consider the clothing to be worn during sampling activities. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFAS materials should be avoided. All clothing worn by sampling personnel should have been laundered multiple times.

Appropriate rain gear (PVC, polyurethane, or rubber rain gear are acceptable), bug spray, and sunscreen should be used that does not contain PFAS. Well washed cotton coveralls may be used as an alternative to bug spray and/or sunscreen.

PPE that contains PFAS is acceptable when site conditions warrant additional protection for the samplers and no other materials can be used to be protective. Documentation of such use should be provided in the field notes.

# Appendix E - Sampling Protocols for PFAS in Private Water Supply Wells

## General

The objective of this protocol is to give general guidelines for the collection of water samples from private water supply wells (with a functioning pump) for PFAS analysis. The sampling procedure used should be consistent with Sampling Guidelines and Protocols – Technological Background and Quality Control/Quality Assurance for NYS DEC Spill Response Program – March 1991 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf), with the following limitations.

## Laboratory Analysis and Container

Drinking water samples collected using this protocol are intended to be analyzed for PFAS by EPA Method 537, 537.1, 533, or ISO Method 25101. The preferred material for containers is high density polyethylene (HDPE). Pre-cleaned sample containers, coolers, sample labels, and a chain of custody form will be provided by the laboratory.

## Equipment

Acceptable materials for sampling include stainless steel, HDPE, PVC, silicone, acetate, and polypropylene. Additional materials may be acceptable if pre-approved by New York State Department of Environmental Conservation's Division of Environmental Remediation.

No sampling equipment components or sample containers should come in contact with aluminum foil, low density polyethylene, glass, or polytetrafluoroethylene (PTFE, Teflon™) materials (e.g. plumbers tape), including sample bottle cap liners with a PTFE layer.

## Equipment Decontamination

Standard two step decontamination using detergent (Alconox is acceptable) and clean, PFAS-free water will be performed for sampling equipment. All sources of water used for equipment decontamination should be verified in advance to be PFAS-free through laboratory analysis or certification.

## Sampling Techniques

Locate and assess the pressure tank and determine if any filter units are present within the building. Establish the sample location as close to the well pump as possible, which is typically the spigot at the pressure tank. Ensure sampling equipment is kept clean during sampling as access to the pressure tank spigot, which is likely located close to the ground, may be obstructed and may hinder sample collection.

Prior to sampling, a faucet downstream of the pressure tank (e.g., washroom sink) should be run until the well pump comes on and a decrease in water temperature is noted which indicates that the water is coming from the well. If the homeowner is amenable, staff should run the water longer to purge the well (15+ minutes) to provide a sample representative of the water in the formation rather than standing water in the well and piping system including the pressure tank. At this point a new pair of nitrile gloves should be donned and the sample can be collected from the sample point at the pressure tank.

## Sample Identification and Logging

A label shall be attached to each sample container with a unique identification. Each sample shall be included on the chain of custody (COC).

## Quality Assurance/Quality Control

- Immediately place samples in a cooler maintained at 4 ± 2º Celsius using ice
- Collect one field duplicate for every sample batch, minimum 1 duplicate per 20 samples. The duplicate shall consist of an additional sample at a given location
- Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, minimum 1 MS/MSD per 20 samples. The MS/MSD shall consist of an additional two samples at a given location and identified on the COC
- If equipment was used, collect one equipment blank per day per site and a minimum 1 equipment blank per 20 samples. The equipment blank shall test the new and decontaminated sampling equipment utilized to obtain a sample for residual PFAS contamination. This sample is obtained by using laboratory provided PFAS-free water and passing the water over or through the sampling device and into laboratory provided sample containers.
- A field reagent blank (FRB) should be collected at a rate of one per 20 samples. The lab will provide a FRB bottle containing PFAS free water and one empty FRB bottle. In the field, pour the water from the one bottle into the empty FRB bottle and label appropriately.
- Request appropriate data deliverable (Category B) and an electronic data deliverable
- For sampling events where multiple private wells (homes or sites) are to be sampled per day, it is acceptable to collect QC samples at a rate of one per 20 across multiple sites or days.

## Documentation

A sample log shall document the location of the private well, sample point location, owner contact information, sampling equipment, purge duration, duplicate sample, visual description of the material, and any other observations or notes determined to be appropriate and available (e.g. well construction, pump type and location, yield, installation date). Additionally, care should be performed to limit contact with PFAS containing materials (e.g. waterproof field books, food packaging) during the sampling process.

## Personal Protection Equipment (PPE)

For most sampling Level D PPE is anticipated to be appropriate. The sampler should wear nitrile gloves while conducting field work and handling sample containers.

Field staff shall consider the clothing to be worn during sampling activities. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFAS materials should be avoided. All clothing worn by sampling personnel should have been laundered multiple times.

# Appendix F - Sampling Protocols for PFAS in Fish

This appendix contains a copy of the current SOP developed by the Division of Fish and Wildlife (DFW) entitled "General Fish Handling Procedures for Contaminant Analysis" (Ver. 8). This SOP should be followed when collecting fish for contaminant analysis. Note, however, that the Bureau of Ecosystem Health will not be supplying bags or tags. All supplies are the responsibility of the collector

**Procedure Name:** General Fish Handling Procedures for Contaminant Analysis

**Number:** FW-005

**Purpose:** This procedure describes data collection, fish processing and delivery of fish collected for contaminant monitoring. It contains the chain of custody and collection record forms that should be used for the collections.

**Organization:** Environmental Monitoring Section
Bureau of Ecosystem Health
Division of Fish and Wildlife (DFW)
New York State Department of Environmental Conservation (NYSDEC)
625 Broadway
Albany, New York 12233-4756

**Version:** 8

**Previous Version Date:** 21 March 2018

**Summary of Changes to this Version:** Updated bureau name to Bureau of Ecosystem Health. Added direction to list the names of all field crew on the collection record. Minor formatting changes on chain of custody and collection records.

**Originator or Revised by:** Wayne Richter, Jesse Becker

**Date:** 26 April 2019

**Quality Assurance Officer and Approval Date:** Jesse Becker, 26 April 2019

**NEW YORK STATE**
**DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

# GENERAL FISH HANDLING PROCEDURES FOR CONTAMINANT ANALYSES

A. Original copies of all continuity of evidence (i.e., Chain of Custody) and collection record forms must accompany delivery of fish to the lab. A copy shall be directed to the Project Leader or as appropriate, Wayne Richter. All necessary forms will be supplied by the Bureau of Ecosystem Health. Because some samples may be used in legal cases, it is critical that each section is filled out completely. Each Chain of Custody form has three main sections:

   1. The top box is to be filled out **and signed** by the person responsible for the fish collection (e.g., crew leader, field biologist, researcher). This person is responsible for delivery of the samples to DEC facilities or personnel (e.g., regional office or biologist).

   2. The second section is to be filled out **and signed** by the person responsible for the collections while being stored at DEC, before delivery to the analytical lab. This may be the same person as in (1), but it is still required that they complete the section. Also important is the **range of identification numbers** (i.e., tag numbers) included in the sample batch.

   3. Finally, the bottom box is to record any transfers between DEC personnel and facilities. Each subsequent transfer should be **identified, signed, and dated**, until laboratory personnel take possession of the fish.

B. The following data are required on each **Fish Collection Record** form:

   1. Project and Site Name.

   2. DEC Region.

   3. All personnel (and affiliation) involved in the collection.

   4. Method of collection (gill net, hook and line, etc.)

   5. Preservation Method.

C. The following data are to be taken on each fish collected and recorded on the **Fish Collection Record** form:

   1. Tag number - Each specimen is to be individually jaw tagged at time of collection with a unique number. Make sure the tag is turned out so that the number can be read without opening the bag. Use tags in sequential order. For small fish or composite samples place the tag inside the bag with the samples. The Bureau of Ecosystem Health can supply the tags.

   2. Species identification (please be explicit enough to enable assigning genus and species). Group fish by species when processing.

   3. Date collected.

   4. Sample location (waterway and nearest prominent identifiable landmark).

   5. Total length (nearest mm or smallest sub-unit on measuring instrument) and weight (nearest g or

smallest sub-unit of weight on weighing instrument). Take all measures as soon as possible with calibrated, protected instruments (e.g. from wind and upsets) and prior to freezing.

6. Sex - fish may be cut enough to allow sexing or other internal investigation, but do not eviscerate. Make any incision on the right side of the belly flap or exactly down the midline so that a left-side fillet can be removed.

D. General data collection recommendations:

1. It is helpful to use an ID or tag number that will be unique. It is best to use metal striped bass or other uniquely numbered metal tags. If uniquely numbered tags are unavailable, values based on the region, water body and year are likely to be unique: for example, R7CAY11001 for Region 7, Cayuga Lake, 2011, fish 1. If the fish are just numbered 1 through 20, we have to give them new numbers for our database, making it more difficult to trace your fish to their analytical results and creating an additional possibility for errors.

2. Process and record fish of the same species sequentially. Recording mistakes are less likely when all fish from a species are processed together. Starting with the bigger fish species helps avoid missing an individual.

3. If using Bureau of Ecosystem Health supplied tags or other numbered tags, use tags in sequence so that fish are recorded with sequential Tag Numbers. This makes data entry and login at the lab and use of the data in the future easier and reduces keypunch errors.

4. Record length and weight as soon as possible after collection and before freezing. Other data are recorded in the field upon collection. An age determination of each fish is optional, but if done, it is recorded in the appropriate “Age” column.

5. For composite samples of small fish, record the number of fish in the composite in the Remarks column. Record the length and weight of each individual in a composite. All fish in a composite sample should be of the same species and members of a composite should be visually matched for size.

6. Please submit photocopies of topographic maps or good quality navigation charts indicating sampling locations. GPS coordinates can be entered in the Location column of the collection record form in addition to or instead for providing a map. These records are of immense help to us (and hopefully you) in providing documented location records which are not dependent on memory and/or the same collection crew. In addition, they may be helpful for contaminant source trackdown and remediation/control efforts of the Department.

7. When recording data on fish measurements, it will help to ensure correct data recording for the data recorder to call back the numbers to the person making the measurements.

E. Each fish is to be placed in its own individual plastic bag. For small fish to be analyzed as a composite, put all of the fish for one composite in the same bag but use a separate bag for each composite. It is important to individually bag the fish to avoid difficulties or cross contamination when processing the fish for chemical analysis. Be sure to include the fish’s tag number inside the bag, preferably attached to the fish with the tag number turned out so it can be read. Tie or otherwise secure the bag closed. **The Bureau of Ecosystem Health will supply the bags.** If necessary, food grade bags may be procured from a suitable vendor (e.g., grocery store). It is preferable to redundantly label each bag with a manila tag tied between the knot and the body of the bag. This tag should be labeled with the project name, collection location, tag number, collection date, and fish species. If scales are collected, the scale envelope should be labeled with

the same information.

F. Groups of fish, by species, are to be placed in one large plastic bag per sampling location. **The Bureau of Ecosystem Health will supply the larger bags.** Tie or otherwise secure the bag closed. Label the site bag with a manila tag tied between the knot and the body of the bag. The tag should contain: project, collection location, collection date, species and **tag number ranges**. Having this information on the manila tag enables lab staff to know what is in the bag without opening it.

G. Do not eviscerate, fillet or otherwise dissect the fish unless specifically asked to. If evisceration or dissection is specified, the fish must be cut along the exact midline or on the right side so that the left side fillet can be removed intact at the laboratory. If filleting is specified, the procedure for taking a standard fillet (SOP PREPLAB 4) must be followed, including removing scales.

H. Special procedures for PFAS: Unlike legacy contaminants such as PCBs, which are rarely found in day to day life, PFAS are widely used and frequently encountered. Practices that avoid sample contamination are therefore necessary. While no standard practices have been established for fish, procedures for water quality sampling can provide guidance. The following practices should be used for collections when fish are to be analyzed for PFAS:

No materials containing Teflon.
No Post-it notes.
No ice packs; only water ice or dry ice.
Any gloves worn must be powder free nitrile.
No Gore-Tex or similar materials (Gore-Tex is a PFC with PFOA used in its manufacture).
No stain repellent or waterproof treated clothing; these are likely to contain PFCs.
Avoid plastic materials, other than HDPE, including clipboards and waterproof notebooks.
Wash hands after handling any food containers or packages as these may contain PFCs.
Keep pre-wrapped food containers and wrappers isolated from fish handling.
Wear clothing washed at least six times since purchase.
Wear clothing washed without fabric softener.
Staff should avoid cosmetics, moisturizers, hand creams and similar products on the day of sampling as many of these products contain PFCs (Fujii et al. 2013). Sunscreen or insect repellent should not contain ingredients with “fluor” in their name. Apply any sunscreen or insect repellent well downwind from all materials. Hands must be washed after touching any of these products.

I. All fish must be kept at a temperature <45° F (<8° C) immediately following data processing. As soon as possible, freeze at -20° C ± 5° C. Due to occasional freezer failures, daily freezer temperature logs are required. The freezer should be locked or otherwise secured to maintain chain of custody.

J. In most cases, samples should be delivered to the Analytical Services Unit at the Hale Creek field station. Coordinate delivery with field station staff and send copies of the collection records, continuity of evidence forms and freezer temperature logs to the field station. For samples to be analyzed elsewhere, non-routine collections or other questions, contact Wayne Richter, Bureau of Ecosystem Health, NYSDEC, 625 Broadway, Albany, New York 12233-4756, 518-402-8974, or the project leader about sample transfer. Samples will then be directed to the analytical facility and personnel noted on specific project descriptions.

K. A recommended equipment list is at the end of this document.

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**
**DIVISION OF FISH AND WILDLIFE**
**FISH COLLECTION RECORD**



Project and Site Name _____ DEC Region _____

Collections made by (include all crew) _____

Sampling Method: □Electrofishing □Gill netting □Trap netting □Trawling □Seining □Angling □Other _____

Preservation Method: □Freezing □Other _____ Notes (SWFDB survey number): _____

| FOR LAB USE ONLY- LAB ENTRY NO. | COLLECTION OR TAG NO. | SPECIES | DATE TAKEN | LOCATION | AGE | SEX &/OR REPROD. CONDIT | LENGTH ( ) | WEIGHT ( ) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
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richter: revised 2011, 5/7/15, 10/4/16, 3/20/17; becker: 3/23/17, 4/26/19

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
# CHAIN OF CUSTODY

I, _____, of _____ collected the
(Print Name) (Print Business Address)

following on _____, 20____ from _____
(Date) (Water Body)

in the vicinity of _____
(Landmark, Village, Road, etc.)

Town of _____, in _____ County.

Item(s) _____

_____

Said sample(s) were in my possession and handled according to standard procedures provided to me prior to collection. The sample(s) were placed in the custody of a representative of the New York State Department of Environmental Conservation on _____, 20_____.

_____ _____
Signature Date

I, _____, received the above mentioned sample(s) on the date specified and assigned identification number(s) _____ to the sample(s). I have recorded pertinent data for the sample(s) on the attached collection records. The sample(s) remained in my custody until subsequently transferred, prepared or shipped at times and on dates as attested to below.

_____ _____
Signature Date

| | | |
|---|---|---|
| SECOND RECIPIENT (Print Name) | TIME & DATE | PURPOSE OF TRANSFER |
| SIGNATURE | UNIT | |
| THIRD RECIPIENT (Print Name) | TIME & DATE | PURPOSE OF TRANSFER |
| SIGNATURE | UNIT | |
| FOURTH RECIPIENT (Print Name) | TIME & DATE | PURPOSE OF TRANSFER |
| SIGNATURE | UNIT | |
| RECEIVED IN LABORATORY BY (Print Name) | TIME & DATE | REMARKS |
| SIGNATURE | UNIT | |
| LOGGED IN BY (Print Name) | TIME & DATE | ACCESSION NUMBERS |
| SIGNATURE | UNIT | |

richter: revised 21 April 2014; becker: 23 March 2017, 26 April, 2019

## NOTICE OF WARRANTY

By signature to the chain of custody (reverse), the signatory warrants that the information provided is truthful and accurate to the best of his/her ability. The signatory affirms that he/she is willing to testify to those facts provided and the circumstances surrounding the same. Nothing in this warranty or chain of custody negates responsibility nor liability of the signatories for the truthfulness and accuracy of the statements provided.

## HANDLING INSTRUCTIONS

On day of collection, collector(s) name(s), address(es), date, geographic location of capture (attach a copy of topographic map or navigation chart), species, number kept of each species, and description of capture vicinity (proper noun, if possible) along with name of Town and County must be indicated on reverse.

Retain organisms in manila tagged plastic bags to avoid mixing capture locations. Note appropriate information on each bag tag.

Keep samples as cool as possible. Put on ice if fish cannot be frozen within 12 hours. If fish are held more than 24 hours without freezing, they will not be retained or analyzed.

Initial recipient (either DEC or designated agent) of samples from collector(s) is responsible for obtaining and recording information on the collection record forms which will accompany the chain of custody. This person will seal the container using packing tape and writing his signature, the time and the date across the tape onto the container with indelible marker. Any time a seal is broken, for whatever purpose, the incident must be recorded on the Chain of Custody (reason, time, and date) in the purpose of transfer block. Container then is resealed using new tape and rewriting signature, with time and date.

EQUIPMENT LIST

Scale or balance of appropriate capacity for the fish to be collected.

Fish measuring board.

Plastic bags of an appropriate size for the fish to be collected and for site bags.

Individually numbered metal tags for fish.

Manila tags to label bags.

Small envelops, approximately 2” x 3.5”, if fish scales are to be collected.

Knife for removing scales.

Chain of custody and fish collection forms.

Clipboard.

Pens or markers.

Paper towels.

Dish soap and brush.

Bucket.

Cooler.

Ice.

Duct tape.

# Appendix G – PFAS Analyte List

| Group | Chemical Name | Abbreviation | CAS Number |
|---|---|---|---|
| Perfluoroalkyl sulfonic acids | Perfluorobutanesulfonic acid | PFBS | 375-73-5 |
| | Perfluoropentanesulfonic acid | PFPeS | 2706-91-4 |
| | Perfluorohexanesulfonic acid | PFHxS | 355-46-4 |
| | Perfluoroheptanesulfonic acid | PFHpS | 375-92-8 |
| | Perfluorooctanesulfonic acid | PFOS | 1763-23-1 |
| | Perfluorononanesulfonic acid | PFNS | 68259-12-1 |
| | Perfluorodecanesulfonic acid | PFDS | 335-77-3 |
| | Perfluorododecanesulfonic acid | PFDoS | 79780-39-5 |
| Perfluoroalkyl carboxylic acids | Perfluorobutanoic acid | PFBA | 375-22-4 |
| | Perfluoropentanoic acid | PFPeA | 2706-90-3 |
| | Perfluorohexanoic acid | PFHxA | 307-24-4 |
| | Perfluoroheptanoic acid | PFHpA | 375-85-9 |
| | Perfluorooctanoic acid | PFOA | 335-67-1 |
| | Perfluorononanoic acid | PFNA | 375-95-1 |
| | Perfluorodecanoic acid | PFDA | 335-76-2 |
| | Perfluoroundecanoic acid | PFUnA | 2058-94-8 |
| | Perfluorododecanoic acid | PFDoA | 307-55-1 |
| | Perfluorotridecanoic acid | PFTrDA | 72629-94-8 |
| | Perfluorotetradecanoic acid | PFTeDA | 376-06-7 |
| Per- and Polyfluoroether carboxylic acids | Hexafluoropropylene oxide dimer acid | HFPO-DA | 13252-13-6 |
| | 4,8-Dioxa-3H-perfluorononanoic acid | ADONA | 919005-14-4 |
| | Perfluoro-3-methoxypropanoic acid | PFMPA | 377-73-1 |
| | Perfluoro-4-methoxybutanoic acid | PFMBA | 863090-89-5 |
| | Nonafluoro-3,6-dioxaheptanoic acid | NFDHA | 151772-58-6 |
| Fluorotelomer sulfonic acids | 4:2 Fluorotelomer sulfonic acid | 4:2-FTS | 757124-72-4 |
| | 6:2 Fluorotelomer sulfonic acid | 6:2-FTS | 27619-97-2 |
| | 8:2 Fluorotelomer sulfonic acid | 8:2-FTS | 39108-34-4 |
| Fluorotelomer carboxylic acids | 3:3 Fluorotelomer carboxylic acid | 3:3 FTCA | 356-02-5 |
| | 5:3 Fluorotelomer carboxylic acid | 5:3 FTCA | 914637-49-3 |
| | 7:3 Fluorotelomer carboxylic acid | 7:3 FTCA | 812-70-4 |
| Perfluorooctane sulfonamides | Perfluorooctane sulfonamide | PFOSA | 754-91-6 |
| | N-methylperfluorooctane sulfonamide | NMeFOSA | 31506-32-8 |
| | N-ethylperfluorooctane sulfonamide | NEtFOSA | 4151-50-2 |
| Perfluorooctane sulfonamidoacetic acids | N-methylperfluorooctane sulfonamidoacetic acid | N-MeFOSAA | 2355-31-9 |
| | N-ethylperfluorooctane sulfonamidoacetic acid | N-EtFOSAA | 2991-50-6 |
| Perfluorooctane sulfonamide ethanols | N-methylperfluorooctane sulfonamidoethanol | MeFOSE | 24448-09-7 |
| | N-ethylperfluorooctane sulfonamidoethanol | EtFOSE | 1691-99-2 |

| Group | Chemical Name | Abbreviation | CAS Number |
|---|---|---|---|
| Ether sulfonic acids | 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (F-53B Major) | 9Cl-PF3ONS | 756426-58-1 |
| | 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (F-53B Minor) | 11Cl-PF3OUdS | 763051-92-9 |
| | Perfluoro(2-ethoxyethane) sulfonic acid | PFEESA | 113507-82-7 |

# Appendix H - Data Review Guidelines for Analysis of PFAS in Non-Potable Water and Solids

## General

These guidelines are intended to be used for the validation of PFAS using EPA Method 1633 for projects within the Division of Environmental Remediation (DER). Data reviewers should understand the methodology and techniques utilized in the analysis. Consultation with the end user of the data may be necessary to assist in determining data usability based on the data quality objectives in the Quality Assurance Project Plan. A familiarity with the laboratory's Standard Operating Procedure may also be needed to fully evaluate the data. If you have any questions, please contact DER's Quality Assurance Officer, Dana Barbarossa, at dana.barbarossa@dec.ny.gov.

## Preservation and Holding Time

Samples should be preserved with ice to a temperature of less than 6°C upon arrival at the lab. The holding time is 28 days to extraction for aqueous and solid samples. The time from extraction to analysis for aqueous samples is 28 days and 40 days for solids.

| | |
|---|---|
| Temperature greatly exceeds 6ºC upon arrival at the lab* | Use professional judgement to qualify detects and non-detects as estimated or rejected |
| Holding time exceeding 28 days to extraction | Use professional judgement to qualify detects and non-detects as estimated or rejected if holding time is grossly exceeded |

*Samples that are delivered to the lab immediately after sampling may not meet the thermal preservation guidelines. Samples are considered acceptable if they arrive on ice or an attempt to chill the samples is observed.

## Initial Calibration

The initial calibration should contain a minimum of six standards for linear fit and six standards for a quadratic fit. The relative standard deviation (RSD) for a quadratic fit calibration should be less than 20%.

The low-level calibration standard should be within 50% - 150% of the true value, and the mid-level calibration standard within 70% - 130% of the true value.

| | |
|---|---|
| %RSD >20% | J flag detects and UJ non detects |

## Continuing Calibration Verification

Continuing calibration verification (CCV) checks should be analyzed at a frequency of one per ten field samples. If CCV recovery is very low, where detection of the analyte could be in question, ensure a low level CCV was analyzed and use to determine data quality.

| | |
|---|---|
| CCV recovery <70 or >130% | J flag results |

## Blanks

There should be no detections in the method blanks above the reporting limits. Equipment blanks, field blanks, rinse blanks etc. should be evaluated in the same manner as method blanks. Use the most contaminated blank to evaluate the sample results.

| Blank Result | Sample Result | Qualification |
|---|---|---|
| Any detection | <Reporting limit | Qualify as ND at reporting limit |
| Any detection | >Reporting Limit and >10x the blank result | No qualification |
| >Reporting limit | >Reporting limit and <10x blank result | J+ biased high |

## Field Duplicates

A blind field duplicate should be collected at rate of one per twenty samples. The relative percent difference (RPD) should be less than 30% for analyte concentrations greater than two times the reporting limit. Use the higher result for final reporting.

| | |
|---|---|
| RPD >30% | Apply J qualifier to parent sample |

## Lab Control Spike

Lab control spikes should be analyzed with each extraction batch or one for every twenty samples. In the absence of lab derived criteria, use 70% - 130% recovery criteria to evaluate the data.

| | |
|---|---|
| Recovery <70% or >130% (lab derived criteria can also be used) | Apply J qualifier to detects and UJ qualifier to non detects |

## Matrix Spike/Matrix Spike Duplicate

One matrix spike and matrix spike duplicate should be collected at a rate of one per twenty samples. Use professional judgement to reject results based on out of control MS/MSD recoveries.

| | |
|---|---|
| Recovery <70% or >130% (lab derived criteria can also be used) | Apply J qualifier to detects and UJ qualifier to non detects of parent sample only |
| RPD >30% | Apply J qualifier to detects and UJ qualifier to non detects of parent sample only |

## Extracted Internal Standards (Isotope Dilution Analytes)

Problematic analytes (e.g. PFBA, PFPeA, fluorotelomer sulfonates) can have wider recoveries without qualification. Qualify corresponding native compounds with a J flag if outside of the range.

| | |
|---|---|
| Recovery <50% or >150% | Apply J qualifier |
| Recovery <25% or >150% for poor responding analytes | Apply J qualifier |
| Isotope Dilution Analyte (IDA) Recovery <10% | Reject results |

## Signal to Noise Ratio

The signal to noise ratio for the quantifier ion should be at least 3:1. If the ratio is less than 3:1, the peak is discernable from the baseline noise and symmetrical, the result can be reported. If the peak appears to be baseline noise and/or the shape is irregular, qualify the result as tentatively identified.

## Reporting Limits

If project-specific reporting limits were not met, please indicate that in the report along with the reason (e.g. over dilution, dilution for non-target analytes, high sediment in aqueous samples).

## Peak Integrations

Target analyte peaks should be integrated properly and consistently when compared to standards. Ensure branched isomer peaks are included for PFAS where standards are available. Inconsistencies should be brought to the attention of the laboratory or identified in the data review summary report.

EGLE Michigan Department of Environment, Great Lakes, and Energy

# EGLE PFAS Sampling Quick Reference Field Guide[1]

## All Items Used During Sampling Event

| ● Prohibited |
|---|
| • Items or materials that contain fluoropolymers such as<br>  ○ Polytetrafluoroethylene (PTFE), that includes the trademarks Teflon® and Hostaflon®<br>  ○ Polyvinylidene fluoride (PVDF), that includes the trademark Kynar®<br>  ○ Polycholotrifluoroethylene (PCTFE), that includes the trademark Neoflon ®<br>  ○ Ethylene-tetrafluoro-ethylene (ETFE), that includes the trademark Tefzel®<br>  ○ Fluorinated ethylene propylene (FEP), that includes the trademarks Teflon® FEP and Hostaflon® FEP<br>• Items or materials that contain any other fluoropolymer |

## Pumps, Tubing, and Sampling Equipment

| ● Prohibited | ■ Allowable | ▲Needs Screening[2] |
|---|---|---|
| • Items or materials containing any fluoropolymer (potential items include tubing, valves, or pipe thread seal tape) | • High-density polyethylene (HDPE)<br>• Low-density polyethylene (LDPE) tubing<br>• Polypropylene<br>• Silicone<br>• Stainless-steel<br>• Any items used to secure sampling bottles made from:<br>  ○ Natural rubber<br>  ○ Nylon (cable ties)<br>  ○ Uncoated metal springs<br>  ○ Polyethylene | • Any items or materials that will come into direct contact with the sample that have **not** been verified to be PFAS-free<br>  ○ Do not assume that any sampling items or materials are PFAS-free based on composition alone |

## Sample Storage and Preservation

| ● Prohibited | ■ Allowable | ▲Needs Screening[2] |
|---|---|---|
| • Polytetrafluoroethylene (PTFE): Teflon® lined bottles or caps | • Glass jars[4]<br>• Laboratory-provided PFAS-Free bottles:<br>  ○ HDPE or polypropylene<br>• Regular wet ice<br>• Thin HDPE sheeting<br>• LDPE resealable storage bags (i.e. Ziploc®) that will not contact the sample media[6] | • Aluminium foil[4]<br>• Chemical or blue ice[5]<br>• Plastic storage bags other than those listed as ■ Allowable<br>• Low-density polyethylene (LDPE) bottles |

## Field Documentation

| ● Prohibited | ■ Allowable | ▲Needs Screening[2] |
|---|---|---|
| • Clipboards coated with PFAS<br>• Notebooks made with PFAS treated paper<br>• PFAS treated loose paper<br>• PFAS treated adhesive paper products | • Loose paper (non-waterproof, non-recycled)<br>• Rite in the Rain® notebooks<br>• Aluminium, polypropylene, or Masonite field clipboards<br>• Ballpoint pens, pencils, and Fine or Ultra-Fine Point Sharpie® markers | • Plastic clipboards, binders, or spiral hard cover notebooks<br>• All markers not listed as ■ Allowable<br>• Post-It® Notes or other adhesive paper products<br>• Waterproof field books |

## Decontamination

| ● Prohibited | ■ Allowable | ▲Needs Screening[2] |
|---|---|---|
| • Decon 90®<br>• PFAS treated paper towel | • Alconox®, Liquinox®, or Citranox®<br>• Triple rinse with PFAS-free deionized water<br>• Cotton cloth or untreated paper towel | • Municipal water<br>• Recycled paper towels or chemically treated paper towels |

## Clothing, Boots, Rain Gear, and PPE

| ● Prohibited | ■ Allowable | ▲Needs Screening[2] |
|---|---|---|
| • New or unwashed clothing<br>• Anything made of or with:<br>○ Gore-Tex™ or other water-resistant synthetics<br>• Anything applied with or recently washed with:<br>○ Fabric softeners<br>○ Fabric protectors, including UV protection<br>○ Insect resistant chemicals<br>○ Water, dirt, and/or stain resistant chemicals | • Powderless nitrile gloves<br>• Well-laundered synthetic or 100% cotton clothing, with most recent launderings not using fabric softeners<br>• Made of or with:<br>○ Polyurethane<br>○ Polyvinyl chloride (PVC)<br>○ Wax coated fabrics<br>○ Rubber / Neoprene<br>○ Uncoated Tyvek® | • Latex gloves<br>• Water and/or dirt resistant leather gloves<br>• Any special gloves required by a HASP<br>• Tyvek® suits, clothing that contains Tyvek®, or coated Tyvek® |

## Food and Beverages

| ● Prohibited | ■ Allowable |
|---|---|
| • No food should be consumed in the staging or sampling areas, including pre-packaged food or snacks.<br>■ If consuming food on-site becomes necessary, move to the staging area and remove PPE. After eating, wash hands thoroughly and put on new PPE. | • Brought and consumed only outside the vicinity of the sampling area:<br>○ Bottled water<br>○ Hydration drinks (i.e. Gatorade®, Powerade®) |

## Personal Care Products (PCPs) - for day of sample collection[6]

| ● Prohibited | ■ Allowable | ▲Needs Screening[2] |
|---|---|---|
| • Any PCPs[6], sunscreen, and insect repellent applied in the sampling area. | PCPs[6], sunscreens, and insect repellents applied in the staging area, away from sampling bottles and equipment followed by thoroughly washing hands:<br>**PCPs[6]:**<br>• Cosmetics, deodorants/antiperspirants, moisturizers, hand creams, and other PCPs[6]<br>**Sunscreens:**<br>• Banana Boat® for Men Triple Defense Continuous Spray Sunscreen SPF 30<br>• Banana Boat® Sport Performance Coolzone Broad Spectrum SPF 30<br>• Banana Boat® Sport Performance Sunscreen Lotion Broad Spectrum SPF 30<br>• Banana Boat® Sport Performance Sunscreen Stick SPF 50<br>• Coppertone® Sunscreen Lotion Ultra Guard Broad Spectrum SPF 50<br>• Coppertone® Sport High Performance AccuSpray Sunscreen SPF 30<br>• Coppertone® Sunscreen Stick Kids SPF 55<br>• L'Oréal® Silky Sheer Face Lotion 50<br>• Meijer® Clear Zinc Sunscreen Lotion Broad Spectrum SPF 50<br>• Meijer® Sunscreen Continuous Spray Broad Spectrum SPF 30<br>• Meijer® Clear Zinc Sunscreen Lotion Broad Spectrum SPF 15, 30 and 50<br>• Meijer® Wet Skin Kids Sunscreen Continuous Spray Broad Spectrum SPF 70<br>• Neutrogena® Beach Defense Water+Sun Barrier Lotion SPF 70<br>• Neutrogena® Beach Defense Water+Sun Barrier Spray Broad Spectrum SPF 30<br>• Neutrogena® Pure & Free Baby Sunscreen Broad Spectrum SPF 60+<br>• Neutrogena® UltraSheer Dry-Touch Sunscreen Broad Spectrum SPF 30<br>**Insect Repellents:**<br>• OFF® Deep Woods<br>• Sawyer® Permethrin | • Products other than those listed as ■Allowable |

[1] This table is not considered to be a complete listing of prohibited or allowable materials. All materials should be evaluated prior to use during sampling. The manufacturers of various products should be contacted in order to determine if PFAS was used in the production of any particular product.

[2] Equipment blank samples should be taken to verify these products are PFAS-free prior to use during sampling.

[3] **For surface water foam samples:** LDPE storage bags may be used in the sampling of foam on surface waters. In this instance, it is allowable for the LDPE bag to come into direct contact with the sample media.

[4] **For fish and other wildlife samples:** Depending on the project objectives, glass jars and aluminum foil might be used for PFAS sampling. PFAS has been found to bind to glass and if the sample is stored in a glass jar, a rinse of the jar is required during the sample analysis. PFAS are sometimes used as a protective layer for some aluminum foils. An equipment blank sample should be collected prior to any aluminum foil use.

[5] Regular ice is recommended as there are concerns that chemical and blue ice may not cool and maintain the sample at or below 42.8°F (6°C) (as determined by EPA 40 CFR 136 – NPDES) during collection and through transit to the laboratory.

[6] Based on evidence, avoidance of PCPs is considered to be precautionary because none have been documented as having cross-contaminated samples due to their use. However, if used, application of PCPs must be done at the staging area and away from sampling bottles and equipment, and hands must be thoroughly washed after the use of any PCPs prior to sampling.

●- Prohibited ■- Allowable ▲- Needs Screening

# Attachment C: Soil Cleanup Objectives

Department of Environmental Conservation

**Division of Environmental Remediation**

# 6 NYCRR PART 375

## Environmental Remediation Programs

## Effective December 31, 2025

**New York State Department of Environmental Conservation**

## Subpart 375-6 Remedial Program Soil Cleanup Objectives

375-6.1 Purpose; applicability.
375-6.2 Definitions.
375-6.3 Unrestricted use soil cleanup objectives.
375-6.4 Restricted use soil cleanup objectives for the protection of public health.
375-6.5 Soil cleanup objectives for the protection of groundwater.
375-6.6 Soil cleanup objectives for the protection of ecological resources.
375-6.7 Other considerations and media.
375-6.8 Soil cleanup objective tables.
375-6.9 Development or modification of soil cleanup objectives.

### 375-6.1 Purpose; applicability.

(a) This Subpart applies to the development and implementation of the remedial programs for soil and other media set forth in Subparts 375-2 through 375-4 of this Part.

(b) This Subpart includes the soil cleanup objective tables developed pursuant to ECL 27-1415(6).

### 375-6.2 Definitions.

(a) *Contract required quantitation limit* or *CRQL* means the minimum level of quantitation acceptable for department analytical services contracts. The value represents minimum quantitation limits, not absolute detection limits. The minimum quantitation limit is the lowest level at which the analytical instrument can determine the concentration of a chemical that exists in the sample. The detection limit is the minimum level at which the analytical instrument can confirm the presence of the chemical in the sample. At the detection limit, the analytical instrument can confirm that there is some amount of the chemical in the sample but cannot determine the concentration that exists with certainty.

(b) *Technical support document* means the *New York State Brownfield Cleanup Program Development of Soil Cleanup Objectives Technical Support Document* dated September 2006, as amended by the *2019 Soil Cleanup Objective Technical Support Document Update* which is the document that presents the assumptions, rationale, algorithms and calculations utilized by the department and the New York State Department of Health to develop the soil cleanup objectives in ECL 27-1415(6).

### 375-6.3 Unrestricted use soil cleanup objectives.

(a) Applicability. The unrestricted use soil cleanup objectives represent the concentration of a contaminant in soil which, when achieved at a site, will require no use restrictions on the site for the protection of public health, groundwater and ecological resources due to the presence of contaminants in the soil.

(b) Soil cleanup objectives.

(1) The calculated values for the protection of groundwater, ecological resources and public health were considered in developing the unrestricted use soil cleanup

objectives. The unrestricted soil cleanup objectives in Table 375-6.8(a) of this Subpart represent the lowest of the three values for protection of groundwater, ecological resources and public health developed as set forth in ECL 27-1415(6).

(2) Unrestricted use, as set forth in section 375-1.8(g)(1)(i) of this Part, is achieved when a remedial program for soil meets the unrestricted use soil cleanup objectives in Table 375-6.8(a) of this Subpart.

**375-6.4 Restricted use soil cleanup objectives for the protection of public health.**

(a) Applicability. A protection of public health soil cleanup objective is applicable for the protection of public health at every restricted use site where contamination has been identified in soil above the residential use soil cleanup objectives for a compound included in Table 375-6.8(b) of this Subpart, and the department has determined that remediation is required to protect public health.

(b) Soil cleanup objectives. Protection of public health soil cleanup objectives have been developed for:

(1) Residential use, as set forth in section 375-1.8(g)(2)(i) of this Part. The residential use soil cleanup objectives are presented in the protection of public health-residential use column of Table 375-6.8(b) of this Subpart.

(2) Restricted-residential use, as set forth in section 375-1.8(g)(2)(ii) of this Part. The restricted-residential use soil cleanup objectives are presented in the protection of public health, restricted-residential use column of Table 375-6.8(b) of this Subpart.

(3) Commercial use, as set forth in section 375-1.8(g)(2)(iii) of this Part. The commercial use soil cleanup objectives are presented in the protection of public health-commercial use column of Table 375-6.8(b) of this Subpart.

(4) Industrial use, as set forth in section 375-1.8(g)(2)(iv) of this Part. The industrial use soil cleanup objectives are presented in the protection of public health-industrial use column of Table 375-6.8(b) of this Subpart.

(c) Selection of the restricted use soil cleanup objectives. In addition to the protection of public health soil cleanup objective for the identified use of the site, protection of groundwater and ecological resources soil cleanup objectives shall be considered where applicable. The contaminant-specific soil cleanup objectives for the soil cleanup component of the remedial program shall be the lowest of the applicable contaminant-specific soil cleanup objectives which are identified for the site as set forth in paragraphs (1) through (3) of this subdivision.

(1) The protection of groundwater soil cleanup objectives in Table 375-6.8(b) of this Subpart will be applicable to the site and evaluated in determining the soil cleanup objectives for a site as set forth in section 375-6.5 of this Title.

(2) The protection of ecological resources soil cleanup objectives in Table 375-6.8(b) of this Subpart will be applicable to the site and evaluated in determining the soil cleanup objectives in section 375-6.6 of this Subpart.

(3) The protection of public health soil cleanup objective for the current, intended and reasonably anticipated future use of the site in Table 375-6.8(b) of this Subpart will

be applicable and evaluated in determining the soil cleanup objectives for every site, unless a site-specific soil cleanup objective is proposed.

**375-6.5 Soil cleanup objectives for the protection of groundwater.**

(a) Applicability. Except as provided in paragraphs (1) and (2) of this subdivision, the protection of groundwater soil cleanup objectives are applicable at restricted use sites where contamination has been identified in on-site soil by the remedial investigation and groundwater standards are, or are threatened to be, contravened by the presence of soil contamination at concentrations above the protection of groundwater soil cleanup objectives.

(1) The protection of groundwater soil cleanup objectives may not be applicable where:

(i) the groundwater standard contravention is the result of an on-site source which is addressed by the remedial program;

(ii) an environmental easement will be put in place which provides for a groundwater use restriction on the site as set forth in section 375-1.8(h)(2) of this Part;

(iii) the department determines that contaminated groundwater at the site:

(*a*) is not migrating, or likely to migrate, off-site; or

(*b*) is migrating, or is likely to migrate, off-site, however, the remedy includes controls or treatment to address off-site migration; and

(iv) the department determines the groundwater quality will improve over time.

(2) The protection of groundwater soil cleanup objectives are not applicable if the contravention of groundwater standards at the site is determined to be solely the result of an off-site source, as set forth in section 375-1.8(d)(2) of this Part.

(b) Soil cleanup objectives. The protection of groundwater soil cleanup objectives are in Table 375-6.8(b) of this Subpart in the protection of groundwater column.

**375-6.6 Soil cleanup objectives for the protection of ecological resources.**

(a) Applicability. The soil cleanup objectives for protection of ecological resources must be considered and applied as set forth in this section for the upland soils at sites where terrestrial flora and fauna and the habitats that support them are identified.

(1) Protection of ecological resources soil cleanup objectives apply to sites or portions of sites where the department determines:

(i) ecological resources are present at or adjacent to the site, or will be present under the reasonably anticipated future use of the site, as set forth in subdivision (b) of this section which constitute an important component of the environment

(ii) an impact or threat to the ecological resource has been identified as set forth in subdivision 375-6.6(c) of this section; and

(iii) soil contaminant concentrations exceed the protection of ecological resources soil cleanup objectives, as set forth in subdivision 375-6.6(d) of this section.

(2) Protection of ecological resources soil cleanup objectives do not and/or will not apply to:

(i) sites or portions of sites where the condition of the land (e.g., paved, covered by impervious surfaces, buildings and other structures) precludes the existence of an ecological resource which constitutes an important component of the environment;

(ii) protection of the aquatic environment; or

(iii) such non-wild biota as:

(*a*) pets or livestock;

(*b*) agricultural or horticultural crops; and

(*c*) landscaping in developed areas.

(b) Identification of ecological resources. The presence of ecological resources shall be determined during the investigation of a site.

(1) The remedial party for a remedial program undertaken pursuant to either Subpart 375-2 or 375-4 of this Part shall conduct an ecological resource characterization as part of a fish and wildlife impact analysis according to department guidance to document the presence of fish, wildlife, plants and habitats both on and adjacent to the site.

(2) The remedial party for a remedial program undertaken pursuant to Subpart 375-3 of this Part shall conduct a resource characterization as part of the qualitative exposure assessment required by ECL 27-1415(2)(b) and in accordance with department guidance to document the presence of fish, wildlife, plants and habitats both on and adjacent to the site.

(3) The department shall determine whether the characterization conducted as set forth in paragraphs (1) and (2) of this subdivision:

(i) has identified ecological resources to be present at or adjacent to a site, or a portion thereof; and

(ii) if such ecological resources constitute an important component of the environment at, or in the vicinity of, the site.

(c) Consideration of impact or threat of impact. If ecological resources that constitute an important component of the environment at, or adjacent to, the site are determined to be present the protection of ecological resources soil cleanup objectives must be considered in the remedial program for the site. An impact or threat of impact exists when:

(1) a threat to the environment exists, as set forth in sections 375-2.7(a)(1)(i) to (iv) of this Part, as a result of contaminants in the soil of the site, unless the department determines that a more stringent cleanup is necessary to meet the requirements of sections 375-2.8(a) and 375-2.8(b)(1) of this Part; or

(2) an ecological resource is, or is potentially, impacted by contaminants in the soil of the site.

(d) Soil cleanup objectives. The protection of ecological resources soil cleanup objectives are the same for both unrestricted and restricted use and are incorporated in the soil cleanup objective tables.

(1) For an unrestricted use site, Table 375-6.8(a) of this Subpart presents the lower of the protection of groundwater, ecological resources and unrestricted public health soil cleanup objectives, as calculated and presented in the technical support document.

(2) For a restricted use site, Table 375-6.8(b) of this Subpart includes a protection of ecological resources column, which is applicable to a site regardless of the identified use, as set forth in subdivision (a) of this section.

(3) Protection of ecological resources soil cleanup objectives were not developed for contaminants identified in Table 375-6.8(b) of this Subpart as *NS*. For such contaminants, the applicant may be required to calculate a protection of ecological resources soil cleanup objective for any site, as set forth in section 375-6.9 of this Subpart.

**375-6.7 Other considerations and media.**

(a) Soil vapor and vapor intrusion.

(1) The soil cleanup objectives presented in this Subpart do not account for the impact of concentrations of contaminants in soil relative to soil vapor or vapor intrusion attributable to a remedial site.

(2) The nature and extent of any contamination of the soil vapor media, if present at the site, will be evaluated by the remedial investigation.

(3) The remedy will be protective for soil vapor and vapor intrusion and shall address through appropriate removal or engineering controls the migration of contaminants in soil and groundwater at levels which could impact the indoor air of buildings.

(b) Surface water and sediments.

(1) The soil cleanup objectives presented in this Subpart do not account for the impact of contaminants in soil relative to surface water and surface water sediments attributable to a remedial site.

(2) The nature and extent of any contamination of the surface water and sediment, if present at the site, will be evaluated by the remedial investigation.

(3) The remedy for a site will eliminate or mitigate the threat to public health and the environment from contaminated surface water and surface water sediments and shall, to the extent feasible:

(i) remove, contain or treat the source of a discharge of contaminants from the site to the surface water and sediments;

(ii) address through appropriate removal or engineering controls the migration of contaminants in soil and groundwater at levels which could impact the water quality or adversely impact the sediments of a surface water body on or adjacent to the site; and

(iii) remove, contain or treat the impacted surface water and surface water sediments based upon the cleanup objectives developed for the remedial program.

(c) Adjacent residential properties.

(1) The soil cleanup objectives presented for commercial or industrial use in this Subpart do not directly account for the impact of concentrations of contaminants in soil relative to adjacent residential properties attributable to a remedial site.

(2) The remedy for a site using the commercial or industrial soil cleanup objectives will be protective of adjacent residential properties and shall address, through appropriate removal or engineering controls, the migration of contaminants in soil which could impact residential properties adjacent to the site.

(d) Soil covers and backfill.

(1) Soil brought to the site for use as a soil cover or backfill must not exceed the applicable soil cleanup objectives for the use of the site, as set forth in Table 375-6.8(a) or (b) of this Subpart, as follows:

(i) for unrestricted use sites, as set forth in Table 375-6.8(a) of this Subpart;

(ii) for residential, restricted-residential, and commercial use sites use the lower of the protection of groundwater or the protection of public health soil cleanup objectives, for the identified use of the site as set forth in Table 375-6.8(b) of this Subpart;

(iii) for industrial use sites, use the lower of the protection of groundwater or the protection of public health soil cleanup objectives for commercial use as set forth in Table 375-6.8(b) of this Subpart;

(iv) for restricted use sites where an ecological resource that constitutes an important component of the environment is determined to be present, the protection of ecological resources soil cleanup objective must also be considered, so as not to preclude the growth and development of plants and soil dwelling organisms nor inhibit the activity of burrowing organisms; or

(v) a site-specific modification to a soil cleanup objective, as set forth in section 375-6.9(e) of this Subpart, may also be utilized in compliance with clauses (ii)(*a*) through (*d*) of this subparagraph.

(2) Analytical data is required to demonstrate that the material complies with the requirements of paragraph (1) of this subdivision. The number of samples required to confirm compliance will be approved in the work plan. The department may issue a site-specific exemption for the analytical testing requirements, based upon documentation of the origin and composition of the material.

(3) The department may issue a site-specific exemption for one or more of the requirements set forth in paragraph (1) of this subdivision, based upon site-specific conditions, including but not limited to, the following:

(i) the use and redevelopment of the site;

(ii) the depth of placement of the backfill material;

(iii) the depth of placement of the backfill material relative to groundwater;
(iv) the volume of backfill material;
(v) the potential for odor from the backfill material;
(vi) a department issued beneficial use determination, pursuant to Part 360 of this Title; or
(vii) background levels of contamination in areas surrounding the site.

**375-6.8 Soil cleanup objective tables.**

**Table 375-6.8(a). Unrestricted use soil cleanup objectives**

Table 375-6.8(a). Unrestricted use soil cleanup objectives.

| Contaminant | CAS Number | Unrestricted Use |
|---|---|---|
| **Metals** | | |
| Arsenic | 7440-38-2 | 13 [c] |
| Barium | 7440-39-3 | 410 [c] |
| Beryllium | 7440-41-7 | 4.4 |
| Cadmium | 7440-43-9 | 2.5 [c] |
| Chromium, hexavalent [e] | 18540-29-9 | 1 [b] |
| Chromium, trivalent [e] | 16065-83-1 | 30 [c] |
| Copper | 7440-50-8 | 50 |
| Total Cyanide [e, f] | | 2.3 [c] |
| Lead | 7439-92-1 | 63 [c] |
| Manganese | 7439-96-5 | 1600 [c] |
| Mercury (Total) | | 0.18 [c] |
| Nickel | 7440-02-0 | 30 |
| Selenium | 7782-49-2 | 3.9 [c] |
| Silver | 7440-22-4 | 2 |
| Zinc | 7440-66-6 | 109 [c] |
| **PCBs/Pesticides** | | |
| 4,4’-DDE | 72-55-9 | 0.0033 [b] |
| 4,4’-DDT | 50-29-3 | 0.0033 [b] |
| 4,4’-DDD | 72-54-8 | 0.0033 [b] |

Table 375-6.8(a). Unrestricted use soil cleanup objectives.

| **Contaminant** | **CAS Number** | **Unrestricted Use** |
|---|---|---|
| Aldrin | 309-00-2 | 0.0048 [c] |
| alpha-BHC | 319-84-6 | 0.02 |
| beta-BHC | 319-85-7 | 0.021 |
| Chlordane (alpha) | 5103-71-9 | 0.014 |
| delta-BHC [g] | 319-86-8 | 0.04 |
| Dieldrin | 60-57-1 | 0.005 [c] |
| Endosulfan I [d, f] | 959-98-8 | 4.3 |
| Endosulfan II [d, f] | 33213-65-9 | 4.3 |
| Endosulfan sulfate [d, f] | 1031-07-8 | 4.3 |
| Endrin | 72-20-8 | 0.014 |
| Heptachlor | 76-44-8 | 0.013 |
| Lindane | 58-89-9 | 0.025 |
| Polychlorinated biphenyls | 1336-36-3 | 0.1 |
| **Semivolatile organic compounds** | | |
| 1,4 Dioxane | 123-91-1 | 0.1 [b] |
| Acenaphthene | 83-32-9 | 20 |
| Acenaphthylene [f] | 208-96-8 | 100 [a] |
| Anthracene [f] | 120-12-7 | 100 [a] |
| Benz(a)anthracene [f] | 56-55-3 | 1 [c] |
| Benzo(a)pyrene | 50-32-8 | 1 [c] |
| Benzo(b)fluoranthene [f] | 205-99-2 | 1 [c] |

Table 375-6.8(a). Unrestricted use soil cleanup objectives.

| **Contaminant** | **CAS Number** | **Unrestricted Use** |
|---|---|---|
| Benzo(g,h,i)perylene [f] | 191-24-2 | 0.64 |
| Benzo(k)fluoranthene [f] | 207-08-9 | 0.8 [c] |
| Chrysene [f] | 218-01-9 | 1 [c] |
| Dibenz(a,h)anthracene [f] | 53-70-3 | 0.33 [b] |
| Dibenzofuran [f] | 132-64-9 | 2.1 |
| Fluoranthene [f] | 206-44-0 | 85 |
| Fluorene | 86-73-7 | 30 |
| Indeno(1,2,3-cd)pyrene [f] | 193-39-5 | 0.5 [c] |
| m-Cresol [f] | 108-39-4 | 0.33 [b] |
| Naphthalene [f] | 91-20-3 | 12 |
| o-Cresol [f] | 95-48-7 | 0.33 [b] |
| p-Cresol [f] | 106-44-5 | 0.33 [b] |
| Pentachlorophenol | 87-86-5 | 0.8 [b] |
| Phenanthrene [f] | 85-01-8 | 1.1 [c] |
| Phenol | 108-95-2 | 0.33 [b] |
| Pyrene [f] | 129-00-0 | 64 |
| **Volatile organic compounds** | | |
| 1,1,1-Trichloroethane [f] | 71-55-6 | 0.68 |
| 1,1-Dichloroethane [f] | 75-34-3 | 0.27 |
| 1,1-Dichloroethene [f] | 75-35-4 | 0.24 |
| 1,2-Dichlorobenzene [f] | 95-50-1 | 1.1 |

Table 375-6.8(a). Unrestricted use soil cleanup objectives.

| Contaminant | CAS Number | Unrestricted Use |
|---|---|---|
| 1,2-Dichloroethane | 107-06-2 | 0.02 [c] |
| cis -1,2-Dichloroethene [f] | 156-59-2 | 0.19 |
| trans-1,2-Dichloroethene [f] | 156-60-5 | 0.19 |
| 1,3-Dichlorobenzene [f] | 541-73-1 | 2.6 |
| 1,4-Dichlorobenzene | 106-46-7 | 1.8 |
| Acetone | 67-64-1 | 0.03 |
| Aniline | 62-53-3 | 0.04 |
| Benzene | 71-43-2 | 0.06 |
| n-Butylbenzene [f] | 104-51-8 | 18 |
| Carbon tetrachloride [f] | 56-23-5 | 0.76 |
| Chlorobenzene | 108-90-7 | 4.5 |
| Chloroform | 67-66-3 | 0.37 |
| Ethylbenzene [f] | 100-41-4 | 1 |
| Hexachlorobenzene [f] | 118-74-1 | 0.33 [b] |
| Methyl ethyl ketone | 78-93-3 | 0.10 |
| Methyl tert-butyl ether [f] | 1634-04-4 | 0.1 |
| Methylene chloride | 75-09-2 | 0.05 |
| Nitrobenzene | 98-95-3 | 0.08[c] |
| n – Propylbenzene [f] | 103-65-1 | 5 |
| sec-Butylbenzene [f] | 135-98-8 | 25 |
| tert-Butylbenzene [f] | 98-06-6 | 11 |

Table 375-6.8(a). Unrestricted use soil cleanup objectives.

| Contaminant | CAS Number | Unrestricted Use |
|---|---|---|
| Tetrachloroethene | 127-18-4 | 1.3 |
| Toluene | 108-88-3 | 0.7 |
| Trichloroethene | 79-01-6 | 0.47 |
| 1,2,4-Trimethylbenzene [f] | 95-63-6 | 5.9 |
| 1,3,5-Trimethylbenzene [f] | 108-67-8 | 3.1 |
| Vinyl chloride [f] | 75-01-4 | 0.03 |
| Xylene (mixed) | 1330-20-7 | 0.26 |
| All soil cleanup objectives are in parts per million (ppm). | | |

[a.] The soil cleanup objectives for unrestricted use were capped at a maximum value of 100 ppm. See the New York State Department of Environmental Conservation Technical Support Document (2006), section 9.3.
[b.] For constituents where the calculated soil cleanup objective was lower than the contract required quantitation limit, the contract required quantitation limit is used as the Track 1 soil cleanup objective value.
[c.] For constituents where the calculated soil cleanup objective was lower than the rural soil background concentration, the rural soil background concentration is used as the Track 1 soil cleanup objective value for this use of the site. See the New York State Department of Environmental Conservation Technical Support Document (2006), Section 9 and Appendix D.
[d.] The soil cleanup objective is the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
[e.] The soil cleanup objective for this specific compound (or family of compounds) is met if the analysis for the total species of this contaminant is below the specific soil cleanup objective.
[f.] Protection of ecological resources soil cleanup objectives were not developed for contaminants identified in Table 375-6.8(b) with “NS”. Where such contaminants appear in Table 375-6.8(a), the applicant may be required by the department to calculate a protection of ecological resources soil cleanup objective according to the New York State Department of Environmental Conservation Technical Support Document (2006).
[g] This soil cleanup objective is derived from data on mixed isomers of BHC.

**Table 375-6.8(b). Restricted use soil cleanup objectives.**

Table 375-6.8(b) Restricted use soil cleanup objectives.

| Contaminant | CAS Number | Protection of Public Health | | | | Protection of Ecological Resources | Protection of Ground-water |
|---|---|---|---|---|---|---|---|
| | | Residential | Restricted Residential | Commercial | Industrial | | |
| **Metals** | | | | | | | |
| Arsenic | 7440-38-2 | 16 [f] | 16 [f] | 16 [f] | 16 [f] | 13 [f] | 16 [f] |
| Barium | 7440-39-3 | 410 | 410 | 410 | 10,000 [d] | 433 | 820 |
| Beryllium | 7440-41-7 | 8.8 | 43 | 670 | 750 | 10 | 47 |
| Cadmium | 7440-43-9 | 2.5 [f] | 2.5 [f] | 3.7 | 4.4 | 4 | 7.5 |
| Chromium, hexavalent [h] | 18540-29-9 | 1 [e] | 1 [e] | 11 | 11 | 20 | 19 |
| Chromium, trivalent [h] | 16065-83-1 | 30 [f] | 110 | 1,700 | 2,000 | 160 | NS |
| Copper | 7440-50-8 | 280 | 280 | 280 | 10,000 [d] | 50 | 1720 |
| Total Cyanide [h] | | 2.6 | 13 | 28 | 240 | NS | 40 |
| Lead | 7439-92-1 | 400 | 400 | 1,000 | 3,900 | 63 [f] | 450 |
| Manganese | 7439-96-5 | 2,000 [f] | 2,000 [f] | 10,000 [d] | 10,000 [d] | 1600 [f] | 2,000 [f] |
| Mercury (Total) | | 0.30 [j] | 0.30 [j] | 1.1 [j] | 1.1 [j] | 0.18 [f] | 0.73 |
| Nickel | 7440-02-0 | 87 | 320 | 320 | 5,900 | 30 | 130 |
| Selenium | 7782-49-2 | 22 | 110 | 1,700 | 2,000 | 3.9 [f] | 4 [f] |
| Silver | 7440-22-4 | 22 | 110 | 1,700 | 2,000 | 2 | 8.3 |
| Zinc | 7440-66-6 | 1,300 | 6,600 | 10,000 [d] | 10,000 [d] | 109 [f] | 2,480 |
| **PCBs/Pesticides** | | | | | | | |
| 4,4’-DDE | 72-55-9 | 0.78 | 3.4 | 22 | 22 | 0.0033 [e] | 9.3 |

Table 375-6.8(b) Restricted use soil cleanup objectives.

| Contaminant | CAS Number | Protection of Public Health | | | | Protection of Ecological Resources | Protection of Ground-water |
|---|---|---|---|---|---|---|---|
| | | Residential | Restricted Residential | Commercial | Industrial | | |
| 4,4'-DDT | 50-29-3 | 0.78 | 3.8 | 27 | 27 | 0.0033 [e] | 135 |
| 4,4'- DDD | 72-54-8 | 1.2 | 5 | 33 | 33 | 0.0033 [e] | 14 |
| Aldrin | 309-00-2 | 0.0088 | 0.044 | 0.33 | 0.33 | 0.14 | 0.19 |
| alpha-BHC | 319-84-6 | 0.042 | 0.18 | 1.2 | 1.2 | 0.04 [g] | 0.02 |
| beta-BHC | 319-85-7 | 0.042 | 0.18 | 1.8 | 2.9 | 0.6 | 0.09 |
| Chlordane (alpha) | 5103-71-9 | 0.14 | 0.65 | 8.2 | 11 | 1.3 | 4.5 |
| delta-BHC | 319-86-8 | 100 | 100 [a] | 500 [b] | 1,000 [c] | 0.04 [g] | 0.1 |
| Dieldrin | 60-57-1 | 0.017 | 0.075 | 0.48 | 0.48 | 0.006 | 0.1 |
| Endosulfan I | 959-98-8 | 8.4 [i] | 35 [i] | 360 [i] | 580 [i] | NS | 65 |
| Endosulfan II | 33213-65-9 | 8.4 [i] | 35 [i] | 360 [i] | 580 [i] | NS | 44 |
| Endosulfan sulfate | 1031-07-8 | 8.4 [i] | 35 [i] | 360 [i] | 580 [i] | NS | 47 [c] |
| Endrin | 72-20-8 | 1.2 | 5.3 | 55 | 87 | 0.014 | 0.06 |
| Heptachlor | 76-44-8 | 0.12 | 0.53 | 5.1 | 5.1 | 0.14 | 0.38 |
| Lindane | 58-89-9 | 0.05 | 0.21 | 0.21 | 3.4 | 6 | 0.05 |
| Polychlorinated biphenyls | 1336-36-3 | 1 | 1 | 1 | 25 | 1 | 3.2 |
| **Semivolatiles** | | | | | | | |
| 1,4-Dioxane | 123-91-1 | 1.4 | 5.7 | 36 | 36 | 0.1 [e] | 0.1 [e] |
| Acenaphthene | 83-32-9 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | 20 | 98 |

Table 375-6.8(b) Restricted use soil cleanup objectives.

| Contaminant | CAS Number | Protection of Public Health | | | | Protection of Ecological Resources | Protection of Ground-water |
|---|---|---|---|---|---|---|---|
| | | Residential | Restricted Residential | Commercial | Industrial | | |
| Acenaphthylene | 208-96-8 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 365 |
| Anthracene | 120-12-7 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 1,000 [c] |
| Benz(a)anthracene | 56-55-3 | 1 [f] | 1.4 | 37 | 37 | NS | 1 [f] |
| Benzo(a)pyrene | 50-32-8 | 1 [f] | 1 [f] | 3.7 | 3.7 | 2.6 | 22 |
| Benzo(b)fluoranthene | 205-99-2 | 1 [f] | 1.4 | 37 | 37 | NS | 2.1 |
| Benzo(g,h,i)perylene | 191-24-2 | 1.2 | 4.9 | 47 | 78 | NS | 1,000 [c] |
| Benzo(k)fluoranthene | 207-08-9 | 1.2 | 4.9 | 47 | 78 | NS | 2 |
| Chrysene | 218-01-9 | 1.2 | 4.9 | 47 | 78 | NS | 1 [f] |
| Dibenz(a,h) anthracene | 53-70-3 | 0.33 [e] | 0.33 [e] | 3.7 | 3.7 | NS | 1,000 [c] |
| Dibenzofuran | 132-64-9 | 4.2 | 18 | 180 | 290 | NS | 110 |
| Fluoranthene | 206-44-0 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 1,000 [c] |
| Fluorene | 86-73-7 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | 30 | 386 |
| Indeno(1,2,3-cd) pyrene | 193-39-5 | 0.5 [f] | 1.4 | 37 | 37 | NS | 6.6 |
| m-Cresol | 108-39-4 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 0.33 [e] |
| Naphthalene | 91-20-3 | 84 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 12 |
| o-Cresol | 95-48-7 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 0.33 [e] |
| p-Cresol | 106-44-5 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 0.33 [e] |
| Pentachlorophenol | 87-86-5 | 0.8 [e] | 1.3 | 6.9 | 7 | 0.8 [e] | 0.8 [e] |

Table 375-6.8(b) Restricted use soil cleanup objectives.

| Contaminant | CAS Number | Protection of Public Health | | | | Protection of Ecological Resources | Protection of Ground-water |
|---|---|---|---|---|---|---|---|
| | | Residential | Restricted Residential | Commercial | Industrial | | |
| Phenanthrene | 85-01-8 | 1.2 | 4.9 | 47 | 78 | NS | 1,000 [c] |
| Phenol | 108-95-2 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | 30 | 0.33 [e] |
| Pyrene | 129-00-0 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 1,000 [c] |
| **Volatiles** | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 0.68 |
| 1,1-Dichloroethane | 75-34-3 | 19 | 47 | 240 | 240 | NS | 0.27 |
| 1,1-Dichloroethene | 75-35-4 | 0.41 | 0.98 | 5.1 | 5.1 | NS | 0.33 |
| 1,2-Dichlorobenzene | 95-50-1 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 1.1 |
| 1,2-Dichloroethane | 107-06-2 | 2.4 | 5.8 | 30 | 30 | 10 | 0.02 |
| cis-1,2-Dichloroethene | 156-59-2 | 8.7 | 41 | 500 [b] | 590 | NS | 0.19 |
| trans-1,2-Dichloroethene | 156-60-5 | 75 | 100 [a] | 500 [b] | 1,000 [c] | NS | 0.19 |
| 1,3-Dichlorobenzene | 541-73-1 | 11 | 38 | 280 | 280 | NS | 2.6 |
| 1,4-Dichlorobenzene | 106-46-7 | 10 | 24 | 130 | 130 | 20 | 1.8 |
| Acetone | 67-64-1 | 100 [a] | 100 [b] | 500 [b] | 1,000 [c] | 2.2 | 0.03 |
| Aniline | 62-53-3 | 6.7 | 8.1 | 36 | 36 | 32 | 0.04 |
| Benzene | 71-43-2 | 1.2 | 3.7 | 20 | 20 | 70 | 0.06 |
| n-Butylbenzene | 104-51-8 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 18 |
| Carbon tetrachloride | 56-23-5 | 1.9 | 7.1 | 41 | 41 | NS | 0.76 |

Table 375-6.8(b) Restricted use soil cleanup objectives.

| Contaminant | CAS Number | Protection of Public Health | | | | Protection of Ecological Resources | Protection of Ground-water |
|---|---|---|---|---|---|---|---|
| | | Residential | Restricted Residential | Commercial | Industrial | | |
| Chlorobenzene | 108-90-7 | 73 | 100 [a] | 500 [b] | 1,000 [c] | 40 | 4.5 |
| Chloroform | 67-66-3 | 4.8 | 24 | 180 | 180 | 12 | 0.37 |
| Ethylbenzene | 100-41-4 | 32 | 76 | 390 | 390 | NS | 1 |
| Hexachlorobenzene | 118-74-1 | 0.33 [e] | 0.33 [e] | 1.8 | 2.9 | NS | 3.2 |
| Methyl ethyl ketone | 78-93-3 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | 100 [a] | 0.10 |
| Methyl tert-butyl ether | 1634-04-4 | 40 | 100 [a] | 500 [b] | 890 | NS | 0.1 |
| Methylene chloride | 75-09-2 | 17 | 81 | 500 [b] | 1,000 [c] | 12 | 0.05 |
| Nitrobenzene | 98-95-3 | 0.77 | 1.8 | 8.9 | 8.9 | 2 | 0.08[f] |
| n-Propylbenzene | 103-65-1 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 5 |
| sec-Butylbenzene | 135-98-8 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 25 |
| tert-Butylbenzene | 98-06-6 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 11 |
| Tetrachloroethene | 127-18-4 | 15 | 18 | 81 | 81 | 2 | 1.3 |
| Toluene | 108-88-3 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | 36 | 0.7 |
| Trichloroethene | 79-01-6 | 1.7 | 6.4 | 54 | 54 | 2 | 0.47 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 41 | 100 [a] | 500 [b] | 1,000 [c] | NS | 5.9 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 41 | 100 [a] | 500 [b] | 1,000 [c] | NS | 3.1 |
| Vinyl chloride | 75-01-4 | 0.099 | 0.48 | 7.1 | 7.1 | NS | 0.03 |
| Xylene (mixed) | 1330-20-7 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | 0.26 | 1.2 |

Table 375-6.8(b) Restricted use soil cleanup objectives.

| Contaminant | CAS Number | Protection of Public Health | | | | Protection of Ecological Resources | Protection of Ground-water |
|---|---|---|---|---|---|---|---|
| | | Residential | Restricted Residential | Commercial | Industrial | | |
| All soil cleanup objectives are in parts per million (ppm). | | | | | | | |
| NS = Not specified. See New York State Department of Environmental Conservation Technical Support Document (2006). | | | | | | | |

[a.] The soil cleanup objectives for residential, restricted-residential, and ecological resources use were capped at a maximum value of 100 ppm. See New York State Department of Environmental Conservation Technical Support Document (2006) section 9.3.
[b.] The soil cleanup objectives for commercial use were capped at a maximum value of 500 ppm. See New York State Department of Environmental Conservation Technical Support Document (2006) section 9.3.
[c.] The soil cleanup objectives for industrial use and the protection of groundwater were capped at a maximum value of 1000 ppm. See New York State Department of Environmental Conservation Technical Support Document (2006) section 9.3.
[d.] The soil cleanup objectives for metals were capped at a maximum value of 10,000 ppm. See New York State Department of Environmental Conservation Technical Support Document (2006) section 9.3.
[e.] For constituents where the calculated soil cleanup objective was lower than the contract required quantitation limit, the contract required quantitation limit is used as the soil cleanup objective value.
[f.] For constituents where the calculated soil cleanup objective was lower than the rural soil background concentration, the rural soil background concentration is used as the Track 2 soil cleanup objective value for this use of the site. See the New York State Department of Environmental Conservation Technical Support Document (2006), Section 9 and Appendix D.
[g.] This soil cleanup objective is derived from data on mixed isomers of BHC.
[h.] The soil cleanup objective for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific soil cleanup objective.
[i.] This soil cleanup objective is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
[j.] Protection of public health soil cleanup objectives for total mercury are based on either the rural soil background concentration for total mercury (0.3 ppm or 0.18 ppm for habitat) or the most toxic mercury form that may be present in soil samples. If total mercury is found in soil

above the published soil cleanup objective, then subsequent analysis of the separate species of mercury can be taken into consideration during the remedy selection process.

**375-6.9 Development or modification of soil cleanup objectives.**

(a) Applicability. This section identifies when and the procedures under which a contaminant-specific soil cleanup objective may be developed or modified.

(1) Soil cleanup objectives for contaminants not included in Tables 375-6.8(a) and (b) of this Subpart may be developed by the remedial party or required by the department.

(2) Soil cleanup objectives for contaminants included in Tables 375-6.8(a) and (b) of this Subpart, may be modified based on site-specific data if desired by the remedial party; as set forth in:

(i) Subpart 375-3 for Tracks 3 or 4, as set forth in section 375-3.8(e)(3) or (4), respectively of this Part; or

(ii) Subparts 375-2 and 375-4 of this Part, as set forth in sections 375-2.8(b)(1)(iii) and 375-4.8(c)(1)(iii) of this Part.

(3) Protection of ecological resources soil cleanup objectives were not developed for certain contaminants, which are identified in Table 375-6.8(b) of this Subpart as *NS*. Where such contaminants:

(i) appear in Table 375-6.8(a) of this Subpart, the applicant may be required by the department to calculate a protection of ecological resources soil cleanup objective for the contaminant for use in Track 1 and apply such soil cleanup objective where it is lower than the soil cleanup objective set forth in Table 375-6.8(a) of this Subpart; or

(ii) are identified as impacting or threatening an ecological resource for a restricted use remedial program the department may require a protection of ecological resources soil cleanup objective be developed.

(b) New soil cleanup objectives must:

(1) Be developed utilizing the same methodologies that were used by the department to develop the respective soil cleanup objective, as provided in the technical support document.

(2) Apply the following caps, as set forth in section 9.3 of the technical support document, on any soil cleanup objective included in Tables 375-6.8(a) and (b) of this Subpart, with the exception of metals, as set forth in paragraph (3) of this subdivision, developed for:

(i) unrestricted use, residential use, restricted-residential use and the protection of ecological resources, a maximum value of 100 ppm;

(ii) commercial use, a maximum value of 500 ppm; and

(iii) industrial use and the protection of groundwater a maximum value of 1,000 ppm, and

(3) Apply a cap for metals at a maximum value of 10,000 ppm. This cap does not apply to metals which may naturally occur in some areas above that level including aluminum, calcium, iron, magnesium and potassium.

(c) Development of unrestricted use soil cleanup objectives. The unrestricted use soil cleanup objective for a compound will be the lowest of the soil cleanup values, calculated as set forth in appendix E of the technical support document, for the protection of groundwater, protection of ecological resources and protection of public health.

(d) Development of restricted use soil cleanup objectives. The protection of:

(1) Groundwater soil cleanup objective will be the values calculated for the protection of groundwater as set forth in appendix E of the technical support document;

(2) Ecological resources soil cleanup objectives will be the values calculated for the protection of ecological resources as set forth in appendix E of the technical support document; and

(3) Public health cleanup objective will be the values calculated for the protection of public health for the identified use of the site, as set forth in appendix E of the technical support document.

(e) Modification of soil cleanup objectives. The contaminant specific soil cleanup objectives set forth at Tables 375-6.8(a) and (b) of this Subpart may be modified by site-specific data as set forth in this subdivision.

(1) Contaminant specific soil cleanup objectives modified in accordance with this subdivision may be utilized by the remedial party for a site remedial program undertaken pursuant to:

(i) Subpart 375-3 in Tracks 3 or 4, as set forth in section 375-3.8(e)(3) or (4), respectively of this Part; or

(ii) Subparts 375-2 and 375-4 of this Part, as set forth in sections 375-2.8(b)(1)(ii) and 375-4.8(c)(1)(ii) of this Part.

(2) For the calculation of a protection of groundwater or ecological resources contaminant specific soil cleanup objective, the site-specific percentage of total organic carbon in the soil at the site may be substituted in the algorithms provided in appendix E of the technical support document.

(3) For the calculation of a protection of public health contaminant specific soil cleanup objective, site-specific data may be used to modify two of the five exposure pathways, as follows:

(i) for the particulate inhalation pathway six parameters rely on site-specific data; and

(ii) for the volatile inhalation pathway, four parameters rely on site-specific data.

(4) The algorithms to be used for each protection of public health pathway and details on the parameters which can be substituted are included in appendix E of the technical support document.

(f) Use of soil cleanup objectives developed or modified. Once approved by the department, contaminant specific soil cleanup objectives developed or modified as set forth in

this section may be utilized by the department at other sites consistent with paragraphs (1) and (2) of this subdivision.

(1) Contaminant specific soil cleanup objectives developed for contaminants not included in Tables 375-6.8(a) and (b) of this Subpart, as set forth in subdivision 375-6.9(b) of this section, will be used as guidance and shall be considered by the department for inclusion in the Tables in this Subpart during any subsequent reevaluation of the soil cleanup objectives, as set forth by ECL 27-1415.

(2) Contaminant specific soil cleanup objectives modified for site-specific parameters, as set forth in subdivision 375-6.9(e) of this section, may be utilized at sites manifesting similar parameters, if approved by the department.

# CP-51 / Soil Cleanup Guidance

New York State Department of Environmental Conservation

# DEC Policy

**Issuing Authority:** Alexander B. Grannis, Commissioner

| **Date Issued:** October 21, 2010 | **Latest Date Revised:** |
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## I. Summary

This policy provides the framework and procedures for the selection of soil cleanup levels appropriate for each of the remedial programs in the New York State Department of Environmental Conservation (DEC) Division of Environmental Remediation (DER). This policy applies to the Inactive Hazardous Waste Disposal Site Remedial Program, known as the State Superfund Program (SSF); Brownfield Cleanup Program (BCP); Voluntary Cleanup Program (VCP); Environmental Restoration Program (ERP); Spill Response Program - Navigation Law (NL) section 176 (SRP); and the Resource Conservation and Recovery Act (RCRA) Corrective Action Program. It replaces *Technical and Administrative Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Cleanup Levels* (January 24, 1994); the *Petroleum Site Inactivation and Closure Memorandum* (February 23, 1998); and Sections III and IV of *Spill Technology and Remediation Series (STARS) #1* (August 1992).

This document is used in conjunction with the applicable statutes, regulations and guidance. Site-specific soil cleanup levels, determined in accordance with this guidance, are only applied after:

- the site, or area of concern, is fully investigated to determine the nature and extent of contamination;
- all sources of contamination are addressed consistent with the hierarchy provided in 6 NYCRR 375-1.8(c) or consistent with the RCRA Corrective Action Program (as appropriate);
- groundwater, if contaminated, has been evaluated for appropriate remedial actions consistent with 6 NYCRR 375-1.8(d) or consistent with the RCRA Corrective Action Program (as appropriate); and
- impacts on adjacent residential properties, surface water, aquatic ecological resources are evaluated, as well as indoor air, soil vapor, vapor intrusion and other appropriate media.

## II. Policy

It is DEC's policy, consistent with applicable statutes and regulations, that all remedies will be protective of public health and the environment. DEC's preference is that remedial programs, including the selection of soil cleanup levels, be designed such that the performance standard results in the implementation of a permanent remedy resulting in no future land use restrictions. However, some of

DEC's remedial programs are predicated on future site use. Further, it is not always feasible to return to a condition where no restrictions are required.

The procedures set forth herein are intended for the use and guidance of both DEC and remedial parties to provide a uniform and consistent process for the determination of soil cleanup levels. This guidance is not intended to create any substantive or procedural rights, enforceable by any party in administrative or judicial litigation with DEC. DEC reserves the right to act at variance with these procedures to address site-specific circumstances and to change the procedures in this guidance at any time.

Please note that this guidance focuses only on soil cleanup levels. All remedies must be fully protective of public health and the environment and must prevent further off-site migration to the extent feasible, with special emphasis on preventing or minimizing migration onto adjacent residential properties. A remedial party is required to evaluate and investigate, if necessary, all environmental media including soil, groundwater, surface water, sediments, soil vapor, ambient air, and biota. [See 6 NYCRR 375-1.8(a)(6) or RCRA Corrective Action Program (as appropriate)]. This investigation will determine if any of the referenced media are, or may be, impacted by site contamination. Applicable guidance should be consulted for media other than soil.

Nothing contained in this guidance, in itself, forms the basis for changes to previously selected remedies. However, a change in the site remedy may be considered consistent with *DER-2: Making Changes to Selected Remedies* (April 1, 2008). [See Section VI, Related References.] To the extent that a change to a selected remedy at a site in one of DER's remedial programs is necessary as provided in DER-2, as applicable, the Soil Cleanup Objectives (SCOs) may be considered in the evaluation of appropriate changes to the selected remedy. For sites in other programs, applicable regulations and guidance must be used.

## III. Purpose and Background

DEC has a number of different remedial programs that were developed over time based on separate and distinct authorities. These programs use different procedures to determine the extent of soil cleanup necessary to satisfy the remedial program goals. The purpose of this document is to set forth how soil cleanup levels are selected for the different programs.

Legislation establishing New York State's Brownfield Cleanup Program (Article 27, Title 14 of the Environmental Conservation Law [ECL]) required DEC, in consultation with the New York State Department of Health (NYSDOH), to develop an approach for the remediation of contamination at brownfield sites. The resulting regulation includes seven sets of SCOs. Four sets provide for the protection of public health for different land uses (residential, restricted residential, commercial, and industrial); two sets provide for the protection of other resources (groundwater and ecological resources); and one set includes SCOs for protection of public health and the environment for all uses (unrestricted use).

With the promulgation of the SCOs, it is necessary to discuss how the SCOs, and soil cleanup levels generally, are arrived at for a specific site. Some key definitions in understanding how cleanup levels for soil are arrived at follow.

**Feasible**, which means suitable to site conditions, capable of being successfully carried out with available technology, implementable and cost effective [see 6 NYCRR 375-1.2(s)].

**Presumptive remedy**, which means a technology or technique where experience has shown the remedy to be a proven solution for specific types of sites and/or contaminant classes [See *DER-15: Presumptive/Proven Remedial Technologies* February 27, 2007. Refer to Section VI, Related References.]

**Soil cleanup level**, which means the concentration of a given contaminant for a specific site that must be achieved under a remedial program for soil. Depending on the regulatory program, a soil cleanup level may be based on the regulation [6 NYCRR 375-6.8(a) or (b)], modified from the regulatory value based on site-specific differences, or based on other information, including background levels or feasibility. Soil cleanup levels may include:

- SCOs promulgated at 6 NYCRR 375-6;
- Supplemental Soil Cleanup Objectives (SSCOs);
- a "totals" approach for a family of contaminants known as Polycyclic Aromatic Hydrocarbons (PAHs);
- Presumptive remedy for Polychlorinated Biphenyls (PCBs); and
- Nuisance Condition.

**Soil Cleanup Objective (SCO)**, which means the chemical concentrations for soil cleanup of individual chemicals contained in 6 NYCRR 375-6.8(a) or (b). The SCOs were developed using the process outlined in the Technical Support Document (TSD). The SCOs and the SSCOs defined below are applicable statewide and do not account for many site-specific considerations which could potentially result in higher levels. Soil concentrations that are higher than the SCOs and SSCOs are not necessarily a health or environmental concern. When an SCO (or SSCO) is exceeded, the degree of public health or environmental concern depends on several factors, including the magnitude of the exceedance, the accuracy of the exposure estimates, other sources of exposure to the contaminant, and the strength and quality of the available toxicological information on the contaminant.

**Supplemental Soil Cleanup Objective (SSCO)**, which means a) an existing soil cleanup level for a contaminant which had been included in former TAGM 4046 and was not included in 6 NYCRR 375-6; b) has been developed using the same process used for development of the SCOs; and c) new cleanup levels for soil developed by the remedial party following the approach detailed in Appendix E of the TSD. The TSD provides information relative to the development of cleanup objectives for soil that are not set forth in 6 NYCRR 375-6. Cleanup objectives that have been established at the direction of DEC or the election of remedial parties are included in Table 1.

**Technical Support Document (TSD),** which refers to the document dated December 2006 detailing the development of the SCOs that were promulgated in 6 NYCRR 375-6. It provides the technical background and provides a detailed discussion of the considerations for development of the SCOs for the different land uses and exposure pathways. The TSD is available on DEC's website [see Section VI, Related References].

The purpose of this guidance is NOT to focus on media other than soil. Accordingly, the remedial program may require remedial activities to address media other than soil (e.g., groundwater, surface

water, sediment, and vapor). Applicable guidance should be consulted for media other than soil. This guidance is to be used in conjunction with the applicable statutes, regulations and guidance. Site-specific soil cleanup levels, determined in accordance with this guidance, are only applied after:

- the site, or area of concern, is fully investigated to determine the nature and extent of contamination;
- all sources of contamination are addressed consistent with the hierarchy provided in 6 NYCRR 375-1.8(c) or consistent with the RCRA Corrective Action Program (as appropriate);
- groundwater, if contaminated, has been evaluated for appropriate remedial actions consistent with 6 NYCRR 375-1.8(d) or consistent with the RCRA Corrective Action Program (as appropriate); and
- an evaluation of impacts on adjacent residential properties, surface water, aquatic ecological resources, as well as indoor air, soil vapor, vapor intrusion and other appropriate media.

## IV. Responsibility

The responsibility for maintaining and updating this policy lies with DER. DEC staff are responsible for implementing this policy, with input (as applicable) from NYSDOH.

## V. Procedures

### A. General Approaches to the Selection of Soil Cleanup Levels

The determination of soil cleanup levels for a site is dependent on:

1. The regulatory program pursuant to which the site is being addressed;
2. Whether the groundwater beneath or down gradient of the site is, or may become contaminated with site-related contaminants;
3. Whether ecological resources constitute an important component of the environment at or adjacent to a site, and which are, or may be, impacted by site-related contaminants; and
4. Other impacted environmental media such as surface water, sediment, and soil vapor.

After fully evaluating the nature and extent of soil contamination associated with a site, the soil cleanup levels will be based on one, or a combination of, the following four approaches.

**Approach 1**: **Utilize the Unrestricted Use Soil Cleanup Objectives** [see 6 NYCRR Table 375-6.8(a)]. Under this approach, the soil cleanup levels will be established consistent with the SCOs set forth in 6 NYCRR Table 375-6.8(a). For contaminants of concern which are not included in the rule, DEC may direct development of a soil cleanup level which is protective of public health and the environment without restrictions following the procedure outlined in Appendix E of the TSD. Under this approach, the unrestricted SCOs are applied throughout the soil matrix to the top of bedrock (including the saturated zone).

**Approach 2**: **Utilize the Restricted Use Soil Cleanup Objectives** [see 6 NYCRR Table 375-6.8(b)]. Under this approach, soil cleanup levels will be established consistent with the SCOs set forth in 6 NYCRR Table 375-6.8(b) selecting the lowest SCO in the categories described in A

through C below. Generally, after source removal, the soil cleanup levels do not need to be achieved to more than 15 feet below ground surface or to the top of bedrock, whichever is shallower.

A. Select the applicable land use category for the protection of public health (residential, restricted residential, commercial or industrial);

B. Determine if the SCOs for the protection of groundwater are applicable (see Section V.D); and

C. Determine if the SCOs for the protection of ecological resources are applicable (see Section V.C).

**Approach 3**: **Limited Site-Specific Modifications to Soil Cleanup Objectives.** This approach allows for consideration of site-specific information to modify the SCOs promulgated in 6 NYCRR Tables 375-6.8 (a) and (b) following the approach detailed in Appendix E of the TSD. The equations and basic methodology specified for calculating the 6 NYCRR 375-6.8 (a) and (b) values may not be modified under this approach. However, in instances where site-specific parameters were used in the calculation of the SCOs, site data different from the assumptions used to calculate the SCOs may be used to modify the soil cleanup levels for a specific site. These instances are very limited and occur only in certain pathways that are listed below.

- Protection of groundwater pathway
- Particulate inhalation pathway
- Volatile inhalation pathway
- Protection of ecological resources pathway

It should be noted that even if site-specific data modifies these pathways, it may not result in modifying the SCOs because the lowest value from all applicable pathways is used to determine each SCO. The inhalation pathway is very seldom the controlling pathway in the determination of the protection of public health. The specific parameters that can be modified are identified in Appendix E of the TSD (e.g., inhalation dispersion terms, fraction of organic carbon in soil, etc.).

The remedial party should consider the cost of collecting the data necessary to support a request to modify the SCOs with the potential for deriving a higher SCO that provides an appropriate level of protection. The remedial party may be required to submit additional data to support the use of modified SCOs. Once DEC approves one or more modified SCOs, they are applied in the manner described under Approach 2.

**Approach 4**: **Site-Specific Soil Cleanup Objectives.** Under this approach, the remedial party may propose site-specific cleanup levels or approaches for soil which are protective of public health and the environment based on other information. This approach sets forth a flexible framework to develop soil cleanup levels by allowing the remedial party to conduct a more detailed evaluation of site information in an effort to calculate protective soil cleanup levels or approaches unique to a site. Under this approach, the remedial party may propose a remedy that does not include specific soil cleanup levels (e.g., excavate the top 6 feet in an area extending 75 feet in all directions from boring B12); modify the input parameters used in the SCO calculations; use site data to improve or confirm predictions of exposures to receptors to contaminants of concern; analyze site-specific risks using

risk assessments; use toxicological information available from alternate sources; or consider site background and historic fill. Data supporting these site-specific adjustments or use of alternate methodologies must also be provided to DEC for review and approval to ensure that the resulting soil cleanup levels are protective.

The Approach 4 framework leaves DEC with discretion to determine whether a different approach is appropriate for the site and, if a different approach is to be used, the proper method of implementation. The remedial party should consider the cost of collecting the data necessary to develop site-specific soil cleanup levels (or approaches) with the potential for deriving a soil cleanup level which is higher than a particular SCO and which provides an appropriate level of protection. The remedial party may also be required to submit additional data to support the use of methodologies in the calculation of site-specific soil cleanup levels or to support the proposed approach.

**B. Application of Soil Cleanup Levels for the Specific Remedial Programs**: Soil cleanup levels are determined on a site-specific basis depending on the program under which the site is being remediated. In some cases (e.g., BCP Track 1 or Track 2), the soil cleanup levels are the SCOs taken directly from 6 NYCRR 375-6. In other cases, soil cleanup levels may be derived from the Part 375 SCOs but modified based on other information. In yet other cases, the soil cleanup levels may have no relationship or connection to the SCOs, but rather be developed in accordance with DEC-approved methodologies or approaches.

**1. <u>Inactive Hazardous Waste Disposal Site Remedial Program (State Superfund Program)</u>**: The goal of the remedial program for a specific site is to restore that site to pre-disposal conditions, to the extent feasible. The unrestricted use SCOs are considered to be representative of pre-disposal conditions unless an impact to ecological resources has been identified (see 6 NYCRR 375-2.8(b)(2)). However, it must be recognized that achievement of this goal may not be feasible in every case. At a minimum, all remedies must be protective of public health and the environment. The following procedure is used to determine the most feasible remedy.

(a) The remedial party shall evaluate, and if feasible, implement a cleanup utilizing Approach 1 (application of unrestricted SCOs).

(b) Where DEC determines that achieving unrestricted SCOs is not feasible as documented in a feasibility study, the remedial party may evaluate alternatives to remediate the site to the greatest extent feasible (see *DER-10: Technical Guidance for Site Investigation and Remediation*, Chapter 4.3). [See Section VI, Related References.] In this event, the remedial party may propose soil cleanup levels in accordance with any of the general approaches. However, when considering restricted use soil cleanup levels, the remedial party should apply the least restrictive use category feasible. For purposes of this discussion, residential use is the least restrictive use and industrial use is the most restrictive category. This process starts with consideration of residential use, followed by restricted residential use, commercial use, and then industrial use. The evaluation proceeds through the different land uses until a feasible remedy is found. This evaluation is not bound to the SCOs in regulation or SSCOs set forth in this guidance but may result in a site-specific soil cleanup level that is between the SCOs or soil cleanup level for two different land uses (e.g., above the restricted residential SCO and below the commercial SCO).

**2. <u>Brownfield Cleanup Program</u>** The remedy shall be fully protective of public health and the environment, including, but not limited to, groundwater according to its classification pursuant to ECL 17-0301, drinking water, surface water, air (including indoor air), sensitive populations (including children), and ecological resources (including fish and wildlife). Soil cleanup levels corresponding to the cleanup track under which the site is being remediated are required to be met. The four cleanup tracks are:

**<u>Track 1</u>**: Cleanups pursuant to this track must achieve unrestricted use of the site. This track requires that the remedial party implement a cleanup utilizing Approach 1. Institutional and engineering controls are allowed only for periods of less than five years (defined as short-term controls) except in the limited instance where a volunteer has conducted remedial activities resulting in a bulk reduction in groundwater contamination to asymptotic levels.

**<u>Track 2</u>** : Cleanups pursuant to this track may consider the current, intended, or reasonably anticipated future use in determining the appropriate cleanup levels for soil. This track requires that the remedial party implement a cleanup that achieves the SCOs in the tables in 6 NYCRR 375-6.7(b) for the top 15 feet of soil (or bedrock if less than 15 feet). This track follows approach 2. Institutional and engineering controls are allowed for soil (for the top 15 feet of soil or bedrock if less than 15 feet) for less than five years (defined as short-term controls). Institutional and engineering controls which limit site use and the use of onsite groundwater can be used without regard to duration. Track 2 cleanups at restricted residential, commercial or industrial use sites require site management plans to ensure that material removed from the site (post remedial action) is managed appropriately and to ensure that any buffer zone protecting adjacent residential use sites or ecological resources is maintained.

**<u>Track 3</u>**: Cleanups pursuant to this track may consider the current, intended, or reasonably anticipated use in determining the appropriate cleanup levels for soil. This track requires that the remedial party implement a cleanup utilizing Approach 3 for those SCOs which the remedial party seeks to modify an established SCO. Institutional and engineering controls are allowed for soil (for the top 15 feet of soil or bedrock if less than 15 feet) for less than 5 years (defined as short-term controls). Institutional and engineering controls which limit site use and the use of on-site groundwater can be used without regard to duration. Track 3 cleanups at restricted residential, commercial or industrial use sites require site management plans to ensure that material removed from the site (post remedial action)is managed appropriately and to ensure that any buffer zone protecting adjacent residential use sites or ecological resources is maintained.

**<u>Track 4</u>**: Cleanups pursuant to this track may consider the current, intended, or reasonably anticipated use in determining the appropriate cleanup levels for soil. This track allows for the development of site-specific soil cleanup levels below the cover system in accordance with Approach 4. Track 4 remedies must address all sources as a component of the remedy. Short- and long-term institutional and engineering controls are allowed to achieve protection of public health and the environment. The remedy under Track 4 must provide a cover system over exposed residual soil contamination. Soils which are not otherwise covered by structures such as buildings, sidewalks or pavement (i.e., exposed surface soils) must be covered with soil that complies with the use-based SCOs in 6 NYCRR Table 375-6.8(b) levels for the top one foot (non-residential uses) or top two feet (restricted residential use).

**3. Environmental Restoration Program**: The goal of the program for a specific site is to select a remedy that is protective of public health and the environment, including, but not limited to, groundwater according to its classification pursuant to ECL 17-0301, drinking water, surface water and air (including indoor air), sensitive populations (including children) and ecological resources (including fish and wildlife). At a minimum, the remedy selected shall eliminate or mitigate all significant threats to public health and to the environment presented by contaminants disposed at the site through the proper application of scientific and engineering principles. Soil cleanup levels may be developed in accordance with Approaches 1 – 4 without restriction.

**4. Voluntary Cleanup Program**: The goal of the program for a specific site is to select a remedy that is protective of public health and the environment for the contemplated use. The soil cleanup levels may be developed in accordance with Approaches 1 – 4 without restriction.

**5. Petroleum Spill Response Program**: The goal of the Petroleum Spill Response Program is to achieve pre-spill conditions [6 NYCRR 611.6(a)(4)]. Remedial activities under this program shall be undertaken relative to the petroleum contamination that was released along with any co-mingled contamination from other sources. The remedial party shall achieve, to the extent feasible, the unrestricted SCOs for petroleum-related contaminants listed in 6 NYCRR Table 375-6.8(a). For petroleum contaminants not included in 6 NYCRR Table 375-6.8(a) (discussed in Section E below), the remedial party shall apply, to the extent feasible, the soil cleanup levels provided in Table 1. For ease of implementation, two lists of petroleum contaminants (Gasoline and Fuel Oil, Tables 2 and 3) are attached. The tables combine the applicable petroleum-related SCOs from 6 NYCRR 375-6.8(a) and the applicable petroleum related SSCOs from Table 1. Where DEC determines that it is not feasible to achieve the soil cleanup levels as set forth in this paragraph, the remedial party may propose soil cleanup levels in accordance with any of the general approaches. However, when considering restricted use soil cleanup levels, the remedial party should apply the least restrictive use category feasible.

For purposes of this discussion, residential use is the least restrictive use, and industrial use is the most restrictive category. This process starts with consideration of residential use, followed by restricted residential use, commercial use, and then industrial use. The evaluation proceeds through the different land uses until a feasible remedy is found. If the protection of groundwater or ecological SCOs apply, the lower of the applicable protection of the public health SCO or the applicable protection of groundwater or ecological SCO should be achieved to the extent feasible. This evaluation is not bound to the SCOs in regulation or the SSCOs set forth in this guidance but may result in a site-specific soil cleanup level that is between the SCOs or soil cleanup level for two different land uses (e.g., above the restricted residential SCO and below the commercial SCO).

**6. RCRA Corrective Action Program**: The RCRA program was promulgated to regulate facilities that actively manage hazardous waste. DER administers the RCRA Corrective Action Program, with a goal of achieving soil cleanup levels at Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) that eliminate risks to public health and the environment (i.e., clean the site to unrestricted use) or control said risks (i.e., clean the site or unit(s) to the lowest possible soil cleanup objective, regardless of site use), to the extent feasible. This goal takes into account that certain units at the facility may be permitted to manage hazardous waste under New York State's Hazardous Waste Management (HWM) regulations (6 NYCRR Part 373). The requirements of active HWM facilities, as well as the site's history, will be considered when soil cleanup levels are determined. Selected remedies must be protective of public health and the environment. Soil cleanup levels will be selected using the following procedure.

(a) The remedial party shall evaluate, and if feasible, implement a cleanup utilizing Approach 1. Under this approach, the unrestricted SCOs apply to the entire soil matrix to the top of bedrock. For contaminants not listed in 6 NYCRR 375-6, a new or existing SSCO may be used.

(b) If DEC determines that achieving unrestricted SCOs is not feasible, the remedial party may evaluate other alternatives to remediate the site. In this event, the remedial party may propose soil cleanup levels in accordance with any of the general approaches. However, when considering restricted use soil cleanup levels, the remedial party shall apply the use category which is both feasible and least restricted. For purposes of this discussion, residential use is the least restricted category and industrial use is the most restricted category. A soil cleanup level between two different land uses (e.g., residential and restricted residential) may be determined to be feasible, and if selected, must be achieved.

Any soil cleanup levels specified in regulation (i.e., 6 NYCRR 373-2.6(b)-(k) for "regulated units" as defined in 6 NYCRR 373-2.6 (a)(1)(ii)) or in a DEC enforceable document (Part 373 permits, Consent Orders, etc.) shall take precedence over the soil cleanup levels which could be established through use of this document.

**C. Determination of Whether Ecological Resources SCOs Apply to a Site**: SCOs developed to protect ecological resources (ESCOs) are incorporated in the Unrestricted Use SCO in 6 NYCRR Table 375-6.8(a) and are included as a separate category in 6 NYCRR Table 375-6.8(b). For contaminants of concern which do not have a calculated ESCO in regulation, DEC may direct the remedial party to develop a soil cleanup level which is protective of ecological resources where appropriate, based on the process outlined in Appendix E of the TSD.

The presence of ecological resources and any impact to those resources will be assessed during the remedial investigation. For sites where there is the potential for an ecological resource impact to be present, or where it is likely to be present, an assessment of fish and wildlife resource impacts will be performed. For sites in DER's SSF, BCP, VCP and ERP, the assessment will be performed in accordance with DEC's guidance, *Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites*, October, 1994, as described in DER-10, Section 3.10. For sites in the RCRA Corrective Action Program, the assessment will be performed using the above referenced fish and wildlife impact analysis document as guidance, and by consulting with appropriate personnel in DEC's Division of Fish, Wildlife and Marine Resources.

Soil cleanup levels which are protective of ecological resources must be considered and applied, as appropriate, for the upland soils (not sediment) at sites where DEC determines, based on the foregoing analysis, that:

- ecological resources are present, or will be present, under the reasonably anticipated future use of the site, and such resources constitute an important component of the environment at, or adjacent to, the site;

- an impact or threat of impact to the ecological resource has been identified; and

- contaminant concentrations in soil exceed the ESCOs as set forth in 6 NYCRR 375-6.8(b) or the Protection of Ecological Resources SSCOs contained in this document.

Sites or portions thereof that will be covered by buildings, structures or pavement are not subject to the ESCOs. Further, ecological resources do not include pets, livestock, agricultural or horticultural crops, or landscaping in developed areas. (See 6 NYCRR 375-6.6 for more detail.)

**D. Determination of Whether Protection of Groundwater SCOs Apply**: SCOs developed to protect groundwater are incorporated in the Unrestricted Use SCOs in 6 NYCRR Table 375-6.8(a) and are included as a separate category in 6 NYCRR Table 375-6.8(b). For contaminants of concern which do not have a protection of groundwater SCO, DEC may direct the remedial party to develop a soil cleanup level which is protective of groundwater using the process in Appendix E of the TSD.

1. Except as provided for in (2) below, the protection of groundwater SCOs will be applicable where:

   (i) contamination has been identified in on-site soil by the remedial investigation; and
   (ii) groundwater standards are, or are threatened to be, contravened by the presence of soil contamination at concentrations above the protection of groundwater SCOs.

2. DEC may provide an exception to the applicability of the protection of groundwater SCOs, as set forth in 6 NYCRR 375-6.5(a)(1), when (i), (ii), and (iii) exist and either (iv) or (v) also apply, as described below.

   (i) The groundwater standard contravention is the result of an on-site source which is addressed by the remedial program.
   (ii) An environmental easement or other institutional control will be put in place which provides for a groundwater use restriction.
   (iii) DEC determines that contaminated groundwater at the site:
      (a) is not migrating, nor is likely to migrate, off-site; or
      (b) is migrating, or is likely to migrate, off-site; however, the remedy includes active groundwater management to address off-site migration.
   (iv) DEC determines the groundwater quality will improve over time.
   (v) The groundwater contamination migrating from the site is the result of an off-site source of contamination, and site contaminants are not contributing consequential amounts to the groundwater contamination.

3. In determining whether to provide the exemption set forth in subparagraph 2 above, DEC will consider:

   (i) all of the remedy selection criteria at 6 NYCRR 375-1.8(h) or in the RCRA Corrective Action program;
   (ii) the amount of time that the groundwater will need to be actively managed for the protection of public health and the environment; and
   (iii) the potential impact that groundwater contamination may have on media not specifically addressed by the SCOs (e.g., vapor intrusion, protection of surface water, and protection of aquatic ecological resources).

**E. Supplemental Soil Cleanup Objectives**: SSCOs are either existing cleanup levels in Table 1 or are new soil cleanup levels developed by the remedial party as part of its remedial program. These SSCOs are in addition to the SCOs that are included in Part 375.

**Existing SSCOs:** The Table 1 list of SSCOs includes contaminants from former TAGM 4046 that were not included in 6 NYCRR 375-6.8 and soil cleanup levels developed using the process detailed in Appendix E of the TSD but not promulgated. For those contaminants which were part of the former TAGM 4046, soil cleanup levels exist for the protection of public health (based on ingestion) and for the protection of groundwater. In some cases, to be determined on a site-by-site basis, evaluation of other factors is likely needed for the protection of public health, especially when the use of a site includes residential use.

These other factors include other exposure pathways (e.g., homegrown vegetable ingestion, inhalation and dermal contact), potential non-site exposures to the contaminant and current toxicological data on the contaminant. In these instances, DEC (in consultation with NYSDOH) will determine if the additional factors have been adequately addressed. The SSCOs identified in Table 1 (subject to the limitation described above) may be used as if they were included in Part 375. A remedial party is not required to use the SSCOs set forth in Table 1. In lieu of applying an SSCO, the remedial party may elect to develop a soil cleanup level (using the process described in Appendix E of the TSD and discussed below.) Table 1 also includes SSCOs that were developed for some pathways using the same process detailed in the TSD. A remedial party may elect to use those SSCOs directly or confirm that the calculated value for that pathway is correct.

**New SSCOs**: The remedial party may elect to, or DEC may direct a remedial party to, develop a contaminant-specific SCO for any contaminant not included in 6 NYCRR Tables 375-6.8(a) or (b). Generally, DEC will request that an SCO be developed only where the contaminant is a predominant contaminant of concern (COC) at the site and is not otherwise being addressed to DEC's satisfaction as part of the proposed remedy. This could happen, for example, when a remedial party is seeking a Track 1 cleanup and non-SCO/SSCO contaminants are present and may not be satisfactorily addressed by the remedial activities addressing the SCOs or SSCOs. Guidance on the process for developing new SCOs is provided in Appendix E of the TSD. DEC will include all newly developed soil cleanup levels, developed and approved pursuant to this paragraph in a revised Table 1. The developed SSCO must:

1. be developed utilizing the same methodologies that were used by DEC to develop SCOs that are set forth in Part 375; and

2. apply the maximum acceptable soil concentrations (caps), as set forth in section 9.3 of the TSD.

**F. Use of SCOs and SSCOs as a Screening Tool**: The SCOs and SSCOs may be used to identify areas of soil contamination and to determine the extent of soil contamination. As noted in Section V.K, consideration of other media is required to determine if remedial action is needed.

1. At sites or areas of concern where contaminant concentrations are equal to or below the unrestricted SCOs in 6 NYCRR Table 375-6.8(a), no action or study is warranted because of soil contamination.

2. The exceedance of one or more applicable SCOs or SSCOs, (which is the lower of protection of public health, protection of groundwater, or protection of ecological resources soil cleanup objectives as described in Section III below), alone does not trigger the need for remedial action, define "unacceptable" levels of contaminants in soil, or indicates that a site qualifies for any DEC remedial program (e.g., BCP, SSF). As noted in the definition of SCO above, SCOs and SSCOs are applicable statewide and do not account for many site-specific considerations which could potentially result in higher levels. Therefore, soil concentrations that are higher than the applicable SCOs or SSCOs are not necessarily health or environmental concerns.

3. When an applicable SCO or SSCO is exceeded, the degree of public health or environmental concern depends on several factors, including:

    - magnitude of the exceedance;
    - accuracy of the exposure estimates;
    - other sources of exposure to the contaminant; and
    - strength and quality of the available toxicological information on the contaminant.

**G. Soil Cleanup Levels for Nuisance Conditions**: Experience has shown that contaminants in soil that meets the DEC-approved soil cleanup levels can exhibit a distinct odor or other type of nuisance (e.g., staining). This is true even though the contaminants will not leach from the soil (e.g., certain soils with more insoluble substances at higher concentrations). When DEC determines that soil remaining after the remedial action will result in the continuation of a nuisance (e.g., odors, staining, etc), DEC will require that additional remedial measures be evaluated, and may require additional remedial actions be taken to address the nuisance condition.

**H. Subsurface Soil Cleanup for Total Polycyclic Aromatic Hydrocarbons:** For non-residential use sites (i.e., commercial or industrial use sites) where the ESCOs are not applicable, DEC may approve a remedial program which achieves a soil cleanup level of 500 parts per million (ppm) for total PAHs for all subsurface soil. The 500 ppm soil cleanup level is in lieu of achieving all of the PAH-specific SCOs in 6 NYCRR 375-6. For purposes of this provision, subsurface soil shall mean the soil beneath permanent structures, pavement, or similar cover systems; or at least one foot of soil cover (which must meet the applicable SCOs). Institutional controls (e.g., an environmental easement) along with a site management plan will be required when this soil cleanup level is employed at a site. This cleanup level is determined to be feasible and protective based on DEC's experience in its various remedial programs. This approach has existed in TAGM 4046 since it was first issued in 1992.

**I. Soil Cleanup for PCBs:** DEC may approve a remedial program which achieves a soil cleanup level for PCBs as set forth herein:

1. **For Non-BCP sites:** An acceptable presumptive remedy for soil where neither the unrestricted SCOs nor the ESCOs are applied in the remedial program may include a soil cleanup level for PCBs of 1 ppm in the surface soils and 10 ppm in subsurface soils.

2. **For BCP sites:** An acceptable presumptive remedy for soil may include a soil cleanup level for PCBs of 1 ppm (the applicable SCO) in the surface soils and 10 ppm in subsurface in limited circumstances as follows:

- cleanup track is Track 4;
- site use will be restricted residential, commercial or industrial; and
- ESCOs do not apply.

3. **At industrial use sites,** a level of 25 ppm for PCBs provided that access is limited and individual occupancy is restricted to less than an average of 6.7 hours per week.

For purposes of this provision, subsurface soil shall mean:

- soil beneath permanent structures, pavement, or similar cover systems;
- soil beneath 1 foot of soil cover for commercial and industrial uses; or
- soil beneath 2 feet of soil cover for residential and restricted residential uses.

Institutional controls (i.e., an environmental easement), along with a site management plan, will be required when this soil cleanup level is employed at a site. As with all presumptive remedies, just because a remedy is presumptive does not mean that it will work at every site. For example, this presumptive remedy for PCBs in soil is not applicable at most landfills. This cleanup level is determined to be feasible and protective based on DEC's experience in its various remedial programs. Further, this approach has existed in TAGM 4046 since it was first issued in 1992.

**J. Sampling and Compliance with Soil Cleanup Levels**: The number of samples to determine if the SCOs have been achieved should be sufficient to be representative of the area being sampled. See attached Table 4 for suggested sampling frequency and subdivision 5.4(e) of DER-10 for details. This frequency can be used for confirmatory samples or for backfill. It is DEC's goal that all confirmatory samples demonstrate that the remedy has achieved the DEC-approved soil cleanup levels. However, recognizing the heterogeneity of contaminated sites and the uncertainty of sampling and analysis, DEC project manager has limited discretion to determine that remediation is complete where some discrete samples do not meet the soil cleanup levels established for a site. See DER-10 for more information regarding the determination that remediation is complete.

**K. Other Considerations**: All remedies must be fully protective of public health and the environment and prevent off-site migration to the extent feasible with special emphasis for the prevention or minimization of migration onto adjacent residential properties or into ecological resources. A remedial party is required to investigate all environmental media including soil, groundwater, surface water, sediments, soil vapor, indoor air, and biota. (See 6 NYCRR 375-1.8(a)(6) or RCRA Corrective Action Program). This investigation will determine if any of the referenced media are, or may be, impacted by site contamination. However, the SCOs do not directly address these other media. DEC may require remedial actions to address such media and impacts, including but not limited to the application of lower soil cleanup levels or buffer zones where it determines, based on the investigation, that any of these media are, or may be, impacted by site contamination.

## VI. Related References:

- Environmental Conservation Law, Article 27 Titles 3, 5, 9, 13 and 14.

- Article 12 of the Navigation Law, Section 178.

- 6 NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.
- 6 NYCRR Subparts 373-1, 373-2 and 373-3, Requirements for Hazardous Waste Management Facilities. September 6, 2006.
- 6 NYCRR Part 611, Environmental Priorities and Procedures in Petroleum Cleanup and Removal. November 5, 1984 (amended).
- Development of Soil Cleanup Objectives: Technical Support Document. New York State Department of Environmental Conservation. December 14, 2006.
- Supplemental Guidance to RAGS: Calculating the Concentration Term. United States Environmental Protection Agency. Publication 9285.7-081. May 1992.
- New York State Guidelines for Urban Erosion and Sediment Control. 1997.
- Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites. New York State Department of Environmental Conservation. October 1994.
- Program Policy DER-2, *Making Changes to Selected Remedies*. New York State Department of Environmental Conservation. April 1, 2008.
- Program Policy DER-10, *Technical Guidance for Site Investigation and Remediation*. New York State Department of Environmental Conservation. May 3, 2010.
- Program Policy DER-15, *Presumptive/Proven Remedial Technologies*. New York State Department of Environmental Conservation. February 27, 2007.

## TABLES

**1 - Supplemental Soil Cleanup Objectives**
**2 - Soil Cleanup Levels for Gasoline Contaminated Soils**
**3 - Soil Cleanup Levels for Fuel Oil Contaminated Soils**
**4 - Recommended Number of Soil Samples for Soil Imported to or Exported From a Site**

## Table 1

### Supplemental Soil Cleanup Objectives
(ppm)

| Contaminant | CAS Number | Residential | Restricted Residential | Commercial | Industrial | Protection of Ecological Resources | Protection of Ground-water |
|---|---|---|---|---|---|---|---|
| **METALS** | | | | | | | |
| Aluminum | 7429-90-5 | | | | | 10,000 [a,b] | |
| Antimony | 7440–36-0 | | | | | 12[c] | |
| Boron | 7440-42-8 | | | | | 0.5 | |
| Calcium | 7440-70-2 | | | | | 10,000 [a,b] | |
| Cobalt | 7440-48-4 | 30 | | | | 20 | |
| Iron | 7439-89-6 | 2,000 | | | | | |
| Lithium | 7439-93-2 | | | | | 2 | |
| Molybdenum | 7439-98-7 | | | | | 2 | |
| Technetium | 7440-26-8 | | | | | 0.2 | |
| Thallium | 7440-28-0 | | | | | 5 [c] | |
| Tin | 7440-31-5 | | | | | 50 | |
| Uranium | 7440-61-1 | | | | | 5 | |
| Vanadium | 7440-62-2 | 100 [a] | | | | 39[b] | |
| **PESTICIDES** | | | | | | | |
| Biphenyl | 92-52-4 | | | | | 60 | |
| Chlordecone (Kepone) | 143-50-0 | | | | | 0.06 | |
| Dibenzofuran | 132-64-9 | | | | | | 6.2 |
| 2,4-D (2,4-Dichloro-phenoxyacetic acid) | 94-75-7 | 100 [a] | | | | | 0.5 |
| Furan | 110-00-9 | | | | | 600 | |
| Gamma Chlordane | 5103-74-2 | 0.54 | | | | | 14 |
| Heptachlor Epoxide | 1024-57-3 | 0.077 | | | | | 0.02 |
| Methoxychlor | 72-43-5 | 100 [a] | | | | 1.2 | 900 |

| Contaminant | CAS Number | Residential | Restricted Residential | Commercial | Industrial | Protection of Ecological Resources | Protection of Ground-water |
|---|---|---|---|---|---|---|---|
| Parathion | 56-38-2 | 100 [a] | | | | | 1.2 |
| 2,4,5-T | 93-76-5 | 100 [a] | | | | | 1.9 |
| 2,3,7,8-TCDD | 1746-01-6 | | | | | 0.000001 | |
| 2,3,7,8-TCDF | 51207-31-9 | | | | | 0.000001 | |
| **SEMIVOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| Aniline | 62-53-3 | 48 | 100[a] | 500[a] | 1000[a] | | 0.33[b] |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 50 | | | | 239 | 435 |
| Benzoic Acid | 65-85-0 | 100[a] | | | | | 2.7 |
| Butylbenzyl-phthalate | 85-68-7 | 100 [a] | | | | | 122 |
| 4-Chloroaniline | 106-47-8 | 100 [a] | | | | | 0.22 |
| Chloroethane | 75-00-3 | | | | | | 1.9 |
| 2-Chlorophenol | 95-57-8 | 100 [a] | | | | 0.8 | |
| 3-Chloroaniline | 108-42-9 | | | | | 20 | |
| 3-Chlorophenol | 108-43-0 | | | | | 7 | |
| Di-n-butyl-phthalate | 84-74-2 | 100 [a] | | | | 0.014 | 8.1 |
| 2,4-Dichlorophenol | 120-83-2 | 100 [a] | | | | 20 | 0.40 |
| 3,4-Dichlorophenol | 95-77-2 | | | | | 20 | |
| Diethylphthalate | 84-66-2 | 100 [a] | | | | 100 | 7.1 |
| Di-*n*-hexyl-phthalate | 84-75-3 | | | | | 0.91 | |
| 2,4-Dinitrophenol | 51-28-5 | 100 [a] | | | | 20 | 0.2 |
| Dimethylphthlate | 131-11-3 | 100 [a] | | | | 200 | 27 |
| Di-n-octylphthlate | 117-84-0 | 100 [a] | | | | | 120 |
| 1,2,3,6,7,8-HCDF | 57117-44-9 | | | | | 0.00021 | |
| Hexachloro-benzene | 118-74-1 | 0.41 | | | | | 1.4 |
| 2,6-Dinitrotoluene | 606-20-2 | 1.03 | | | | | 1.0 |
| Isophorone | 78-59-1 | 100 [a] | | | | | 4.4 |

| Contaminant | CAS Number | Residential | Restricted Residential | Commercial | Industrial | Protection of Ecological Resources | Protection of Ground-water |
|---|---|---|---|---|---|---|---|
| 4-methyl-2-pentanone | 108-10-1 | | | | | | 1.0 |
| 2-methyl-naphthalene | 91-57-6 | 0.41 | | | | | 36.4 |
| 2-Nitroaniline | 88-74-4 | | | | | | 0.4 |
| 3-Nitroaniline | 99-09-2 | | | | | | 0.5 |
| Nitrobenzene | 98-95-3 | 3.7 | 15 | 69 | 140 | 40 | 0.17[b] |
| 2-Nitrophenol | 88-75-5 | | | | | 7 | 0.3 |
| 4-Nitrophenol | 100-02-7 | | | | | 7 | 0.1 |
| Pentachloroaniline | 527-20-8 | | | | | 100 | |
| 2,3,5,6-Tetrachloroaniline | 3481-20-7 | | | | | 20 | |
| 2,3,4,5-Tetrachlorophenol | 4901-51-3 | | | | | 20 | |
| 2,4,5-Trichloroaniline | 636-30-6 | | | | | 20 | |
| 2,4,5-Trichlorophenol | 95-95-4 | 100 [a] | | | | 4 | 0.1 |
| 2,4,6-Trichlorophenol | 88-06-2 | | | | | 10 | |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | | |
| 2-Butanone | 78-93-3 | 100 [a] | | | | | 0.3 |
| Carbon Disulfide | 75-15-0 | 100 [a] | | | | | 2.7 |
| Chloroacetamide | 79-07-2 | | | | | 2 | |
| Dibromochloro-methane | 124-48-1 | | | | | 10 | |
| 2,4-Dichloro aniline | 554-00-7 | | | | | 100 | |
| 3,4-Dichloroaniline | 95-76-1 | | | | | 20 | |
| 1,2-Dichloropropane | 78-87-5 | | | | | 700 | |
| 1,3-Dichloropropane | 142-28-9 | | | | | | 0.3 |
| 2,6-Dinitrotoluene | 606-20-2 | 1.03 | | | | | 0.17[b] |
| Ethylacetate | 141-78-6 | | | | | 48 | |

| Contaminant | CAS Number | Residential | Restricted Residential | Commercial | Industrial | Protection of Ecological Resources | Protection of Ground-water |
|---|---|---|---|---|---|---|---|
| 4-methyl-2-pentanone | 108-10-1 | | | | | | 1.0 |
| 113 Freon (1,1,2- TFE) | 76-13-1 | 100 [a] | | | | | 6 |
| isopropylbenzene | 98-82-8 | 100 [a] | | | | | 2.3 |
| p-isopropyltoluene | 99-87-6 | | | | | | 10 |
| Hexachlorocyclo-pentadiene | 77-47-4 | | | | | 10 | |
| Methanol | 67-56-1 | | | | | 6.5 | |
| N-nitrosodiphenyl-amine | 86-30-6 | | | | | 20 | |
| Pentachloro-benzene | 608-93-5 | | | | | 20 | |
| Pentachloronitro-benzene | 82-68-8 | | | | | 10 | |
| Styrene | 100-42-5 | | | | | 300 | |
| 1,2,3,4-Tetrachlorobenzene | 634-66-2 | | | | | 10 | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 35 | | | | | 0.6 |
| 1,1,2,2-Tetrachloroethylene | 127-18-4 | | | | | 2 | |
| 1,2,3-Trichlorobenzene | 87-61-6 | | | | | 20 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | | | | | 20 | 3.4 |
| 1,2,3-Trichloropropane | 96-18-4 | 80 | | | | | 0.34 |

[a] SCOs for organic contaminants (volatile organic compounds, semivolatile organic compounds, and pesticides) are capped at 100 ppm for residential use, 500 ppm for commercial use, 1000 ppm for industrial use. SCOs for metals are capped at 10,000 ppm.

[b] Based on rural background study

[c] SCO limited by contract required quantitation limit.

## Table 2

## Soil Cleanup Levels for Gasoline Contaminated Soils

| Contaminant | CAS Registry Number | Soil Cleanup Level (ppm) |
|---|---|---|
| Benzene | 71-43-2 | 0.06 |
| n-Butylbenzene | 104-51-8 | 12.0 |
| sec-Butylbenzene | 135-98-8 | 11.0 |
| Ethylbenzene | 100-41-4 | 1.0 |
| Isopropylbenzene | 98-82-8 | 2.3 |
| p-Isopropyltoluene | 99-87-6 | 10.0 |
| Methyl-Tert-Butyl-Ether | 1634-04-4 | 0.93 |
| Naphthalene | 91-20-3 | 12.0 |
| n-Propylbenzene | 103-65-1 | 3.9 |
| Tert-Butylbenzene | 98-06-6 | 5.9 |
| Toluene | 108-88-3 | 0.7 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 3.6 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 8.4 |
| Xylene (Mixed) | 1330-20-7 | 0.26 |

**Table 3**

**Soil Cleanup Levels for Fuel Oil Contaminated Soil**

| Contaminant | CAS Registry Number | Soil Cleanup Level (ppm) |
|---|---|---|
| Acenaphthene | 83-32-9 | 20 |
| Acenaphthylene | 208-96-8 | 100 |
| Anthracene | 120-12-7 | 100 |
| Benz(a)Anthracene | 56-55-3 | 1.0 |
| Dibenzo(a,h)Anthracene | 53-70-3 | 0.33 |
| Benzene | 71-43-2 | 0.06 |
| n-Butylbenzene | 104-51-8 | 12.0 |
| sec-Butylbenzene | 135-98-8 | 11.0 |
| Tert-Butylbenzene | 98-06-6 | 5.9 |
| Chrysene | 218-01-9 | 1.0 |
| Ethylbenzene | 100-41-4 | 1.0 |
| Fluoranthene | 206-44-0 | 100 |
| Benzo(b)Fluoranthene | 205-99-2 | 1.0 |
| Benzo(k)Fluoranthene | 207-08-9 | 0.8 |
| Fluorene | 86-73-7 | 30 |
| Isopropylbenzene | 98-82-8 | 2.3 |
| p-Isopropyltoluene | 99-87-6 | 10.0 |
| Naphthalene | 91-20-3 | 12.0 |
| n-Propylbenzene | 103-65-1 | 3.9 |
| Benzo(g,h,i)Perylene | 191-24-2 | 100 |
| Phenanthrene | 85-01-8 | 100 |
| Pyrene | 129-00-0 | 100 |
| Benzo(a)Pyrene | 50-32-8 | 1.0 |
| Indeno(1,2,3-cd)Pyrene | 193-39-5 | 0.5 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 3.6 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 8.4 |
| Toluene | 108-88-3 | 0.7 |
| Xylene (Mixed) | 1330-20-7 | 0.26 |

## Table 4

### Recommended Number of Soil Samples for Soil Imported To or Exported From a Site

| Contaminant | VOCs[a] | SVOCs, Inorganics & PCBs/Pesticides | |
|---|---|---|---|
| **Soil Quantity (cubic yards)** | **Discrete Samples** | **Composite** | **Discrete Samples/Composite** |
| 0-50 | 1 | 1 | Each composite sample for analysis is created from 3-5 discrete samples from representative locations in the fill. |
| 50-100 | 2 | 1 | |
| 100-200 | 3 | 1 | |
| 200-300 | 4 | 1 | |
| 300-400 | 4 | 2 | |
| 400-500 | 5 | 2 | |
| 500-800 | 6 | 2 | |
| 800-1000 | 7 | 2 | |
| ➢ 1000 | Add an additional 2 VOC and 1 composite for each additional 1000 Cubic yards or consult with DER.[b] | | |

[a] VOC samples cannot be composited. Discrete samples must be taken to maximize the representativeness of the results.

[b] For example, a 3,000 cubic yard soil pile to be sampled and analyzed for VOCs would require 11 discrete representative samples. The same pile to be sampled for SVOCs would require 4 composite samples with each composite sample consisting of 3-5 discrete samples.

# Attachment D: Resumes

# ERICK SALAZAR

GALLAGHER BASSETT

## CURRENT POSITION: SENIOR PROJECT MANAGER

### PROFESSIONAL SUMMARY

Erick Salazar serves as Senior Project Manager for environmental site assessments and Phase II technical environmental investigations. His responsibilities include: investigating site histories, conducting facility inspections, reviewing regulatory agency records, documenting facility compliance with relevant State and Federal regulations, and preparing reports. He assists with Phase II technical environmental investigations and fieldwork including implementation of community air monitoring plans (CAMP), collecting soil and water samples and tank removal oversight.

Mr. Salazar has experience in the implementation of CAMP monitoring, personal sampling for lead and dust of workers, coordinating pre-demolition C&D waste inventory as part of Sandy relief work on Staten Island, and providing oversight of site remedial activities on rural properties.

### PROFESSIONAL EXPERIENCE

Mr. Salazar has experience in the implementation of CAMP monitoring, personal sampling for lead and dust of workers, coordinating pre-demolition C&D waste inventory as part of Sandy relief work on Staten Island, and providing oversight of site remedial activities on rural properties.
Mr. Salazar's experience with Health and Safety services include:

- Complete OSHA training and three years' experience of Sites handling regulated materials as well as hazardous and non-hazardous wastes.
- Preparation of Environmental Health & Safety Plan for (EHASP) for debris removal and soil sampling project in Ulster County, New York.
- Assistance in the preparation of EHASPs for NYSDEC sites in Dutchess and Westchester Counties.
- Implementation of CAMP at sites in Dutchess, Ulster, Bronx and Queens Counties, including preparation of status reports, preparation of incident reports, and communication with involved regulatory agencies.
- Collection/analysis of media samples (air, water and soil) per requirements of the EHASP and/or remedial work plans.

### EDUCATION:

- BS, Biology, State University at New Paltz, NY

### REGISTRATIONS / CERTIFICATIONS:

- OSHA, 40-hr Hazardous Waste Operations & Emergency Response Health & Safety Certification
- OSHA, 10-hr General Construction Industry Training & Certification

# RICHARD HOOKER, PH.D.

GALLAGHER BASSETT

## CURRENT POSITION: MANAGER, ENVIRONMENTAL CONSULTING

### PROFESSIONAL SUMMARY

Richard Hooker serves as Manager of Environmental Consulting for investigative and remedial projects including NYSDEC and OER Brownfields sites, Phase II investigations, and environmental management of construction projects. He also prepares and evaluates interdisciplinary, comprehensive environmental impact assessment reviews (NEPA, SEQR and CEQR) and has a particular expertise in noise issues. Mr. Hooker develops investigative and remedial work plans, health and safety plans, performs fieldwork, and prepares technical reports. He works with regulatory authorities and subcontractors including construction personnel, waste repositories and haulage contractors, laboratories and drillers. His responsibilities include: designing noise studies, investigating site histories, and document reviews, cost benefit analysis of remedial alternatives, overseeing excavations and in situ remediation, sampling, sample data evaluation, report preparation, and obtaining regulatory closure. He has extensive experience of sampling and sample collection protocols for soil, vapor, indoor air, sediment, and groundwater and has worked to remediate a wide range of environmental contaminants including petroleum, heavy metals, PCBs, and solvents.

Mr. Hooker holds a Ph.D. from the University of St. Andrews, St. Andrews, Scotland and a BA from Staffordshire University, Stoke-on-Trent, England. Prior to relocating to the Hudson Valley, he served as an Assistant Professor at the University of Glasgow, Scotland.

### PROFESSIONAL EXPERIENCE

**3475 Third Avenue, Bronx, NY**—Investigated and remediated this former manufacturing facility to NYSDEC Brownfields to Track 1 cleanup standards. This site was the first project in the OER Jumpstart program established to assist cleanup on government supported affordable and supportive housing projects in NYC. Under this program OER sponsored enrollment in the NYS Brownfield Cleanup Program. Work on this trailblazing project required liaising with OER and NYSDEC Region 2 to ensure documentation met the requirements of both agencies. Certificate of Completion secured in 2016.

**Former A.C. Dutton Lumber Yard, Dutchess County, NY**—Documented hazardous concentrations of arsenic and chromium in soils and concrete surfaces at this NYSDEC Brownfields site contaminated by the historical pressure treatment of lumber. Developed a Workplan for site remediation and directed environmental restoration activities, including: characterization, excavation and removal of hazardous soils, scarification concrete warehouse floors, removal aboveground and underground chemical and petroleum storage tanks.

**Crannell Square, Dutchess County, NY** —oversaw the investigation and remediation of this Track 1 BCP site.

### EDUCATION:

- Ph.D., University of St. Andrews, Scotland
- BA, Staffordshire University, England

# SCOTT SPITZER

GALLAGHER BASSETT | TECHNICAL SERVICES

## CURRENT POSITION: DIRECTOR OF ENVIRONMENTAL INVESTIGATIONS

### PROFESSIONAL SUMMARY

Scott Spitzer serves as Director of Environmental Investigations, overseeing the technical elements of Phase I and Phase II technical environmental investigations and remedial projects, including Brownfield sites. Mr. Spitzer supervises all GBTS field staff and reviews all documents prepared by GBTS to ensure consistency and technical accuracy.

His responsibilities associated with the preparation of site assessments include: investigating site histories, conducting facility inspections, reviewing regulatory agency records, documenting facility compliance with relevant State and Federal regulations, and preparing reports. As project manager for complex technical environmental investigations (including sites currently on the NYSDEC Registry of Inactive Hazardous Waste Sites), Mr. Spitzer is involved with: coordinating subcontractors; overseeing fieldwork; designing and implementing material, soil, and water sampling plans, preparing technical reports and interfacing with regulatory agency personnel.

Mr. Spitzer has 15 years' experience in the preparation of Phase I, Phase II and Brownfields investigations and in the management of complex remediation projects. He is knowledgeable in both New York State and Federal environmental regulations and has an understanding of a broad range of remedial technologies. Mr. Spitzer studied environmental science at SUNY Purchase and holds a BS in Biology from SUNY at Stony Brook, Stony Brook, New York.

### PROFESSIONAL EXPERIENCE

**Former NuHart Plastics Manufacturing Site, Brooklyn, NY**: GBTS conducted a complex remedial investigation of a NYSDEC Class 2 Inactive Hazardous Waste Disposal ("Superfund") site, where a plume of liquid phthalates and chlorinated solvents had impacted groundwater. Extensive sampling was conducted of both on- and off-site soil, soil vapor and groundwater, and phthalates were removed from recovery wells as an interim remedial measure. A Remedial Investigation Report was completed, allowing the site owner to move create a Remedial Design Document.

**Sakmann Restaurant Corporation Site, Fort Montgomery, NY:** Conducted Phase I Environmental Site Assessment and Phase II Subsurface Investigations for former filling station and automotive repair garage contaminated by solvent and waste-oil discharges to an on-site drywell. Designed and implemented a sampling plan for soils impacted by chlorinated hydrocarbons, petroleum, and metals. Created Work Plan (in coordination with the NYSDEC Voluntary Cleanup Program) for remediation of on-site contamination and long-term sampling of on-site groundwater monitoring wells.

### EDUCATION:

- BS, Biology, SUNY at Stony Brook, NY

# Attachment E: Laboratory Documents

# Analytical Method Information

Printed: 07/29/2024 10:08 pm

**Volatile Organics, 8260 - Comprehensive in Soil (EPA 8260D)**

**Preservation:** Cool 4°C

**Container:** 03_5035 Vial Set **Amount Required:** 20 g. **Hold Time:** 14 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 2.5 | 5.0 ug/kg | | | 15-161 | 33 | 75-129 | 30 |
| 1,1,1-Trichloroethane | 2.5 | 5.0 ug/kg | | | 42-145 | 30 | 71-137 | 30 |
| 1,1,2,2-Tetrachloroethane | 2.5 | 5.0 ug/kg | | | 16-167 | 56 | 79-129 | 30 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 2.5 | 5.0 ug/kg | | | 11-160 | 31 | 58-146 | 30 |
| 1,1,2-Trichloroethane | 2.5 | 5.0 ug/kg | | | 44-145 | 40 | 83-123 | 30 |
| 1,1-Dichloroethane | 2.5 | 5.0 ug/kg | | | 46-142 | 36 | 75-130 | 30 |
| 1,1-Dichloroethylene | 2.5 | 5.0 ug/kg | | | 30-153 | 31 | 64-137 | 30 |
| 1,1-Dichloropropylene | 2.5 | 5.0 ug/kg | | | 40-133 | 28 | 77-127 | 30 |
| 1,2,3-Trichlorobenzene | 2.5 | 5.0 ug/kg | | | 10-157 | 47 | 81-140 | 30 |
| 1,2,3-Trichloropropane | 2.5 | 5.0 ug/kg | | | 38-155 | 48 | 81-126 | 30 |
| 1,2,4,5-Tetramethylbenzene | 2.5 | 5.0 ug/kg | | | 10-138 | 44 | 63-156 | 30 |
| 1,2,4-Trichlorobenzene | 2.5 | 5.0 ug/kg | | | 10-151 | 52 | 80-141 | 30 |
| 1,2,4-Trimethylbenzene | 2.5 | 5.0 ug/kg | | | 10-170 | 242 | 84-125 | 30 |
| 1,2-Dibromo-3-chloropropane | 2.5 | 5.0 ug/kg | | | 36-138 | 54 | 74-142 | 30 |
| 1,2-Dibromoethane | 2.5 | 5.0 ug/kg | | | 40-142 | 39 | 86-123 | 30 |
| 1,2-Dichlorobenzene | 2.5 | 5.0 ug/kg | | | 10-147 | 52 | 85-122 | 30 |
| 1,2-Dichloroethane | 2.5 | 5.0 ug/kg | | | 48-133 | 32 | 71-133 | 30 |
| 1,2-Dichloropropane | 2.5 | 5.0 ug/kg | | | 47-141 | 37 | 81-122 | 30 |
| 1,3,5-Trimethylbenzene | 2.5 | 5.0 ug/kg | | | 10-150 | 62 | 82-126 | 30 |
| 1,3-Dichlorobenzene | 2.5 | 5.0 ug/kg | | | 10-144 | 51 | 84-124 | 30 |
| 1,3-Dichloropropane | 2.5 | 5.0 ug/kg | | | 43-142 | 36 | 83-123 | 30 |
| 1,4-Dichlorobenzene | 2.5 | 5.0 ug/kg | | | 10-160 | 52 | 84-124 | 30 |
| 1,4-Dioxane | 50 | 100 ug/kg | | | 10-191 | 196 | 10-228 | 30 |
| 2,2-Dichloropropane | 2.5 | 5.0 ug/kg | | | 38-130 | 31 | 67-136 | 30 |
| 2-Butanone | 2.5 | 5.0 ug/kg | | | 10-189 | 67 | 58-147 | 30 |
| 2-Chlorotoluene | 2.5 | 5.0 ug/kg | | | 14-144 | 49 | 78-127 | 30 |
| 2-Hexanone | 2.5 | 5.0 ug/kg | | | 10-181 | 60 | 70-139 | 30 |
| 4-Chlorotoluene | 2.5 | 5.0 ug/kg | | | 15-138 | 39 | 79-125 | 30 |
| 4-Methyl-2-pentanone | 2.5 | 5.0 ug/kg | | | 10-166 | 47 | 72-132 | 30 |
| Acetone | 5.0 | 10 ug/kg | | | 10-196 | 150 | 36-155 | 30 |
| Acrolein | 5.0 | 10 ug/kg | | | 10-192 | 128 | 10-238 | 30 |
| Acrylonitrile | 2.5 | 5.0 ug/kg | | | 13-161 | 48 | 66-141 | 30 |
| Benzene | 2.5 | 5.0 ug/kg | | | 43-139 | 64 | 77-127 | 30 |
| Bromobenzene | 2.5 | 5.0 ug/kg | | | 23-142 | 44 | 77-129 | 30 |
| Bromochloromethane | 2.5 | 5.0 ug/kg | | | 38-145 | 30 | 74-129 | 30 |
| Bromodichloromethane | 2.5 | 5.0 ug/kg | | | 38-147 | 37 | 81-124 | 30 |
| Bromoform | 2.5 | 5.0 ug/kg | | | 29-156 | 51 | 80-136 | 30 |
| Bromomethane | 2.5 | 5.0 ug/kg | | | 10-166 | 42 | 32-177 | 30 |
| Carbon disulfide | 2.5 | 5.0 ug/kg | | | 10-131 | 36 | 10-136 | 30 |
| Carbon tetrachloride | 2.5 | 5.0 ug/kg | | | 35-145 | 31 | 66-143 | 30 |
| Chlorobenzene | 2.5 | 5.0 ug/kg | | | 21-154 | 32 | 86-120 | 30 |
| Chloroethane | 2.5 | 5.0 ug/kg | | | 15-160 | 40 | 51-142 | 30 |
| Chloroform | 2.5 | 5.0 ug/kg | | | 47-142 | 29 | 76-131 | 30 |
| Chloromethane | 2.5 | 5.0 ug/kg | | | 10-159 | 31 | 49-132 | 30 |
| cis-1,2-Dichloroethylene | 2.5 | 5.0 ug/kg | | | 42-144 | 30 | 74-132 | 30 |
| cis-1,3-Dichloropropylene | 2.5 | 5.0 ug/kg | | | 18-159 | 39 | 81-129 | 30 |
| Cyclohexane | 2.5 | 5.0 ug/kg | | | 70-130 | 30 | 70-130 | 30 |
| Dibromochloromethane | 2.5 | 5.0 ug/kg | | | 10-179 | 41 | 10-200 | 30 |
| Dibromomethane | 2.5 | 5.0 ug/kg | | | 47-143 | 41 | 83-124 | 30 |
| Dichlorodifluoromethane | 2.5 | 5.0 ug/kg | | | 10-145 | 34 | 28-158 | 30 |
| Ethyl Benzene | 2.5 | 5.0 ug/kg | | | 11-158 | 42 | 84-125 | 30 |
| Hexachlorobutadiene | 2.5 | 5.0 ug/kg | | | 10-158 | 45 | 83-133 | 30 |
| Isopropylbenzene | 2.5 | 5.0 ug/kg | | | 10-162 | 57 | 81-127 | 30 |

# Analytical Method Information

**(Continued)**

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**Volatile Organics, 8260 - Comprehensive in Soil (EPA 8260D) (Continued)**

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Methyl acetate | 2.5 | 5.0 ug/kg | | | 10-149 | 64 | 41-143 | 30 |
| Methyl tert-butyl ether (MTBE) | 2.5 | 5.0 ug/kg | | | 42-152 | 47 | 74-131 | 30 |
| Methylcyclohexane | 2.5 | 5.0 ug/kg | | | 70-130 | 30 | 70-130 | 30 |
| Methylene chloride | 5.0 | 10 ug/kg | | | 28-151 | 49 | 57-141 | 30 |
| Naphthalene | 2.5 | 10 ug/kg | | | 10-158 | 95 | 86-141 | 30 |
| n-Butylbenzene | 2.5 | 5.0 ug/kg | | | 10-162 | 96 | 80-130 | 30 |
| n-Propylbenzene | 2.5 | 5.0 ug/kg | | | 10-155 | 56 | 74-136 | 30 |
| o-Xylene | 2.5 | 5.0 ug/kg | | | 10-158 | 51 | 83-123 | 30 |
| p- & m- Xylenes | 5.0 | 10 ug/kg | | | 10-156 | 47 | 82-128 | 30 |
| p-Diethylbenzene | 2.5 | 5.0 ug/kg | | | 10-146 | 39 | 70-144 | 30 |
| p-Ethyltoluene | 2.5 | 5.0 ug/kg | | | 10-135 | 40 | 84-123 | 30 |
| p-Isopropyltoluene | 2.5 | 5.0 ug/kg | | | 10-147 | 60 | 85-125 | 30 |
| sec-Butylbenzene | 2.5 | 5.0 ug/kg | | | 10-157 | 56 | 83-125 | 30 |
| Styrene | 2.5 | 5.0 ug/kg | | | 13-171 | 39 | 86-126 | 30 |
| tert-Butyl alcohol (TBA) | 2.5 | 5.0 ug/kg | | | 34-179 | 35 | 70-130 | 30 |
| tert-Butylbenzene | 2.5 | 5.0 ug/kg | | | 10-160 | 79 | 80-127 | 30 |
| Tetrachloroethylene | 2.5 | 5.0 ug/kg | | | 30-167 | 33 | 80-129 | 30 |
| Toluene | 2.5 | 5.0 ug/kg | | | 21-160 | 50 | 85-121 | 30 |
| trans-1,2-Dichloroethylene | 2.5 | 5.0 ug/kg | | | 29-153 | 30 | 72-132 | 30 |
| trans-1,3-Dichloropropylene | 2.5 | 5.0 ug/kg | | | 18-155 | 30 | 78-132 | 30 |
| trans-1,4-dichloro-2-butene | 2.5 | 5.0 ug/kg | | | 17-154 | 30 | 75-135 | 30 |
| Trichloroethylene | 2.5 | 5.0 ug/kg | | | 24-169 | 30 | 84-123 | 30 |
| Trichlorofluoromethane | 2.5 | 5.0 ug/kg | | | 35-142 | 30 | 62-140 | 30 |
| Vinyl acetate | 2.5 | 5.0 ug/kg | | | 10-119 | 82 | 67-136 | 30 |
| Vinyl Chloride | 2.5 | 5.0 ug/kg | | | 12-160 | 35 | 52-130 | 30 |
| Xylenes, Total | 7.5 | 15 ug/kg | | | | | | |
| Chlorodifluoromethane (Freon 22) | 2.5 | 5.0 ug/kg | | | | 30 | | 30 |
| Surr: SURR: 1,2-Dichloroethane-d4 | | | 77-125 | | | | | |
| Surr: SURR: Toluene-d8 | | | 85-120 | | | | | |
| Surr: SURR: p-Bromofluorobenzene | | | 76-130 | | | | | |
| ISTD: Fluorobenzene | | | | | | | | |
| ISTD: Chlorobenzene-d5 | | | | | | | | |
| ISTD: 1,2-Dichlorobenzene-d4 | | | | | | | | |

# Analytical Method Information

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**(Continued)**

**Volatile Organics, 8260 - Comprehensive in Water (EPA 8260D)**

**Preservation:** Add HCl to pH<2; Store cool at 4°C

**Container:** 00_40mL Clear Vial (pre-pres.) HCl; Cool t **Amount Required:** 80 mL **Hold Time:** 14 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 0.20 | 0.50 ug/L | | | 45-161 | 30 | 82-126 | 30 |
| 1,1,1-Trichloroethane | 0.20 | 0.50 ug/L | | | 70-146 | 30 | 78-136 | 30 |
| 1,1,2,2-Tetrachloroethane | 0.20 | 0.50 ug/L | | | 74-121 | 30 | 76-129 | 30 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 0.20 | 0.50 ug/L | | | 21-217 | 30 | 54-165 | 30 |
| 1,1,2-Trichloroethane | 0.20 | 0.50 ug/L | | | 59-146 | 30 | 82-123 | 30 |
| 1,1-Dichloroethane | 0.20 | 0.50 ug/L | | | 54-146 | 30 | 82-129 | 30 |
| 1,1-Dichloroethylene | 0.20 | 0.50 ug/L | | | 44-165 | 30 | 68-138 | 30 |
| 1,1-Dichloropropylene | 0.20 | 0.50 ug/L | | | 82-134 | 30 | 83-133 | 30 |
| 1,2,3-Trichlorobenzene | 0.20 | 0.50 ug/L | | | 40-161 | 30 | 40-130 | 30 |
| 1,2,3-Trichloropropane | 0.20 | 0.50 ug/L | | | 74-127 | 30 | 77-128 | 30 |
| 1,2,4,5-Tetramethylbenzene | 0.20 | 0.50 ug/L | | | 27-190 | 30 | 85-140 | 30 |
| 1,2,4-Trichlorobenzene | 0.20 | 0.50 ug/L | | | 41-161 | 30 | 65-137 | 30 |
| 1,2,4-Trimethylbenzene | 0.20 | 0.50 ug/L | | | 72-129 | 30 | 82-132 | 30 |
| 1,2-Dibromo-3-chloropropane | 0.20 | 0.50 ug/L | | | 31-151 | 30 | 45-147 | 30 |
| 1,2-Dibromoethane | 0.20 | 0.50 ug/L | | | 75-125 | 30 | 83-124 | 30 |
| 1,2-Dichlorobenzene | 0.20 | 0.50 ug/L | | | 63-122 | 30 | 79-123 | 30 |
| 1,2-Dichloroethane | 0.20 | 0.50 ug/L | | | 68-131 | 30 | 73-132 | 30 |
| 1,2-Dichloropropane | 0.20 | 0.50 ug/L | | | 77-121 | 30 | 78-126 | 30 |
| 1,3,5-Trimethylbenzene | 0.20 | 0.50 ug/L | | | 69-126 | 30 | 80-131 | 30 |
| 1,3-Dichlorobenzene | 0.20 | 0.50 ug/L | | | 74-119 | 30 | 86-130 | 30 |
| 1,3-Dichloropropane | 0.20 | 0.50 ug/L | | | 77-119 | 30 | 81-125 | 30 |
| 1,4-Dichlorobenzene | 0.20 | 0.50 ug/L | | | 70-124 | 30 | 85-130 | 30 |
| 1,4-Dioxane | 40 | 40 ug/L | | | 10-310 | 30 | 10-349 | 30 |
| 2,2-Dichloropropane | 0.20 | 0.50 ug/L | | | 10-160 | 30 | 56-152 | 30 |
| 2-Butanone | 0.20 | 0.50 ug/L | | | 10-193 | 30 | 49-152 | 30 |
| 2-Chlorotoluene | 0.20 | 0.50 ug/L | | | 70-126 | 30 | 79-130 | 30 |
| 2-Hexanone | 0.20 | 0.50 ug/L | | | 53-133 | 30 | 51-146 | 30 |
| 4-Chlorotoluene | 0.20 | 0.50 ug/L | | | 69-124 | 30 | 79-128 | 30 |
| 4-Methyl-2-pentanone | 0.20 | 0.50 ug/L | | | 38-150 | 30 | 57-145 | 30 |
| Acetone | 1.0 | 2.0 ug/L | | | 13-149 | 30 | 14-150 | 30 |
| Acrolein | 0.20 | 0.50 ug/L | | | 10-195 | 30 | 10-153 | 30 |
| Acrylonitrile | 0.20 | 0.50 ug/L | | | 37-165 | 30 | 51-150 | 30 |
| Benzene | 0.20 | 0.50 ug/L | | | 38-155 | 30 | 85-126 | 30 |
| Bromobenzene | 0.20 | 0.50 ug/L | | | 72-122 | 30 | 78-129 | 30 |
| Bromochloromethane | 0.20 | 0.50 ug/L | | | 75-121 | 30 | 77-128 | 30 |
| Bromodichloromethane | 0.20 | 0.50 ug/L | | | 70-129 | 30 | 79-128 | 30 |
| Bromoform | 0.20 | 0.50 ug/L | | | 66-136 | 30 | 78-133 | 30 |
| Bromomethane | 0.20 | 0.50 ug/L | | | 30-158 | 30 | 43-168 | 30 |
| Carbon disulfide | 0.20 | 0.50 ug/L | | | 10-138 | 30 | 68-146 | 30 |
| Carbon tetrachloride | 0.20 | 0.50 ug/L | | | 71-146 | 30 | 77-141 | 30 |
| Chlorobenzene | 0.20 | 0.50 ug/L | | | 81-117 | 30 | 88-120 | 30 |
| Chloroethane | 0.20 | 0.50 ug/L | | | 51-145 | 30 | 65-136 | 30 |
| Chloroform | 0.20 | 0.50 ug/L | | | 80-124 | 30 | 82-128 | 30 |
| Chloromethane | 0.20 | 0.50 ug/L | | | 16-163 | 30 | 43-155 | 30 |
| cis-1,2-Dichloroethylene | 0.20 | 0.50 ug/L | | | 76-125 | 30 | 83-129 | 30 |
| cis-1,3-Dichloropropylene | 0.20 | 0.50 ug/L | | | 58-131 | 30 | 80-131 | 30 |
| Cyclohexane | 0.20 | 0.50 ug/L | | | 70-130 | 30 | 63-149 | 30 |
| Dibromochloromethane | 0.20 | 0.50 ug/L | | | 71-129 | 30 | 80-130 | 30 |
| Dibromomethane | 0.20 | 0.50 ug/L | | | 76-120 | 30 | 72-134 | 30 |
| Dichlorodifluoromethane | 0.20 | 0.50 ug/L | | | 30-147 | 30 | 44-144 | 30 |
| Ethyl Benzene | 0.20 | 0.50 ug/L | | | 72-128 | 30 | 80-131 | 30 |
| Hexachlorobutadiene | 0.20 | 0.50 ug/L | | | 34-166 | 30 | 67-146 | 30 |
| Isopropylbenzene | 0.20 | 0.50 ug/L | | | 66-139 | 30 | 76-140 | 30 |

# Analytical Method Information

**(Continued)**

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**Volatile Organics, 8260 - Comprehensive in Water (EPA 8260D) (Continued)**

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | ----Matrix Spike---- RPD | --Blank Spike / LCS-- %Rec | --Blank Spike / LCS-- RPD |
|---|---|---|---|---|---|---|---|---|
| Methyl acetate | 0.20 | 0.50 ug/L | | | 10-200 | 30 | 51-139 | 30 |
| Methyl tert-butyl ether (MTBE) | 0.20 | 0.50 ug/L | | | 75-128 | 30 | 76-135 | 30 |
| Methylcyclohexane | 0.20 | 0.50 ug/L | | | 70-130 | 30 | 72-143 | 30 |
| Methylene chloride | 1.0 | 2.0 ug/L | | | 57-128 | 30 | 55-137 | 30 |
| Naphthalene | 1.0 | 2.0 ug/L | | | 39-158 | 30 | 50-147 | 30 |
| n-Butylbenzene | 0.20 | 0.50 ug/L | | | 61-138 | 30 | 79-132 | 30 |
| n-Propylbenzene | 0.20 | 0.50 ug/L | | | 66-134 | 30 | 78-133 | 30 |
| o-Xylene | 0.20 | 0.50 ug/L | | | 69-126 | 30 | 78-130 | 30 |
| p- & m- Xylenes | 0.50 | 1.0 ug/L | | | 67-130 | 30 | 77-133 | 30 |
| p-Diethylbenzene | 0.20 | 0.50 ug/L | | | 52-150 | 30 | 84-134 | 30 |
| p-Ethyltoluene | 0.20 | 0.50 ug/L | | | 76-127 | 30 | 88-129 | 30 |
| p-Isopropyltoluene | 0.20 | 0.50 ug/L | | | 64-137 | 30 | 81-136 | 30 |
| sec-Butylbenzene | 0.20 | 0.50 ug/L | | | 53-155 | 30 | 79-137 | 30 |
| Styrene | 0.20 | 0.50 ug/L | | | 69-125 | 30 | 67-132 | 30 |
| tert-Butyl alcohol (TBA) | 0.50 | 1.0 ug/L | | | 10-130 | 30 | 25-162 | 30 |
| tert-Butylbenzene | 0.20 | 0.50 ug/L | | | 65-139 | 30 | 77-138 | 30 |
| Tetrachloroethylene | 0.20 | 0.50 ug/L | | | 64-139 | 30 | 82-131 | 30 |
| Toluene | 0.20 | 0.50 ug/L | | | 76-123 | 30 | 80-127 | 30 |
| trans-1,2-Dichloroethylene | 0.20 | 0.50 ug/L | | | 79-131 | 30 | 80-132 | 30 |
| trans-1,3-Dichloropropylene | 0.20 | 0.50 ug/L | | | 55-130 | 30 | 78-131 | 30 |
| trans-1,4-dichloro-2-butene | 0.20 | 0.50 ug/L | | | 25-155 | 30 | 63-141 | 30 |
| Trichloroethylene | 0.20 | 0.50 ug/L | | | 53-145 | 30 | 82-128 | 30 |
| Trichlorofluoromethane | 0.20 | 0.50 ug/L | | | 61-142 | 30 | 67-139 | 30 |
| Vinyl acetate | 0.20 | 0.50 ug/L | | | 10-87 | 30 | 60-130 | 30 |
| Vinyl Chloride | 0.20 | 0.50 ug/L | | | 31-165 | 30 | 58-145 | 30 |
| Xylenes, Total | 0.60 | 1.5 ug/L | | | | | | |
| Chlorodifluoromethane (Freon 22) | 0.20 | 0.50 ug/L | | | | 30 | | 30 |
| Surr: SURR: 1,2-Dichloroethane-d4 | | | 69-130 | | | | | |
| Surr: SURR: Toluene-d8 | | | 81-117 | | | | | |
| Surr: SURR: p-Bromofluorobenzene | | | 79-122 | | | | | |
| ISTD: Fluorobenzene | | | | | | | | |
| ISTD: Chlorobenzene-d5 | | | | | | | | |
| ISTD: 1,2-Dichlorobenzene-d4 | | | | | | | | |

# Analytical Method Information

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**Semi-Volatiles, 8270 - Comprehensive in Soil (EPA 8270E)**

**Preservation:** Cool 4°C

**Container:** 06_4 oz. WM Clear Glass Cool to 4° C **Amount Required:** 100 g **Hold Time:** 14 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| 1,1-Biphenyl | 20.9 | 41.7 ug/kg | | | 10-130 | 30 | 18-111 | 30 |
| 1,2,4,5-Tetrachlorobenzene | 41.7 | 83.3 ug/kg | | | 10-133 | 30 | 21-131 | 30 |
| 1,2,4-Trichlorobenzene | 20.9 | 41.7 ug/kg | | | 10-127 | 30 | 10-140 | 30 |
| 1,2-Dichlorobenzene | 20.9 | 41.7 ug/kg | | | 14-111 | 30 | 34-108 | 30 |
| 1,2-Diphenylhydrazine (as Azobenzene) | 20.9 | 41.7 ug/kg | | | 10-144 | 30 | 17-137 | 30 |
| 1,3-Dichlorobenzene | 20.9 | 41.7 ug/kg | | | 11-111 | 30 | 33-110 | 30 |
| 1,4-Dichlorobenzene | 20.9 | 41.7 ug/kg | | | 10-106 | 30 | 32-104 | 30 |
| 2,3,4,6-Tetrachlorophenol | 41.7 | 83.3 ug/kg | | | 30-130 | 30 | 30-130 | 30 |
| 2,4,5-Trichlorophenol | 20.9 | 41.7 ug/kg | | | 10-127 | 30 | 27-118 | 30 |
| 2,4,6-Trichlorophenol | 20.9 | 41.7 ug/kg | | | 10-132 | 30 | 31-120 | 30 |
| 2,4-Dichlorophenol | 20.9 | 41.7 ug/kg | | | 10-128 | 30 | 20-127 | 30 |
| 2,4-Dimethylphenol | 20.9 | 41.7 ug/kg | | | 10-137 | 30 | 14-132 | 30 |
| 2,4-Dinitrophenol | 41.7 | 83.3 ug/kg | | | 10-171 | 30 | 10-171 | 30 |
| 2,4-Dinitrotoluene | 20.9 | 41.7 ug/kg | | | 16-135 | 30 | 34-131 | 30 |
| 2,6-Dinitrotoluene | 20.9 | 41.7 ug/kg | | | 18-131 | 30 | 31-128 | 30 |
| 2-Chloronaphthalene | 20.9 | 41.7 ug/kg | | | 10-129 | 30 | 31-117 | 30 |
| 2-Chlorophenol | 20.9 | 41.7 ug/kg | | | 15-116 | 30 | 33-113 | 30 |
| 2-Methylnaphthalene | 20.9 | 41.7 ug/kg | | | 10-147 | 30 | 12-138 | 30 |
| 2-Methylphenol | 20.9 | 41.7 ug/kg | | | 10-136 | 30 | 10-136 | 30 |
| 2-Nitroaniline | 41.7 | 83.3 ug/kg | | | 10-137 | 30 | 27-132 | 30 |
| 2-Nitrophenol | 20.9 | 41.7 ug/kg | | | 10-129 | 30 | 17-129 | 30 |
| 3- & 4-Methylphenols | 20.9 | 41.7 ug/kg | | | 10-123 | 30 | 29-103 | 30 |
| 3,3-Dichlorobenzidine | 20.9 | 41.7 ug/kg | | | 10-155 | 30 | 22-149 | 30 |
| 3-Nitroaniline | 41.7 | 83.3 ug/kg | | | 12-133 | 30 | 20-133 | 30 |
| 4,6-Dinitro-2-methylphenol | 41.7 | 83.3 ug/kg | | | 10-155 | 30 | 10-143 | 30 |
| 4-Bromophenyl phenyl ether | 20.9 | 41.7 ug/kg | | | 14-128 | 30 | 29-120 | 30 |
| 4-Chloro-3-methylphenol | 20.9 | 41.7 ug/kg | | | 10-134 | 30 | 24-129 | 30 |
| 4-Chloroaniline | 20.9 | 41.7 ug/kg | | | 10-145 | 30 | 10-132 | 30 |
| 4-Chlorophenyl phenyl ether | 20.9 | 41.7 ug/kg | | | 14-130 | 30 | 27-124 | 30 |
| 4-Nitroaniline | 41.7 | 83.3 ug/kg | | | 10-147 | 30 | 16-128 | 30 |
| 4-Nitrophenol | 41.7 | 83.3 ug/kg | | | 10-137 | 30 | 10-141 | 30 |
| Acenaphthene | 20.9 | 41.7 ug/kg | | | 10-146 | 30 | 30-121 | 30 |
| Acenaphthylene | 20.9 | 41.7 ug/kg | | | 10-134 | 30 | 30-115 | 30 |
| Acetophenone | 20.9 | 41.7 ug/kg | | | 10-116 | 30 | 20-112 | 30 |
| Aniline | 83.5 | 167 ug/kg | | | 10-123 | 30 | 10-119 | 30 |
| Anthracene | 20.9 | 41.7 ug/kg | | | 10-142 | 30 | 34-118 | 30 |
| Atrazine | 20.9 | 41.7 ug/kg | | | 19-115 | 30 | 26-112 | 30 |
| Benzaldehyde | 20.9 | 41.7 ug/kg | | | 10-125 | 30 | 21-100 | 30 |
| Benzidine | 83.5 | 167 ug/kg | | | | 30 | | 30 |
| Benzo(a)anthracene | 20.9 | 41.7 ug/kg | | | 10-158 | 30 | 32-122 | 30 |
| Benzo(a)pyrene | 20.9 | 41.7 ug/kg | | | 10-180 | 30 | 29-133 | 30 |
| Benzo(b)fluoranthene | 20.9 | 41.7 ug/kg | | | 10-200 | 30 | 25-133 | 30 |
| Benzo(g,h,i)perylene | 20.9 | 41.7 ug/kg | | | 10-138 | 30 | 10-143 | 30 |
| Benzo(k)fluoranthene | 20.9 | 41.7 ug/kg | | | 10-197 | 30 | 25-128 | 30 |
| Benzoic acid | 20.9 | 41.7 ug/kg | | | 10-166 | 30 | 10-140 | 30 |
| Benzyl alcohol | 20.9 | 41.7 ug/kg | | | 12-124 | 30 | 30-115 | 30 |
| Benzyl butyl phthalate | 20.9 | 41.7 ug/kg | | | 10-154 | 30 | 26-126 | 30 |
| Bis(2-chloroethoxy)methane | 20.9 | 41.7 ug/kg | | | 10-132 | 30 | 19-132 | 30 |
| Bis(2-chloroethyl)ether | 20.9 | 41.7 ug/kg | | | 10-119 | 30 | 19-125 | 30 |
| Bis(2-chloroisopropyl)ether | 20.9 | 41.7 ug/kg | | | 10-139 | 30 | 20-135 | 30 |
| Bis(2-ethylhexyl)phthalate | 20.9 | 41.7 ug/kg | | | 10-167 | 30 | 10-155 | 30 |
| Caprolactam | 41.7 | 83.3 ug/kg | | | 10-132 | 30 | 10-127 | 30 |
| Carbazole | 20.9 | 41.7 ug/kg | | | 10-167 | 30 | 35-123 | 30 |

# Analytical Method Information

Printed: 07/29/2024 10:09 pm

**(Continued)**

**Semi-Volatiles, 8270 - Comprehensive in Soil (EPA 8270E) (Continued)**

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Chrysene | 20.9 | 41.7 ug/kg | | | 10-156 | 30 | 32-123 | 30 |
| Dibenzo(a,h)anthracene | 20.9 | 41.7 ug/kg | | | 10-137 | 30 | 10-136 | 30 |
| Dibenzofuran | 20.9 | 41.7 ug/kg | | | 10-147 | 30 | 29-121 | 30 |
| Diethyl phthalate | 20.9 | 41.7 ug/kg | | | 20-120 | 30 | 34-116 | 30 |
| Dimethyl phthalate | 20.9 | 41.7 ug/kg | | | 18-131 | 30 | 35-124 | 30 |
| Di-n-butyl phthalate | 20.9 | 41.7 ug/kg | | | 10-137 | 30 | 31-116 | 30 |
| Di-n-octyl phthalate | 20.9 | 41.7 ug/kg | | | 10-180 | 30 | 26-136 | 30 |
| Diphenylamine | 41.7 | 83.3 ug/kg | | | 40-140 | 30 | 40-140 | 30 |
| Fluoranthene | 20.9 | 41.7 ug/kg | | | 10-160 | 30 | 33-122 | 30 |
| Fluorene | 20.9 | 41.7 ug/kg | | | 10-157 | 30 | 29-123 | 30 |
| Hexachlorobenzene | 20.9 | 41.7 ug/kg | | | 10-137 | 30 | 21-124 | 30 |
| Hexachlorobutadiene | 20.9 | 41.7 ug/kg | | | 10-132 | 30 | 10-149 | 30 |
| Hexachlorocyclopentadiene | 20.9 | 41.7 ug/kg | | | 10-106 | 30 | 10-129 | 30 |
| Hexachloroethane | 20.9 | 41.7 ug/kg | | | 10-110 | 30 | 28-108 | 30 |
| Indeno(1,2,3-cd)pyrene | 20.9 | 41.7 ug/kg | | | 10-144 | 30 | 10-135 | 30 |
| Isophorone | 20.9 | 41.7 ug/kg | | | 10-132 | 30 | 20-132 | 30 |
| Naphthalene | 20.9 | 41.7 ug/kg | | | 10-141 | 30 | 23-124 | 30 |
| Nitrobenzene | 20.9 | 41.7 ug/kg | | | 10-131 | 30 | 13-132 | 30 |
| N-Nitrosodimethylamine | 20.9 | 41.7 ug/kg | | | 10-126 | 30 | 11-129 | 30 |
| N-nitroso-di-n-propylamine | 20.9 | 41.7 ug/kg | | | 10-125 | 30 | 24-119 | 30 |
| N-Nitrosodiphenylamine | 20.9 | 41.7 ug/kg | | | 10-177 | 30 | 22-152 | 30 |
| Pentachlorophenol | 20.9 | 41.7 ug/kg | | | 10-153 | 30 | 10-139 | 30 |
| Phenanthrene | 20.9 | 41.7 ug/kg | | | 10-148 | 30 | 33-123 | 30 |
| Phenol | 20.9 | 41.7 ug/kg | | | 10-126 | 30 | 23-115 | 30 |
| Pyrene | 20.9 | 41.7 ug/kg | | | 10-165 | 30 | 32-130 | 30 |
| Pyridine | 83.5 | 167 ug/kg | | | 10-83 | 30 | 10-91 | 30 |
| Total PAH | | | | | | | | |
| Benzo(a)pyrene (BAP) Equivalent-BAPE | 146 | 292 ug/kg | | | | | | |
| Surr: SURR: 2-Fluorophenol | | | 20-108 | | | | | |
| Surr: SURR: Phenol-d6 | | | 23-114 | | | | | |
| Surr: SURR: Nitrobenzene-d5 | | | 22-108 | | | | | |
| Surr: SURR: 2-Fluorobiphenyl | | | 21-113 | | | | | |
| Surr: SURR: 2,4,6-Tribromophenol | | | 19-110 | | | | | |
| Surr: SURR: Terphenyl-d14 | | | 24-116 | | | | | |
| ISTD: 1,4-Dichlorobenzene-d4 | | | | | | | | |
| ISTD: Naphthalene-d8 | | | | | | | | |
| ISTD: Acenaphthene-d10 | | | | | | | | |
| ISTD: Phenanthrene-d10 | | | | | | | | |
| ISTD: Chrysene-d12 | | | | | | | | |
| ISTD: Perylene-d12 | | | | | | | | |

# Analytical Method Information

Printed: 07/29/2024 10:09 pm

**(Continued)**

**Semi-Volatiles, 8270 - Comprehensive in Water (EPA 8270E)**

**Preservation:** Cool 4°C

**Container:** 07_1000mL Amber Glass Cool to 4° C **Amount Required:** 1000 mL **Hold Time:** 7 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| 1,1-Biphenyl | 2.50 | 5.00 ug/L | | | 40-140 | 20 | 21-102 | 20 |
| 1,2,4,5-Tetrachlorobenzene | 2.50 | 5.00 ug/L | | | 40-140 | 20 | 28-105 | 20 |
| 1,2,4-Trichlorobenzene | 2.50 | 5.00 ug/L | | | 31-92 | 20 | 35-91 | 20 |
| 1,2-Dichlorobenzene | 2.50 | 5.00 ug/L | | | 31-91 | 20 | 42-85 | 20 |
| 1,2-Diphenylhydrazine (as Azobenzene) | 2.50 | 5.00 ug/L | | | 40-140 | 20 | 16-137 | 20 |
| 1,3-Dichlorobenzene | 2.50 | 5.00 ug/L | | | 24-93 | 20 | 45-80 | 20 |
| 1,4-Dichlorobenzene | 2.50 | 5.00 ug/L | | | 26-95 | 20 | 42-82 | 20 |
| 2,3,4,6-Tetrachlorophenol | 2.50 | 5.00 ug/L | | | 30-130 | 20 | 30-130 | 20 |
| 2,4,5-Trichlorophenol | 2.50 | 5.00 ug/L | | | 44-96 | 20 | 36-112 | 20 |
| 2,4,6-Trichlorophenol | 2.50 | 5.00 ug/L | | | 39-107 | 20 | 41-107 | 20 |
| 2,4-Dichlorophenol | 2.50 | 5.00 ug/L | | | 38-99 | 20 | 43-92 | 20 |
| 2,4-Dimethylphenol | 2.50 | 5.00 ug/L | | | 10-116 | 20 | 25-92 | 20 |
| 2,4-Dinitrophenol | 2.50 | 5.00 ug/L | | | 10-168 | 20 | 10-149 | 20 |
| 2,4-Dinitrotoluene | 2.50 | 5.00 ug/L | | | 26-120 | 20 | 41-114 | 20 |
| 2,6-Dinitrotoluene | 2.50 | 5.00 ug/L | | | 28-118 | 20 | 49-106 | 20 |
| 2-Chloronaphthalene | 2.50 | 5.00 ug/L | | | 33-99 | 20 | 40-96 | 20 |
| 2-Chlorophenol | 2.50 | 5.00 ug/L | | | 25-106 | 20 | 35-84 | 20 |
| 2-Methylnaphthalene | 2.50 | 5.00 ug/L | | | 29-102 | 20 | 33-101 | 20 |
| 2-Methylphenol | 2.50 | 5.00 ug/L | | | 10-118 | 20 | 10-90 | 20 |
| 2-Nitroaniline | 2.50 | 5.00 ug/L | | | 48-99 | 20 | 31-122 | 20 |
| 2-Nitrophenol | 2.50 | 5.00 ug/L | | | 36-103 | 20 | 37-97 | 20 |
| 3- & 4-Methylphenols | 2.50 | 5.00 ug/L | | | 10-102 | 20 | 10-101 | 20 |
| 3,3-Dichlorobenzidine | 2.50 | 5.00 ug/L | | | 10-140 | 20 | 25-155 | 20 |
| 3-Nitroaniline | 2.50 | 5.00 ug/L | | | 10-169 | 20 | 29-128 | 20 |
| 4,6-Dinitro-2-methylphenol | 2.50 | 5.00 ug/L | | | 10-142 | 20 | 10-135 | 20 |
| 4-Bromophenyl phenyl ether | 2.50 | 5.00 ug/L | | | 35-109 | 20 | 38-116 | 20 |
| 4-Chloro-3-methylphenol | 2.50 | 5.00 ug/L | | | 20-117 | 20 | 28-101 | 20 |
| 4-Chloroaniline | 2.50 | 5.00 ug/L | | | 24-116 | 20 | 10-154 | 20 |
| 4-Chlorophenyl phenyl ether | 2.50 | 5.00 ug/L | | | 31-112 | 20 | 34-112 | 20 |
| 4-Nitroaniline | 2.50 | 5.00 ug/L | | | 24-143 | 20 | 15-143 | 20 |
| 4-Nitrophenol | 2.50 | 5.00 ug/L | | | 10-119 | 20 | 10-112 | 20 |
| Acenaphthene | 0.0500 | 0.0500 ug/L | | | 17-132 | 20 | 24-114 | 20 |
| Acenaphthylene | 0.0500 | 0.0500 ug/L | | | 13-124 | 20 | 26-112 | 20 |
| Acetophenone | 2.50 | 5.00 ug/L | | | 40-140 | 20 | 47-92 | 20 |
| Aniline | 2.50 | 5.00 ug/L | | | 10-133 | 20 | 10-107 | 20 |
| Anthracene | 0.0500 | 0.0500 ug/L | | | 40-105 | 20 | 35-114 | 20 |
| Atrazine | 0.500 | 0.500 ug/L | | | 40-140 | 20 | 43-101 | 20 |
| Benzaldehyde | 2.50 | 5.00 ug/L | | | 40-140 | 20 | 17-117 | 20 |
| Benzidine | 10.0 | 20.0 ug/L | | | | 20 | | 20 |
| Benzo(a)anthracene | 0.0500 | 0.0500 ug/L | | | 23-141 | 20 | 38-127 | 20 |
| Benzo(a)pyrene | 0.0500 | 0.0500 ug/L | | | 46-118 | 20 | 30-146 | 20 |
| Benzo(b)fluoranthene | 0.0500 | 0.0500 ug/L | | | 22-133 | 20 | 36-145 | 20 |
| Benzo(g,h,i)perylene | 0.0500 | 0.0500 ug/L | | | 10-126 | 20 | 10-163 | 20 |
| Benzo(k)fluoranthene | 0.0500 | 0.0500 ug/L | | | 18-152 | 20 | 16-149 | 20 |
| Benzoic acid | 25.0 | 50.0 ug/L | | | 10-162 | 20 | 30-130 | 20 |
| Benzyl alcohol | 2.50 | 5.00 ug/L | | | 10-114 | 20 | 18-75 | 20 |
| Benzyl butyl phthalate | 2.50 | 5.00 ug/L | | | 31-121 | 20 | 28-129 | 20 |
| Bis(2-chloroethoxy)methane | 2.50 | 5.00 ug/L | | | 23-110 | 20 | 27-112 | 20 |
| Bis(2-chloroethyl)ether | 2.50 | 5.00 ug/L | | | 10-132 | 20 | 24-114 | 20 |
| Bis(2-chloroisopropyl)ether | 2.50 | 5.00 ug/L | | | 12-132 | 20 | 21-124 | 20 |
| Bis(2-ethylhexyl)phthalate | 0.500 | 0.500 ug/L | | | 14-131 | 20 | 10-171 | 20 |
| Caprolactam | 2.50 | 5.00 ug/L | | | 40-140 | 20 | 10-29 | 20 |
| Carbazole | 2.50 | 5.00 ug/L | | | 10-169 | 20 | 49-116 | 20 |

# Analytical Method Information

**(Continued)**

Printed: 07/29/2024 10:09 pm

**Semi-Volatiles, 8270 - Comprehensive in Water (EPA 8270E) (Continued)**

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Chrysene | 0.0500 | 0.0500 ug/L | | | 30-127 | 20 | 33-120 | 20 |
| Dibenzo(a,h)anthracene | 0.0500 | 0.0500 ug/L | | | 10-131 | 20 | 10-149 | 20 |
| Dibenzofuran | 2.50 | 5.00 ug/L | | | 37-103 | 20 | 42-105 | 20 |
| Diethyl phthalate | 2.50 | 5.00 ug/L | | | 41-106 | 20 | 38-112 | 20 |
| Dimethyl phthalate | 2.50 | 5.00 ug/L | | | 38-105 | 20 | 49-106 | 20 |
| Di-n-butyl phthalate | 2.50 | 5.00 ug/L | | | 24-121 | 20 | 36-110 | 20 |
| Di-n-octyl phthalate | 2.50 | 5.00 ug/L | | | 25-141 | 20 | 12-149 | 20 |
| Diphenylamine | 2.50 | 5.00 ug/L | | | 40-140 | 25 | 40-140 | 20 |
| Fluoranthene | 0.0500 | 0.0500 ug/L | | | 29-123 | 20 | 33-126 | 20 |
| Fluorene | 0.0500 | 0.0500 ug/L | | | 20-133 | 20 | 28-117 | 20 |
| Hexachlorobenzene | 0.0200 | 0.0200 ug/L | | | 24-120 | 20 | 27-120 | 20 |
| Hexachlorobutadiene | 0.500 | 0.500 ug/L | | | 26-98 | 20 | 25-106 | 20 |
| Hexachlorocyclopentadiene | 2.50 | 5.00 ug/L | | | 10-103 | 20 | 10-99 | 20 |
| Hexachloroethane | 0.500 | 0.500 ug/L | | | 11-102 | 20 | 33-84 | 20 |
| Indeno(1,2,3-cd)pyrene | 0.0500 | 0.0500 ug/L | | | 10-130 | 20 | 10-150 | 20 |
| Isophorone | 2.50 | 5.00 ug/L | | | 19-113 | 20 | 29-115 | 20 |
| Naphthalene | 0.0500 | 0.0500 ug/L | | | 26-104 | 20 | 30-99 | 20 |
| Nitrobenzene | 0.250 | 0.250 ug/L | | | 25-107 | 20 | 32-113 | 20 |
| N-Nitrosodimethylamine | 0.500 | 0.500 ug/L | | | 10-110 | 20 | 10-63 | 20 |
| N-nitroso-di-n-propylamine | 2.50 | 5.00 ug/L | | | 16-127 | 20 | 36-118 | 20 |
| N-Nitrosodiphenylamine | 2.50 | 5.00 ug/L | | | 46-116 | 20 | 27-145 | 20 |
| Pentachlorophenol | 0.250 | 0.250 ug/L | | | 10-181 | 20 | 19-127 | 20 |
| Phenanthrene | 0.0500 | 0.0500 ug/L | | | 29-121 | 20 | 31-112 | 20 |
| Phenol | 2.50 | 5.00 ug/L | | | 10-107 | 20 | 10-37 | 20 |
| Pyrene | 0.0500 | 0.0500 ug/L | | | 34-129 | 20 | 42-125 | 20 |
| Pyridine | 2.50 | 5.00 ug/L | | | 10-73 | 20 | 10-46 | 20 |
| Surr: SURR: 2-Fluorophenol | | | 19.7-63.1 | | | | | |
| Surr: SURR: Phenol-d6 | | | 10.1-41.7 | | | | | |
| Surr: SURR: Nitrobenzene-d5 | | | 50.2-113 | | | | | |
| Surr: SURR: 2-Fluorobiphenyl | | | 39.9-105 | | | | | |
| Surr: SURR: 2,4,6-Tribromophenol | | | 39.3-151 | | | | | |
| Surr: SURR: Terphenyl-d14 | | | 30.7-106 | | | | | |
| ISTD: 1,4-Dichlorobenzene-d4 | | | | | | | | |
| ISTD: Naphthalene-d8 | | | | | | | | |
| ISTD: Acenaphthene-d10 | | | | | | | | |
| ISTD: Phenanthrene-d10 | | | | | | | | |
| ISTD: Chrysene-d12 | | | | | | | | |
| ISTD: Perylene-d12 | | | | | | | | |

# Analytical Method Information

Printed: 07/29/2024 10:12 pm

**Mercury by 7473 in Soil (EPA 7473)**

**Preservation:** Cool 4°C

**Container:** 06_8 oz. WM Clear Glass Cool to 4° C **Amount Required:** 10 g. **Hold Time:** 28 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Mercury | 0.0300 | 0.0300 mg/kg | | 35 | 75-125 | | 67.6-131 | |

**Mercury by 7473 in Water (EPA 7473)**

**Preservation:** Add HNO3 to pH<2, Cool 4°C

**Container:** 10_250mL Plastic pH <2 w/ HNO3 **Amount Required:** 100 mL **Hold Time:** 28 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Mercury | 0.000200 | 0.000200 mg/L | | 20 | 75-125 | | 80-120 | |

**Metals, Target Analyte in Soil (EPA 6010D)**

**Preservation:** Cool 4°C

**Container:** 06_4 oz. WM Clear Glass Cool to 4° C **Amount Required:** 50 **Hold Time:** 180 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 4.17 | 4.17 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Antimony | 2.08 | 2.08 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Arsenic | 1.25 | 1.25 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Barium | 2.08 | 2.08 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Beryllium | 0.0420 | 0.0420 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Cadmium | 0.250 | 0.250 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Calcium | 4.17 | 4.17 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Chromium | 0.417 | 0.417 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Cobalt | 0.333 | 0.333 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Copper | 1.67 | 1.67 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Iron | 20.8 | 20.8 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Lead | 0.417 | 0.417 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Magnesium | 4.17 | 4.17 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Manganese | 0.417 | 0.417 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Nickel | 0.830 | 0.830 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Potassium | 4.17 | 4.17 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Selenium | 2.08 | 2.08 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Silver | 0.420 | 0.420 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Sodium | 41.7 | 41.7 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Thallium | 2.08 | 2.08 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Vanadium | 0.830 | 0.830 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Zinc | 2.08 | 2.08 mg/kg | | 35 | 75-125 | 35 | 80-120 | |
| Yttrium 371.029 | | | | | | | | |

# Analytical Method Information

Printed: 07/29/2024 10:12 pm

**(Continued)**

**Metals, Target Analyte in Water (EPA 6010D)**

**Preservation:** Add HNO3 to pH<2, Cool 4°C

**Container:** 10_250mL Plastic pH <2 w/ HNO3 **Amount Required:** 200 **Hold Time:** 180 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 0.0500 | 0.0500 mg/L | | 20 | | 20 | 80-120 | |
| Antimony | 0.0250 | 0.0250 mg/L | | 20 | 75-125 | 20 | 80-120 | |
| Arsenic | 0.0150 | 0.0150 mg/L | | 20 | 75-125 | 20 | 80-120 | |
| Barium | 0.0250 | 0.0250 mg/L | | 20 | 75-125 | 20 | 80-120 | |
| Beryllium | 0.000500 | 0.000500 mg/L | | 20 | 75-125 | 20 | 80-120 | |
| Cadmium | 0.00300 | 0.00300 mg/L | | 20 | 75-125 | 20 | 80-120 | |
| Calcium | 0.0500 | 0.0500 mg/L | | 20 | | 20 | 80-120 | |
| Chromium | 0.00500 | 0.00500 mg/L | | 20 | 75-125 | 20 | 80-120 | |
| Cobalt | 0.00400 | 0.00400 mg/L | | 20 | 75-125 | 20 | 80-120 | |
| Copper | 0.0200 | 0.0200 mg/L | | 20 | 75-125 | 20 | 80-120 | |
| Iron | 0.250 | 0.250 mg/L | | 20 | 75-125 | 20 | 80-120 | |
| Lead | 0.00500 | 0.00500 mg/L | | 20 | 75-125 | 20 | 80-120 | |
| Magnesium | 0.0500 | 0.0500 mg/L | | 20 | | 20 | 80-120 | |
| Manganese | 0.00500 | 0.00500 mg/L | | 20 | 75-125 | 20 | 80-120 | |
| Nickel | 0.0100 | 0.0100 mg/L | | 20 | 75-125 | 20 | 80-120 | |
| Potassium | 0.0500 | 0.0500 mg/L | | 20 | | 20 | 80-120 | |
| Selenium | 0.0250 | 0.0250 mg/L | | 20 | 75-125 | 20 | 80-120 | |
| Silver | 0.00500 | 0.00500 mg/L | | 20 | 75-125 | 20 | 80-120 | |
| Sodium | 0.500 | 0.500 mg/L | | 20 | | 20 | 80-120 | |
| Thallium | 0.0250 | 0.0250 mg/L | | 20 | 75-125 | 20 | 80-120 | |
| Vanadium | 0.0100 | 0.0100 mg/L | | 20 | 75-125 | 20 | 80-120 | |
| Zinc | 0.0250 | 0.0250 mg/L | | 20 | 75-125 | 20 | 80-120 | |
| Yttrium 371.029 | | | | | | | | |

**Metals, Target Analyte List in Soil (varies)**

**Preservation:** [Group Analysis]

**Container:** **Amount Required:** **Hold Time:** 5 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|

No Analytes listed

**Metals, Target Analyte List in Water (varies)**

**Preservation:** [Group Analysis]

**Container:** **Amount Required:** **Hold Time:** 5 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|

No Analytes listed

# Analytical Method Information

Printed: 07/29/2024 10:11 pm

**Polychlorinated Biphenyls (PCB) in Soil (EPA 8082A)**

**Preservation:** Cool 4°C

**Container:** 06_8 oz. WM Clear Glass Cool to 4° C **Amount Required:** 100g **Hold Time:** 14 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Aroclor 1016 | 0.0167 | 0.0167 mg/kg | | | 40-140 | 50 | 40-130 | 25 |
| Aroclor 1016 (1) | | | | | | | | |
| Aroclor 1016 (2) | | | | | | | | |
| Aroclor 1016 (3) | | | | | | | | |
| Aroclor 1016 (4) | | | | | | | | |
| Aroclor 1016 (5) | | | | | | | | |
| Aroclor 1016 [2C] | 0.0167 | 0.0167 mg/kg | | | 40-140 | 50 | 40-130 | 25 |
| Aroclor 1016 (1) [2C] | | | | | | | | |
| Aroclor 1016 (2) [2C] | | | | | | | | |
| Aroclor 1016 (3) [2C] | | | | | | | | |
| Aroclor 1016 (4) [2C] | | | | | | | | |
| Aroclor 1016 (5) [2C] | | | | | | | | |
| Aroclor 1221 | 0.0167 | 0.0167 mg/kg | | | | | | |
| Aroclor 1221 (1) | | | | | | | | |
| Aroclor 1221 (2) | | | | | | | | |
| Aroclor 1221 (3) | | | | | | | | |
| Aroclor 1221 [2C] | 0.0167 | 0.0167 mg/kg | | | | | | |
| Aroclor 1221 (1) [2C] | | | | | | | | |
| Aroclor 1221 (2) [2C] | | | | | | | | |
| Aroclor 1221 (3) [2C] | | | | | | | | |
| Aroclor 1232 | 0.0167 | 0.0167 mg/kg | | | | | | |
| Aroclor 1232 (1) | | | | | | | | |
| Aroclor 1232 (2) | | | | | | | | |
| Aroclor 1232 (3) | | | | | | | | |
| Aroclor 1232 (4) | | | | | | | | |
| Aroclor 1232 (5) | | | | | | | | |
| Aroclor 1232 [2C] | 0.0167 | 0.0167 mg/kg | | | | | | |
| Aroclor 1232 (1) [2C] | | | | | | | | |
| Aroclor 1232 (2) [2C] | | | | | | | | |
| Aroclor 1232 (3) [2C] | | | | | | | | |
| Aroclor 1232 (4) [2C] | | | | | | | | |
| Aroclor 1232 (5) [2C] | | | | | | | | |
| Aroclor 1242 | 0.0167 | 0.0167 mg/kg | | | | | | |
| Aroclor 1242 (1) | | | | | | | | |
| Aroclor 1242 (2) | | | | | | | | |
| Aroclor 1242 (3) | | | | | | | | |
| Aroclor 1242 (4) | | | | | | | | |
| Aroclor 1242 (5) | | | | | | | | |
| Aroclor 1242 [2C] | 0.0167 | 0.0167 mg/kg | | | | | | |
| Aroclor 1242 (1) [2C] | | | | | | | | |
| Aroclor 1242 (2) [2C] | | | | | | | | |
| Aroclor 1242 (3) [2C] | | | | | | | | |
| Aroclor 1242 (4) [2C] | | | | | | | | |
| Aroclor 1242 (5) [2C] | | | | | | | | |
| Aroclor 1248 | 0.0167 | 0.0167 mg/kg | | | | | | |
| Aroclor 1248 (1) | | | | | | | | |
| Aroclor 1248 (2) | | | | | | | | |
| Aroclor 1248 (3) | | | | | | | | |
| Aroclor 1248 (4) | | | | | | | | |
| Aroclor 1248 (5) | | | | | | | | |
| Aroclor 1248 [2C] | 0.0167 | 0.0167 mg/kg | | | | | | |
| Aroclor 1248 (1) [2C] | | | | | | | | |
| Aroclor 1248 (2) [2C] | | | | | | | | |
| Aroclor 1248 (3) [2C] | | | | | | | | |

# Analytical Method Information

**(Continued)**



**Polychlorinated Biphenyls (PCB) in Soil (EPA 8082A) (Continued)**

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | ----Matrix Spike---- RPD | --Blank Spike / LCS-- %Rec | --Blank Spike / LCS-- RPD |
|---|---|---|---|---|---|---|---|---|
| Aroclor 1248 (4) [2C] | | | | | | | | |
| Aroclor 1248 (5) [2C] | | | | | | | | |
| Aroclor 1254 | 0.0167 | 0.0167 mg/kg | | | | 50 | | 25 |
| Aroclor 1254 (1) | | | | | | | | |
| Aroclor 1254 (2) | | | | | | | | |
| Aroclor 1254 (3) | | | | | | | | |
| Aroclor 1254 (4) | | | | | | | | |
| Aroclor 1254 (5) | | | | | | | | |
| Aroclor 1254 [2C] | 0.0167 | 0.0167 mg/kg | | | | | | |
| Aroclor 1254 (1) [2C] | | | | | | | | |
| Aroclor 1254 (2) [2C] | | | | | | | | |
| Aroclor 1254 (3) [2C] | | | | | | | | |
| Aroclor 1254 (4) [2C] | | | | | | | | |
| Aroclor 1254 (5) [2C] | | | | | | | | |
| Aroclor 1260 | 0.0167 | 0.0167 mg/kg | | | 40-140 | 50 | 40-130 | 25 |
| Aroclor 1260 (1) | | | | | | | | |
| Aroclor 1260 (2) | | | | | | | | |
| Aroclor 1260 (3) | | | | | | | | |
| Aroclor 1260 (4) | | | | | | | | |
| Aroclor 1260 (5) | | | | | | | | |
| Aroclor 1260 [2C] | 0.0167 | 0.0167 mg/kg | | | 40-140 | 50 | 40-130 | 25 |
| Aroclor 1260 (1) [2C] | | | | | | | | |
| Aroclor 1260 (2) [2C] | | | | | | | | |
| Aroclor 1260 (3) [2C] | | | | | | | | |
| Aroclor 1260 (4) [2C] | | | | | | | | |
| Aroclor 1260 (5) [2C] | | | | | | | | |
| Aroclor 1262 | 0.0167 | 0.0167 mg/kg | | | | | | |
| Aroclor 1262 (1) | | | | | | | | |
| Aroclor 1262 (2) | | | | | | | | |
| Aroclor 1262 (3) | | | | | | | | |
| Aroclor 1262 (4) | | | | | | | | |
| Aroclor 1262 (5) | | | | | | | | |
| Aroclor 1262 [2C] | 0.0167 | 0.0167 mg/kg | | | | | | |
| Aroclor 1262 (1) [2C] | | | | | | | | |
| Aroclor 1262 (2) [2C] | | | | | | | | |
| Aroclor 1262 (3) [2C] | | | | | | | | |
| Aroclor 1262 (4) [2C] | | | | | | | | |
| Aroclor 1262 (5) [2C] | | | | | | | | |
| Aroclor 1268 | 0.0167 | 0.0167 mg/kg | | | | | | |
| Aroclor 1268 (1) | | | | | | | | |
| Aroclor 1268 (2) | | | | | | | | |
| Aroclor 1268 (3) | | | | | | | | |
| Aroclor 1268 (4) | | | | | | | | |
| Aroclor 1268 (5) | | | | | | | | |
| Aroclor 1268 [2C] | 0.0167 | 0.0167 mg/kg | | | | | | |
| Aroclor 1268 (1) [2C] | | | | | | | | |
| Aroclor 1268 (2) [2C] | | | | | | | | |
| Aroclor 1268 (3) [2C] | | | | | | | | |
| Aroclor 1268 (4) [2C] | | | | | | | | |
| Aroclor 1268 (5) [2C] | | | | | | | | |
| Total PCBs | 0.0167 | 0.0167 mg/kg | | | | | | |
| Total PCBs [2C] | 0.0167 | 0.0167 mg/kg | | | | | | |
| Surr: Tetrachloro-m-xylene | | | 30-140 | | | | | |
| Surr: Tetrachloro-m-xylene [2C] | | | 30-140 | | | | | |
| Surr: Decachlorobiphenyl | | | 30-140 | | | | | |
| Surr: Decachlorobiphenyl [2C] | | | 30-140 | | | | | |

# Analytical Method Information

**(Continued)**

Printed: 07/29/2024 10:11 pm

# Analytical Method Information

Printed: 07/29/2024 10:11 pm

**(Continued)**

**Polychlorinated Biphenyls (PCB) in Water (EPA 8082A)**

**Preservation:** Cool 4°C

**Container:** 07_1000mL Amber Glass Cool to 4° C **Amount Required:** 1000 mL **Hold Time:** 7 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Aroclor 1016 | 0.0500 | 0.0500 ug/L | | 50 | 40-140 | 50 | 40-120 | 30 |
| Aroclor 1016 (1) | | | | | | | | |
| Aroclor 1016 (2) | | | | | | | | |
| Aroclor 1016 (3) | | | | | | | | |
| Aroclor 1016 (4) | | | | | | | | |
| Aroclor 1016 (5) | | | | | | | | |
| Aroclor 1016 [2C] | 0.0500 | 0.0500 ug/L | | 50 | 40-140 | 50 | 40-120 | 30 |
| Aroclor 1016 (1) [2C] | | | | | | | | |
| Aroclor 1016 (2) [2C] | | | | | | | | |
| Aroclor 1016 (3) [2C] | | | | | | | | |
| Aroclor 1016 (4) [2C] | | | | | | | | |
| Aroclor 1016 (5) [2C] | | | | | | | | |
| Aroclor 1221 | 0.0500 | 0.0500 ug/L | | | | | | |
| Aroclor 1221 (1) | | | | | | | | |
| Aroclor 1221 (2) | | | | | | | | |
| Aroclor 1221 (3) | | | | | | | | |
| Aroclor 1221 [2C] | 0.0500 | 0.0500 ug/L | | | | | | |
| Aroclor 1221 (1) [2C] | | | | | | | | |
| Aroclor 1221 (2) [2C] | | | | | | | | |
| Aroclor 1221 (3) [2C] | | | | | | | | |
| Aroclor 1232 | 0.0500 | 0.0500 ug/L | | | | | | |
| Aroclor 1232 (1) | | | | | | | | |
| Aroclor 1232 (2) | | | | | | | | |
| Aroclor 1232 (3) | | | | | | | | |
| Aroclor 1232 (4) | | | | | | | | |
| Aroclor 1232 (5) | | | | | | | | |
| Aroclor 1232 [2C] | 0.0500 | 0.0500 ug/L | | | | | | |
| Aroclor 1232 (1) [2C] | | | | | | | | |
| Aroclor 1232 (2) [2C] | | | | | | | | |
| Aroclor 1232 (3) [2C] | | | | | | | | |
| Aroclor 1232 (4) [2C] | | | | | | | | |
| Aroclor 1232 (5) [2C] | | | | | | | | |
| Aroclor 1242 | 0.0500 | 0.0500 ug/L | | | | | | |
| Aroclor 1242 (1) | | | | | | | | |
| Aroclor 1242 (2) | | | | | | | | |
| Aroclor 1242 (3) | | | | | | | | |
| Aroclor 1242 (4) | | | | | | | | |
| Aroclor 1242 (5) | | | | | | | | |
| Aroclor 1242 [2C] | 0.0500 | 0.0500 ug/L | | | | | | |
| Aroclor 1242 (1) [2C] | | | | | | | | |
| Aroclor 1242 (2) [2C] | | | | | | | | |
| Aroclor 1242 (3) [2C] | | | | | | | | |
| Aroclor 1242 (4) [2C] | | | | | | | | |
| Aroclor 1242 (5) [2C] | | | | | | | | |
| Aroclor 1248 | 0.0500 | 0.0500 ug/L | | | | | | |
| Aroclor 1248 (1) | | | | | | | | |
| Aroclor 1248 (2) | | | | | | | | |
| Aroclor 1248 (3) | | | | | | | | |
| Aroclor 1248 (4) | | | | | | | | |
| Aroclor 1248 (5) | | | | | | | | |
| Aroclor 1248 [2C] | 0.0500 | 0.0500 ug/L | | | | | | |
| Aroclor 1248 (1) [2C] | | | | | | | | |
| Aroclor 1248 (2) [2C] | | | | | | | | |
| Aroclor 1248 (3) [2C] | | | | | | | | |

# Analytical Method Information

**(Continued)**

Printed: 07/29/2024 10:11 pm

**Polychlorinated Biphenyls (PCB) in Water (EPA 8082A) (Continued)**

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | ----Matrix Spike---- RPD | --Blank Spike / LCS-- %Rec | --Blank Spike / LCS-- RPD |
|---|---|---|---|---|---|---|---|---|
| Aroclor 1248 (4) [2C] | | | | | | | | |
| Aroclor 1248 (5) [2C] | | | | | | | | |
| Aroclor 1254 | 0.0500 | 0.0500 ug/L | | 50 | | 50 | | 30 |
| Aroclor 1254 (1) | | | | | | | | |
| Aroclor 1254 (2) | | | | | | | | |
| Aroclor 1254 (3) | | | | | | | | |
| Aroclor 1254 (4) | | | | | | | | |
| Aroclor 1254 (5) | | | | | | | | |
| Aroclor 1254 [2C] | 0.0500 | 0.0500 ug/L | | | | | | |
| Aroclor 1254 (1) [2C] | | | | | | | | |
| Aroclor 1254 (2) [2C] | | | | | | | | |
| Aroclor 1254 (3) [2C] | | | | | | | | |
| Aroclor 1254 (4) [2C] | | | | | | | | |
| Aroclor 1254 (5) [2C] | | | | | | | | |
| Aroclor 1260 | 0.0500 | 0.0500 ug/L | | 50 | 40-140 | 50 | 40-120 | 30 |
| Aroclor 1260 (1) | | | | | | | | |
| Aroclor 1260 (2) | | | | | | | | |
| Aroclor 1260 (3) | | | | | | | | |
| Aroclor 1260 (4) | | | | | | | | |
| Aroclor 1260 (5) | | | | | | | | |
| Aroclor 1260 [2C] | 0.0500 | 0.0500 ug/L | | 50 | 40-140 | 50 | 40-120 | 30 |
| Aroclor 1260 (1) [2C] | | | | | | | | |
| Aroclor 1260 (2) [2C] | | | | | | | | |
| Aroclor 1260 (3) [2C] | | | | | | | | |
| Aroclor 1260 (4) [2C] | | | | | | | | |
| Aroclor 1260 (5) [2C] | | | | | | | | |
| Aroclor 1262 | 0.0500 | 0.0500 ug/L | | | | | | |
| Aroclor 1262 (1) | | | | | | | | |
| Aroclor 1262 (2) | | | | | | | | |
| Aroclor 1262 (3) | | | | | | | | |
| Aroclor 1262 (4) | | | | | | | | |
| Aroclor 1262 (5) | | | | | | | | |
| Aroclor 1262 [2C] | 0.0500 | 0.0500 ug/L | | | | | | |
| Aroclor 1262 (1) [2C] | | | | | | | | |
| Aroclor 1262 (2) [2C] | | | | | | | | |
| Aroclor 1262 (3) [2C] | | | | | | | | |
| Aroclor 1262 (4) [2C] | | | | | | | | |
| Aroclor 1262 (5) [2C] | | | | | | | | |
| Aroclor 1268 | 0.0500 | 0.0500 ug/L | | | | | | |
| Aroclor 1268 (1) | | | | | | | | |
| Aroclor 1268 (2) | | | | | | | | |
| Aroclor 1268 (3) | | | | | | | | |
| Aroclor 1268 (4) | | | | | | | | |
| Aroclor 1268 (5) | | | | | | | | |
| Aroclor 1268 [2C] | 0.0500 | 0.0500 ug/L | | | | | | |
| Aroclor 1268 (1) [2C] | | | | | | | | |
| Aroclor 1268 (2) [2C] | | | | | | | | |
| Aroclor 1268 (3) [2C] | | | | | | | | |
| Aroclor 1268 (4) [2C] | | | | | | | | |
| Aroclor 1268 (5) [2C] | | | | | | | | |
| Total PCBs | 0.0500 | 0.0500 ug/L | | | | | | |
| Total PCBs [2C] | 0.0500 | 0.0500 ug/L | | | | | | |
| Surr: Tetrachloro-m-xylene | | | 30-120 | | | | | |
| Surr: Tetrachloro-m-xylene [2C] | | | 30-120 | | | | | |
| Surr: Decachlorobiphenyl | | | 30-120 | | | | | |
| Surr: Decachlorobiphenyl [2C] | | | 30-120 | | | | | |

# Analytical Method Information

Printed: 07/29/2024 10:09 pm

**Pesticides, 8081 target list in Soil (EPA 8081B)**

**Preservation:** Cool 4°C

**Container:** 06_4 oz. WM Clear Glass Cool to 4° C **Amount Required:** 100 g **Hold Time:** 14 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| 4,4'-DDD | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| 4,4'-DDD [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| 4,4'-DDE | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| 4,4'-DDE [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| 4,4'-DDT | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| 4,4'-DDT [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Aldrin | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Aldrin [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| alpha-BHC | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| alpha-BHC [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| alpha-Chlordane | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| alpha-Chlordane [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| beta-BHC | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| beta-BHC [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Chlordane, total | 6.60 | 6.60 ug/kg | | | | | | 30 |
| Chlordane, total [2C] | 6.60 | 6.60 ug/kg | | | | 30 | | 30 |
| delta-BHC | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| delta-BHC [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Dieldrin | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Dieldrin [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Endosulfan I | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Endosulfan I [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Endosulfan II | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Endosulfan II [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Endosulfan sulfate | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Endosulfan sulfate [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Endrin | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Endrin [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Endrin aldehyde | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Endrin aldehyde [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Endrin ketone | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Endrin ketone [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| gamma-BHC (Lindane) | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| gamma-BHC (Lindane) [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| gamma-Chlordane | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| gamma-Chlordane [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Heptachlor | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Heptachlor [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Heptachlor epoxide | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Heptachlor epoxide [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Methoxychlor | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Methoxychlor [2C] | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Toxaphene | 33.0 | 33.0 ug/kg | | | | 30 | | 30 |
| Toxaphene [2C] | 33.0 | 33.0 ug/kg | | | | 30 | | 30 |
| Mirex | 0.330 | 0.330 ug/kg | | | 30-150 | 30 | 40-140 | 30 |
| Surr: Decachlorobiphenyl | | | 30-150 | | | | | |
| Surr: Decachlorobiphenyl [2C] | | | 30-150 | | | | | |
| Surr: Tetrachloro-m-xylene | | | 30-150 | | | | | |
| Surr: Tetrachloro-m-xylene [2C] | | | 30-150 | | | | | |

# Analytical Method Information

Printed: 07/29/2024 10:09 pm

**(Continued)**

**Pesticides, 8081 target list in Water (EPA 8081B)**

**Preservation:** Cool 4°C

**Container:** 07_1000mL Amber Glass Cool to 4° C **Amount Required:** 1000 mL **Hold Time:** 7 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| 4,4'-DDD | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| 4,4'-DDD [2C] | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| 4,4'-DDE | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| 4,4'-DDE [2C] | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| 4,4'-DDT | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| 4,4'-DDT [2C] | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Aldrin | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Aldrin [2C] | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| alpha-BHC | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| alpha-BHC [2C] | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| alpha-Chlordane | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| alpha-Chlordane [2C] | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| beta-BHC | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| beta-BHC [2C] | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Chlordane, total | 0.0200 | 0.0200 ug/L | | | | 20 | | 20 |
| Chlordane, total [2C] | 0.0200 | 0.0200 ug/L | | | | 20 | | 20 |
| delta-BHC | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| delta-BHC [2C] | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Dieldrin | 0.00200 | 0.00200 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Dieldrin [2C] | 0.00200 | 0.00200 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Endosulfan I | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Endosulfan I [2C] | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Endosulfan II | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Endosulfan II [2C] | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Endosulfan sulfate | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Endosulfan sulfate [2C] | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Endrin | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Endrin [2C] | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Endrin aldehyde | 0.0100 | 0.0100 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Endrin aldehyde [2C] | 0.0100 | 0.0100 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Endrin ketone | 0.0100 | 0.0100 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Endrin ketone [2C] | 0.0100 | 0.0100 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| gamma-BHC (Lindane) | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| gamma-BHC (Lindane) [2C] | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| gamma-Chlordane | 0.0100 | 0.0100 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| gamma-Chlordane [2C] | 0.0100 | 0.0100 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Heptachlor | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Heptachlor [2C] | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Heptachlor epoxide | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Heptachlor epoxide [2C] | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Methoxychlor | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Methoxychlor [2C] | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Toxaphene | 0.100 | 0.100 ug/L | | | | 20 | | 20 |
| Toxaphene [2C] | 0.100 | 0.100 ug/L | | | | 20 | | 20 |
| Mirex | 0.00400 | 0.00400 ug/L | | | 30-150 | 20 | 40-140 | 20 |
| Surr: Decachlorobiphenyl | | | 30-150 | | | | | |
| Surr: Decachlorobiphenyl [2C] | | | 30-150 | | | | | |
| Surr: Tetrachloro-m-xylene | | | 30-150 | | | | | |
| Surr: Tetrachloro-m-xylene [2C] | | | 30-150 | | | | | |

# Analytical Method Information

Printed: 08/27/2024 1:55 pm

**Herbicides, Target List in Soil (EPA 8151A)**

**Preservation:** Cool 4°C

**Container:** 06_4 oz. WM Clear Glass Cool to 4° C **Amount Required:** 100 g. **Hold Time:** 14 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| 2,4,5-T | 20.0 | 20.0 ug/kg | | | 10-120 | 35 | 10-120 | 30 |
| 2,4,5-T [2C] | 20.0 | 20.0 ug/kg | | | 10-120 | 35 | 10-120 | 30 |
| 2,4,5-TP (Silvex) | 20.0 | 20.0 ug/kg | | | 10-120 | 35 | 10-120 | 30 |
| 2,4,5-TP (Silvex) [2C] | 20.0 | 20.0 ug/kg | | | 10-120 | 35 | 10-120 | 30 |
| 2,4-D | 20.0 | 20.0 ug/kg | | | 10-118 | 35 | 10-118 | 30 |
| 2,4-D [2C] | 20.0 | 20.0 ug/kg | | | 10-118 | 35 | 10-118 | 30 |
| 2,4-DB | 20.0 | 20.0 ug/kg | | | 10-128 | 35 | 10-128 | 30 |
| 2,4-DB [2C] | 20.0 | 20.0 ug/kg | | | 10-128 | 35 | 10-128 | 30 |
| Dalapon | 20.0 | 20.0 ug/kg | | | 30-150 | 35 | 40-140 | 30 |
| Dalapon [2C] | 20.0 | 20.0 ug/kg | | | 30-150 | 35 | 40-140 | 30 |
| Dicamba | 20.0 | 20.0 ug/kg | | | 12-117 | 35 | 12-117 | 30 |
| Dicamba [2C] | 20.0 | 20.0 ug/kg | | | 12-117 | 35 | 12-117 | 30 |
| Dichloroprop | 20.0 | 20.0 ug/kg | | | 30-150 | 30 | 10-140 | 30 |
| Dichloroprop [2C] | 20.0 | 20.0 ug/kg | | | 30-150 | 30 | 10-140 | 30 |
| Dinoseb | 20.0 | 20.0 ug/kg | | | 30-150 | 30 | 10-140 | 30 |
| Dinoseb [2C] | 20.0 | 20.0 ug/kg | | | 30-150 | 30 | 10-140 | 30 |
| MCPA | 20.0 | 20.0 ug/kg | | | 30-150 | 30 | 10-140 | 30 |
| MCPA [2C] | 20.0 | 20.0 ug/kg | | | 30-150 | 30 | 10-140 | 30 |
| MCPP | 20.0 | 20.0 ug/kg | | | 30-150 | 30 | 10-140 | 30 |
| MCPP [2C] | 20.0 | 20.0 ug/kg | | | 30-150 | 30 | 10-140 | 30 |
| Surr: 2,4-Dichlorophenylacetic acid (DCAA) | | | 21-150 | | | | | |
| Surr: 2,4-Dichlorophenylacetic acid (DCAA) [2C] | | | 21-150 | | | | | |

**Herbicides, Target List in Water (EPA 8151A)**

**Preservation:** Cool 4°C

**Container:** 07_1000mL Amber Glass Cool to 4° C **Amount Required:** 100 mL **Hold Time:** 7 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| 2,4,5-T | 5.00 | 5.00 ug/L | | | 30-150 | 30 | 10-140 | 30 |
| 2,4,5-T [2C] | 5.00 | 5.00 ug/L | | | 30-150 | 30 | 10-140 | 30 |
| 2,4,5-TP (Silvex) | 5.00 | 5.00 ug/L | | | 30-150 | 30 | 10-139 | 30 |
| 2,4,5-TP (Silvex) [2C] | 5.00 | 5.00 ug/L | | | 30-150 | 30 | 10-139 | 30 |
| 2,4-D | 5.00 | 5.00 ug/L | | | 30-150 | 30 | 10-140 | 30 |
| 2,4-D [2C] | 5.00 | 5.00 ug/L | | | 30-150 | 30 | 10-140 | 30 |
| 2,4-DB | 5.00 | 5.00 ug/L | | | 30-150 | 30 | 10-137 | 30 |
| 2,4-DB [2C] | 5.00 | 5.00 ug/L | | | 30-150 | 30 | 10-137 | 30 |
| Dalapon | 5.00 | 5.00 ug/L | | | 30-150 | 30 | 40-140 | 30 |
| Dalapon [2C] | 5.00 | 5.00 ug/L | | | 30-150 | 30 | 40-140 | 30 |
| Dicamba | 5.00 | 5.00 ug/L | | | 30-150 | 30 | 10-124 | 30 |
| Dicamba [2C] | 5.00 | 5.00 ug/L | | | 30-150 | 30 | 10-124 | 30 |
| Surr: 2,4-Dichlorophenylacetic acid (DCAA) | | | 30-150 | | | | | |
| Surr: 2,4-Dichlorophenylacetic acid (DCAA) [2C] | | | 30-150 | | | | | |

# Analytical Method Information

Printed: 07/29/2024 10:21 pm

**PFAS, EPA 1633 Target List in Soil (EPA 1633 Draft 3)**

**Preservation:** Cool 4°C

**Container:** 10_250mL HPDE Plastic PFAS Free **Amount Required:** 250 mL **Hold Time:** 90 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Perfluorobutanesulfonic acid (PFBS) | 0.111 | 0.177 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorohexanoic acid (PFHxA) | 0.0530 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoroheptanoic acid (PFHpA) | 0.105 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorohexanesulfonic acid (PFHxS) | 0.179 | 0.183 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorooctanoic acid (PFOA) | 0.172 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorooctanesulfonic acid (PFOS) | 0.167 | 0.186 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorononanoic acid (PFNA) | 0.189 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorodecanoic acid (PFDA) | 0.191 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoroundecanoic acid (PFUnA) | 0.198 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorododecanoic acid (PFDoA) | 0.163 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorotridecanoic acid (PFTrDA) | 0.125 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorotetradecanoic acid (PFTA) | 0.103 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| N-MeFOSAA | 0.148 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| N-EtFOSAA | 0.194 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoropentanoic acid (PFPeA) | 0.109 | 0.400 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro-1-octanesulfonamide (FOSA) | 0.146 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro-1-heptanesulfonic acid (PFHpS) | 0.155 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro-1-decanesulfonic acid (PFDS) | 0.191 | 0.193 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| 1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS) | 0.595 | 0.760 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| 1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS) | 0.755 | 0.768 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro-n-butanoic acid (PFBA) | 0.109 | 0.800 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | 0.139 | 0.356 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-3,6-dioxaheptanoic acid (NFDHA) | 0.193 | 0.400 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-4-oxapentanoic acid (PFMPA) | 0.0620 | 0.400 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-5-oxahexanoic acid (PFMBA) | 0.0960 | 0.400 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-1-pentanesulfonate (PFPeS) | 0.157 | 0.188 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| 1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS) | 0.595 | 0.750 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| HFPO-DA (Gen-X) | 0.608 | 0.800 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| 11CL-PF3OUdS | 0.311 | 0.756 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| 9CL-PF3ONS | 0.246 | 0.748 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| ADONA | 0.174 | 0.756 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluorododecanesulfonic acid (PFDoS) | 0.169 | 0.194 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-1-nonanesulfonic acid (PFNS) | 0.124 | 0.192 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| 3-Perfluoropropyl propanoic acid (FPrPA) | 0.634 | 1.00 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| 3-Perfluoropentyl propanoic acid (FPePA) | 2.10 | 5.00 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| 3-Perfluoroheptyl propanoic acid (FHpPA) | 1.50 | 5.00 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| N-MeFOSE | 0.611 | 2.00 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| N-MeFOSA | 0.180 | 0.200 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| N-EtFOSE | 0.697 | 2.00 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| N-EtFOSA | 0.198 | 0.200 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| Surr: M3PFBS | | | 25-150 | | | | | |

# Analytical Method Information



**(Continued)**

**PFAS, EPA 1633 Target List in Soil (EPA 1633 Draft 3) (Continued)**

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Surr: M5PFHxA | | | 25-150 | | | | | |
| Surr: M4PFHpA | | | 25-150 | | | | | |
| Surr: M3PFHxS | | | 25-150 | | | | | |
| Surr: Perfluoro-n-[13C8]octanoic acid (M8PFOA) | | | 25-150 | | | | | |
| Surr: M6PFDA | | | 25-150 | | | | | |
| Surr: M7PFUdA | | | 25-150 | | | | | |
| Surr: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA) | | | 25-150 | | | | | |
| Surr: M2PFTeDA | | | 10-150 | | | | | |
| Surr: Perfluoro-n-[13C4]butanoic acid (MPFBA) | | | 25-150 | | | | | |
| Surr: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS) | | | 25-150 | | | | | |
| Surr: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA) | | | 25-150 | | | | | |
| Surr: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA) | | | 10-150 | | | | | |
| Surr: d3-N-MeFOSAA | | | 25-150 | | | | | |
| Surr: d5-N-EtFOSAA | | | 25-150 | | | | | |
| Surr: M2-6:2 FTS | | | 25-200 | | | | | |
| Surr: M2-8:2 FTS | | | 25-200 | | | | | |
| Surr: M9PFNA | | | 25-150 | | | | | |
| Surr: M2-4:2 FTS | | | 25-150 | | | | | |
| Surr: d-N-MeFOSA | | | 25-150 | | | | | |
| Surr: d-N-EtFOSA | | | 25-150 | | | | | |
| Surr: M3HFPO-DA | | | 25-150 | | | | | |
| Surr: d9-N-EtFOSE | | | 25-150 | | | | | |
| Surr: d7-N-MeFOSE | | | 25-150 | | | | | |
| M3PFBA | | | | | | | | |
| MPFDA | | | | | | | | |
| MPFHxA | | | | | | | | |
| MPFHxS | | | | | | | | |
| MPFNA | | | | | | | | |
| MPFOA | | | | | | | | |
| MPFOS | | | | | | | | |
| Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS | | | | | | | | |
| Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS | | | | | | | | |
| Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS | | | | | | | | |
| Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS | | | | | | | | |
| Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS | | | | | | | | |
| Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS | | | | | | | | |
| Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS | | | | | | | | |
| M7PFUdA-EIS | | | | | | | | |
| M6PFDA-EIS | | | | | | | | |
| M5PFHxA-EIS | | | | | | | | |
| M4PFHpA-EIS | | | | | | | | |
| M3PFHxS-EIS | | | | | | | | |
| M3PFBS-EIS | | | | | | | | |
| M3-HFPO-DA-EIS | | | | | | | | |
| M2PFTeDA-EIS | | | | | | | | |

# Analytical Method Information

Printed: 07/29/2024 10:21 pm

**(Continued)**

**PFAS, EPA 1633 Target List in Soil (EPA 1633 Draft 3) (Continued)**

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| M2-8-2FTS-EIS | | | | | | | | |
| M2-6-2FTS-EIS | | | | | | | | |
| M2-4-2FTS-EIS | | | | | | | | |
| d9-NEtFOSE-EIS | | | | | | | | |
| d7-NMeFOSE-EIS | | | | | | | | |
| d5-NEtFOSA-EIS | | | | | | | | |
| d5-N-EtFOSAA-EIS | | | | | | | | |
| d3-NMeFOSA-EIS | | | | | | | | |
| d3-N-MeFOSAA-EIS | | | | | | | | |
| Taurodeoxycholic Acid (TDCA) | | | | | | | | |
| Taurochenodeoxycholic Acid (TCDCA) | | | | | | | | |
| Tauroursodeoxycholic Acid (TUDCA) | | | | | | | | |

# Analytical Method Information

Printed: 07/29/2024 10:21 pm

**(Continued)**

**PFAS, EPA 1633 Target List in Water (EPA 1633 Draft 3)**

**Preservation:** Cool 4°C

**Container:** 09_500 mL Plastic PFAS Free **Amount Required:** 500 mL **Hold Time:** 28 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Perfluorobutanesulfonic acid (PFBS) | 0.470 | 1.77 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorohexanoic acid (PFHxA) | 0.350 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoroheptanoic acid (PFHpA) | 0.710 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorohexanesulfonic acid (PFHxS) | 0.680 | 1.83 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorooctanoic acid (PFOA) | 0.420 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorooctanesulfonic acid (PFOS) | 0.820 | 1.86 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorononanoic acid (PFNA) | 0.520 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorodecanoic acid (PFDA) | 0.750 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoroundecanoic acid (PFUnA) | 1.13 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorododecanoic acid (PFDoA) | 0.880 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorotridecanoic acid (PFTrDA) | 0.740 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorotetradecanoic acid (PFTA) | 0.690 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| N-MeFOSAA | 0.790 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| N-EtFOSAA | 1.03 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoropentanoic acid (PFPeA) | 0.230 | 4.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro-1-octanesulfonamide (FOSA) | 0.880 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro-1-heptanesulfonic acid (PFHpS) | 0.910 | 1.91 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro-1-decanesulfonic acid (PFDS) | 1.32 | 1.93 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| 1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS) | 1.06 | 7.60 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| 1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS) | 2.05 | 7.68 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro-n-butanoic acid (PFBA) | 0.330 | 8.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | 0.500 | 3.56 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-3,6-dioxaheptanoic acid (NFDHA) | 2.14 | 4.00 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-4-oxapentanoic acid (PFMPA) | 0.250 | 4.00 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-5-oxahexanoic acid (PFMBA) | 0.370 | 4.00 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-1-pentanesulfonate (PFPeS) | 0.760 | 1.88 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| 1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS) | 1.79 | 7.50 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| HFPO-DA (Gen-X) | 3.23 | 8.00 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| 11CL-PF3OUdS | 1.38 | 7.56 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| 9CL-PF3ONS | 0.700 | 7.48 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| ADONA | 0.530 | 7.56 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluorododecanesulfonic acid (PFDoS) | 0.930 | 1.94 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-1-nonanesulfonic acid (PFNS) | 0.860 | 1.92 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| 3-Perfluoropropyl propanoic acid (FPrPA) | 2.03 | 5.00 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| 3-Perfluoropentyl propanoic acid (FPePA) | 7.33 | 25.0 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| 3-Perfluoroheptyl propanoic acid (FHpPA) | 9.47 | 25.0 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| N-MeFOSE | 3.99 | 20.0 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| N-MeFOSA | 1.58 | 2.00 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| N-EtFOSE | 3.99 | 20.0 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| N-EtFOSA | 1.80 | 2.00 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| Surr: M3PFBS | | | 25-150 | | | | | |

# Analytical Method Information



**(Continued)**

**PFAS, EPA 1633 Target List in Water (EPA 1633 Draft 3) (Continued)**

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Surr: M5PFHxA | | | 25-150 | | | | | |
| Surr: M4PFHpA | | | 25-150 | | | | | |
| Surr: M3PFHxS | | | 25-150 | | | | | |
| Surr: Perfluoro-n-[13C8]octanoic acid (M8PFOA) | | | 25-150 | | | | | |
| Surr: M6PFDA | | | 25-150 | | | | | |
| Surr: M7PFUdA | | | 25-150 | | | | | |
| Surr: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA) | | | 25-150 | | | | | |
| Surr: M2PFTeDA | | | 10-150 | | | | | |
| Surr: Perfluoro-n-[13C4]butanoic acid (MPFBA) | | | 25-150 | | | | | |
| Surr: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS) | | | 25-150 | | | | | |
| Surr: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA) | | | 25-150 | | | | | |
| Surr: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA) | | | 10-150 | | | | | |
| Surr: d3-N-MeFOSAA | | | 25-150 | | | | | |
| Surr: d5-N-EtFOSAA | | | 25-150 | | | | | |
| Surr: M2-6:2 FTS | | | 25-200 | | | | | |
| Surr: M2-8:2 FTS | | | 25-200 | | | | | |
| Surr: M9PFNA | | | 25-150 | | | | | |
| Surr: M2-4:2 FTS | | | 25-150 | | | | | |
| Surr: d-N-MeFOSA | | | 25-150 | | | | | |
| Surr: d-N-EtFOSA | | | 25-150 | | | | | |
| Surr: M3HFPO-DA | | | 25-150 | | | | | |
| Surr: d9-N-EtFOSE | | | 25-150 | | | | | |
| Surr: d7-N-MeFOSE | | | 25-150 | | | | | |
| M3PFBA | | | | | | | | |
| MPFDA | | | | | | | | |
| MPFHxA | | | | | | | | |
| MPFHxS | | | | | | | | |
| MPFNA | | | | | | | | |
| MPFOA | | | | | | | | |
| MPFOS | | | | | | | | |
| Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS | | | | | | | | |
| Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS | | | | | | | | |
| Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS | | | | | | | | |
| Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS | | | | | | | | |
| Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS | | | | | | | | |
| Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS | | | | | | | | |
| Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS | | | | | | | | |
| M7PFUdA-EIS | | | | | | | | |
| M6PFDA-EIS | | | | | | | | |
| M5PFHxA-EIS | | | | | | | | |
| M4PFHpA-EIS | | | | | | | | |
| M3PFHxS-EIS | | | | | | | | |
| M3PFBS-EIS | | | | | | | | |
| M3-HFPO-DA-EIS | | | | | | | | |
| M2PFTeDA-EIS | | | | | | | | |

# Analytical Method Information

Printed: 07/29/2024 10:21 pm

**(Continued)**

**PFAS, EPA 1633 Target List in Water (EPA 1633 Draft 3) (Continued)**

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| M2-8-2FTS-EIS | | | | | | | | |
| M2-6-2FTS-EIS | | | | | | | | |
| M2-4-2FTS-EIS | | | | | | | | |
| d9-NEtFOSE-EIS | | | | | | | | |
| d7-NMeFOSE-EIS | | | | | | | | |
| d5-NEtFOSA-EIS | | | | | | | | |
| d5-N-EtFOSAA-EIS | | | | | | | | |
| d3-NMeFOSA-EIS | | | | | | | | |
| d3-N-MeFOSAA-EIS | | | | | | | | |
| Taurodeoxycholic Acid (TDCA) | | | | | | | | |
| Taurochenodeoxycholic Acid (TCDCA) | | | | | | | | |
| Tauroursodeoxycholic Acid (TUDCA) | | | | | | | | |

# Analytical Method Information

Printed: 07/29/2024 10:21 pm

**Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil in Soil (EPA 8270D SIM)**

**Preservation:** Cool 4°C

**Container:** 06_4 oz. WM Clear Glass Cool to 4° C **Amount Required:** 250 mL **Hold Time:** 14 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| 1,4-Dioxane | 3.70 | 20.0 ug/kg | | 30 | 40-130 | 30 | 40-130 | 30 |
| Surr: 1,4-Dioxane-d8 | 4.60 | | 39-127.5 | | | | | |
| 1,2-Dichlorobenzene-d4 | | | | | | | | |

# Analytical Method Information

Printed: 07/29/2024 10:20 pm

**Semi-Volatiles, 1,4-Dioxane 8270 SIM-Aqueous in Water (EPA 8270E SIM)**

**Preservation:** Cool 4°C

**Container:** 09_500 mL Glass Amber **Amount Required:** 500 mL **Hold Time:** 7 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| 1,4-Dioxane | 0.200 | 0.300 ug/L | | 30 | 50-130 | 30 | 50-130 | 30 |
| Surr: 1,4-Dioxane-d8 | 0.200 | | 36.6-118 | | | | | |
| 1,2-Dichlorobenzene-d4 | | | | | | | | |

# Analytical Method Information

Printed: 07/29/2024 10:19 pm

**Chromium, Hexavalent in Soil (EPA 7196A)**

**Preservation:** Cool 4°C

**Container:** 06_4 oz. WM Clear Glass Cool to 4° C **Amount Required:** 25 g, **Hold Time:** 30 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Chromium, Hexavalent | 0.350 | 0.500 mg/kg | | 35 | 75-125 | | 18.8-206 | |

**Chromium, Hexavalent in Water (EPA 7196A)**

**Preservation:** Cool 4°C

**Container:** 10_250mL Plastic Cool to 4° C **Amount Required:** 100 mL **Hold Time:** 1 day

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Chromium, Hexavalent | 0.0100 | 0.0100 mg/L | | 20 | 85-115 | | 85-115 | 20 |

# Analytical Method Information

Printed: 07/29/2024 10:18 pm

**Cyanide, Total in Soil (EPA 9014/9010C)**

**Preservation:** Cool 4°C

**Container:** 06_4 oz. WM Clear Glass Cool to 4° C **Amount Required:** 10 g. **Hold Time:** 14 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Cyanide, total | 0.500 | 0.500 mg/kg | | 15 | 79.6-107 | | 72.9-112 | |

**Cyanide, Total in Water (SM 4500 CN C-2016 / E-2016)**

**Preservation:** Dechlorinate; NaOH to pH>10

**Container:** 10_250 mL Plastic NAOH pH>10 Cool 4° C **Amount Required:** 100 **Hold Time:** 14 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Cyanide, total | 0.0100 | 0.0100 mg/L | | 15 | 79-105 | | 80-120 | |

# Analytical Method Information

Printed: 08/27/2024 1:56 pm

**Volatile Organics, EPA TO15 Full List in Air (EPA TO-15)**

**Preservation:** None Required

**Container:** 12_Summa Canister, 6 Liter **Amount Required:** 6 L **Hold Time:** 30 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| 1,1,1-Trichloroethane | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| 1,1,2,2-Tetrachloroethane | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| 1,1,2-Trichloroethane | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| 1,1-Dichloroethane | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| 1,1-Dichloroethylene | 0.025 | 0.025 ppbv | | 25 | | | 70-130 | |
| 1,2,4-Trichlorobenzene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| 1,2,4-Trimethylbenzene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| 1,2-Dibromoethane | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| 1,2-Dichlorobenzene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| 1,2-Dichloroethane | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| 1,2-Dichloropropane | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| 1,2-Dichlorotetrafluoroethane | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| 1,3,5-Trimethylbenzene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| 1,3-Butadiene | 0.30 | 0.30 ppbv | | 25 | | | 70-130 | |
| 1,3-Dichlorobenzene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| 1,3-Dichloropropane | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| 1,4-Dichlorobenzene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| 1,4-Dioxane | 0.20 | 0.20 ppbv | | 25 | | | 70-130 | |
| 2,2,4-Trimethylpentane | 0.025 | 0.050 ppbv | | 25 | | | 70-130 | |
| 2-Butanone | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| 2-Hexanone | 0.20 | 0.20 ppbv | | 25 | | | 70-130 | |
| 3-Chloropropene | 0.50 | 0.50 ppbv | | 25 | | | 70-130 | |
| 4-Methyl-2-pentanone | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Acetone | 0.20 | 0.20 ppbv | | 25 | | | 70-130 | |
| Acrolein | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Acrylonitrile | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Benzene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Benzyl chloride | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Bromodichloromethane | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Bromoform | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Bromomethane | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Carbon disulfide | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Carbon tetrachloride | 0.025 | 0.025 ppbv | | 25 | | | 70-130 | |
| Chlorobenzene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Chloroethane | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Chloroform | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Chloromethane | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| cis-1,2-Dichloroethylene | 0.025 | 0.025 ppbv | | 25 | | | 70-130 | |
| cis-1,3-Dichloropropylene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Cyclohexane | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Dibromochloromethane | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Dichlorodifluoromethane | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Ethanol | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Ethyl acetate | 0.20 | 0.20 ppbv | | 25 | | | 70-130 | |
| Ethyl Benzene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Hexachlorobutadiene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Isopropanol | 0.20 | 0.20 ppbv | | 25 | | | 70-130 | |
| Isopropylbenzene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Methyl Methacrylate | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Methyl tert-butyl ether (MTBE) | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Methylene chloride | 0.20 | 0.20 ppbv | | 25 | | | 70-130 | |

# Analytical Method Information

**(Continued)**



**Volatile Organics, EPA TO15 Full List in Air (EPA TO-15) (Continued)**

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Naphthalene | 0.20 | 0.20 ppbv | | 25 | | | 70-130 | |
| n-Butylbenzene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| n-Heptane | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| n-Hexane | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| n-Propylbenzene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| o-Xylene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| p- & m- Xylenes | 0.20 | 0.20 ppbv | | 25 | | | 70-130 | |
| p-Ethyltoluene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| p-Isopropyltoluene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Propylene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| sec-Butylbenzene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Styrene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| tert-Butylbenzene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Tetrachloroethylene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Tetrahydrofuran | 0.20 | 0.20 ppbv | | 25 | | | 70-130 | |
| Toluene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| trans-1,2-Dichloroethylene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| trans-1,3-Dichloropropylene | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Trichloroethylene | 0.025 | 0.025 ppbv | | 25 | | | 70-130 | |
| Trichlorofluoromethane (Freon 11) | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Vinyl acetate | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Vinyl bromide | 0.10 | 0.10 ppbv | | 25 | | | 70-130 | |
| Vinyl Chloride | 0.050 | 0.050 ppbv | | 25 | | | 70-130 | |
| Xylenes, Total | 0.30 | 0.30 ppbv | | 25 | | | | |
| Tentatively Identified Compounds | | | | | | | | |
| Bromochloromethane | | | | | | | | |
| ISTD: 1,4-Difluorobenzene | | | | | | | | |
| ISTD: d5-Chlorobenzene | | | | | | | | |

# PFAS Field Sampling Guidelines for Groundwater and Soil

***For Waters: 2 x 125 mL Bottles per sample filled to the neck of the bottle***

***PLEASE READ THESE INSTRUCTIONS PRIOR TO CONDUCTING SAMPLING***

Sampling for PFAS for determination using EPA 537m can be challenging due to the prevalence of these compounds in consumer products. The following guidelines reflect current knowledge and are recommended when conducting sampling.

**Consider Sampling for PFAS First...**

**Sample containers for other methods may have PFAS present on their sampling containers which could cross-contaminate your sample(s). We are analyzing down to the low parts-per-trillion (ppt) range so cross-contamination prevention is an important consideration.**

## SAMPLING

All Sampling done with Nitrile Gloves, provided by YORK

## SAMPLE CONTAINERS

All sample containers - PP ONLY (Target list of 21 PFAS) Caps are unlined and made of PP (no Teflon® lined caps) Bottles are Batch Certified to be Target PFAS-free (< Reporting Limit)

## FIELD EQUIPMENT

-Must not contain Teflon® (aka PTFE) or LDPE materials

-All sampling materials must be made from stainless steel, HDPE, acetate, silicone, or polypropylene

-No waterproof field notebooks can be used

-No plastic clipboards, binders, or the like

-No adhesives (e.g.Post-It® Notes, Duct tape) can be used

-Sharpies and permanent markers not allowed; regular ball point pens are acceptable

-Aluminum foil must not be used

-Keep PFAS samples in separate cooler, away from sampling containers that may contain PFAS

-Coolers filled with regular ice only - Do not use chemical (blue) ice packs

## EQUIPMENT DECON

-"PFAS-free" water (e.g. Poland Spring*)-on-site for decontamination

-Only Alconox and Liquinox can be used for decontamination

* *Poland Spring has been demonstrated to be PFAS -free when freshly opened*

## FIELD SAMPLING CLOTHING CONSIDERATIONS

Do not use fabric softener on clothing to be worn in field

Do not used cosmetics, moisturizers, hand cream, or other related products the morning of sampling

Do not use sunscreen or insect repellants

No materials containing Tyvek®

All safety boots made from polyurethane and PVC

No clothing or boots containing Gore-Tex®

Wet weather gear made of polyurethane and PVC only

## FOOD CONSIDERATIONS

No food or drink when PFAS Sampling with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area.

## SAMPLE CONTAINER HANDLING

-For **AQUEOUS** Samples: Each sample set contains 2 x 125 mL containers. Fill each container to the neck

-For **SOILS**-1 x 250 mL container, FILL HALF WAY ONLY

-No preservative is necessary for this appliction at this time.

-Place closed, labeled Sample bottles into ZipLock bag.

-Dispose of Nitrile gloves in provided waste bag.

-Place in separate cooler from other samples, WET ICE only

-Follow instructions on next page for more detail.

-If you have a Quality Assurance Project Plan follow that guidance

*York Analytical Laboratories, Inc.* ***Emerging Contaminants Laboratory***
*132-02 89th Avenue SUITE 217 Richmond Hill, NY 11418*

Rev 2.0 12/20

# PFAS -Recommended Field Sampling Guidelines

**PLEASE READ INSTRUCTIONS ENTIRELY PRIOR TO SAMPLING EVENT**

Sampler should wash hands before wearing nitrile gloves in order to limit contamination during sampling. Each sample set* requires a set of containers to comply with the method as indicated below. **Sample set is composed of samples collected from the same sample site and at the same time.* **A pair of Nitrile gloves is included with each sample Zip-lock bag/bottle set. One Field Blank set per day is provided.**

Note: PP is Polypropylene

| Sample Containers | Bottle Type | Preservation |
|---|---|---|
| 2 Sampling Containers - Empty- per sample-Waters **SOILS- 1 Container-fill only half way** | 125 mL PP container-Waters 250 mL PP for Soils | None, Cool <6C |
| 1 PP Bottle with PFAS-free Water for Field Blank | 125 mL PP container | None, Cool <6C |
| 1 Field Blank (FRB) - Empty-per sampling day | 125 mL PP container | None, Cool <6C |
| 2 - Empty PP bottles for MS/DUP when needed (Soils MS/DUP come from same Bottle) | 125 mL PP container | None, Cool <6C |

NOTE: Sampling containers for WATERS must be filled to the neck. **SOILS, fill bottle only 1/2 full**

**FIELD BLANK and MS/DUP Bottles are labeled with NEON GREEN LABELS**

***Field blanks are required per sampling event day and the containers have been provided. Follow the instructions below.***

## Field Blank Instructions:

1. Locate the PFAS Field Blank bottle (empty, labeled) supplied The PFAS Field Blank Water container is pre-filled at YORK with PFAS-free water to transfer to the empty PFAS Field Blank bottle.
2. Locate the empty container labeled "Field Blank" with Neon green labels
3. Open both containers and proceed to transfer contents of the "PFAS FIELD BLANK WATER" container into the "PFAS FIELD BLANK" Bottle
4. Field Blanks to be analyzed must be listed on the Chain-of-Custody.
5. Both the empty Field Blank water container and the filled Field Blank container must be returned to YORK along with the samples taken.

## Matrix Spike/ Matrix Dup Instructions: Note: Soil MS/MSD can be from the same container as the sample

1. Locate the PFAS MS and DUP bottles (empty, labeled-NEON GREEN) supplied -normally 1 set per 20 field samples
2. Transfer chosen Field MS /Dup as a normal sample and indicate sample ID on container and on Chain-of-Custody

## Sampling Instructions: ALL SAMPLE BOTTLES HAVE NEON YELLOW LABELS

1. Do not overfill or rinse the container. Any sample(s) for Matrix Spike and Matrix Duplicates are treated similarly.
2. Close containers securely. Label legibly and place containers in ZipLoc® bags, and in a separate cooler (no other container types).
3. Ensure Chain-of-Custody and all sample labels contain required information. Place all samples in separate coolers (separate from other samples for different parameters). Place wet ice (bagged) on samples for return to YORK. Samples should be kept at 4°C ±2. Samples must not exceed 10°C during first 48 hours after collection. **Hold time is 14 days.**

*York Analytical Laboratories, Inc.* ***Emerging Contaminants Laboratory***
*132-02 89th Avenue SUITE 217 Richmond Hill, NY 11418*

# PFAS Target compounds and Reporting Limits

# Analytical Method Information

Printed: 05/23/2023 9:34 am

**PFAS, EPA 1633 Target List in Soil (EPA 1633 Draft 2)**

**Preservation:** Cool 4°C

**Container:** 10_250mL Plastic Cool to 4° C **Amount Required:** 250 mL **Hold Time:** 28 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Perfluorobutanesulfonic acid (PFBS) | 0.111 | 0.177 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorohexanoic acid (PFHxA) | 0.0530 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoroheptanoic acid (PFHpA) | 0.105 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorohexanesulfonic acid (PFHxS) | 0.179 | 0.183 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorooctanoic acid (PFOA) | 0.172 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorooctanesulfonic acid (PFOS) | 0.167 | 0.186 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorononanoic acid (PFNA) | 0.189 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorodecanoic acid (PFDA) | 0.191 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoroundecanoic acid (PFUnA) | 0.198 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorododecanoic acid (PFDoA) | 0.163 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorotridecanoic acid (PFTrDA) | 0.125 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorotetradecanoic acid (PFTA) | 0.103 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| N-MeFOSAA | 0.148 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| N-EtFOSAA | 0.194 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoropentanoic acid (PFPeA) | 0.109 | 0.400 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro-1-octanesulfonamide (FOSA) | 0.146 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro-1-heptanesulfonic acid (PFHpS) | 0.155 | 0.200 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro-1-decanesulfonic acid (PFDS) | 0.191 | 0.193 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| 1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS) | 0.595 | 0.760 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| 1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS) | 0.755 | 0.768 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro-n-butanoic acid (PFBA) | 0.109 | 0.800 ug/kg | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | 0.139 | 0.356 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-3,6-dioxaheptanoic acid (NFDHA) | 0.193 | 0.400 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-4-oxapentanoic acid (PFMPA) | 0.0620 | 0.400 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-5-oxahexanoic acid (PFMBA) | 0.0960 | 0.400 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-1-pentanesulfonate (PFPeS) | 0.157 | 0.188 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| 1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS) | 0.595 | 0.750 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| HFPO-DA (Gen-X) | 0.608 | 0.800 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| 11CL-PF3OUdS | 0.311 | 0.756 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| 9CL-PF3ONS | 0.246 | 0.748 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| ADONA | 0.174 | 0.756 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluorododecanesulfonic acid (PFDoS) | 0.169 | 0.194 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-1-nonanesulfonic acid (PFNS) | 0.124 | 0.192 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| 3-Perfluoropropyl propanoic acid (FPrPA) | 0.634 | 1.00 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| 3-Perfluoropentyl propanoic acid (FPePA) | 2.10 | 5.00 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| 3-Perfluoroheptyl propanoic acid (FHpPA) | 1.50 | 5.00 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| N-MeFOSE | 0.611 | 2.00 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| N-MeFOSA | 0.180 | 0.200 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| N-EtFOSE | 0.697 | 2.00 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| N-EtFOSA | 0.198 | 0.200 ug/kg | | 30 | 25-150 | 30 | 50-150 | 30 |
| Surr: M3PFBS | | | 25-150 | | | | | |

# Analytical Method Information

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**(Continued)**

**PFAS, EPA 1633 Target List in Soil (EPA 1633 Draft 2) (Continued)**

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Surr: M5PFHxA | | | 25-150 | | | | | |
| Surr: M4PFHpA | | | 25-150 | | | | | |
| Surr: M3PFHxS | | | 25-150 | | | | | |
| Surr: Perfluoro-n-[13C8]octanoic acid (M8PFOA) | | | 25-150 | | | | | |
| Surr: M6PFDA | | | 25-150 | | | | | |
| Surr: M7PFUdA | | | 25-150 | | | | | |
| Surr: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA) | | | 25-150 | | | | | |
| Surr: M2PFTeDA | | | 10-150 | | | | | |
| Surr: Perfluoro-n-[13C4]butanoic acid (MPFBA) | | | 25-150 | | | | | |
| Surr: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS) | | | 25-150 | | | | | |
| Surr: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA) | | | 25-150 | | | | | |
| Surr: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA) | | | 10-150 | | | | | |
| Surr: d3-N-MeFOSAA | | | 25-150 | | | | | |
| Surr: d5-N-EtFOSAA | | | 25-150 | | | | | |
| Surr: M2-6:2 FTS | | | 25-200 | | | | | |
| Surr: M2-8:2 FTS | | | 25-200 | | | | | |
| Surr: M9PFNA | | | 25-150 | | | | | |
| Surr: M2-4:2 FTS | | | 25-150 | | | | | |
| Surr: d-N-MeFOSA | | | 25-150 | | | | | |
| Surr: d-N-EtFOSA | | | 25-150 | | | | | |
| Surr: M3HFPO-DA | | | 25-150 | | | | | |
| Surr: d9-N-EtFOSE | | | 25-150 | | | | | |
| Surr: d7-N-MeFOSE | | | 25-150 | | | | | |
| M3PFBA | | | | | | | | |
| MPFDA | | | | | | | | |
| MPFHxA | | | | | | | | |
| MPFHxS | | | | | | | | |
| MPFNA | | | | | | | | |
| MPFOA | | | | | | | | |
| MPFOS | | | | | | | | |
| Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS | | | | | | | | |
| Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS | | | | | | | | |
| Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS | | | | | | | | |
| Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS | | | | | | | | |
| Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS | | | | | | | | |
| Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS | | | | | | | | |
| Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS | | | | | | | | |
| M7PFUdA-EIS | | | | | | | | |
| M6PFDA-EIS | | | | | | | | |
| M5PFHxA-EIS | | | | | | | | |
| M4PFHpA-EIS | | | | | | | | |
| M3PFHxS-EIS | | | | | | | | |
| M3PFBS-EIS | | | | | | | | |
| M3-HFPO-DA-EIS | | | | | | | | |
| M2PFTeDA-EIS | | | | | | | | |

# Analytical Method Information

**(Continued)**

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**PFAS, EPA 1633 Target List in Soil (EPA 1633 Draft 2) (Continued)**

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| M2-8-2FTS-EIS | | | | | | | | |
| M2-6-2FTS-EIS | | | | | | | | |
| M2-4-2FTS-EIS | | | | | | | | |
| d9-NEtFOSE-EIS | | | | | | | | |
| d7-NMeFOSE-EIS | | | | | | | | |
| d5-NEtFOSA-EIS | | | | | | | | |
| d5-N-EtFOSAA-EIS | | | | | | | | |
| d3-NMeFOSA-EIS | | | | | | | | |
| d3-N-MeFOSAA-EIS | | | | | | | | |

# Analytical Method Information

Printed: 05/23/2023 9:34 am

**(Continued)**

**PFAS, EPA 1633 Target List in Water (EPA 1633 Draft 2)**

**Preservation:** Cool 4°C

**Container:** 10_250mL Plastic Cool to 4° C **Amount Required:** 250 mL **Hold Time:** 28 days

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| Perfluorobutanesulfonic acid (PFBS) | 0.470 | 1.77 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorohexanoic acid (PFHxA) | 0.350 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoroheptanoic acid (PFHpA) | 0.710 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorohexanesulfonic acid (PFHxS) | 0.680 | 1.83 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorooctanoic acid (PFOA) | 0.420 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorooctanesulfonic acid (PFOS) | 0.820 | 1.86 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorononanoic acid (PFNA) | 0.520 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorodecanoic acid (PFDA) | 0.750 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoroundecanoic acid (PFUnA) | 1.13 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorododecanoic acid (PFDoA) | 0.880 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorotridecanoic acid (PFTrDA) | 0.740 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluorotetradecanoic acid (PFTA) | 0.690 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| N-MeFOSAA | 0.790 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| N-EtFOSAA | 1.03 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoropentanoic acid (PFPeA) | 0.230 | 4.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro-1-octanesulfonamide (FOSA) | 0.880 | 2.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro-1-heptanesulfonic acid (PFHpS) | 0.910 | 1.91 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro-1-decanesulfonic acid (PFDS) | 1.32 | 1.93 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| 1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS) | 1.06 | 7.60 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| 1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS) | 2.05 | 7.68 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro-n-butanoic acid (PFBA) | 0.330 | 8.00 ng/L | | 30 | 25-150 | 35 | 50-150 | 30 |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | 0.500 | 3.56 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-3,6-dioxaheptanoic acid (NFDHA) | 2.14 | 4.00 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-4-oxapentanoic acid (PFMPA) | 0.250 | 4.00 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-5-oxahexanoic acid (PFMBA) | 0.370 | 4.00 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-1-pentanesulfonate (PFPeS) | 0.760 | 1.88 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| 1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS) | 1.79 | 7.50 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| HFPO-DA (Gen-X) | 3.23 | 8.00 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| 11CL-PF3OUdS | 1.38 | 7.56 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| 9CL-PF3ONS | 0.700 | 7.48 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| ADONA | 0.530 | 7.56 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluorododecanesulfonic acid (PFDoS) | 0.930 | 1.94 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| Perfluoro-1-nonanesulfonic acid (PFNS) | 0.860 | 1.92 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| 3-Perfluoropropyl propanoic acid (FPrPA) | 2.03 | 5.00 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| 3-Perfluoropentyl propanoic acid (FPePA) | 7.33 | 25.0 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| 3-Perfluoroheptyl propanoic acid (FHpPA) | 9.47 | 25.0 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| N-MeFOSE | 3.99 | 20.0 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| N-MeFOSA | 1.58 | 2.00 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| N-EtFOSE | 3.99 | 20.0 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| N-EtFOSA | 1.80 | 2.00 ng/L | | 30 | 25-150 | 30 | 50-150 | 30 |
| Surr: M3PFBS | | | 25-150 | | | | | |

# Analytical Method Information

Printed: 05/23/2023 9:34 am

**(Continued)**

**PFAS, EPA 1633 Target List in Water (EPA 1633 Draft 2) (Continued)**

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | ----Matrix Spike---- RPD | --Blank Spike / LCS-- %Rec | --Blank Spike / LCS-- RPD |
|---|---|---|---|---|---|---|---|---|
| Surr: M5PFHxA | | | 25-150 | | | | | |
| Surr: M4PFHpA | | | 25-150 | | | | | |
| Surr: M3PFHxS | | | 25-150 | | | | | |
| Surr: Perfluoro-n-[13C8]octanoic acid (M8PFOA) | | | 25-150 | | | | | |
| Surr: M6PFDA | | | 25-150 | | | | | |
| Surr: M7PFUdA | | | 25-150 | | | | | |
| Surr: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA) | | | 25-150 | | | | | |
| Surr: M2PFTeDA | | | 10-150 | | | | | |
| Surr: Perfluoro-n-[13C4]butanoic acid (MPFBA) | | | 25-150 | | | | | |
| Surr: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS) | | | 25-150 | | | | | |
| Surr: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA) | | | 25-150 | | | | | |
| Surr: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA) | | | 10-150 | | | | | |
| Surr: d3-N-MeFOSAA | | | 25-150 | | | | | |
| Surr: d5-N-EtFOSAA | | | 25-150 | | | | | |
| Surr: M2-6:2 FTS | | | 25-200 | | | | | |
| Surr: M2-8:2 FTS | | | 25-200 | | | | | |
| Surr: M9PFNA | | | 25-150 | | | | | |
| Surr: M2-4:2 FTS | | | 25-150 | | | | | |
| Surr: d-N-MeFOSA | | | 25-150 | | | | | |
| Surr: d-N-EtFOSA | | | 25-150 | | | | | |
| Surr: M3HFPO-DA | | | 25-150 | | | | | |
| Surr: d9-N-EtFOSE | | | 25-150 | | | | | |
| Surr: d7-N-MeFOSE | | | 25-150 | | | | | |
| M3PFBA | | | | | | | | |
| MPFDA | | | | | | | | |
| MPFHxA | | | | | | | | |
| MPFHxS | | | | | | | | |
| MPFNA | | | | | | | | |
| MPFOA | | | | | | | | |
| MPFOS | | | | | | | | |
| Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS | | | | | | | | |
| Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS | | | | | | | | |
| Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS | | | | | | | | |
| Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS | | | | | | | | |
| Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS | | | | | | | | |
| Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS | | | | | | | | |
| Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS | | | | | | | | |
| M7PFUdA-EIS | | | | | | | | |
| M6PFDA-EIS | | | | | | | | |
| M5PFHxA-EIS | | | | | | | | |
| M4PFHpA-EIS | | | | | | | | |
| M3PFHxS-EIS | | | | | | | | |
| M3PFBS-EIS | | | | | | | | |
| M3-HFPO-DA-EIS | | | | | | | | |
| M2PFTeDA-EIS | | | | | | | | |

# Analytical Method Information

**(Continued)**

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**PFAS, EPA 1633 Target List in Water (EPA 1633 Draft 2) (Continued)**

| Analyte | MDL | Reporting Limit | Surrogate %Rec | Duplicate RPD | ----Matrix Spike---- %Rec | RPD | --Blank Spike / LCS-- %Rec | RPD |
|---|---|---|---|---|---|---|---|---|
| M2-8-2FTS-EIS | | | | | | | | |
| M2-6-2FTS-EIS | | | | | | | | |
| M2-4-2FTS-EIS | | | | | | | | |
| d9-NEtFOSE-EIS | | | | | | | | |
| d7-NMeFOSE-EIS | | | | | | | | |
| d5-NEtFOSA-EIS | | | | | | | | |
| d5-N-EtFOSAA-EIS | | | | | | | | |
| d3-NMeFOSA-EIS | | | | | | | | |
| d3-N-MeFOSAA-EIS | | | | | | | | |

# Laboratory Standard Operating Procedure

Determination of PFAS in Aqueous and Solid matrices by

Isotope Dilution Analysis by HPLC/MS-MS (EPA 1633 Draft 2)

# Standard Operating Procedure

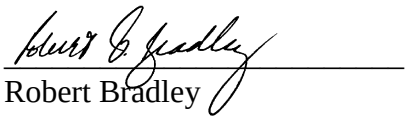
## Determination of Target Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous and Solid matrices by Isotope Dilution Analysis by HPLC/MS-MS According to EPA Method 1633 Draft 2

**Approvals**

Laboratory Director/QA Officer

Krys Trafalski

Vice President/Chief Scientific Officer



Robert Bradley

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**Issued to: NA**

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# 1. SCOPE AND APPLICATION

This method is used to identify and quantitate specific PFAS compounds in extracts of non-potable water and solid (soil/sediment) samples using HPLC/MS-MS (high pressure liquid chromatography/tandem mass spectrometry. Currently the compounds (40) that are measured by this methodology are listed in the Table 1.0 below.

**Table 1.0-Target PFAS**

| | | |
|---|---|---|
| **Perfluoroalkyl carboxylic acids** | | |
| Perfluorobutanoic acid | PFBA | 375-22-4 |
| Perfluoropentanoic acid | PFPeA | 2706-90-3 |
| Perfluorohexanoic acid | PFHxA | 307-24-4 |
| Perfluoroheptanoic acid | PFHpA | 375-85-9 |
| Perfluorooctanoic acid | PFOA | 335-67-1 |
| Perfluorononanoic acid | PFNA | 375-95-1 |
| Perfluorodecanoic acid | PFDA | 335-76-2 |
| Perfluoroundecanoic acid | PFUnA | 2058-94-8 |
| Perfluorododecanoic acid | PFDoA | 307-55-1 |
| Perfluorotridecanoic acid | PFTrDA | 72629-94-8 |
| Perfluorotetradecanoic acid | PFTeDA | 376-06-7 |
| **Perfluoroalkyl sulfonic acids Acid Form** | | |
| Perfluorobutanesulfonic acid | PFBS | 375-73-5 |
| Perfluoropentansulfonic acid | PFPeS | 2706-91-4 |
| Perfluorohexanesulfonic acid | PFHxS | 355-46-4 |
| Perfluoroheptanesulfonic acid | PFHpS | 375-92-8 |
| Perfluorooctanesulfonic acid | PFOS | 1763-23-1 |
| Perfluorononanesulfonic acid | PFNS | 68259-12-1 |
| Perfluorodecanesulfonic acid | PFDS | 335-77-3 |
| Perfluorododecanesulfonic acid | PFDoS | 79780-39-5 |
| **Fluorotelomer sulfonic acids** | | |
| 1*H*,1*H*, 2*H*, 2*H*-Perfluorohexane sulfonic acid | 4:2FTS | 757124-72-4 |
| 1*H*,1*H*, 2*H*, 2*H*-Perfluorooctane sulfonic acid | 6:2FTS | 27619-97-2 |
| 1*H*,1*H*, 2*H*, 2*H*-Perfluorodecane sulfonic acid | 8:2FTS | 39108-34-4 |
| **Perfluorooctane sulfonamides** | | |
| Perfluorooctanesulfonamide | PFOSA | 754-91-6 |
| N-methyl perfluorooctanesulfonamide | NMeFOSA | 31506-32-8 |
| N-ethyl perfluorooctanesulfonamide | NEtFOSA | 4151-50-2 |
| **Perfluorooctane sulfonamidoacetic acids** | | |
| N-methyl perfluorooctanesulfonamidoacetic acid | NMeFOSAA | 2355-31-9 |
| N-ethyl perfluorooctanesulfonamidoacetic acid | NEtFOSAA | 2991-50-6 |
| **Perfluorooctane sulfonamide ethanols** | | |
| N-methyl perfluorooctanesulfonamidoethanol | NMeFOSE | 24448-09-7 |
| N-ethyl perfluorooctanesulfonamidoethanol | NEtFOSE | 1691-99-2 |
| **Per- and Polyfluoroether carboxylic acids** | | |
| Hexafluoropropylene oxide dimer acid | HFPO-DA | 13252-13-6 |
| 4,8-Dioxa-3*H*-perfluorononanoic acid | ADONA | 919005-14-4 |
| Perfluoro-3-methoxypropanoic acid | PFMPA | 377-73-1 |
| Perfluoro-4-methoxybutanoic acid | PFMBA | 863090-89-5 |
| Nonafluoro-3,6-dioxaheptanoic acid | NFDHA | 151772-58-6 |
| **Ether sulfonic acids** | | |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | 9Cl-PF3ONS | 756426-58-1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | 11Cl-PF3OUdS | 763051-92-9 |
| Perfluoro(2-ethoxyethane)sulfonic acid | PFEESA | 113507-82-7 |
| **Fluorotelomer carboxylic acids** | | |
| 3-Perfluoropropyl propanoic acid | 3:3FTCA | 356-02-5 |
| 2*H*,2*H*,3*H*,3*H*-Perfluorooctanoic acid | 5:3FTCA | 914637-49-3 |
| 3-Perfluoroheptyl propanoic acid | 7:3FTCA | 812-70-4 |

The estimated reporting limits (MRL) based upon the preparation/analysis parameters herein at the time of this revision are approximately 2.0-20.0 ng/L (ppt) for aqueous samples and 0.5-5.0 ug/kG for solids . The linear range for these PFAS can be extended by dilution. These MRLs are based upon a volume of 0.250L-0.500L extracted for aqueous samples and 2-5 g. for solids.

This method is "performance-based," which means that modifications may be made without additional EPA review to improve performance (e.g., overcome interferences, or improve the sensitivity, accuracy, or precision of the results) *provided that* all performance criteria in this method are met. Requirements for establishing equivalency are in Section 9.1.2 and include 9.1.2.2c. For CWA uses, additional flexibility is described at 40 CFR 136.6. Changes in performance, sensitivity, selectivity, precision, recovery, etc., that result from modifications within the scope of 40 CFR Part 136.6, and Section 9.0 of this method must be documented, as well as how these modifications compare to the specifications in this method. Changes outside the scope of 40 CFR Part 136.6 and Section 9.0 of this method may require prior review or approval.

## 2. SUMMARY

Environmental samples are prepared and extracted using method-specific procedures. Sample extracts are subjected to cleanup procedures designed to remove interferences. Analyses of the sample extracts are conducted by LC-MS/MS in the multiple reaction monitoring (MRM) mode. Sample concentrations are determined by isotope dilution or extracted internal standard quantification (see Section 10.3) using isotopically labeled compounds added to the samples before extraction

### 2.1 Extraction

**2.1.1** Aqueous samples are spiked with isotopically labeled standards, extracted using solid-phase extraction (SPE) cartridges and undergo cleanup using carbon before analysis.

**2.1.2** Solid samples are spiked with isotopically labeled standards, extracted into basic methanol, and cleaned up by carbon and SPE cartridges before analysis.

### 2.2 Analysis

**2.2.1** Extracts are then analyzed by HPLC-MS/MS in the MRM mode. Extracts contain Non-extracted Internal Standards (NIS) to monitor instrument performance and used for quantitative analysis.

**2.2.2** Individual PFAS analytes are identified through peak analysis of the quantification and confirmation ions (Precursor and product ions) where applicable.

**2.2.3** The concentration of each analyte is calculated using the isotope dilution technique. This approach corrects the target analytes for surrogate analog recoveries and these surrogates are essentially extracted internal standards (EIS). For QC purposes, the percent recoveries of the isotope dilution analogues are calculated using the integrated peak areas of isotope performance standards, which are added to the final extract and function as traditional internal standards (non-extracted internal standards), exclusively applied to the isotope dilution analogues.

## 3. DEFINITIONS

3.1 ANALYSIS BATCH – A set of samples that is analyzed on the same instrument during a 24-hour period, including no more than 20 Field Samples, that begins and ends with the analysis of the appropriate Continuing Calibration Check (CCC) standards. Additional CCCs may be required depending on the length of the analysis batch and/or the number of Field Samples.

3.2 CALIBRATION STANDARD (CAL) – A solution of the method analytes, isotope dilution analogues, and isotope performance standards (Internal standards) prepared from the Primary Dilution Standards and stock standards. The calibration standards are used to calibrate the instrument response with respect to analyte concentration.

3.3 CONTINUING CALIBRATION VERIFICATION (CCV) – A calibration standard containing the method analytes, internal standard(s) and surrogate(s). The CCV is analyzed periodically to verify the accuracy of the existing calibration for those analytes.

3.4 EXTRACTION BATCH – A set of up to 20 Field Samples (not including QC Samples) extracted together by the same person(s) during a work day using the same lot of SPE devices, solvents, surrogate, internal standard and fortifying solutions. Required QC samples include Method blank, and Matrix spike/duplicate pair.

3.5 FIELD DUPLICATES – Separate samples collected at the same time and sampling location, shipped and stored under identical conditions. Method precision, including the contribution from sample collection procedures, is estimated from the analysis of Field Duplicates. Field Duplicates are used to prepare matrix spike/matrix spike duplicate QC samples.

3.6 FIELD BLANK (FBLK) – An aliquot of reagent water that is placed in a sample container in the laboratory and treated as a sample in all respects, including shipment to the sampling site, exposure to sampling site conditions, storage, preservation, and all analytical procedures. The purpose of the FBLK is to determine if method analytes or other interferences are introduced into the sample from shipping, storage, and the field environment.

3.7 ISOTOPE DILUTION ANALOGUES - Isotopically labeled analogues of the method analytes that are added to the sample prior to extraction in a known amount. Note: Not all target PFAS currently have an isotopically labeled analogue. In these cases, an alternate isotopically labeled analogue is used as detailed in our SOP and in the reference method.

3.8 ISOTOPE DILUTION TECHNIQUE - An analytical technique for measuring analyte concentration using the ratio of the peak area of the native analyte to that of an isotopically labeled analogue, added to the original sample in a known amount and carried through the entire analytical procedure.

3.9 ISOTOPE PERFORMANCE STANDARDS (Internal Standards) - Quality control compounds that are added to all standard solutions and extracts in a known amount and used to measure the relative response of the isotopically labelled analogues that are components of the same solution. For this method, the isotope performance standards are three isotopically labeled analogues of the method analytes. The isotope performance standards are indicators of instrument performance and are used to calculate the recovery of the isotope dilution analogues through the extraction procedure. In this method, the isotope performance standards are not used in the calculation of the recovery of the native analytes.

3.10 METHOD BLANK – An aliquot of reagent water to which known quantities of the method analytes and isotope dilution analogues are added. The results of the MBLK verify method performance in the absence of sample matrix.

3.11 MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) – Aliquots of field samples that have been fortified with a known concentration of target compounds, prior to sample preparation and extraction, and analyzed to measure the effect of matrix interferences. The use of MS/MSD samples is generally not required in isotope dilution methods because the labeled compounds added to every sample provide more performance data than spiking a single sample in each preparation batch.

3.12 LIMIT OF QUANTITATION (LOQ) – The smallest concentration that produces a quantitative result with known and recorded precision and bias. The LOQ shall be set at or above the concentration of the lowest initial calibration standard (the lowest calibration standard must fall within the linear range). Determined by matrix through the entire preparation and analysis process.

3.13 METHOD DETECTION LIMIT (MDL) – The minimum measured concentration of a substance that can be reported with 99% confidence that the measured analyte concentration is distinguishable from method blank results (40 CFR 136, Appendix B).

3.14 MINIMUM LEVEL OF QUANTITATION (ML) – The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a known level of confidence. It may be equivalent to the concentration of

the lowest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed. Alternatively, the ML may be established by multiplying the MDL (pooled or unpooled, as appropriate) by 3.18 and rounding the result to the number nearest to 1, 2, or 5 x 10n, where n is zero or an integer (see 68 FR 11770).

3.15 PRECURSOR ION – For the purpose of this method, the precursor ion is the deprotonated molecule ($[M-H]^-$) of the method analyte (with the exception of HFPO-DA, in which the precursor ion is formed by decarboxylation). In MS/MS, the precursor ion is mass selected and fragmented by collisionally activated dissociation to produce distinctive product ions of smaller *m/z*.

3.16 PRIMARY DILUTION STANDARD (PDS) SOLUTION – A solution containing the analytes prepared in the laboratory from stock standard solutions and diluted as needed to prepare calibration solutions and other needed analyte solutions.

3.17 PRODUCT ION – For the purpose of this method, a product ion is one of the fragment ions produced in MS/MS by collisionally activated dissociation of the precursor ion.

3.18 INITIAL CALIBRATION VERIFICATION (ICV) – A calibration standard prepared independently from the primary calibration solutions. For this method, the ICV is a repeat of the entire dilution scheme starting with the same stock materials (neat compounds or purchased stock solutions) used to prepare the primary calibration solutions. Independent sources and separate lots of the starting materials are not required, provided the laboratory has obtained the purest form of the starting materials commercially available. The purpose of the ICV is to verify the integrity of the primary calibration standards.

3.19 QUANTITATIVE STANDARD - A quantitative standard of assayed concentration and purity traceable to a Certificate of Analysis.

3.20 STOCK STANDARD SOLUTION - A concentrated solution containing one or more method analytes prepared in the laboratory using assayed reference materials or purchased from a reputable commercial source with a Certificate of Analysis.

3.21 TECHNICAL GRADE STANDARD – As defined for this method, a technical-grade standard includes a mixture of the branched and linear isomers of a method analyte. For the purposes of this method, technical-grade standards are used to identify retention times of branched and linear isomers of method analytes.

3.22 ANALYTE – A PFAS compound included in this method. The analytes are listed in Table 1.

3.23 CALIBRATION STANDARD (CS) – A solution prepared from a secondary standard and/or stock solutions and used to calibrate the response of the LC-MS/MS instrument.

3.24 CONTINUING CALIBRATION VERIFICATION (CCV) STANDARD – The mid-point calibration standard that is used to verify calibration.

3.25 CFR – Code of Federal Regulations

3.26 EXTRACTED INTERNAL STANDARD (EIS) QUANTIFICATION – The response of the target compound is compared to the response of the labeled analog of another compound in the same LOC.

3.27 INSTRUMENT SENSITIVITY CHECK – solution used to check the sensitivity of the instrument. The solution contains the native compounds at the concentration of the LOQ.

3.28 IPR – INITIAL PRECISION AND RECOVERY; four aliquots of a reference matrix spiked with the analytes of interest and labeled compounds and analyzed to establish the ability of the laboratory to generate acceptable precision and recovery. An IPR is performed prior to the first time this method is used and any time the method or instrumentation is modified

3.29 OPR - ONGOING PRECISION AND RECOVERY- – Ongoing precision and recovery standard (OPR); a method blank spiked with known quantities of analytes. The OPR is analyzed exactly like a sample. Its purpose is to assure that the results produced by the laboratory remain within the limits specified in this method for precision and recovery. Applies to OPR and LLOPR (low level OPR at **2x** the LOQ level).

3.30 SPE – SOLID PHASE EXTRACTION; a technique in which an analyte is extracted from an aqueous solution or a solid extract by passage over or through a material capable of reversibly adsorbing the analyte. Also termed liquid-solid extraction.

## 4. INTERFERENCES

LC-MS/MS data from blanks, samples, and spikes must be evaluated for interferences. If any interferences are present, take corrective action if necessary. Do not use aluminum foil because PFAAs can be potentially transferred from the aluminum foil to the glassware. Only aluminum foil rinsed with LC/MS grade methanol can be used where necessary.

4.1 PFAS have been used in a wide variety of manufacturing processes, and laboratory supplies should be considered potentially contaminated until they have been tested and shown to be otherwise. The materials and supplies used during the method validation process have been tested and shown to be clean. These items are listed in the Reagents section.

4.2 Method interferences may be caused by contaminants in solvents, reagents (including DI water), sample bottles and caps, and other sample processing hardware that lead to discrete artifacts and/or elevated baselines in the chromatograms. All items such as these must be routinely demonstrated to be free from interferences (less than 1/2 the Reporting Limit), under the conditions of the analysis by analyzing Method Blanks. Subtracting blank values from sample results is not permitted.

4.3 PTFE products can be a source of PFAS (PFOA) contamination. The use of PTFE in the procedure should be avoided. Polypropylene (PP) or polyethylene (PE, HDPE) products may be used in place of PTFE products to minimize PFOA contamination.

4.3.1 Standards and samples are injected from polypropylene autosampler vials with polypropylene or polyolefin snap caps, once. Multiple injections may be performed on Primers when conditioning the instrument for analysis.

4.3.2 Random evaporation losses have been observed with the polypropylene caps causing high Internal Std. recovery after the vial was punctured and sample re-injected. For this reason, it is best to inject standards and samples once in the analytical sequence, then recap with polyolefin caps for storage.

4.3.2 Teflon-lined screw caps have detected PFAS at low concentrations. Repeated injection from the same teflon-lined screw cap have detected PFNA at increasing concentration as each repeated injection was performed, therefore, it is best to use polypropylene snap caps.

4.3.3 Aqueous samples should not come in contact with any glass containers or pipettes as PFAS analytes can potentially adsorb to glass surfaces. Standards dissolved in organic solvent may be purchased in glass ampoules. These standards in organic solvent are acceptable and subsequent transfers may be performed using glass syringes and pipets. Following extraction, the eluate must be collected in a polypropylene tube prior to concentration to dryness. Concentration to dryness in glass tubes may cause poor recovery.

4.4 LC/MS grade methanol must be used for all steps where methanol is used in this method. HPLC grade methanol has been demonstrated to be acceptable if tested prior to use.

4.5 Matrix interferences may be caused by contaminants that are co-extracted from the sample. The extent of matrix interferences will vary considerably from source to source, depending upon the nature of the sample.

4.5.1 Co-extracted Organic Material - Under normal LC conditions matrix effects due to co-extracted organic material enhanced the ionization of 4:2 FTS appreciably. Total organic carbon (TOC) is a good indicator of humic content of the sample.

4.5.2 Solid phase extraction cartridges may be a source of interferences. The analysis of field and laboratory reagent blanks can provide important information regarding the presence or absence of such interferences. SPE cartridges should be sealed while in storage to prevent ambient contamination of the SPE sorbent.

4.6 Contamination by carryover can occur whenever a high-concentration and low concentration samples are sequentially analyzed. To reduce carryover, the sample syringe in automatically rinsed with solvent between injections. These operations are programmed into the LC multi-sampler system.

4.7 Volumetric glassware and syringes are difficult to clean after being used for solutions containing high levels of PFOA. These items should be labeled for use only with similarly concentrated solutions or verified clean prior to re-use. To the extent possible, disposable labware is used.

4.8 Both branched and linear PFAS isomers can potentially be found in the environment. Linear and branched isomers are known to exist for PFOS, PFOA, PFHxS, and PFBS, based upon the scientific literature. We have also seen branched isomers for PFHpA, NMeFOSAA, NEtFOSAA and PFNA. If multiple isomers are present for one of these PFAS they likely are adjacent peaks that completely resolve or not, but usually with a deflection point resolved during peak integration. The later of these peaks matches the retention time of its labeled linear analog. In general, earlier peaks are the branched isomers and are not the result of peak splitting.

Currently, all these species are available as linear isomers. Some available branched and linear reference standards of the technical mixtures for these specific PFAS are used to ensure that all appropriate peaks are included during peak integration. These species currently include PFOA, PFHxS, NMeFOSAA, and NEtFOSAA. These branched isomers elute before the linear isomer and are integrated and reported as total for those species. Others are also included at this time such as those listed in section 7.3.4.

4.9 In an attempt to reduce PFOS bias, it is required that *m/z* 499>80 transition be used as the quantitation transition.

## 5. SAMPLE HANDLING

5.1 **Aqueous Samples** - samples are collected by our clients in 250 or 500ml HDPE bottles with unlined HDPE or polypropylene caps and filled to the neck. Each sample submitted should be submitted in triplicate-with one used for determination of Suspended solids and possible pre-screening. Sub-sampling should be avoided whenever possible. When historical data are available indicating high levels of PFAS, sub-sampling may be an advisable option.

5.2 **Soil Samples** – samples are collected in wide mouth 125 or 250 mL HDPE bottles with PP unlined caps.

5.3 SAMPLE SHIPMENT AND STORAGE/HOLDING TIMES – Maintain all aqueous samples protected from light at 0 - 6 ºC from the time of collection until shipped to the laboratory. Samples must be shipped as soon as practical with sufficient ice to maintain the sample temperature below 6 ºC during transport. Sample are to be received by the laboratory within 48 hours of collection. The laboratory must confirm that the sample temperature is 0 - 6 ºC upon receipt. Once received by the laboratory, the samples may be stored at ≤ -20 ºC, or at 0 - 6 ºC, until sample preparation. However, the allowable holding time for samples depends on the storage temperature, as described below:

**5.3.1 Aqueous samples** may be held in the laboratory for up to 90 days from collection, when stored at ≤ -20 ºC and protected from the light. When stored at 0 - 6 ºC and protected from the light, aqueous samples may be held for up to **28 days**, with the caveat that issues were observed with certain perfluorooctane sulfonamide ethanols and perfluorooctane sulfonamidoacetic acids after **7 days**. These issues are more likely to elevate the observed concentrations of other PFAS compounds via the transformation of these precursors if they are present in the sample.

**5.3.2 Solid samples (soils and sediments**) may be held for up to 90 days, if stored in the dark at either 0 - 6 ºC or ≤ -20 ºC, with the caveat that samples may need to be extracted as soon as possible if NFDHA is an important analyte.

5.4 **SAMPLE EXTRACT HOLDING TIMES** – Store sample extracts in the dark at less than 0 - 4 ºC until analyzed. If stored in the dark at less than 0 - 4 ºC, sample extracts may be stored for up to 90 days, with the caveat that issues were observed for some ether sulfonates after 28 days. These issues may elevate the observed concentrations of the ether sulfonates in the extract over time. Samples may need to be extracted as soon as possible if NFDHA is an important analyte.

## 6. APPARATUS AND MATERIALS (as listed or demonstrated equivalents)

6.1 250-500 mL polypropylene bottles with polypropylene caps. VWR Scientific or equivalent: Part no. 414004-125, 12 pk. Alternate: White PP unlined lid L238WH and 16oz. clarified PP single wall jar 70-400 neck, item J066-Containers and Packaging.com or equivalent.

6.2 Transport Tube: Virgin Polypropylene, White, Plastic, 10 mL Capacity, 16 mm OD, 93 mm Overall Lg, Self-Standing, 250 PK， Item 710Z420, Gamut.com (Grainger), with PP cap or equivalent.

6.3 Graduated cylinders, 50, 100, 250, 500 and 1000mL, Polypropylene, VWR Scientific or equivalent

6.4 Analytical Balance, 0.0001g., checked for accuracy each day of use with Class S weights, certified annually by an outside service

6.5 Extract concentrators: Organomation Model N-EVAP 112, 24 position concentrator with water batch control and nitrogen supply controls or equivalent

6.6 3.1 Micron in-line filters, Promochrom only

6.7 1.0-2.0 mL polypropylene snap cap vials, Agilent part no. 5182-0567 or equivalent

6.8 Snap caps, polypropylene or olefin, 11 mm, 11/9k, Agilent Part no. 5182-0542

6.9 Solid Phase Extraction Tubes: for EPA 1633: WAX (weak anion exchange mixed mode polymeric sorbent – Phenomenex No. 8B-S038-HCH 200 mg or Waters Oasis 150 mg Cat. # 186002493. Must have a pKa > 8 to remain positively charged during the extraction. Alternate is Agilent Bond Elute WAX 200 mg-cat. No. 5610-2151

6.10 Syringes, Hamilton or equivalent 5.0 uL, 10 uL 25 uL, 100 uL, 250 uL, 500 uL, teflon free

6.11 Solid Phase Extraction System-automated-Promochrom 8 position autosampler system for 6 mL capacity SPE tubes. System retrofit to remove all PTFE components and replaced with PEEK tubing or PFAS free tubing. Automated bottle rinsing feature required with 3.1 um in line PP filters

6.12 Nitrogen Evaporation System- TurboVap nitrogen evaporation system operated at less than 55C.

6.13 LC/MS-MS system- Agilent 1260 or 1290 HPLC system interfaced to an Agilent 6470A or 6460C Triple Quadrupole system. The instrument control and qualitative/quantitative software is Mass Hunter versions B.8.0 and B.9.0 or later.

6.13.1 HPLC System-Agilent 1260 or 1290 Infinity II

6.13.1.1 The Agilent 1260 or 1290 Infinity II HPLC system is configured with temperature controlled column oven compartment. 4 column configuration, temperature controlled (refrigerated) auto sampler compartments, injection valve, proportioning valves, variable flow controls and variable injection capabilities.

6.13.1.2 The delay column (PFAS and other interference removal) is an Agilent Eclipse Plus C18, 4.6mm x 50 mm, 3.5 um-Part no. 959943-902 or equivalent.

6.13.1.3 The analytical column is a Restek Raptor C18 part no. 9304252 50mm x 2.1 mm ID, 1.8 u particle size or equivalent

6.13.2 Agilent LC/MS-MS- Agilent 6470AAR/6460C

6.14.2.1 Agilent model 6470AAR/6460C triple Quadrupole system with Agilent Jet Stream ESI source. UHP nitrogen is used as cell gas and High purity nitrogen is delivered for the sheath gas from a Peak Scientific nitrogen generator system.

6.14 Vortex Mixer- Benchmark Industries or equivalent

6.15 Variable Speed shaker table, 18” x 12”- Orbital Shaker- Jiangau Tenlin Instr. Co., Ltd., Model no. TLSK-III 20-230 RPM, 0-999 min, or equivalent

6.16 Centrifuge, 50 mL, Premiere Model XC-2450 Series Centrifuge 6 x 50 mL, 3500 RPM max., or equivalent

6.17 Mechanical Pipettors- 10-100 uL; 100-1000 uL; 1000-5000 uL-4 E’S Scientific or equivalent, calibrated quarterly.

6.18 Vortex Mixer- Benchmark Industries or equivalent

6.19 pH paper, short range 6-8 and full range with 0.5 pH readability- VWR Scientific or equivalent

6.20 15 mL PP or HDPE Centrifuge tubes, Corning Part no. 430791

6.21 3 mL Disposable Transfer pipets, PE, VWR part no. 16001-176

6.22 1.0 mL polypropylene snap cap vials, Agilent part no. 5182-0567

6.23 Snap caps, polypropylene, 11 mm, 11/9k, Agilent Part no. 5182-0542

6.24 2mL self standing PP microcentrifuge snap cap tubes, SKS Scientific part no. 0747-17

6.25 Collection tubes, 15 mL graduated PP or HDPE Centrifuge tubes, Corning Part no. 430791
6.26 Disposable 10 mg scoops, PP
6.27 Ultrasonic mixer
6.28 10 mL disposable syringes, PP or HDPE, luer fitting
6.29 13mm or 25 mm 0.2 um Nylon membrane filters, PALL Acrodisc or equivalent

## 7. REAGENTS AND STANDARDS-as listed or equivalents

7.1 ALL REAGENTS and STANDARDS MUST BE LOGGED INTO THE ELEMENT LIMS SYSTEM. This includes lot numbers, expiration, open and prepared dates, receipt date, Certification/traceability documents from supplier(s) if provided and preparer.

7.2 SOLVENTS and REAGENTS-all as listed or equivalents

7.2.1 Methanol, hypergrade for LC/MS. (Merck) from Sigma Aldrich Part no. 1060354000 or equivalent (HPLC Plus grade is an acceptable alternate)

7.2.2 Water, hypergrade for LC/MS. (Merck) from Sigma Aldrich Part no. 1153334000 or equivalent (HPLC plus grade is an acceptable alternate). Alternatively, York PFAS free water demonstrated ion and PFAS free can be used.

7.2.3 Acetic Acid, glacial. ACS grade or equivalent.

7.2.4 Ammonium Hydroxide, conc. Cert. ACS grade, 28-30% in water, Sigma Aldrich part no.1054231000, or equivalent

7.2.5 Methanolic Potassium Hydroxide (0.05 M) – add 3.3 g of KOH to 1L MeOH

7.2.6 Sodium Hydroxide, pellets, ACS grade- Sigma Aldrich part no. 221465-500G, or equivalent

7.2.7 Potassium Hydroxide, pellets, ACS grade

7.2.8 Ammonium Acetate – ACS grade or better, Ammonium Acetate, HPLC or cert. ACS grade. Sigma Aldrich Part no. 73594-100-G-F or equivalent.

7.2.9 Ammonium Acetate 5 mM for HPLC in aqueous solution: HPLC gradient A-- Weigh 0.3854 g (+ 0.0005) Ammonium Acetate and add to 1 liter hypergrade Water. Mix until dissolved then sonicate for 5 mins. To remove air bubbles. Stability - 2 weeks.

7.2.10 **Methanolic Ammonium Hydroxide 0.3 %** - take 2.5 mL of conc. ammonium hydroxide into 247 mL MeOH (measure the 247 mL in a PP graduated cylinder-they are under QQ1 somewhere). Use a mechanical pipet to add the 2.5 mL (not strictly quantitative FYI)-**Make 4 bottles of this**. *Used for soil extractions*.- 1 month life

7.2.11 **Methanolic Ammonium Hydroxide 1.0 %** - take 8.25 mL of conc. ammonium hydroxide into 242 mL MeOH (measure the 242 mL in a PP graduated cylinder-they are under QQ1 somewhere). Use a mechanical pipet to add the 8.25 mL (not strictly quantitative FYI)- **Make 4 bottles of this** -*used in Promochrom*-1 month life.

7.2.12 **Aqueous Ammonium Hydroxide 3%-** take 24.8 mL of ammonium hydroxide and add to 242 mL PFAS free water. 3 month life- *used for pH adjustment*

7.2.13 **Methanol with 4% water, 1% ammonium hydroxide and 0.625% acetic acid** – add ammonium hydroxide (3.3 mL, 30%), reagent water (1.7 mL) and acetic acid (0.625 mL) to methanol (92 mL), store at room temperature, replace after 1 month. **This solution is used to prepare the instrument blank, calibration stds and is used to dilute the extracts of samples that exceed the calibration range.**

7.2.14 **Formic Acid 0.1M-aqueous** – add 873 uL formic acid into 250 mL PFAS free water- **Make 2 bottles of this-***used to prepare 7 below.* 2 year life

7.2.15 **Formic Acid, 0.3M**-aqueous- add 2.62 mL (2619 uL) into 250 mL PFAS free water- **Make 4 bottles of this** -*used in Promochrom*-2 year life

7.2.16 **Formic Acid methanolic 1:1, 0.1M formic acid**- mix equal volumes of Methanol and 0.1 M formic acid- **Make 4 bottles of this** -*used in Promochrom*-2 year life

7.2.17 **Formic Acid 5% aqueous**- add 12.5 mL Formic acid into 250 mL PFAS free water. *Used for pH adjustment.* 2 year life

## 7.3 Stock Standards

Stock Standards are purchased in mid to high concentration levels from Wellington Laboratories, Inc. Guelph, ONT, CA. Currently, Wellington is the preferred supplier of these materials. As a second source verification, prepare a mid-level from the stock independently from the preparation used for initial calibration. Document this preparation in Element. See Attachments 1,2, and 3 for detailed information.

7.3.1 Internal Standards (7-Non-Extracted –NIS)) used for the method are MPFOA, MPFOS, M3PFBA, MPFDA, MPFHxA, MPFHxS and MPFNA.

These are purchased at 250 - 1000 ng/mL depending upon the ISTD in a mixture. This mixture is purchased from Wellington Labs in 1.2 mL volumes with the following **part no.: MPFAC-HIF-IS**. Stored at 4C or less unopened this solution has a 5 year life. Once opened, the life is one year from open date.

7.3.2 Isotopic Surrogate Analogs (24 isotopes) are purchased for the method described from Wellington Labs at 250-5000 ng/mL levels, depending upon the isotope. The part no. is **MPFAC-HIF-ES**.

7.3.3 Stock Standard mixtures of both linear and branched isomers of the EPA 1633 - 40 list are purchased from Wellington Labs at varying concentrations in 5 different mixtures under part nos. PFAC-MXJ, PFAS-MXI, PFAC-MXH, PFAC-MXG, PFAC-MXF.

7.3.4 Qualitative branched isomers mix- individual available branched and linear mixes for the following PFAS are used daily to allow for qualitative knowledge of the PFAS branched isomers so they are integrated/included in quantitative analysis: T-PFOA, lp-PFNA, br-FOSA, br-NEtFOSA, br-NMeFOSA, br-NEtFOSE and br-NMeFOSE. These are purchased at 50,000 ng/mL levels from Wellington Labs-the names above are the Catalogue nos. These have a five year life at stock concentrations.

Make a 100 ng/mL Intermediate mix by adding 2.0 uL of the individual stocks up to 1.0 mL with MeOH.

Make a working solution by taking 200 uL of the 100 ng/mL intermediate into 750 uL of cal matrix solution (7.2.13) and add 50 uL of 1:10 EIS mix.

Transfer 300 uL to an autosampler vials, add 3 uL of ISTD working mix, cap, vortex and store until needed. Life is 1 year.

The summary below details the procurement requirements for this method - All from Wellington Laboratories, Inc.:

| Description | Part nos. | Comes in |
|---|---|---|
| 40 Compound Target 1633 list targets | PFAC-MXJ | 4 Days – 1.2 mL |
| | PFAS-MXI | |
| | PFAC-MXH | |
| | PFAC-MXG | |
| | PFAC-MXF | |
| Isotopic Surrogates-24 | MPFAC-HIF-ES | 4 Days – 1.2 mL |
| EPA 1633 - 7 Internal Stds | MPFAC-HIF-IS | 4 Days – 1.2 mL |

## 7.4 Preparation of Standards

7.4.1 Preparation of Working Standards and Intermediates from STOCK Materials

All stock standards are prepared by the vendor in methanol containing a bit of sodium hydroxide to prevent losses of target PFAS compounds due to potential esterification in methanolic solution. The stocks come prepared with 4 molar equivalents (a 3x excess) of sodium hydroxide for stocks at the 50 ug/mL levels. This insures their stability with respect to potential loss due to esterification. The basic solution insures that any acidic sites on the glass ampules or acidic impurities in the methanol are neutralized to prevent ester formation and forms the sodium salt of the PFAS to stabilize it.

When preparing any intermediate level standards, the dilution must be prepared in alkaline methanol to prevent the above from occurring.

In order to do this, prepare a 5.0 mM NaOH in Hypergrade Methanol (or LC/MSMS grade) by dissolving 0.02 g. of sodium hydroxide into 100 mL of MeOH. This has a 2 week life.

For intermediate standards that are made to 10 mL final volume, add 100 uL of 5.0 mM NaOH/MeOH as part of the preparation. This results in a final concentration of NaOH at 0.05 mM.

For intermediate standards prepared to a final volume of 1.0 mL. add 10 uL of the 5.0 mM NaOH/MeOH.

For working calibration standards/CCV/SCV made to 500 uL final volume, using the mixture detailed in section 7.1.13 (MeOH/Water/acetic acid/ammonium hydroxide). This approximates the matrix of the final extracts for analysis.

### 7.4.2 Storage and Handling of Standards

All working standards should be stored at either room temperature or 4C provided the containers are sealed properly.

Stock Standards may be stored at 4-10 deg. C but before using must sit to allow equilibration to room temperature followed by either vigorous vortex mixing or sonication for 3-5 mins.

### 7.4.3 Detailed Standards Preparation Procedure-EPA 1633

### 7.4.4 Internal Standards-*See Attachment 1*

Internal Standards are purchased as a **stock mixture** at 250-1000 ng/mL

These as transferred to a snap cap vial that has been pre-rinsed with 5 mM NaOH/MeOH then allowed to dry.

7.4.4.1 Working level of Non-Extracted Internal Standard (NIS) –make a 1:1 dilution of the stock by taking 500 uL of the Stock and adding 500 uL MeOH.

Use as is by adding 3 uL to 300 uL volumes for QC, samples or calibration.

### 7.4.5 Isotopic Surrogates (Extracted Internal Standards)- *See Attachment 2*

7.4.5.1 Stock Surrogates are purchased as a mixture at 250-5000 ng/mL. These are transferred to a snap cap vial that has been pre-rinsed with 5 mM NaOH/MeOH then allowed to dry.

Option 1- Use Stock as received and add 25 uL to all samples/QC to be extracted

Option 2- Prepare **2** mL of Working EIS by preparing a 1:2 dilution to yield 125-2500 ng/mL for use as follows:
Take 1000 uL of the Surrogate Stock, plus 25 uL of 5 mM NaOH/MeOH and 975 uL MeOH to give 2.0 mL final volume**. 50 uL are added to ALL preparation blanks, samples and QC**. This is sufficient for approx. 40 x 50 uL additions to all blanks, QC and samples.

This corresponds to adding 5 to 100 ng of EIS compounds to the initial samples and QC. The final volume of extractions will typically be 5.0 ml so this yields 1-20 ng/mL of the isotope EISs in the final extract for analysis.

For calibration, the Stock mix at 250-5000 ng/mL is used by adding 100 uL up to 1.0 mL final volume to yield 25/500 ng/mL in each calibration level as directed in the calibration section 7.4.7.1.

### 7.4.6 Target Analytes- EPA 1633- *See Attachment 3*

The target analytes for this method are purchased commercially from Wellington Labs under the 5 part nos. described in Section 7.3.3 which contains the method target analytes only at varying concentrations. These mixtures are transferred from their glass ampules to snap cap vials that have been pre-rinsed with 5 mM NaOH/MeOH then allowed to dry. Again these are the nominal concentrations and the actual anion concentrations for those present as salts are listed in the documentation and are reflected in both Mass Hunter and Element.

Preparation of a 1.0 mL volume of a 10 x intermediate of each of the 5 mixes for Calibration. Some of the higher levels on the curve use aliquots of the stock as shown in Figure 2.

Scale the volume accordingly if less is desired. Note that the EPA 1633 mixes come 1.2 mL per vial so this recipe may consume one vial quickly.

**7.4.6.1 OPR and LLOPR** - these are a mid-level blank spike and low level blank spike (at 2x the LOQ). These are prepared as follows from the EPA 1633 Target mixtures (5 components) by taking 200 uL of each STOCK into a snap cap vial giving 1.0 mL final volume.

1. Element ID Y22B199- PFAC-MXF mix 200 uL
2. Element ID Y22B200- PFAC-MXG mix 200 uL
3. Element ID Y22B201- PFAC-MXH mix 200 uL
4. Element ID Y22B204- PFAC-MXI mix 200 uL
5. Element ID Y22B205- PFAC-MXJ mix 200 uL

For OPR (BS) at mid-level add 100 uL to each matrix for the batch OPR and for the **LLOPR add 20 uL** of the spike mix and process through all steps of the specific matrix preparation.

### 7.4.7 Calibration

Calibration of the LC-MSMS systems is done by an eight level calibration covering the range 0.2 to 1650 ng/mL, nominal. Various PFAS species are present as salts and at differing concentrations and these are reflected in Mass Hunter and Element as their actual concentrations. Six to eight levels are prepared depending upon the analyte. These levels are prepared as directed below using the internal standards, surrogates and target analytes from above.
**This is made to a final volume of 1000 uL** in the matrix described in section 7.1.13 (MeOH/Water/acetic acid/ammonium hydroxide)

**This preparation excludes the ISTD in the initial preparation**. After preparation as directed, withdraw 300 uL of each level into a 500 uL PP vial and add 3 uL of ISTD before analysis, cap and vortex to mix.
These are stored at <10C and are stable for 6 months when prepared as directed.

7.4.7.1 Calibration Curve Preparation - Based upon a final volume of 1.0 mL in CAL Matrix Solution*
See Attachment 4 for details.

**EPA 1633 Calibration Standard Preparation**
Rev 1.,0 10/03/22

**For Final volume of 1.0 mL**
*Recipe uses both a 1:10 intermediate for some levels AND the Stock for other points as indicated*
*All standards in Stds refrig. Adjacent to QQQ1 N2 generator in box labeled EPA 1633 standards- all are opened, labeled and good to use.*

| Level | *Stock: Y22B201* **1633 MXH Targets Intermediate @10x *** uL of MXH 10x Interm. | *Stock: Y22B200* **1633 MXG Targets Intermediate at 10x*** ul of MXG interm. | *Stock: Y22B199* **1633 MXF Targets Intermediate at 10x*** ul of MXF interm. | *Stock: Y22B204* **1633 MXI Targets Intermediate at 10x*** ul of MXI interm. | *Stock: Y22B205* **1633 MXJ Targets Intermediate at 10x*** ul of MXJ interm. | *Stock: Y22B198* **1633 EIS isotope Mix Intermediate at 10x** uL of EIS Interm. |
|---|---|---|---|---|---|---|
| 1 | 2 | 2 | 4 | 2 | 2.5 | 50 |
| 2 | 5 | 5 | 10 | 5 | 6.25 | 50 |
| 3 | 12.5 | 12.5 | 25 | 12.5 | 15.6 | 50 |
| 4 | 25 | 25 | 50 | 25 | 31.3 | 50 |
| 5 | 50 | 50 | 100 | 50 | 62.5 | 50 |
| 6 | 125 | 125 | 250 | 125 | 15.6 of Stock | 50 |
| 7 | 25 of Stock | 25 of Stock | 50 of Stock | 25 of Stock | 31.2 of Stock | 50 |
| 8 | 62.5 of STOCK | 62.5 of STOCK | 125 of STOCK | 62.5 of STOCK | 78.0 of Stock | 50 |

* 100 uL up to 1 mL in MeOH

*CAL MATRIX: Methanol with 4% water, 1% ammonium hydroxide and 0.625% acetic acid – Prepared by adding ammonium hydroxide (3.3 mL, 30%), reagent water (1.7 mL) and acetic acid (0.625 mL) to methanol (92 mL), store at room temperature, replace after 1 month. This solution is used to prepare the instrument blank and is used to dilute the extracts of samples that exceed the calibration range.

Amount of CAL Matrix to make up to 1.0 mL Final volumes:

| CAL LEVEL | uL of CAL Matrix |
|---|---|
| 1 | 937.5 |
| 2 | 918.8 |
| 3 | 871.9 |
| 4 * | 793.7 |
| 5 | 637.5 |
| 6 | 309.0 |
| 7 | 843.8 |
| 8 | 609.5 |

INTERNAL STANDARD MIX (non-extracted IS-NIS). Mix 500 uL of STOCK ISTD at 250-1000 ng/mL with 500 uL of Methanol. This results in 125-500 ng/mL Intermediate ISTD. See 7.4.4.1.

Add 3.0 uL to 300 uL of each level 1-8 in a 500 uL PP autosampler vials and cap with polyolefin cap, vortex to mix and run. Add 3 uL to 300 uL of all sample/QC extracts before analysis.

*Level 4 is also used as the CCV for each analysis sequence run initially, then after every 10 samples and at the end of the sequence. Multiple vials should be prepared for this level.

### 7.4.8 Checking the Efficacy of the Surrogate/Spike Mixes

On a monthly basis the surrogate (EIS) and spike mixes from the vials used for spiking are assayed to ensure stability. These are prepared for the analysis by taking 3.0 uL of the surrogate (EIS) mix and 3 uL of the Spike mix into 294 uL MeOH/Water/Acetic Acid/Ammonium hydroxide from 7.1.13, then add 3 uL of NIS (ISTD). This yields a 1:100 dilution of the EIS and Spike mixes. Use 100 as the dilution factor in the Mass Hunter worklist.

### 7.4.9 Second Source - Initial Calibration Verification (ICV)

Currently, the EPA method 1633 does not require a second source ICV. Rather, the initial calibration is verified by preparing a Level 5 -5.0 ng/mL (nominal) calibration standard independently from calibration standard preparation. This serves as the ICV.

## 8. PROCEDURE

### 8.1 Preventative and Routine Maintenance

| HPLC/MS/MS Preventative Maintenance | |
|---|---|
| **As Needed:** | **Daily (When in use)** |
| Change pump seals.<br>Change in-line filters in autosampler (HPLC).<br>Check/replace in-line frit if excessive pressure or poor performance.<br>Replace column if no change following in-line frit change.<br>Clean needle.<br>Replace or clean Capillary<br>Replace fused silica tube in ESI interface.<br>Clean lenses.<br>Clean skimmer.<br>Ballast rough pump 30 minutes.<br>Check Nozzle flow pattern | Check solvent reservoirs for sufficient level of solvent.<br>Verify that pump is primed, operating pulse free. (ripple < 1%)<br>Check needle wash reservoir for sufficient solvent.<br>Verify capillary heater temperature functioning.<br>Verify vaporizer heater temperature.<br>Verify rough pump oil levels.<br>Verify turbo-pump functioning.<br>Verify nitrogen pressure for auxiliary and sheath gasses.<br>Possible Checktune |
| **Semi-Annually** | **Annually** |
| Replace oil mist and odor elements.<br>Replace activated alumina filter if applicable | Vacuum system components including fans and fan covers.<br>Clean/replace fan filters, if applicable. |

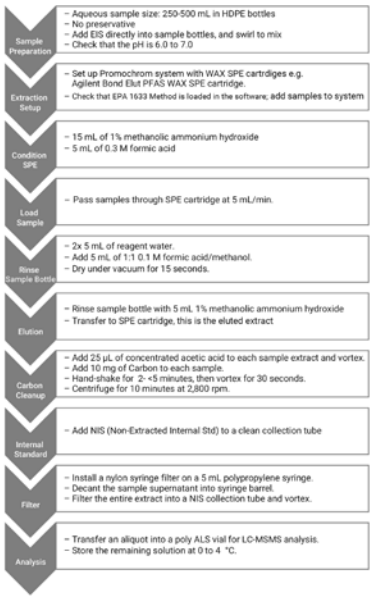
### 8.2 Sample Preparation (Extraction, Clean-up and Concentration)- Aqueous Matrices

A summary of the steps for the steps related to aqueous samples are shown in Figure 1.0 and in the summary below.

1. Determine % Suspended Solids – 10.0 mLs $\pm$ 0.02 mL through a tared 0.2 um PP filter. Dry filter $\geq$ 12 hours @ 105C, cool in dessicator. Calc % TSS
2. Check pH with short range pH paper to insure pH = 6.5 $\pm$ 0.5. Adjust if necessary with either 5% aqueous formic acid to lower pH or with 3% aqueous ammonium hydroxide to raise pH.
3. Weigh sample bottle as is to $\pm$ 0.1 g.-remove cap first since that will not be weighed later since autosampler caps are used
4. Homogenize sample by inversion 3-4 x-place full volume on Promochrom System using WAX SPE cartridges.

5. Set up MBLK, OPR at 2x LOQ (low LCS) and mid-level OPR (mid-level LCS)-spike with 10 uL of Spike mix for LLOPR and 100 uL of spike mix for mid-OPR.
6. Spike all with 25 uL EIS solution (isotopic surrogates)
7. Follow Promochrom method for EPA 1633
8. Initiate SPE program EPA1633AQ on the Promochrom system
9. Once the program is finished there will be 5 ml in the collection tube. If less, make up to exactly 5.0 mL with MeOH.
10. Remove the sample bottle from the Promochrom system and weigh the empty bottle. That will determine the weight (volume for water) assume 1g. = 1.0 mL. Enter this value into the element bench sheet and the initial volume.
11. Add 25 uL of concentrated acetic acid to each collection tube and vortex to mix.
12. Add 10 mg of activated carbon to all samples and QC. Hand mix and vortex mix for no more than 2 minutes
13. Centrifuge at 2800 rpm for approx. 10 minutes.
14. Filter the final volume through 0.2 um nylon filter using a syringe.
15. If the client provides only 250 mL of sample, in order to meet reporting limits, it may be required to concentrate the unfiltered extract by a factor of at least 2 on a TurboVap at 1.2 Liters/min with nitrogen at <55ºC.. For example if final volume is 5.0 mL, concentrate to 2.0 mL final volume (2.5 x concentration). If 500 ml provided, skip this step.
16. Enter the final volume achieved into the bench sheet in Element.
17. Transfer a portion of the final extract to a 2 mL snap cap, labeled.
18. Take a 300 uL portion of the extract into a 500 uL PP autosampler vial, add 3 uL of NIS (non-extracted internal std.). Cap, vortex, store at <6ºC.
19. Sample is ready for analysis.

**Figure 1.0 Aqueous Sample Preparation Steps**




8.2.1 To measure sample initial volume for aqueous samples, remove the cap and weight the bottle and record the weight in the sample weight. For MBLK, LLOPR and OPR use 250-500 mL volumes). After SPE processing, be sure the empty bottle is dry and weight to determine the amount of sample in grams (essentially equal to volume in mL). Use that number for the initial volume in Element LIMS.

8.2.2 For every 20 field samples (Field blanks are considered field samples in as they are treated as such), a blank (MBLK), blank spikes, (2 levels-LLOPR and OPR as BS1 and BS2 respectively. A matrix spike is not necessary since isotope dilution is used. If an MS/MSD is required by a specific project, spike 100 uL of the mid-level BS mix (OPR).

8.2.3 All polypropylene equipment including graduated cylinders and sample transfer lines/reservoirs should be washed prior to using with extraction solvent (Methanol).

8.2.4 Add 25 uL of EIS (isotopic surrogates) (250/5000 ng/mL) to each sample and QC sample, recap and invert to mix well.

8.2.5 Add, 5ul (low level spike), 50 uL (mid-level spike)

8.2.6 Using the Promochrom automated system, run a cleaning run. Be sure the reservoirs of LC/MS grade methanol and HPLC plus grade water or equivalent are full. Prime all lines and align all components.

8.2.7. Load in the EPA1633 method and adjust the sample volume to 10 ml more than the highest volume container measured by visual comparison to a calibrated bottle of the same size.

8.2.8 The SPE method solvents for extractions are as follows:

- Solvent 1 = MeOH
- Solvent 2 = $H_2O$
- Solvent 3 = 0.3 M Formic acid,
- Solvent 4 = 1:1 0.1M Formic Acid/MeOH,
- Solvent 5 = MeOH with 1% ammonium hydroxide ("Basic MeOH")
  W1 = Aqueous waste, W2 = Organic waste

8.2.9 Place labeled 15 mL graduated collection vessels in the sample collection tray and use Element labels to identify the vials at this point. Print 2 sets of labels for each since they will be used after the concentration step as well. These are graduated.

8.2.10 Connect the bottles to the automated system.

8.2.12 Initiate the EPA1633Aq SPE Extraction Program. Each run is approximately 1 hour 45 minutes.

8.2.13 **Evaporation Options**-Aqueous Samples

**N-EVAP systems**

8.2.13.1 The resulting 5 mL extracts are not further concentrated unless Work Plan reporting limits need to be lower than standard RLs. When this is required by the Work Plan, the extracts and QC are transferred to the N-EVAP concentrator systems operated at 50-55 degrees C (never more than 55C) in their original collection vials. The nitrogen flow is initiated at 1.2 ml/min and adjusted on each individual sample to provide a gentle stream causing a slight disturbance at the surface of the methanol extracts.

8.2.13.2 As this evaporation proceeds the walls of each vessel are rinsed with methanol when the volume is approximately 2.5 mls and then again when the volume is reduced to just below 2.0 mL. Then Bring up the final volume to 2.5 mL. This is a 2x concentration when needed.

8.2.14 Swirl final extract, make up to 2.0 mL with methanol. Using a disposable polypropylene pipet, carefully transfer to a 2 mL PP snap cap vial.

8.2.15 Withdraw an aliquot of 300 uL into a 500 uL autosampler vial (PP) and add 3.0 uL of ISTD (NIS) mix. .

8.2.16 Cap with polyolefin flexible caps and vortex to mix.

8.2.17 Store Extracts at <6$^{o}$C until analysis.

## 8.3 Sample Preparation (Extraction, Clean-up and Concentration)- Soil Matrices

1. Determine % solids: use 5 grams; dry at 110C $\geq$ 12 hours.
2. Mix sample with a stainless steel spatula to homogenize-exclude Sticks, vegetation, rocks and the like.
3. Remove 5.0 g. from the homogenized sample container. Add to a tared 50 mL centrifuge tube. Determine the weight $\pm$ 0.01 g.
4. Prepare QC using clean matrix (Ottawa Sand) wetted with 1 mL PFAS free water in 50 mL centrifuge tubes
5. For all samples, QC blanks and LCSs (LLOPR and ML OPR) and a 25 uL aliquot of EIS onto the soil. The current Element standard ID is Y22J305. For the OPRs add appropriate amount of spike solution (10 uL for LLOPR and 100 uL for OPR. The current Element Std ID is Y22J304.
6. Swirl the samples to mix then let sit for 30 minutes.
7. Add 10 mL of 0.3% methanolic ammonium hydroxide to each centrifuge tube.
8. Vortex to mix then shake on the shaker table for 30 minutes.
9. Next, centrifuge at 3500 rpm for 5 minutes or 2800 rpm for 10 minutes.
10. Transfer the supernatant liquid to a clean 50 mL centrifuge tube
11. Add 15 mL of 0.3% methanolic ammonium hydroxide to each of the original centrifuge tubes.
12. Vortex to mix then shake on the shaker table for 30 minutes
13. Next, centrifuge at 3500 rpm for 5 minutes or 2800 rpm for 10 minutes.
14. Transfer the supernatant liquid to the centrifuge tubes from 10.0 above
15. Add another 5 mL of 0.3% methanolic ammonium hydroxide to each of the original centrifuge tubes.
16. Vortex to mix then shake on shaker table for 30 minutes
17. Next, centrifuge at 3500 rpm for 5 minutes or 2800 rpm for 10 minutes.
18. Transfer the supernatant liquid to the centrifuge tubes from 10.0 above
19. Add 10 mg of activated carbon to the combined extract using a 10 mg scoop and hand swirl for 2 minutes (never more than 5 minutes of losses of Target PFAS will occur)
20. Centrifuge at 3500 rpm for 5 minutes or 2800 rpm for 10 minutes
21. Immediately Decant into a 50 mL centrifuge tube.
22. Place in Turbovap or on the N-EVAP system and concentrate at 55 deg. C to a final volume of approx..7 mL at a nitrogen flow of 1.2 ml/min.
23. Add 35-40 mL of PFAS free water to the tube and vortex to mix.
24. Check the pH= 6.5 $\pm$ 0.5 if not adjust accordingly using 5% formic acid to lower pH or 3% aqueous ammonium hydroxide to raise pH rto within this range.

25. Set up the soil EPA 1633 method on the Promochrom be sure volume is set to 50 ml for sample size.
26. Place samples and QC centrifuge tubes on the autosampler
27. Once the program is finished, note the final volume and use that in the Element benchsheet as final volume. Should be 5.0 mL. If less make up to 5.0 mL with MeOH.
28. Add 25 uL of concentrated acetic acid to each collection tube and vortex to mix.
29. Add 10 mg of carbon to all samples and QC and mix for 2 minutes (no more than 5 minutes).
30. Immediately centrifuge at 2800 rpm for 10 minutes.
31. Filter the extract through a 0.2 um nylon membrane using a syringe and filter into a 2 mL snap cap vial.
32. When ready for analysis, remove 300 uL of extract and transfer to a 500 uL autosampler vial. Add 3 uL of NIS (internal standard), vortex to mix. Cap with polyolefin flexible caps and vortex to mix.
33. Store Extracts at <6$^{o}$C until analysis
34. Samples/QC are now ready for analysis.

## 8.4 Sample Analysis--Running Samples/QC - Acquisition Method

The acquisition method is detailed in Attachment 4 (HPLC) and Attachment 5 (MS/MS) of this SOP. The method is a HPLC with dynamic MRM method with precursor and product ions with specific acquisition parameters to maximize sensitivity and specificity. This list may be modified to add other PFAS target analytes as necessary.

8.3.1 The triple Quadrupole (QQQ) system must be optimized for each target analyte (including surrogates and internal standards) using the Mass Hunter Optimizer program. This program determines the most abundant precursor and product ions for each compound and their abundances. These data are then used to build an MRM (multiple reaction monitor) method for acquisition. This is done initially or after any major maintenance procedures are performed to the triple quadrupole system. A high level standard is used for this in the $[M-H]^-$ mode or M-COOH for HFPO-DA.

8.3.2 The QQQ is checked for tuning on a weekly basis (if necessary) before analysis using the Tune context by selecting the CHECKTUNE radio button. This is done only in negative ion mode since that what we are operating under. If the Checktune fails, run the Autotune program-note: this takes approx. 45 mins. in negative mode. After autotune or any tuning adjustment, a re-calibration of the instrument is required.

8.3.3 Before any QC or samples can be run, the HPLC must be allowed to purge for at least thirty minutes. This purge must be done using the initial mobile phase conditions used in the method must be allowed to run for 15 minutes or until pressure has stabilized (ripple must be < 1%)

8.3.4 An instrument sequence (Worklist) is then made. It should begin with a blank, a primer (5 ng/mL) followed by a blank with ISTD to establish system cleanliness.

8.3.5 After a successful initial calibration has been completed, the analytical sequence for a batch of samples analyzed during the same time period is as follows. Standards and sample extracts must be brought to room temperature and vortexed prior to aliquoting into an instrument vial in order to ensure homogeneity of the extract.

8.3.6 **Analysis Sequence**

1. Instrument Blank *
2. Instrument Sensitivity Check –**LOQ Standard Level (SEQ-CAL 1) S/N > 3:1**
3. Calibration Verification Standard (CCV)
4. Qualitative Identification Standards –Branched PFAS
   PFOA, PFNA, PFOSA, NMeFOSA, NEtFOSA, NEtFOSE, and NMeFOSE.
5. Instrument Blank (SEQ-CCB)*
6. Method Blank (Batchxxxx-BLK1)
7. Low-level OPR (LLOPR) (Batchxxxx-BS1)
8. OPR (Batchxxxx-BS2)
9. Field Samples (10 or fewer)
10. Calibration Verification Standard (SEQ-CCVn)
11. Instrument Blank (SEQ-CCBn)*
12. Field Samples (10 or fewer)
13. Calibration Verification Standard (SEQ-CCVn)
14. Instrument Blank (SEQ-CCBn)*

* Contains solvent system for calibration, NIS and EIS

8.3.7 The run can end with a script to put the instrument into standby mode.

## 8.4 Daily Sample Preparation/Analysis Sequence

- Prepare extracts for analysis by placing a 300 ul aliquot of sample extract containing 3 uL of internal standards into a PP auto-sampler vial. Apply Polyolefin cap.
- Confirm that the samples loaded on the auto-sampler were entered correctly in the injection log. Make any necessary corrections.
- Run instrument CCV checks at the RL (0.25-0.5 ng/mL), then at a mid level and high level rotating every ten samples (5, 25 ng/mL) and ending with a mid level CCV.
- Enter the Worklist (injection sequence) into the instrument software and load samples onto the auto-sampler in the order shown above in Section 8.3.6

### 8.5 Data Review

The Agilent Mass Hunter Quantitation program is used to review all data. All identifications are based upon acceptable ion ratios for the abundance of both precursor and product ions along with retention time information. All positive detections of target PFAS must be less that the high point conc. of the Cal. Curve.

8.5.1 Since certain PFAS species are manufactured by different processes the presence of branched as well as linear isomers may be found. In order to properly quantitate these species, the analyst must sum the related branched and linear isomers. This affects the following species: PFOS, PFHxS, PFOA, PFNA, PFOSA, NMeFOSA, NEtFOSA, NEtFOSE, and NMeFOSE.

8.5.2 Any detection greater than the upper limit of the calibration curve requires dilution into the upper half of the curve, where possible.

## 9. CALIBRATION

### 9.1 Initial Calibration

The initial calibration covers the range 0.20 ng/mL to 1560 ng/mL nominal conc. or higher depending upon the linearity of the PFAS species. After acquisition, the data are quantitated in Mass Hunter and the default calibration model for target compounds is generated using Quadratic regression, FORCED through the origin where applicable. All same level species (EIS) used average response factor model. Depending upon the response and accuracy at each level as shown in the Mass Hunter program, use Linear, Forced, weighted (1/x) or quadratic, Forced, with or without weighting to achieve the best fit which is based upon the best accuracy on a compound by compound basis. In any case, the correlation coefficient must be greater than 0.990. Average response factor RSD should be $\leq$ 20% where used.

9.1.1 The calibration levels as shown in Section 7.6.3 use 8 levels. All points are included in the calibration with exception of some species that saturate at levels 7 and 8.

### 9.2 ICV/SCV

An independently prepared Initial Calibration Verification must be run immediately following initial calibration. The concentration of this standard should be in the middle of the calibration range (e.g. 5.0 ng/mL) and prepared from a separate preparation as that of the calibration. Unless project-specific data quality objectives are required, the values from the second-source check should be $\pm$ 30% of the expected concentration.

**Corrective Action**: Quantitative sample analyses should not proceed for a failing ICV. Recalibrate and re-run the ICV if necessary.

### 9.3 Continuing Calibration Verification

The first CCV is at a mid-level and run every 10 client samples including a closing CCV.

The mid-Level CCV must be ± 30% of the true value.

**Corrective Action**: If any of the required calibration check criteria fail, the system must be evaluated and any appropriate instrument repair or maintenance must be performed. Sample data are unacceptable and must be rerun. Reinjection the standard may be done. If the calibration check standard still fails, the system must be recalibrated.

## 10. Quality Control

10.1 Initial Demonstration of Capability (IDOC)

10.1.1 The initial demonstration requirement of EPA 1633 must be acceptable before analysis of samples may begin. To establish the ability to generate acceptable precision and recovery, the laboratory must perform the following operations for each sample matrix type to which the method will be applied by that laboratory.

The IDOC includes the following key elements:

- Initial Demonstration of Precision and Recovery (IPR)
- MDL determination

### 10.1.2 Initial Demonstration of Precision and Recovery-IPR

- Extract, concentrate, and analyze four aliquots of aqueous and soil matrices spiked with 100 uL of the native spike solution OPR Mix Y22J304, 50 µL of the EIS solution no. Y22J305. At least one method blank, matching the matrix being analyzed, must be prepared with the IPR batches by matrix. All sample processing steps that are used for processing samples, including preparation and extractions, cleanup and concentration, must be included in this test.

- Using results of the set of four analyses, compute the average percent recovery (R) of the extracts and the relative standard deviation (RSD) of the concentration for each target and EIS compound.
- For each native and isotopically labeled compound, compare RSD and % recovery with the corresponding limits for initial precision and recovery in Table 5. If RSD and R for all compounds meet the acceptance criteria, system performance is acceptable, and analysis of blanks and samples may begin. *Note these acceptance criteria are not finalized and are based upon a single lab validation. Data for this table are derived from the single-laboratory validation study, and are only provided as examples for this draft method. The data will be updated to reflect the inter-laboratory study results in a subsequent revision. Therefore, these criteria will change after inter-laboratory validation. Several sections of this method state that Table 5 criteria are required, this is standard language that will be applicable when the method is finalized.*

### 10.1.3 MDL Determination

MDL Determination –In order to perform the MDL study, 7 total extractions are performed on 3 different days (Extraction day 1= 3 LRBs and 3 LFBs); Extraction day 2 is 2 of each, and Extraction day 3 is also 2 of each).

The levels extracted represent approx. 3-5 x the expected LOQ.

Once extracted, the analyses are conducted on 3 separate days (we use only QQQ2 for EPA 1633 so all runs are on that system). The MDL is determined according to the EPA MDL protocol defined in Definition and Procedure of the Determination of the Method Detection Limit, Revision 2 Dec. 2016 as detailed below:

Make all computations as specified in the analytical method and express the final results in the method-specified reporting units.

Calculate the sample standard deviation (SD) of the replicate spiked sample measurements and the sample standard deviation of the replicate method blank measurements from all instruments to which the MDL will be applied.

Compute the MDLs (the MDL based on spiked samples) as follows:

**$MDL_s$ = 3.143 x SD (for seven replicates; SD = Standard Deviation)**

Compute the MDLb (MDL based on method blanks-LRBs) as follows:

- If none of the blanks give numerical results then the MDLb does not apply
- If only some of the blanks (but not all) give a result, set the MDLb to the highest result found

- If ALL method blanks show a detections then use the following calculation to determine MDLb:

**MDLb = Average of Blank Detections + (3.143 x Std. Dev.)**

Calculate the final MDL by selecting the greater of MDLs or MDLb.

## 10.2 On-going QC Requirements

Preparation Batches are defined at the sample preparation step. Batches should be kept together through the whole analytical process as far as possible, but it is not mandatory to analyze prepared extracts on the same instrument or in the same sequence.

The quality control batch is a set of up to 20 samples of the same matrix processed using the same procedure and reagents within the same time period. The quality control batch may contain a matrix spike/matrix spike duplicate (MS/MSD), two laboratory control sample (LCS-LLOPR and OPR) and a method blank. Laboratory generated QC samples (Blank, LLOPR, OPR, MS/MSD) do not count toward the maximum 20 samples in a batch. Field QC samples are included in the batch count. In some cases, at client request, the MS/MSD may be replaced with a matrix spike and sample duplicate.

10.2.1 METHOD BLANK - One method blank must be extracted with every prep batch of similar matrix, not to exceed twenty (20) samples. For aqueous samples the matrix is Lab reagent water. For Soils the method blank matrix is Ottawa sand. Criteria:

- The method blank must not contain any analyte at or above 1/2 the LOQ (Reporting Limit).
- Re-extraction and reanalysis of samples associated with an unacceptable method blank is required when reportable concentrations are determined in the samples.

10.2.2 LABORATORY CONTROL SAMPLES (LCS- also called OPR and LLOPR) must be extracted with every process batch of similar matrix, not to exceed twenty (20) samples. The LCS is an aliquot of laboratory matrix (e.g. water for aqueous spiked with analytes of known identity and concentration and isotopic surrogate analogs. The OPRs must be processed in the same manner and at the same time as the associated samples. Recovery for Aqueous low level OPR target analytes is 40-150% until more data are derived. For all other Aqueous OPR levels recovery targets are 50-150%. These data are based upon EPA 1633 draft ranges that will change and are not used for acceptance/rejection but are reported until such time that fully validated acceptance ranges are provided in the final version of the method.

10.2.3 Matrix spike/Matrix spike duplicate (MS/MSD or MS/MSD). These are not typically required since each sample contains isotopic PFAS analogues that correct for any matrix effects. If the client requests them, then they are processed accordingly but are not a requirement of this method. If done they are by matrix, not to exceed twenty (20) samples. An MS/MSD pair is aliquots of a selected field sample spiked with analytes of known identity and concentration. The MS/MSD pair must be processed in the same manner and at the same time as the associated samples. Spiked analytes with recoveries or precision outside of the Laboratory control limits are flagged accordingly. Until enough statistical data per matrix is available, no criteria are offered. If a specific QA Project Plan has required limits, this is preempted. Any outliers must be qualified accordingly.

10.2.4 Initial calibration verification (ICV) –A second source standard is not required for this method. A second independently prepared mid-level standard is prepared and used for this purpose and analyzed after the ICAL. The concentration should be at the mid range of the curve and must recover within 70-130 % of expected value.

Corrective actions for the ICV include:

- Rerun the ICV
- Remake or acquire a new ICV.
- Evaluate the instrument conditions.
- Evaluate the initial calibration standards.
- Rerun the initial calibration.

10.2.5 Internal Standard- The Non-extracted Internal Standard (NIS) is added to each field and QC sample prior to analysis. The IS response (peak area) must not deviate by more than 50-200% from the mean response (peak area) of the initial calibration. If the areas are low for all the field samples and QC samples in the batch, it suggests a loss of instrument sensitivity, while low areas in only some field or QC samples suggests a possible bad injection.

Corrective action includes:

- Reinject the questionable samples
- Verifying the CCV NIS areas are compliant with the range, if so, this suggests either matrix effects and may require a small dilution to mitigate interference if only some of the NIS compounds are affected
- Qualify affected data

## 10.3 Initial Demonstration of Capability (IDC)

Initial Demonstration of Capability involves the following processes listed ion Table 1.0 as follows.

**Table 1.0 - Initial Demonstration of Capability (IDC)**

| Requirement | Specification and Frequency | Acceptance Criteria |
|---|---|---|
| Initial Demonstration of Precision and Recovery (IPR) | Extract, concentrate, and analyze four aliquots of the matrix (aqueous and soil) spiked with target native standard solution, EIS solution and finally the NIS (ISTD). Extract a method blank of each matrix with each matrix IPR batch. All steps that are used for processing samples, including preparation and extraction must be included. | Using results of the set of four analyses, compute the average percent recovery (R) of the extracts and the relative standard deviation (RSD) of the concentration for each target and EIS compound. |
| | | For each native and isotopically labeled compound, compare RSD and % recovery with the corresponding limits for initial precision and recovery in Table 5. If RSD and R for all compounds meet the acceptance criteria, system performance is acceptable, and analysis of blanks and samples may begin. |
| Method Detection Limit (MDL) | Method detection limit (MDL) - Each laboratory must also establish MDLs for all the analytes using the MDL procedure at 40 CFR Part 136, Appendix B. An MDL determination must be performed for all target compounds. | The minimum level of quantification (ML) can be calculated by multiplying the MDL by 3.18 and rounding to the nearest integer |
| Calibration Verification (ICV or SCV) *Section 9.1.5* | Analyze a mid-level ICV, each time a new calibration is performed or at a minimum, quarterly. The ICV must be an independent dilution beginning with the common starting materials used for ICAL. No 2nd source is required due to availability. | Results must be 70-130% of true value. |

## 10.4 QC Requirements

Ongoing QC requirements are detailed in Table 3.0 as follows.

**Table 3.0 QC Requirements**

| Summary of Quality Control | | |
|---|---|---|
| **Method Reference** | **Requirement** | **Specification and Frequency** |
| Section 10.1 | Mass Calibration | Annually and on as-needed basis |
| Section 10.1.7 | Mass Calibration Verification | After mass calibration |
| Section 10.3 | Initial Calibration (ICAL) | Minimum 6 calibration standards for linear model and 7 calibration standards for non-linear models. |
| Sections 10.2.2, 14.4 | Retention Time (RT) window | After ICAL and at the beginning of analytical sequence |
| Sections 7.3.1, 9.4 | Extracted Internal Standard (EIS) Analytes | All CAL standards, batch QC and field samples |

| | | |
|---|---|---|
| Sections 7.3.2 | Non-extracted Internal Standards (NIS) | All CAL standards, batch QC and field samples |
| Sections 7.3.4, 10.3.1, 13.3 | Instrument Sensitivity Check (ISC) | Daily, prior to analysis |
| Section 14.2 | Calibration Verification (CV) (CCV) | At the beginning and every 10 samples and at the end |
| Section 14.6 | Instrument Blank | Daily prior to analysis and after high standards |
| Sections 9.1.3, 9.5, 14.7 | Method Blank (MB) | One per preparation batch |
| Section 14.5 | Ongoing Precision Recovery (OPR) | One per preparation batch |
| Section 11.0 | Limit of Quantitation Verification (LLOPR) | Prior to analyzing samples |
| Section 11.0 | Matrix Spike (MS/MSD) | One per preparation batch (if required) Normally not needed, since Isotope dilution is employed |

## 11.0 DATA REVIEW, CALCULATIONS AND REPORTING

Samples concentrations are determined using either or linear regression or quadratic regression FORCED through the origin. Weighted ($1/x$ or $1/x^2$) may assist with low level accuracy and is recommended where necessary. All calibration curves have greater than 6 points. Any target analyte exceeding the calibration range will require dilution.

11.1 Data interpretation

All sample data calculations are performed by the Agilent Mass Hunter software in ng/mL and then final data are calculated taking into account final extract volumes and the initial sample volumes extracted which are entered into the Element bench sheet.

11.2 Linear and Branched Isomers are addressed in Section 8.5 and are reported for the noted species as Total which is a sum of the linear and branched isomers for affected species.

11.3 All Data are uploaded into Element LIMS and all final concentration calculations and associated recoveries are detailed. All pdfs of Mass Hunter Quant reports are uploaded to the Element Raw_Data drive for association with ICALs and all batch and analysis sequence runs. Data are set to Analyzed status once uploaded and initially reviewed, then locked.

11.4 The Data are then evaluated using the York Qualinator $^{TM}$ data review tool which evaluates all data CCVs, QC, ISTDS, Recoveries, etc. and automatically assigns outlier qualifiers for review and acceptance by the reviewer. The accepted data are then uploaded to Element and final reviewed in Laboratory Data Entry/Review module. Once reviewed, the status is set to Reviewed indicating the data are ready to be Reported by the Reporting Group.

## 12. HEALTH AND SAFETY

12.1 General safety considerations and requirements are detailed in the York Laboratory Safety and Health Standard Operating Procedure No. Safety011600.

Specific safety rules applying to the conduct of this analysis requiring the following:

- When handling standards and samples, latex gloves are required.
- Also, when handling neat materials, a fume hood and safety glasses are required.
- When handling samples, gloves and glasses are required.
- Highly odorous samples must be handled in a fume hood.
- Refer to SDSs for specific safety/health information.

12.2 The analysts must exercise normal care and be supervised and trained to work in an analytical chemistry laboratory. The analysts will be handling fragile glassware, needles, syringes, volatile and flammable chemicals, toxic chemicals and corrosive chemicals.

- No smoking or open flames are allowed.
- No food or food products may be brought into the laboratory.

Solvents should not be left uncovered on the laboratory benches.
All solvent transfers should be done in the hoods.

Hood doors must be kept in the position which yields approx. 100 fpm face velocity.
Solvent evaporation must be done in the hood with exhaust elevated and in the rear.

Waste containers that had solvents must be vented to a hood until all solvents have evaporated.

Safety glasses are provided and must be worn at all times in the laboratory.
Gloves are provided and must be worn when working with chemicals.
Laboratory coats are provided and should be worn to protect the analysts' clothes.
Syringes and needles must be kept in their original cases when not in use.
Care must be exercised in using and handling syringes to avoid injury.
Report any sticking with a needle immediately to your supervisor.

12.3 Specific Safety Concerns

12.3.1 Preliminary toxicity studies indicate that PFAS could have significant toxic effects. In the interest of keeping exposure levels as low as reasonably achievable, PFAS must be handled in the laboratory as hazardous and toxic chemicals.

12.3.2 Exercise caution when using syringes with attached filter

disc assemblies. Application of excessive force has, upon occasion, caused a filter disc to burst during the process.

12.3.3 Laboratory procedures such as repetitive use of pipets, repetitive transferring of extracts and manipulation of filled separatory funnels and other glassware represent a significant potential for repetitive motion or other ergonomic injuries. Laboratory associates performing these procedures are in the best position to realize when they are at risk for these types of injuries.

12.3.4 Eye protection, laboratory coat, and nitrile gloves must be worn while handling samples, standards, solvents, and reagents. Disposable gloves that have been contaminated will be removed and discarded; other gloves will be cleaned immediately.

12.3.5 Perfluorocarboxylic acids are acids and are not compatible with strong bases.

12.3.6 Primary Materials Used- The following is a list of the materials used in this method, which have a serious or significant hazard rating. NOTE: This list does not include all materials used in the method. The table contains a summary of the primary hazards listed in the SDS for each of the materials listed in the table. A complete list of materials used in the method can be found in the reagents and materials section. Employees must review the information in the SDS for each material before using it for the first time or when there are major changes to the SDS.

| | | | |
|---|---|---|---|
| Methanol | -Flammable<br>Poison<br>-Irritant | 200 ppm (TWA) | A slight irritant to the mucous membranes. Toxic effects exerted upon nervous system, particularly the optic nerve. Symptoms of overexposure may include headache, drowsiness and dizziness. Methyl alcohol is a defatting agent and may cause skin to become dry and cracked. Skin absorption can occur; symptoms may parallel inhalation exposure. Irritant to the eyes. |

| | | | |
|---|---|---|---|
| Acetic Acid, Glacial | -Flammable liquid and vapor.<br>-Irritation | 10 ppm TWA; 25 mg/m3 TWA | **Eye:** Causes severe eye irritation. Contact with liquid or vapor causes severe burns and possible irreversible eye damage. **Skin:** Causes skin burns. May be harmful if absorbed through the skin. Contact with the skin may cause blackening and hyperkeratosis of the skin of the hands. **Ingestion:** May cause severe and permanent damage to the digestive tract. Causes severe pain, nausea, vomiting, diarrhea, and shock. May cause polyuria, oliguria (excretion of a diminished amount of urine in relation to the fluid intake) and anuria (complete suppression of urination). Rapidly absorbed from the gastrointestinal tract. **Inhalation:** Effects may be delayed. Causes chemical burns to the respiratory tract. Exposure may lead to bronchitis, pharyngitis, and dental erosion. May be absorbed through the lungs. **Chronic:** Chronic exposure to acetic acid may cause erosion of dental enamel, bronchitis, eye irritation, darkening of the skin, and chronic inflammation of the respiratory tract. Acetic acid can cause occupational asthma. One case of a delayed asthmatic response to glacial acetic acid has been reported in a person with bronchial asthma. Skin sensitization to acetic acid is rare, but has occurred. |
| Ammonium Hydroxide, conc. 28-30% | - Inhalation hazard<br>- Skin Corrosion<br>-Eye Damage and Irritation | OSHA PEL:<br>35 mg/m3 ; 50 ppm<br>OSHA TWA:<br>18 mg/m3; 25 ppm | Ammonia is an irritant and corrosive to the skin, eyes, respiratory tract and mucous membranes. May cause severe chemical burns to the eyes, lungs and skin. Skin and respiratory related diseases could be aggravated by exposure. The extent of injury produced by exposure to ammonia depends on the duration of the exposure, the concentration of the liquid or vapor and the depth of inhalation**.** Exposure Routes: Inhalation (vapors), skin and/or eye contact (vapors, liquid), ingestion (liquid). |
| Formic Acid, conc. | -Flammable liquid and vapor<br>-Harmful if swallowed<br>-Causes severe skin burns and eye damage<br>-Toxic if inhaled<br>-May cause respiratory irritation | OSHA TWA:<br>5 ppm or 9 mg/m3<br><br>OSHA PEL:<br>10 ppm | Formic acid is an irritant and corrosive to the skin, eyes, respiratory tract and mucous membranes. May cause severe chemical burns to the eyes, lungs and skin. Skin and respiratory related diseases could be aggravated by exposure. The extent of injury produced by exposure to ammonia depends on the duration of the exposure, the concentration of the liquid or vapor and the depth of inhalation**.** Exposure Routes: Inhalation (vapors), skin and/or eye contact (vapors, liquid), ingestion (liquid). |

## 13. WASTE MANAGEMENT/POLLUTION PREVENTION

Neat Materials

Waste management procedures require the prudent use of neat materials. The ordering of neat standards and materials must be done to minimize unused material which would result in storage or handling of excess material. Quantities ordered should be sufficient to provide for necessary standards with consideration to shelf life. When ordering a unique material for a standard, be sure to order the smallest practical quantity.

Solvents

The solvents used at York for this procedure include isopropanol and Methanol. These solvents are used for sample extraction or LC cleanup, all amounts are either consumed during concentration or placed in one liter amber jars in the hood areas for evaporation. Any remaining solvent/water is transferred to a drum designated for solvent waste.

Acids and Bases

The acids and bases used for this procedure include: Acetic Acid and Formic Acid. The bases used are Ammonium hydroxide, sodium hydroxide and potassium hydroxide. Store concentrated base and acids separately whether waste or neat material.

Samples

Unused or remaining water samples are returned to the sample control room for continued storage for proper disposal by the sample control group.

## 14. REFERENCES

1. EPA METHOD 1633 Draft 2 June, 2022- Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS; EPA 821-D-22-001

## 15. REVISION HISTORY

| | | |
|---|---|---|
| Revision 1.0 | 10/24/2022 | First issue. |
| Revision 1.1 | 02/10/2023 | Modified LLOPR in Section 7.4.6.1 to reflect 2x the MRL |

# Attachment 1 – Non-Extracted Internal Standards (NIS)

YORK
ANALYTICAL LABORATORIES, INC.

**Analytical Standard Record**

Standard ID: **Y22B197**

| | | | |
|---|---|---|---|
| Description: | MPFAC-HIF-IS-EPA 1633 ISTD STOCK | Prepared: | 02/16/2022 |
| Standard Type: | Other | Expires: | 09/07/2026 |
| Solvent: | Methanol/Water (<1%) | Prepared By: | Robert Q. Bradley |
| Final Volume (mls): | 1 | Department: | PFAS |
| Vials: | 1 | Lot No.: | MPFACHIFIS0921 |
| Vendor: | Wellington Laboratories | | |

Comments: Stock ISTD for EPA method 1633

| Analyte | CAS Number | Concentration | Units |
|---|---|---|---|
| M3PFBA | | 1 | ug/mL |
| MPFDA | | 0.25 | ug/mL |
| MPFHxA | | 0.5 | ug/mL |
| MPFHxS | | 0.474 | ug/mL |
| MPFNA | | 0.25 | ug/mL |
| MPFOA | | 0.5 | ug/mL |
| MPFOS | | 0.479 | ug/mL |

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

## MPFAC-HIF-IS

**Mass-Labelled Perfluoroalkyl Substance Injection Standard Solution/Mixture**

| | |
|---|---|
| **PRODUCT CODE:** | MPFAC-HIF-IS |
| **LOT NUMBER:** | MPFACHIFIS0921 |
| **SOLVENT(S):** | Methanol/Water (<1%) |
| **DATE PREPARED:** (mm/dd/yyyy) | 09/07/2021 |
| **LAST TESTED:** (mm/dd/yyyy) | 09/07/2021 |
| **EXPIRY DATE:** (mm/dd/yyyy) | 09/07/2026 |
| **RECOMMENDED STORAGE:** | Store ampoule in a cool, dark place |

**DESCRIPTION:**

MPFAC-HIF-IS is a solution/mixture of five mass-labelled ($^{13}C$) perfluoroalkylcarboxylic acids ($C_4$, $C_8$, $C_9$-$C_{10}$) and two mass-labelled ($^{18}O$ and $^{13}C$) perfluoroalkanesulfonates ($C_6$ and $C_8$). The components and their concentrations are given in Table A.

The individual mass-labelled perfluoroalkylcarboxylic acids and mass-labelled perfluoroalkanesulfonates all have chemical purities of >98% and isotopic purities of ≥99% per $^{13}C$ or >94% per $^{18}O$.

**DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

**ADDITIONAL INFORMATION:**

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

***FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE***

*Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA*
*519-822-2436 • Fax: 519-822-2849 • info@well-labs.com*

*Form#:13, Issued 2004-11-10*
*Revision#:9, Revised 2020-12-23*

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value $y$ and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**QUALITY MANAGEMENT:**

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED AR-1523 ISO 17034 REFERENCE MATERIAL PRODUCER

**For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com**

**Table A:** **MPFAC-HIF-IS; Components and Concentrations (ng/mL, ± 5% in methanol/water (<1%))**

| Compound | Acronym | Concentration (ng/mL) | | Peak Assignment in Figure 1 |
|---|---|---|---|---|
| Perfluoro-n-(2,3,4-$^{13}C_3$)butanoic acid | M3PFBA | 1000 | | 1 |
| Perfluoro-n-(1,2-$^{13}C_2$)hexanoic acid | MPFHxA | 500 | | 2 |
| Perfluoro-n-(1,2,3,4-$^{13}C_4$)octanoic acid | MPFOA | 500 | | 4 |
| Perfluoro-n-(1,2,3,4,5-$^{13}C_5$)nonanoic acid | MPFNA | 250 | | 5 |
| Perfluoro-n-(1,2-$^{13}C_2$)decanoic acid | MPFDA | 250 | | 7 |
| **Compound** | **Acronym** | **Concentration* (ng/mL)** | | **Peak Assignment in Figure 1** |
| | | **as the salt** | **as the acid** | |
| Sodium perfluoro-1-hexane($^{18}O_2$)sulfonate | MPFHxS | 500 | 474 | 3 |
| Sodium perfluoro-1-(1,2,3,4-$^{13}C_4$)octanesulfonate | MPFOS | 500 | 479 | 6 |

* Concentrations have been rounded to three significant figures.

**Certified By:** _____ **Date:** 10/13/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

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*Revision#:9, Revised 2020-12-23*

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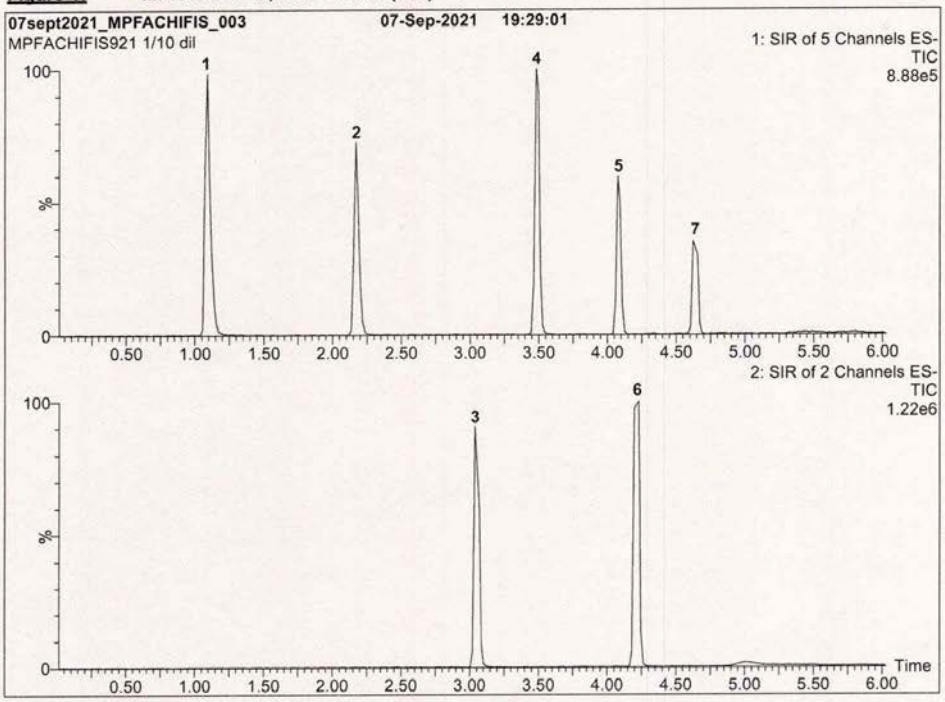
rev1

**Figure 1:** **MPFAC-HIF-IS; LC/MS Data (SIR)**




**Conditions for Figure 1:**

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield $RP_{18}$
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% $H_2O$ / 50% (80:20 MeOH:ACN)
(both with 10 mM $NH_4OAc$ buffer)
Ramp to 90% organic over 9 min and hold for
2 min before returning to initial conditions in 1 min.
Time: 15 min

Flow: 300 µL/min

**MS Parameters:**

Experiment: SIR

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = variable (2-6)
Desolvation Temperature (°C) = 350
Desolvation Gas Flow (L/hr) = 1000

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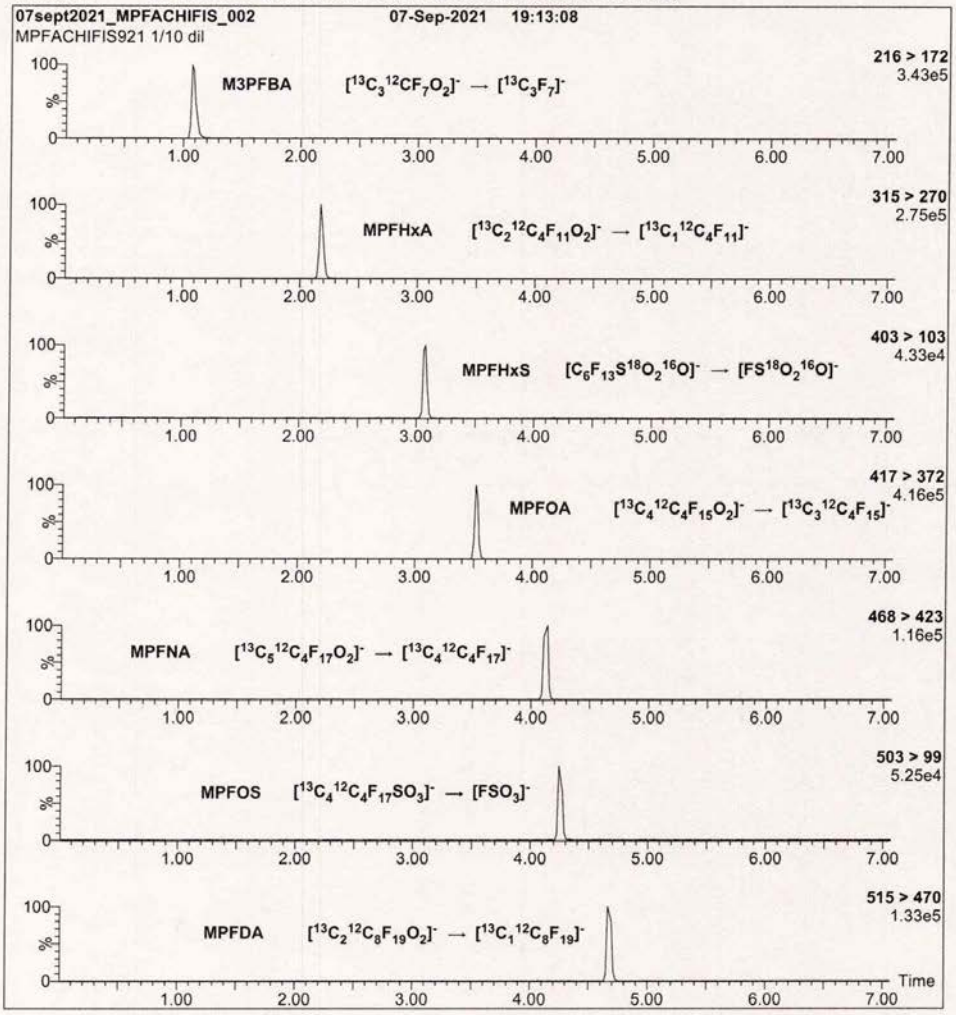
**Figure 2:** **MPFAC-HIF-IS; LC/MS/MS Data (Selected MRM Transitions)**




**Conditions for Figure 2:**

Injection: On-column (MPFAC-HIF-IS)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

**MS Parameters:**

Collision Gas (mbar) = 3.18e-3
Collision Energy (eV) = 4-64 (variable)

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# Attachment 2 – Extracted Internal Standards (EIS)

YORK
ANALYTICAL LABORATORIES, INC.

**Analytical Standard Record**

Standard ID: **Y22B198**

| | | | |
|---|---|---|---|
| Description: | MPFAC-HIF-ES-EPA 1633 STOCK EIS mix | Prepared: | 02/17/2022 |
| Standard Type: | Other | Expires: | 08/06/2024 |
| Solvent: | MeOH/IPA/1% H2O | Prepared By: | Robert Q. Bradley |
| Final Volume (mls): | 1 | Department: | PFAS |
| Vials: | 1 | Lot No.: | MPFACHIFES0821 |
| Vendor: | Wellington Laboratories | | |

Comments:

| Analyte | CAS Number | Concentration | Units |
|---|---|---|---|
| d3-N-MeFOSAA | | 1 | ug/mL |
| d5-N-EtFOSAA | | 1 | ug/mL |
| d7-N-MeFOSE | | 5 | ug/mL |
| d9-N-EtFOSE | | 5 | ug/mL |
| d-N-EtFOSA | | 0.5 | ug/mL |
| d-N-MeFOSA | | 0.5 | ug/mL |
| M2-4:2FTS | | 0.938 | ug/mL |
| M2-6:2FTS | | 0.951 | ug/mL |
| M2-8:2FTS | | 0.96 | ug/mL |
| M2PFTeDA | | 0.25 | ug/mL |
| M3HFPO-DA | | 2 | ug/mL |
| M3PFBS | | 0.466 | ug/mL |
| M3PFHxS | | 0.474 | ug/mL |
| M4PFHpA | | 0.5 | ug/mL |
| M5PFHxA | | 0.5 | ug/mL |
| M5PFPeA | | 1 | ug/mL |
| M6PFDA | | 0.25 | ug/mL |
| M7PFUdA | | 0.25 | ug/mL |
| M8FOSA | | 0.5 | ug/mL |
| M8PFOA | | 0.5 | ug/mL |
| M8PFOS | | 0.479 | ug/mL |
| M9PFNA | | 0.25 | ug/mL |
| MPFBA | | 2 | ug/mL |
| MPFDoA | | 0.25 | ug/mL |

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

## MPFAC-HIF-ES

**Mass-Labelled Per- and Poly-fluoroalkyl Substance Extraction Standard Solution/Mixture**

| | |
|---|---|
| **PRODUCT CODE:** | MPFAC-HIF-ES |
| **LOT NUMBER:** | MPFACHIFES0821 |
| **SOLVENT(S):** | Methanol/Isopropanol (1%)/Water (<1%) |
| **DATE PREPARED:** (mm/dd/yyyy) | 08/05/2021 |
| **LAST TESTED:** (mm/dd/yyyy) | 08/16/2021 |
| **EXPIRY DATE:** (mm/dd/yyyy) | 08/16/2024 |
| **RECOMMENDED STORAGE:** | Refrigerate ampoule |

**DESCRIPTION:**

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled ($^{13}C$) perfluoroalkylcarboxylic acids ($C_4$-$C_{12}$, $C_{14}$), three mass-labelled ($^{13}C$) perfluoroalkanesulfonates ($C_4$, $C_8$, and $C_8$), three mass-labelled (one $^{13}C$ and two $^{2}H$) perfluoro-1-octanesulfonamides, three mass-labelled ($^{13}C$) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled ($^{2}H$) perfluorooctanesulfonamidoacetic acids, two mass-labelled ($^{2}H$) perfluorooctanesulfonamidoethanols, and mass-labelled ($^{13}C$) hexafluoropropylene oxide dimer acid. The components and their concentrations are given in Table A.

The individual mass-labelled perfluoroalkylcarboxylic acids, mass-labelled perfluoroalkanesulfonates, mass-labelled fluorotelomer sulfonates, perfluoro-1-($^{13}C_8$)octanesulfonamide, and mass-labelled hexafluoropropylene oxide dimer acid all have chemical purities of >98% and isotopic purities of ≥99%. The individual mass-labelled perfluorooctanesulfonamidoacetic acids, mass-labelled perfluorooctanesulfonamidoethanols, and two mass-labelled ($^{2}H$) perfluoro-1-octanesulfonamides all have chemical purities of >98% and isotopic purities of ≥98%.

**DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

**ADDITIONAL INFORMATION:**

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

***FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE***

*Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA*
*519-822-2436 • Fax: 519-822-2849 • info@well-labs.com*

*Form#:13, Issued 2004-11-10*
*Revision#:9, Revised 2020-12-23*

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value $y$ and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**QUALITY MANAGEMENT:**

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

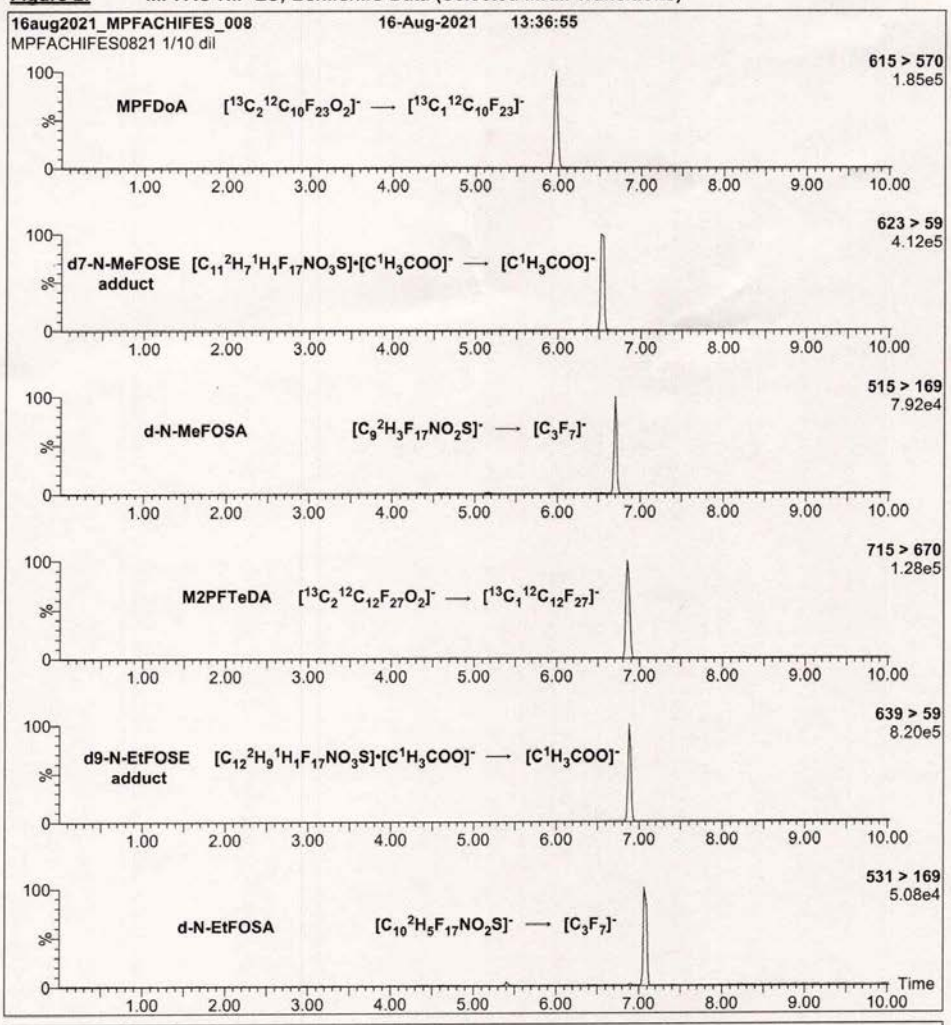
ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

**For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com**

*Form#:13, Issued 2004-11-10*
*Revision#:9, Revised 2020-12-23*

MPFACHIFES0821 (2 of 7)
rev1

**Figure 2:** **MPFAC-HIF-ES; LC/MS/MS Data (Selected MRM Transitions)**




**Conditions for Figure 2:**

Injection: On-column (MPFAC-HIF-ES)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

**MS Parameters:**

Collision Gas (mbar) = 3.41e-3
Collision Energy (eV) = 4-64 (variable)

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**Table A:** **MPFAC-HIF-ES; Components and Concentrations (ng/mL, ± 5% in Methanol/Isopropanol (1%)/Water (<1%))**

| Compound | Acronym | Concentration (ng/mL) | Peak Assignment in Figure 1 |
|---|---|---|---|
| Perfluoro-n-($^{13}C_4$)butanoic acid | MPFBA | 2000 | 1 |
| Perfluoro-n-($^{13}C_5$)pentanoic acid | M5PFPeA | 1000 | 2 |
| Perfluoro-n-(1,2,3,4,6-$^{13}C_5$)hexanoic acid | M5PFHxA | 500 | 5 |
| Perfluoro-n-(1,2,3,4-$^{13}C_4$)heptanoic acid | M4PFHpA | 500 | 7 |
| Perfluoro-n-($^{13}C_8$)octanoic acid | M8PFOA | 500 | 10 |
| Perfluoro-n-($^{13}C_9$)nonanoic acid | M9PFNA | 250 | 11 |
| Perfluoro-n-(1,2,3,4,5,6-$^{13}C_6$)decanoic acid | M6PFDA | 250 | 14 |
| Perfluoro-n-(1,2,3,4,5,6,7-$^{13}C_7$)undecanoic acid | M7PFUdA | 250 | 17 |
| Perfluoro-n-(1,2-$^{13}C_2$)dodecanoic acid | MPFDoA | 250 | 19 |
| Perfluoro-n-(1,2-$^{13}C_2$)tetradecanoic acid | M2PFTeDA | 250 | 22 |
| Perfluoro-1-($^{13}C_8$)octanesulfonamide | M8FOSA | 500 | 18 |
| N-methyl-$d_3$-perfluoro-1-octanesulfonamide | d-N-MeFOSA | 500 | 21 |
| N-ethyl-$d_5$-perfluoro-1-octanesulfonamide | d-N-EtFOSA | 500 | 24 |
| N-methyl-$d_3$-perfluoro-1-octanesulfonamidoacetic acid | d3-N-MeFOSAA | 1000 | 15 |
| N-ethyl-$d_5$-perfluoro-1-octanesulfonamidoacetic acid | d5-N-EtFOSAA | 1000 | 16 |
| 2-(N-methyl-$d_3$-perfluoro-1-octanesulfonamido)ethan-$d_4$-ol | d7-N-MeFOSE | 5000 | 20 |
| 2-(N-ethyl-$d_5$-perfluoro-1-octanesulfonamido)ethan-$d_4$-ol | d9-N-EtFOSE | 5000 | 23 |
| 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)($^{13}C_3$)propanoic acid | M3HFPO-DA | 2000 | 6 |

| Compound | Acronym | Concentration* (ng/mL) | | Peak Assignment in Figure 1 |
|---|---|---|---|---|
| | | as the salt | as the acid | |
| Sodium perfluoro-1-(2,3,4-$^{13}C_3$)butanesulfonate | M3PFBS | 500 | 466 | 3 |
| Sodium perfluoro-1-(1,2,3-$^{13}C_3$)hexanesulfonate | M3PFHxS | 500 | 474 | 8 |
| Sodium perfluoro-1-($^{13}C_8$)octanesulfonate | M8PFOS | 500 | 479 | 12 |
| Sodium 1H,1H,2H,2H-perfluoro-(1,2-$^{13}C_2$)hexanesulfonate | M2-4:2FTS | 1000 | 938 | 4 |
| Sodium 1H,1H,2H,2H-perfluoro-(1,2-$^{13}C_2$)octanesulfonate | M2-6:2FTS | 1000 | 951 | 9 |
| Sodium 1H,1H,2H,2H-perfluoro-(1,2-$^{13}C_2$)decanesulfonate | M2-8:2FTS | 1000 | 960 | 13 |

* Concentrations have been rounded to three significant figures.

**Certified By:** _____ **Date:** 10/13/2021 (mm/dd/yyyy)

B.G. Chittim, General Manager

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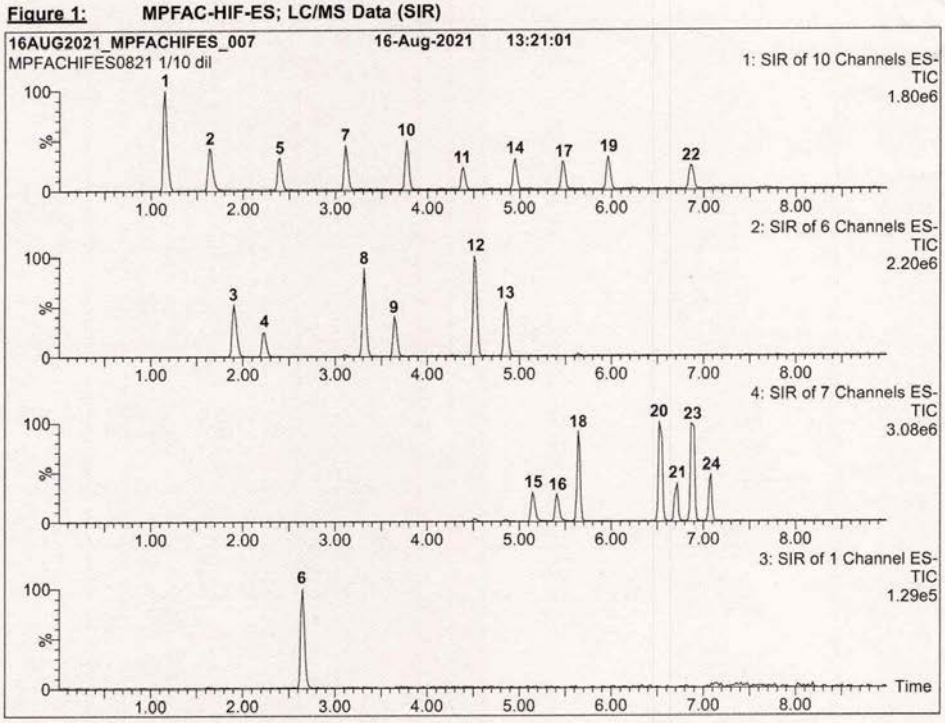
**Figure 1:** **MPFAC-HIF-ES; LC/MS Data (SIR)**




**Conditions for Figure 1:**

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield $RP_{18}$
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% $H_2O$ / 50% (80:20 MeOH:ACN)
(both with 10 mM $NH_4OAc$ buffer)
Ramp to 90% organic over 9 min and hold for
2 min before returning to initial conditions in 1 min.
Time: 15 min

Flow: 300 µL/min

**MS Parameters:**

Experiment: SIR

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = variable (2-44)
Desolvation Temperature (°C) = 350
Desolvation Gas Flow (L/hr) = 1000

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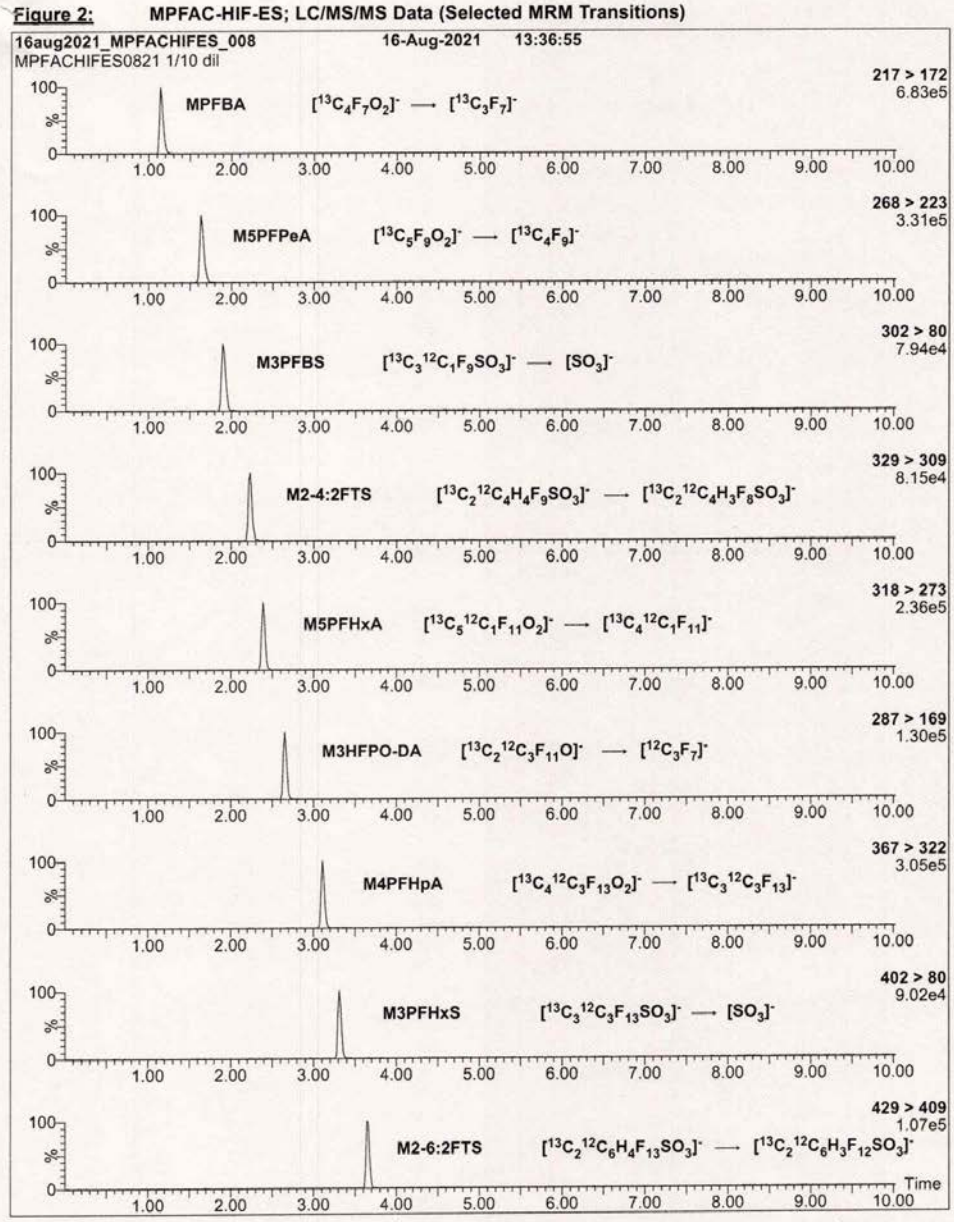
rev1

**Figure 2:** **MPFAC-HIF-ES; LC/MS/MS Data (Selected MRM Transitions)**

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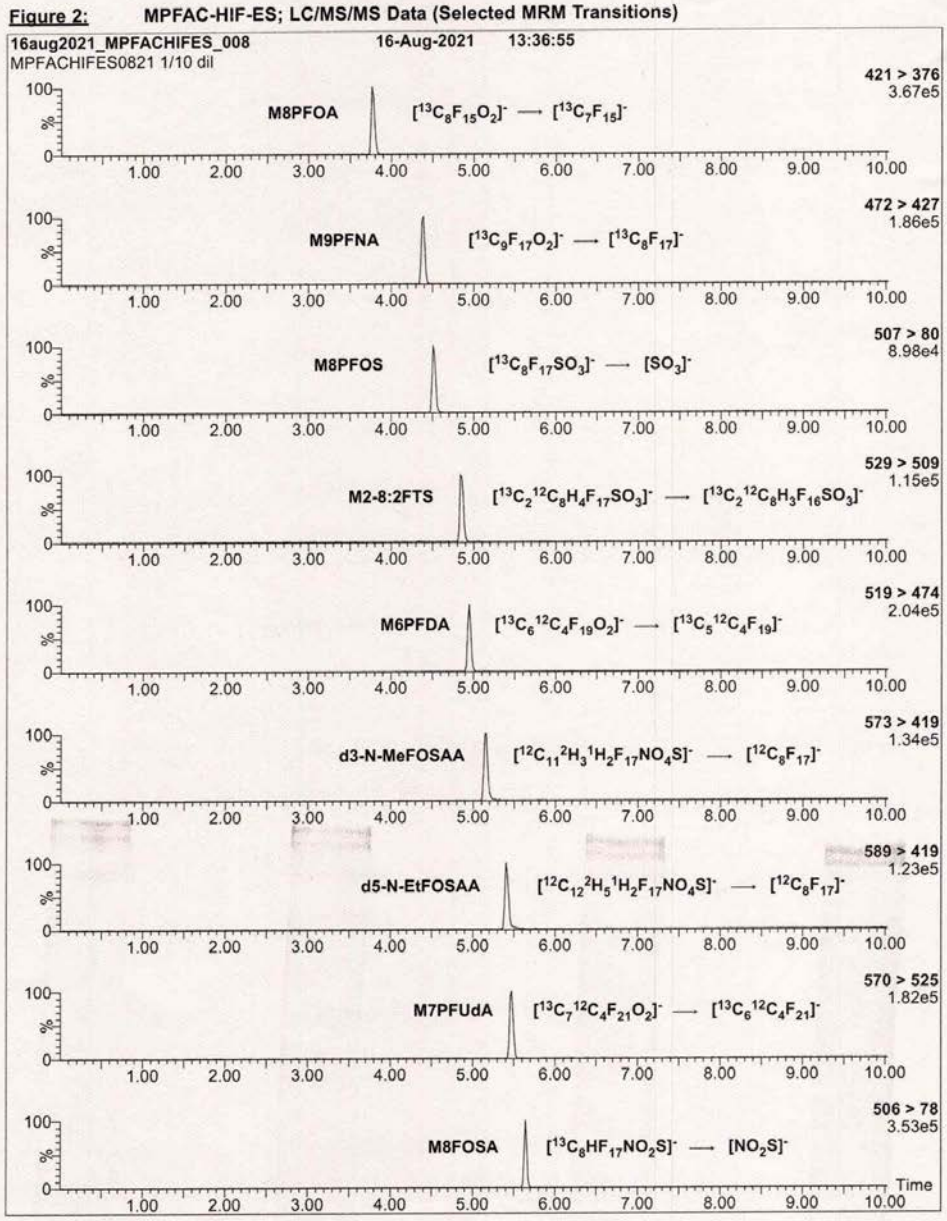
*Revision#:9, Revised 2020-12-23*

MPFACHIFES0821 (5 of 7)
rev1

**Figure 2:** **MPFAC-HIF-ES; LC/MS/MS Data (Selected MRM Transitions)**

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*Revision#:9, Revised 2020-12-23*

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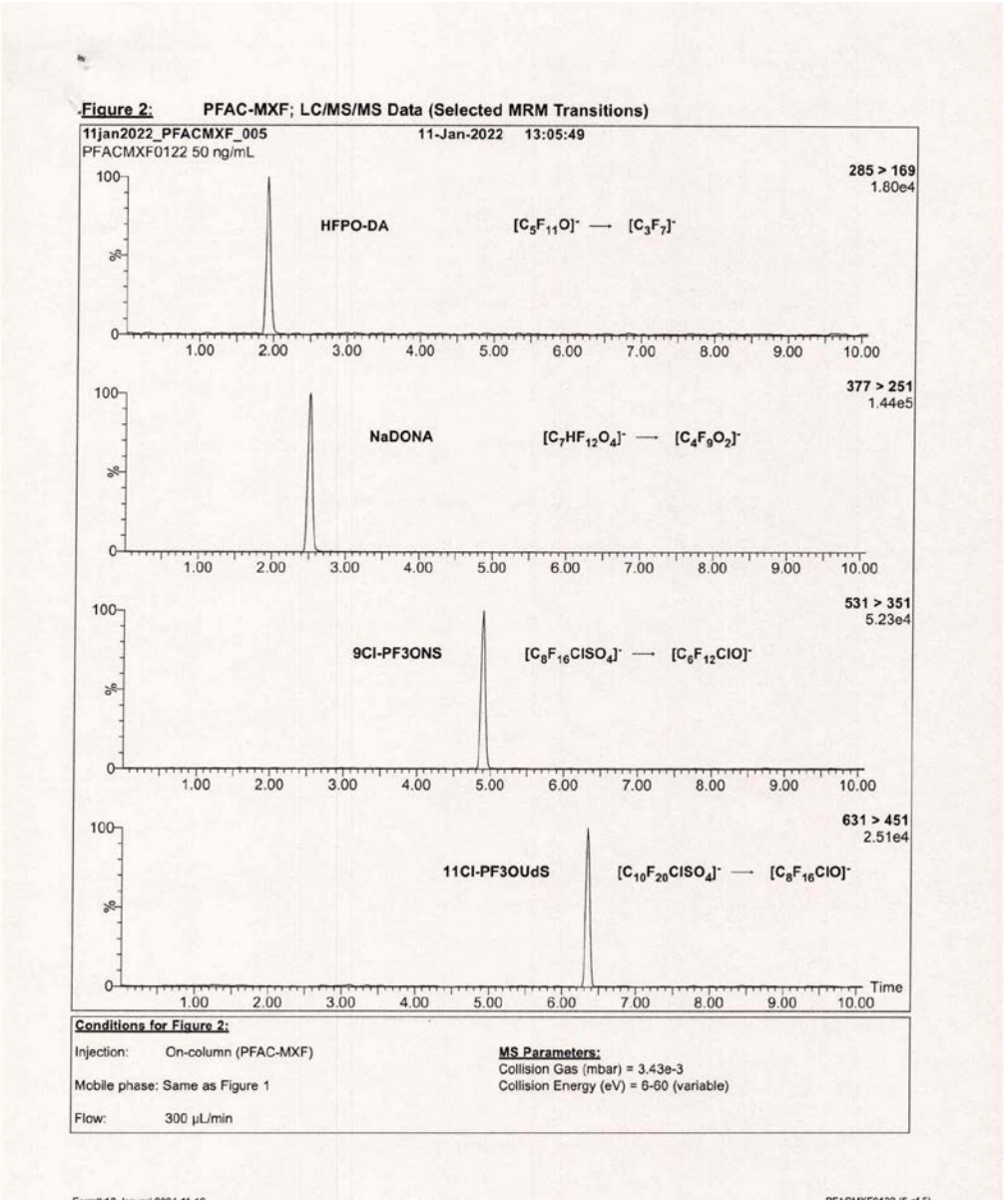
# Attachment 3 – Target Analyte Mixtures



**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value $y$ and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**QUALITY MANAGEMENT:**

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

**For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com**

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*Revision#:9, Revised 2020-12-23*

PFACMXF0122 (2 of 5)
rev0

**Table A:** **PFAC-MXF; Components and Concentrations (ng/mL; ± 5% in Methanol/Water (<1%))**

| Compound | Acronym | Concentration* (ng/ml) | | Peak Assignment in Figure 1 |
|---|---|---|---|---|
| 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid | HFPO-DA | 2000 | | A |
| **Compound** | **Acronym** | **Concentration* (ng/mL)** | | **Peak Assignment in Figure 1** |
| | | **as the salt** | **as the acid** | |
| Sodium dodecafluoro-3H-4,8-dioxanonanoate | NaDONA | 2000 | 1890 | B |
| Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate | 9Cl-PF3ONS | 2000 | 1870 | C |
| Potassium 11-chloroeicosafluoro-3-oxaundecane-1-sulfonate | 11Cl-PF3OUdS | 2000 | 1890 | D |

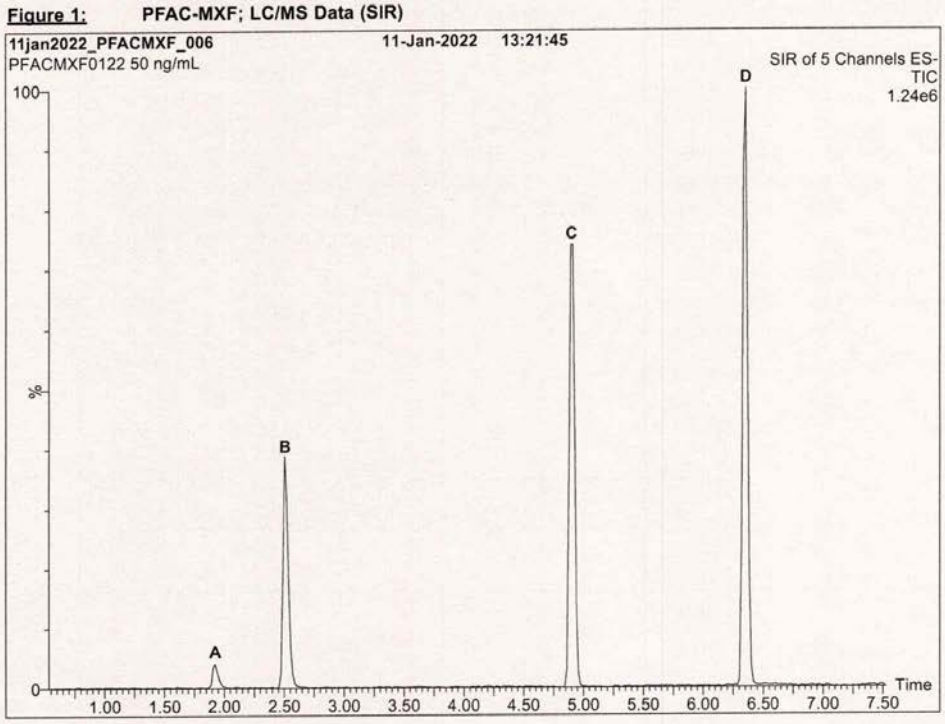
* Concentrations have been rounded to three significant figures.

**Certified By:** _____ **Date:** 01/12/2022 (mm/dd/yyyy)
B.G. Chittim, General Manager

*Form#:13, Issued 2004-11-10*
*Revision#:9, Revised 2020-12-23*

PFACMXF0122 (3 of 5)
rev0

**Figure 1:** **PFAC-MXF; LC/MS Data (SIR)**




**Conditions for Figure 1:**

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield $RP_{18}$
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 45% $H_2O$ / 55% (80:20 MeOH:ACN)
(both with 10 mM $NH_4OAc$ buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µL/min

**MS Parameters:**

Experiment: SIR

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = variable (15-74)
Desolvation Temperature (°C) = 325
Desolvation Gas Flow (L/hr) = 1000

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*Revision#:9, Revised 2020-12-23*

PFACMXF0122 (4 of 5)
rev0

YORK
ANALYTICAL LABORATORIES, INC.

## Analytical Standard Record

Standard ID: **Y22B199**

| | | | |
|---|---|---|---|
| Description: | PFAC-MXF-Native Repl.STOCK EPA 1633 PFAS | Prepared: | 02/17/2022 |
| Standard Type: | Other | **Expires:** | **01/11/2025** |
| Solvent: | MeOH/H20 | Prepared By: | Robert Q. Bradley |
| Final Volume (mls): | 1 | Department: | PFAS |
| Vials: | 1 | Lot No.: | PFACMXF0122 |
| Vendor: | Wellington Laboratories | | |

Comments:

| Analyte | CAS Number | Concentration | Units |
|---|---|---|---|
| 11CL-PF3OUdS | 763051-92-9 | 1.89 | ug/mL |
| 9CL-PF3ONS | 756426-58-1 | 1.87 | ug/mL |
| ADONA | 919005-14-4 | 1.89 | ug/mL |
| HFPO-DA (Gen-X) | 13252-13-6 | 2 | ug/mL |

Reviewed By Date

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WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

## PFAC-MXF

**Native Replacement PFAS Solution/Mixture**

| | |
|---|---|
| **PRODUCT CODE:** | PFAC-MXF |
| **LOT NUMBER:** | PFACMXF0122 |
| **SOLVENT(S):** | Methanol / Water (<1%) |
| **DATE PREPARED:** (mm/dd/yyyy) | 01/10/2022 |
| **LAST TESTED:** (mm/dd/yyyy) | 01/11/2022 |
| **EXPIRY DATE:** (mm/dd/yyyy) | 01/11/2025 |
| **RECOMMENDED STORAGE:** | Refrigerate ampoule |

**DESCRIPTION:**

PFAC-MXF is a solution/mixture of sodium dodecafluoro-3H-4,8-dioxanonanoate (NaDONA), the major and minor components of F-53B (9Cl-PF3ONS and 11Cl-PF3OUdS), and GenX (HFPO-DA). The components and their concentrations are given in Table A.

The individual native components of this mixture all have chemical purities of >98%.

**DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

**ADDITIONAL INFORMATION:**

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

***FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE***

*Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA*
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*Form#:13, Issued 2004-11-10*
*Revision#:9, Revised 2020-12-23*

**Table A:** **PFAC-MXI; Components and Concentrations (µg/mL; ± 5% in methanol)**

| Compound | Acronym | Concentration (µg/mL) | Peak Assignment in Figure 1 |
|---|---|---|---|
| N-methylperfluoro-1-octanesulfonamide | N-MeFOSA | 1.00 | B |
| N-ethylperfluoro-1-octanesulfonamide | N-EtFOSA | 1.00 | D |
| 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol | N-MeFOSE | 10.0 | A |
| 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol | N-EtFOSE | 10.0 | C |

**Certified By:** _____ **Date:** 09/23/2021
(mm/dd/yyyy)
B.G. Chittim, General Manager

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*Revision#:9, Revised 2020-12-23*

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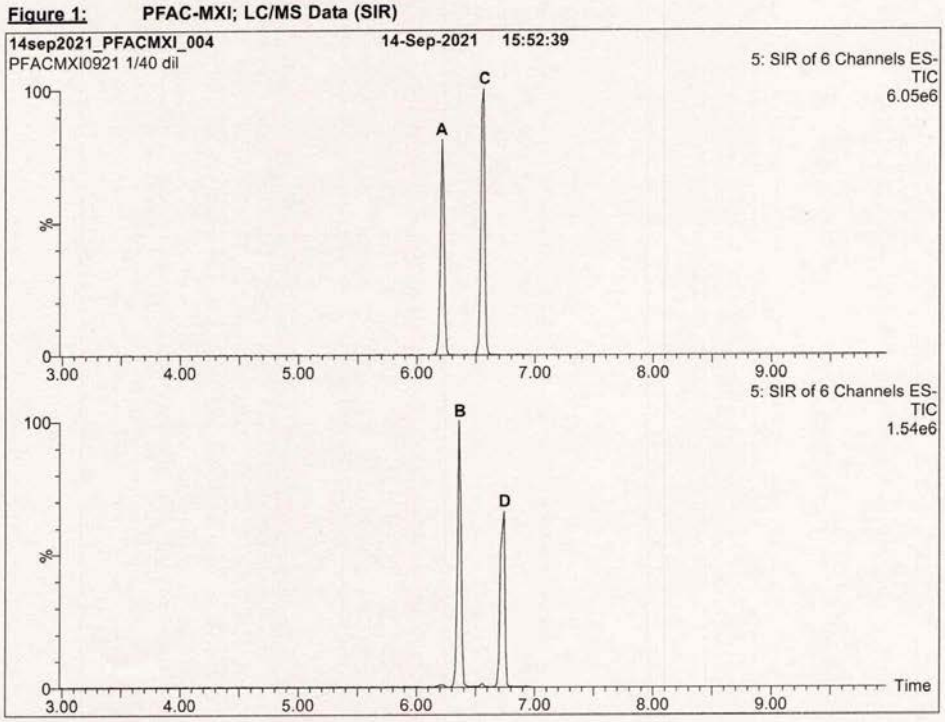
rev0

**Figure 1:** **PFAC-MXI; LC/MS Data (SIR)**




**Conditions for Figure 1:**

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield $RP_{18}$
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% $H_2O$ / 50% (80:20 MeOH:ACN)
(both with 10 mM $NH_4OAc$ buffer)
Ramp to 90% organic over 9 min and hold for
2 min before returning to initial conditions in 1 min.
Time: 15 min

Flow: 300 µL/min

**MS Parameters:**

Experiment: SIR

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = variable (2-74)
Desolvation Temperature (°C) = 350
Desolvation Gas Flow (L/hr) = 1000

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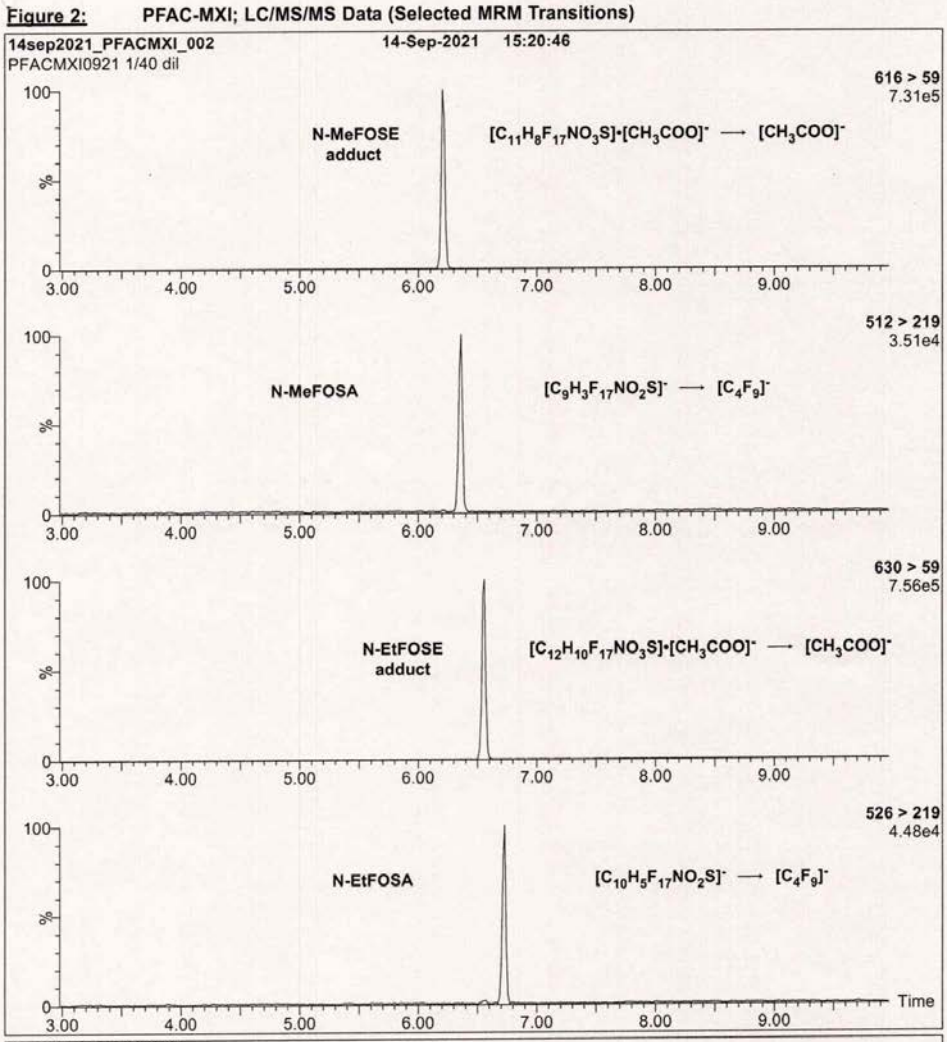
**Figure 2:** **PFAC-MXI; LC/MS/MS Data (Selected MRM Transitions)**




**Conditions for Figure 2:**

Injection: On-column (PFAC-MXI)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

**MS Parameters:**
Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 6-60 (variable)

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YORK
ANALYTICAL LABORATORIES, INC.

## Analytical Standard Record

Standard ID: **Y22B204**

| | | | |
|---|---|---|---|
| Description: | PFAC-MXI-EPA 1633 Stock | Prepared: | 02/17/2022 |
| Standard Type: | Other | **Expires:** | **02/17/2023** |
| Solvent: | Methanol | Prepared By: | Robert Q. Bradley |
| Final Volume (mls): | 1 | Department: | PFAS |
| Vials: | 1 | Lot No.: | PFACMXI0921 |
| Vendor: | Wellington Laboratories | | |

Comments:

| Analyte | CAS Number | Concentration | Units |
|---|---|---|---|
| N-EtFOSA | 4151-50-2 | 1 | ug/mL |
| N-EtFOSE | 1691-99-2 | 10 | ug/mL |
| N-MeFOSA | 31506-32-8 | 1 | ug/mL |
| N-MeFOSE | 24448-09-7 | 10 | ug/mL |

Reviewed By Date

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WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

## PFAC-MXI

**Native Perfluorooctanesulfonamide and Perfluorooctanesulfonamidoethanol Solution/Mixture**

| | |
|---|---|
| **PRODUCT CODE:** | PFAC-MXI |
| **LOT NUMBER:** | PFACMXI0921 |
| **SOLVENT(S):** | Methanol |
| **DATE PREPARED:** (mm/dd/yyyy) | 09/08/2021 |
| **LAST TESTED:** (mm/dd/yyyy) | 09/14/2021 |
| **EXPIRY DATE:** (mm/dd/yyyy) | 09/14/2026 |
| **RECOMMENDED STORAGE:** | Store ampoule in a cool, dark place |

**DESCRIPTION:**

PFAC-MXI is a solution/mixture of two native perfluorooctanesulfonamides (FOSAs) and two native perfluorooctanesulfonamidoethanols (FOSEs). The components and their concentrations are given in Table A.

The individual components have a chemical purity of >98%.

**DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

**ADDITIONAL INFORMATION:**

- See page 2 for further details.

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*Revision#:9, Revised 2020-12-23*

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value $y$ and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**QUALITY MANAGEMENT:**

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

**For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com**

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*Revision#:9, Revised 2020-12-23*

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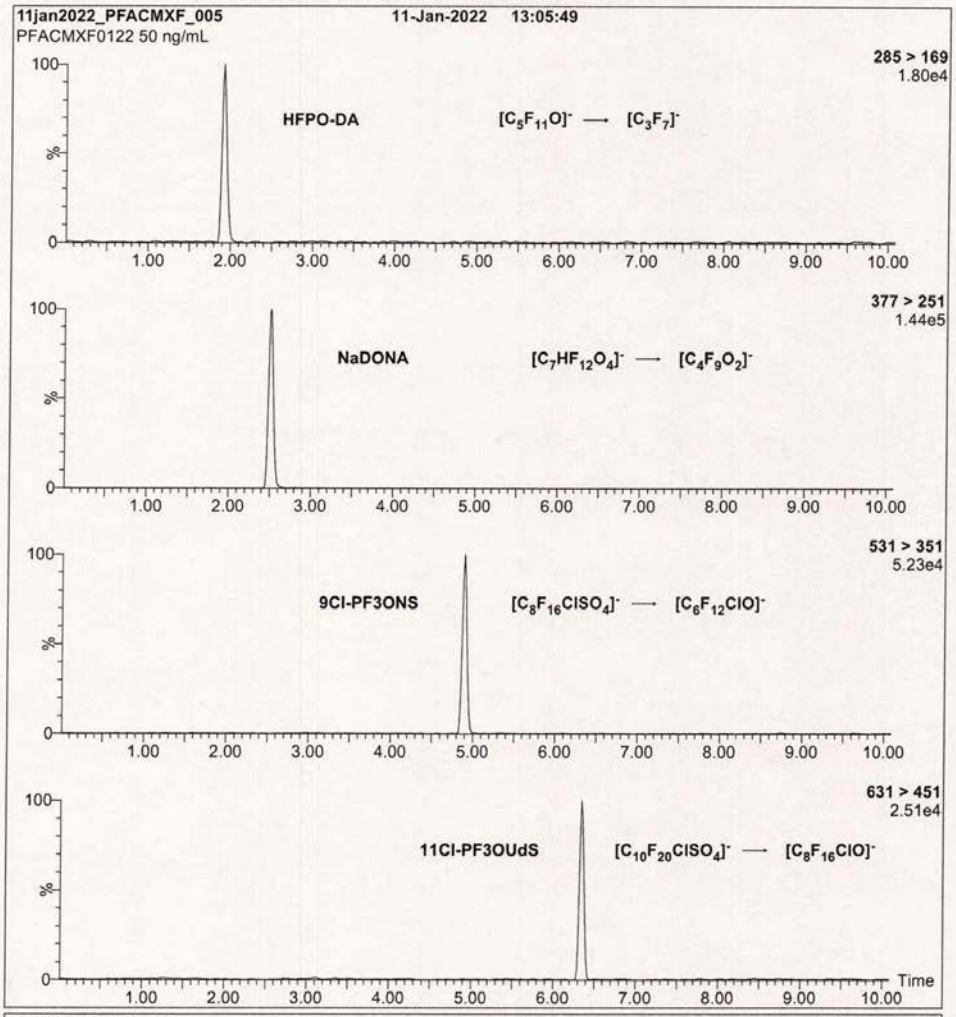
**Figure 2:** **PFAC-MXF; LC/MS/MS Data (Selected MRM Transitions)**




**Conditions for Figure 2:**

Injection: On-column (PFAC-MXF)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

**MS Parameters:**
Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 6-60 (variable)

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**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

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**HOMOGENEITY:**

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**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value $y$ and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**QUALITY MANAGEMENT:**

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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**Table A:** **PFAC-MXF; Components and Concentrations (ng/mL; ± 5% in Methanol/Water (<1%))**

| Compound | Acronym | Concentration* (ng/ml) | | Peak Assignment in Figure 1 |
|---|---|---|---|---|
| 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid | HFPO-DA | 2000 | | A |
| **Compound** | **Acronym** | **Concentration* (ng/mL)** | | **Peak Assignment in Figure 1** |
| | | **as the salt** | **as the acid** | |
| Sodium dodecafluoro-3H-4,8-dioxanonanoate | NaDONA | 2000 | 1890 | B |
| Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate | 9Cl-PF3ONS | 2000 | 1870 | C |
| Potassium 11-chloroeicosafluoro-3-oxaundecane-1-sulfonate | 11Cl-PF3OUdS | 2000 | 1890 | D |

* Concentrations have been rounded to three significant figures.

**Certified By:** _____ **Date:** 01/12/2022 (mm/dd/yyyy)
B.G. Chittim, General Manager

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*Revision#:9, Revised 2020-12-23*

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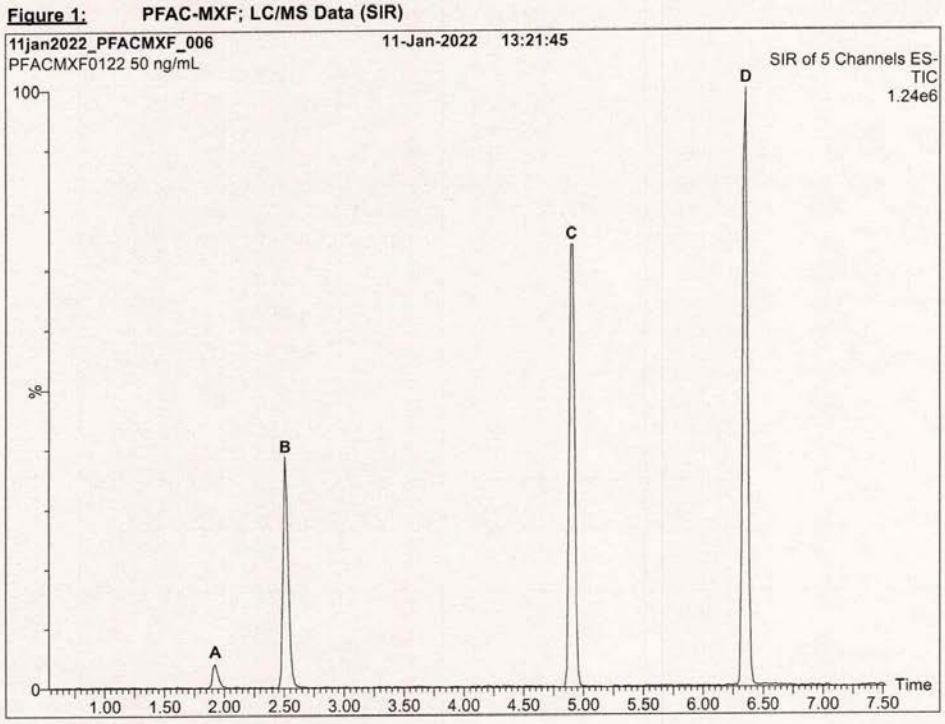
**Figure 1:** **PFAC-MXF; LC/MS Data (SIR)**




**Conditions for Figure 1:**

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield $RP_{18}$
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 45% $H_2O$ / 55% (80:20 MeOH:ACN)
(both with 10 mM $NH_4OAc$ buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µL/min

**MS Parameters:**

Experiment: SIR

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = variable (15-74)
Desolvation Temperature (°C) = 325
Desolvation Gas Flow (L/hr) = 1000

*Form#:13, Issued 2004-11-10*
*Revision#:9, Revised 2020-12-23*

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YORK
ANALYTICAL LABORATORIES, INC.

## Analytical Standard Record

Standard ID: **Y22B199**

| | | | |
|---|---|---|---|
| Description: | PFAC-MXF-Native Repl.STOCK EPA 1633 PFAS | Prepared: | 02/17/2022 |
| Standard Type: | Other | **Expires:** | **01/11/2025** |
| Solvent: | MeOH/H20 | Prepared By: | Robert Q. Bradley |
| Final Volume (mls): | 1 | Department: | PFAS |
| Vials: | 1 | Lot No.: | PFACMXF0122 |
| Vendor: | Wellington Laboratories | | |

Comments:

| Analyte | CAS Number | Concentration | Units |
|---|---|---|---|
| 11CL-PF3OUdS | 763051-92-9 | 1.89 | ug/mL |
| 9CL-PF3ONS | 756426-58-1 | 1.87 | ug/mL |
| ADONA | 919005-14-4 | 1.89 | ug/mL |
| HFPO-DA (Gen-X) | 13252-13-6 | 2 | ug/mL |

Reviewed By Date

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WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

## PFAC-MXF

**Native Replacement PFAS Solution/Mixture**

| | |
|---|---|
| **PRODUCT CODE:** | PFAC-MXF |
| **LOT NUMBER:** | PFACMXF0122 |
| **SOLVENT(S):** | Methanol / Water (<1%) |
| **DATE PREPARED:** (mm/dd/yyyy) | 01/10/2022 |
| **LAST TESTED:** (mm/dd/yyyy) | 01/11/2022 |
| **EXPIRY DATE:** (mm/dd/yyyy) | 01/11/2025 |
| **RECOMMENDED STORAGE:** | Refrigerate ampoule |

**DESCRIPTION:**

PFAC-MXF is a solution/mixture of sodium dodecafluoro-3H-4,8-dioxanonanoate (NaDONA), the major and minor components of F-53B (9Cl-PF3ONS and 11Cl-PF3OUdS), and GenX (HFPO-DA). The components and their concentrations are given in Table A.

The individual native components of this mixture all have chemical purities of >98%.

**DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

**ADDITIONAL INFORMATION:**

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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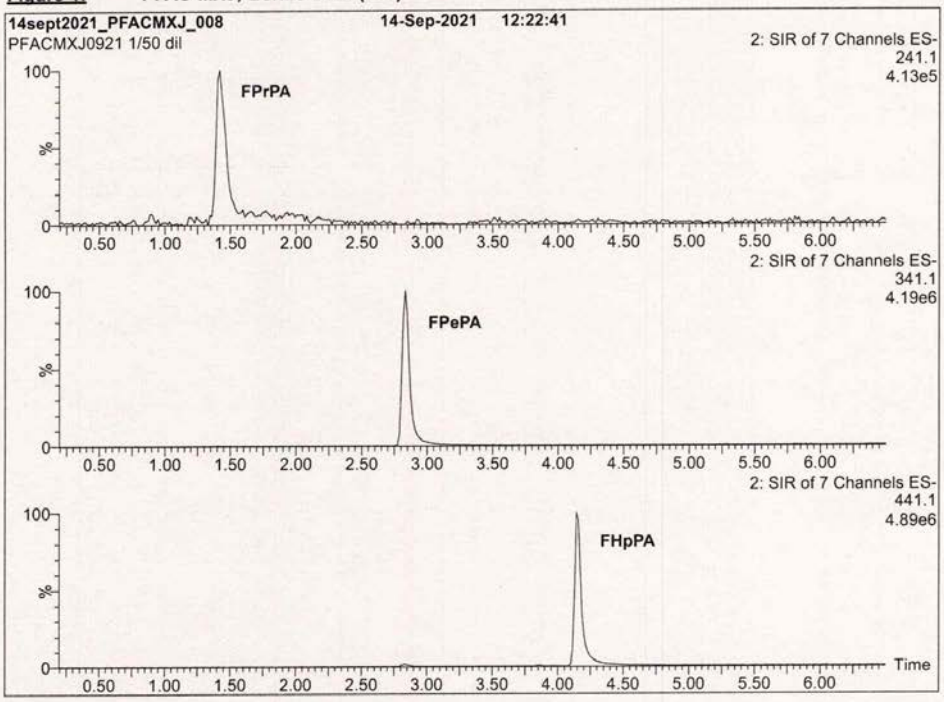
*Revision#:9, Revised 2020-12-23*

**Table A:** **PFAC-MXJ; Components and Concentrations (µg/mL; ± 5% in methanol)**

| Compound | Acronym | Concentration (µg/mL) |
|---|---|---|
| 3-Perfluoropropyl propanoic acid | FPrPA | 4.00 |
| 3-Perfluoropentyl propanoic acid | FPePA | 20.0 |
| 3-Perfluoroheptyl propanoic acid | FHpPA | 20.0 |

**Certified By:** _____ **Date:** 10/02/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

**Figure 1:** **PFAC-MXJ; LC/MS Data (SIR)**




**Conditions for Figure 1:**

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield $RP_{18}$
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% $H_2O$ / 50% (80:20 MeOH:ACN)
(both with 10 mM $NH_4OAc$ buffer)
Ramp to 90% organic over 9 min and hold for
2 min before returning to initial conditions in 1 min.
Time: 15 min

Flow: 300 µL/min

**MS Parameters:**

Experiment: SIR

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = variable (2-74)
Desolvation Temperature (°C) = 350
Desolvation Gas Flow (L/hr) = 1000

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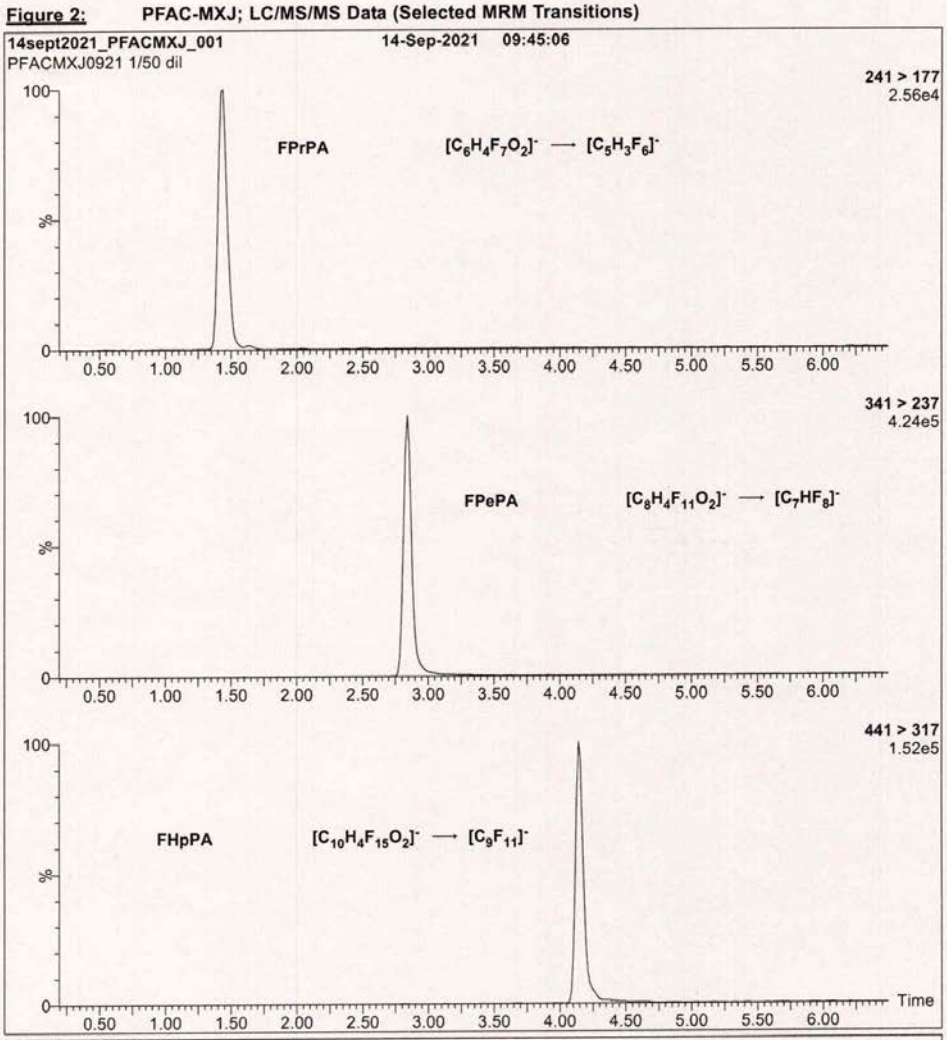
**Figure 2:** **PFAC-MXJ; LC/MS/MS Data (Selected MRM Transitions)**




**Conditions for Figure 2:**

Injection: On-column (PFAC-MXJ)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

**MS Parameters:**
Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 6-60 (variable)

*Form#:13, Issued 2004-11-10*
*Revision#:9, Revised 2020-12-23*

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rev1

YORK
ANALYTICAL LABORATORIES, INC.

## Analytical Standard Record

Standard ID: **Y22B205**

| | | | |
|---|---|---|---|
| Description: | PFAC-MXJ-EPA 1633 Stock mix | Prepared: | 02/17/2022 |
| Standard Type: | Other | Expires: | 09/14/2026 |
| Solvent: | Methanol | Prepared By: | Robert Q. Bradley |
| Final Volume (mls): | 1 | Department: | PFAS |
| Vials: | 1 | Lot No.: | PFACMXJ0921 |
| Vendor: | Wellington Laboratories | | |

Comments:

| Analyte | CAS Number | Concentration | Units |
|---|---|---|---|
| 3-Perfluoroheptyl propanoic acid (FHpPA | 812-70-4 | 20 | ug/mL |
| 3-Perfluoropentyl propanoic acid (FPePA) | 914637-49-3 | 20 | ug/mL |
| 3-Perfluoropropyl propanoic acid (FPrPA) | 356-02-2 | 4 | ug/mL |

Reviewed By Date

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WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

# PFAC-MXJ

**Native X:3 Fluorotelomer Carboxylic Acid Solution/Mixture**

| | |
|---|---|
| **PRODUCT CODE:** | PFAC-MXJ |
| **LOT NUMBER:** | PFACMXJ0921 |
| **SOLVENT(S):** | Methanol |
| **DATE PREPARED:** (mm/dd/yyyy) | 09/08/2021 |
| **LAST TESTED:** (mm/dd/yyyy) | 09/14/2021 |
| **EXPIRY DATE:** (mm/dd/yyyy) | 09/14/2026 |
| **RECOMMENDED STORAGE:** | Store ampoule in a cool, dark place |

**DESCRIPTION:**

PFAC-MXJ is a solution/mixture of three native X:3 fluorotelomer carboxylic acids. The components and their concentrations are given in Table A.

The individual components have a chemical purity of >98%.

**DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

**ADDITIONAL INFORMATION:**

- See page 2 for further details.

***FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE***

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*519-822-2436 • Fax: 519-822-2849 • info@well-labs.com*

*Form#:13, Issued 2004-11-10*
*Revision#:9, Revised 2020-12-23*

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

**HOMOGENEITY:**

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**UNCERTAINTY:**

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The combined relative standard uncertainty, $u_c(y)$, of a value $y$ and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

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where x is expressed as a relative standard uncertainty of the individual parameter.

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**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**QUALITY MANAGEMENT:**

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

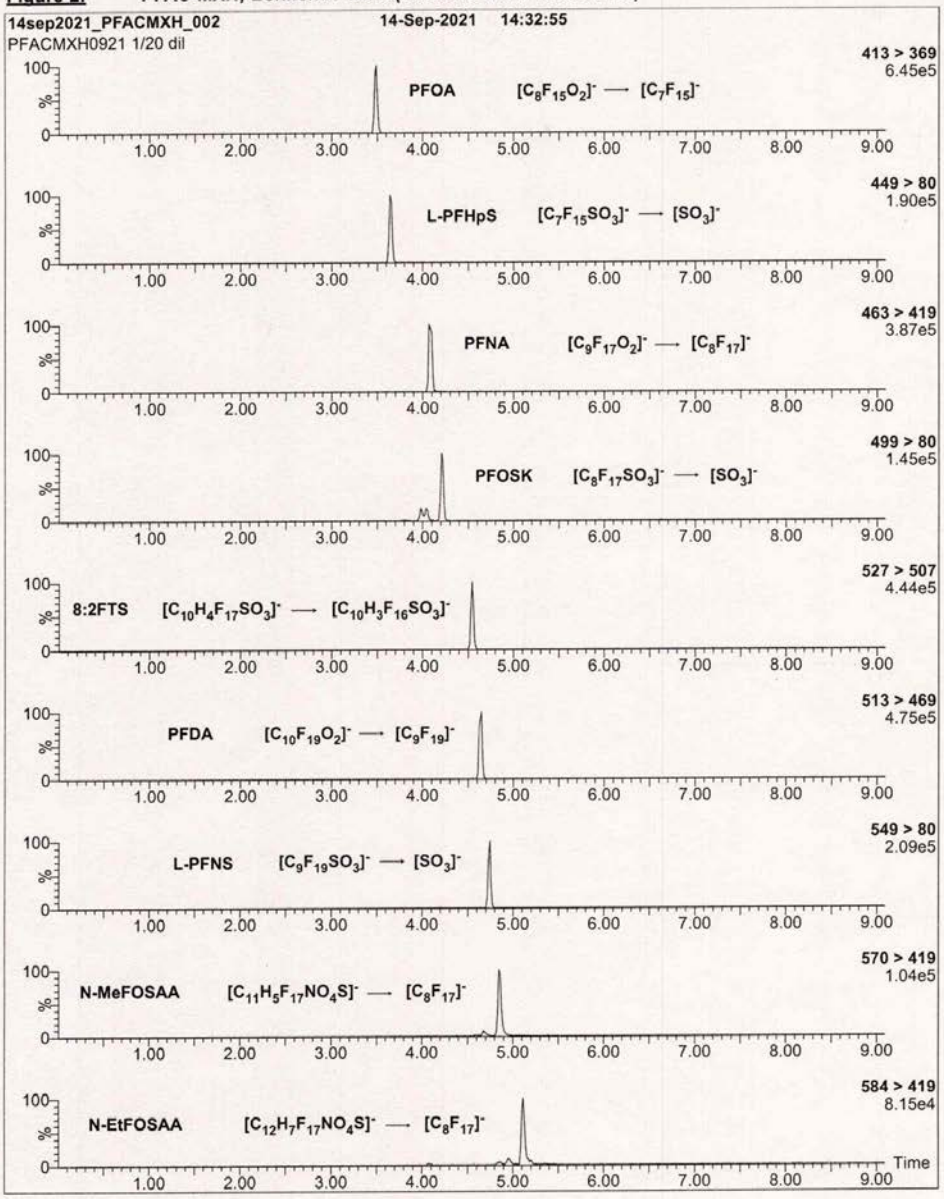
ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

**For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com**

*Form#:13, Issued 2004-11-10*
*Revision#:9, Revised 2020-12-23*

PFACMXJ0921 (2 of 5)
rev1

**Figure 2:** **PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)**

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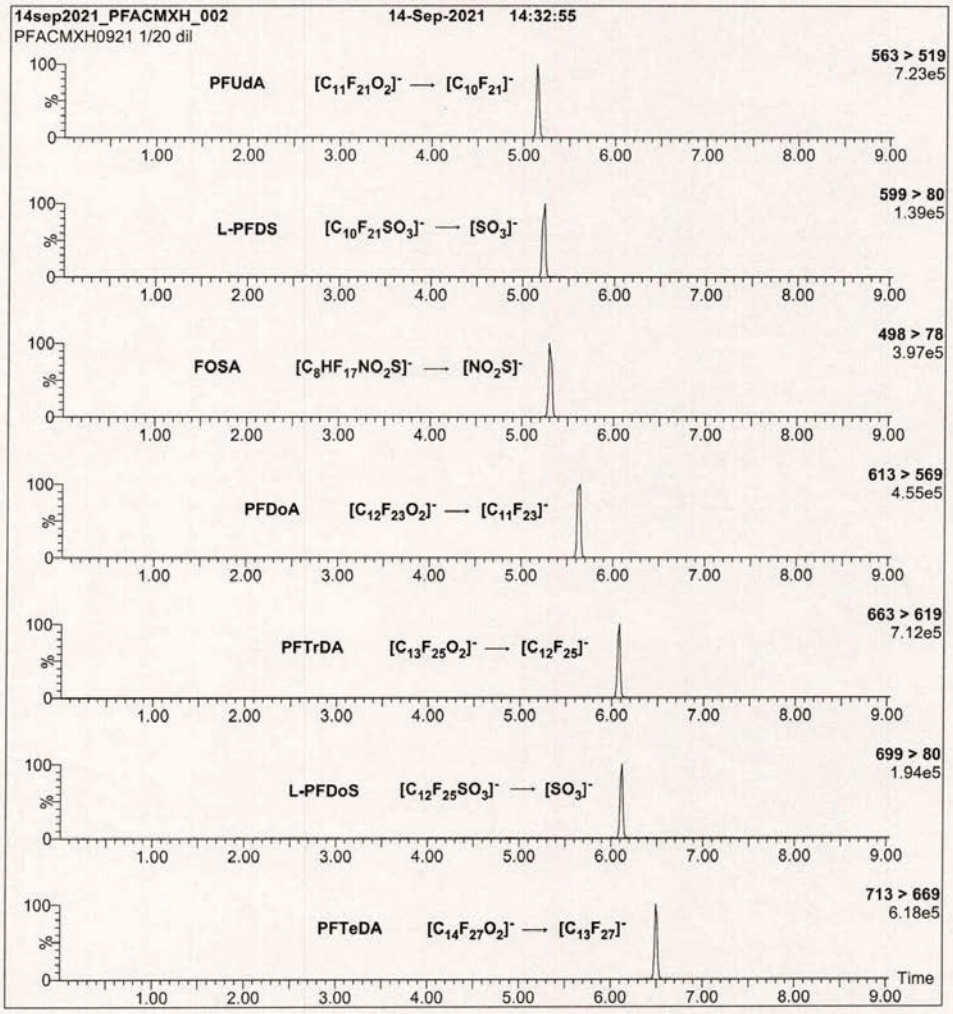
rev0

**Figure 2:** **PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)**




**Conditions for Figure 2:**

Injection: On-column (PFAC-MXH)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

**MS Parameters:**
Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 6-60 (variable)

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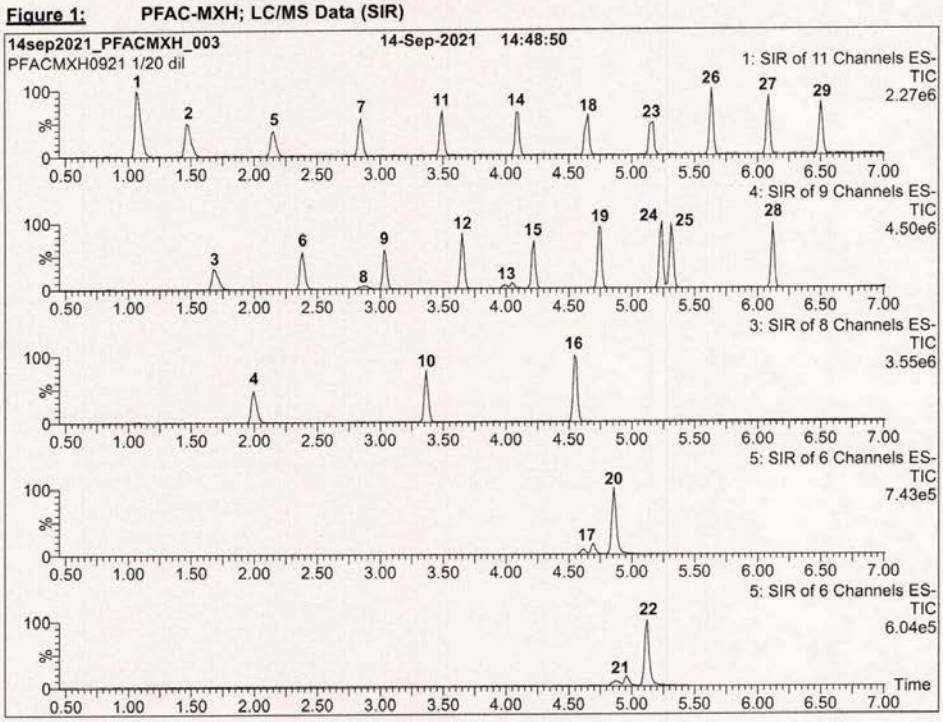
rev0

**Table E:** **PFOSK; Isomeric Components and Percent Composition (by $^{19}$F-NMR)***

| Isomer | Compound | Structure | Percent Composition by $^{19}$F-NMR | |
|---|---|---|---|---|
| 1 | Potassium perfluoro-1-octanesulfonate | $CF_3CF_2CF_2CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$ | 78.8 | 78.8 |
| 2 | Potassium 1-trifluoromethylperfluoroheptanesulfonate** | $CF_3CF_2CF_2CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$ | 1.2 | 21.1 |
| 3 | Potassium 2-trifluoromethylperfluoroheptanesulfonate | $CF_3CF_2CF_2CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$ | 0.6 | |
| 4 | Potassium 3-trifluoromethylperfluoroheptanesulfonate | $CF_3CF_2CF_2CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$ | 1.9 | |
| 5 | Potassium 4-trifluoromethylperfluoroheptanesulfonate | $CF_3CF_2CF_2CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$ | 2.2 | |
| 6 | Potassium 5-trifluoromethylperfluoroheptanesulfonate | $CF_3CF_2CF(CF_3)CF_2CF_2CF_2CF_2SO_3^-K^+$ | 4.5 | |
| 7 | Potassium 6-trifluoromethylperfluoroheptanesulfonate | $CF_3CF(CF_3)CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$ | 10.0 | |
| 8 | Potassium 5,5-di(trifluoromethyl)perfluorohexanesulfonate | $CF_3C(CF_3)CF_2CF_2CF_2CF_2SO_3^-K^+$ | 0.2 | |
| 9 | Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate | $CF_3CF_2C(CF_3)CF_2CF_2CF_2SO_3^-K^+$ | 0.03 | |
| 10 | Potassium 4,5-di(trifluoromethyl)perfluorohexanesulfonate | $CF_3CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$ | 0.4 | |
| 11 | Potassium 3,5-di(trifluoromethyl)perfluorohexanesulfonate | $CF_3CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$ | 0.07 | |

* Percent of total perfluorooctanesulfonate isomers only.
** Systematic Name: Potassium perfluorooctane-2-sulfonate.

**Figure 1:** **PFAC-MXH; LC/MS Data (SIR)**




**Conditions for Figure 1:**

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield $RP_{18}$
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% $H_2O$ / 50% (80:20 MeOH:ACN)
(both with 10 mM $NH_4OAc$ buffer)
Ramp to 90% organic over 9 min and hold for 2 min
before returning to initial conditions in 1 min.
Time: 15 min

Flow: 300 µL/min

**MS Parameters:**

Experiment: SIR

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = variable (2-74)
Desolvation Temperature (°C) = 350
Desolvation Gas Flow (L/hr) = 1000

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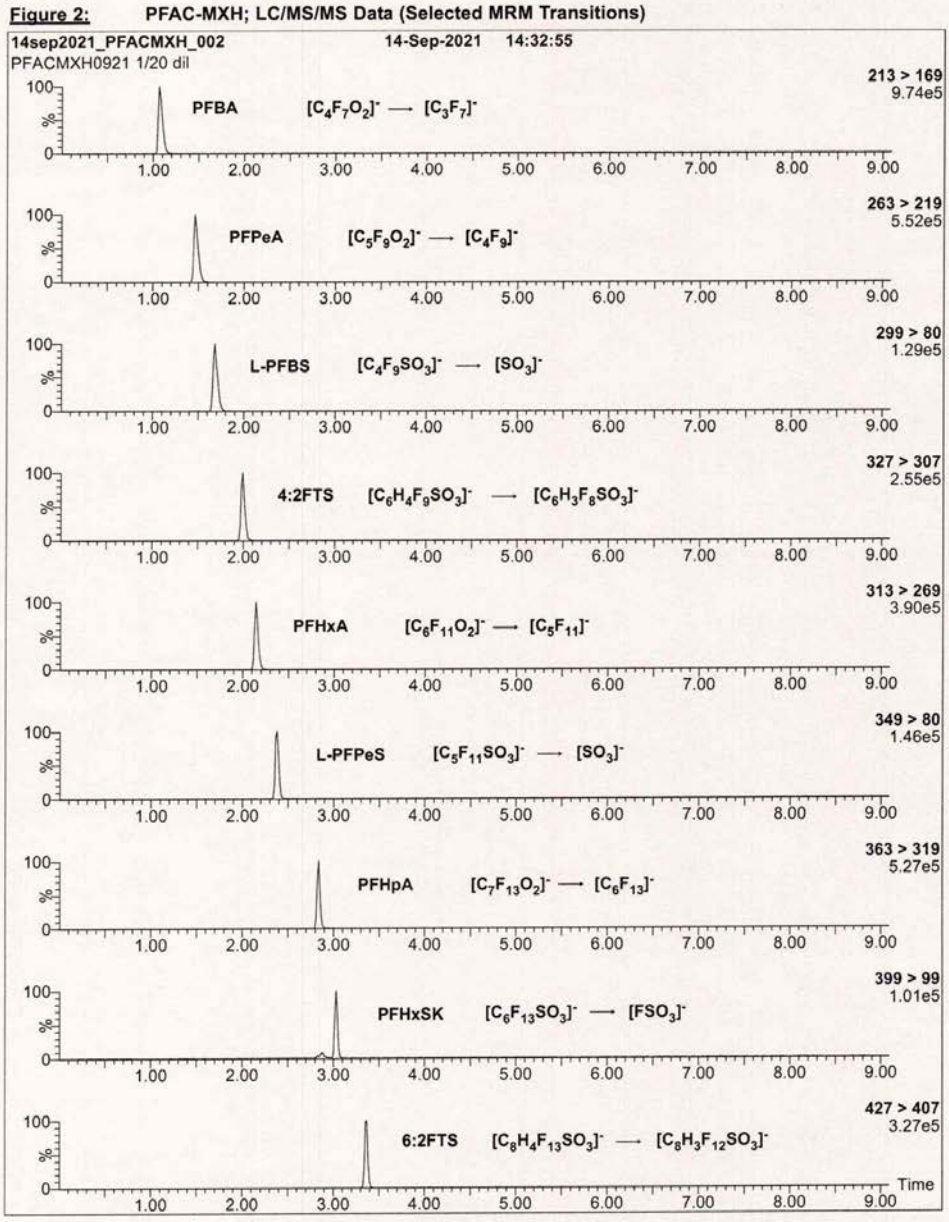
rev0

**Figure 2:** **PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)**

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*Revision#:9, Revised 2020-12-23*

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rev0

**Table B:** **br-NMeFOSAA; Isomeric Components and Percent Composition (by $^{19}$F-NMR)***

| Isomer | Compound | Structure | Percent Composition by $^{19}$F-NMR | |
|---|---|---|---|---|
| 1 | N-methylperfluoro-1-octanesulfonamidoacetic acid | $CF_3(CF_2)_7SO_2N(CH_3)CH_2CO_2H$ | 76.0 | 76.0 |
| 2 | N-methylperfluoro-3-methylheptanesulfonamidoacetic acid | $CF_3(CF_2)_3CF(CF_3)(CF_2)_2SO_2N(CH_3)CH_2CO_2H$ | 0.7 | 24.0 |
| 3 | N-methylperfluoro-4-methylheptanesulfonamidoacetic acid | $CF_3(CF_2)_2CF(CF_3)(CF_2)_3SO_2N(CH_3)CH_2CO_2H$ | 2.0 | |
| 4 | N-methylperfluoro-5-methylheptanesulfonamidoacetic acid | $CF_3CF_2CF(CF_3)(CF_2)_4SO_2N(CH_3)CH_2CO_2H$ | 6.0 | |
| 5 | N-methylperfluoro-6-methylheptanesulfonamidoacetic acid | $CF_3CF(CF_3)(CF_2)_5SO_2N(CH_3)CH_2CO_2H$ | 14.0 | |
| 6 | N-methylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid | $CF_3C(CF_3)_2(CF_2)_4SO_2N(CH_3)CH_2CO_2H$ | 0.2 | |
| 7 | Other Unidentified Isomers | | 1.1 | |

* Percent of total N-methylperfluorooctanesulfonamidoacetic acid isomers only.

**Table C:** **br-NEtFOSAA; Isomeric Components and Percent Composition (by $^{19}$F-NMR)***

| Isomer | Compound | Structure | Percent Composition by $^{19}$F-NMR | |
|---|---|---|---|---|
| 1 | N-ethylperfluoro-1-octanesulfonamidoacetic acid | $CF_3(CF_2)_7SO_2NCH_2CO_2H$ <br> $C_2H_5$ | 77.5 | 77.5 |
| 2 | N-ethylperfluoro-3-methylheptanesulfonamidoacetic acid | $CF_3(CF_2)_3CF(CF_2)_2SO_2NCH_2CO_2H$ <br> $CF_3$ $C_2H_5$ | 2.3 | 22.5 |
| 3 | N-ethylperfluoro-4-methylheptanesulfonamidoacetic acid | $CF_3(CF_2)_2CF(CF_2)_3SO_2NCH_2CO_2H$ <br> $CF_3$ $C_2H_5$ | 2.2 | |
| 4 | N-ethylperfluoro-5-methylheptanesulfonamidoacetic acid | $CF_3CF_2CF(CF_2)_4SO_2NCH_2CO_2H$ <br> $CF_3$ $C_2H_5$ | 5.4 | |
| 5 | N-ethylperfluoro-6-methylheptanesulfonamidoacetic acid | $CF_3CF(CF_2)_5SO_2NCH_2CO_2H$ <br> $CF_3$ $C_2H_5$ | 10.4 | |
| 6 | N-ethylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid | $CF_3C(CF_2)_4SO_2NCH_2CO_2H$ <br> $CF_3$ $C_2H_5$ | 0.3 | |
| 7 | N-ethylperfluoro-4,5-dimethylhexanesulfonamidoacetic acid | $CF_3CFCF(CF_2)_3SO_2NCH_2CO_2H$ <br> $CF_3$ $C_2H_5$ | 0.3 | |
| 8 | N-ethylperfluoro-3,5-dimethylhexanesulfonamidoacetic acid | $CF_3CFCF_2CF(CF_2)_2SO_2NCH_2CO_2H$ <br> $CF_3$ $C_2H_5$ | 0.3 | |
| 9 | Other Unidentified Isomers | | 1.3 | |

* Percent of total N-ethylperfluorooctanesulfonamidoacetic acid isomers only.

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rev0

**Table D:** **PFHxSK; Isomeric Components and Percent Composition (by $^{19}$F-NMR)***

| Isomer | Compound | Structure | Percent Composition by $^{19}$F-NMR | |
|---|---|---|---|---|
| 1 | Potassium perfluoro-1-hexanesulfonate | $CF_3CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$ | 81.1 | 81.1 |
| 2 | Potassium 1-trifluoromethylperfluoropentanesulfonate** | $CF_3CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$ | 2.9 | 18.9 |
| 3 | Potassium 2-trifluoromethylperfluoropentanesulfonate | $CF_3CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$ | 1.4 | |
| 4 | Potassium 3-trifluoromethylperfluoropentanesulfonate | $CF_3CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$ | 5.0 | |
| 5 | Potassium 4-trifluoromethylperfluoropentanesulfonate | $CF_3CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$ | 8.9 | |
| 6 | Potassium 3,3-di(trifluoromethyl)perfluorobutanesulfonate | $CF_3C(CF_3)CF_2CF_2SO_3^-K^+$ | 0.2 | |
| 7 | Other Unidentified Isomers | | 0.5 | |

* Percent of total perfluorohexanesulfonate isomers only.
** Systematic Name: Potassium perfluorohexane-2-sulfonate.

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

# PFAC-MXH

**Native Per- and Poly-fluoroalkyl Substance Solution/Mixture**

| | |
|---|---|
| **PRODUCT CODE:** | PFAC-MXH |
| **LOT NUMBER:** | PFACMXH0921 |
| **SOLVENT(S):** | Methanol / Isopropanol (2%) / Water (<1%) |
| **DATE PREPARED:** (mm/dd/yyyy) | 09/09/2021 |
| **LAST TESTED:** (mm/dd/yyyy) | 09/14/2021 |
| **EXPIRY DATE:** (mm/dd/yyyy) | 09/14/2026 |
| **RECOMMENDED STORAGE:** | Refrigerate ampoule |

**DESCRIPTION:**

PFAC-MXH is a solution/mixture of eleven native linear perfluoroalkylcarboxylic acids ($C_4$-$C_{14}$), eight native perfluoroalkanesulfonates ($C_4$, $C_5$, $C_7$, $C_8$, $C_{10}$ and $C_{12}$ linear; $C_6$ and $C_8$ linear and branched), three native fluorotelomer sulfonates (4:2, 6:2, and 8:2), two native linear and branched perfluorooctanesulfonamidoacetic acids, and perfluoro-1-octanesulfonamide (FOSA). The components and their concentrations are given in Table A.

The individual components of this mixture all have chemical purities of >98%.

**DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture
Table B: Isomeric Components and Percent Composition of br-NMeFOSAA
Table C: Isomeric Components and Percent Composition of br-NEtFOSAA
Table D: Isomeric Components and Percent Composition of PFHxSK
Table E: Isomeric Components and Percent Composition of PFOSK
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

**ADDITIONAL INFORMATION:**

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

***FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE***

*Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA*
*519-822-2436 • Fax: 519-822-2849 • info@well-labs.com*

*Form#:13, Issued 2004-11-10*
*Revision#:9, Revised 2020-12-23*

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value $y$ and the uncertainty of the independent parameters $x_1, x_2,...x_n$ on which it depends is:

$$u_c(y(x_1, x_2,...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

**For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com**

*Form#:13, Issued 2004-11-10*
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PFACMXH0921 (2 of 11)
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**Table A:** **PFAC-MXH; Components and Concentrations (µg/mL, ± 5% in methanol / isopropanol (2%) / water (<1%))**

| Compound | Acronym | Concentration* (µg/mL) | Peak Assignment in Figure 1 |
|---|---|---|---|
| Perfluoro-n-butanoic acid | PFBA | 4.00 | 1 |
| Perfluoro-n-pentanoic acid | PFPeA | 2.00 | 2 |
| Perfluoro-n-hexanoic acid | PFHxA | 1.00 | 5 |
| Perfluoro-n-heptanoic acid | PFHpA | 1.00 | 7 |
| Perfluoro-n-octanoic acid | PFOA | 1.00 | 11 |
| Perfluoro-n-nonanoic acid | PFNA | 1.00 | 14 |
| Perfluoro-n-decanoic acid | PFDA | 1.00 | 18 |
| Perfluoro-n-undecanoic acid | PFUdA | 1.00 | 23 |
| Perfluoro-n-dodecanoic acid | PFDoA | 1.00 | 26 |
| Perfluoro-n-tridecanoic acid | PFTrDA | 1.00 | 27 |
| Perfluoro-n-tetradecanoic acid | PFTeDA | 1.00 | 29 |
| Perfluoro-1-octanesulfonamide | FOSA | 1.00 | 25 |
| N-methylperfluorooctanesulfonamidoacetic acid [a] | N-MeFOSAA: linear isomer | 0.760 | 20 |
| | N-MeFOSAA: ∑ branched isomers | 0.240 | 17 |
| N-ethylperfluorooctanesulfonamidoacetic acid [b] | N-EtFOSAA: linear isomer | 0.775 | 22 |
| | N-EtFOSAA: ∑ branched isomers | 0.225 | 21 |

| Compound | Acronym | Concentration* (µg/mL) | | Peak Assignment in Figure 1 |
|---|---|---|---|---|
| | | as the salt | as the acid | |
| Potassium perfluoro-1-butanesulfonate | L-PFBS | 1.00 | 0.887 | 3 |
| Sodium perfluoro-1-pentanesulfonate | L-PFPeS | 1.00 | 0.941 | 6 |
| Potassium perfluorohexanesulfonate [c] | PFHxSK: linear isomer | 0.811 | 0.741 | 9 |
| | PFHxSK: ∑ branched isomers | 0.189 | 0.173 | 8 |
| Sodium perfluoro-1-heptanesulfonate | L-PFHpS | 1.00 | 0.953 | 12 |
| Potassium perfluorooctanesulfonate [d] | PFOSK: linear isomer | 0.788 | 0.732 | 15 |
| | PFOSK: ∑ branched isomers | 0.211 | 0.196 | 13 |
| Sodium perfluoro-1-nonanesulfonate | L-PFNS | 1.00 | 0.962 | 19 |
| Sodium perfluoro-1-decanesulfonate | L-PFDS | 1.00 | 0.965 | 24 |
| Sodium perfluoro-1-dodecanesulfonate | L-PFDoS | 1.00 | 0.970 | 28 |
| Sodium 1H,1H,2H,2H-perfluorohexanesulfonate | 4:2FTS | 4.00 | 3.75 | 4 |
| Sodium 1H,1H,2H,2H-perfluorooctanesulfonate | 6:2FTS | 4.00 | 3.80 | 10 |
| Sodium 1H,1H,2H,2H-perfluorodecanesulfonate | 8:2FTS | 4.00 | 3.84 | 16 |

[a] See Table B for percent composition of linear and branched N-MeFOSAA isomers.
[b] See Table C for percent composition of linear and branched N-EtFOSAA isomers.
[c] See Table D for percent composition of linear and branched PFHxSK isomers.
[d] See Table E for percent composition of linear and branched PFOSK isomers.

* Concentrations have been rounded to three significant figures.

**Certified By:** _____ **Date:** 09/23/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

*Form#:13, Issued 2004-11-10*
*Revision#:9, Revised 2020-12-23*

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rev0

YORK
ANALYTICAL LABORATORIES, INC.

## Analytical Standard Record

Standard ID: **Y22B201**

| | | | |
|---|---|---|---|
| Description: | PFAC-MXH STOCK PFAS EPA 1633 | Prepared: | 02/17/2022 |
| Standard Type: | Other | **Expires:** | **09/14/2026** |
| Solvent: | MeOH/IPA/H2O | Prepared By: | Robert Q. Bradley |
| Final Volume (mls): | 1 | Department: | PFAS |
| Vials: | 1 | Lot No.: | PFACMXH0921 |
| Vendor: | Wellington Laboratories | | |

Comments:

| Analyte | CAS Number | Concentration | Units |
|---|---|---|---|
| 1H,1H,2H,2H-Perfluorodecanesulfonic acid | 39108-34-4 | 3.84 | ug/mL |
| 1H,1H,2H,2H-Perfluorohexanesulfonic acid | 757124-72-4 | 3.75 | ug/mL |
| 1H,1H,2H,2H-Perfluorooctanesulfonic acid | 27619-97-2 | 3.8 | ug/mL |
| N-EtFOSAA | 2991-50-6 | 1 | ug/mL |
| N-MeFOSAA | 2355-31-9 | 1 | ug/mL |
| Perfluoro-1-decanesulfonic acid (PFDS) | 335-77-3 | 0.965 | ug/mL |
| Perfluoro-1-heptanesulfonic acid (PFHpS) | 375-92-8 | 0.953 | ug/mL |
| Perfluoro-1-nonanesulfonic acid (PFNS) | 68259-12-1 | 0.962 | ug/mL |
| Perfluoro-1-octanesulfonamide (FOSA) | 754-91-6 | 1 | ug/mL |
| Perfluoro-1-pentanesulfonate (PFPeS) | 2706-91-4 | 0.941 | ug/mL |
| Perfluorobutanesulfonic acid (PFBS) | 375-73-5 | 0.887 | ug/mL |
| Perfluorodecanesulfonic acid(PFDS) | 335-77-3 | 0.965 | ug/mL |
| Perfluorodecanoic acid (PFDA) | 335-76-2 | 1 | ug/mL |
| Perfluorododecanoic acid (PFDoA) | 307-55-1 | 1 | ug/mL |
| Perfluoroheptanoic acid (PFHpA) | 375-85-9 | 1 | ug/mL |
| Perfluorohexanesulfonic acid (PFHxS) | 355-46-4 | 0.914 | ug/mL |
| Perfluorohexanoic acid (PFHxA) | 307-24-4 | 1 | ug/mL |
| Perfluoro-n-butanoic acid (PFBA) | 375-22-4 | 4 | ug/mL |
| Perfluorononanoic acid (PFNA) | 375-95-1 | 1 | ug/mL |
| Perfluorooctanesulfonic acid (PFOS) | 1763-23-1 | 0.928 | ug/mL |
| Perfluorooctanoic acid (PFOA) | 335-67-1 | 1 | ug/mL |
| Perfluoropentanoic acid (PFPeA) | 2706-90-3 | 1 | ug/mL |
| Perfluorotetradecanoic acid (PFTA) | 376-06-7 | 1 | ug/mL |
| Perfluorotridecanoic acid (PFTrDA) | 72629-94-8 | 1 | ug/mL |
| Perfluoroundecanoic acid (PFUnA) | 2058-94-8 | 1 | ug/mL |

Reviewed By Date

Page 1 of 1

# Attachment 4 – Calibration Concentrations, nominal

| Calibration Solutions (ng/mL) Compound<br>CS1 (LOQ) CS2 Perfluoroalkyl carboxylic acids | | | CS3 | CS4 (CV[1]) | CS5 | CS6 | CS7[2] |
|---|---|---|---|---|---|---|---|
| **acids** | | | | | | | |
| PFBA | 0.8 | 2 | 5 | 10 | 20 | 50 | 250 |
| PFPeA | 0.4 | 1 | 2.5 | 5 | 10 | 25 | 125 |
| PFHxA | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| PFHpA | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| PFOA | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| PFNA | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| PFDA | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| PFUnA | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| PFDoA | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| PFTrDA | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| PFTeDA | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| **Perfluoroalkyl sulfonic acids** | | | | | | | |
| PFBS | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| PFPeS | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| PFHxS | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| PFHpS | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| PFOS | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| PFNS | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| PFDS | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| PFDoS | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| **Fluorotelomer sulfonic acids** | | | | | | | |
| 4:2FTS | 0.8 | 2 | 5 | 10 | 20 | 50 | NA |
| 6:2FTS | 0.8 | 2 | 5 | 10 | 20 | 50 | NA |
| 8:2FTS | 0.8 | 2 | 5 | 10 | 20 | 50 | NA |
| **Perfluorooctane sulfonamides** | | | | | | | |
| PFOSA | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| NMeFOSA | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| NEtFOSA | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| **Perfluorooctane sulfonamidoacetic acids** | | | | | | | |
| NMeFOSAA | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| NEtFOSAA | 0.2 | 0.5 | 1.25 | 2.5 | 5 | 12.5 | 62.5 |
| **Perfluorooctane sulfonamide ethanols** | | | | | | | |
| NMeFOSE | 2 | 5 | 12.5 | 25 | 50 | 125 | 625 |
| NEtFOSE | 2 | 5 | 12.5 | 25 | 50 | 125 | 625 |
| **Per- and polyfluoroether carboxylic acids** | | | | | | | |
| HFPO-DA | 0.8 | 2 | 5 | 10 | 20 | 50 | 250 |
| ADONA | 0.8 | 2 | 5 | 10 | 20 | 50 | 250 |
| PFMPA | 0.4 | 1 | 2.5 | 5 | 10 | 25 | 125 |
| PFMBA | 0.4 | 1 | 2.5 | 5 | 10 | 25 | 125 |
| NFDHA | 0.4 | 1 | 2.5 | 5 | 10 | 25 | 125 |
| **Ether sulfonic acids** | | | | | | | |
| 9Cl-PF3ONS | 0.8 | 2 | 5 | 10 | 20 | 50 | 250 |
| 11Cl-PF3OUdS | 0.8 | 2 | 5 | 10 | 20 | 50 | 250 |
| PFEESA | 0.4 | 1 | 2.5 | 5 | 10 | 25 | 125 |

| Calibration Solutions (ng/mL) Compound<br>CS1 (LOQ) CS2 Fluorotelomer carboxylic | | | CS3 | CS4 (CV[1]) | CS5 | CS6 | CS7[2] |
|---|---|---|---|---|---|---|---|
| **acids** | | | | | | | |
| 3:3FTCA | 1.0 | 2.5 | 6.26 | 12.5 | 25 | 62.4 | 312 |
| 5:3FTCA | 5.0 | 12.5 | 31.3 | 62.5 | 125 | 312 | 1560 |
| 7:3FTCA | 5.0 | 12.5 | 31.3 | 62.5 | 125 | 312 | 1560 |
| **Extracted Internal Standard (EIS) Analytes** | | | | | | | |
| $^{13}C_4$-PFBA | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| $^{13}C_5$-PFPeA | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| $^{13}C_5$-PFHxA | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| $^{13}C_4$-PFHpA | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| $^{13}C_8$-PFOA | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| $^{13}C_9$-PFNA | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| $^{13}C_6$-PFDA | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| $^{13}C_7$-PFUnA | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| $^{13}C_2$-PFDoA | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| $^{13}C_2$-PFTeDA | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| $^{13}C_3$-PFBS | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| $^{13}C_3$-PFHxS | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| $^{13}C_8$-PFOS | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| $^{13}C_2$-4:2FTS | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| $^{13}C_2$-6:2FTS | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| $^{13}C_2$-8:2FTS | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| $^{13}C_8$-PFOSA | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| $D_3$-NMeFOSA | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| $D_5$-NEtFOSA | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| $D_3$-NMeFOSAA | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| $D_5$-NEtFOSAA | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| $D_7$-NMeFOSE | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| $D_9$-NEtFOSE | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| $^{13}C_3$-HFPO-DA | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Non-extracted Internal Standard (NIS) Analytes** | | | | | | | |
| $^{13}C_3$-PFBA | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| $^{13}C_2$-PFHxA | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| $^{13}C_4$-PFOA | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| $^{13}C_5$-PFNA | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| $^{13}C_2$-PFDA | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| $^{18}O_2$-PFHxS | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| $^{13}C_4$-PFOS | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |

[1] This calibration point is used as the calibration verification (CV)

[2] A minimum of six contiguous calibrations standards are required for linear models and a minimum of seven calibration standards are required for second-order models.

# Attachment 5 -HPLC Method Parameters

## HPLC Acquisition Method Report

Stroke A
**Automatic Stroke Calculation A** Yes

Compress A
**Compressibility Mode A** Compressibility Value Set
**Compressibility A** 70 10e-6/bar

Compress B
**Compressibility Mode B** Compressibility Value Set
**Compressibility B** 90 10e-6/bar

Stop Time
**Stoptime Mode** Time set
**Stoptime** 10.00 min

Post Time
**Posttime Mode** Time set
**Posttime** 1.50 min

Injection
Injection with needle wash
3.00 µL

Solvent Composition

| | Channel | Name 1 | Name 2 | Selected | Used | Percent |
|---|---|---|---|---|---|---|
| 1 | A | Water 5mM ammonium acetate | | Ch. 1 | Yes | 90.00 % |
| 2 | B | Methanol | | Ch. 1 | Yes | 10.00 % |

Timetable

| | Time | A | B | Flow |
|---|---|---|---|---|
| 1 | 3.50 min | 50.00 % | 50.00 % | 0.400 mL/min |
| 2 | 8.00 min | 10.00 % | 90.00 % | 0.400 mL/min |
| 3 | 8.50 min | 90.00 % | 10.00 % | 0.400 mL/min |

Name: **Column Comp.** Module: **G1316C**

Left Temperature Control
**Temperature Control Mode** Temperature Set
**Temperature** 50.0 °C
Enable Analysis Left Temperature
**Enable Analysis Left Temperature On** Yes
**Enable Analysis Left Temperature Value** 0.8 °C

Right Temperature Control
**Right temperature Control Mode** Temperature Set
**Right temperature** 50.0 °C
Enable Analysis Right Temperature
**Enable Analysis Right Temperature On** Yes
**Enable Analysis Right Temperature Value** 0.8 °C

Stop Time
**Stoptime Mode** As pump/injector

Post Time
**Posttime Mode** Off

Timetable
**Valve Position** Position 1 (Port 1 -> 2)
**Ready when front door open** Yes

# Attachment 6 - Triple Quadrupole Acquisition Method

## Acquisition Method Report

Agilent Technologies

### Acquisition Method Info

**Method Name** PFAS1633_ACQ_092922.m

**Method Path** D:\MassHunter\methods\PFAS1633_ACQ_092922.m

**Method Description** EPA 1633_Target PFAS Isotope Dilution_Acquisition

**Device List**

HiP Sampler
Binary Pump
Column Comp.
QQQ

**MS QQQ Mass Spectrometer**

| | | | |
|---|---|---|---|
| **Ion Source** | AJS ESI | **Tune File** | D:\MassHunter\Tune\QQQ\G6460C\atunes.TUNE.XML |
| **Stop Mode** | No Limit/As Pump | **Stop Time (min)** | 1 |
| **Time Filter** | On | **Time Filter Width (min)** | 0.07 |
| **LC->Waste Pre Row** | N/A | **LC->Waste Post Row** | N/A |

**Time Segments**

| Index | Start Time (min) | Scan Type | Ion Mode | Div Valve | Delta EMV | Store | Cycle Time (ms) | Triggered? | MRM Repeats |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | DynamicMRM | ESI+Agilent Jet Stream | To MS | 350 | Yes | 550 | Yes | 3 |

**Time Segment 1**

**Scan Segments**

| Cpd Name | ISTD? | Prec Ion | MS1 Res | Prod Ion | MS2 Res | Primary | Trigger | Frag (V) | CE (V) | Cell Acc (V) | Ret Time (min) | Ret Window | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Cl-PF3OUdS | No | 631 | Unit/Enh (6490) | 451 | Unit/Enh (6490) | Yes | No | 170 | 33 | 4 | 7.62 | 3 | Negative |
| 1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS) | No | 527 | Unit/Enh (6490) | 507 | Unit/Enh (6490) | Yes | No | 170 | 28 | 4 | 7.14 | 3 | Negative |
| 1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS) | No | 527 | Unit/Enh (6490) | 80.9 | Unit/Enh (6490) | Yes | No | 170 | 40 | 4 | 7.14 | 3 | Negative |
| 1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS) | No | 327 | Unit/Enh (6490) | 307 | Unit/Enh (6490) | Yes | No | 162 | 20 | 4 | 4.788 | 3 | Negative |
| 1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS) | No | 327 | Unit/Enh (6490) | 80.9 | Unit/Enh (6490) | Yes | No | 162 | 36 | 4 | 4.788 | 3 | Negative |
| 1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS) | No | 427 | Unit/Enh (6490) | 407 | Unit/Enh (6490) | Yes | No | 162 | 24 | 4 | 6.168 | 3 | Negative |
| 1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS) | No | 427 | Unit/Enh (6490) | 79.7 | Unit/Enh (6490) | Yes | No | 162 | 48 | 4 | 6.168 | 3 | Negative |
| 3:3FTCA | No | 241 | Unit/Enh (6490) | 177 | Unit/Enh (6490) | Yes | No | 74 | 4 | 4 | 3.4 | 3 | Negative |
| 3-3FTCA | No | 241 | Unit/Enh (6490) | 117 | Unit/Enh (6490) | Yes | No | 74 | 44 | 4 | 3.4 | 3 | Negative |

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## Acquisition Method Report

Agilent Technologies

| Cpd Name | ISTD? | Prec Ion | MS1 Res | Prod Ion | MS2 Res | Primary | Trigger | Frag (V) | CE (V) | Cell Acc (V) | Ret Time (min) | Ret Window | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5-3FTCA | No | 341 | Unit/Enh (6490) | 237 | Unit/Enh (6490) | Yes | No | 84 | 12 | 4 | 5.73 | 3 | Negative |
| 5-3FTCA | No | 341 | Unit/Enh (6490) | 217 | Unit/Enh (6490) | Yes | No | 84 | 24 | 4 | 5.73 | 3 | Negative |
| 7-3FTCA | No | 441 | Unit/Enh (6490) | 337 | Unit/Enh (6490) | Yes | No | 76 | 12 | 4 | 6.7 | 3 | Negative |
| 7-3FTCA | No | 441 | Unit/Enh (6490) | 317 | Unit/Enh (6490) | Yes | No | 76 | 24 | 4 | 6.7 | 3 | Negative |
| 9-Cl-PF3ONS | No | 531 | Unit/Enh (6490) | 351 | Unit/Enh (6490) | Yes | No | 175 | 29 | 4 | 6.89 | 3 | Negative |
| ADONA | No | 377 | Unit/Enh (6490) | 251 | Unit/Enh (6490) | Yes | No | 103 | 9 | 4 | 5.62 | 3 | Negative |
| ADONA | No | 377 | Unit/Enh (6490) | 85 | Unit/Enh (6490) | Yes | No | 103 | 37 | 4 | 5.62 | 3 | Negative |
| d3-NMeFOSA | No | 515 | Unit/Enh (6490) | 219 | Unit/Enh (6490) | Yes | No | 134 | 20 | 4 | 7.17 | 3 | Negative |
| d3-N-MeFOSAA | No | 572.99 | Unit/Enh (6490) | 418.8 | Unit/Enh (6490) | Yes | No | 130 | 20 | 4 | 7.17 | 3 | Negative |
| d5-NEtFOSA | No | 531 | Unit/Enh (6490) | 219 | Unit/Enh (6490) | Yes | No | 150 | 20 | 4 | 8.52 | 3 | Negative |
| d5-NEtFOSA | No | 531 | Unit/Enh (6490) | 169 | Unit/Enh (6490) | Yes | No | 150 | 20 | 4 | 8.52 | 3 | Negative |
| d5-N-EtFOSAA | No | 589.02 | Unit/Enh (6490) | 530.9 | Unit/Enh (6490) | Yes | No | 130 | 20 | 4 | 7.36 | 3 | Negative |
| d5-N-EtFOSAA | No | 589.02 | Unit/Enh (6490) | 418.8 | Unit/Enh (6490) | Yes | No | 130 | 20 | 4 | 7.36 | 3 | Negative |
| d7-NMeFOSE | No | 623 | Unit/Enh (6490) | 310 | Unit/Enh (6490) | Yes | No | 150 | 15 | 4 | 8.28 | 3 | Negative |
| d7-NMeFOSE | No | 623 | Unit/Enh (6490) | 59 | Unit/Enh (6490) | Yes | No | 88 | 15 | 4 | 8.28 | 3 | Negative |
| d9-NEtFOSE | No | 639 | Unit/Enh (6490) | 59 | Unit/Enh (6490) | Yes | No | 150 | 15 | 4 | 8.6 | 3 | Negative |
| HFPO-DA | No | 285 | Unit/Enh (6490) | 169.1 | Unit/Enh (6490) | Yes | No | 100 | 20 | 4 | 4.95 | 3 | Negative |
| M2-4-2FTS | No | 329 | Unit/Enh (6490) | 309 | Unit/Enh (6490) | Yes | No | 156 | 20 | 4 | 4.787 | 3 | Negative |
| M2-4-2FTS | No | 329 | Unit/Enh (6490) | 81 | Unit/Enh (6490) | Yes | No | 156 | 28 | 4 | 4.787 | 3 | Negative |
| M2-6-2FTS | No | 429 | Unit/Enh (6490) | 409 | Unit/Enh (6490) | Yes | No | 162 | 24 | 4 | 6.01 | 3 | Negative |
| M2-6-2FTS | No | 429 | Unit/Enh (6490) | 81 | Unit/Enh (6490) | Yes | No | 162 | 40 | 4 | 6.01 | 3 | Negative |
| M2-8-2FTS | No | 529 | Unit/Enh (6490) | 509 | Unit/Enh (6490) | Yes | No | 165 | 28 | 4 | 6.98 | 3 | Negative |
| M2-8-2FTS | No | 529 | Unit/Enh (6490) | 81 | Unit/Enh (6490) | Yes | No | 165 | 40 | 4 | 6.98 | 3 | Negative |
| M2PFTeDA | No | 715 | Unit/Enh (6490) | 670 | Unit/Enh (6490) | Yes | No | 62 | 12 | 4 | 8.25 | 3 | Negative |
| M3-HFPO-DA | No | 287 | Unit/Enh (6490) | 169 | Unit/Enh (6490) | Yes | No | 90 | 5 | 4 | 4.99 | 3 | Negative |
| M3PFBA | Yes | 216 | Unit/Enh (6490) | 172 | Unit/Enh (6490) | Yes | No | 90 | 5 | 4 | 1.2 | 2 | Negative |
| M3PFBS | No | 302 | Unit/Enh (6490) | 98.9 | Unit/Enh (6490) | Yes | No | 114 | 32 | 4 | 3.94 | 3 | Negative |
| M3PFBS | No | 302 | Unit/Enh (6490) | 79.9 | Unit/Enh (6490) | Yes | No | 114 | 40 | 4 | 3.94 | 3 | Negative |
| M3PFHxS | No | 402 | Unit/Enh (6490) | 98.9 | Unit/Enh (6490) | Yes | No | 165 | 40 | 4 | 5.55 | 3 | Negative |
| M3PFHxS | No | 402 | Unit/Enh (6490) | 80 | Unit/Enh (6490) | Yes | No | 165 | 48 | 4 | 5.55 | 3 | Negative |
| M4PFHpA | No | 367 | Unit/Enh (6490) | 322 | Unit/Enh (6490) | Yes | No | 124 | 8 | 4 | 5.601 | 3 | Negative |
| M5PFHxA | No | 318 | Unit/Enh (6490) | 273 | Unit/Enh (6490) | Yes | No | 70 | 4 | 4 | 5.47 | 3 | Negative |
| M5PFHxA | No | 318 | Unit/Enh (6490) | 120 | Unit/Enh (6490) | Yes | No | 70 | 4 | 4 | 5.47 | 3 | Negative |
| M6PFDA | No | 519 | Unit/Enh (6490) | 473.9 | Unit/Enh (6490) | Yes | No | 59 | 8 | 4 | 6.99 | 3 | Negative |
| M7PFUdA | No | 570 | Unit/Enh (6490) | 525 | Unit/Enh (6490) | Yes | No | 64 | 8 | 4 | 7.38 | 3 | Negative |
| MPFDA | Yes | 514.98 | Unit/Enh (6490) | 469.8 | Unit/Enh (6490) | Yes | No | 94 | 5 | 4 | 6.972 | 2 | Negative |
| MPFHxA | Yes | 314.99 | Unit/Enh (6490) | 269.8 | Unit/Enh (6490) | Yes | No | 86 | 4 | 4 | 4.705 | 2 | Negative |
| MPFHxA | Yes | 314.99 | Unit/Enh (6490) | 120 | Unit/Enh (6490) | Yes | No | 86 | 4 | 4 | 4.705 | 2 | Negative |
| MPFHxS | Yes | 403 | Unit/Enh (6490) | 103 | Unit/Enh (6490) | Yes | No | 110 | 37 | 4 | 5.63 | 2 | Negative |
| MPFHxS | Yes | 403 | Unit/Enh (6490) | 84 | Unit/Enh (6490) | Yes | No | 110 | 40 | 4 | 5.63 | 2 | Negative |
| MPFNA | Yes | 468 | Unit/Enh (6490) | 423 | Unit/Enh (6490) | Yes | No | 66 | 4 | 4 | 6.541 | 2 | Negative |
| MPFOA | Yes | 417 | Unit/Enh (6490) | 372 | Unit/Enh (6490) | Yes | No | 84 | 4 | 4 | 6.03 | 2 | Negative |
| MPFOS | Yes | 502.96 | Unit/Enh (6490) | 99 | Unit/Enh (6490) | Yes | No | 148 | 48 | 4 | 6.57 | 3 | Negative |

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## Acquisition Method Report

Agilent Technologies

| Cpd Name | ISTD? | Prec Ion | MS1 Res | Prod Ion | MS2 Res | Primary | Trigger | Frag (V) | CE (V) | Cell Acc (V) | Ret Time (min) | Ret Window | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MPFOS | Yes | 502.96 | Unit/Enh (6490) | 80 | Unit/Enh (6490) | Yes | No | 148 | 54 | 4 | 6.57 | 3 | Negative |
| NEtFOSA | No | 526 | Unit/Enh (6490) | 219 | Unit/Enh (6490) | Yes | No | 120 | 20 | 4 | 8.528 | 3 | Negative |
| NEtFOSA | No | 526 | Unit/Enh (6490) | 169 | Unit/Enh (6490) | Yes | No | 120 | 20 | 4 | 8.528 | 3 | Negative |
| N-EtFOSAA | No | 584 | Unit/Enh (6490) | 525.9 | Unit/Enh (6490) | Yes | No | 130 | 20 | 4 | 7.521 | 3 | Negative |
| N-EtFOSAA | No | 584 | Unit/Enh (6490) | 418.8 | Unit/Enh (6490) | Yes | No | 130 | 20 | 4 | 7.521 | 3 | Negative |
| NEtFOSE | No | 630 | Unit/Enh (6490) | 59 | Unit/Enh (6490) | Yes | No | 120 | 20 | 4 | 8.301 | 3 | Negative |
| NFDHA | No | 295 | Unit/Enh (6490) | 201.1 | Unit/Enh (6490) | Yes | No | 92 | 2 | 4 | 4.641 | 3 | Negative |
| NFDHA | No | 295 | Unit/Enh (6490) | 84.9 | Unit/Enh (6490) | Yes | No | 92 | 34 | 4 | 4.641 | 3 | Negative |
| NMeFOSA | No | 512 | Unit/Enh (6490) | 219 | Unit/Enh (6490) | Yes | No | 120 | 20 | 4 | 8.298 | 3 | Negative |
| NMeFOSA | No | 512 | Unit/Enh (6490) | 169 | Unit/Enh (6490) | Yes | No | 120 | 20 | 4 | 8.298 | 3 | Negative |
| N-MeFOSAA | No | 570 | Unit/Enh (6490) | 511.9 | Unit/Enh (6490) | Yes | No | 150 | 20 | 4 | 7.335 | 3 | Negative |
| N-MeFOSAA | No | 570 | Unit/Enh (6490) | 418.9 | Unit/Enh (6490) | Yes | No | 150 | 20 | 4 | 7.335 | 3 | Negative |
| NMeFOSE | No | 616 | Unit/Enh (6490) | 59 | Unit/Enh (6490) | Yes | No | 120 | 20 | 4 | 8.301 | 3 | Negative |
| Perfluoro-1-[13C8]octanesulfonamide (M8FOSA) | No | 506 | Unit/Enh (6490) | 78 | Unit/Enh (6490) | Yes | No | 162 | 48 | 4 | 7.59 | 3 | Negative |
| Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS) | No | 507 | Unit/Enh (6490) | 98.9 | Unit/Enh (6490) | Yes | No | 174 | 48 | 4 | 6.59 | 3 | Negative |
| Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS) | No | 507 | Unit/Enh (6490) | 80 | Unit/Enh (6490) | Yes | No | 174 | 54 | 4 | 6.59 | 3 | Negative |
| Perfluoro-1-decanesulfonate (L-PFDS) | No | 598.9 | Unit/Enh (6490) | 98.9 | Unit/Enh (6490) | Yes | No | 156 | 50 | 4 | 7.546 | 3 | Negative |
| Perfluoro-1-decanesulfonate (L-PFDS) | No | 598.9 | Unit/Enh (6490) | 98.9 | Unit/Enh (6490) | Yes | No | 100 | 60 | 4 | 7.546 | 3 | Negative |
| Perfluoro-1-heptanesulfonate (L-PFHpS) | No | 448.9 | Unit/Enh (6490) | 98.9 | Unit/Enh (6490) | Yes | No | 162 | 48 | 4 | 6.252 | 3 | Negative |
| Perfluoro-1-heptanesulfonate (L-PFHpS) | No | 448.9 | Unit/Enh (6490) | 80 | Unit/Enh (6490) | Yes | No | 162 | 48 | 4 | 6.252 | 3 | Negative |
| Perfluoro-1-octanesulfonamide (FOSA) | No | 497.9 | Unit/Enh (6490) | 478 | Unit/Enh (6490) | Yes | No | 156 | 100 | 4 | 7.651 | 3 | Negative |
| Perfluoro-1-octanesulfonamide (FOSA) | No | 497.9 | Unit/Enh (6490) | 78 | Unit/Enh (6490) | Yes | No | 156 | 40 | 4 | 7.651 | 3 | Negative |
| Perfluoro-1-pentanesulfonate (L-PFPeS) | No | 348.9 | Unit/Enh (6490) | 98.9 | Unit/Enh (6490) | Yes | No | 150 | 36 | 4 | 5.042 | 3 | Negative |
| Perfluoro-1-pentanesulfonate (L-PFPeS) | No | 348.9 | Unit/Enh (6490) | 79.9 | Unit/Enh (6490) | Yes | No | 150 | 40 | 4 | 5.042 | 3 | Negative |

## Acquisition Method Report

Agilent Technologies

| Cpd Name | ISTD? | Prec Ion | MS1 Res | Prod Ion | MS2 Res | Primary | Trigger | Frag (V) | CE (V) | Cell Acc (V) | Ret Time (min) | Ret Window | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanesulfonic acid (PFBS) | No | 298.9 | Unit/Enh (6490) | 98.9 | Unit/Enh (6490) | Yes | No | 150 | 32 | 4 | 4.042 | 3 | Negative |
| Perfluorobutanesulfonic acid (PFBS) | No | 298.9 | Unit/Enh (6490) | 79.9 | Unit/Enh (6490) | Yes | No | 150 | 36 | 4 | 4.042 | 3 | Negative |
| Perfluorodecanoic acid (PFDA) | No | 513 | Unit/Enh (6490) | 468.8 | Unit/Enh (6490) | Yes | No | 90 | 8 | 4 | 7.158 | 3 | Negative |
| Perfluorodecanoic acid (PFDA) | No | 513 | Unit/Enh (6490) | 268.8 | Unit/Enh (6490) | Yes | No | 90 | 16 | 4 | 7.158 | 3 | Negative |
| Perfluorododecanesulfonic acid (PFDoS) | No | 699 | Unit/Enh (6490) | 99 | Unit/Enh (6490) | Yes | No | 100 | 60 | 4 | 7.984 | 3 | Negative |
| Perfluorododecanesulfonic acid (PFDoS) | No | 699 | Unit/Enh (6490) | 80 | Unit/Enh (6490) | Yes | No | 156 | 50 | 4 | 7.984 | 3 | Negative |
| Perfluorododecanoic acid (PFDoA) | No | 613 | Unit/Enh (6490) | 568.8 | Unit/Enh (6490) | Yes | No | 90 | 12 | 4 | 7.876 | 3 | Negative |
| Perfluorododecanoic acid (PFDoA) | No | 613 | Unit/Enh (6490) | 168.7 | Unit/Enh (6490) | Yes | No | 90 | 28 | 4 | 7.876 | 3 | Negative |
| Perfluoroheptanoic acid (PFHpA) | No | 363 | Unit/Enh (6490) | 318.8 | Unit/Enh (6490) | Yes | No | 90 | 8 | 4 | 5.601 | 3 | Negative |
| Perfluoroheptanoic acid (PFHpA) | No | 363 | Unit/Enh (6490) | 168.9 | Unit/Enh (6490) | Yes | No | 90 | 16 | 4 | 5.601 | 3 | Negative |
| Perfluorohexanesulfonic acid (PFHxS) | No | 398.9 | Unit/Enh (6490) | 98.9 | Unit/Enh (6490) | Yes | No | 150 | 40 | 4 | 5.685 | 3 | Negative |
| Perfluorohexanesulfonic acid (PFHxS) | No | 398.9 | Unit/Enh (6490) | 79.9 | Unit/Enh (6490) | Yes | No | 150 | 44 | 4 | 5.685 | 3 | Negative |
| Perfluorohexanoic acid (PFHxA) | No | 313 | Unit/Enh (6490) | 268.9 | Unit/Enh (6490) | Yes | No | 70 | 4 | 4 | 4.856 | 3 | Negative |
| Perfluorohexanoic acid (PFHxA) | No | 313 | Unit/Enh (6490) | 119 | Unit/Enh (6490) | Yes | No | 70 | 20 | 4 | 4.856 | 3 | Negative |
| Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA) | No | 615 | Unit/Enh (6490) | 570 | Unit/Enh (6490) | Yes | No | 53 | 8 | 4 | 7.71 | 3 | Negative |
| Perfluoro-n-[13C4]butanoic acid (MPFBA) | No | 217 | Unit/Enh (6490) | 172 | Unit/Enh (6490) | Yes | No | 59 | 4 | 4 | 1.22 | 3 | Negative |
| Perfluoro-n-[13C5]pentanoic acid (M5PFPeA) | No | 268 | Unit/Enh (6490) | 223 | Unit/Enh (6490) | Yes | No | 62 | 4 | 4 | 3.44 | 3 | Negative |
| Perfluoro-n-[13C8]octanoic acid (M8PFOA) | No | 421 | Unit/Enh (6490) | 376 | Unit/Enh (6490) | Yes | No | 59 | 4 | 4 | 6.05 | 3 | Negative |
| Perfluoro-n-[13C8]octanoic acid (M8PFOA) | No | 421 | Unit/Enh (6490) | 172 | Unit/Enh (6490) | Yes | No | 59 | 16 | 4 | 6.05 | 3 | Negative |

## Acquisition Method Report

Agilent Technologies

| Cpd Name | ISTD? | Prec Ion | MS1 Res | Prod Ion | MS2 Res | Primary | Trigger | Frag (V) | CE (V) | Cell Acc (V) | Ret Time (min) | Ret Window | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluoro-n-[13C9]nonanoic acid (M9PFNA) | No | 472 | Unit/Enh (6490) | 427 | Unit/Enh (6490) | Yes | No | 59 | 8 | 4 | 6.56 | 3 | Negative |
| Perfluoro-n-[13C9]nonanoic acid (M9PFNA) | No | 472 | Unit/Enh (6490) | 223 | Unit/Enh (6490) | Yes | No | 59 | 16 | 4 | 6.56 | 3 | Negative |
| Perfluoro-n-butanoic acid (PFBA) | No | 213 | Unit/Enh (6490) | 169.9 | Unit/Enh (6490) | Yes | No | 70 | 4 | 4 | 1.246 | 3 | Negative |
| Perfluorononanesulfonate (L-PFNS) | No | 548.9 | Unit/Enh (6490) | 98.9 | Unit/Enh (6490) | Yes | No | 159 | 48 | 4 | 7.174 | 3 | Negative |
| Perfluorononanesulfonate (L-PFNS) | No | 548.9 | Unit/Enh (6490) | 79.9 | Unit/Enh (6490) | Yes | No | 159 | 48 | 4 | 7.174 | 3 | Negative |
| Perfluorononanoic acid (PFNA) | No | 463 | Unit/Enh (6490) | 418.8 | Unit/Enh (6490) | Yes | No | 90 | 8 | 4 | 6.718 | 3 | Negative |
| Perfluorononanoic acid (PFNA) | No | 463 | Unit/Enh (6490) | 218.8 | Unit/Enh (6490) | Yes | No | 90 | 16 | 4 | 6.718 | 3 | Negative |
| Perfluoro-n-pentanoic acid (PFPeA) | No | 263 | Unit/Enh (6490) | 219 | Unit/Enh (6490) | Yes | No | 62 | 4 | 4 | 3.526 | 3 | Negative |
| Perfluorooctanesulfonic acid (PFOS) | No | 498.9 | Unit/Enh (6490) | 98.9 | Unit/Enh (6490) | Yes | No | 150 | 44 | 4 | 6.743 | 3 | Negative |
| Perfluorooctanesulfonic acid (PFOS) | No | 498.9 | Unit/Enh (6490) | 79.9 | Unit/Enh (6490) | Yes | No | 150 | 84 | 4 | 6.743 | 3 | Negative |
| Perfluorooctanoic acid (PFOA) | No | 413 | Unit/Enh (6490) | 368.8 | Unit/Enh (6490) | Yes | No | 90 | 8 | 4 | 6.202 | 3 | Negative |
| Perfluorooctanoic acid (PFOA) | No | 413 | Unit/Enh (6490) | 168.9 | Unit/Enh (6490) | Yes | No | 90 | 16 | 4 | 6.202 | 3 | Negative |
| Perfluorotetradecanoic acid (PFTA) | No | 713 | Unit/Enh (6490) | 669 | Unit/Enh (6490) | Yes | No | 110 | 12 | 4 | 8.414 | 3 | Negative |
| Perfluorotetradecanoic acid (PFTA) | No | 713 | Unit/Enh (6490) | 168.8 | Unit/Enh (6490) | Yes | No | 110 | 28 | 4 | 8.414 | 3 | Negative |
| Perfluorotridecanoic acid (PFTrDA) | No | 663 | Unit/Enh (6490) | 618.8 | Unit/Enh (6490) | Yes | No | 90 | 12 | 4 | 8.164 | 3 | Negative |
| Perfluoroundecanoic acid (PFUnA) | No | 563 | Unit/Enh (6490) | 519 | Unit/Enh (6490) | Yes | No | 90 | 8 | 4 | 7.538 | 3 | Negative |
| Perfluoroundecanoic acid (PFUnA) | No | 563 | Unit/Enh (6490) | 169 | Unit/Enh (6490) | Yes | No | 90 | 24 | 4 | 7.538 | 3 | Negative |
| PFEESA | No | 315 | Unit/Enh (6490) | 135 | Unit/Enh (6490) | Yes | No | 112 | 26 | 4 | 4.464 | 3 | Negative |
| PFEESA | No | 315 | Unit/Enh (6490) | 83 | Unit/Enh (6490) | Yes | No | 112 | 14 | 4 | 4.464 | 3 | Negative |
| PFMBA | No | 279 | Unit/Enh (6490) | 85 | Unit/Enh (6490) | Yes | No | 75 | 18 | 4 | 4.011 | 3 | Negative |
| PFMPA | No | 229 | Unit/Enh (6490) | 85 | Unit/Enh (6490) | Yes | No | 59 | 6 | 4 | 2.15 | 3 | Negative |

**Scan Parameters**

| Data Stg | Threshold |
|---|---|
| Centroid | 0 |

# Acquisition Method Report

Agilent Technologies

Source Parameters

| Parameter | Value (+) | Value (-) |
|---|---|---|
| Gas Temp (°C) | 230 | 230 |
| Gas Flow (l/min) | 5 | 5 |
| Nebulizer (psi) | 15 | 15 |
| SheathGasHeater | 350 | 350 |
| SheathGasFlow | 12 | 12 |
| Capillary (V) | 3500 | 2500 |
| VCharging | 500 | 0 |

Chromatograms

| Chrom Type | Label | Offset | Y-Range |
|---|---|---|---|
| TIC | TIC | 0 | 10000000 |

Instrument Curves

Actual

**Name: HiP Sampler** **Module: G4226A**

| | |
|---|---|
| **Auxiliary** | |
| **Draw Speed** | 100.0 µL/min |
| **Eject Speed** | 400.0 µL/min |
| **Draw Position Offset** | 1.5 mm |
| **Wait Time After Drawing** | 1.2 s |
| **Sample Flush Out Factor** | 5.0 |
| **Vial/Well bottom sensing** | Yes |
| **Injection** | |
| **Injection Mode** | Injection with needle wash |
| **Injection Volume** | 3.00 µL |
| **Needle Wash** | |
| **Needle Wash Location** | Flush Port |
| **Wash Time** | 10.0 s |
| **High throughput** | |
| **Automatic Delay Volume Reduction** | No |
| **Overlapped Injection** | |
| **Enable Overlapped Injection** | No |
| **Valve Switching** | |
| **Valve Movements** | 0 |
| **Valve Switch Time 1** | |
| **Switch Time 1 Enabled** | No |
| **Valve Switch Time 2** | |
| **Switch Time 2 Enabled** | No |
| **Valve Switch Time 3** | |
| **Switch Time 3 Enabled** | No |
| **Valve Switch Time 4** | |
| **Switch Time 4 Enabled** | No |
| **Stop Time** | |
| **Stoptime Mode** | As pump/No limit |
| **Post Time** | |
| **Posttime Mode** | Off |

**Name: Binary Pump** **Module: G4220A**

| | |
|---|---|
| **Flow** | 0.400 mL/min |
| **Use Solvent Types** | No |
| **Stroke Mode** | Synchronized |
| **Low Pressure Limit** | 0.00 bar |
| **High Pressure Limit** | 600.00 bar |
| **Max. Flow Ramp Up** | 100.000 mL/min² |
| **Max. Flow Ramp Down** | 100.000 mL/min² |
| **Expected Mixer** | No check |

Report generation date: 18-Oct-2022 09:01:44 AM Page 6 of 8

# APPENDIX C – Community Air Monitoring Plan

GALLAGHER BASSETT | TECHNICAL SERVICES

# COMMUNITY AIR MONITORING PLAN

## Vanguard Village I+II

**Clinton, Hudson, and Jarvis Streets**
**City of Binghamton, Broome County, New York**

**NYSDEC BCP Site: C704063**

**February 2026**

**GBTS Project: 23003-0060**

**Technical Services Division**

22 IBM Road, Suite 101., Poughkeepsie, NY 12601 T: 845-452-1658 F: 845-485-7083
www.gallagherbassett.com

# COMMUNITY AIR MONITORING PLAN

**February 2026**

**GBTS Project: 23003-0060**

**Prepared By:**

**Gallagher Bassett Technical Services**
**22 IBM Road, Suite 101**
**Poughkeepsie, New York 12601**

**Prepared For:**

**Think City Partners**
**545 Vanderbilt Avenue, 12C**
**Brooklyn, New York 11238**

The undersigned have reviewed this Community Air Monitoring Plan and certify to Think City Partners and to the New York State Department of Environmental Conservation that the information provided in this document is accurate as of the date of issuance by this office.

Scott Spitzer
Gallagher Bassett Technical Services
Technical Director – Environmental Consulting

Richard Hooker
Gallagher Bassett Technical Services
Manager – Environmental Consulting

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Figure: Remedial Investigation Map

Figure: CAMP Location Map

NYSDOH Generic CAMP

BioSolve Documentation

# 1.0 INTRODUCTION

## 1.1 Purpose

This Community Air Monitoring Plan (CAMP) has been developed to provide the requirements and general procedures to be followed by Gallagher Bassett Technical Services (GBTS) and on-Site subcontractors while performing investigative services at the Vanguard Village I+II BCP Site (C704063) located in the City of Binghamton, Broome County, New York.

This CAMP requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the upwind and downwind perimeters of each designated work area and is intended to provide protection for the downwind receptors, including off-Site properties and on-site workers not directly involved in the handling of contaminated materials. Implementation of the CAMP helps to confirm that work activities did not spread contamination off-site through the air. The Project Manager or Site Health and Safety Officer (SHSO) may impose other requirements necessary for safe Site operations and protection of potential receptors.

## 1.2 Site Location and Fieldwork Area

The Site is defined as Vanguard Village I+II, located at 181-187 Clinton Street, 7 Hudson Street, and 34 Jarvis Street, City of Binghamton, Broome County, New York. A Remedial Investigation Map illustrating the Site configuration is attached.

## 1.3 Work Activities

Proposed remedial investigative actions include extension of soil borings, installation of monitoring wells and soil vapor probes, and collection of soil, groundwater, and vapor samples to document and delineate on-Site contamination conditions.

## 1.4 Health and Safety Hazards

The potential exists for the presence of elevated levels of organic and inorganic compounds in Site soils and groundwater, and volatile compounds in soil vapor. The possibility exists for on-site personnel to have contact with contaminated soils, groundwater, and/or vapor during fieldwork activities. Contact with contaminated substances may present a skin contact, inhalation, and/or ingestion hazard.

# 2.0 AIR MONITORING

## 2.1 General Requirements

The implementation of the CAMP will document the presence or absence of VOCs and dust in the air surrounding the work zone, which may migrate off-Site due to fieldwork activities. Monitoring will be conducted at all times that fieldwork activities which are likely to generate emissions are occurring. This plan provides guidance on the need for implementing more stringent dust and emission controls based on air quality data.

### 2.1.1 Continuous Monitoring

Real-time air monitoring for VOCs and particulate levels at the perimeter of the exclusion zone or work area will be performed according to the NYSDOH Generic Community Air Monitoring Plan (provided as an Attachment), and in accordance with the special requirements presented below, during all ground intrusive activities and any other fieldwork that is reasonably likely to generate significant dust or vapors from known or suspected contaminated soils. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pit excavation or trenching, and the installation of soil borings or monitoring wells. The locations of CAMP monitoring stations (a minimum of four are proposed) are shown on the attached Figure.

### 2.1.2 Periodic Monitoring

Periodic monitoring for VOCs will be performed during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. Periodic monitoring during sample collection, for instance, will consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. Depending upon the proximity of potentially exposed individuals, continuous monitoring may be performed during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

### 2.1.3 Health and Safety

Photoionization detector (PID) and dust readings consistently in excess of CAMP limits will be used as an indication of the need to initiate personnel monitoring, increase worker protective measures, and/or modify or cease on-site operations in order to mitigate off-site community exposure. PID readings that consistently exceed background in the breathing zone (during any proposed tasks) will necessitate moving away from the source or implementing a higher level of personal protective equipment (concentrations of VOCs in the air are expected to be below the OSHA Permissible Exposure Limits [PELs]).

### 2.1.4 VOC Monitoring, Response Levels, and Actions

VOCs will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis during invasive work. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. Monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment will be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.

If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities will resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or occupied structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shut down.

All 15-minute readings must be recorded and be available for NYSDEC personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

### 2.1.5 Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level.

The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

If the downwind PM-10 particulate level is 100 micrograms per cubic meter (µg/m$^3$) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed and work will continue provided that downwind PM-10 particulate levels do not exceed 150 µg/m$^3$ above the upwind level and provided that no visible dust is migrating from the work area.

If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 µg/m$^3$ above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 µg/m$^3$ of the upwind level and in preventing visible dust migration.

All readings will be recorded and will be available for NYSDEC personnel to review.

## 2.2 Special Requirements

### 2.2.1 Work within 20 Feet of Potential Receptors

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring should occur within the occupied structure(s). Depending upon the nature of contamination, chemical-specific colorimetric tubes of sufficient sensitivity may be necessary for comparing the exposure point concentrations with appropriate pre-determined response levels (response actions should also be predetermined). Background readings in the occupied spaces must be taken and discussed with NYSDOH prior to commencement of the work.

If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 mcg/m$^3$, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m$^3$ or less at the monitoring point.

Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, and carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each site.

### 2.2.2 Special Requirements for Indoor Work

Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements shall be as stated above under Section 2.2.1, except that in this instance "nearby/occupied structures" would be adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential vapor pathways (openings, conduits, etc.) relative to adjoining rooms, should be understood and the monitoring locations established accordingly. In these situations, it is strongly recommended that exhaust fans or other engineering controls be used to create negative air pressure within the work area during remedial activities. Additionally, it is strongly recommended that the planned work be implemented during hours (e.g., weekends or evenings) when building occupancy is at a minimum.

## 2.3 Contaminant Control

Mitigation measures may be required to control the generation of vapors and/or dust.

### 2.3.1 Dust Control

Mitigation measures may include reducing the surface area of contaminated soil being disturbed at one time, wetting heavy equipment and exposed soils to reduce fugitive dust, using covered stockpiles/trucks, or stopping excavation and/or other soil disturbing activities. Dust suppression will be conducted during construction activities that will disturb on-Site soils and may include misting, reduction in soil movement, reducing vehicle speeds, or cessation of excavation.

### 2.3.2 Vapor Control

Mitigation measures include all controls used for dust suppression, as well as specific techniques for reducing releases of vapors, such as spraying commercial odor control products (e.g., BioSolve) or limiting work to cooler or less windy times of day.

# 3.0 QUALITY ASSURANCE

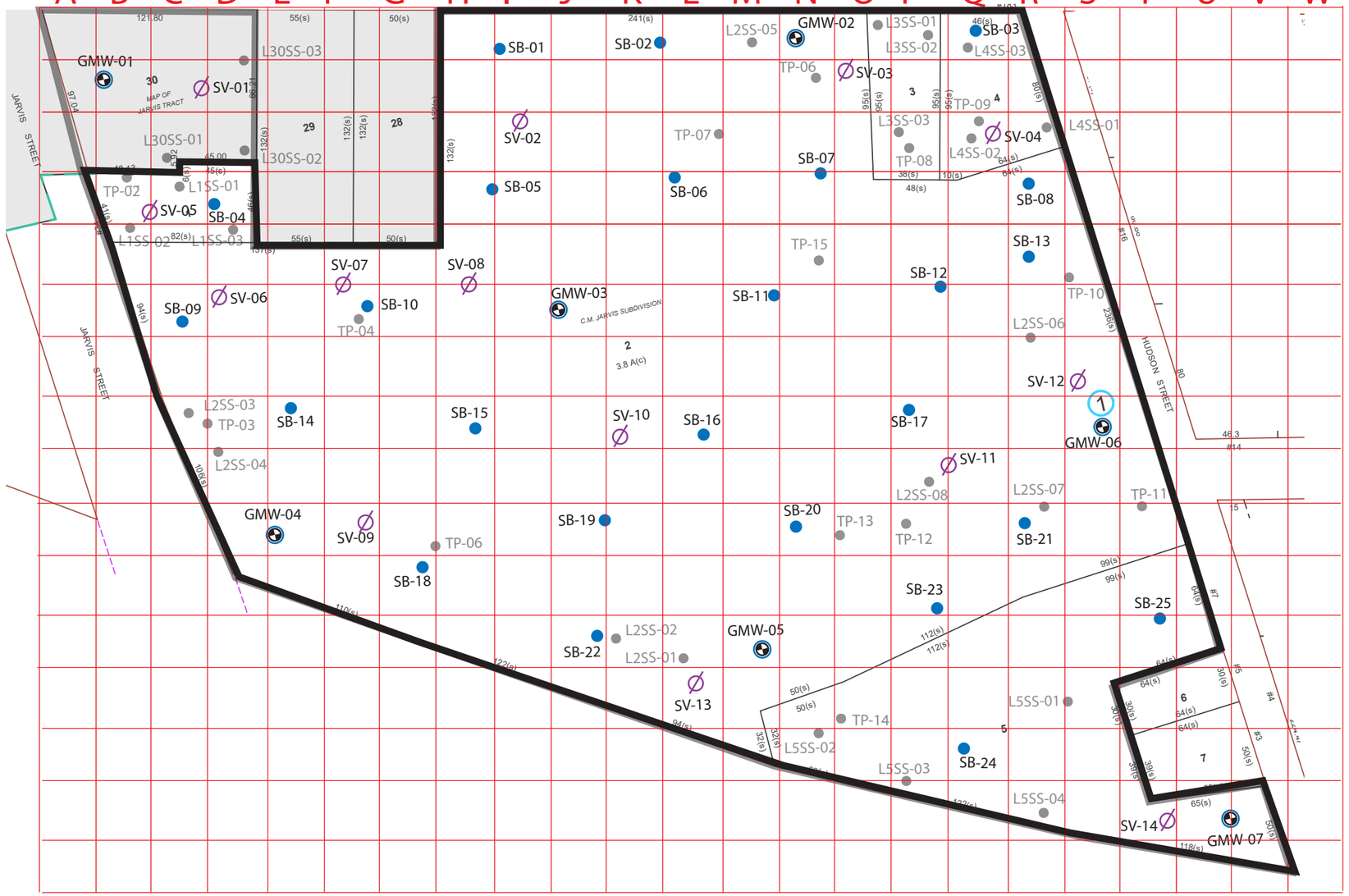
All instruments will be properly calibrated before the start of fieldwork, with periodic calibration checks as necessary. All equipment will be operated in accordance with the manufacturer's recommendations and the operator's manual. The fieldwork manager will review all data and take appropriate actions based on the requirements in Section 2 of this CAMP. A record of all calibration events, and any unusual occurrence that affect CAMP data, will be recorded in the project field log book. Instrument calibration shall be documented in the designated field logbook. Exceedances of action levels observed during performance of the CAMP will be reported to the NYSDEC Project Manager and included in the Daily Report.

GALLAGHER BASSETT | TECHNICAL SERVICES

CLINTON STREET

A B C D E F G H I J K L M N O P Q R S T U V W

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18




0 50 100

SCALE IN FEET
(APPROXIMATELY)

All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Legend:

- BCP boundary
- proposed boring location
- proposed soil vapor location
- proposed boring completed as monitoring well
- previous sample location

# Remedial Investigation Map

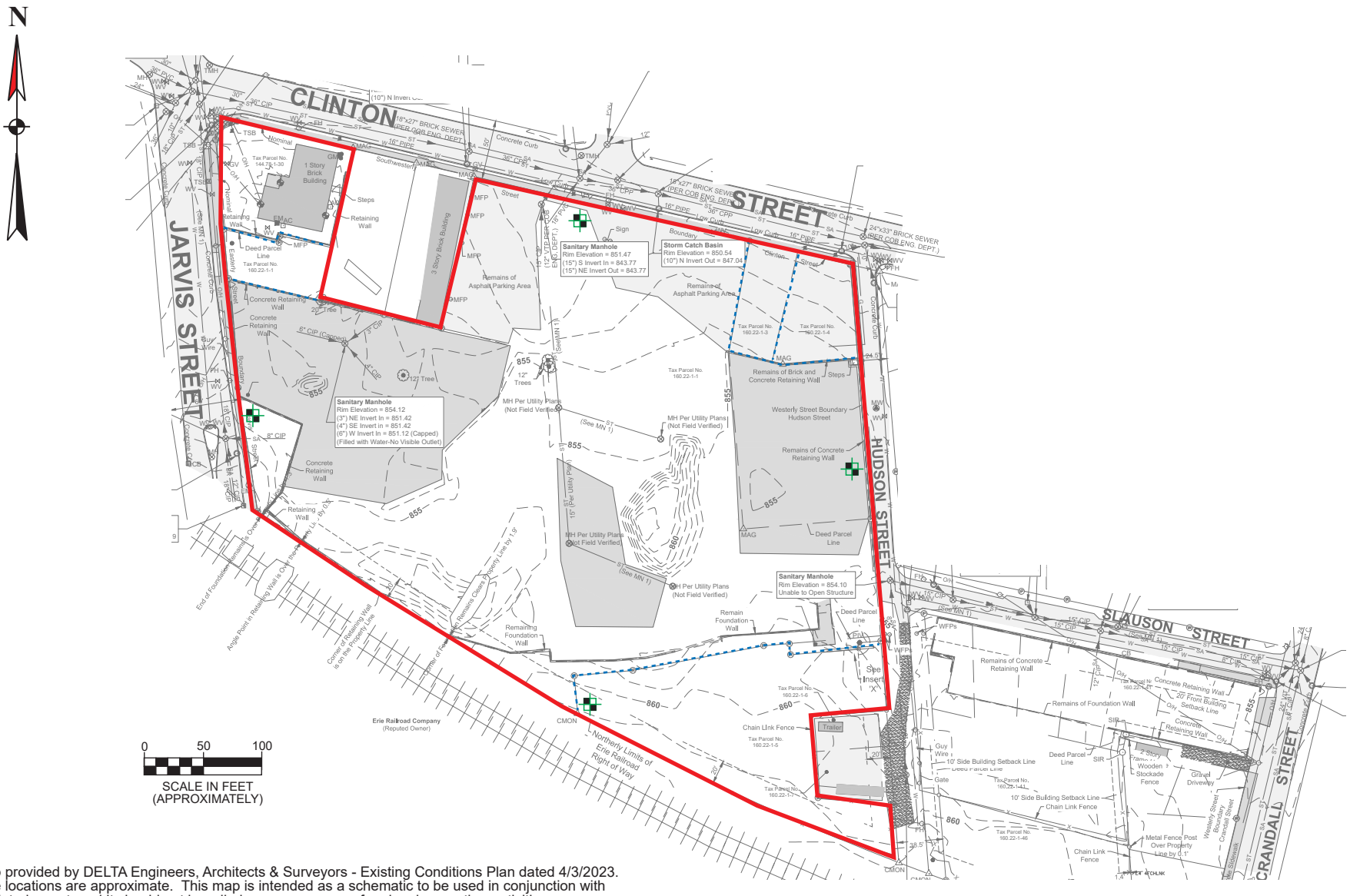
Vanguard Village I+II (BCP: C704063)
Clinton, Hudson and Jarvis Streets
City of Binghamton, New York

File: 23003-0060

Scale as shown

February 2026 | Figures

GALLAGHER BASSETT | TECHNICAL SERVICES




Base map provided by DELTA Engineers, Architects & Surveyors - Existing Conditions Plan dated 4/3/2023. All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

# CAMP Location Map

181-187 & 205 Clinton Street,
34 Jarvis Street and 7 Hudson Street
City of Binghamton
BroomeCounty, New York

Legend:

- BCP Site Boundary
- lot lines
- proposed CAMP locations

File: 23003-0060

February 2026

Scale as shown

Attachment

## Appendix 1A
## New York State Department of Health
## Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

**Continuous monitoring** will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

**Periodic monitoring** for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/$m^3$) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/$m^3$ above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/$m^3$ above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/$m^3$ of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

# bioSolve®

WATER-BASED HYDROCARBON MITIGATION AGENTS ™

THE TRUSTED SOLUTION FOR HYDROCARBON CLEANUP for over 30 years

» Reduces Volatility
» Increases Solubility
» Accelerates Biodegradation

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## Used Worldwide by Environmental & Industrial Contractors, Utilities & Municipalities

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**BioSolve PINKWATER**, brand leader and industry workhorse for over 30 years. Formulated with our signature magenta dye for traceability. Sold only as a concentrate.

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**NEW BioSolve Activator**, formulated as a high performance emulsification surfactant for improved soil remediation. Meets EPA's Safer Choice Standard as well as OECD standard for Ready Biodegradability.

**BioSolve FOGwash**, same concentration and performance as Pinkwater, with no fragrance and less color. FOGwash is formulated for professional use in both commercial & industrial kitchens. (Sold only in cases/gallons.)

## BioSolve products sold in:

| Units | US Gallons | Liters | Pallet |
|---|---|---|---|
| Tote | 275 | 1,041 | 1 unit |
| Drum | 55 | 208 | 4 units |
| Pail | 5 | 19 | 24 units |
| Case | 4 x 1G | 4 x 3.8L | 27 units |

Authorized BioSolve Distributor

TO ORDER CALL **800 225-3909**

THE BioSolve™ COMPANY

The BioSolve Company
Lexington, MA 02420 USA
781 482-7900
info@biosolve.com

**BioSolve.com**

## APPLICATIONS

**Vapor Suppression & Odor Control** >> PINKWATER • ACTIVATOR
Diluted in large mixing tanks, Pinkwater and Activator are used at major remediation and construction work-sites where excavation of contaminated soils may release noxious organic odors or hazardous VOCs. The dilute solution is sprayed directly onto newly exposed soil surfaces or stockpiles of contaminated material where volatilization is taking place. Used as an alternative to foam, our products create a barrier that keeps vapors in the soil, allowing work to continue safely without disruption to workers or neighbors.

**Soil Remediation** >> ACTIVATOR • PINKWATER
In-situ, a dilute solution is injected into contaminated subsurface zones to mobilize and solubilize NAPL trapped in the soil. The effluent is then extracted under careful hydraulic control and treated prior to discharge. For ex-situ remediation or soil washing, Pinkwater and Activator are used as washing agents to remove hydrocarbons. Following the wash, soil is rinsed, dried and returned to grade. On bioremediation or land farming projects, the ability to micro-emulsify hydrocarbons results in enhanced bioavailability for naturally occurring hydrocarbon degrader bacteria. This dramatically accelerates the biodegradation process.

**Tank Cleaning & Degassing** >> PINKWATER
Pinkwater is a standard component in cleaning/degassing protocols for oil and fuel tanks of all sizes. High pressure spray application of Pinkwater solution to tank walls and internal structures rapidly reduces LEL (Lower Explosive Limits) readings, improves worker safety and sharply reduces project turnaround time. Pinkwater solution is also sprayed/mixed into sludge to knock down vapor levels and convert sludge into a pumpable aqueous solution.

**Emergency Spill Response** >> PINKWATER
BioSolve Pinkwater eliminates fire and explosion hazard when sprayed directly onto a fuel/oil spill. Aggressive agitation reduces volatilization and causes LEL readings to immediately decline, possibly registering "0." Application of Pinkwater also facilitates roadway cleanup and elimination of hazardous oil sheen.

**Equipment Decontamination** >> PINKWATER • CLEAR
Used for cleaning/decontaminating tools and equipment at remediation sites, in refineries, on drilling rigs, following spill cleanup, and in industrial maintenance operations. Generally applied with standard pressure washing equipment, most oil and tar build-up can be washed away on contact. For more severe contamination, a hot water spray system may be required.

## HOW DO BIOSOLVE PRODUCTS WORK?

BioSolve products are water-based surfactant formulations engineered to aggressively "grab" hydrocarbon molecules and hold them in an aqueous solution, called an emulsion. When applied as a dilute solution and agitated, the formulation first mobilizes hydrocarbons, pulling them away from hard surfaces (e.g., metal, concrete, asphalt) or releasing them from soil, and then solubilizes hydrocarbons in an emulsion that can be removed with water. The emulsion is non-volatile and readily degraded.

This functionality enables BioSolve products to be effective across a wide range of applications where increased solubility, reduced volatility and/or accelerated biodegradation is required for removing or remediating oil and fuel contamination. Pinkwater, Activator and Clear are typically applied as a 1% to 8% solution. Agitation may be provided by a pressure washer, pump, brush, water hose, jet sprayer or mixer.

**"Shell is purchasing BioSolve Pinkwater for only one reason, because it works"**
Pat Agbo
Head of Oil Spill Response
Shell Oil Upstream International
Port Harcourt, Nigeria

**"Your product performed exactly as advertised"**
David Turner
Colonial Pipeline
Alpharetta, Georgia

**"The loading dock was caked with hydraulic oil and had a grotesque odor. The Pinkwater worked brilliantly. When those guys were finished, it literally smelled clean."**
Mike Dimino
The Seneca Companies
Denver Colorado

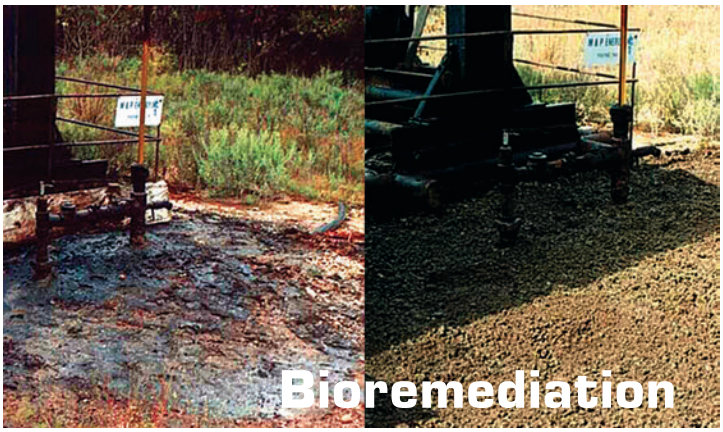
**"BioSolve Pinkwater helped mitigate a big VOC emission issue, assisting in eliminating citizen complaints and keeping the project on schedule."**
Shouvik Gangopadhyay
ECC Senior Project Manager
Nordlys Environmental, LP
Sydney Tar Ponds Project

» PROVEN EFFECTIVE » EASY TO USE » SAFE FOR WORKERS & ENVIRONMENT

# Water-based Biodegradable

## COMMON USES

Suppression of Volatile Organic Vapors
In-Situ/Ex-Situ Remediation of Contaminated Soil
Bioremediation of Contaminated Soil
Hazardous Spill Containment & Cleanup
Solubilization of Sludge & Grease
Oil/Fuel Storage Tank Cleaning & Degassing
Equipment & Hard Surface Decontamination
Paraffin Control in Oil Wells




BioSolve products contain no caustic, d-limonene or hydrocarbon solvents. Products do not contain any hazardous ingredients as defined by CERCLA, OSHA (29 CFR 1910.1200), Massachusetts Right to Know Law, and California Proposition 65. Products are rated by DOT as Class 55, non-hazardous.

BioSolve Pinkwater is on the U.S. Environmental Protection Agency's NCP Product Schedule. This listing does NOT mean that EPA approves, recommends, licenses, certifies, or authorizes the use of BioSolve Pinkwater on an oil discharge. This listing means only that data have been submitted to EPA as required by Subpart J of the National Contingency Plan, 40 CFR Section 300.915.

Pinkwater and Activator are not listed as bioremediation agents on the EPA National Contingency Plan and therefore are not to be used for bioremediation purposes on or near the shorelines of navigable waters within the US.

This material is made available for use by professionals or persons having the proper technical skills. The statements made herein are guidelines only and may require modification to accommodate site specific conditions. Nothing contained herein is a warranty or is to be taken as a license to use without proper instruction and supervision. BioSolve products should always be used in accordance with applicable federal, state and local rules and regulations

**Case Studies, Information Sheets, Application Protocols & SDS are available on request**

**"I am very impressed with your product's ability to clean everything from invert and gel drilling mud to hydraulic oil."**

Colby Simpson
Hot Flash Oil Field Services
Alberta Canada

**"BioSolve clearly outperformed everything else we have tried. I'm a real believer in the product."**

Lane Altenbaumer
Specialized Maintenance Services,
Carylon Corporation
Pasadena, TX

**Used by 'Fire Department of New York' Hazmat Units (for emergency response) and 'New York City Transit' (for parts cleaning) for over ten years.**

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IMO INTERNATIONAL MARITIME ORGANIZATION

**BioSolve.com**

# Safety Data Sheet



## Section 1 – Chemical Products and Company Identification

**Product Names:** BioSolve® Pinkwater®

**Product Uses:** Remediation of hydrocarbon (oil, fuel, petrochemical) contamination, including: impacted soils, suppression of VOCs, decontamination of equipment and protective clothing, and surface washing

**Manufacturer:**
The BioSolve Company
24 Victory Lane
Dracut, MA 01826 USA

**Contact Information:**

| | |
|---|---|
| +1 (800) 225-3909 | US, Canada, Mexico and Puerto Rico |
| +1 (781) 482-7900 | All other locations |

## Section 2 – Hazards Identification

**Health Hazards:**

| | |
|---|---|
| Eye Contact: | Causes transient eye irritation |
| Skin Contact: | May cause mild, transient irritation |
| Ingestion: | May be harmful if swallowed; can cause gastrointestinal irritation, nausea, vomiting and/or diarrhea |

**Hazard Mitigation:** Wear protective gloves and eye/face protection
Avoid prolonged breathing of spray

**Environmental Hazards:** Moderately toxic to aquatic life. Avoid discharge to storm drains and waterways

**GHS Classification:** Toxic to aquatic life, Acute Category 2

## Section 3 – Composition/Information on Ingredients

Proprietary formulation with nonionic surfactants (32% active ingredients in water)

BioSolve products contain no caustic, d-limonene or hydrocarbon solvents.

BioSolve products do not contain any hazardous ingredients as defined by CERCLA, Massachusetts Right to Know Law and California Prop 65. All ingredients are TSCA compliant.

## Section 4 – First Aid Measures

**Eyes:** Immediately flush eyes with water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Seek medical attention for lasting irritation.

**Skin:** Rinse exposed area and wash with mild soap and water for several minutes. Seek medical attention if irritation develops.

**Ingestion:** Seek medical attention in the event of serious or persistent abdominal discomfort, nausea or diarrhea.

**Inhalation:** Inhalation of concentrated vapors resulting from spraying or heating in confined or poorly ventilated areas may cause irritation of nose and throat. Remove person to fresh air and seek medical attention if irritation persists.

## Section 5 – Fire Fighting Measures

**Suitable Extinguishing Media:** None required; BioSolve products are non-flammable

**Special Protective Equipment for Firefighters:** None necessary

**Unusual Fire or Explosive Hazards:** None

## Section 6 – Accidental Release Measures

In case of accidental release, breakage or leakage: Eliminate or contain source with inert material, such as sand, earth, absorbent pads, etc. Transfer liquid to suitable containers for recovery, re-use or disposal. Wipe up or mop up using water. Hard surfaces (e.g., floors, driveways) may be slippery; use care to avoid falling.

Rinse area with water. Avoid flow of run-off to surface waters. Always check with local regulations before discharging effluent to storm drains or sewers.

## Section 7 – Handling and Storage

**Handling:** Minimize periods of exposure to extreme temperatures. Keep from freezing. If frozen, separation may occur; thaw and stir thoroughly prior to use. Freezing will not affect product performance.

**Precautions:** Chemical resistant gloves and eye protection are recommended while mixing and using.

**Incompatibilities:** Avoid contact with strong acids or strong oxidants.

**Storage:** Recommended storage temperature: 35º – 120º F (1º – 48º C).

**Shelf Life:** If unopened, more than 10 years.

## Section 8 – Exposure Controls / Personal Protection

**Eyes Protection:** Safety glasses; chemical goggles or face shield recommended when spraying to protect against backsplash and drift.

**Skin Protection:** Rubber or latex gloves recommended.

**Respiratory Protection:** None required, except if application results in significant misting of product. If so, use of an approved air purifying respirator is recommended.

**Engineering Controls:** For indoor use or for use in a confined space, normal ventilation is generally satisfactory.

## Section 9 – Physical and Chemical Properties

**Appearance:** Deep red

**Odor:** Mild, pleasant sassafras fragrance

**Concentration:** ~32% active ingredients as sold

| | | | |
|---|---|---|---|
| **Boiling Point** | 265ºF/129ºC | **Vapor Pressure mm/Hg** | Not available |
| **Melting/Freezing Point** | 28ºF/-2ºC | **Vapor Density (Air=1)** | Not available |
| **Flash Point** | Non-flammable | **Surface Tension*** | 29 Dyne/cm @25ºC |
| **Flammability Limits** | Not applicable | **Viscosity (concentrate)** | 490 centipoise |
| **Reactivity with Water** | None | **Viscosity (6% solution)** | 1.5 centipoise |
| **Evaporation Rate** | Not determined | **Solubility in Water** | 100% |
| **Specific Gravity** | 1.01 gms/cc | **VOC Content** | Not determined |
| | 8.43 lbs/U.S. gal | **pH** | 9 |

*6% solution

## Section 10 – Stability and Reactivity

**Chemical Stability:** Stable; will not decompose if used according to manufacturer's directions.

**Conditions to Avoid:** Prolonged exposure to heat may cause product degradation. Freezing should also be avoided as discussed in Section 7.

**Incompatible Materials:** Normally unreactive. Avoid strong alkalis, strong acids, strong oxidizing agents and materials with reactive hydroxyl compounds. These materials could damage the product and reduce its effectiveness during application.

**Hazardous Decomposition Products:** None are known.

**Hazardous Polymerization:** Will not occur.

## Section 11 – Toxicological Information

**Overview:** No adverse acute or chronic health effects expected if product used in accordance with manufacturer's directions.

**Carcinogenicity:** No ingredient has been shown to cause cancer in laboratory animals.

**Specific Organ Toxicity:** None are known.

## Section 12 – Ecological Considerations

**Persistence and Degradability:** The total of the organic components contained in this product is not classified as readily biodegradable (OECD-301 A-F). However, this product is inherently biodegradable with 60% degradation in 28 days (OECD-301B) and estimated >95% degradation in 120 days.

**Bioaccumulation Potential:** The bioaccumulation factor in fish has been estimated to be low, ranging from 87 to 344.

**Mobility:** No data available

**Aquatic Toxicity:**

| | | |
|---|---|---|
| **$LC_{50}$ of Concentrate** (As shipped) | | |
| *Mysidopsis bahia* | 48-hours | 3.6 mg/L |
| *Menidia beryllina* | 96-hours | 6.4 mg/L |
| **LC50 of 3% Dilute Solution** (As Used) | | |
| *Mysidopsis bahia* | 48-hours | 185 mg/L |
| *Menidia beryllina* | 96-hours | 247 mg/L |
| **LC50 of 6% Dilute Solution** (As Used) | | |
| *Daphnia magna* | 48-hours | 287 mg/L |
| *Pimephales promelas* | 96-hours | 124 mg/L |
| *Onchorhynchus mykiss* | 96-hours | 177 mg/L |

## Section 13 - Disposal

DO NOT DUMP INTO STORM DRAINS OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. As manufactured, BioSolve products do not meet the definition of a hazardous waste. Small quantities of unused and uncontaminated product may be discharged to a qualified wastewater treatment facility. Always obtain approval from local and Federal regulatory agencies prior to discarding this product into public sewers.

As your supplier, we have no control over your handling and use of this product. However, the intended use of this product as a remediation and/or surface washing agent may produce wastewater containing emulsified or dispersed hydrocarbons that may be classified as a hazardous waste and should be treated and disposed of accordingly.

## Section 14 – Transportation Information

USDOT Freight Class 55 (Liquid Cleaning Compound, Non-Hazardous)
This product is not regulated by USDOT or Canadian TDG when shipped domestically by land.

North American Industry Classification System (NAICS) # 325613

U.S. ITC, Harmonized Tariff Schedule B Classification: 3402.90.30.00

## Section 15 – Regulatory Information

This product is considered non-hazardous as defined by CERCLA, according to OSHA, Massachusetts Right to Know Law and California Prop 65.

| | |
|---|---|
| **Toxic Substances Control Act:** | All components of this product are on the TSCA inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30. |
| **CEPA – Domestic Substances List:** | All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or not required to be listed. |
| **Canadian CPR Compliance:** | This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR |
| **WHMIS Classification:** | D2B Eye or skin irritant |

Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with Federal, state or provincial and local laws.

## Section 16 – Other Information

| | | |
|---|---|---|
| **HMIS Rating** | Health Hazard: | 1 (Eye/Skin Irritant) |
| | Fire Hazard: | 0 |
| | Reactivity: | 0 |
| | Personal Protective Equipment: | Rubber gloves, safety glasses or face shield |
| **NFPA Rating** | Health: | 1 (Eye/Skin Irritant) |
| | Flammability: | 0 |
| | Reactivity: | 0 |
| | Other Hazard: | None |

BioSolve Pinkwater is on the US Environmental Protection Agency's NCP Product Schedule. This listing does NOT mean that EPA approves, recommends, licenses, certifies or authorizes the use of BioSolve Pinkwater on an oil discharge. This listing means only that data have been submitted to EPA as required by Subpart J of the National Contingency Plan, 40 CFR Section 300.915.

**SDS Effective Date:** January 1, 2018

The information contained herein is accurate to the best of our knowledge. The BioSolve Company makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or application or in combination with other substances.

For more information, visit: www.biosolve.com

# APPENDIX D – Previous Environmental Reports

# PHASE I

# ENVIRONMENTAL SITE ASSESSMENT

## 187 Clinton Street

### Binghamton, New York

NPV No. 22037

**Prepared for:**
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The Metro Group
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**Prepared by:**

NELSON POPE VOORHIS
*environmental • land use • planning*

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## March 15, 2022

# Phase I

# Environmental Site Assessment

# 187 Clinton Street

**Binghamton, New York**

**THIS DOCUMENT CONTAINS 37 PAGES OF TEXT**

**COPIES AND CIRCULATION OF THIS REPORT ARE AS FOLLOWS:**

Two (2) copies to client

One (1) copy retained in NP&V file


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NPV

# Phase I
# Environmental Site Assessment

## 187 Clinton Street

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# Phase I

# Environmental Site Assessment

# 187 Clinton Street

## 1.0 SUMMARY

The subject property has been inspected and reviewed independently by Nelson, Pope & Voorhis, LLC (NPV) in order to determine potential environmental or public health concerns. This report is intended to identify Recognized Environmental Conditions (as defined in Standard Practice for Environmental Site Assessment; ASTM E 1527-21 and United States Environmental Protection Agency (USEPA) Standards and Practices for All Appropriate Inquiries (AAI)) on the subject property based on four (4) components of a Phase I Environmental Site Assessment (ESA): records review, site reconnaissance, interviews and evaluation and reporting. **Appendix A** provides a statement of limiting conditions. **Appendix B** includes the resumes of key personnel.

The subject property is located at 187 Clinton Street in the City of Binghamton, County of Broome, New York. The subject property consists of an approximately 3.8± acre parcel of vacant land situated on the south side of Clinton Street, between Hudson Street to the east and Jarvis Street to the west. The property is more particularly described as City of Binghamton Tax Map # 160.22-1-2.

The subject property currently consists of vacant parcel and was mostly covered in snow during the site reconnaissance. As a result, complete observation of the property was limited. The only improvements observed during the site reconnaissance consisted of areas covered by degraded pavement and concrete slabs in former parking and building areas as well as at least three (3) manhole covers and a retaining wall along the western property boundary which was formerly part of a loading dock. In addition, soil piles were observed in the central and southeastern portions of the property. Portions of the subject property were formerly used as a right-of-way (Charles Street), a lumber yard, a sleigh and wagon manufacturer, residential dwellings, a warehouse, a hotel, a filling station and a book printing and binding company. The property appears to have been vacant since sometime beginning in the mid 1990's.

There was no evidence of discharge, staining, areas of stressed vegetation, residue of oils or other toxic substances, pools of discharge, petroleum or chemical odors, or other such indicators noted during the site reconnaissance.

Aerial photographs from 1948, 1957, 1960, 1967, 1974, 1982, 1984 1995, 1999, 2006, 2009, 2013 and 2017 were reviewed in order to determine if any prior uses occupied the subject property. The aerials from 1940 to 1995 depict the subject property as being occupied by

several buildings which were part of the Vail-Ballou Company printers and book manufacturers. The aerial from 1999 reveals that all of the buildings had been removed except for one (1) structure located in the southeastern portion of the property. The remaining aerials generally depict the subject property as it presently exists.

Sanborn Map coverage from 1887, 1891, 1898, 1918, 1950, 1952 and 1970 were available for the subject property and surrounding area. The map from 1887 identifies a roadway listed as Charles Street bisecting the central part of the property running from north to south. West of Charles Street the subject property is occupied by the W.S. Weed Company lumber yard and a dwelling. East of Charles Street the subject property is occupied by Kingman Sturtevant & Larrabee, a wagon and sleigh company as well as five (5) dwellings. The map from 1891 is similar to 1887 except that the dwelling west of Charles Street is no longer present and had been replaced by the West Side Hotel as well as an unidentified building. East of Charles Street the property is occupied by three (3) additional residences along Clinton Avenue. The map from 1898 is similar to the map from 1891 except that a new dwelling is depicted west of and along Charles Street. The map from 1918 also revealed that the lumber yard is no longer present and had been replaced by several buildings used by the Vail-Ballou Company printers and book manufacturers as well as a coal storage yard and Ansco Cos. Warehouse No. 17. East of Charles Street one (1) of the residences along Clinton Street had been replaced by a store and an accessory building. The maps from 1950 and 1952 depict the entire southern half of the property as being occupied by Vail-Ballou Company with Charles Street being cut-off from the southern half of the property. In the northern half of the property, west of Charles Street the dwelling is no longer present and the hotel had been converted into two (2) apartment dwellings and an office. East of Charles Street only three (3) dwellings are depicted and a filling station is depicted in the northeastern corner of the property along Clinton Street. Finally, the map from 1970 no longer depicts the dwelling/office, filling station and dwellings in the northern half of the property. These buildings had been replaced with parking lots on both sides of Charles Street.

USGS Quadrangle Maps dated 1904, 1935, 1942, 1947, 1961, 1968, 1976, 2013, 2016 and 2019 that cover the area of the subject property were reviewed. The map from 1904 depicts several buildings and Charles Street on the subject property. All of the remaining maps depict the subject property within a developed area; however, Charles Street was only depicted up to the 1961 map. The 2013 through 2016 maps typically do not depict site specific development other than schools, religious buildings or other public use structures.

A review of the EDR City Directory revealed that several individuals occupied the residents that were present on the property up until sometime around 1992. Vail-Ballou Press is listed as occupying the property from 1958 to 1970. Other occupants of the property include Maple-Vail Book Manufacturing Group (1992-2000), Crain Industries, Inc. (1992) and Plastic Manufacturing and Recycling Systems (2000). No other sources were utilized or available to assist with historic information regarding the subject property.

The subject property has been the subject of several environmental assessments/investigations since 1995.

A Phase I ESA and Direct Push Sampling Report was conducted by GeoLogic NY, Inc. in April 2008. This report reviewed and summarized three (3) prior site investigation reports which included an Environmental Site Assessment conducted by Enviro Testing in 1995, a Limited Phase II ESA conducted by GeoLogic NY, Inc. in 2000 and additional site investigation work conducted by GeoLogic in 2001. A summary of the findings of each of these reports is provided below in chronological order.

**Enviro Testing Environmental Site Assessment - February 3, 1995**

*"Site inspection indicated there was a partially vacant 196,000-square foot industrial building, currently used for storage of computer supplies and an auto repair business…numerous drums, containers, temporary mixing vats, etc. still exist on site and some are corroded and leaking unknown materials…Vail-Ballou listed as storing developing chemicals, diazo solutions, activators, stabilizers and fixers, most of which are used in photo processing…NYSEG indicated that the electrical transformers in the building may contain PCBs, and if so, they will be removed by NYSEG…evidence of possible Class V underground injection wells were identified inside the building and may be receiving waste (i.e. oils, gas, antifreeze) from the auto repair operation."*

**GeoLogic NY, Inc. Limited Phase II ESA - July 19, 2000**

*"As part of this assessment, three groundwater monitoring wells were installed and samples for lab analysis were collected. Three underground storage tanks (UST's) were removed and soil samples were collected.*

*Chloroform was reported in water from MW-2 (5.3 ug/L). The direction of groundwater flow, based on the May, 2000 data, was to the east.*

*The UST's removed included a 275-gallon fuel oil tank, a 1,000-gallon Naphtha tank, and a 1,000-gallon gasoline tank. The tanks had been located near the northwest portion of the site - adjacent to Jarvis Street. Soil samples from the tank excavation indicated that four volatile organic compounds were reported at concentrations below NYSDEC regulatory limits.*

*NYSDEC Spill No. 0065057 associated with the removal of the UST's was assigned closed status in August 2000."*

**GeoLogic NY, Inc. Additional Site Investigation Letter Report - May 25, 2001**

*"Additional work was completed based on the discovery of petroleum product in a manhole located on the southeast corner of the property.*

*Five borings were drilled (one near the former gasoline station, one along the southern property line, one in the central portion of the property and two at the southeast corner of the property.*

*Six test pits were excavated in the southeast corner of the property.*

*Samples were submitted for lab analysis.*

*Acetone at a concentration of 64 ug/l was reported in a water sample from boring B-3. Chloroform at a concentration of 11 ug/L was reported in a water sample from well MW-2.*

*Soil with petroleum odor and PID readings of 12-150 ppm was encountered in test pit TP-3 Manhole Test Pit. This test pit was located near the southeast corner of the property. Buried piping was encountered in the test pits along the eastern site (sic) of the property. The pipes were 'cut off' and sealed with hydraulic cement at the point that the (sic) entered the subject property. A fuel oil/tar-like substance was observed in the pipes. The piping that extended onto the subject property was excavated and removed from the property. Soil samples from the southeastern portion of the property had concentrations of petroleum compounds at levels exceeding the NYSDEC guidance values. (NOTE - This contaminated soil is likely still located on the subject property.)*

*(NOTE - This piping was likely connected to the four underground storage tanks that had been located on the EAST side of Hudson Street. These former tanks were reported to be buried railroad cars with a capacity of 10,300 gallons. These tanks provided fuel to the Vail-Ballou boiler room that had been located near the southeastern portion of the property.)"*

**GeoLogic NY, Inc. Phase I ESA and Direct Push Sampling Report - April 2008**

The findings of the Phase I ESA offered the following opinions and conclusions:

- *The subject property has been used for industrial purposes since at least 1887. Based on this as well as the findings of their 2000, 2001 and 2008 assessments it was concluded that this represents a historic recognized environmental condition.*

- *A gasoline station was formerly located on the northern portion of the property. No records were obtained relating to the removal of underground storage tanks or the presence of a drywell. As a result, it was concluded that this represents a recognized environmental condition even though petroleum contamination was not detected during their 2000, 2001 and 2008 assessments.*

- *At the time of the 2008 Phase I ESA nearby properties were used as gasoline stations and for industrial purposes. Based on this and their prior 2000, 2001 and 2008 assessments it was concluded that this represents a historic recognized environmental condition.*

- *In 1995 the last remaining building at the property was occupied by an automobile repair business and plastic recycling business. Observations at that time revealed the presence of a basement that contained drums, containers, temporary mixing vats, etc. A floor drain that reportedly was not connected to the municipal sewer system was also noted to be present. Following the destruction of the building in a fire in 1995 the status of the drums, containers, vats and floor drain were unknown. Based on these observations it was concluded that this represented a recognized environmental condition. However, it was also noted that sampling conducted downgradient of this area did not detect the presence of any volatile organic compounds in groundwater.*

- *During the 2001 assessment petroleum products were observed in a manhole on the southeast corner of the property. Investigation of this area indicated that petroleum impacted soil was present and that a volatile organic compound and semi-volatile organic compounds were detected in groundwater samples collected from this area of the property but at concentrations below NYSDEC groundwater standards. It was concluded that petroleum contamination in this area represents a recognized environmental condition. It was also recommended that if this area is excavated in the future petroleum contaminated soils may be present and should be addressed according the NYSDEC regulations.*

- *In an effort to evaluate the potential impact to soil and groundwater quality at the property samples were obtained from direct push sampling points and two (2) of the existing monitoring wells (MW-1 and MW-2). Well MW-3 could not be located. Three (3) direct push sampling points were installed downgradient of the property boundary to evaluate groundwater conditions. Three (3) direct push points were installed to provide special coverage to the property. Two (2) direct push points were located in the vicinity of the former gasoline station. One (1) direct push point was installed in the vicinity of the underground tanks removed in 2000 and one (1) direct push point was installed in the area of the former petroleum product pipelines in the northeastern corner of the property.*

  *Results of the groundwater sampling conducted at the property detected the presence of chloroform, tetrachloroethene, acetone, fluoranthene, phenanthrene and pyrene but at concentrations below their respective NYSDEC groundwater standards. No soils samples appear to have been submitted for laboratory analysis.*

An extensive government records search identified the subject property as a RCRA Generator and PBS facility as well as the subject of two (2) LUST incidents.

The subject property was listed as a RCRA Generator.

a. Vail-Ballou Press (Facility ID# NYD057770679). The generator type for this facility was not provided but it is listed as having produced a solid waste that exhibits the characteristic of ignitability (165 gallons, 1998), a solid waste that exhibits the characteristic of corrosivity (85 gallons, 1997) and spent halogenated solvents used in degreasing (770 gallons, 1988).

The subject property was listed as a PBS facility.

a. Vail-Ballou Press - Clinton Street (Facility ID# 7-182230). This facility is listed as having formerly utilized four (4), 10,300-gallon underground storage tanks that were closed in place on September 1, 2004. It should be noted that based on a review of the Phase I ESA prepared by GeoLogic in 2008, these tanks may have been located on a separate property owned by Vail-Ballou Press located to the north-northeast of the subject property.

The subject property was listed as having two (2) LUST incidents.

a. Former Vail-Ballou Press (Spill# 0065067). This incident was reported on July 6, 2000 during the removal of #2 fuel oil underground storage tanks from the property. Low level petroleum contamination was found in the soil at levels below STARS guidance values. The file for this incident was closed on August 16, 2000.

b. Vail-Ballou Press (Spill# 8906060). This spill was reported on September 19, 1989 following the failure of a 10,300-gallon underground tank used for the storage of #4 fuel oil. This tank was retested on November 20, 1989 and passed. The file for this incident was closed on November 30, 1989. It should be noted that based on a review of the Phase I ESA prepared by GeoLogic in 2008, this incident may have been located on a separate property owned by Vail-Ballou Press located to the north-northeast of the subject property.

In addition to the listings for the subject property, several Federal, State and County documented regulated sites were noted in the vicinity of the subject property. Specifically, five (5) Inactive Hazardous Waste Disposal Sites (IHWDS) within one (1.0) mile of the subject property. In addition, two (2) CERCLIS sites, two (2) Brownfield Site, one (1) RCRA Hazardous Waste Treatment and Storage and Disposal Sites, one (1) active and 125 closed spill incidents as well as no active and seven (7) closed Leaking Underground Storage Tank (LUST) incidents are located within one-half (0.5) mile of the subject property. Lastly, one (1) New York State Major Oil Facility, six (6) Petroleum Bulk Storage (PBS) facilities, ten (10) RCRA Generators, four (4) Chemical Bulk Storage (CBS) Sites, two (2) Toxic Release Inventory (TRI) Sites, two (2) Permit Compliance System Toxic Wastewater Dischargers, three (3) Air Discharge Sites and one (1) Civil & Administration Enforcement Docket Facility are located within one-quarter (0.25) mile of the subject property.

A Tier 1 Vapor Encroachment Condition (VEC) Assessment was conducted as part of this Phase I ESA, due to the proximity of several spill incidents. The assessment was conducted in accordance with the methods and procedures, outlined within ASTM E2600-15, Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions. A review of the regulatory agency database report provided for the subject property identified the subject property as being the subject of former LUST incidents and as a PBS facility. A review of the regulatory and use history of the property indicates that storage tanks may still be present and that the property was formerly used for industrial purposes. In addition, past investigations have revealed that soils and groundwater have been impacted with volatile organic compounds. Based on the information reviewed, it is concluded that a VEC cannot be ruled out.

Five (5) recognized environmental conditions were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

1. Past environmental sampling conducted at the subject property in 2000, 2001 and 2008 detected compounds in soil and groundwater that exceeded their respective regulatory standards.

2. The former industrial and commercial uses that occupied the subject property utilized underground storage tanks for chemical and petroleum products, the status of tanks is unknown.

3. Due to the historical site use and documented impacts to subsurface media, a vapor encroachment condition cannot be ruled out.

4. Numerous soil piles of unknown origin were observed in the central and southeastern portions of the subject property.

5. At least three (3) manhole covers which may overlie Underground Injection Control (UIC) wells were observed on the subject property.

No controlled recognized environmental conditions were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

No de minimus conditions was noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

Three (3) historic recognized environmental conditions were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

1. The subject property was listed as a RCRA Generator.

2. The subject property was listed as being the site of two (2) LUST incidents.

3. The subject property was listed as a PBS facility.

This report was completed in accordance with the standards set forth in the ASTM E 1527-21 and the USEPA AAI. ASTM protocols identify asbestos containing material (ACM) as non-scope issues. In the interest of serving the client, observations concerning ACM are included herein. This visual assessment should not be considered an asbestos survey which would be required for building demolition and/or identification of all possible sources of ACM, regardless of health danger. Based on observations made during the site reconnaissance, the following is noted:

1. No suspected ACM was noted during the reconnaissance of the subject property.

The observation noted above is not intended to eliminate any other possible sources which may or may not be present for this non-scope item.

NPV has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-21 and USEPA AAI for the 187 Clinton Street, Binghamton, New York. Any exceptions to, or deletions from, this practice are described in Section 11.0 of this report. In conclusion, this assessment has revealed evidence of five (5) recognized environmental conditions and three (3) historic environmental conditions in connection with the subject property, subject to the methodology and limitations of this report.

# 2.0 INTRODUCTION

## 2.1 PURPOSE

This report is intended to meet the format and requirements of the ASTM Standard Practice for Environmental Site Assessments, as published in ASTM E 1527-21 and USEPA AAI standards. Banks, insurance companies and prospective property purchasers require an understanding of existing and past property conditions and uses in order to assess the potential liabilities associated with a site. This assessment has been completed by a qualified environmental professional as defined in ASTM Standards. The objectives of this Environmental Site Assessment are stated as follows:

- Establish a basis of understanding of past and present use in order to determine potential environmental and/or public health risk.
- Establish a basis of understanding of surrounding uses, and area environmental resources in order to determine if the property is affected by such uses or resources.
- Identify, to the extent feasible, *recognized environmental conditions* (i.e., potential risk caused by the presence of Hazardous Substances or Petroleum Products) in connection with the site and adjoining properties.
- Identify any known or potential items in noncompliance with applicable Local, State or Federal laws and regulations.
- Specify how any items in noncompliance with applicable Local, State or Federal laws and regulations can be brought into compliance.
- Confirm the absence of environmental problems or quantify potential environmental liabilities. In the event such findings cannot be made, recommend further environmental sampling.

The final purpose of the report is to utilize the information gained to report "Recognized Environmental Conditions", a very important term defined and utilized in the ASTM Standards. Recognized Environmental Conditions are defined as follows:

> *The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimus conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not recognized environmental conditions.*

## 2.2 DETAILED SCOPE OF SERVICES

This ESA has been completed by NPV in accordance with ASTM standards. The following documentation is intended to provide the financing institution with the information related to the environmental and public health integrity of the subject property.

The report was completed utilizing a variety of techniques and sources of information. The following is a procedural account of the methodology for report preparation:

1. Field inspection of the site was conducted including indoor and outdoor facilities and interview of site personnel and property owners, to document facilities and operations, and to determine applicable Federal, State and Local laws and regulations.
2. Inspection of areas surrounding the site was conducted in order to document surrounding uses as related to the integrity of the subject site.
3. Federal government records were researched including the NPL site list, the CERCLIS site list, and RCRA Hazardous Waste TSD Facilities and Generator Lists, and ERNS lists to determine if the site or adjacent sites are included in listings.
4. State government records were researched including NYS Department of Environmental Conservation (NYSDEC) Inactive Hazardous Waste Disposal site lists, landfills and solid waste disposal facilities, registered underground storage tanks (USTs), wastewater disposal sites, air emission sources, and leaking USTs/materials spill lists, to determine if the site or adjacent sites are included in listings.
5. County government records were researched including tank and drum registration, violations/enforcement action files, and for sites in Suffolk County, the CLEARS remote sensing site inventory.
6. Local government records were researched including zoning, assessor's records, building permit and Certificate of Occupancy to determine site compliance and history.
7. Records involving Transfer of Property were reviewed as available to determine site ownership and history where possible.
8. Published literature concerning on-site soils, and groundwater resources were reviewed as related to environmental audits to establish environmental resource information.
9. Additional interviews of past owners and operators, surrounding property owners/users were conducted as necessary.
10. Conclusions regarding the site were formulated based upon the above tasks.
11. No sampling of suspected recognized environmental conditions was completed as part of this report.
12. Non-scope issues such as asbestos, radon, lead based paint, wetlands, lead in drinking water, cultural and historic resources, endangered species, indoor air quality, mold, etc. are addressed with certain limitations noted herein. If obvious signs of such issues were observed during the site reconnaissance, such observations are indicated in the report. However, this report should not be considered a full asbestos survey, lead based paint report, wetlands delineation survey, mold assessment, etc. The recommendations of this will indicate if a full survey or report should be undertaken to fully determine if such issues exist on the subject property.

## 2.3 LIMITATIONS AND EXCEPTIONS

This report is dated and is only valid for activities which occurred prior to the date of facility inspection. Activities, liabilities and alterations to environmental conditions documented in this report that may have occurred subsequent to the date of inspection are not included in this analysis.

There are several limitations of this study which should be understood. The study is intended to assess the potential for public health or environmental liabilities based upon examination of the subject property in accordance with the ASTM Standards. The ASTM Standards provide specific guidance with regard to radon, asbestos, lead in drinking water and lead based paint.

Analysis of the CERCLA implications with regard to the innocent purchaser defense under Superfund, finds that naturally occurring radon is not subject to CERCLA liability and is appropriately considered as a non-scope issue. Accordingly, this survey will not address radon gas, and will not involve or recommend air monitoring for radon gas. As a point of information for users of this report, radon is a colorless, odorless, inert gas which has become a common air contaminant of concern in certain geographic areas. Radon is a natural isotope, which is present most commonly in association with crystalline bedrock and at times other geologic deposits. Natural isotope decay can emit radiation which causes health concerns due to inhalation **(Sax and Lewis, 1987).** Radon levels generally increase in areas where bedrock is close to the land surface, and generally creates a health related problem only where underground basements are constructed which may allow radon gas to accumulate in a manner which would cause exposure. Geographically, radon may be of concern in some portions of western Long Island, New York City and nearby counties. Absent these conditions, radon gas presents less of a concern. Similarly, the ASTM Standards do not recognize liability with regard to asbestos that is part of the building materials of a structure, in accordance with CERCLA innocent purchaser defense under Superfund. If asbestos containing material is disposed of on a site however, such practice would be subject to Superfund response actions and should be identified. In the interest of serving the client, and addressing the needs of lending institutions, this report will identify observed asbestos containing material (ACM) on the site which may cause a health danger or is considered friable, as a non-scope issue. This report is not a full asbestos survey as would be required for building demolition, or identification of all possible sources of ACM, regardless of health danger.

Lead in drinking water and lead based paint are also issues which are considered to be non–scope under CERCLA innocent purchaser defense under Superfund. Lead based paint has been in use for many years, and it is likely that most older buildings will contain this paint. As a general rule, painted surfaces should be maintained and ingestion of paint products should be avoided. If disposal of these materials is involved, disclosure of this practice would be subject to the scope of this environmental audit. Lead in drinking water occurs generally as a result of

past use of high lead content solder. Water left stagnant in pipes overnight or longer, may leach lead from these joints and affect drinking water quality. As a general rule, water should be run for several minutes in the morning where such plumbing is present.

This report cannot identify all sources of PCB containing oils. Common sources of these materials include transformers and fluorescent lamp ballast. Electric service transformers may include ground level or pole mounted units. These transformers are owned and maintained by the Public Service Enterprise Group - Long Island (PSEG-LI), the entity responsible for their use and integrity. Transformers are inventoried and periodically inspected. PSEG-LI transformers were not manufactured to contain PCB contaminated oils. Aggressive and destructive testing which would be required for definitive identification of PCB's is beyond the scope of this study. The study will however identify observed potential sources, fluid leaks, hazardous materials and/or petroleum substance disposal and other environmental or health hazards appropriate the scope of the survey.

It must be noted that the accuracy of any Environmental Site Assessment is limited to the information available during the time of the site survey, and from the records, files and drawings provided by the owner and released by governmental agencies; and the accuracy and completeness of the information provided during interviews. **Appendix A** of this report contains a Supplemental Statement of Conditions for Phase I Environmental Audits. This list was established by the Environmental Assessment Association (EAA) in order to standardize procedures and understanding with regard to the scope of environmental audits. Steven J. McGinn is an active member of the EAA and is a Certified Environmental Inspector (CEI). NPV may be contacted if there are any questions regarding this analysis or the methods involved. The resumes of key personnel involved in the preparation of this report are included in **Appendix B**.

## 2.4 SPECIAL TERMS AND CONDITIONS

It is the responsibility of the user of this report (for example, the purchaser, potential tenant, owner lender or property manager) to provide certain segments of information utilized in the report. This would include reporting of any *environmental liens* (i.e., consideration against property for response action, cleanup or remediation of hazardous substances or petroleum product) encumbering the property or specialized knowledge or experience that would assist in identifying *recognized environmental conditions*.

It must be recognized that the level of inquiry is variable for each Phase I ESA, depending upon the availability of information and quality of information received. As per the ASTM Standards, it should also be noted that the "environmental professional is not required to verify independently the information provided but may rely on information provided unless he or she has actual knowledge that certain information is incorrect or unless it is obvious that certain information is incorrect based on other information obtained in the Phase I ESA or otherwise

actually known to the environmental professional." Personnel involved in report preparation will make judgments on the accuracy of information and conduct additional research as necessary in order to meet the requirement of identifying recognized environmental conditions on the site. ASTM Standards provide a number of standards sources of historic information, any one of which may be sufficient. NPV will seek to research as many sources of historic information as may be available as a means cross confirmation. Based on ASTM Standards, the Phase I ESA is not intended to include any sampling or testing of materials associated with the project site (i.e., soil, water, air or building materials). Accordingly, this report will conform with this intent and no testing will be conducted.

## 2.5 USER RELIANCE

NPV understands that our client (and their successors or assigns) are relying upon the contents of this Phase I ESA report for the above referenced property in making a loan secured by or affecting the property and/or acquiring the property as the case may be. The format of this Phase I ESA was predicated upon general guideline requirements established by individual lending institutions, American Society for Testing and Materials Standards (1527-21) and USEPA All Appropriate Inquiries (AAI) standards, various professional organizations, and our professional judgment.

The date of inspection, key personnel in the preparation of the report, and a list of persons interviewed is provided below in order to provide further insight into methodology:

| | |
|---|---|
| Project Commenced: | February 3, 2022 |
| Inspection Date: | February 17, 2022 |
| Report Date: | March 15, 2022 |
| Inspector/Preparer: | Steven J. McGinn, CEI |
| | Eric C. Arnesen, PG |
| Persons Interviewed | None, Vacant Land |

# 3.0 SITE DESCRIPTION & RECONAISSANCE

## 3.1 OBJECTIVES

The objective of the site reconnaissance is to obtain information indicating the likelihood of identifying recognized environmental conditions in connection with the subject property. The site reconnaissance typically involves observing all areas of the subject property in order to determine if any potential recognized environmental conditions are present.

## 3.2 METHODOLOGY

All areas of the subject property were observed. The subject property was examined for any potential pipes or structures which may indicate a potential recognized environmental condition that may be present. In addition, the subject property was walked in order to identify potential recognized environmental conditions associated with the specific use of the subject property and the uses surrounding the subject property.

## 3.3 LIMITATIONS

The subject property was covered with snow limiting a complete visual observation of the subject property. There were no other limitations encountered during the site reconnaissance of the subject property. All areas of the subject property were inspected without impediments.

## 3.4 LOCATION, SETTING AND LEGAL DESCRIPTION

The subject property is located at 187 Clinton Street in the City of Binghamton, County of Broome, New York. The subject property consists of an approximately 3.8± acre parcel of vacant land situated on the south side of Clinton Street, between Hudson Street to the east and Jarvis Street to the west. The property is more particularly described as City of Binghamton Tax Map # 160.22-1-2. **Figure 1** provides a location map depicting the subject property and the surrounding area. *All figures are located in a separate section immediately following the text of this report.*

## 3.5 EXISTING AND PAST SITE USES

The subject property currently consists of vacant lot which was formerly used as a right-of-way (Charles Street), a lumber yard, a sleigh and wagon manufacturer, residential dwellings, a warehouse, a hotel, a filling station and a book printing and binding company. The property appears to have been vacant since sometime beginning in the mid 1990's.

In terms of available records, historical use can be documented using a variety of standard records. The intent is to trace land use to a period prior to 1940. For the purpose of this Environmental Site Assessment, as many sources as are reasonably available have been consulted. The following are considered standard historical sources:

Aerial Photographs
Fire Insurance Maps (Sanborn Maps)
Property Tax Files
Recorded Land Title Records
USGS 7.5 Minute Topographic Maps
Local Street Directories (Cole Directories)
Building Department Records
Zoning/Land Use Records

### 3.5.1 Aerial Photography

Aerial photographs from 1948, 1957, 1960, 1967, 1974, 1982, 1984 1995, 1999, 2006, 2009, 2013 and 2017 were reviewed in order to determine if any prior uses occupied the subject property. The aerials from 1940 to 1995 depict the subject property as being occupied by several buildings which were part of the Vail-Ballou Company printers and book manufacturers. The aerial from 1999 revealed all of the buildings had been removed except for one (1) structure located in the southeastern portion of the property. The remaining aerials generally depict the subject property as it presently exists. Refer to **Appendix E** for a copy of the aerial photographs.

### 3.5.2 Sanborn Maps

Sanborn Map coverage from 1887, 1891, 1898, 1918, 1950, 1952 and 1970 were available for the subject property and surrounding area. The map from 1887 identifies a roadway listed as Charles Street bisecting the central part of the property running from north to south. West of Charles Street the subject property is occupied by the W.S. Weed Company lumber yard and a dwelling. East of Charles Street the subject property is occupied by Kingman Sturtevant & Larrabee, a wagon and sleigh company as well as five (5) dwellings. The map from 1891 is similar to 1887 except the dwelling west of Charles Street is no longer present and has been replaced by the West Side Hotel as well as an unidentified building. East of Charles Street the property is occupied by three (3) additional residences lined along Clinton Avenue. The map from 1898 is similar to the map from 1891 except a new dwelling is depicted west of and along Charles Street. The map from 1918 also reveals that the lumber yard is no longer present and has been replaced by several buildings used by the Vail-Ballou Company printers and book manufacturers as well as a coal storage yard and Ansco Cos. Warehouse No. 17. East of

Charles Street one (1) of the residences along Clinton Street had been replaced by a store and accessory building. The maps from 1950 and 1952 depict the entire southern half of the property as now being occupied by Vail-Ballou Company with Charles Street being cut-off from the southern half of the property. In the northern half of the property, west of Charles Street the dwelling is no longer present and the hotel had been converted into two (2) apartment dwellings and an office. East of Charles Street only three (3) dwellings are depicted and a filling station is depicted in the northeastern corner of the property along Clinton Street. Finally, the map from 1970 no longer depicts the dwelling/office, filling station and dwellings in the northern half of the property. These buildings havd been replaced with parking lots on both sides of Charles Street. Copies of the Sanborn maps are provided in **Appendix H**.

### 3.5.3 USGS Quadrangle Maps

USGS Quadrangle Maps dated 1904, 1935, 1942, 1947, 1961, 1968, 1976, 2013, 2016 and 2019 that cover the area of the subject property were reviewed. The map from 1904 depicts several buildings and Charles Street on the subject property. All of the remaining maps depict the subject property within a developed area and Charles Street is only depicted up to the 1961 map. The 2013 through 2016 maps typically do not depict site specific development other than schools, religious buildings or other public use structures. Refer to **Appendix F** for a copy of the topographic maps.

### 3.5.4 Other Sources

A review of the EDR City Directory revealed that several individuals occupied the residents that were present on the property up until sometime around 1992. Vail-Ballou Press is listed as occupying the property from 1958 to 1970. Other occupants of the property include Maple-Vail Book Manufacturing Group (1992-2000), Crain Industries, Inc. (1992) and Plastic Manufacturing and Recycling Systems (2000). No other sources were utilized or available to assist with historic information regarding the subject property. A copy of the directory is included in **Appendix I**.

### 3.5.5 Data Gaps

The aerial photographs received exceeded the five (5) year interval in several consecutive photographs in the series as noted above. The data gap has been evaluated and it is noted that the subject property has historically been used for a variety of purposes which have been noted above until sometime in the late 1990 when the buildings were razed and the property became vacant.

## 3.6 SITE AND VICINITY CHARACTERISTICS

The subject property currently consists of vacant parcel and was mostly covered in snow during the site reconnaissance. As a result, complete observation of the property was limited. The only improvements observed during the site reconnaissance consist of areas covered by degraded pavement and concrete slabs in former parking and building areas as well as at least three (3) manhole covers and a retaining wall along the western property boundary which was formerly part of a loading dock. In addition, soil piles were observed in the central and southeastern portions of the property. An aerial photograph depicting the existing conditions of the subject property is provided as **Figure 3**.

## 3.7 DESCRIPTION OF SITE IMPROVEMENTS & FACILITIES

The site conditions have been summarized above in Section 3.6. No buildings, structures, facilities (other than the observed manhole covers) or other utilities were noted during the reconnaissance of the subject property.

There was no evidence of discharge, staining, areas of stressed vegetation, residue of oils or other toxic substances, pools of discharge, petroleum or chemical odors, or other such indicators noted during the site reconnaissance.

## 3.8 ADJACENT LAND USE

Current land use at the subject property and surrounding area is described based on aerial photographs and visual observations. The area immediately surrounding the subject property consists of vacant land as well as commercial, railway and residential uses. An aerial photograph depicting the surrounding property uses is provided as **Figure 3**.

*North:* Clinton Street, beyond which lies commercial and residential properties.
*South*: A railroad corridor, beyond which lies commercial and residential properties.
*East:* Hudson Street, beyond which lies commercial and residential properties.
*West*: Jarvis Street, beyond which lies a gasoline station/convenience store.

Past uses in the vicinity of the subject property are described based on review of historic aerial photographs and the field reconnaissance. The area surrounding the subject property has historically been comprised of commercial and residential uses.

## 3.9 NATURAL SETTING

### 3.9.1 Soils and Topography

The surficial geology of a site can often provide insight into the past activities on a given parcel of land. The Soil Survey of Broome County, conducted by the U.S. Department of

Agriculture in 1971 is a useful source of soils information, which identifies soil types resulting from natural deposition and modification, as well as man-induced alterations associated with land use.

The subject property is comprised of soil types: Cv - Cut and fill lands, gravelly materials. The characteristics of this soil type are identified as follows **(Warner et al., 1975)**:

> *Cut and fill lands, gravelly materials (Cv) - This land type has come from fill that mostly from areas of Chenango and Howard soils or from leveled areas of these soils. Fill from these materials generally is excellent for highways and for building sites. Areas of fill near Binghamton commonly consist of five (5) to ten (10) feet of Chenango soil material over alluvial Tioga soil material.*

The nature of the surrounding area consists of commercial, railway and residential uses. The subject property has a relatively flat topography and neither soils nor topography appear to pose a constraint to the current use of the subject property. Bedrock in the vicinity of the subject property could not be ascertained. However, a review of logs for the soil borings installed at the property revealed that soil borings were advanced to a maximum depth of twenty-four (24) feet without bedrock being encountered. The soil types overlying the subject property are illustrated in **Figure 5**. The topography of the subject property is provided in **Figure 6**.

### 3.9.2 Groundwater Resources

Groundwater in the area of the subject property is entirely derived from precipitation. Precipitation entering the soils in the form of recharge, passes through the unsaturated zone to a level below which all strata are saturated, referred to as the water table. No groundwater flow maps were available for the area of the subject property. However, a review of soil boring logs related to the subject property revealed that groundwater was encountered at depths ranging from approximately 17 to 23 feet below ground surface (bgs). The elevation of the subject property is approximately 850 feet above mean sea level (msl). As a result, the elevation of groundwater beneath the property ranges from approximately 827 to 833 feet above msl. The previous environmental studies conducted at the subject property, estimated that the direction of groundwater flow is towards the east. The nearest surface water body is the Chenango River which lies approximately 0.70 mile to the east.

### 3.9.3 Wetlands

The subject property was inspected to identify the possible presence of any wetland vegetation and/or water surfaces that would sustain wetland vegetation. The site

reconnaissance did not reveal any wetland and/or wetland species on the subject property. A review of NYSDEC Freshwater Wetland maps and National Wetland Inventory maps did not designate any wetlands on or in the immediate vicinity of the subject property. The portion of the Freshwater Wetland and the National Wetland Maps that cover the subject property and surrounding area are provided as **Figure 9** and **10**, respectively.

### 3.9.4 Coastal Barrier Improvements/Flood Plains

The subject property is not located in the vicinity of a coastal area; therefore, no coastal barrier improvements exist or are required. The subject property is located in Flood Zone X, an area of minimal flooding. The portion of the Flood Insurance Rate Map that covers the subject property is provided in **Figure 11**.

### 3.9.5 Critical Habitat/Endangered Species

The NYSDEC Environmental Resource Mapper identified the subject property as not being located within an area with rare plants or animals or sensitive communities. No rare species were observed during the reconnaissance of the subject property. This report is not a substitute for an endangered species survey.

# 4.0 USER PROVIDED INFORMATION AND INTERVIEWS

The purpose of this section as defined in Section 6 of the ASTM E1527-21 is to describe tasks to be performed by the user (the individual or entity for which this document has been prepared) that will help identify the possibility of recognized environmental conditions in connection with the subject property. This information does not require the technical expertise of an environmental professional and is generally not performed by environmental professionals who prepare Phase I ESAs. The information provided in this section is the sole responsibility of the user and has been included in this report if provided by the user.

## 4.1 TITLE RECORDS

No Title Insurance Report was provided for review as part of this Phase I ESA.

## 4.2 ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATIONS

No environmental liens appear to have been imposed on the subject property. No other activity or use limitations have been imposed on the subject property to best of our knowledge.

## 4.3 SPECIALIZED KNOWLEDGE OBTAINED FROM INTERVIEWS

The subject property is vacant and no one was available to provide specialized knowledge regarding the subject property.

## 4.4 COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION

No additional information was available or provided regarding the subject property.

## 4.5 PROPERTY VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

The subject property has been the subject of several environmental assessments/investigations since 1995. A discussion of these investigations are provided below.

A Phase I ESA and Direct Push Sampling Report was conducted by GeoLogic NY, Inc. in April 2008 which reviewed and summarized three (3) other site investigation reports including an Environmental Site Assessment conducted by Enviro Testing in 1995, a Limited Phase II ESA conducted by GeoLogic NY, Inc. in 2000 and additional site investigation work conducted by GeoLogic in 2001. A summary of the findings of each of these reports will be provided below in chronological order.

**Enviro Testing Environmental Site Assessment – February 3, 1995**

*"Site inspection indicated there was a 'partially vacant 196,000-square foot industrial building, currently used for storage of computer supplies and an auto repair business…numerous drums, containers, temporary mixing vats, etc. still exist on site and some are corroded and leaking unknown materials…Vail-Ballou listed as storing developing chemicals, diazo solutions, activators, stabilizers and fixers, most of which are used in photo processing…NYSEG indicated that the electrical transformers in the building may contain PCBs, and if so, they will be removed by NYSEG…evidence of possible Class V underground injection wells were identified inside the building and may be receiving waste (i.e. oils, gas, antifreeze) from the auto repair operation."*

**GeoLogic NY, Inc. Limited Phase II ESA – July 19, 2000**

*"As part of this assessment, three groundwater monitoring wells were installed and samples for lab analysis were collected. Three underground storage tanks (UST's) were removed and soil samples were collected.*

*Chloroform was reported in water from MW-2 (5.3 ug/L). The direction of groundwater flow, based on the May, 2000 data, was to the east.*

*The UST's removed included a 275-gallon fuel oil tank, a 1,000-gallon Naphtha tank, and a 1.000-gallon gasoline tank. The tanks had been located near the northwest portion of the site – adjacent to Jarvis Street. Soil samples from the tank excavation indicated that four volatile organic compounds were reported at concentrations below NYSDEC regulatory limits.*

*NYSDEC Spill No. 0065057 associated with the removal of the UST's was assigned closed status in August 2000."*

**GeoLogic NY, Inc. Additional Site Investigation Letter Report May 25, 2001**

*"Additional work was completed based on the discovery of petroleum product in a manhole located on the southeast corner of the property. A copy of the May 2001 site plan showing the area addressed by this work is contained in Appendix B.*

*Five borings were drilled (one near the former gasoline station, one along the southern property line, one in the central portion of the property and two at the southeast corner of the property.*

*Six test pits were excavated in the southeast corner of the property.*

*Samples were submitted for lab analysis.*

*Acetone at a concentration of 64 ug/l was reported in a water sample from boring B-3. Chloroform at a concentration of 11 ug/L was reported in a water sample from well MW-2.*

*Soil with petroleum odor and PID readings of 12-150 ppm was encountered in test pit TP-3 Manhole Test Pit. This test pit was located near the southeast corner of the property. Buried piping was encountered in the test pits along the eastern site (sic) of the property. The pipes were 'cut off' and sealed with hydraulic cement at the point that the (sic) entered the subject property. A fuel oil/tar-like substance was observed in the pipes. The piping that extended onto the subject property was excavated and removed from the property. Soil samples from the southeastern portion of the property had concentrations of petroleum compounds at levels exceeding the NYSDEC guidance values. (NOTE – This contaminated soil is likely still located on the subject property.)*

*(NOTE – This piping was likely connected to the four underground storage tanks that had been located on the EAST side of Hudson Street. These former tanks were reported to be buried railroad cars with a capacity of 10,300 gallons. These tanks provided fuel to the Vail-Ballou boiler room that had been located near the southeastern portion of the property.)"*

**GeoLogic NY, Inc. Phase I ESA and Direct Push Sampling Report – April, 2008**

The findings of the Phase I ESA offered the following opinions and conclusions:

- *The subject property has been used for industrial purposes since at least 1887. Based on this as well as the findings of their 2000, 2001 and 2008 assessments it was concluded that this represents a historic recognized environmental condition.*

- *A gasoline station was formerly located on the northern portion of the property. No records were obtained relating to the removal of underground storage tanks or the presence of a drywell. As a result, it was concluded that this represents a recognized environmental condition even though petroleum contamination was not detected during their 2000, 2001 and 2008 assessments.*

- *At the time of the 2008 Phase I ESA nearby properties were used as gasoline stations and for industrial purposes. Based on this and their prior 2000, 2001 and 2008 assessments it was concluded that this represents a historic recognized environmental condition.*

- *In 1995 the last remaining building at the property was occupied by an automobile repair business and plastic recycling business. Observations at that time revealed the presence of a basement that contained drums, containers, temporary mixing vats, etc. A floor drain that reportedly was not connected to the municipal sewer system was also noted to be present. Following the destruction of the building in a fire in 1995 the status of the drums, containers, vats and floor drain were unknown. Based on these observations it was concluded that this represented a recognized environmental*

*condition. However, it was also noted that sampling conducted downgradient of this area did not detect the presence of any volatile organic compounds in groundwater.*

- *During the 2001 assessment petroleum products were observed in a manhole on the southeast corner of the property. Investigation of this area indicated that petroleum impacted soil was present and that a volatile organic compound and semi-volatile organic compounds were detected in groundwater samples collected from this area of the property but at concentrations below NYSDEC groundwater standards. It was concluded that petroleum contamination in this area represents a recognized environmental condition. It was also recommended that if this area is excavated in the future petroleum contaminated soils may be present and should be addressed according the NYSDEC regulations.*

- *In an effort to evaluate the potential impact to soil and groundwater quality at the property samples were obtained from direct push sampling points and two (2) of the existing monitoring wells (MW-1 and MW-2). Well MW-3 could not be located. Three (3) direct push sampling points were installed downgradient of the property boundary to evaluate groundwater conditions. Three (3) direct push points were installed to provide special coverage to the property. Two (2) direct push points were located in the vicinity of the former gasoline station. One (1) direct push point was installed in the vicinity of the underground tanks removed in 2000 and one (1) direct push point was installed in the area of the former petroleum product pipelines in the northeastern corner of the property.*

  *Results of the groundwater sampling conducted at the property detected the presence of chloroform, tetrachloroethene, acetone, fluoranthene, phenanthrene and pyrene but at concentrations below their respective NYSDEC groundwater standards. No soils samples appear to have been submitted for laboratory analysis.*

Based on the inspection of the property and review of available documentation, no reduction in the price of the land appears to be warranted due to the presence of past or existing hazardous or toxic materials, provided the recommendations in Section 6.0 are addressed.

### 4.6 OWNER, PROPERTY MANAGER AND OCCUPANT INFORMATION

The Broome County Tax Assessor records indicated that the owner of the subject property is the FRGK Realty, LLC.

### 4.7 REASON FOR PERFORMING PHASE I ESA

This Phase I ESA has been completed as part of the due diligence required for the subject property.

# 5.0 ENVIRONMENTAL RECORDS AND AGENCY DATA REVIEW

With the understanding of the facilities at the subject property, it is important to establish the environmental and regulatory conditions of the subject property and surrounding area, as related to public health and environmental issues. This section of the report includes a review of agency records, soils and groundwater resources and historical data review. The site inspection and the environmental and regulatory conditions form the basis for conclusions regarding the risks and liabilities associated with this site.

## 5.1 STANDARD ENVIRONMENTAL RECORD SOURCES

A search of Federal, State and Local databases was performed in order to provide a profile of the site and surrounding area with regard to published government agency records. The procedures employed adhere as closely as possible to ASTM standards.

Contact was made with the USEPA, the NYSDEC, SCDHS, and local government regarding environmental and/or public health concerns associated with the subject property.

### 5.1.1 United States Environmental Protection Agency

The USEPA records were reviewed in order to obtain information regarding the National Priorities List (NPL), and sites documented on the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS). The NPL defines all known hazardous material waste sites, which are described by the Federal Government as needing immediate cleanup action. All hazardous material waste sites considered for addition to the NPL are listed in the CERCLIS list.

A review of the NPL Site List (search distance 1.0 mile), and the CERCLIS) lists (search distance 0.5 miles) finds the following with respect to the subject property and surrounding area:

1. Subject property did not appear on the NPL, Delisted NPL or CERCLIS lists.
2. There were no sites appearing on the NPL list located within (1.0) mile of the subject property.
3. There were no sites appearing on the Delisted NPL list located within one half (0.5) mile of the subject property.
4. There were no sites appearing on the CERCLIS list located within one-eighth (0.125) mile of the subject property. Information regarding the one (1) site within one-half (0.5) mile of the subject property is provided in **Appendix C**.
5. There were no sites appearing on the CERCLIS NFRAP list located within one-eighth (0.125) mile of the subject property. Information regarding the one (1) site within one-half (0.5) mile of the subject property is provided in **Appendix C**.

The USEPA was also contacted in order to obtain information concerning RCRA TSD facilities (treatment, storage, and disposal of hazardous wastes, as defined and regulated by the Resource Conservation and Recovery Act, RCRA), and RCRA Generators (of hazardous wastes as defined and regulated by RCRA). RCRA TSD facilities are sites that treat, store or dispose of wastes that can be toxic, flammable, corrosive, explosive or otherwise hazardous; and RCRA Generators are sites that generate or transport wastes of the above noted characteristics. The search also included review of the Emergency Response Notifications System (ERNS) list, which is a list of reported releases or spills in quantities greater than reportable quantities, Federal Permit Compliance System Toxic Wastewater Discharges (PCSTWD) which permits toxic wastewater discharges and Federal Civil Enforcement Docket (CED) which lists judiciary cases filed on behalf of the EPA by the Department of Justice.

A review of the RCRA TSD Facilities List (search distance 1.0 mile), the PCSTWD and CED facilities (search distance 0.25 mile), the RCRA Generator List (search distance, subject property and adjoining properties), and the ERNS List (search distance, subject property only) finds the following with respect to the subject property and surrounding area:

1. The subject property did not appear on the RCRA TSD Facilities List, or the ERNS List.
2. The subject property was listed as a RCRA Generator.
    a. Vail-Ballou Press (Facility ID# NYD057770679). The generator type for this facility was not provided but is listed as having produced a solid waste that exhibits the characteristic of ignitability (165 gallons, 1998), a solid waste that exhibits the characteristic of corrosivity (85 gallons, 1997) and spent halogenated solvents used in degreasing (770 gallons, 1988).
3. The subject property was not listed as a Civil Enforcement Docket Facility.
4. The subject property was not listed for Permit Compliance System Toxic Wastewater Discharges.
5. The subject property was not identified on the ERNS list.
6. There were no sites listed as RCRA TSD facilities identified within one-eighth (0.125) mile of the subject property. Information regarding the one (1) site located one-half (0.5) mile of the subject property is provided in **Appendix C**.
7. There were three (3) RCRA Generators (not including the subject property) listed within one-eighth (0.125) mile of the subject property. Information regarding the seven (7) additional facilities located within one-half (0.5) mile of the subject property can be found in **Appendix C**.
    a. Anitec-Kodak Polychrome Graphics (Facility ID# NY0000059782), located 529 feet to the northwest at 215-255 Clinton Street. This facility has historically been listed as a small quantity and conditionally exempt small quantity generator that produced mercury (17 gallons and 190 pounds, 1998), other PCB wastes including contaminated soil, sludges, clothing, etc. (7,330 kilograms, 1997), petroleum oil or other liquid containing between 50 ppm and 500 ppm PCBs (323 kilograms, 1995) and solid waste that exhibits the characteristic of ignitability (1,025 pounds, 1994).

b. Upstate Office Liquidators, Inc. (Facility ID# NYR0000020206), located 579 feet to the north-northwest at 40 Jarvis Street. This facility has historically been listed as a conditionally exempt small quantity generator that produced spent non-halogenated solvents (880 gallons, 1998).
c. Binghamton CO Generation, LP (Facility ID# NYD987005675), located 645 feet to the north-northeast at 22 Charles Street. This facility has historically been listed as a large quantity generator that produced a solid waste that exhibits the characteristic of corrosivity (79 pounds, 2018 and 870 gallons, 1992), a mixed waste containing lead and benzene (200 pounds, 2015), a solid waste that exhibits the characteristic of ignitability (1,000 pounds, 2008 and 29 gallons, 1994), mercury (40 pounds, 1999), benzene (420 gallons, 1995) and spent non-halogenated solvents (300 gallons, 1994). No facility hazardous waste activity reported by New York State up to June 10, 2019.

8. There were no CED facilities located within one-eighth (0.125) mile of the subject property. Information regarding the one (1) site located within one-quarter (0.25) mile of the subject property is provided in **Appendix C**.
9. There was one (1) PCSTWD facilities located within one-eighth (0.125) mile of the subject property. Information regarding the one (1) site located within one-quarter (0.25) mile of the subject property is provided in **Appendix C**.
   a. Binghamton Cogen Plant (Facility ID# NY0232840), located 628 feet to the north-northeast at 22 Charles Street. This facility is listed as an active industrial electrical services provider which is a minor discharger.

The RCRA Generator program is intended to track the origin and destination of hazardous waste, and there is no indication that listing on this inventory constitutes an environmental threat. In addition, the Federal Facilities Index that includes resources conservation and Recovery Corrective Action Sites (CORRACTS) was reviewed. No CORRACTS sites were identified within one (1.0) mile of the subject property is provided in **Appendix C**.

### 5.1.2 New York State Department of Environmental Conservation

The NYSDEC is charged with the responsibility of registering inactive hazardous waste disposal sites and administering the investigation and cleanup of such sites. The NYSDEC inventory is contained in the publication, Inactive Hazardous Waste Disposal Sites in New York State. The inventory provides the location, extent of contamination and remediation status of each listed site in New York State. Accordingly, the registry of the NYSDEC was consulted for information on Inactive Hazardous Waste Disposal Sites (IHWDS). The NYSDEC provides information regarding Hazardous Substance Waste Disposal Sites (HSWDS) that are sites contaminated with toxic substances but are not eligible for state cleanup funding programs. The NYSDEC provides information regarding Brownfield cleanup site - these are sites that are abandoned, idled or under-used industrial and/or commercial sites where expansion or redevelopment is

complicated by real or perceived environmental contamination. Similarly, the NYSDEC is responsible for permitting Solid Waste Facilities (SWF) - these are facilities including landfills, incinerators, transfer stations and other solid waste management sites. The NYSDEC also registers Petroleum Bulk Storage (PBS) where the total storage capacity at the facility exceeds 1,100 gallons, Chemical Bulk Storage (CBS), Major Oil Storage Facilities (MOSF) and Toxic Release Inventory Sites (TRI). Finally, the NYSDEC regulates and monitors Air Discharges and NYS Toxic Spills which include Leaking Underground Storage Tanks (LUSTs).

A review of the IHWDS, Brownfield Sites and HSWDS Lists (search distance 1.0 mile), SWF, CBS and MOSF lists, and LUST Lists (search distance 0.5 miles), TRI and Air Discharge sites (search distance 0.25 miles) and the PBS List (search distance, subject property and adjoining properties) finds the following with respect to the subject property and surrounding area:

1. The subject property was not listed as an IHWDS Brownfields or HSWDS site.
2. The subject property was not listed on the SWF, CBS or MOSF Lists.
3. The subject property was listed as a PBS facility.
    a. Vail-Ballou Press - Clinton Street (Facility ID# 7-182230). This facility is listed as having formerly utilized four (4), 10,300-gallon underground tanks that were closed in place on September 1, 2004. It should be noted that based on a review of the Phase I ESA prepared by GeoLogic in 2008, these tanks may have been located on a separate property owned by Vail-Ballou Press located to the north-northeast of the subject property.
4. The subject property was not listed on the NYS Toxic Spill site list.
5. The subject property was not listed as a TRI Site.
6. The subject property was not listed on the NYS Air Discharge list.
7. The subject property was listed as having two (2) LUST incidents.
    a. Former Vail-Ballou Press (Spill# 0065067). This incident was reported on July 6, 2000 during the removal of #2 fuel oil underground storage tanks from the property. Low level petroleum contamination found in the soil at levels below STARS guidance values. The file for this incident was closed on August 16, 2000.
    b. Vail-Ballou Press (Spill# 8906060). This spill was reported on September 19, 1989 following the failure of a 10,300-gallon underground tank used for the storage of #4 fuel oil. This tank was retested on November 20, 1989 and passed. The file for this incident was closed on November 30, 1989. It should be noted that based on a review of the Phase I ESA prepared by GeoLogic in 2008 this incident may have been located on a separate property owned by Vail-Ballou Press located to the north-northeast of the subject property.
8. There was one (1) IHWDS listing located within one-eighth (0.125) mile of the subject property. No other IHWDS were identified within one (1.0) mile of the subject property.

a. Anitec Image Corporation (Facility ID# 704022), located 602 feet to the northwest at 40 Charles Street. The Anitec Image Corporation manufactures photographic film, specialty photo paper, film coatings and photographic chemicals. Manufacturing has occurred at this location since the early 1900s. This site has a history of past releases of photographic chemicals to both soils and groundwater. A Remedial Investigation/ Feasibility Study (RI/FS) was completed, and it identified six (6) operable units (OUs) on the property. They include the following: 1) Operable Unit 1 (OU 1) Building No. 8 Powerhouse: soil contamination by PCBs; this area has been remediated. 2) Operable Unit 2 (OU 2) 51 Mygatt Street: soil contamination by inorganics; remediation has been completed. 3) Operable Unit 3 (OU 3) Building 95 and 96: cadmium and silver contamination in site soils; remediation has been completed. 4) Operable Unit 4 (OU 4) Building 32 and the EHPK lot: soil contamination by volatile and semi-volatile organic contaminants (VOCs & SVOCs); no further action is needed here. 5) Operable Unit 5 (OU 5) addresses all groundwater contamination at the site, and remediation activities are complete. 6) Operable Unit 6 (OU 6) silver and cadmium contamination is present in the Chenango River. Remedial activities were all completed in late 1997. The Record of Decision (ROD) for OU 2 was signed in March 1995. The RODs for OUs 1, 3, 4 and 5 were signed in March of 1996. The ROD for OU 6 was signed on March of 1997. All remedial activities have been completed in accordance with the ROD, and the site is no longer a threat to health or environment. Accordingly, the site has been delisted from the Registry of Inactive Hazardous Waste Disposal Sites.

9. There were no HSWDS facilities located within one-half (0.5) mile of the subject property.
10. There were no Brownfields Sites located within one-eighth (0.125) mile of the subject property. Information regarding the two (2) sites located within one-half (0.5) mile of the subject property is provided in **Appendix C**.
11. There were no SWF listings identified within one-half (0.5) mile of the subject property.
12. There was one (1) PBS facility (not including the subject property) located within one-eighth (0.125) mile of the subject property. Information regarding the remaining five (5) facilities located within one-quarter (0.25) mile of the subject property can be found in **Appendix C.**
    a. Mirabito #84 (Facility ID# 7-600964), located 551 feet to the northwest on 215 Clinton Street. This facility is listed as utilizing one (1), 12,000 gallon and two (2) 4,000 gallon underground tanks used for the storage of gasoline and diesel fuel.
13. There were two (2) CBS sites located within one-eighth (0.125) mile of the subject property. No other CBS sites were identified within one-half mile of the subject property.
    a. Canal Emirates Power International (Facility ID# 7-000229), located 621 feet to the north-northeast at 22 Charles Street. This facility is listed as formerly utilizing forty-four (44) underground and fourteen (14) above ground tanks

ranging in capacity from 275 to 16,700 gallons for the storage of thiosulfuric acid, formaldehyde, methylene chloride, 2-propanone, methanol, sodium hydroxide, hydrochloric acid, 1-butanol, dimethyl phthalate, sulfuric acid and ethylene glycol. All of these tanks were either converted, removed or closed in place between 1991 and 2000. Currently, this facility is listed as utilizing nine (9) above ground tanks ranging in capacity from 400 to 15,000 gallons for the storage of potassium hydroxide, acetic acid, sodium hydroxide, sulfuric acid, ethylene glycol, cyclohexane and hydroquinone.

b. IPP Energy, LLC (Facility ID# 7-000243), located 621 feet to the north-northeast at 22 Charles Street. This facility is listed as utilizing two (2), 1,025 above ground tanks for the storage of sodium bisulfate and sodium hydroxide.

14. There was one (1) State Registered MOSF located within one-eighth (0.125) mile of the subject property. No other MOSF's were identified within one-half (0.5) mile of the subject property.
    a. Binghamton Co-Generation Plant (Facility ID# 7-2240), located 649 feet to the north-northeast at 22 Charles Street. This facility is listed as utilizing one (1), 570,000 gallon above ground tank for the storage of #1, #2 or #4 fuel oil.
15. There were no TRI sites located within one-eighth (0.125) mile of the subject property. Information regarding the two (2) TRI sites were located within one-half (0.5) mile of the subject property is provided in **Appendix C**.
16. There were no Air Dischargers located within one-eighth (0.125) mile of the subject property. Information regarding the three (3) Air Dischargers located within one-quarter (0.25) mile of the subject property is provided in **Appendix C**.
17. There was no active and seven (7) closed LUST incidents (not including the subject property) identified within one half (0.5) mile of the subject property. All of the closed LUST incidents were relatively minor, investigated and addressed to the satisfaction of the NYSDEC. Only one (1) of the incidents was upgradient and was reported to have not impacted groundwater. None of these incidents are expected to adversely impact the subject property. Information regarding these LUST incidents is contained in **Appendix C**.

The NYSDEC also responds to incidents involving hazardous waste spills. The Department maintains a logbook and files on all reported and actual incidents at the NYSDEC offices at Stony Brook. This file was reviewed in conjunction with the subject property. A review of the file revealed that one (1) active and 125 closed spill incidents were identified within one-half (0.5) mile of the subject property. Only nine (9) closed incidents were located upgradient of the subject property. All of these incidents were relatively minor and none were reported to have impacted groundwater. All were addressed to the satisfaction of the NYSDEC. All of the remaining closed incidents and active incident were either cross or down gradient of the subject property. None of the active or closed spill incidents are expected to adversely affect the subject property. Information regarding all of the reported incidents is contained in **Appendix C**.

### 5.1.3 Broome County Department of Health

The Broome County Health Department performs many important functions in environmental resource protection. Broome County Health Department records were received but there were no pertinent records in regard to the environmental quality of the property.

### 5.1.4 Local Agencies

Freedom of Information requests were submitted to the City of Binghamton. Records received from the City of Binghamton Fire Department confirmed information detailed in other sections of this report. No further records were provided prior to the completion of this report. Any pertinent records received will be provided as an addendum to this report. The Planning and Zoning Department indicated that the subject property is zoned Light & Medium Industrial. The zoning of the subject property and surrounding area is provided in **Figure 4**. The Broome County Tax Assessors records identified the subject property is owned by FRGK Realty, LLC. Refer to **Appendix G** for information all of the data received from FOIL requests.

# 6.0 DEVIATIONS & ADDITIONAL SERVICES

## 6.1 Deviations

This report was completed in accordance with the standards set forth in the ASTM E 1527-21 and the USEPA AAI. No deviations from these standards were undertaken during the completion of this report.

## 6.2 Additional Services

A Tier 1 Vapor Encroachment Condition (VEC) Assessment was conducted as part of this Phase I ESA, due to the proximity of several spill incidents. The assessment was conducted in accordance with the methods and procedures, outlined within ASTM E2600-15, Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions.

For this assessment, under conditions where the direction of groundwater flow can be ascertained, critical search distances are used to determine if a VEC exists. Specifically, the following distances are applied to the Tier I Assessment:

Upgradient Sources
1,760 feet for Chemical of Concern (COC)
520 feet for petroleum hydrocarbons

Cross-gradient Sources
365 feet for COC
165 feet for petroleum hydrocarbon LNAPL sources & 95 feet dissolved petroleum hydrocarbon sources with plume considerations

Down-gradient Sources
100 feet for COC/petroleum hydrocarbon LNAPL sources
30 feet dissolved petroleum hydrocarbon sources

A review of the regulatory agency database report provided for the subject property identified the subject property as being the subject of former LUST incidents and as a PBS facility. A review of the regulatory and use history of the property indicates that storage tanks may still be present and that the property was formerly used for industrial purposes. In addition, past investigations have revealed that soils and groundwater have been impacted with volatile organic compounds. Based on the information reviewed, it is concluded that a VEC cannot be ruled out.

No other additional services were included in this report.

## 7.0 FINDINGS

NPV has performed a Phase I ESA for 187 Clinton Street in Binghamton, New York. This environmental inspection report has been conducted in order to provide the prospective purchaser and/or lending institutions with accurate and complete information regarding the subject property, surrounding area, historic uses, agency records and regulations, and additional environmental considerations. Based upon this report, the limitations of this report and the methodology employed, the following statement is provided:

NPV has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-21 and USEPA AAI for 187 Clinton Street Binghamton, New York. Any exceptions to, or deletions from, this practice are described in Section 6.0 of this report.

This assessment has identified the following with respect to recognized environmental conditions, controlled recognized environmental conditions, historic recognized environmental conditions and de minimus conditions in connection with the subject property, subject to the methodology and limitations of this report.

Five (5) recognized environmental conditions were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

1. Past environmental sampling conducted at the subject property in 2000, 2001 and 2008 detected compounds in soil and groundwater that exceeded their respective regulatory standards.

2. The former industrial and commercial uses that occupied the subject property utilized underground storage tanks for chemical and petroleum products, the status of tanks is unknown.

3. Due to the historical site use and documented impacts to subsurface media, a vapor encroachment condition cannot be ruled out.

4. Numerous soil piles of unknown origin were observed in the central and southeastern portions of the subject property.

5. At least three (3) manhole covers which may overlie Underground Injection Control (UIC) wells were observed on the subject property.

No controlled recognized environmental conditions were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

No de minimus conditions was noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

Three (3) historic recognized environmental conditions were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

1. The subject property was listed as a RCRA Generator.

2. The subject property was listed as being the site of two (2) LUST incidents.

3. The subject property was listed as a PBS facility.

## 8.0 OPINIONS

It is the opinion of the environmental professional who completed this report that this assessment has revealed evidence of five (5) recognized environmental conditions and three (3) historic environmental conditions in connection with the subject property, subject to the methodology and limitations of this report. As a result, the following recommendations are offered:

1. Due to the history of the subject property and documented impacts to environmental media, further investigation of the property to supplement previous investigations should be conducted to fully assess the environmental condition of the subject property. This investigation should include the sampling of soil, groundwater and soil vapor in addition to a ground penetrating radar survey to locate any subsurface facilities or buried containment vessels that may remain from the prior property use.

## 9.0 CONCLUSIONS

This assessment was performed at the Client's request using the methods and procedures consistent with good commercial or customary practice designed to conform with acceptable industry standards.

This report is expressly and exclusively for the sole use and benefit of the Client identified on the first page of this report and is not for the use or benefit of, nor may it be relied upon by, any other person or entity without the advance written consent of NPV.

The independent conclusions represent NPV's best professional judgment based on information and data available to the consultant during the course of this assignment. NPV's evaluations, analyses and opinions are not representations regarding either the design integrity, structural soundness or actual value of the property. Factual information including operations, site conditions and available test data provided by the Client or their representative have been assumed to be correct and complete. The conclusions presented are based on the data provided, observations and conditions that existed on the date of the assessment.

## 10.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

***We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312, and***

***We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the "All Appropriate Inquiries" in conformance with the standards and practices set forth in 40 CFR Part 312.***

3/15/22
*Date*

*Steven J. McGinn, CEI*
*Partner/Division Manager*

3/15/22
*Date*

*Eric C. Arnesen, PG*
*Project Manager/Hydrogeologist*

## 11.0 REFERENCES

American Society for Testing and Materials (ASTM), 2021, Standard Practice for Environmental Site Assessments, as published in ASTM E 1527-21, Washington, D.C.

United States Environmental Protection Agency (USEPA), 2013, Federal Register Volume 70, No 210, 40 CFR Part 312 Standards and Practices for All Appropriate Inquiries: Final Rule, Washington D.C.

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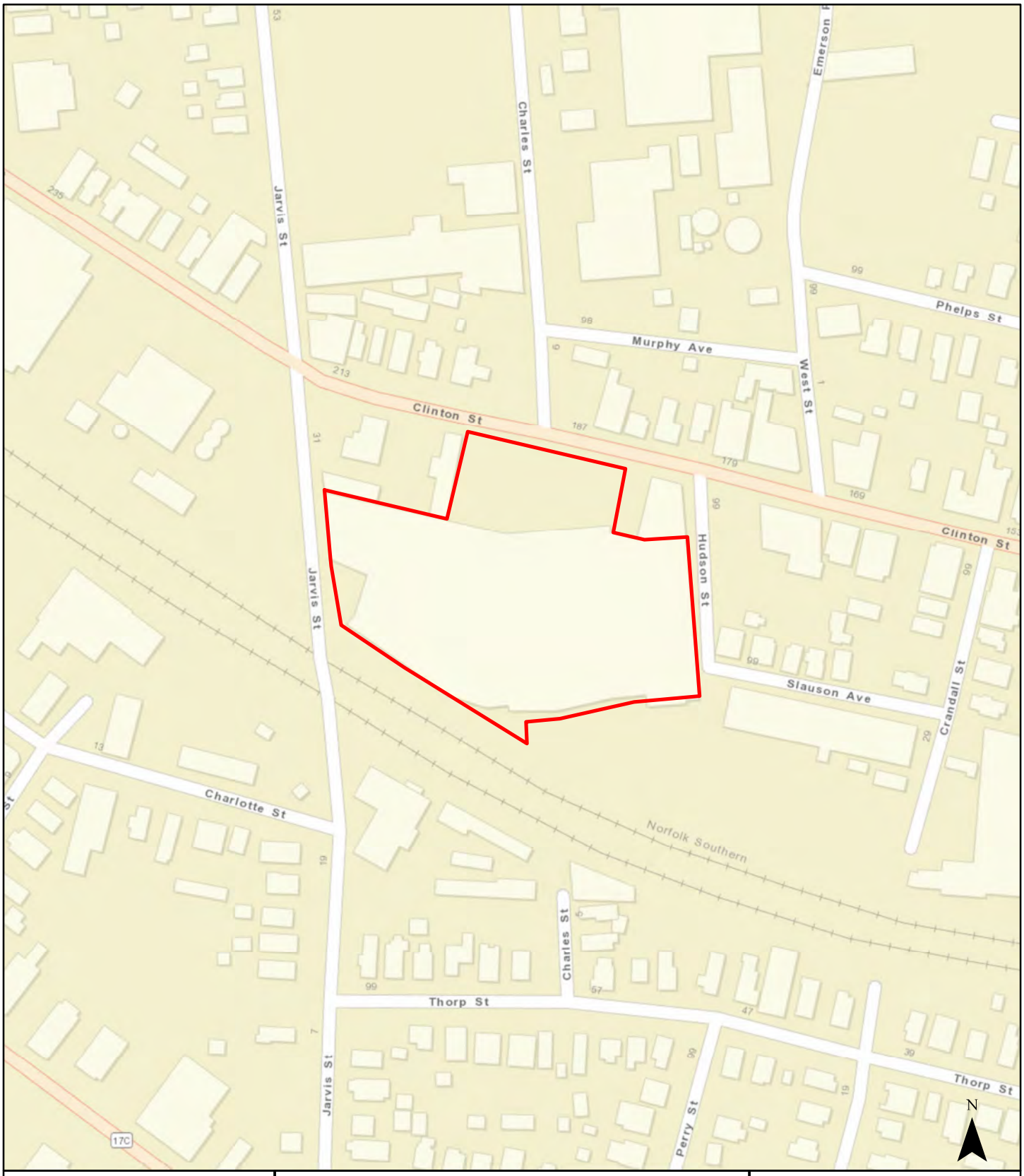
Sax, N. Irving, and Richard J. Lewis, Sr., 1987, Hazardous Chemicals Desk Reference, Van Nostrand Reinhold, New York, New York.

Skoog, Robert F., and Robert Twombly, 1985, The Asbestos Abatement Workers Handbook, SourceFinders Information Corporation, Mount Laurel, New Jersey.

Olsson et al., 1981, Soil Survey of Orange County, New York, Washington, D.C.: U.S. Department of Agriculture, Soil Conservation Service, in cooperation with Cornell Agriculture Experiment Station, U.S. Government Printing Office.

# FIGURES




NPV

# FIGURE 1
# LOCATION MAP

Source: ESRI WMS; Broome County
Scale: 1 inch = 200 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**

NPV

# FIGURE 2
# AERIAL PHOTO MAP

Source: NYS Orthophotography, 2018
Scale: 1 inch = 100 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**

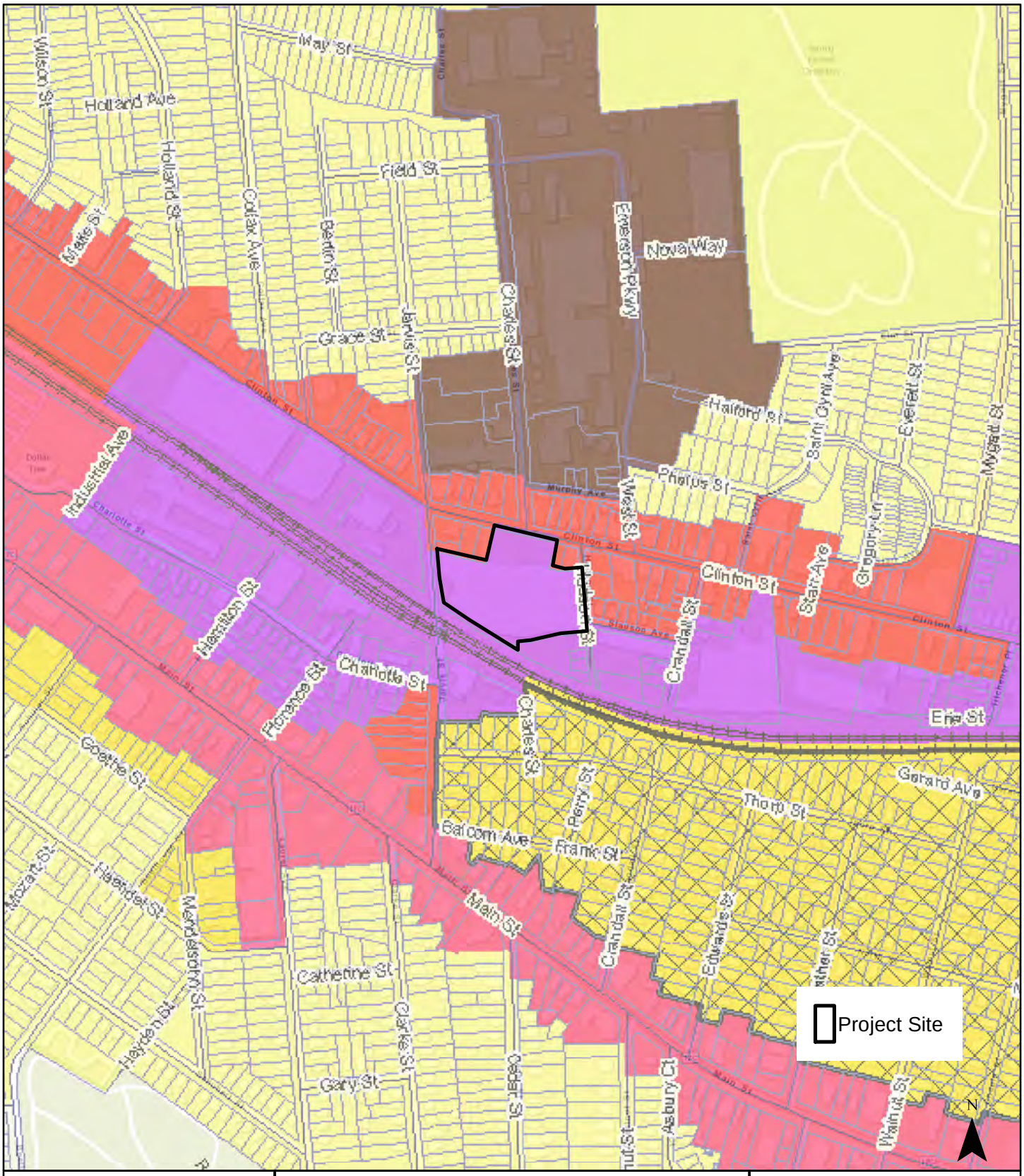
NPV

# FIGURE 3
# LAND USE MAP

Source: NYS Orthophotography, 2018
Scale: 1 inch = 300 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**




NPV

# FIGURE 4
# ZONING MAP

Source: ESRI WMS; Binghamton Zoning Map, 2006
Scale: 1 inch = 500 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**

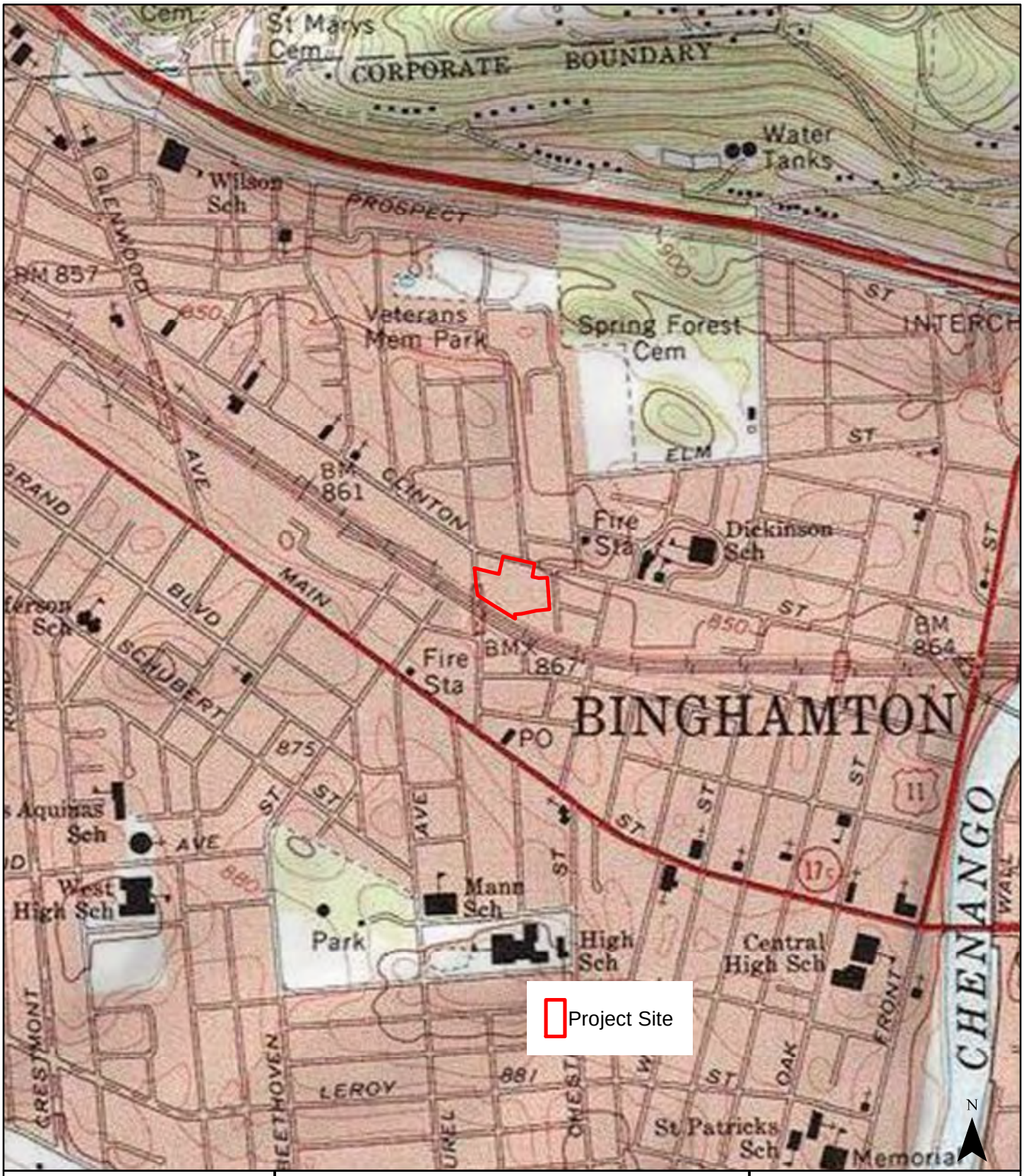
NPV

# FIGURE 5
# SOIL MAP

Source: ESRI WMS; NRCS
Scale: 1 inch = 200 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**



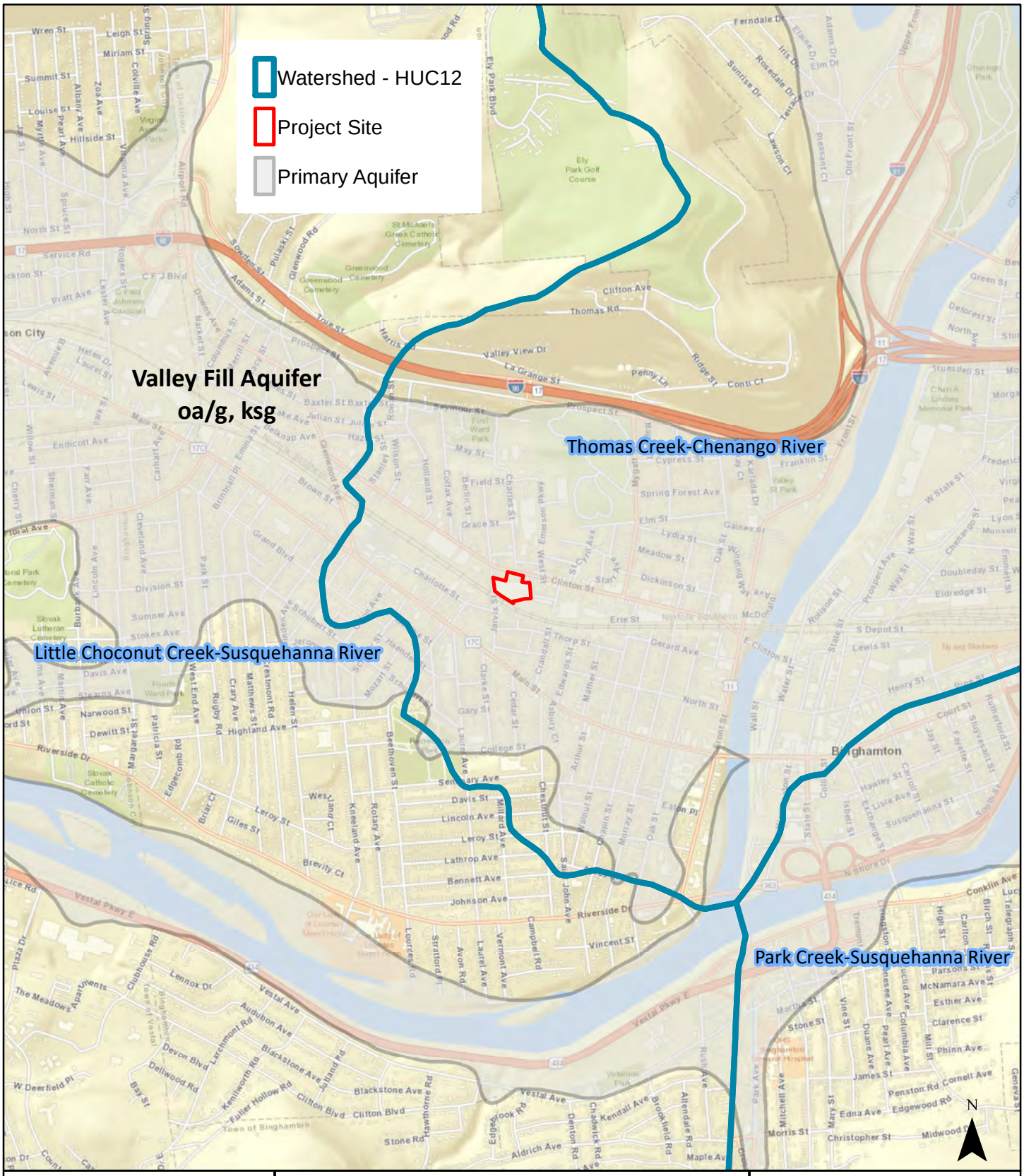

NPV

# FIGURE 6
# TOPOGRAPHY MAP

Source: USGS WMS
Scale: 1 inch = 1,000 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**



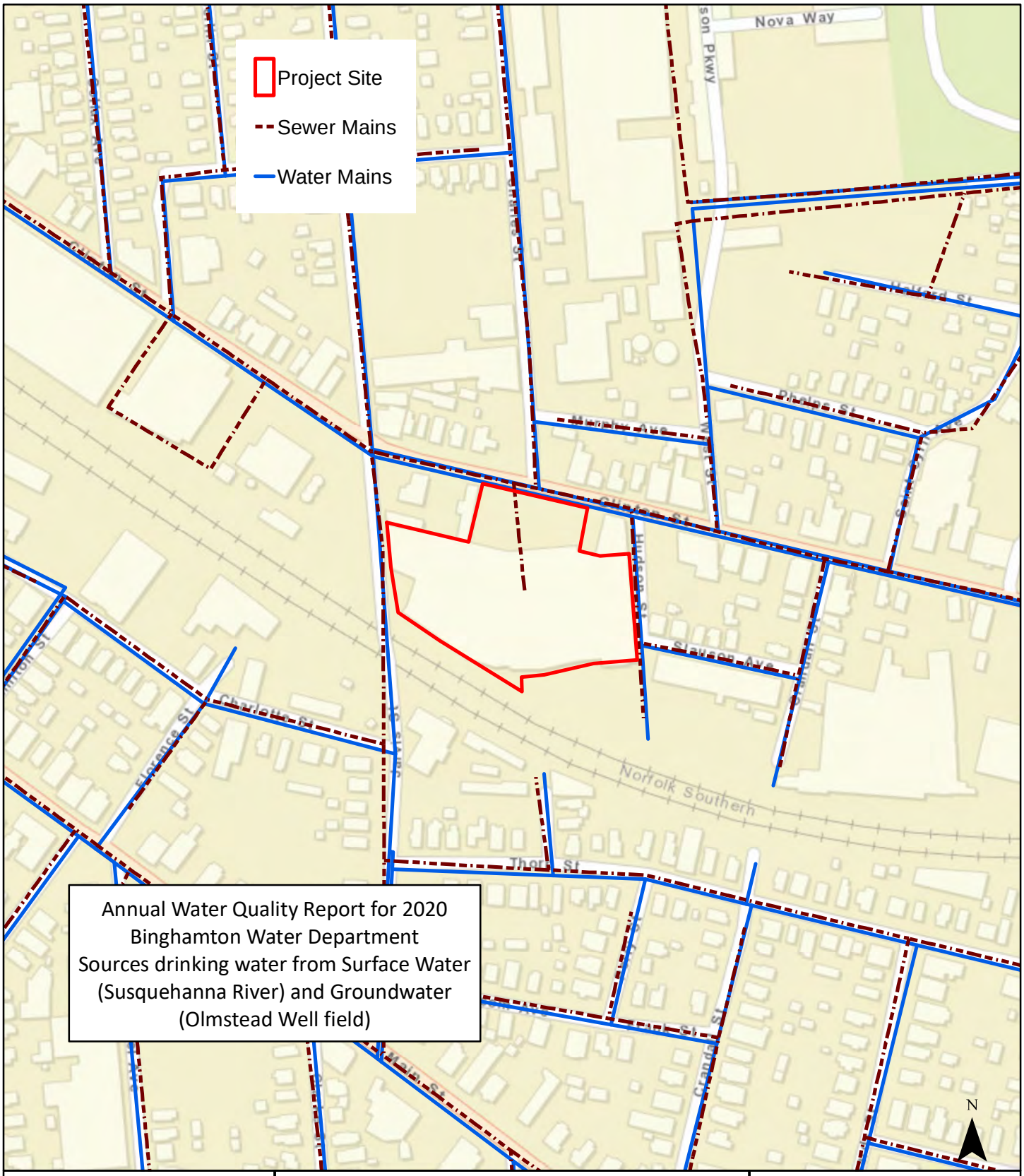

NPV

# FIGURE 7
# WATERSHED MAP

Source: ESRI WMS; USGS OFR 82-268
Scale: 1 inch = 2,000 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**



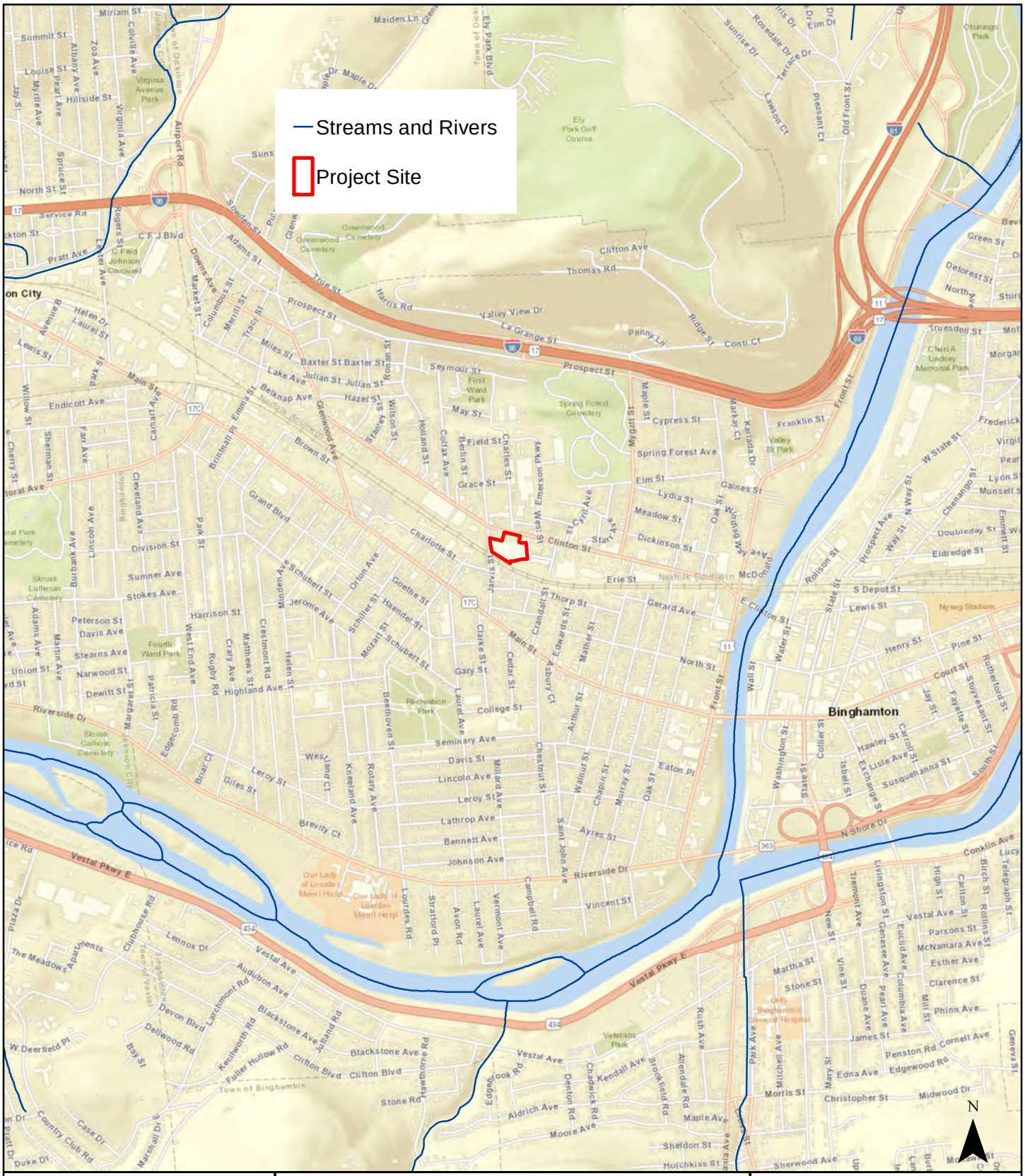

NPV

# FIGURE 8
# WATER SUPPLY MAP

Source: ESRI WMS; USGS OFR 82-268
Scale: 1 inch = 300 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**



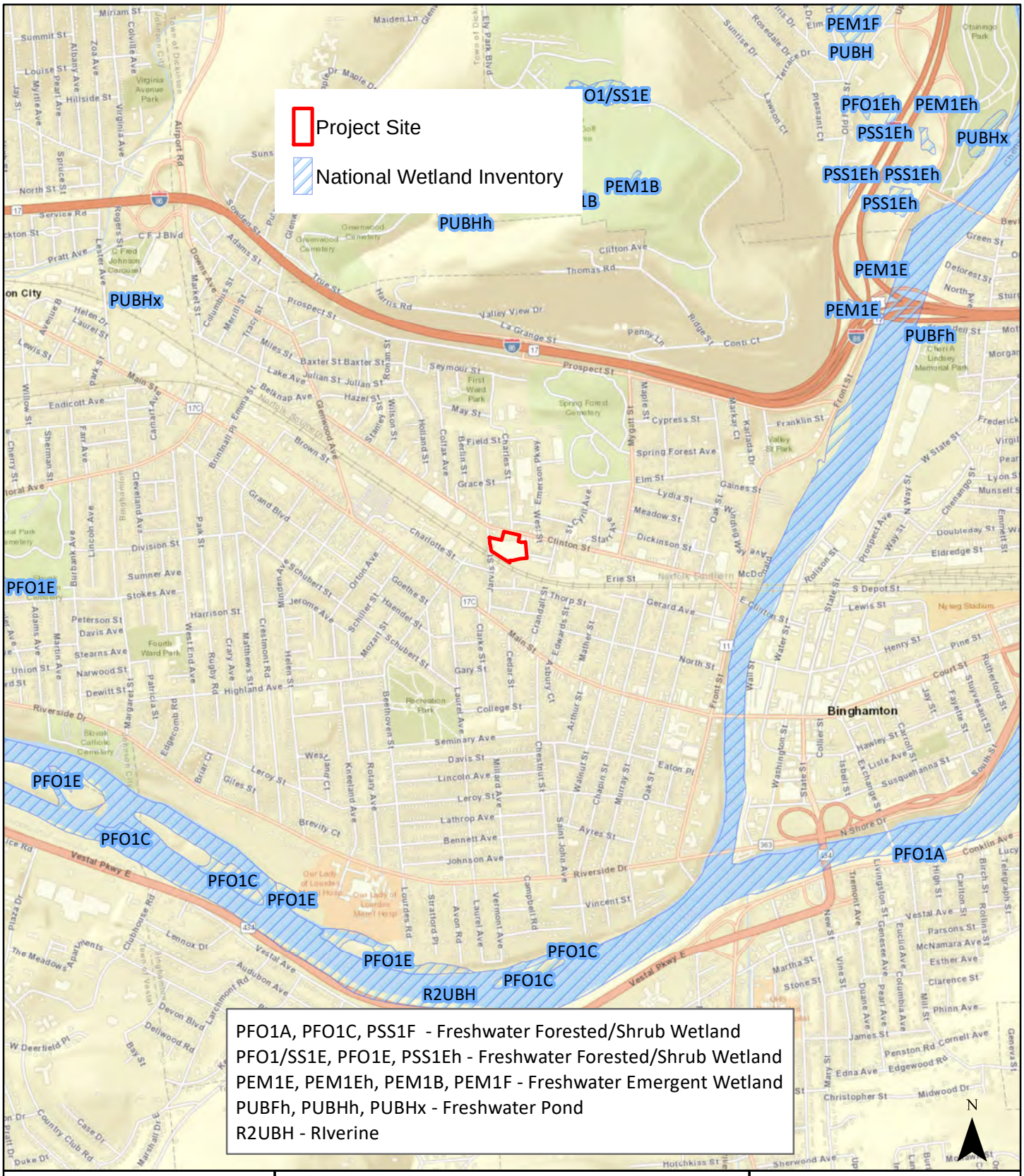

NPV

# FIGURE 9
# NYSDEC WETLANDS MAP

Source: ESRI WMS; NYSDEC, opdgig.dos.ny.gov
Scale: 1 inch = 2,000 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**



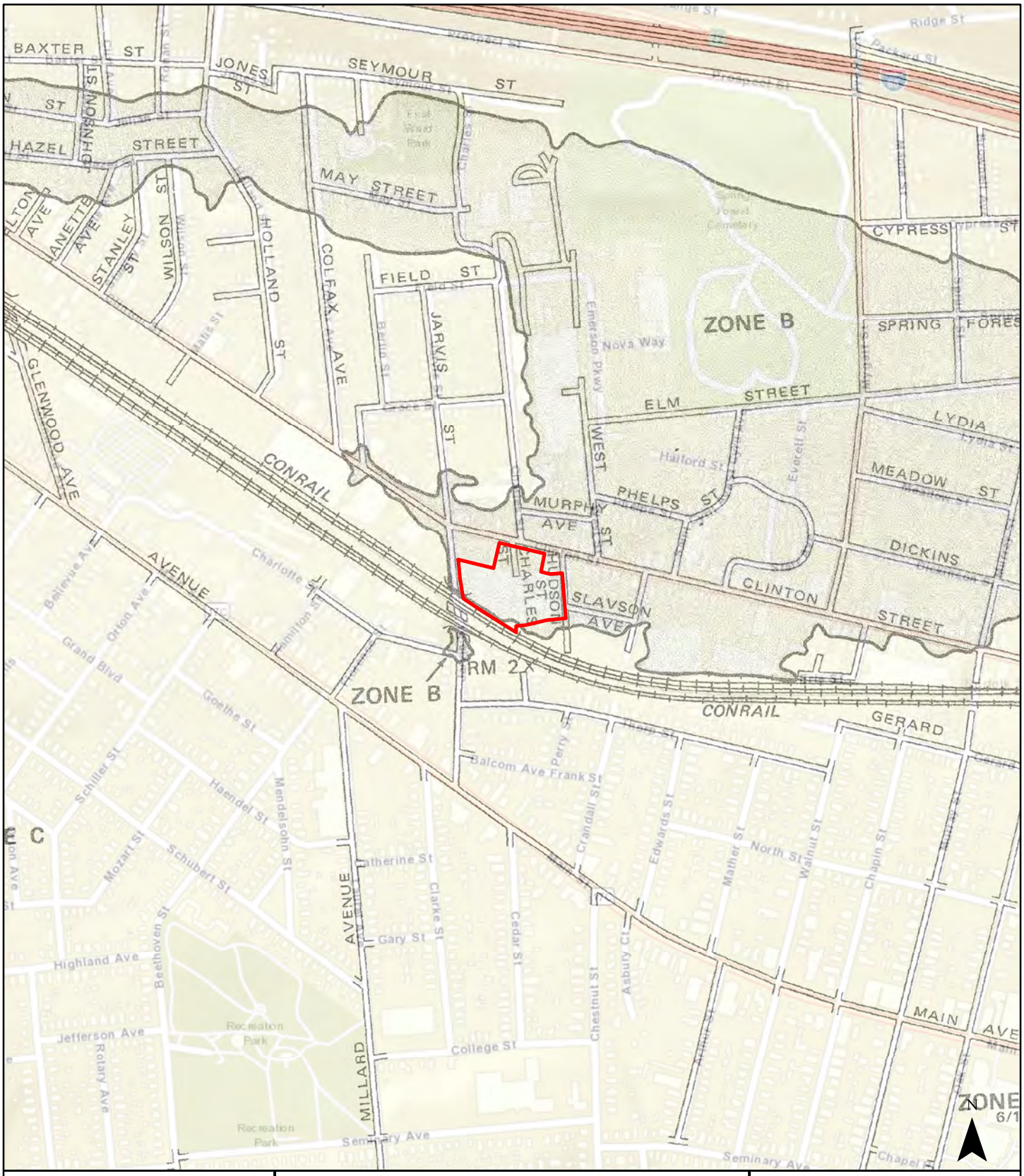

NPV

# FIGURE 10
# NATIONAL WETLANDS MAP

Source: ESRI WMS; US F&W NWI
Scale: 1 inch = 2,000 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**




NPV

**FIGURE 11**
**FEMA FLOOD HAZARD MAP**

Source: ESRI WMS; FEMA panel H&I-02
Scale: 1 inch = 700 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**

# APPENDICES

# APPENDIX A
# SUPPLEMENTAL STATEMENT OF CONDITIONS ENVIRONMENTAL AUDITS

**SUPPLEMENTAL STATEMENT OF CONDITIONS**
**ENVIRONMENTAL AUDITS**

*Charles J. Voorhis is Certified as an Environmental Inspector (CEI) with the Environmental Assessment Association (EAA). The Association provides technical support and is acting to standardize the industry with regard to procedures and techniques for report preparation. The EAA has established an outline of responsibilities for the Environmental Inspector as well as a Statement of Limiting Conditions. This information is reproduced below in order for clients and loan agencies to understand responsibilities and limitations under this contract.*

Certification: The Environmental Inspector certifies to the Buyer, Seller and/or lender in a transaction as named in the inspection report "Principal Parties"; and the Inspector and the Principal Parties agree that:

1. The Environmental Inspector has no present or contemplated future (a) partnership with Principal Parties nor (b) an interest in the property inspected which could adversely affect the Inspector's ability to perform an objective inspection; and neither the employment of the inspector to conduct the inspection, nor the compensation for it, is contingent on the results of the inspection.

2. The Environmental Inspector has no personal interest in or bias with respect to the subject matter of the inspection report or any parties who may be part of a financial transaction involving the property. The conclusions and recommendations of the report are not based in whole or in part upon the race, color, creed, sex or national origin of any of the Principal Parties.

3. The Environmental Inspector has personally inspected the property, both inside and out and has made visual inspection of adjacent properties, to the extent possible by readily available access. The inspection does not include the removal of any soil, water or air samples, the moving of furniture or fixtures, or any type of inspection that would require extraordinary effort to access.

4. All contingent and limiting conditions are contained herein (imposed by the terms of the inspection assignment or by the undersigned affecting the conclusions and recommendations contained in the report).

5. This Environmental Inspection report has been made in conformity with and is subject to the requirements of the Code of Professional Ethics of the Environmental Assessment Association.

6. All opinions, conclusions and recommendations concerning the inspected property that are set forth in the inspection report were prepared by the Environmental Inspector whose signature appears on the report. No change of any item in the report shall be made by anyone other than the Inspector, and the Inspector shall have no responsibility for any such unauthorized change.

Contingent and Limiting Conditions: The certification of the Environmental Inspector appearing in the environmental inspection report is subject to the following conditions and to such other specific and limiting conditions as are set forth by the Inspector in the report.

1. The Inspector assumes no responsibility for matters of legal nature affecting the property inspected or the title thereto. The property is inspected assuming responsible ownership.

2. Any sketch appearing in or attached to the inspection report, or any statement of dimensions, capacities, quantities or distances, are approximate and are included to assist the reader in visualizing the property. The inspector has made no survey of the property.

3. The Inspector is not required to give testimony or appear in court because of having made the inspection with reference to the property in question, unless arrangements have been previously made therefor.

4. This report is not intended to have any direct effect on the value of the property inspected but simply to provide a visual Environmental Assessment solely for the benefit of the Principal Parties.

5. The Inspector assumes that there are no hidden, unapparent, or latent conditions or defects in or of the property, subsoil, or structures, other than those noted on the inspection report or any addendum to the report which the Inspector has included. The Inspector assumes no responsibility for such conditions, or for the inspection, engineering or repair which might be required to discover or correct such factors.

6. Information, estimates and opinions furnished to the Inspector, and contained in the report, were obtained from sources considered reliable and believed to be true and correct. However, the Inspector has made no independent investigation as to such matters and undertakes no responsibility for the accuracy of such items.

7. The Inspection and Inspection Report are made by the Inspector solely for the benefit and personal use of the Principal Parties. No disclosure may be made of the Inspection Report without the prior written consent of the Inspector and the Inspector undertakes no responsibility for harm or damages to any party other than the Principal Parties.

8. Neither the Inspection Report, any part thereof, nor any copy of the same (including conclusions or recommendations, the identity of the Inspector, professional designation, reference to any professional organization, or the firm with which the Inspector is connected), shall be used for any purposes by anyone but the Principal Parties. The report shall not be conveyed by anyone to the public through advertising, public relations, news, sales, or other media, without the prior written consent and approval of the Inspector.

# APPENDIX G
# FOIL INFORMATION

**187 Clinton Street, Binghamton**
187 Clinton Street
Binghamton, NY 13905

Inquiry Number: 6850276.6
February 08, 2022

# EDR Building Permit Report

## Target Property and Adjoining Properties

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

# TABLE OF CONTENTS

**SECTION**

**About This Report**

**Executive Summary**

**Findings**

**Glossary**

***Thank you for your business.***
Please contact EDR at 1-800-352-0050
with any questions or comments.

**Disclaimer - Copyright and Trademark Notice**

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction orforecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

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# EDR BUILDING PERMIT REPORT

## About This Report

The EDR Building Permit Report provides a practical and efficient method to search building department records for indications of environmental conditions. Generated via a search of municipal building permit records gathered from more than 1,600 cities nationwide, this report will assist you in meeting the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

Building permit data can be used to identify current and/or former operations and structures/features of environmental concern. The data can provide information on a target property and adjoining properties such as the presence of underground storage tanks, pump islands, sumps, drywells, etc., as well as information regarding water, sewer, natural gas, electrical connection dates, and current/former septic tanks.

## ASTM and EPA Requirements

ASTM E 1527-13 lists building department records as a "standard historical source," as detailed in § 8.3.4.7: "Building Department Records - The term building department records means those records of the local government in which the property is located indicating permission of the local government to construct, alter, or demolish improvements on the property." ASTM also states that "Uses in the area surrounding the property shall be identified in the report, but this task is required only to the extent that this information is revealed in the course of researching the property itself."

EPA's Standards and Practices for All Appropriate Inquires (AAI) states: "§312.24: Reviews of historical sources of information. (a) Historical documents and records must be reviewed for the purposes of achieving the objectives and performance factors of §312.20(e) and (f). Historical documents and records may include, but are not limited to, aerial photographs, fire insurance maps, building department records, chain of title documents, and land use records."

## Methodology

EDR has developed the EDR Building Permit Report through our partnership with BuildFax, the nation's largest repository of building department records. BuildFax collects, updates, and manages building department records from local municipal governments. The database now includes 30 million permits, on more than 10 million properties across 1,600 cities in the United States.

The EDR Building Permit Report comprises local municipal building permit records, gathered directly from local jurisdictions, including both target property and adjoining properties. Years of coverage vary by municipality. Data reported includes (where available): date of permit, permit type, permit number, status, valuation, contractor company, contractor name, and description.

Incoming permit data is checked at seven stages in a regimented quality control process, from initial data source interview, to data preparation, through final auditing. To ensure the building department is accurate, each of the seven quality control stages contains, on average, 15 additional quality checks, resulting in a process of approximately 105 quality control "touch points."

For more information about the EDR Building Permit Report, please contact your EDR Account Executive at (800) 352-0050.

EDR® Environmental Data Resources Inc

BUILD FAX PROPERTY HISTORY

# EXECUTIVE SUMMARY: SEARCH DOCUMENTATION

A search of building department records was conducted by Environmental Data Resources, Inc (EDR) on behalf of Nelson, Pope & Voorhis LLC on Feb 08, 2022.

**TARGET PROPERTY**

187 Clinton Street
Binghamton, NY 13905

**SEARCH METHODS**

EDR searches available lists for both the Target Property and Surrounding Properties.

**RESEARCH SUMMARY**

Building permits identified: **YES**

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

**Binghamton City**

| *Year* | *Source* | *TP* | *Adjoining* |
|---|---|---|---|
| 2016 | City of Binghamton | | X |
| 2015 | City of Binghamton | | X |
| 2014 | City of Binghamton | | X |
| 2013 | City of Binghamton | | X |
| 2012 | City of Binghamton | | X |
| 2011 | City of Binghamton | | X |
| 2010 | City of Binghamton | | |
| 2009 | City of Binghamton | | |
| 2008 | City of Binghamton | | |
| 2007 | City of Binghamton | | |
| 2006 | City of Binghamton | | |
| 2005 | City of Binghamton | | |
| 2004 | City of Binghamton | | |
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| 2002 | City of Binghamton | | |
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| 1998 | City of Binghamton | | |
| 1997 | City of Binghamton | | |
| 1996 | City of Binghamton | | |
| 1995 | City of Binghamton | | |
| 1994 | City of Binghamton | | |
| 1993 | City of Binghamton | | |
| 1992 | City of Binghamton | | |
| 1991 | City of Binghamton | | |
| 1990 | City of Binghamton | | |
| 1989 | City of Binghamton | | |

# EXECUTIVE SUMMARY: SEARCH DOCUMENTATION

| Year | Source | TP | Adjoining |
|---|---|---|---|
| 1988 | City of Binghamton | | |
| 1987 | City of Binghamton | | |
| 1986 | City of Binghamton | | |
| 1985 | City of Binghamton | | |
| 1984 | City of Binghamton | | |
| 1983 | City of Binghamton | | |
| 1982 | City of Binghamton | | |
| 1981 | City of Binghamton | | |
| 1980 | City of Binghamton | | |
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| 1975 | City of Binghamton | | |
| 1974 | City of Binghamton | | |
| 1973 | City of Binghamton | | |
| 1972 | City of Binghamton | | |
| 1971 | City of Binghamton | | |
| 1970 | City of Binghamton | | |
| 1969 | City of Binghamton | | |
| 1968 | City of Binghamton | | |
| 1967 | City of Binghamton | | |
| 1966 | City of Binghamton | | |
| 1965 | City of Binghamton | | |
| 1964 | City of Binghamton | | |
| 1963 | City of Binghamton | | |
| 1962 | City of Binghamton | | |
| 1961 | City of Binghamton | | |
| 1960 | City of Binghamton | | |
| 1959 | City of Binghamton | | |
| 1958 | City of Binghamton | | |

Name: JurisdictionName
Years: Years
Source: Source
Phone: Phone

**BUILDING DEPARTMENT RECORDS SEARCHED**

Name: Binghamton City
Years: 1958-2016
Source: City of Binghamton, BINGHAMTON, NY
Phone: (607) 772-7004

Name: Binghamton town
Years: 1999-2010
Source: Town of Binghamton, Code Enforcement and Building Inspector, BINGHAMTON, NY
Phone: (607) 772-0357

# TARGET PROPERTY FINDINGS

**TARGET PROPERTY DETAIL**

**187 Clinton Street**
**Binghamton, NY 13905**

No Permits Found

## APPLICATION FOR PUBLIC ACCESS TO RECORDS

TO: **Aaron M. Martin, Records Access Officer**
Edwin L. Crawford County Office Building, Government Plaza
P.O. Box 1766, Binghamton, NY 13902
Telephone: (607) 778-2287 FAX: (607) 778-8869
Email: FOIL@co.broome.ny.us Website: http://www.gobroomecounty.com/FOIL.php

**I HEREBY REQUEST TO INSPECT RECORDS AT BROOME COUNTY'S DEPARTMENT/OFFICE OF** Env. Management Control & Health

I would like to (*Please check a box*): ☐ Review documents by appointment. (Not available for Sheriff's records)

☑ Have copies made at 25¢ per (regular-sized) page or at the set fee structure for other formats, and agree to pay for these copies.
*(Other Set Fees: $2.00 for CD's or DVD's, $2.00 for Polaroid photographs (if available), $.28 for digital full color picture (if available) printed on 8 ½" x 11" paper, $.50 for pictures printed on photographic paper. There is no charge if a request is under 4 pages or if it can be provided by email.)*

☑ I would like an estimate of the number of pages involved in the above request prior to any copies being made.

**Please describe the record you are requesting. Be specific – especially with dates and time periods:**

Looking to review any environmental files regarding storage tank information or hazardous materials for the subject property

Subject Property: 187 Clinton Street, Binghamton, NY 13905; Tax ID*:# 160.22-1-2 *Note: may also be listed as: 01-0014-017

Names: Vail-Ballou Press-Clinton Street; Vail Ballou Press Facility; Facility ID#s: NYD057770679, 7-182230; Spill #s: 0065067, 8906060

Name (*Please Print*): Eric Arnesen, PG c/o Ashley Marciszyn; Nelson Pope Vo Phone: (631) 427-5665 x215

Mailing Address 70 Maxess Road, Melville, New York 11747

Email (*Optional*) earnesen@nelsonpope.com; amarciszyn@nelsonpope.com

Signature Ashley L. Marciszyn / Eric C. A Date: 2/10/22

Please circle your preferred method of contact: ☐ **Phone** ☐ **Mailing Address** ☑ **Email**

***If we have reproduced records that you have not paid for, this new request will not be processed until the prior request is settled.***

## FOR AGENCY USE ONLY

Approved _____ Number of Copies Responsive to the Request

*Denied for Reason(s) checked below:*

☐ Confidential Disclosure
☐ Part of Investigatory Files
☐ Unwarranted Invasion of Personal Privacy
☐ Record is not Maintained by this Agency
☐ Record of Which this Agency is Legal Custodian Cannot be Found
☐ Record Does not Exist
☐ Exempted by Statute Other than the FOI Law
☐ Other (Specify) _____

_____
Signature Title Date

## APPEALS PROCESS

**NOTICE TO APPLICANT**: You have the right to appeal a denial of this request by application to the Records Access Officer. A decision will be made by the Appeals Officer, the Broome County Attorney's Office, 6th Floor Edwin L. Crawford County Office Building, in writing with a full explanation within 10 business days from receiving the appeal.

I, _____, hereby appeal my Denied FOIL Request dated: _____

SIGNATURE: _____ Date: _____

ADDRESS: _____

**From:** FOIL
**To:** Ashley Marciszyn
**Subject:** RE: New FOIL Request- 187 Clinton Street, Binghamton
**Date:** Thursday, February 17, 2022 11:45:20 AM
**Attachments:** image001.png

---

Dear Ashley:

I am hereby acknowledging your request dated February 10, 2022 to inspect records.

This office will make every effort to find the information you are seeking and provide it to you promptly. Some information is not releasable, and sometimes the information may not exist. In accordance with the Public Officers Law, we will advise you within the next five business days whether your request for information will be granted, denied, granted in part, or if we will need more time not to exceed 20 days to respond to your request. At that time, we will inform you as to whether the materials you have requested will be made available to you and when. Public Officers Law provides for the information to be made available, unless it is denied, within a reasonable time frame.

For paper copies more than four pages, there is a charge of $.25 per page. Information is not always available electronically at this point. However, if information is available electronically on disk the charge is $2.00. We will notify you of any amount due upon determination that the records are available.

If you have any questions regarding this matter, please do not hesitate to contact this office.

Sincerely,

Johnathon T. Scott
Second Deputy Clerk
Broome County Legislature
P.O. Box 1766
Binghamton, New York 13902
607-778-2131
Johnathon.Scott@broomecounty.us

---

**From:** Ashley Marciszyn <AMarciszyn@nelsonpope.com>
**Sent:** Thursday, February 10, 2022 8:52 AM
**To:** FOIL <foil.broome@broomecounty.us>
**Cc:** Eric Arnesen <EArnesen@nelsonpope.com>
**Subject:** New FOIL Request- 187 Clinton Street, Binghamton

Hello,

Please see the attached foil request. Please let us know if you need any additional information.

Thank you,

**Ashley Marciszyn**
**Administrative Assistant**

NELSON POPE VOORHIS
Long Island: 70 Maxess Road, Melville, NY 11747
Hudson Valley: 156 Route 59, Suite C6, Suffern, NY 10901
o: 631.427.5665 x215
amarciszyn@nelsonpopevoorhis.com
**nelsonpopevoorhis.com**

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Owes
$1.25

State of New York
County of Broome Government Offices

**Broome County Health Department · Environmental Health**
Jason T. Garnar, County Executive · Mary M. McFadden, Public Health Director
225 Front Street, Binghamton, NY 13905
Phone: (607)778-2847 · Fax (607) 778-3912 · www.gobroomecounty.com

RECEIVED
FEB 23 2022
BROOME COUNTY LEGISLATURE

# MEMORANDUM

**TO:** Aaron Martin, Records Access Officer
**FROM:** Mary M. McFadden, Public Health Director
**DATE:** February 18, 2022
**SUBJECT:** FOI Request from Eric Arnesen

John P Hyp
2/18/22

Broome County Health Department has searched its records for any current or historical environmental concerns at 187 Clinton Street in the City of Binghamton, NY. All records found for this property are attached.

cc: Joshua Phelps

RECEIVED
AM
MAR 0 9 2022
NELSON + POPE

## Hebdon, Creig A.

**From:** Phelps, Josh M.
**Sent:** Thursday, February 17, 2022 11:47 AM
**To:** Hebdon, Creig A.
**Subject:** FW: New FOIL Request- 187 Clinton Street, Binghamton
**Attachments:** Broome CHD Request-signed.pdf

**From:** FOIL <foil.broome@broomecounty.us>
**Sent:** Thursday, February 17, 2022 11:47 AM
**To:** Phelps, Josh M. <Josh.Phelps@BroomeCounty.US>
**Cc:** McFadden, Mary <Mary.McFadden@BroomeCounty.US>
**Subject:** FW: New FOIL Request- 187 Clinton Street, Binghamton

FREEDOM OF INFORMATION MEMORANDUM

To: Josh Phelps
CC: Mary McFadden
From: Johnathon T. Scott, Deputy Records Access Officer
Date: February 17, 2022
Subject: Attached request for information

Please provide the information requested on the below Freedom of Information request from Ashley Marciszyn to the Records Access Office.

A response to this request is due on February 24, 2022. Public Officers Law §89(3) states that within five (5) business days one of three options must be completed:
*Provision of Record(s).
*Denial with reason for exemption from access under FOI Law.
*Provision of an approximate date when the record(s) requested will be provided, available for review or denied.

If you have any concerns or reservations about this request, or if it will take longer than 5 business days to come back to this office, please notify this office in writing or by replying to this email.

Please mark the appropriate area on the form, and elaborate on denials when necessary.

Thank you.

c. file

**FOR AGENCY USE ONLY**

____Approved _____Number of Copies Responsive to the Request

____Denied for Reason(s) checked below:

____Confidential Disclosure
____Part of Investigatory Files
____Unwarranted Invasion of Personal Privacy

____Record is not maintained by this Agency
____Record of which this Agency is Legal Custodian Cannot be found
____Exempted by Statute Other than the FOI Law
____Insufficient information provided/more information necessary to complete
____Other (Specify): _____

_____

Signature Title Date

Johnathon T. Scott
Second Deputy Clerk
Broome County Legislature
P.O. Box 1766
Binghamton, New York 13902
607-778-2131
Johnathon.Scott@broomecounty.us

**From:** Ashley Marciszyn <AMarciszyn@nelsonpope.com>
**Sent:** Thursday, February 10, 2022 8:52 AM
**To:** FOIL <foil.broome@broomecounty.us>
**Cc:** Eric Arnesen <EArnesen@nelsonpope.com>
**Subject:** New FOIL Request- 187 Clinton Street, Binghamton

Hello,

Please see the attached foil request. Please let us know if you need any additional information.

Thank you,

**Ashley Marciszyn**
**Administrative Assistant**
NELSON POPE VOORHIS
Long Island: 70 Maxess Road, Melville, NY 11747
Hudson Valley: 156 Route 59, Suite C6, Suffern, NY 10901
o: 631.427.5665 x215
amarciszyn@nelsonpopevoorhis.com
**nelsonpopevoorhis.com**

*This communication and any attachments are intended only for the use of the individual or entity named as the addressee. It may contain information which is privileged and/or confidential under applicable law. If you are not the intended recipient or such recipient's employee or agent, you are hereby notified that any dissemination, copy or disclosure of this communication is strictly prohibited and to notify the sender immediately.*

⚠ **CAUTION**: This email originated from outside the organization. BE SUSPICIOUS of any links in the email. If this email is asking for something unusual, do not reply to the email. Contact the sender through another method, or contact Broome County IT for help.

## APPLICATION FOR PUBLIC ACCESS TO RECORDS

TO: **Aaron M. Martin, Records Access Officer**
Edwin L. Crawford County Office Building, Government Plaza
P.O. Box 1766, Binghamton, NY 13902
Telephone: (607) 778-2287 FAX: (607) 778-8869
Email: FOIL@co.broome.ny.us Website: http://www.gobroomecounty.com/FOIL.php

**I HEREBY REQUEST TO INSPECT RECORDS AT BROOME COUNTY'S DEPARTMENT/OFFICE OF** Env. Management Control & Health

I would like to (*Please check a box*): ☐ Review documents by appointment. (Not available for Sheriff's records)

☑ Have copies made at 25¢ per (regular-sized) page or at the set fee structure for other formats, and agree to pay for these copies.
*(Other Set Fees: $2.00 for CD's or DVD's, $2.00 for Polaroid photographs (if available), $.28 for digital full color picture (if available) printed on 8 ½" x 11" paper, $.50 for pictures printed on photographic paper. There is no charge if a request is under 4 pages or if it can be provided by email.)*

☑ I would like an estimate of the number of pages involved in the above request prior to any copies being made.

**Please describe the record you are requesting. Be specific – especially with dates and time periods:**

Looking to review any environmental files regarding storage tank information or hazardous materials for the subject property

Subject Property: 187 Clinton Street, Binghamton, NY 13905; Tax ID*:# 160.22-1-2 *Note: may also be listed as: 01-0014-017

Names: Vail-Ballou Press-Clinton Street; Vail Ballou Press Facility; Facility ID#s: NYD057770679, 7-182230; Spill #s: 0065067, 8906060

Name (*Please Print*): Eric Arnesen, PG c/o Ashley Marciszyn; Nelson Pope Vo Phone: (631) 427-5665 x215

Mailing Address 70 Maxess Road, Melville, New York 11747

Email (*Optional*) earnesen@nelsonpope.com; amarciszyn@nelsonpope.com

Signature Ashley M. Marciszyn / Eric C. A Date: 2/10/22

Please circle your preferred method of contact: ☐ **Phone** ☐ **Mailing Address** ☑ **Email**

***If we have reproduced records that you have not paid for, this new request will not be processed until the prior request is settled.***

## FOR AGENCY USE ONLY

Approved _____ Number of Copies Responsive to the Request

*Denied for Reason(s) checked below:*

☐ Confidential Disclosure
☐ Part of Investigatory Files
☐ Unwarranted Invasion of Personal Privacy
☐ Record is not Maintained by this Agency
☐ Record of Which this Agency is Legal Custodian Cannot be Found
☐ Record Does not Exist
☐ Exempted by Statute Other than the FOI Law
☐ Other (Specify) _____

Signature Title Date

## APPEALS PROCESS

**NOTICE TO APPLICANT**: You have the right to appeal a denial of this request by application to the Records Access Officer. A decision will be made by the Appeals Officer, the Broome County Attorney's Office, 6th Floor Edwin L. Crawford County Office Building, in writing with a full explanation within 10 business days from receiving the appeal.

I, _____, hereby appeal my Denied FOIL Request dated: _____

SIGNATURE: _____ Date: _____

ADDRESS: _____

# H A Z A R D O U S
# M A T E R I A L S
# I N V E N T O R Y

For the Counties of:

B R O O M E

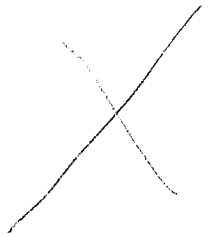
C H E N A N G O

D E L A W A R E

O T S E G O

T I O G A

Broome County Office of Emergency Services • ECC • Upper Front Street • Binghamton, N.Y. 13905 • (607) 772-2180



Hazardous Materials Location*

FIRM NAME Vail Baliou Press Inc.

STREET ADD. ONLY _____

BUS. ADD. 187 Clinton Street

BLDG. NAME OR NO. _____

CITY,STATE,ZIP Binghamton, N.Y. 13902

CITY,STATE,ZIP _____

TEL. NO. 607-723-7981

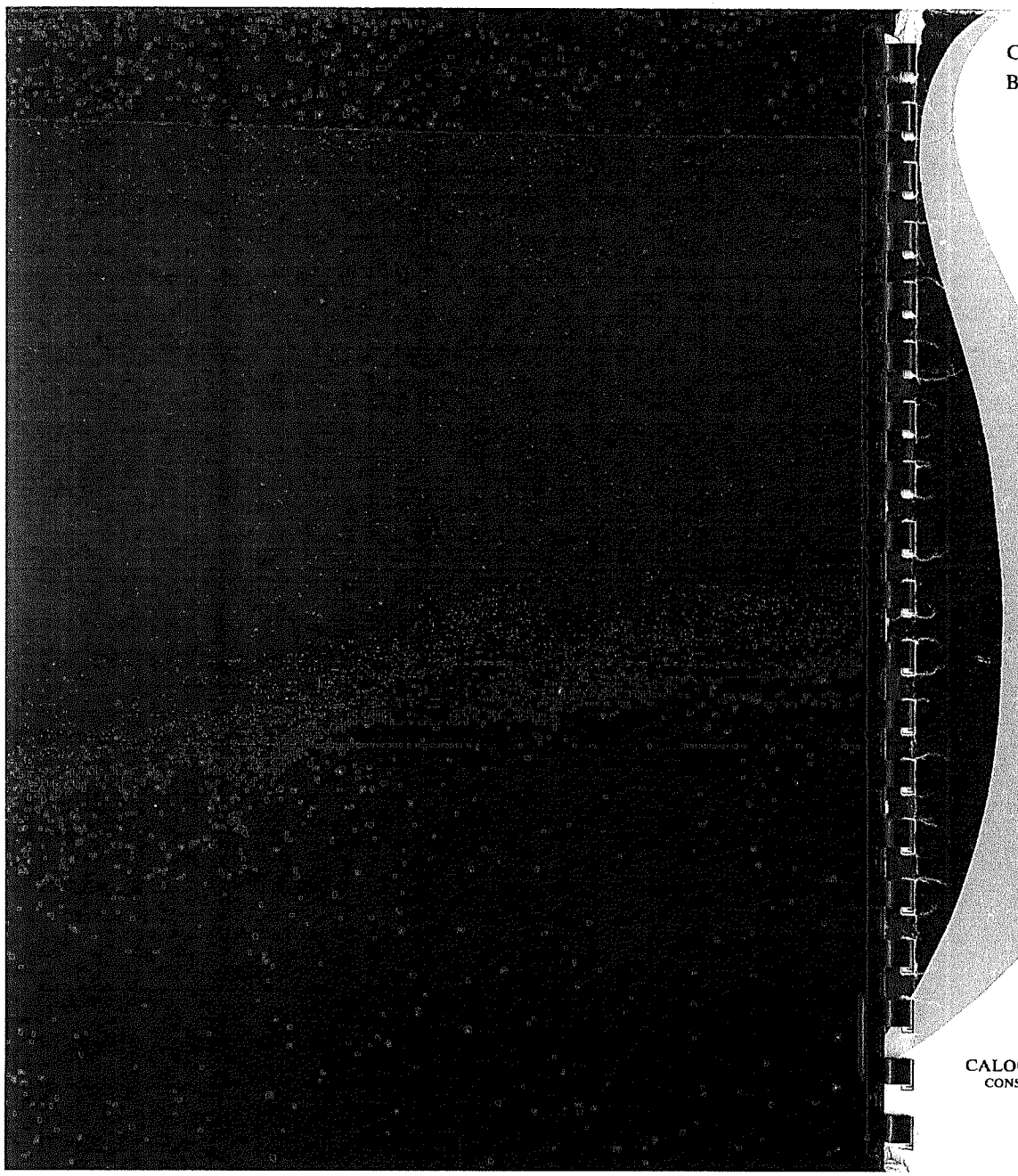
POLICY ANNIV. DATE _____

NAME OF
EMERGENCY CONTACT J. Broderick

BUS. TEL. 607-723-7981 HOME TEL. 607-625-2850

_____
(Signature and Title of Person Completing Form)

Isopropyl Alcohol
Propane



CITY OF BINGHAMTON
Broome County, New York

R. M. Austin

AUGUST 1976

# INDUSTRIAL WASTEWATER SURVEY

*For The*

## CITY OF BINGHAMTON SERVICE AREA

*Prepared by*


CALOCERINOS & SPINA
CONSULTING ENGINEERS

VERNON O. SHUMAKER
CONSULTING ENGINEERS

City of Binghamton, N.Y.

# INDUSTRIAL WASTEWATER SURVEY

INDUSTRY NAME: Vail Ballou Press, Plant #1 — INDUSTRY CODE: 130

ADDRESS: 187 Clinton Street, Binghamton, New York 13904 — SIC CODE: 2732

DESCRIPTION:

Vail Ballou Press, Plant #1, is primarily engaged in printing of books and pamphlets. Process includes developing, etching of plates, and binder preparation.

AREA OF CONCERN - PRE-TREATMENT

None at this time.

AREA OF CONCERN - SURCHARGE

BOD-261.0

WATER BALANCE:

| | |
|---|---|
| Consumption: | 15,277 gpd |
| Allowance: | None |
| Sanitary: | 9,900 gpd |
| Discharge: | 15,277 gpd (Note: Exceeds maximum limit) |

SPECIAL REQUIREMENTS RECOMMENDED:

None at this time.

RECOMMENDED MONITORING:

Quarterly.

REMARKS:

One 16 hour composite sample was collected on May 18, 1976 between 7:30 AM and 11:30 PM from a manhole as noted on Map.

City of Binghamton, N.Y.

# INDUSTRIAL WASTEWATER SURVEY

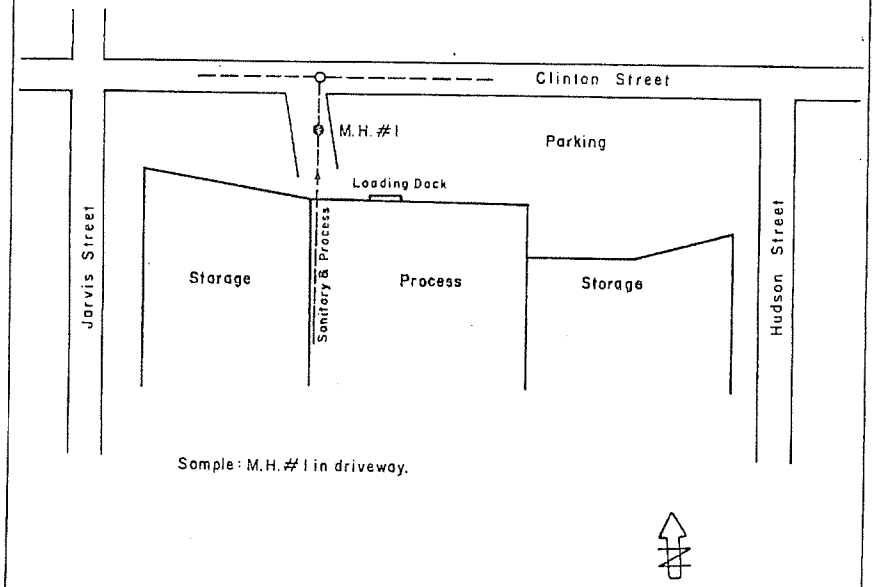
## SAMPLING LOCATION

Industry Name – Vail Ballou Press, Plant #1

Industry Code – 130

Address – 187 Clinton Street
Binghamton, New York 13904

SIC Code – 2732




Sample: M.H. # 1 in driveway.

JOINT VENTURE

CALOCERINOS & SPINA
CONSULTING ENGINEERS

VERNON O. SHUMAKER
CONSULTING ENGINEERS

AUGUST 1976

# FOIL Request Form

Thank you for your submission.

## Ashley Marciszyn

**From:** Ashley Marciszyn
**Sent:** Thursday, February 24, 2022 11:45 AM
**To:** foil@cityofbinghamton.com
**Cc:** Eric Arnesen (earnesen@nelsonpope.com); Steve Mcginn
**Subject:** Acknowledgment needed-FOIL Submitted through website on 2/9/22
**Attachments:** City Binghamton Request.pdf

Hello,

I submitted a foil request using the online system on 2/9/22, and I have not yet received an acknowledgment. After I hit submit, I just received the attached notification that said "Thank you for Your Submission".
The link I used to submit was this one: https://www.binghamton-ny.gov/government/departments/city-clerk/foil-request-form

It was for 187 Clinton Street, Binghamton. It was under Eric Arnesen c/o Ashley Marciszyn from Nelson, Pope & Voorhis, LLC. The departments we requested records from were Engineering, Fire Department, Planning, and Water and Sewer.

Can you please let me know if it was received, and if not, just let me know how to proceed?

Thank you,

**Ashley Marciszyn**
**Administrative Assistant**
NELSON POPE VOORHIS
Long Island: 70 Maxess Road, Melville, NY 11747
Hudson Valley: 156 Route 59, Suite C6, Suffern, NY 10901
o: 631.427.5665 x215
amarciszyn@nelsonpopevoorhis.com
nelsonpopevoorhis.com

*This communication and any attachments are intended only for the use of the individual or entity named as the addressee. It may contain information which is privileged and/or confidential under applicable law. If you are not the intended recipient or such recipient's employee or agent, you are hereby notified that any dissemination, copy or disclosure of this communication is strictly prohibited and to notify the sender immediately.*

# CITY OF BINGHAMTON
# APPLICATION FOR PUBLIC ACCESS TO RECORDS

Please complete this Freedom of Information Law (FOIL) Application for Public Access to Government Records, and submit to the appropriate department. The City of Binghamton will respond to your request within five (5) business days.

**POLICE RECORDS:**
Police Records
38 Hawley Street, 1st Floor
Binghamton, NY 13901
Phone: (607) 772-7094
Fax: (607) 723-7996

**FIRE RECORDS:**
Fire Bureau
38 Hawley Street, 3rd Floor
Binghamton, NY 13901
Phone: (607) 772-7016
Fax: (607) 772-7173

**ALL OTHER RECORDS:**
City Clerk
38 Hawley Street, 1st Floor
Binghamton, NY 13901
Phone: (607) 772-7005
Fax: (607) 772-7155
Email: foil@cityofbinghamton.com

I would like a copy of the record(s): ☑ I would like to review the record(s): ☐ Please see attached letter: ☐

Subject Property: 187 Clinton Street, Binghamton, NY 13905; Tax ID*:# 160.22-1-2 *Note: may also be listed as: 01-0014

Fire Bureau: Storage tank information, hazardous materials information (i.e. drum/chemical storage), spills info, violations

Clerk: CO's, site plans, surveys, permit & owner history, permits, storage tank info, cesspools/sanitary system locations

Date/Address of Incident (if applicable): _____

Applicant Name: Steven McGinn c/o Ashley Marciszyn

Address: Nelson, Pope & Voorhis, LLC

70 Maxess Road, Melville, NY 11747

Phone Number: (631) 427-5665 x215

Email Address: amarciszyn@nelsonpope.com

Photocopies of regular and legal sized documents are available at a cost of $0.25/page. CDs, DVDs, maps and certain other records are available for the actual cost of reproducing such records. If the records are stored electronically, the City may be able to respond with the requested material via email at no charge.

If this request is approved, I would prefer to receive notification by: Email: ☑ Letter: ☐

Signature: _____ Date: 3/10/2022

Please note that your application may be Approved, Approved with Deletions or Denied. The City of Binghamton may deny your request for the following reasons, in accordance with Public Officers Law, § 87(2): **(Item 1)** Exempt by State or Federal statute; **(Item 2)** Unwarranted invasion of personal privacy; **(Item 3)** Would impair present/imminent contract awards or collective bargaining negotiations; **(Item 4)** Records are trade secrets; **(Item 5)** Compiled for law enforcement purposes which would interfere with law enforcement negotiations; deprive a person of a right to a fair trial or impartial adjudication; identify a confidential source or disclose confidential information relative to a criminal investigation; or would reveal criminal investigative techniques/procedures; **(Item 6)** Would endanger the life or safety of any person; **(Item 7)** Are inter-agency or intra-agency communications; or **(Item 8)** Are examination questions or answers requested prior to final administration of such questions. You have a right to appeal a denial of this application to the Mayor of the City of Binghamton, 38 Hawley Street, 4th Floor, Binghamton, NY 13901. The City of Binghamton will explain the reasons for such denial in writing within ten (10) business days of an appeal.

**PLEASE NOTE:** If an applicant has requested to inspect records and does not respond to the City within two (2) weeks, the City will consider the request as having been withdrawn. If an applicant has requested copies of records and does not respond and pay for such items, any subsequent requests will not be considered until payment is received.

**OFFICE USE ONLY**

Approved: ☐ Approved with Deletions (Cite Item No.): ☐ Denied (Cite Item No.): ☐ Record Does Not Exist: ☐

Signature: _____ Date: _____

## Ashley Marciszyn

**From:** O'Neill, Timothy <tmoneill@cityofbinghamton.com>
**Sent:** Tuesday, March 15, 2022 3:44 PM
**To:** Ashley Marciszyn
**Subject:** 187 Clinton St, Binghamton, NY

Ashley,

I have researched the available records that we have in the Fire Department concerning the property at 187 Clinton St in the City of Binghamton
Parcel ID # 160.22-1-2.

This property has been a vacant lot since the manufacturing building, originally occupied by Vail-Ballou Printing Company and later by Crain Manufacturing and Contro Plumbing Contractors, was destroyed by fire more 20-25 years ago. The building was removed shortly after the fire but I'm not sure what kind of site clean-up may have been done at that time. We have records from 1965 that state there was an underground tank of Naptha and another containing Kerosene these were relatively small tanks, approx. 1000 gals. I have no records of those tanks during site cleanup but I would think they would have been removed.

Let me know if there is any other information I can help you with.

Timothy M. O'Neill
Fire Marshal
City of Binghamton
Bureau of Fire
tmoneill@cityofbinghamton.com
www.binghamton-ny.gov
(607)772-7123 Office (607) 772-7173 Fax

## Ashley Marciszyn

**From:** New York DEC Support <newyorkdec@mycusthelp.net>
**Sent:** Wednesday, February 09, 2022 5:09 PM
**To:** Ashley Marciszyn
**Subject:** FOIL Request :: W096102-020922

Dear Steven:

Thank you for your Freedom of Information Law (FOIL) request. Your request has been received and is being processed. Your request was received in this office on 2/9/2022 and given the reference number FOIL #W096102-020922 for tracking purposes. You may expect the Department's response to your request no later than **3/10/2022**.

Record Requested: **Looking to review any environmental files regarding spills, storage tank information or hazardous materials for the subject property and IDs listed below. This is for use in preparation of a Phase I Environmental Site Assessment. Subject Property: 187 Clinton Street, Binghamton, NY 13905 (City of Binghamton, Broome County, NY) Tax ID*:# 160.22-1-2 *Note: Tax Map # may also be listed as: 01-0014-017 Additional DEC ID#s & Names available: Facility ID#: NYD057770679; Name: Vail Ballou Press Facility ID#: 7-182230; Name: Vail-Ballou Press-Clinton Street Spill #: 0065067, Name: Former Vail-Ballou Press Spill #: 8906060, Name: Vail Ballou Press**

You can monitor the progress of your request at the link below and you'll receive an email when your request has been completed. Again, thank you for using the FOIL Center.

https://mycusthelp.com/NEWYORKDEC/_rs/RequestLogin.aspx

New York State Department of Environmental Conservation, Record Access Office

---

Track the issue status and respond at: https://newyorkdec.mycusthelp.com/webapp//_rs/RequestEdit.aspx?rid=96102

**From:** New York DEC Support
**To:** Ashley Marciszyn
**Subject:** Freedom of Information Law Request :: W096102-020922
**Date:** Tuesday, February 22, 2022 12:29:08 PM

---

--- Please respond above this line ---

Region 7 - Syracuse
P: 315-426-7404 | F: 315-426-7408
www.dec.ny.gov

RE: PUBLIC RECORDS REQUEST of 2/9/2022, Reference # W096102-020922

Date: 02/22/2022

Dear Steven,

I write in response to your Freedom of Information Law (FOIL) request seeking:

> *Looking to review any environmental files regarding spills, storage tank information or hazardous materials for the subject property and IDs listed below. This is for use in preparation of a Phase I Environmental Site Assessment.*
> *Subject Property: 187 Clinton Street, Binghamton, NY 13905 (City of Binghamton, Broome County, NY)*
> *Tax ID*:# 160.22-1-2*
> **Note: Tax Map # may also be listed as: 01-0014-017*
> *Additional DEC ID#s & Names available:*
> *Facility ID#: NYD057770679; Name: Vail Ballou Press*
> *Facility ID#: 7-182230; Name: Vail-Ballou Press-Clinton Street*
> *Spill #: 0065067, Name: Former Vail-Ballou Press*
> *Spill #: 8906060, Name: Vail Ballou Press*

Please be advised that records identified as responsive to your request have been uploaded to DEC's online FOIL request system. Please visit our customer portal by clicking here to log into your DEC FOIL account, where you can view and download the records.

If you believe you have been unlawfully denied access to responsive records, you have the right to appeal. Such an appeal must be submitted in writing, within thirty (30) days of the date of this email, and directed to:

> FOIL Appeals Officer
> Office of General Counsel
> New York State Department of Environmental Conservation
> 625 Broadway, 14th Floor
> Albany, New York 12233-1500

Your FOIL request is now closed. If I can be of further assistance, please contact me at 315-426-7404 and reference FOIL #W096102-020922 or simply reply to this email. Thank you.

Sincerely,
Sharon Toscano
Region 7 FOIL Coordinator

# NYSDEC SPILL REPORT FORM

**DEC REGION:** 7 **SPILL NUMBER:** 0065067

**SPILL NAME:** FORMER VAIL-BALLOU PRESS **DEC LEAD:** JEOKESSO

**CALLER NAME:** JOE NOSSAL **NOTIFIER'S NAME:** JOE NOSSAL

**CLR'S AGENCY:** GEOLOGIC OF NY **NOTIFIER'S AGENCY:** GEOLOGIC OF NY

**CALLER'S PHONE:** (607) 836-4400 **NOTIFIER'S PHONE:** (607) 836-4400

**SPILL DATE:** 07/06/2000 **SPILL TIME:** 12:00 pm **DISPATCHER:**

**CALL RECEIVED DATE:** 07/24/2000 **RECEIVED TIME:** 12:00 pm

## SPILL LOCATION

**PLACE:** FORMER VAIL-BALLOU PRESS **COUNTY:** Broome

**STREET:** 187 CLINTON STREET **TOWN/CITY:** Binghamton

**COMMUNITY:** BINGHAMTON

**CONTACT:** **CONTACT PHONE:**

**CONT. FACTOR:** Tank Failure **SPILL REPORTED BY:** Responsible Party

**FACILITY TYPE:** Commercial/Industrial **WATERBODY:**

**CALLER REMARKS:**

UST'S REMOVED FROM SITE. SOIL SAMPLE RESULTS FOUND LOW LEVAL PETROLEUM CONTAMINATION IN SOIL . BELOW STARS GUIDANCES VALUES.

| MATERIAL | CLASS | SPILLED | RECOVERED | RESOURCES AFFECTED |
|---|---|---|---|---|
| #2 fuel oil | Petroleum | 0.00 G | 0.00 G | Soil, |

## POTENTIAL SPILLERS

| COMPANY | ADDRESS | CONTACT |
|---|---|---|
| VAIL-BALLOU | ZZ - | |

| Tank No. | Tank Size | Material | Cause | Source | Test Method | Leak Rate | Gross Failure |
|---|---|---|---|---|---|---|---|

**DEC REMARKS:**

Prior to Sept, 2004 data translation this spill Lead_DEC Field was "JOS"
TANKS REMOVED. NO PID READINGS. RESULTS FOUND LOW LEVEL PETROLEUM CONTAMINATION BELOW STARS. NFA. JEO.

**PIN** **T & A** **COST CENTER**

**CLASS:** D3 **CLOSE DATE:** 08/16/2000 **MEETS STANDARDS:** True

# NYSDEC SPILL REPORT FORM

**DEC REGION:** 7 **SPILL NUMBER:** 8906060

**SPILL NAME:** VAIL BALLOU PRESS **DEC LEAD:** JEOKESSO

**CALLER NAME:** DAVID MORGAN **NOTIFIER'S NAME:**

**CLR'S AGENCY:** TRI-STATE TANK SERVICE **NOTIFIER'S AGENCY:**

**CALLER'S PHONE:** (914) 434-7805 **NOTIFIER'S PHONE:**

**SPILL DATE:** 09/19/1989 **SPILL TIME:** 5:00 pm **DISPATCHER:**

**CALL RECEIVED DATE:** 09/19/1989 **RECEIVED TIME:** 8:06 pm

## SPILL LOCATION

**PLACE:** VAIL BALLOU PRESS **COUNTY:** Broome

**STREET:** CLINTON AVE **TOWN/CITY:** Binghamton

**COMMUNITY:** BINGHAMTON

**CONTACT:** **CONTACT PHONE:**

**CONT. FACTOR:** Tank Test Failure **SPILL REPORTED BY:** Tank Tester

**FACILITY TYPE:** Commercial/Industrial **WATERBODY:**

**CALLER REMARKS:**

10.5 K TANK FAILED AT +.127 GPH. TO RETEST.

| MATERIAL | CLASS | SPILLED | RECOVERED | RESOURCES AFFECTED |
|---|---|---|---|---|
| #4 fuel oil | Petroleum | 0.00 G | 0.00 G | GW, |

## POTENTIAL SPILLERS

| COMPANY | ADDRESS | CONTACT |
|---|---|---|
| VAIL BALLOU PRESS | CLINTON AVE. BINGHAMTON NY | (607) 723-7981 |

| Tank No. | Tank Size | Material | Cause | Source | Test Method | Leak Rate | Gross Failure |
|---|---|---|---|---|---|---|---|
| | 0 | #4 fuel oil (on-site c | | | 00 | 0.00 | |

**DEC REMARKS:**

Prior to Sept, 2004 data translation this spill Lead_DEC Field was "JOA"
/ / : 10.3K TANK FAILED AT +.092 GPH. TANK # 1 TO BE RETESTED.

10/27/89: SPOKE W/ BOB KALKA. TANKS TO BE RETESTED OR ABANDONED IN PLACE. DEC TOLD KALKA THAT A TRENCH WOULD HAVE TO BE DUG ALONG TANKS IF ABANDONED. KALKA TO CALL DEC ON 10/31 OR 11/1.

11/22/89: TANKS TO BE RETESTED NOV. 20 - 22.

11/23/89: TANKS TO BE RETESTED NOV. 20 - 22. RETEST PASSED.

# NYSDEC SPILL REPORT FORM

**DEC REGION:** 7 **SPILL NUMBER:** 8906060

**SPILL NAME:** VAIL BALLOU PRESS **DEC LEAD:** JEOKESSO

**PIN** **T & A** **COST CENTER**

**CLASS:** **CLOSE DATE:** 11/30/1989 **MEETS STANDARDS:** True

93-09-001 (4/85)

REMINDER

1. Enclose registration fee.

| Facility Size | Fee |
|---|---|
| 1,101 – 4,999 gallons | $ 50/facility |
| 5,000 – 10,000 gallons | 150/facility |
| 10,001 – 399,999 gallons | 250/facility |

2. Make check or money order payable to "NYS Department of Environmental Conservation".
3. Please return all 4 copies of this application to the DEC Regional Office.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# PETROLEUM BULK STORAGE APPLICATION

**SECTION A—Instructions on Back**

APPLICATION NUMBER: 19823

TRANSACTION TYPE (Check one)
1 [X] Registration
2 [ ] Transfer
If Transfer, Existing PBS Number: _____
3 [ ] Substantial Facility Modification
4 [ ] Information Correction

PBS Number: 182230

OFFICIAL USE ONLY
Page 1 of 1
SWIS Code: 030205
Date Received: 12/24/87
Amount Received: 250.00
Received By: BK Hamilton

1. NAME OF FACILITY: VAIL BALLOU PRESS-CLINTON ST. DIV.
2. ADDRESS (Number and Street): 187-195 CLINTON ST.
3. CITY, TOWN, VILLAGE: BINGHAMTON | 4. STATE: N.Y. | 5. ZIP CODE+4: 13905
6. COUNTY: BROOME | 7. TELEPHONE: (607) 723-7981

1. NAME OF OWNER: MAPLE-VAIL BOOK MANUF. GROUP
2. ADDRESS (Number and Street): P.O. Box 2695 WILLOW SPRINGS LANE
3. CITY, TOWN, VILLAGE: YORK | 4. STATE: PA | 5. ZIP CODE+4: 17405
7. TELEPHONE: (717) 764-5911

1. NAME OF OPERATOR: FRANK KEFFER
2. ADDRESS (Number and Street): H.C. 78 Box 1021
3. CITY, TOWN, VILLAGE: CASTLE CREEK | 4. STATE: NY | 5. ZIP CODE+4: 13744
7. TELEPHONE: (607) 648-3115

1. NAME OF EMERGENCY CONTACT: ROBERT KALKA
2. ADDRESS (Number and Street): 154 MARIE ST.
3. CITY, TOWN, VILLAGE: JOHNSON CITY | 4. STATE: NY | 5. ZIP CODE+4: 13790
7. TELEPHONE: (607) 797-7090

I hereby affirm under penalty of perjury, that information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

8 NAME/TITLE OF REPRESENTATIVE: ROBERT KALKA - MAINTENANCE SUPERVISOR

9 SIGNATURE: Robert Kalka | DATE: 12/23/86

**SECTION B—Instructions on Back**

| Action | Tank Number | Location | Capacity | Tank Type | Product Stored | Status | Installation Date | Leak Detection | Secondary Containment | Product Gauge | Piping Type | Dispenser | Test Certificate Enclosed | Official Use Only |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 001 | 1 | 10300 | 1 | 3 | 2 | 0000 | 6 | 6 | 0 | 1 | 2 | | |
| 1 | 002 | 1 | 10300 | 1 | 3 | 1 | 0000 | 6 | 6 | 0 | 1 | 2 | | |
| 1 | 003 | 1 | 10300 | 1 | 3 | 1 | 0000 | 6 | 6 | 0 | 1 | 2 | | |
| 1 | 004 | 1 | 10300 | 1 | 3 | 2 | 0000 | 6 | 6 | 0 | 1 | 2 | | |

**KEY FOR SECTION B** (Instructions on back)

ACTION
1 Register existing tank
2 Add Tank
3 Close/Remove Tank
4 Modify Tank

LOCATION
1 Underground
2 Underground vaulted, with access
3 Underground vaulted, no access
4 Aboveground
5 Aboveground on crib, etc.
6 Aboveground—10% or more below ground

TANK TYPE
1 Bare steel or steel with black asphalt coating
2 Steel in vault
3 Steel with interior epoxy lining
4 Steel retrofitted with cathodic protection
5 Steel with cathodic protection
6 Fiberglass coated steel
7 Fiberglass reinforced plastic
8 Double walled

PRODUCT STORED
1 Leaded gasoline
2 Unleaded gasoline
3 Nos. 1, 2 or 4 fuel oil
4 Nos. 5 or 6 fuel oil
5 Kerosene
6 Diesel
7 Other

STATUS
1 In service
2 Temporarily out
3 Permanently out

INSTALLATION DATE
This location
Month/year (mm/yy)

LEAK DETECTION SYSTEM
1 Electronic
2 Vapor well
3 Sampling well
4 In-tank system
5 Other
6 None

SECONDARY CONTAINMENT
1 Diking
2 Vault
3 Double wall tank
4 Underground liner
5 Other
6 None

PRODUCT GAUGE
0 None
1 Gauge

PIPING TYPE
1 Steel/Iron
2 Galvanized Steel
3 Wrapped Steel
4 Fiberglass
5 Cathodically protected
6 Double walled
7 Unknown

DISPENSER METHOD
1 Submersible
2 Suction
3 Gravity
4 Loading rack

REGION

NYS ENVIRONMENTAL CONSERVATION
615 ERIE BLVD WEST
SYRACUSE, NY 13204
(315) 426-7519



93-12-001 (4/85)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# PETROLEUM BULK STORAGE NOTICE

Required Test Schedule for Underground Storage Tanks

**PETROLEUM BULK STORAGE NUMBER**
182230

Test Date(s) Method(s)

Tests must be completed by the last day of the month indicated.
Reporting requirements are indicated on the back of this form.

ACTUAL TANK TEST REPORTS MUST BE SUBMITTED WITH THIS FORM TO THE DEC OFFICE PRINTED ON THE TOP LEFT HAND CORNER. SEE BACK OF OWNER"S COPY FOR ADDITIONAL INSTRUCTIONS AND REQUIREMENTS. IF YOU HAVE ANY QUESTIONS, CALL OR WRITE TO THE DEC OFFICE PRINTED IN THE TOP LEFT CORNER OF THIS FORM.

AN ASTERISK (*) NEXT TO THE TANK # INDICATES OVERDUE STATUS
THE OWNER OF A TANK WHICH IS OVERDUE FOR TESTING IS IN VIOLATION OF SECTION 613.5(A) OF 6NYCRR, PETROLEUM BULK STORAGE REGULATIONS.

| TANK NUMBER | DUE DATE | TANK TYPE | CAPACITY | PRODUCT |
|---|---|---|---|---|
| * 001 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL |
| * 002 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL |
| * 003 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL |
| * 004 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL |

INDICATE TEST RESULTS
(P-pass; F-fail)

| Tank | | Piping | | Unable |
|---|---|---|---|---|
| P | F | P | F | To Test |

This notice and a copy of the underground test report should be returned to DEC with the following information:

Tester's Name_____

Tester's Address_____

NAME OF FACILITY

VAIL BALLOU PRESS CUNTON ST D
187-195 CLINTON ST
BINGHAMTON NY
13905

I affirm that:
1. I am trained in performance of the test and have an understanding of the variables which affect the test.
2. The test methods used meet the Department's criteria.

Tester's Signature_____

Owner's Signature_____

NAME OF OWNER

MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK PA
17405

DEC DISPOSITION:

**DEPARTMENT COPY**

NYS ENVIRONMENTAL CONSERVATION
7481 HENRY CLAY BLVD.
LIVERPOOL, NY 13088



(315) 428-4514

93-06-004 (4/85)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# PETROLEUM BULK STORAGE REGISTRATION CERTIFICATE

FEE PAID 250

| TANK NUMBER | TESTING DUE DATE | DATE LAST TESTED | TANK TYPE | CAPACITY | DATE INSTALLED |
|---|---|---|---|---|---|
| 001 | 12/87 | | BARE STEEL | 10,300 | UNKWN |
| 002 | 12/87 | | BARE STEEL | 10,300 | UNKWN |
| 003 | 12/87 | | BARE STEEL | 10,300 | UNKWN |
| 004 | 12/87 | | BARE STEEL | 10,300 | UNKWN |

* Aboveground tanks require monthly visual inspections and documented internal inspections every ten years as described in 6 NYCRR Part 613.

As authorized representative of the above named facility, I affirm under penalty of perjury that the information displayed on this form is correct to the best of my knowledge. Additionally, I recognize that I am responsible for assuring that this facility is in compliance with all sections of 6 NYCRR Parts 612, 613 and 614, not just those cited below:

- The facility must be reregistered if there is a transfer of ownership.
- The Department must be notified within 30 days prior to adding, replacing, reconditioning, or permanently closing a stationary tank.
- The facility must be operated in accordance with the Code for Storing Petroleum, 6 NYCRR Part 613.
- Any new facility or substantially modified facility must comply with the Code for New and Substantially Modified Facilities, 6 NYCRR Part 614.
- **This certificate must be displayed on the premises at all times.**

Signature of Representative/Owner — Date

ISSUED BY:
COMMISSIONER HENRY G. WILLIAMS

PETROLEUM BULK STORAGE ID NUMBER 182230

DATE ISSUED 06/30/87

EXPIRATION DATE 06/30/92

OPERATOR
FRANK KEFFER
H C 78 BOX 1021
CASTLECREEK NY
13744

FACILITY
VAIL BALLOU PRESS CUNTON ST D
187-195 CLINTON ST
BINGHAMTON NY
13905

OWNER
MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK PA
17405

EMERGENCY CONTACT
ROBERT KALKA
154 MARIE ST
JOHNSON CITY NY 13790
(607) 797-7090

**DEPARTMENT COPY**

NYS ENVIRONMENTAL CONSERVATION
7481 HENRY CLAY BLVD.
LIVERPOOL, NY 13088



(315) 428-4514

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# PETROLEUM BULK STORAGE NOTICE

Required Test Schedule for Underground Storage Tanks

93-12-001 (4/85)

PETROLEUM BULK STORAGE NUMBER

Test Date(s) Method(s)

182230

Tests must be completed by the last day of the month indicated.
Reporting requirements are indicated on the back of this form.

| TANK NUMBER | DUE DATE | TANK TYPE | CAPACITY | PRODUCT | INDICATE TEST RESULTS (P-pass; F-fail) Tank P | Tank F | Piping P | Piping F | Unable To Test |
|---|---|---|---|---|---|---|---|---|---|
| PLEASE DISREGARD THIS NOTICE FOR RESULTS ALREADY SENT TO DEC | | | | | | | | | |
| 001 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL | | | | | |
| 002 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL | | | | | |
| 003 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL | | | | | |
| 004 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL | | | | | |

This notice and a copy of the underground test report should be returned to DEC with the following information:

Tester's Name_____

Tester's Address_____

NAME OF FACILITY

VAIL BALLOU PRESS CUNTON ST D
187-195 CLINTON ST
BINGHAMTON NY 13905

I affirm that:

1. I am trained in performance of the test and have an understanding of the variables which affect the test.
2. The test methods used meet the Department's criteria.

Tester's Signature_____

Owner's Signature_____

NAME OF OWNER

MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK PA 17405

DEC DISPOSITION:

DEPARTMENT COPY

LIBER 1091 PAGE 471

3781

FORM 584X N. Y. DEED—WARRANTY with Lien Covenant (From a Corporation) 264 TUTBLANK REGISTERED U.S. PAT. OFFICE Tuttle Law Print Publishers, Rutland Vt.

# This Indenture,

BROOME COUNTY, ss
Recorded on the 20 day of May 1965 at 2 01 o'clock P M. in Liber 1091 of Deeds on page 471 and examined
Howard Davis Clerk

*Made the* 19th *day of* May

*Nineteen Hundred and* Sixty-five

**Between** VAIL-BALLOU PRESS, INC.,

*a corporation organized under the laws of* the State of New York, and having its office and principal place of business at 187 Clinton Street, Binghamton, N. Y.

*party of the first part, and*

NEW MILFORD DEVELOPMENT CORPORATION, a Pennsylvania corporation having an office at No. 28 Crandall St., Binghamton, New York

**Witnesseth** *that the party of the first part, in consideration of* *part y of the second part,*

- - - - - - ONE AND MORE - - - - - - - - - - - - *Dollars* ($1.00 and more) *lawful money of the United States, paid by the part y of the second part, does hereby grant and release unto the part y of the second part,* its successors *and assigns forever, all* THOSE CERTAIN TRACTS OR PARCELS OF LAND, situate in the City of Binghamton, County of Broome and State of New York, bounded and described as follows:

PARCEL 1: Lots Numbers one (1) and two (2) as the same are laid down on a map of Isaac Hanchett Location, recorded in Broome County Clerk's Office in Book of Maps No. 1 at Page 297. Said lots are on the west side of Crandall Street (formerly McLean Street) and on the southerly corner of said Crandall Street and Hanchett Avenue and are together sixty five feet (65') front and rear and eighty-eight feet and two inches (88' 2") on the north line and eighty-six feet (86') on the south line, as more particularly appears on said map.

Being the same premises conveyed to Vail-Ballou Press, Inc., by Agfa Ansco Corporation by deed dated November 19, 1930, and recorded in said Clerk's Office November 21, 1930 in Book of Deeds 410 at page 74.

PARCEL 2: Lot No. 3 as laid down on a map of Isaac Hanchett Property, recorded in Broome County Clerk's Office in Book of Maps No. 1 at page 297. Said Lot No. 3 is situated on the south side of Hanchett Avenue and has a frontage on said Avenue of forty-two feet (42') according to said map.

Being the same premises conveyed to Vail-Ballou Press, Inc., by Agfa Ansco Corporation by deed dated November 19, 1930, and recorded in said Clerk's Office November 21, 1930 in Book 410 of Deeds at page 75.

PARCEL 3: Lot No. 4 as laid down on a map of Isaac Hanchett Property, recorded in Broome County Clerk's Office in Book of Maps No. 1 at page 297. Said lot is situated on the south side of Hanchett Avenue being the same premises conveyed to party of the first part by Helen Metrus by Warranty Deed, dated June 11, 1928, and recorded in Broome County Clerk's Office in Book of Deeds No. 380 at page 76. Excepting and reserving from the foregoing described premises the following triangular strip of land in the southwesterly corner of said Lot No. 4 as laid down on a map of Isaac Hanchett Property; beginning at a point in the westerly line of said Lot No. 4, distant

southerly fifty-two and twenty-five hundredths feet (52.25') from the intersection of said westerly line of Lot No. 4 with the southerly line of Hanchett Avenue; thence southwardly a distance of twenty-seven and ten hundredths feet (27.10') measured along said westerly line of lot No. 4 to a point in the southwesterly corner thereof; thence eastwardly with an interior angle of ninety-five degrees (95°) fifty-two minutes (52'), a distance of thirty-six and twenty-five hundredths feet (36.25') measured along the southerly line of lot No. 4 to a point in the southeasterly corner of lot No. 4; thence northwestwardly on a curve with a radius of two hundred ninety-six and thirty-one hundredths feet (296.31') parallel to and eight and thirty-six hundredths (8.36') distant northwardly from the center line of a proposed side track laid out by Erie Railroad Company, a distance of forty-seven and forty-two hundredths (47.42') feet to the point of beginning.

Being the same premises conveyed to Vail-Ballou Press, Inc., by Agfa Ansco Corporation by deed dated November 19, 1930, recorded in said Clerk's Office November 21, 1930, in Book of Deeds 410 at page 76.

PARCEL 4: Beginning in the south line of Slauson Avenue, formerly Hanchett Avenue, at an iron in the northwest corner of Lot No. 7 as laid down on a map of the Isaac Hanchett Property recorded in Broome County Clerk's Office in Book of Maps No. 1 at page 297; thence south sixty-seven degrees twenty-three minutes (67° 23') east a distance of one hundred twenty-six and one-tenth feet (126.1') more or less along the south line of Slauson Avenue to an iron in the northwest corner of Lot No. 4 of the Isaac Hanchett Property; thence south eighteen degrees six minutes (18° 6') west a distance of fifty-two and twenty-four hundredths feet (52.24') more or less along the west line of said Lot No. 4 to an iron in such line; thence southeastwardly in a straight line a distance of forty-seven and forty-nine hundredths feet (47.49') more or less to an iron in the southeast corner of said lot No. 4; thence north sixty-six degrees twenty-eight minutes (66° 28') west a distance of one hundred forty-five and forty-five hundredths feet (145.45') more or less along the south line of lots Nos. 4,5,6, and 7 of the Isaac Hanchett Property to an iron in the southwest corner of said Lot No. 7; thence north five degrees fifty-nine minutes (5°59') east a distance of eighty-one feet (81') more or less along the west line of said lot No. 7 to the place of beginning.

The foregoing comprising Lots 5, 6 and 7 as shown on the aforesaid map of the Isaac Hanchett Property and a portion of Lot 4 as shown on said map.

Being the same premises conveyed to Vail-Ballou Press, Inc., by General Aniline & Film Corporation by deed dated February 19, 1947, and recorded in said Clerk's Office the same day in Book of Deeds 628 at page 100.

There is also hereby conveyed the right to use in common with General Aniline & Film Corporation, its successors and assigns, for the purpose of entering upon the premises above conveyed from Hudson Street and of egress from said premises to said Hudson Street, to pass, repass and travel over the strip of land fifteen (15) feet wide, or thereabouts, which lies immediately west of the premises above conveyed and immediately east of the easterly line of said Hudson Street, and which strip of land extends from the southwesterly corner of the premises above conveyed, northwardly to Slauson Avenue (formerly Hanchett Avenue), a distance of approximately eighty-one feet (81'), as more particularly described in the deed from General Aniline & Film Corporation referred to above.

Being the same premises conveyed by Agfa Ansco Corporation to General Aniline & Film Corporation by deed dated December 29, 1939, and recorded in said Clerk's Office on January 29, 1940 in Book of Deeds No. 498 at page 66, and described therein as parcels Nos. 1, 17 and 21. There is reserved to the grantor, its successors and assigns, the right to use, maintain, repair and replace the three westernmost oil storage tanks and the pump house located south of the quonset warehouse on the above property, together with the oil line, heat line and electrical line in or near the underground conduits running from said tanks and pump house to other lands of the grantor lying west of Hudson Street, together with rights of ingress and egress to and from said tanks, pump house and conduits for purposes of using, repairing, replacing and maintaining the same, any damage resulting therefrom to be the responsibility of the grantor.

Together *with the appurtenances and all the estate and rights of the party of the first part in and to said premises,*

To have and to hold *the premises herein granted unto the part y of the second part,* its successors and assigns *forever.*

And *the party of the first part covenants as follows:*
First, *That the part y of the second part shall quietly enjoy the said premises;*
Second, *That the party of the first part will forever* Warrant *the title to said premises.*

Third, *That, in Compliance with Sec. 13 of the Lien Law, the grantor will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.*

In Presence of

In Witness Whereof, *the party of the first part has caused its corporate seal to be hereunto affixed, and these presents to be signed by its duly authorized officer this* 19th *day of* May, *Nineteen Hundred and* Sixty-five

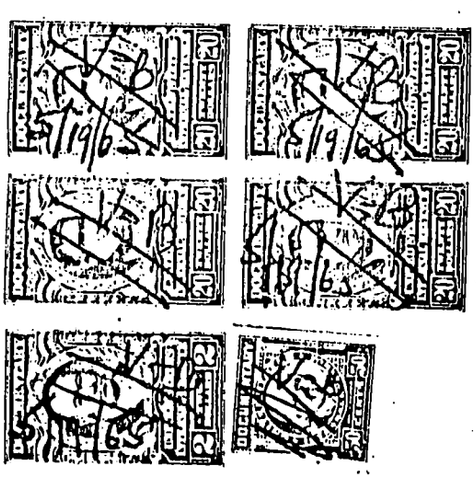
VAIL-BALLOU PRESS, INC.

By Samuel E. Vail
Sec'y-Treas.

State of New York
County of BROOME } ss. *On this* 19th *day of* May, *Nineteen Hundred and* Sixty-five *before me personally came* Samuel E. Vail

*to me personally known, who, being by me duly sworn, did depose and say that he resides in* Town of Binghamton, 7 East Hamton Rd. *that he is the* Secretary-Treasurer *of* Vail-Ballou Press, Inc. *the corporation described in, and which executed, the within Instrument; that he knows the seal of said corporation; that the seal affixed to said Instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation; and that he signed* his *name thereto by like order.*

Lowen W. Guy
Notary Public
My commission expires 1967



# This Indenture,

*Made the* 29th *day of* August *Nineteen Hundred and* eighty-eight

**Between**

VAIL-BALLOU PRESS, INC.

*a corporation organized under the laws of* Delaware, with an office located at 187 Clinton Street, Binghamton, New York 13905,

*party of the first part, and*

CHARLES CONTRO, residing at 21 Oak Street, Harbor Oaks, Florida 32019,

*party of the second part;*

**Witnesseth** *that the party of the first part, in consideration of* One and no/100 - - - - - - - - - - - - - - - - - - - - - - - - - *-Dollar* *($1.00----------) lawful money of the United States,* and such other good and valuable consideration *paid by the party of the second part, does hereby grant and release unto the party of the second part,* his heirs, executors *and assigns forever, all* -

See Schedule "A" attached hereto and made a part hereof.

## SCHEDULE "A"

Parcel 1

ALL THAT TRACT, PIECE OR PARCEL OF LAND, situate in the City of Binghamton, County of Broome, State of New York described as follows:

Beginning at a rebar (reinforcing rod) set at the intersection of the easterly boundary of Jarvis Street with the northerly line of Consolidated Rail Corporation;

Then S56-30-08E along said Consolidated Rail Corporation northerly line a distance of 111.10 feet to a point;

Then southeasterly on a curve to the left having a radius of 2268.01 feet a distance of 209.55 feet to a concrete monument found;

Then along the bounds of the property described in a deed to Rozen recorded in Book 1577 at page 188 the following four courses:

N05-29-29W a distance of 32.09 feet to a rebar found;

Then N84-24-25E a distance of 49.92 feet to a rebar found;

Then N78-42-28E a distance of 112.75 feet to a rebar found;

Then N84-30-42E a distance of 99.17 feet to a railroad spike found in the westerly boundary of Hudson Street;

Then N05-11-25W along said westerly street boundary a distance of 235.59 feet to a vertical division between two buildings (1988);

Then along the bounds of the property described in a deed to First City National Bank of Binghamton, N.Y. recorded in Book 1236 at page 823 and shown on a map entitled "Property of Hugh T. Beckwith Inc. and Matthew Zak et al", by Wakeman F. Sherwood, C.E. recorded in Book 4 of Maps at page 121 the following three courses:

S85-02-12W along the line between the two aforementioned buildings a distance of 63.75 feet to a point;

Then N76-53-48W a distance of 47.03 feet to a rebar set;

Then N10-04-31E a distance of 95.01 feet to a rebar set in the southerly boundary of Clinton Street;

Then N77-22-09W along said southerly street boundary a distance of 239.71 feet to a rebar set;

Then along the bounds of the property described in a deed to Moore recorded in Book 1237 at page 193 the following three courses:

S11-27-33W a distance of 131.68 feet to a rebar set;

Then N77-22-09W a distance of 50.00 feet to a point, said point being S11-27-33W a distance of 0.2 foot from an iron found;

Then N11-27-33E a distance of 131.68 feet to a pipe found in the aforementioned southerly boundary of Clinton Street;

Then N77-22-09W along said southerly street boundary a distance of 54.96 feet to a twist bar found;

Then S11-27-33W along the easterly lines of the property described in a deed to Rogers recorded in Book 1365 at page 381 and the property described in a deed to Barklow recorded in Book 1545 at page 7 a distance of 131.68 feet to a point, said point being S11-27-33W a distance of 0.5 foot from an iron found;

DEPT. OF ASSESSMENT
BINGHAMTON, NY

NOV 18 1988

E. F. SMITH, I.A.O.
ASSESSOR
J. M. VILLANTI
TAX AIDE

Then N77-22-09W along the southerly line of said Barklow property a distance of 80.71 feet to an iron found in the easterly boundary of Jarvis Street;

Then S05-45E along the easterly boundary of Jarvis Street a distance of 92.88 feet to a point;

Then S09-33-02E continuing along said easterly street boundary, a distance of 105.97 feet to the point of beginning.

This parcel contains 3.877 acres as shown on a survey map by Lynn Pullis, Licensed Surveyor, dated October 3, 1988 and revised October 7, 1988.

Parcel 2

ALSO, ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Binghamton, County of Broome and State of New York, briefly described as follows:

Beginning at a spike found at the intersection of the southerly boundary of Clinton Street with the easterly boundary of Hudson Street;

Then S77-22-09E along the southerly boundary of Clinton Street a distance of 93.88 feet to a brass pin found;

Then S04-37-27E along the westerly line of the property described in a deed to Crossley recorded in Book 1488 at page 17 a distance of 83.84 feet to a P.K. nail set;

Then along the bounds of the parcel excepted in the property described in a deed to Press Holding Co., Inc. recorded in Book 1165 at pages 377 and 378 the following three courses;

N78-37-24W a distance of 1.73 feet to a rebar (reinforcing rod) set;

Then S05-33-43E a distance of 35.42 feet to a P.K. nail set;

Then S78-05-17E a distance of 1.13 feet to a P.K. nail set;

Then S-04-37-27E along the westerly line of the aforementioned Crossley property a distance of 47.80 feet to the southerly edge of an old stone foundation wall, said point being 0.7 foot east of the southwesterly corner of said wall;

Then N79-04-11W along the northerly lines of the property described in a deed to Milodick recorded in Book 1243 at page 144 and the property described in a deed to Pekar recorded in Book 329 at page 81 a distance of 91.32 feet to an iron found in the easterly boundary of Hudson Street;

Then N05-11-25W along said easterly street boundary a distance of 170.26 feet to the point of beginning.

This parcel contains 0.342 acre as shown on a survey map by Lynn Pullis, Licensed Surveyor, dated October 3, 1988 and revised October 7, 1988.

Parcel 3

ALSO, ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Binghamton, County of Broome and State of New York, bounded and described as follows:

Beginning at a rebar (reinforcing rod) found in the westerly boundary of Hudson Street, said rebar being N05-11-25W a distance of 49.29 feet from a concrete monument found at the intersection of said westerly street boundary with the northerly line of Consolidated Rail Corporation;

Then along the bounds of the property described in a deed to Rozen recorded in Book 1577 at page 188 the following three courses:

N85-13-35W a distance of 64.64 feet to a rebar found;

Then N05-10-50W a distance of 69.04 feet to a railroad spike found;

Then N85-01-32E a distance of 63.65 feet to a rebar found in the westerly boundary of Hudson Street;

Then S05-11-25E along said westerly street boundary a distance of 79.98 feet to the point of beginning.

This parcel contains 0.109 acre as shown on a survey map by Lynn Pullis, Licensed Surveyor, dated October 3, 1988 and revised October 7, 1988.

Being the same premises conveyed to Press Holding Co., Inc., now known as Vail-Ballou Press, Inc. by deed from Vail-Ballou Press, Inc. dated November 20, 1970 and recorded in the Broome County Clerk's Office on November 23, 1970 in Book 1165 of Deeds at page 366.

Party of the first part hereby warrants that the property described in this conveyance does not constitute all or substantially all of the assets of the corporation.

**Together** *with the appurtenances and all the estate and rights of the party of the first part in and to said premises,*

**To have and to hold** *the premises herein granted unto the party of the second part,* his heirs, executors *and assigns forever.*

**And** *the party of the first part covenants that it has not done or suffered anything whereby the said premises have been incumbered in any way whatever.*

**And** *That, in Compliance with Sec. 13 of the Lien Law, the grantor will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.*

**In Presence of**

**In Witness Whereof,** *The party of the first part has caused its corporate seal to be hereunto affixed, and these presents to be signed by its duly authorized officer the day and year first above written.*

VAIL-BALLOU PRESS, INC.

By John W. Bowman V-P

PENNSYLVANIA

**State of New York**
**County of** YORK } **ss.**

**of**

*On this* 29th *day of* August *, Nineteen Hundred and* eighty-eight *before me personally came* John W. Bowman *to me personally known, who, being by me duly sworn, did depose and say that he resides in* York, Pennsylvania *that he is the* Vice President *of* VAIL-BALLOU PRESS, INC. *the corporation described in, and which executed, the above Instrument; that he knows the seal of said corporation; that the seal affixed to said Instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation; and that he signed his name thereto by like order.*

Sandra L. LoBianco
Notary Public

SANDRA L. LOBIANCO, Notary Public
[illegible] YORK COUNTY
[illegible]

Form
Covenant Against Grantor with Lien Covenant
(Corporation)

VAIL-BALLOU PRESS, INC.

**TO**

CHARLES CONTRO

Dated, August 29, 1988

1322 902

Please record and return to:
Alan M. Zalbowitz, Esq.
Netter, Zalbowitz & Gartell
66 Hawley Street
Binghamton, New York 13901

1733 202

BROOME COUNTY CLERK: SS
Records Office
Recording Page

Type of Instrument: Def-

Recording Charge: 23-

Cross Reference: _____

TOTAL 23-

EXMD. WJR.

Transfer Tax Stamps Attached

AMT. $ 1940-

DATE _____

T.T. # 2253

Recorded on the 17 day of Nov 1988
at 1:08 o'clock PM. in Liber 1733 of
Deeds on page 288, examined
and charged as follows:

Mortgage Amount: $ _____

Exempt: Yes ___ No ___

Received Tax on Above Mortgage:

Basic $_____

Additional $_____

Subtotal $_____

Special $_____

Total $_____

MT # _____

Richard A. Eldgan

(This page is a part of the instrument)

NYS ENVIRONMENTAL CONSERVATION
7481 HENRY CLAY BLVD.
LIVERPOOL, NY 13088



(315) 428-4514

93-12-001 (4/85)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# PETROLEUM BULK STORAGE NOTICE

Required Test Schedule for Underground Storage Tanks

PETROLEUM BULK STORAGE NUMBER: 7-622230

Tests must be completed by the last day of the month indicated.
Reporting requirements are indicated on the back of this form.

| Test Date(s) | Method(s) | TANK NUMBER | DUE DATE | TANK TYPE | CAPACITY | PRODUCT | INDICATE TEST RESULTS (P-pass; F-fail) Tank P | Tank F | Piping P | Piping F | Unable To Test |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PLEASE DISREGARD THIS NOTICE FOR RESULTS ALREADY SENT TO DEC | | | | | | | | | | | |
| 11-27-89 | Ainlay | 001 | 12/87 | BARE STEEL | 10,300 NOS | 1,2,4 FUEL | X | | | X | |
| 9-20-89 | Ainlay | 002 | 12/87 | BARE STEEL | 10,300 NOS | 1,2,4 FUEL | X | | X | | |
| 11-22-89 | Ainlay | 003 | 12/87 | BARE STEEL | 10,300 NOS | 1,2,4 FUEL | X | | | X | |
| 9-22-89 | Ainlay | 004 | 12/87 | BARE STEEL | 10,300 NOS | 1,2,4 FUEL | X | | X | | |

JAN 2 4

This notice and a copy of the underground test report should be returned to DEC with the following information:

Tester's Name: TRI-STATE TANK service / Luzon Oil Co.

Tester's Address: P.O. Box 19, Hurleyville N.Y. 12747

NAME OF FACILITY

VAIL BALLOU PRESS CUNTON ST D'
187-195 CLINTON ST
BINGHAMTON NY
13905

I affirm that:
1. I am trained in performance of the test and have an understanding of the variables which affect the test.
2. The test methods used meet the Department's criteria.

Tester's Signature

Owner's Signature

NAME OF OWNER

MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK PA
17405

DEC DISPOSITION:

DEPARTMENT COPY

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805


RECEIVED
OCT 16 1989

October 2, 1989

Vail Ballou Press
187 Clinton Street
Bighamton, New York 13902

Attention: Bob Kalka

Re: Underground tank testing, as per 6NYCRR 613.5(a).

The National Fire Protection Association's criteria for a tight tank system is a system with a rate of leak less than +/- .050 gal/hr. for tank systems 12,500 gallons or less. These are calculated, mathematical tolerances only and are not meant to indicate the permission of any leak.

Criteria for tightness test [6NYCRR 613.5(a)(6)] "A tightness test is a test acceptable to the department which will determine if a tank and piping system is tight or not tight. The test must be capable of detecting a tank or piping leak as small as five hundredths (.05) of a gallon in one hour accounting for variables such as vapor pockets, thermal expansion of product, temperature stratification, groundwater level, evaporation, pressure and end deflection."

During the ***Ainley Tank 'Tegrity Test*** propane gas bubbles are introduced one (1) inch below the product level through a 1/4" tube. The pressure required to introduce bubbles varies with changes in product level, and is related to volume changes. Pressure changes are measured by a manometer type coil (slope tube). A slight liquid level change in the tank is exaggerated approximately fifty (50) times when transmitted from bubble tube to slope tube.

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805


**Facility:** Vail Ballou Press
187 Clinton Street
Bighamton, N.Y.

**PBS #:** 182230

**Tank #s:** **#001** - 10,300 gallon **#003** - 10,300 gallon
**#002** - 10,300 gallon **#004** - 10,300 gallon

**Test Date: 9-19-89**

Tank system #003 showed a rate of leak of +.127 gallons per hour. Tank system failed the test.

**Test Date: 9-20-89**

Tank system #002 showed a rate of leak of -.025 gallons per hour. Tank system test tight.

**Test Date: 9-22-89**

Tank system #004 showed a rate of leak of +.046 gallons per hour. Tank system tested tight.

**Test Date: 9-25-89** **Test Method: Petro-Tite**

Tank system #001 showed a rate of leak of -.092 gallons per hour. Tank system failed the test.

**New York State Regulations require notification within 2 hours of tank test failure.**

**Spill Notification Number:** 8906060

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805


**A tank system test failure indicates the following:**

a) The tank may be leaking.
b) The attached piping and/or fittings may be leaking.
c) Both the tank and the associated piping may be leaking.

In some cases unstable air along the tank top may cause an erroneous volume reading. We recommend re-testing be performed with tank top excavated to allow isolation of tank from piping and tank top modifications permitting the evacuation of any entrapped air or product vapor.

Enclosed are two (2) copies of this report and the test data. One is for your records and the other is to be sent to New York State D.E.C.

Please be advised that you will need to re-test,abandon, repair or remove this leaking tank as directed by New York State DEC in order to clear your record of the spill.

If you have any questions or need additional information, please contact me.

Very truly yours,

Robert B. Halprin,
Luzon Oil Co., Inc.

/enclosures

RBH:amd

SOILTEST®

# AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

**1 TANK OPERATOR**

NAME / ADDRESS / PHONE

WM L BALLOU PRESS
187 CLINTON ST. BINGHAMTON N.Y.

**2 TANKS TO BE TESTED**

| IDENTIFICATION | CAPACITY—GALS. | MANUFACTURER | STEEL/FIBRGLS. | AGE—YRS. |
|---|---|---|---|---|
| TH 004 | 10,300 | ? | STEEL | ? |
| TH 001 | 10,300 | ? | STEEL | ? |

**3 WATER TABLE**

DISTANCE FROM GRADE TO WATER -135 INS.

**4 TANK FILL-UP**

TANK WILL BE FILLED 5TH (TIME) ON 9/20/89
EXTRA 5 GALS PRODUCT AVAILABLE FROM TRI-STATE TANK
FILL UP TO BE ARRANGED BY MR. TRI-STATE TANK PHONE ( )
CONTACT AT STORAGE TERMINAL IS MR. PHONE ( )

**5 OUTSIDE CONTRACTORS**

NAME / ADDRESS / PHONE

**6 OFFICIALS TO BE CONTACTED**

NAME / AUTHORITY / PHONE

P.E.C. 1-800-457-7362

**7 SPECIAL NOTES OR PRECAUTIONS**

PBS # 182230

SPILL #890660

**8 TEST RESULTS**

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

| TANK IDENT | TANK IS TIGHT | TANK IS NOT TIGHT | LEAK RATE G. P. H. | TEST DATE |
|---|---|---|---|---|
| TH-004 | X | | +.016 | 9-22-89 |
| TH 001 | | X | +.092 | 9-25-89 |

**9 CERTIFICATION**

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED [signature] CERTIFICATE NO. 1315
ISSUE DATE 10-13-89
FOR (TEST COMPANY) TRI-STATE TANK SERVICE
ADDRESS Luzon Oil Co. Inc.
P.O. Box 19
HURLEYVILLE, NEW YORK 12747 ZIP
(914) 434-7808

ST-8 (REV. 2/87)

# AINLAY TANK TIGHTNESS TEST No. [illegible]

**10 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 83 INS FILL PIPE LENGTH 40 INS

**11 WATER IN TANK**

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

**12 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,300 GALS (c) DEDUCT WATER IN TANK +0 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 10,327 GALS (d) TOTAL PRODUCT VOL. 10,327 GALS

**13 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = .831 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .031 = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**14 PRELIM TEST DATA**

(a) START TEMP CHECK 805 (AM)/PM
(b) END TEMP CHECK ____ AM/PM
(c) TIME SINCE LAST LIQ. ADDED 1 HRS
(d) A.P.I. GRAVITY 25.9 At 66 °F
(e) A.P.I. GRAVITY 25.6 At 60°F
(f) COEFF. OF EXPANSION .000428 10

**15 TEST DATA**

(a) START TEST 1005 (AM)/PM: END TEST 1105 (AM)/PM: TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1005 | 65.6975 | 65.7453 | 64.1140 | 65.3262 | | | | | |
| 1010 | 65.6875 | 65.7408 | 64.1052 | 65.3203 | | | | | |
| 1015 | 65.6542 | 65.7409 | 64.1049 | 65.3174 | | | | | |
| 1020 | 65.6659 | 65.7413 | 64.1103 | 65.3232 | | | | | |
| 1025 | 65.6612 | 65.7360 | 64.1085 | 65.3171 | | | | | |
| 1030 | 65.6704 | 65.7340 | 64.1101 | 65.3181 | | | | | |
| 1035 | 65.6730 | 65.7354 | 64.1144 | 65.3167 | | | | | |
| 1040 | 65.6685 | 65.7327 | 64.1142 | 65.3139 | | | | | |
| 1045 | 65.6695 | 65.7323 | 64.1132 | 65.3126 | | | | | |
| 1050 | 65.6701 | 65.7292 | 64.1067 | 65.3123 | | | | | |
| 1055 | 65.6725 | 65.7289 | 64.0983 | 65.3086 | | | | | |
| 1100 | 65.6636 | 65.7201 | 64.0838 | 65.2974 | | | | | |
| 1105 | 65.6667 | 65.7242 | 64.0924 | 65.3062 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. − AVG START TEMP.) = [illegible] = [illegible] = +.0200 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL. x TEMP. CHANGE x COEFF. EXP.

= 10,327 (15d) x [illegible] (15b) x [illegible] (15f) = +.0584 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = +1 GALS.

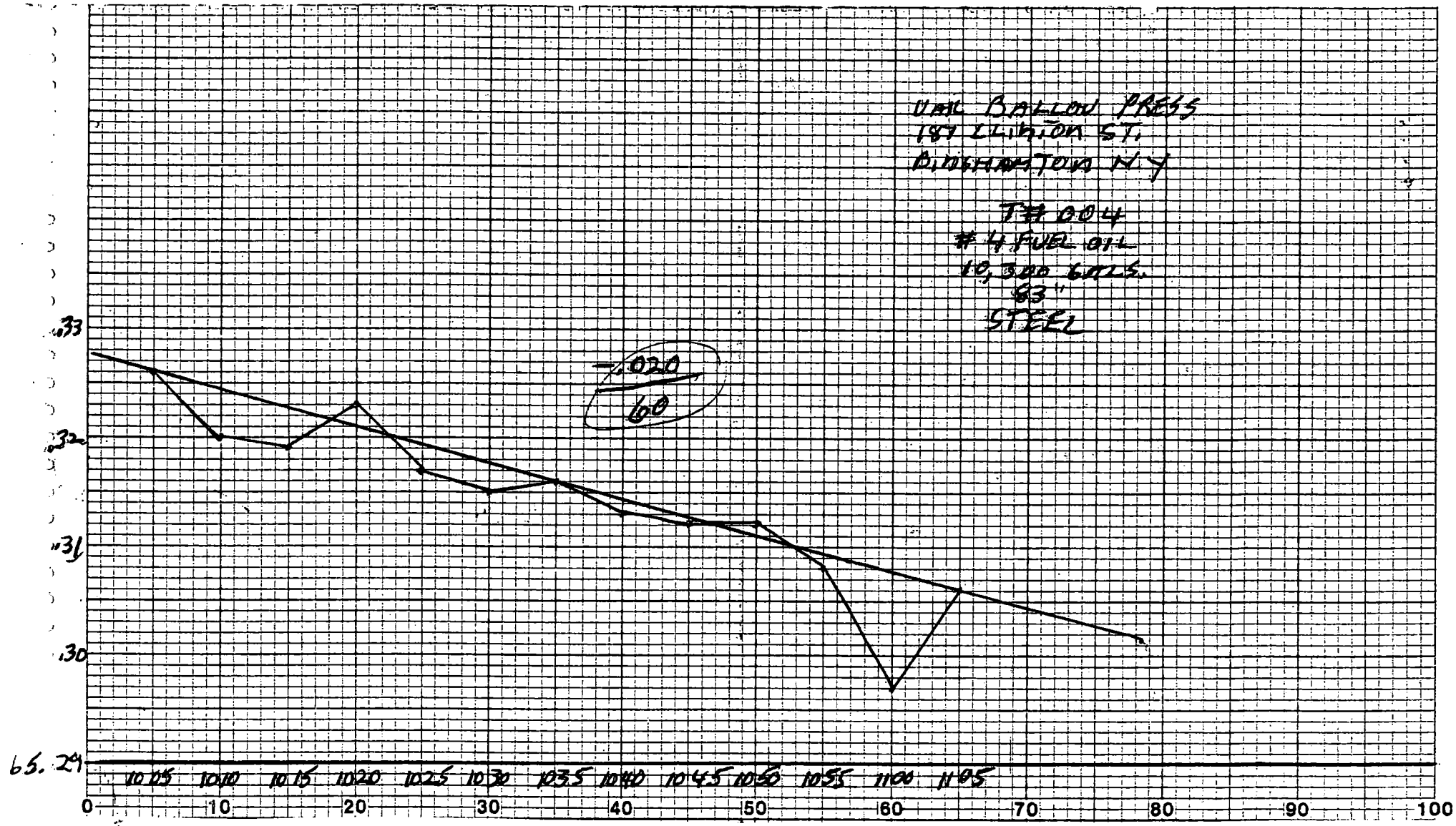
(e) VOL. CHANGE NOT DUE TO TEMP ((c) + (d)) ..... = .0584 + 1.130 = 1.0416 GALS.

(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = 1.0416 x 60 / 60 (15a) = 1.0416 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC.; BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☑ / THE TANK IS NOT TIGHT ☐

JOB ADDRESS ____ DATE 1/1/1 TESTER TEST COMPANY ____


VAIL BALLOW PRESS
187 LIBERTY ST.
BINGHAMTON N.Y.
T# 004
#4 FUEL OIL
10,000 GALS.
63"
STEEL
.020
60
.33
.32
.31
.30
65.29
10 05 10 10 10 15 10 20 10 25 10 30 10 35 10 40 10 45 10 50 10 55 11 00 11 05
0
10
20
30
40
50
60
70
80
90
100

| | | |
|---|---|---|
| TIME | 22:08:05 | |
| CH1 | 65.9211 | DEG F |
| CH2 | 65.8230 | DEG F |
| CH3 | 64.2644 | DEG F |
| AVG | 65.4586 | DEG F |
| TIME | 22:08:10 | |
| CH1 | 65.8448 | DEG F |
| CH2 | 65.7952 | DEG F |
| CH3 | 64.2290 | DEG F |
| AVG | 65.4174 | DEG F |
| TIME | 22:08:15 | |
| CH1 | 65.8044 | DEG F |
| CH2 | 65.7823 | DEG F |
| CH3 | 64.2211 | DEG F |
| AVG | 65.3986 | DEG F |
| TIME | 22:08:20 | |
| CH1 | 65.7756 | DEG F |
| CH2 | 65.7757 | DEG F |
| CH3 | 64.2188 | DEG F |
| AVG | 65.3860 | DEG F |
| TIME | 22:08:25 | |
| CH1 | 65.7663 | DEG F |
| CH2 | 65.7731 | DEG F |
| CH3 | 64.2134 | DEG F |
| AVG | 65.3816 | DEG F |
| TIME | 22:08:30 | |
| CH1 | 65.7583 | DEG F |
| CH2 | 65.7670 | DEG F |
| CH3 | 64.1997 | DEG F |
| AVG | 65.3761 | DEG F |
| TIME | 22:08:35 | |
| CH1 | 65.7520 | DEG F |
| CH2 | 65.7629 | DEG F |
| CH3 | 64.1864 | DEG F |
| AVG | 65.3669 | DEG F |
| TIME | 22:08:40 | |
| CH1 | 65.7482 | DEG F |
| CH2 | 65.7583 | DEG F |
| CH3 | 64.1785 | DEG F |
| AVG | 65.3628 | DEG F |
| TIME | 22:08:45 | |
| CH1 | 65.7544 | DEG F |
| CH2 | 65.7623 | DEG F |
| CH3 | 64.1832 | DEG F |
| AVG | 65.3678 | DEG F |
| TIME | 22:08:50 | |
| CH1 | 65.7460 | DEG F |
| CH2 | 65.7573 | DEG F |
| CH3 | 64.1742 | DEG F |
| AVG | 65.3603 | DEG F |
| TIME | 22:08:55 | |
| CH1 | 65.7490 | DEG F |
| CH2 | 65.7610 | DEG F |
| CH3 | 64.1706 | DEG F |
| AVG | 65.3628 | DEG F |
| TIME | 22:09:00 | |
| CH1 | 65.7470 | DEG F |
| CH2 | 65.7605 | DEG F |
| CH3 | 64.1672 | DEG F |
| AVG | 65.3596 | DEG F |
| TIME | 22:09:05 | |
| CH1 | 65.7411 | DEG F |
| CH2 | 65.7571 | DEG F |
| CH3 | 64.1646 | DEG F |
| AVG | 65.3568 | DEG F |
| TIME | 22:09:10 | |
| CH1 | 65.7300 | DEG F |
| CH2 | 65.7523 | DEG F |
| CH3 | 64.1637 | DEG F |
| AVG | 65.3518 | DEG F |
| TIME | 22:09:15 | |
| CH1 | 65.7230 | DEG F |
| CH2 | 65.7509 | DEG F |
| CH3 | 64.1694 | DEG F |
| AVG | 65.3497 | DEG F |
| TIME | 22:09:20 | |
| CH1 | 65.7217 | DEG F |
| CH2 | 65.7537 | DEG F |
| CH3 | 64.1657 | DEG F |
| AVG | 65.3501 | DEG F |
| TIME | 22:09:25 | |
| CH1 | 65.7175 | DEG F |
| CH2 | 65.7517 | DEG F |
| CH3 | 64.1512 | DEG F |
| AVG | 65.3421 | DEG F |
| TIME | 22:09:30 | |
| CH1 | 65.7191 | DEG F |
| CH2 | 65.7510 | DEG F |
| CH3 | 64.1441 | DEG F |
| AVG | 65.3423 | DEG F |
| TIME | 22:09:35 | |
| CH1 | 65.7193 | DEG F |
| CH2 | 65.7500 | DEG F |
| CH3 | 64.1440 | DEG F |
| AVG | 65.3425 | DEG F |
| TIME | 22:09:40 | |
| CH1 | 65.7196 | DEG F |
| CH2 | 65.7493 | DEG F |
| CH3 | 64.1441 | DEG F |
| AVG | 65.3414 | DEG F |
| TIME | 22:09:45 | |
| CH1 | 65.7181 | DEG F |
| CH2 | 65.7455 | DEG F |
| CH3 | 64.1412 | DEG F |
| AVG | 65.3391 | DEG F |
| TIME | 22:09:50 | |
| CH1 | 65.7201 | DEG F |
| CH2 | 65.7455 | DEG F |
| CH3 | 64.1413 | DEG F |
| AVG | 65.3394 | DEG F |
| TIME | 22:09:55 | |
| CH1 | 65.7225 | DEG F |
| CH2 | 65.7482 | DEG F |
| CH3 | 64.1353 | DEG F |
| AVG | 65.3409 | DEG F |
| TIME | 22:10:00 | |
| CH1 | 65.7041 | DEG F |
| CH2 | 65.7440 | DEG F |
| CH3 | 64.1192 | DEG F |
| AVG | 65.3297 | DEG F |
| TIME | 22:10:05 | |
| CH1 | 65.6975 | DEG F |
| CH2 | 65.7453 | DEG F |
| CH3 | 64.1140 | DEG F |
| AVG | 65.3262 | DEG F |
| TIME | 22:10:10 | |
| CH1 | 65.6875 | DEG F |
| CH2 | 65.7408 | DEG F |
| CH3 | 64.1052 | DEG F |
| AVG | 65.3203 | DEG F |
| TIME | 22:10:15 | |
| CH1 | 65.6842 | DEG F |
| CH2 | 65.7409 | DEG F |
| CH3 | 64.1049 | DEG F |
| AVG | 65.3194 | DEG F |
| TIME | 22:10:20 | |
| CH1 | 65.6889 | DEG F |
| CH2 | 65.7413 | DEG F |
| CH3 | 64.1103 | DEG F |
| AVG | 65.3232 | DEG F |
| TIME | 22:10:25 | |
| CH1 | 65.6812 | DEG F |
| CH2 | 65.7360 | DEG F |
| CH3 | 64.1085 | DEG F |
| AVG | 65.3171 | DEG F |
| TIME | 22:10:30 | |
| CH1 | 65.6761 | DEG F |
| CH2 | 65.7340 | DEG F |
| CH3 | 64.1101 | DEG F |
| AVG | 65.3150 | DEG F |
| TIME | 22:10:35 | |
| CH1 | 65.6730 | DEG F |
| CH2 | 65.7359 | DEG F |
| CH3 | 64.1144 | DEG F |
| AVG | 65.3167 | DEG F |
| TIME | 22:10:40 | |
| CH1 | 65.6689 | DEG F |
| CH2 | 65.7327 | DEG F |
| CH3 | 64.1142 | DEG F |
| AVG | 65.3139 | DEG F |
| TIME | 22:10:45 | |
| CH1 | 65.6695 | DEG F |
| CH2 | 65.7323 | DEG F |
| CH3 | 64.1132 | DEG F |
| AVG | 65.3126 | DEG F |
| TIME | 22:10:50 | |
| CH1 | 65.6701 | DEG F |
| CH2 | 65.7292 | DEG F |
| CH3 | 64.1067 | DEG F |
| AVG | 65.3123 | DEG F |
| TIME | 22:10:55 | |
| CH1 | 65.6725 | DEG F |
| CH2 | 65.7289 | DEG F |
| CH3 | 64.0983 | DEG F |
| AVG | 65.3086 | DEG F |
| TIME | 22:11:00 | |
| CH1 | 65.6636 | DEG F |
| CH2 | 65.7201 | DEG F |
| CH3 | 64.0838 | DEG F |
| AVG | 65.2974 | DEG F |
| TIME | 22:11:05 | |
| CH1 | 65.6667 | DEG F |
| CH2 | 65.7292 | DEG F |
| CH3 | 64.0924 | DEG F |
| AVG | 65.3062 | DEG F |

T#004

# AINLAY TANK TIGHTNESS TEST No.

TANK #1 #4 FUEL OIL

**16 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 83 INS — FILL PIPE LENGTH 37 INS

**17 WATER IN TANK**

(a) START WATER IN TANK 0 INS — (c) END WATER IN TANK 0 INS

(b) START WATER IN TANK 0 GALS — (d) END WATER IN TANK 0 GALS

**18 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,300 GALS — (c) DEDUCT WATER IN TANK +0 GALS (Top-off +5)

(b) ACTUAL CAPACITY (FROM TANK CHART) 10,322 GALS — (d) TOTAL PRODUCT VOL. 10,327 GALS

**19 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS

(b) DENSITY OF TANK PRODUCT = .0231 (w) LB/CU. IN. (FROM TABLES)

DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.

(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .0231 = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**20 PRELIM TEST DATA**

(a) START TEMP CHECK 10:30 AM/PM — (d) A.P.I. GRAVITY 25.3 AT 68 °F

(b) END TEMP CHECK ____ AM/PM — (e) A.P.I. GRAVITY 24.9 AT 60°F

(c) TIME SINCE LAST LIQ. ADDED 1/2 HRS — (f) COEFF. OF EXPANSION .00042562

**21 TEST DATA**

(a) START TEST ____ AM/PM END TEST ____ AM/PM: TEST TIME ____ MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1320 | 696237 | 712916 | 70.0218 | 70.5587 | | | | | |
| 1325 | 696180 | 712894 | 70.0133 | 705557 | | | | | |
| 1330 | 695976 | 712860 | 70.0027 | 705434 | | | | | |
| 1335 | 695942 | 712877 | 70.0030 | 705473 | | | | | |
| 1340 | 695882 | 712876 | 70.0025 | 705432 | | | | | |
| 1345 | 695845 | 712860 | 69.9937 | 705392 | | | | | |
| 1350 | 695814 | 712774 | 69.9955 | 705369 | | | | | |
| 1355 | 695853 | 712720 | 69.9946 | 705323 | | | | | |
| 1400 | 695801 | 712742 | 69.9955 | 705327 | | | | | |
| 1405 | 695755 | 712666 | 69.9950 | 705256 | | | | | |
| 1410 | 695669 | 712645 | 70.0013 | 705277 | | | | | |
| 1415 | 695721 | 712625 | 69.9927 | 705237 | | | | | |
| 1420 | 695736 | 712638 | 70.0010 | 705273 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = .5273 − .5587 = +14.0314 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.

= 10,327 (18d) × .0314 (21b) × .00042562 (20f) = +1,138 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = −1,230 GALS.

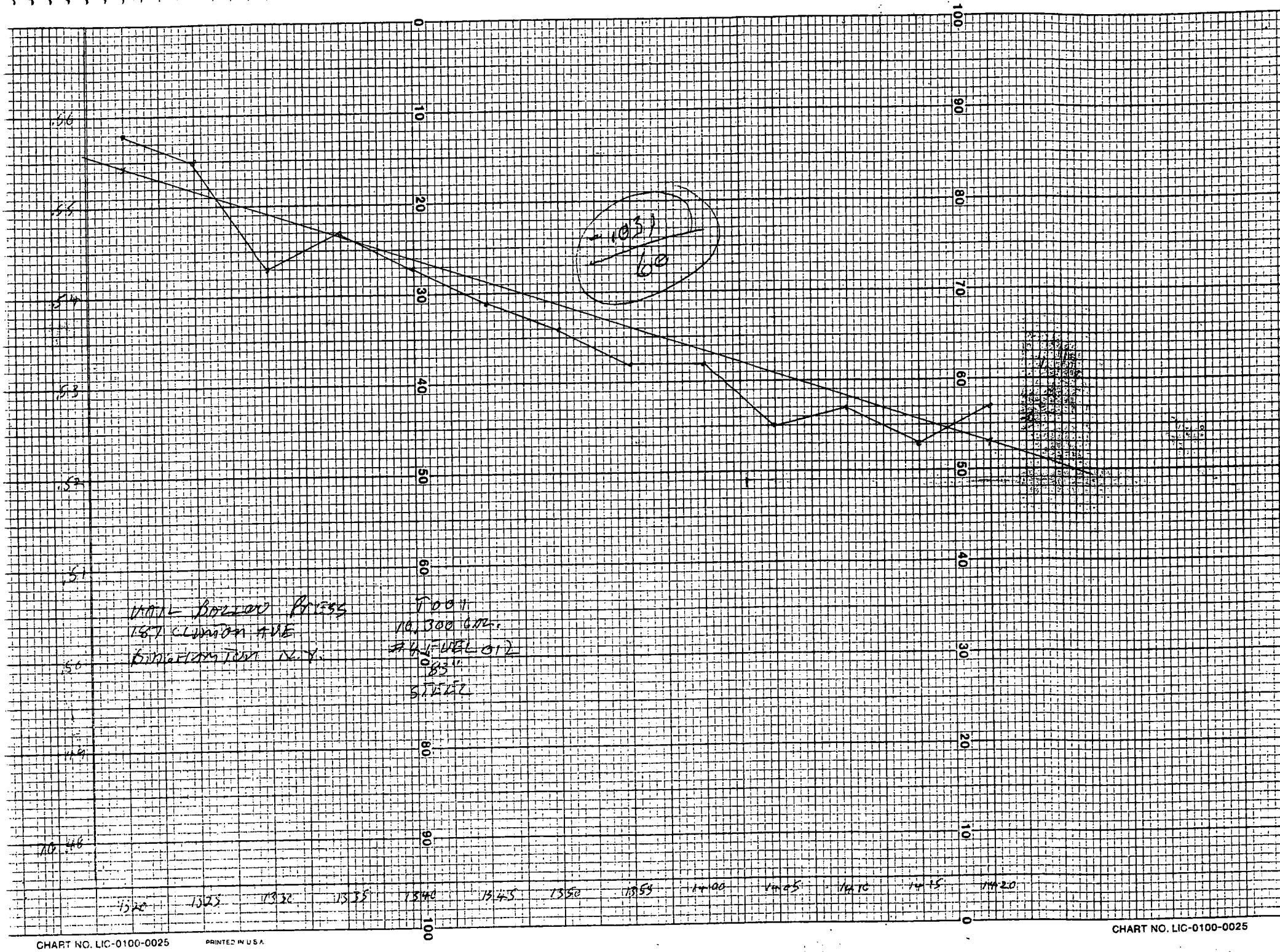
(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = +1,138 + −1,230 = −1,092 GALS.

(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = −1,092 x 60 / 60 (21a) = −1,092 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☐ / THE TANK IS NOT TIGHT ☒

JOB ____ ADDRESS ____ DATE 1 / 1 TESTER ____ TEST COMPANY ____


.56
.55
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20
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40
50
60
70
80
90
100
~1051
60
WALL BOILER PRESS
187 CLINTON AVE
BINGHAMTON N.Y.
TOOL
10,300 LBS.
#4 WELD 012
83"
STEEL
CHART NO. LIC-0100-0025
PRINTED IN U.S.A.
CHART NO. LIC-0100-0025

| TIME | 25:10:30 | |
|---|---|---|
| CH1 | 69.4853 | DEG F |
| CH2 | 71.0357 | DEG F |
| CH3 | 69.8335 | DEG F |
| AVG | 70.3479 | DEG F |

| TIME | 25:10:35 | |
|---|---|---|
| CH1 | 69.6503 | DEG F |
| CH2 | 71.2167 | DEG F |
| CH3 | 69.9848 | DEG F |
| AVG | 70.5181 | DEG F |

| TIME | 25:10:40 | |
|---|---|---|
| CH1 | 69.6883 | DEG F |
| CH2 | 71.2660 | DEG F |
| CH3 | 70.0142 | DEG F |
| AVG | 70.5607 | DEG F |

| TIME | 25:10:45 | |
|---|---|---|
| CH1 | 69.7183 | DEG F |
| CH2 | 71.2804 | DEG F |
| CH3 | 70.0223 | DEG F |
| AVG | 70.5825 | DEG F |

| TIME | 25:10:50 | |
|---|---|---|
| CH1 | 69.7291 | DEG F |
| CH2 | 71.3005 | DEG F |
| CH3 | 70.0210 | DEG F |
| AVG | 70.5878 | DEG F |

| TIME | 25:10:55 | |
|---|---|---|
| CH1 | 69.7234 | DEG F |
| CH2 | 71.3034 | DEG F |
| CH3 | 70.0189 | DEG F |
| AVG | 70.5901 | DEG F |

| TIME | 25:11:00 | |
|---|---|---|
| CH1 | 69.7362 | DEG F |
| CH2 | 71.3082 | DEG F |
| CH3 | 70.0197 | DEG F |
| AVG | 70.5941 | DEG F |

| TIME | 25:11:05 | |
|---|---|---|
| CH1 | 69.7147 | DEG F |
| CH2 | 71.3099 | DEG F |
| CH3 | 70.0192 | DEG F |
| AVG | 70.5910 | DEG F |

| TIME | 25:11:10 | |
|---|---|---|
| CH1 | 69.7183 | DEG F |
| CH2 | 71.3030 | DEG F |
| CH3 | 70.0148 | DEG F |
| AVG | 70.5850 | DEG F |

| TIME | 25:11:15 | |
|---|---|---|
| CH1 | 69.7094 | DEG F |
| CH2 | 71.2939 | DEG F |
| CH3 | 70.0112 | DEG F |
| AVG | 70.5796 | DEG F |

| TIME | 25:11:20 | |
|---|---|---|
| CH1 | 69.7232 | DEG F |
| CH2 | 71.2953 | DEG F |
| CH3 | 70.0147 | DEG F |
| AVG | 70.5843 | DEG F |

| TIME | 25:11:25 | |
|---|---|---|
| CH1 | 69.7163 | DEG F |
| CH2 | 71.2978 | DEG F |
| CH3 | 70.0163 | DEG F |
| AVG | 70.5835 | DEG F |

| TIME | 25:11:30 | |
|---|---|---|
| CH1 | 69.7072 | DEG F |
| CH2 | 71.2969 | DEG F |
| CH3 | 70.0141 | DEG F |
| AVG | 70.5791 | DEG F |

| TIME | 25:11:35 | |
|---|---|---|
| CH1 | 69.7073 | DEG F |
| CH2 | 71.2975 | DEG F |
| CH3 | 70.0160 | DEG F |
| AVG | 70.5802 | DEG F |

| TIME | 25:11:40 | |
|---|---|---|
| CH1 | 69.7047 | DEG F |
| CH2 | 71.3016 | DEG F |
| CH3 | 70.0220 | DEG F |
| AVG | 70.5832 | DEG F |

| TIME | 25:11:45 | |
|---|---|---|
| CH1 | 69.7041 | DEG F |
| CH2 | 71.3006 | DEG F |
| CH3 | 70.0278 | DEG F |
| AVG | 70.5848 | DEG F |

| TIME | 25:11:50 | |
|---|---|---|
| CH1 | 69.6924 | DEG F |
| CH2 | 71.3002 | DEG F |
| CH3 | 70.0345 | DEG F |
| AVG | 70.5823 | DEG F |

| TIME | 25:11:55 | |
|---|---|---|
| CH1 | 69.6838 | DEG F |
| CH2 | 71.2982 | DEG F |
| CH3 | 70.0346 | DEG F |
| AVG | 70.5807 | DEG F |

| TIME | 25:12:00 | |
|---|---|---|
| CH1 | 69.6880 | DEG F |
| CH2 | 71.3007 | DEG F |
| CH3 | 70.0364 | DEG F |
| AVG | 70.5821 | DEG F |

| TIME | 25:12:05 | |
|---|---|---|
| CH1 | 69.7023 | DEG F |
| CH2 | 71.3061 | DEG F |
| CH3 | 70.0393 | DEG F |
| AVG | 70.5887 | DEG F |

| TIME | 25:12:10 | |
|---|---|---|
| CH1 | 69.6907 | DEG F |
| CH2 | 71.3065 | DEG F |
| CH3 | 70.0391 | DEG F |
| AVG | 70.5844 | DEG F |

| TIME | 25:12:15 | |
|---|---|---|
| CH1 | 69.6703 | DEG F |
| CH2 | 71.3030 | DEG F |
| CH3 | 70.0345 | DEG F |
| AVG | 70.5784 | DEG F |

| TIME | 25:12:20 | |
|---|---|---|
| CH1 | 69.6855 | DEG F |
| CH2 | 71.3045 | DEG F |
| CH3 | 70.0357 | DEG F |
| AVG | 70.5838 | DEG F |

| TIME | 25:12:25 | |
|---|---|---|
| CH1 | 69.6874 | DEG F |
| CH2 | 71.3010 | DEG F |
| CH3 | 70.0338 | DEG F |
| AVG | 70.5813 | DEG F |

| TIME | 25:12:30 | |
|---|---|---|
| CH1 | 69.6871 | DEG F |
| CH2 | 71.3006 | DEG F |
| CH3 | 70.0338 | DEG F |
| AVG | 70.5821 | DEG F |

| TIME | 25:12:35 | |
|---|---|---|
| CH1 | 69.6585 | DEG F |
| CH2 | 71.2978 | DEG F |
| CH3 | 70.0346 | DEG F |
| AVG | 70.5732 | DEG F |

| TIME | 25:12:40 | |
|---|---|---|
| CH1 | 69.6582 | DEG F |
| CH2 | 71.3003 | DEG F |
| CH3 | 70.0335 | DEG F |
| AVG | 70.5743 | DEG F |

| TIME | 25:12:45 | |
|---|---|---|
| CH1 | 69.6421 | DEG F |
| CH2 | 71.2968 | DEG F |
| CH3 | 70.0332 | DEG F |
| AVG | 70.5691 | DEG F |

| TIME | 25:12:50 | |
|---|---|---|
| CH1 | 69.6478 | DEG F |
| CH2 | 71.2972 | DEG F |
| CH3 | 70.0335 | DEG F |
| AVG | 70.5699 | DEG F |

| TIME | 25:12:55 | |
|---|---|---|
| CH1 | 69.6538 | DEG F |
| CH2 | 71.2945 | DEG F |
| CH3 | 70.0329 | DEG F |
| AVG | 70.5714 | DEG F |

| TIME | 25:13:00 | |
|---|---|---|
| CH1 | 69.6505 | DEG F |
| CH2 | 71.2907 | DEG F |
| CH3 | 70.0284 | DEG F |
| AVG | 70.5659 | DEG F |

| TIME | 25:13:05 | |
|---|---|---|
| CH1 | 69.6235 | DEG F |
| CH2 | 71.2927 | DEG F |
| CH3 | 70.0297 | DEG F |
| AVG | 70.5610 | DEG F |

| TIME | 25:13:10 | |
|---|---|---|
| CH1 | 69.6305 | DEG F |
| CH2 | 71.2926 | DEG F |
| CH3 | 70.0269 | DEG F |
| AVG | 70.5642 | DEG F |

| TIME | 25:13:15 | |
|---|---|---|
| CH1 | 69.6389 | DEG F |
| CH2 | 71.2949 | DEG F |
| CH3 | 70.0267 | DEG F |
| AVG | 70.5652 | DEG F |

| TIME | 25:13:20 | |
|---|---|---|
| CH1 | 69.6237 | DEG F |
| CH2 | 71.2916 | DEG F |
| CH3 | 70.0218 | DEG F |
| AVG | 70.5587 | DEG F |

| TIME | 25:13:25 | |
|---|---|---|
| CH1 | 69.6180 | DEG F |
| CH2 | 71.2894 | DEG F |
| CH3 | 70.0132 | DEG F |
| AVG | 70.5557 | DEG F |

| TIME | 25:13:30 | |
|---|---|---|
| CH1 | 69.5976 | DEG F |
| CH2 | 71.2860 | DEG F |
| CH3 | 70.0027 | DEG F |
| AVG | 70.5439 | DEG F |

| TIME | 25:13:35 | |
|---|---|---|
| CH1 | 69.5942 | DEG F |
| CH2 | 71.2877 | DEG F |
| CH3 | 70.0030 | DEG F |
| AVG | 70.5473 | DEG F |

| TIME | 25:13:40 | |
|---|---|---|
| CH1 | 69.5882 | DEG F |
| CH2 | 71.2876 | DEG F |
| CH3 | 70.0023 | DEG F |
| AVG | 70.5432 | DEG F |

| TIME | 25:13:45 | |
|---|---|---|
| CH1 | 69.5905 | DEG F |
| CH2 | 71.2800 | DEG F |
| CH3 | 69.9937 | DEG F |
| AVG | 70.5392 | DEG F |

| TIME | 25:13:50 | |
|---|---|---|
| CH1 | 69.5919 | DEG F |
| CH2 | 71.2774 | DEG F |
| CH3 | 69.9955 | DEG F |
| AVG | 70.5369 | DEG F |

| TIME | 25:13:55 | |
|---|---|---|
| CH1 | 69.5853 | DEG F |
| CH2 | 71.2720 | DEG F |
| CH3 | 69.9946 | DEG F |
| AVG | 70.5323 | DEG F |

| TIME | 25:14:00 | |
|---|---|---|
| CH1 | 69.5801 | DEG F |
| CH2 | 71.2742 | DEG F |
| CH3 | 69.9955 | DEG F |
| AVG | 70.5327 | DEG F |

| TIME | 25:14:05 | |
|---|---|---|
| CH1 | 69.5755 | DEG F |
| CH2 | 71.2666 | DEG F |
| CH3 | 69.9950 | DEG F |
| AVG | 70.5256 | DEG F |

| TIME | 25:14:10 | |
|---|---|---|
| CH1 | 69.5668 | DEG F |
| CH2 | 71.2685 | DEG F |
| CH3 | 70.0019 | DEG F |
| AVG | 70.5277 | DEG F |

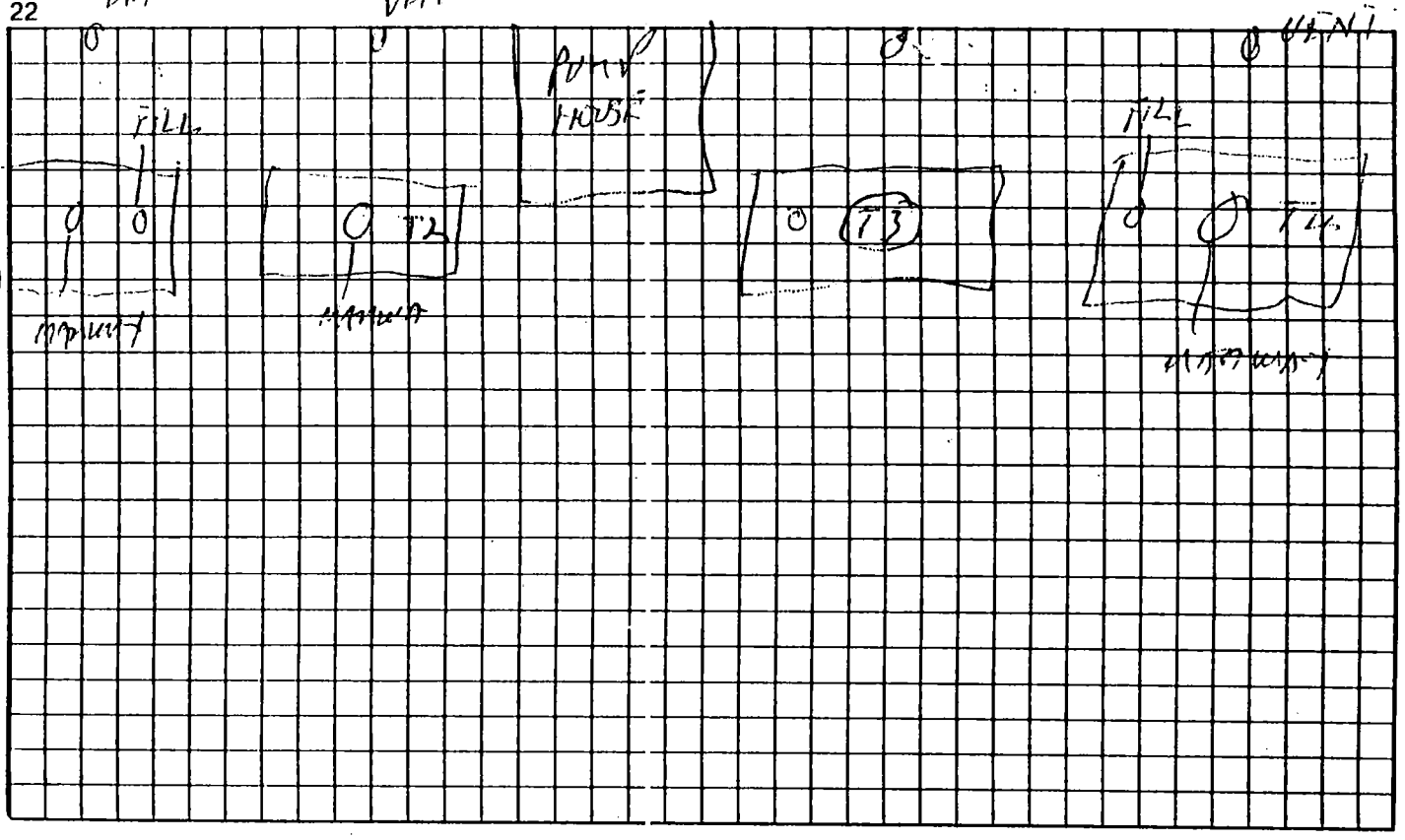
| TIME | 25:14:15 | |
|---|---|---|
| CH1 | 69.5721 | DEG F |
| CH2 | 71.2625 | DEG F |
| CH3 | 69.9977 | DEG F |
| AVG | 70.5237 | DEG F |

| TIME | 25:14:20 | |
|---|---|---|
| CH1 | 69.5736 | DEG F |
| CH2 | 71.2638 | DEG F |
| CH3 | 70.0010 | DEG F |
| AVG | 70.5273 | DEG F |

T#001

# TEST SITE LAYOUT

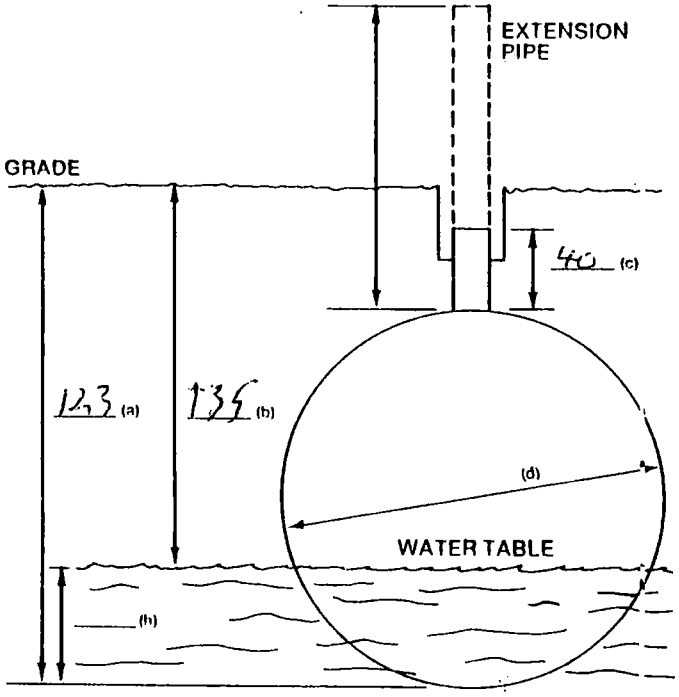
22




TESTER
TEST COMPANY

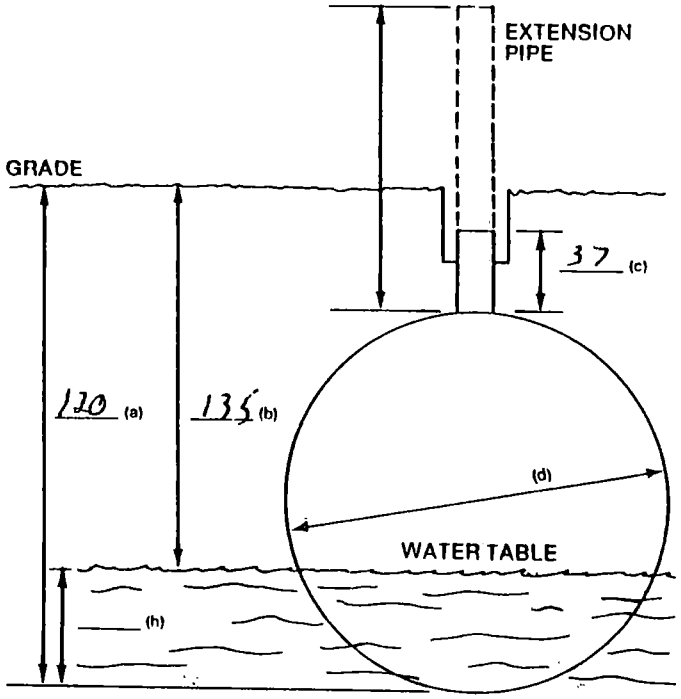
23

## TEST 1: TANK DIMENSIONS




TANK IDENT. TH 004

## TEST 2: TANK DIMENSIONS




TANK IDENT. TH001

DATE / /

JOB ADDRESS

SOILTEST®

# AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

**1 TANK OPERATOR**

NAME / ADDRESS / PHONE

VAIL BALLOU PRESS
187 CLINTON ST BINGHAMTON N.Y.

**2 TANKS TO BE TESTED**

| IDENTIFICATION | CAPACITY—GALS. | MANUFACTURER | STEEL/FIBRGLS. | AGE—YRS. |
|---|---|---|---|---|
| TT 003 | 10,300 | ? | STEEL | ? |
| TT 002 | 10,300 | ? | STEEL | ? |
| | | | | |
| | | | | |
| | | | | |

**3 WATER TABLE**

DISTANCE FROM GRADE TO WATER 135 INS.

**4 TANK FILL-UP**

TANK WILL BE FILLED 1 hour (TIME) ON 1 1 TA 2 Tue. 6a 4-19-88
EXTRA 5 GALS PRODUCT AVAILABLE FROM VAIL BALLOU
FILL UP TO BE ARRANGED BY MR. BOB KALKA PHONE (607) 723-2981
CONTACT AT STORAGE TERMINAL IS MR. _____ PHONE ( )

**5 OUTSIDE CONTRACTORS**

NAME / ADDRESS / PHONE

**6 OFFICIALS TO BE CONTACTED**

NAME / AUTHORITY / PHONE

D.E.C. 1-800-457-7362

**7 SPECIAL NOTES OR PRECAUTIONS**

PBS II 182.38

SPILL 800 6060

**8 TEST RESULTS**

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

| TANK IDENT | TANK IS TIGHT | TANK IS NOT TIGHT | LEAK RATE G. P. H. | TEST DATE |
|---|---|---|---|---|
| TT 003 | | X | .0127 | 4-19-88 |
| | | | | |
| TT 002 | X | | .025 | 4-20-88 |
| | | | | |

**9 CERTIFICATION**

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED _____ CERTIFICATE NO. 1315
ISSUE DATE 10-15-88
FOR (TEST COMPANY) _____
ADDRESS

TRI-STATE TANK SERVICE
Luzon Oil Co., Inc.
STAT BOX 19
HURLEYVILLE, NEW YORK 12747 ZIP
(914) 434-7805

ST-6 (REV. 287)

# AINLAY TANK TIGHTNESS TEST NO. 2

T11 002 #4 FUEL OIL

**10 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 87 INS FILL PIPE LENGTH 38 INS

**11 WATER IN TANK**

(a) START WATER IN TANK 3 INS (c) END WATER IN TANK 3 INS
(b) START WATER IN TANK 117 GALS (d) END WATER IN TANK 117 GALS

**12 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,300 GALS (c) DEDUCT WATER IN TANK - 117 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 10,322 GALS (d) TOTAL PRODUCT VOL. + 10,210 GALS

T5108-89-1

**13 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = 1031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .031 = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**14 PRELIM TEST DATA**

(a) START TEMP CHECK 9:00 (AM)/PM (d) A.P.I. GRAVITY 25.5 AT 73 °F
(b) END TEMP CHECK ____ AM/PM (e) A.P.I. GRAVITY 24.7 AT 60 °F
(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .000 425 27

**15 TEST DATA**

(a) START TEST 12:00 AM/PM: END TEST ____ AM/PM: TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 12:00 | 74.7525 | 74.9961 | 82.0801 | 76.7885 | | | | | |
| 12:05 | 74.7475 | 74.9907 | 82.0641 | 76.6495 | | | | | |
| 12:10 | 74.7455 | 75.0005 | 82.0475 | 76.7028 | | | | | |
| 12:15 | 74.7495 | 75.0037 | 82.0331 | 76.6973 | | | | | |
| 12:20 | 74.7469 | 75.003 | 82.0184 | 76.6945 | | | | | |
| 12:25 | 74.7461 | 75.0125 | 82.0050 | 76.6957 | | | | | |
| 12:30 | 74.7417 | 75.0131 | 81.9886 | 76.6908 | | | | | |
| 12:35 | 74.7435 | 75.0107 | 81.9751 | 76.6866 | | | | | |
| 12:40 | 74.7535 | 75.0037 | 81.9671 | 76.6842 | | | | | |
| 12:45 | 74.7464 | 75.9907 | 81.9593 | 76.6265 | | | | | |
| 12:50 | 74.7651 | 75.9922 | 81.9815 | 76.6255 | | | | | |
| 12:55 | 74.7605 | 75.9914 | 81.9[illegible] | 76.6676 | | | | | |
| 1:00 | 74.7623 | 75.9532 | 81.[illegible] | 76.6632 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. − AVG START TEMP.) = 76632 − 76547 = +0.085 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL x TEMP. CHANGE x COEFF. EXP.
= 10,210 (15d) x +0.085 (15b) x .000 425 27 (14f) = +0.1954 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST = 01-.170 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] = -.195 + -.170 = +0.025 GALS.

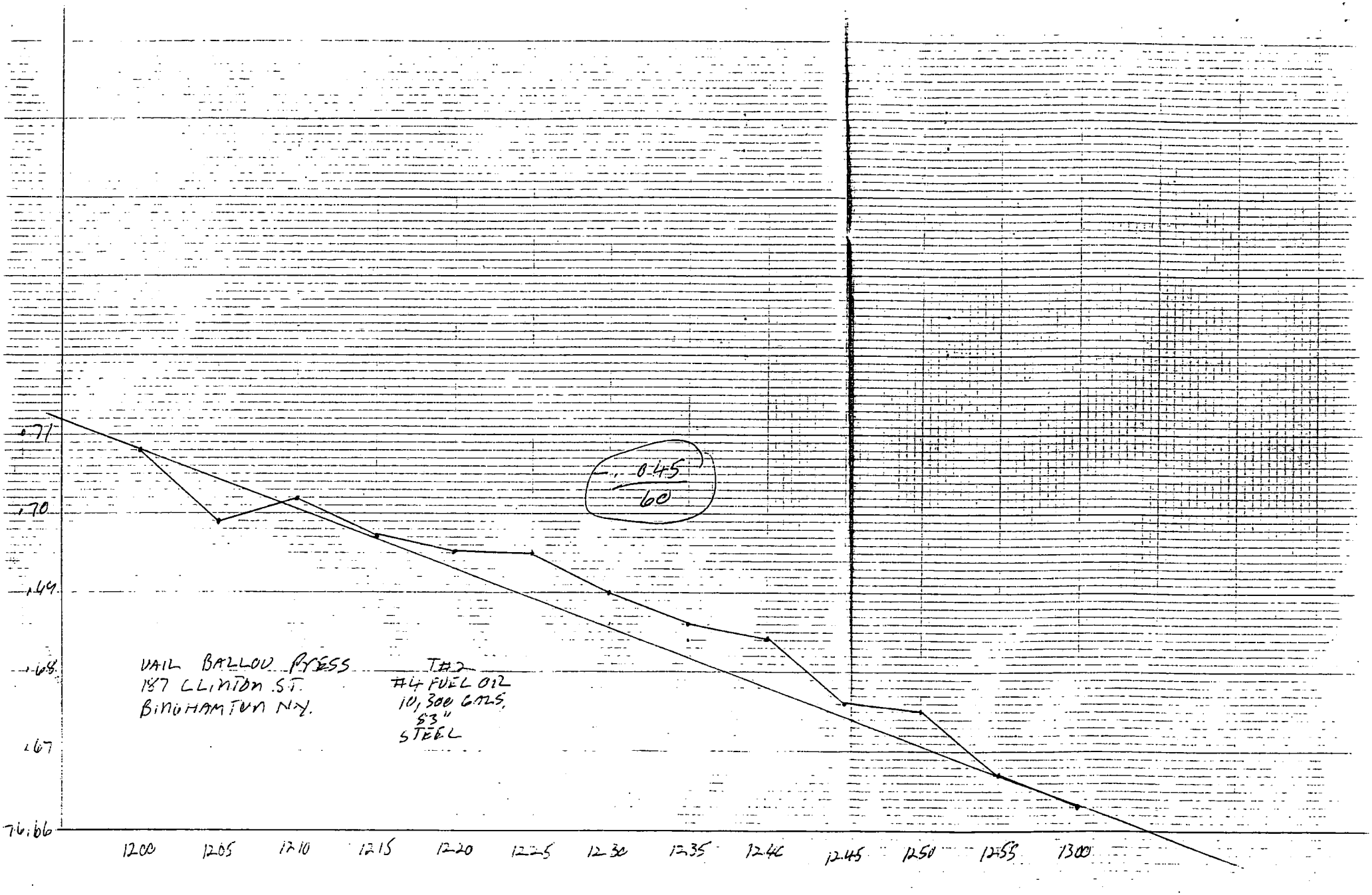
(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = .025 x 60 / 60 (15a) = .025 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC. BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

JOB ADDRESS

TEST COMPANY


.71
.70
.69
.68
.67
76.66
1200
1205
1210
1215
1220
1225
1230
1235
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1245
1250
1255
1300
0-45
60
VAIL BALLOU PRESS
187 CLINTON ST.
BINGHAMTON N.Y.
T#2
#4 FUEL OIL
10,300 GALS.
53"
STEEL

TIME 20:09:00
CH1 74.6597 DEG F
CH2 74.6951 DEG F
CH3 82.5716 DEG F
AVG 76.6585 DEG F

TIME 20:09:05
CH1 74.6548 DEG F
CH2 74.7512 DEG F
CH3 82.5799 DEG F
AVG 76.6887 DEG F

TIME 20:09:10
CH1 74.6853 DEG F
CH2 74.7876 DEG F
CH3 82.5969 DEG F
AVG 76.7167 DEG F

TIME 20:09:15
CH1 74.6971 DEG F
CH2 74.8014 DEG F
CH3 82.5970 DEG F
AVG 76.7231 DEG F

TIME 20:09:20
CH1 74.6996 DEG F
CH2 74.8187 DEG F
CH3 82.5669 DEG F
AVG 76.7285 DEG F

TIME 20:09:25
CH1 74.7014 DEG F
CH2 74.8332 DEG F
CH3 82.5570 DEG F
AVG 76.7340 DEG F

TIME 20:09:30
CH1 74.6926 DEG F
CH2 74.8465 DEG F
CH3 82.5475 DEG F
AVG 76.7354 DEG F

TIME 20:09:35
CH1 74.6901 DEG F
CH2 74.8560 DEG F
CH3 82.5337 DEG F
AVG 76.7344 DEG F

TIME 20:09:40
CH1 74.6821 DEG F
CH2 74.8516 DEG F
CH3 82.5090 DEG F
AVG 76.7251 DEG F

TIME 20:09:45
CH1 74.6302 DEG F
CH2 74.8456 DEG F
CH3 82.4871 DEG F
AVG 76.7141 DEG F

TIME 20:09:50
CH1 74.6816 DEG F
CH2 74.8436 DEG F
CH3 82.4733 DEG F
AVG 76.7094 DEG F

TIME 20:09:55
CH1 74.6823 DEG F
CH2 74.8398 DEG F
CH3 82.4557 DEG F
AVG 76.7069 DEG F

TIME 20:10:00
CH1 74.6874 DEG F
CH2 74.8250 DEG F
CH3 82.4438 DEG F
AVG 76.7023 DEG F

TIME 20:10:05
CH1 74.6775 DEG F
CH2 74.8294 DEG F
CH3 82.4272 DEG F
AVG 76.6925 DEG F

TIME 20:10:10
CH1 74.6726 DEG F
CH2 74.8304 DEG F
CH3 82.4148 DEG F
AVG 76.6885 DEG F

TIME 20:10:15
CH1 74.6788 DEG F
CH2 74.8394 DEG F
CH3 82.4029 DEG F
AVG 76.6904 DEG F

TIME 20:10:20
CH1 74.6893 DEG F
CH2 74.8628 DEG F
CH3 82.3915 DEG F
AVG 76.7021 DEG F

TIME 20:10:25
CH1 74.7026 DEG F
CH2 74.8921 DEG F
CH3 82.3804 DEG F
AVG 76.7185 DEG F

TIME 20:10:30
CH1 74.6988 DEG F
CH2 74.9051 DEG F
CH3 82.3631 DEG F
AVG 76.7200 DEG F

TIME 20:10:35
CH1 74.6898 DEG F
CH2 74.9155 DEG F
CH3 82.3417 DEG F
AVG 76.7163 DEG F

TIME 20:10:40
CH1 74.6814 DEG F
CH2 74.9260 DEG F
CH3 82.3233 DEG F
AVG 76.7147 DEG F

TIME 20:10:45
CH1 74.6784 DEG F
CH2 74.9410 DEG F
CH3 82.3026 DEG F
AVG 76.7165 DEG F

TIME 20:10:50
CH1 74.6734 DEG F
CH2 74.9493 DEG F
CH3 82.2828 DEG F
AVG 76.7151 DEG F

TIME 20:10:55
CH1 74.6777 DEG F
CH2 74.9578 DEG F
CH3 82.2706 DEG F
AVG 76.7179 DEG F

TIME 20:11:00
CH1 74.6798 DEG F
CH2 74.9644 DEG F
CH3 82.2515 DEG F
AVG 76.7174 DEG F

TIME 20:11:05
CH1 74.6805 DEG F
CH2 74.9715 DEG F
CH3 82.2363 DEG F
AVG 76.7164 DEG F

TIME 20:11:10
CH1 74.6836 DEG F
CH2 74.9762 DEG F
CH3 82.2238 DEG F
AVG 76.7174 DEG F

TIME 20:11:15
CH1 74.6967 DEG F
CH2 74.9777 DEG F
CH3 82.2134 DEG F
AVG 76.7171 DEG F

TIME 20:11:20
CH1 74.7019 DEG F
CH2 74.9706 DEG F
CH3 82.1978 DEG F
AVG 76.7113 DEG F

TIME 20:11:25
CH1 74.7117 DEG F
CH2 74.9736 DEG F
CH3 82.1835 DEG F
AVG 76.7112 DEG F

TIME 20:11:30
CH1 74.7105 DEG F
CH2 74.9876 DEG F
CH3 82.1580 DEG F
AVG 76.7125 DEG F

TIME 20:11:35
CH1 74.7236 DEG F
CH2 74.9771 DEG F
CH3 82.1464 DEG F
AVG 76.7071 DEG F

TIME 20:11:40
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CH2 74.9679 DEG F
CH3 82.1266 DEG F
AVG 76.6994 DEG F

TIME 20:11:45
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CH2 74.9708 DEG F
CH3 82.1049 DEG F
AVG 76.6969 DEG F

TIME 20:11:50
CH1 74.7440 DEG F
CH2 74.9926 DEG F
CH3 82.0917 DEG F
AVG 76.7077 DEG F

TIME 20:11:55
CH1 74.7502 DEG F
CH2 74.9997 DEG F
CH3 82.0837 DEG F
AVG 76.7100 DEG F

TIME 20:12:00
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CH2 74.9961 DEG F
CH3 82.0801 DEG F
AVG 76.7085 DEG F

TIME 20:12:05
CH1 74.7475 DEG F
CH2 74.9907 DEG F
CH3 82.0641 DEG F
AVG 76.6995 DEG F

TIME 20:12:10
CH1 74.7485 DEG F
CH2 75.0005 DEG F
CH3 82.0475 DEG F
AVG 76.7028 DEG F

TIME 20:12:15
CH1 74.7495 DEG F
CH2 75.0037 DEG F
CH3 82.0331 DEG F
AVG 76.6973 DEG F

TIME 20:12:20
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CH2 75.0037 DEG F
CH3 82.0184 DEG F
AVG 76.6951 DEG F

TIME 20:12:25
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CH2 75.0125 DEG F
CH3 82.0050 DEG F
AVG 76.6957 DEG F

TIME 20:12:30
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CH2 75.0131 DEG F
CH3 81.9886 DEG F
AVG 76.6908 DEG F

TIME 20:12:35
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CH2 75.0107 DEG F
CH3 81.9751 DEG F
AVG 76.6866 DEG F

TIME 20:12:40
CH1 74.7535 DEG F
CH2 75.0039 DEG F
CH3 81.9671 DEG F
AVG 76.6842 DEG F

TIME 20:12:45
CH1 74.7664 DEG F
CH2 74.9907 DEG F
CH3 81.9583 DEG F
AVG 76.6765 DEG F

TIME 20:12:50
CH1 74.7651 DEG F
CH2 74.9922 DEG F
CH3 81.9415 DEG F
AVG 76.6755 DEG F

TIME 20:12:55
CH1 74.7605 DEG F
CH2 74.9914 DEG F
CH3 81.9255 DEG F
AVG 76.6676 DEG F

TIME 20:13:00
CH1 74.7623 DEG F
CH2 74.9832 DEG F
CH3 81.9179 DEG F
AVG 76.6632 DEG F

1

T#002

1

# AINLAY TANK TIGHTNESS TEST No. 1

TANK 3 #4 UNLEADED

**16 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 33 INS FILL PIPE LENGTH 37 INS

**17 WATER IN TANK**

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS

(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

**18 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,300 GALS (c) DEDUCT WATER IN TANK 10 GALS

(b) ACTUAL CAPACITY 10,322 GALS (d) TOTAL PRODUCT VOL. 10,327 GALS

(FROM TANK CHART)

**19 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS

(b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES)

DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.

(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)}$ = x 0.036 = _____ INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**20 PRELIM TEST DATA**

(a) START TEMP CHECK 1305 AM/PM (d) A.P.I. GRAVITY 25.8 AT 67 °F

(b) END TEMP CHECK 1700 AM/PM (e) A.P.I. GRAVITY 25.3 AT 60°F

(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .000427394

**21 TEST DATA**

(a) START TEST 16.00 AM/PM END TEST 17.00 AM/PM: TEST TIME = 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1600 | 65.8126 | 67.7404 | 68.1455 | 67.3760 | | | | | |
| 1605 | 65.8091 | 67.7409 | 68.1922 | 67.3701 | | | | | |
| 1610 | 65.9132 | 67.7427 | 68.1964 | 67.3746 | | | | | |
| 1615 | 65.8116 | 67.7396 | 68.1963 | 67.3725 | | | | | |
| 1620 | 65.8104 | 67.7386 | 68.1991 | 67.3726 | | | | | |
| 1625 | 65.8146 | 67.7430 | 68.2057 | 67.3773 | | | | | |
| 1630 | 65.8143 | 67.7418 | 68.2049 | 67.3772 | | | | | |
| 1635 | 65.8136 | 67.7407 | 68.2043 | 67.3767 | | | | | |
| 1641 | 65.8127 | 67.7403 | 68.2044 | 67.3726 | | | | | |
| 1645 | 65.8105 | 67.7382 | 68.2044 | 67.3750 | | | | | |
| 1650 | 65.8144 | 67.7424 | 68.2094 | 67.3789 | | | | | |
| 1655 | 65.8094 | 67.7366 | 68.2048 | 67.3726 | | | | | |
| 1700 | 65.8111 | 67.7345 | 68.2035 | 67.3730 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = 3730 − 13760 = +14.003 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.

= 10327 (18d) × 14.003 (21b) × .000427394 (20) = +10.0132 GALS.

(d) TOTAL LIQUID VOL (ADDED) SUBTRACTED AT END OF TEST ..... = 01-.140 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = +.013 + +.140 = 01-.127 GALS.

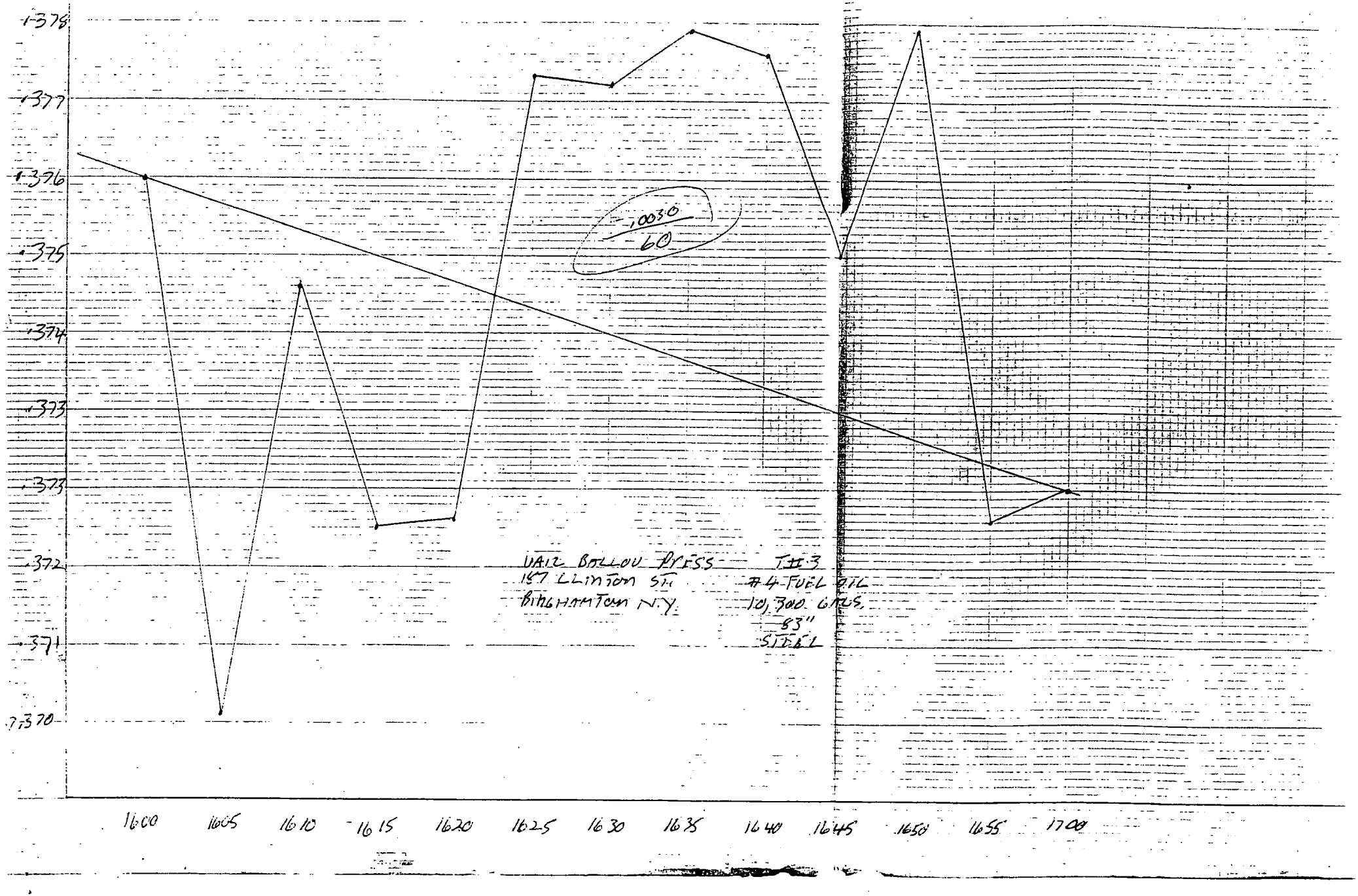
(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}}$ = $\frac{+.127 \times 60}{60}$ (21a) = +.127 G.P.H.

THIS LEAK RATE (DOES) / DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☐ / THE TANK IS NOT TIGHT ☒

TEST COMPANY _____

ADDRESS _____


1378
1377
1376
1375
1374
1373
1372
1371
1370
1600
1605
1610
1615
1620
1625
1630
1635
1640
1645
1650
1655
1700
10300
60
VAIL BALLOU PRESS
157 CLINTON ST.
BINGHAMTON N.Y.
III 3
#4 FUEL OIL
10,300 GALS.
83"
STEEL

TIME 19:13:05
CH1 65.7434 DEG F
CH2 67.6923 DEG F
CH3 68.0791 DEG F
AVG 67.3019 DEG F

TIME 19:13:10
CH1 65.7980 DEG F
CH2 67.7406 DEG F
CH3 68.1313 DEG F
AVG 67.3533 DEG F

TIME 19:13:15
CH1 65.8148 DEG F
CH2 67.7535 DEG F
CH3 68.1526 DEG F
AVG 67.3700 DEG F

TIME 19:13:20
CH1 65.8148 DEG F
CH2 67.7521 DEG F
CH3 68.1525 DEG F
AVG 67.3684 DEG F

TIME 19:13:25
CH1 65.8203 DEG F
CH2 67.7565 DEG F
CH3 68.1635 DEG F
AVG 67.3755 DEG F

TIME 19:13:30
CH1 65.8148 DEG F
CH2 67.7505 DEG F
CH3 68.1582 DEG F
AVG 67.3691 DEG F

TIME 19:13:35
CH1 65.8162 DEG F
CH2 67.7501 DEG F
CH3 68.1602 DEG F
AVG 67.3709 DEG F

TIME 19:13:40
CH1 65.8229 DEG F
CH2 67.7594 DEG F
CH3 68.1693 DEG F
AVG 67.3795 DEG F

TIME 19:13:45
CH1 65.8215 DEG F
CH2 67.7573 DEG F
CH3 68.1699 DEG F
AVG 67.3774 DEG F

TIME 19:14:35
CH1 65.8135 DEG F
CH2 67.7565 DEG F
CH3 68.1769 DEG F
AVG 67.3772 DEG F

TIME 19:14:40
CH1 65.8203 DEG F
CH2 67.7609 DEG F
CH3 68.1848 DEG F
AVG 67.3830 DEG F

TIME 19:14:45
CH1 65.8134 DEG F
CH2 67.7503 DEG F
CH3 68.1773 DEG F
AVG 67.3742 DEG F

TIME 19:14:50
CH1 65.8158 DEG F
CH2 67.7509 DEG F
CH3 68.1798 DEG F
AVG 67.3770 DEG F

TIME 19:14:55
CH1 65.8188 DEG F
CH2 67.7554 DEG F
CH3 68.1842 DEG F
AVG 67.3805 DEG F

TIME 19:15:00
CH1 65.8187 DEG F
CH2 67.7570 DEG F
CH3 68.1884 DEG F
AVG 67.3788 DEG F

TIME 19:15:05
CH1 65.8192 DEG F
CH2 67.7566 DEG F
CH3 68.1881 DEG F
AVG 67.3825 DEG F

TIME 19:15:10
CH1 65.8119 DEG F
CH2 67.7517 DEG F
CH3 68.1860 DEG F
AVG 67.3768 DEG F

TIME 19:15:15
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CH2 67.7532 DEG F
CH3 68.1890 DEG F
AVG 67.3796 DEG F

TIME 19:15:20
CH1 65.8147 DEG F
CH2 67.7492 DEG F
CH3 68.1876 DEG F
AVG 67.3769 DEG F

TIME 19:15:25
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CH2 67.7489 DEG F
CH3 68.1896 DEG F
AVG 67.3759 DEG F

TIME 19:15:30
CH1 65.8116 DEG F
CH2 67.7465 DEG F
CH3 68.1876 DEG F
AVG 67.3764 DEG F

TIME 19:15:35
CH1 65.8171 DEG F
CH2 67.7502 DEG F
CH3 68.1944 DEG F
AVG 67.3794 DEG F

TIME 19:15:40
CH1 65.8103 DEG F
CH2 67.7450 DEG F
CH3 68.1892 DEG F
AVG 67.3750 DEG F

TIME 19:15:45
CH1 65.8113 DEG F
CH2 67.7460 DEG F
CH3 68.1928 DEG F
AVG 67.3736 DEG F

TIME 19:15:50
CH1 65.8111 DEG F
CH2 67.7431 DEG F
CH3 68.1922 DEG F
AVG 67.3750 DEG F

TIME 19:15:55
CH1 65.8068 DEG F
CH2 67.7402 DEG F
CH3 68.1894 DEG F
AVG 67.3713 DEG F

TIME 19:16:00
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CH2 67.7444 DEG F
CH3 68.1958 DEG F
AVG 67.3760 DEG F

TIME 19:16:05
CH1 65.8096 DEG F
CH2 67.7409 DEG F
CH3 68.1922 DEG F
AVG 67.3701 DEG F

TIME 19:16:10
CH1 65.8132 DEG F
CH2 67.7427 DEG F
CH3 68.1969 DEG F
AVG 67.3746 DEG F

TIME 19:16:15
CH1 65.8116 DEG F
CH2 67.7394 DEG F
CH3 68.1963 DEG F
AVG 67.3725 DEG F

TIME 19:16:20
CH1 65.8104 DEG F
CH2 67.7386 DEG F
CH3 68.1991 DEG F
AVG 67.3726 DEG F

TIME 19:16:25
CH1 65.8146 DEG F
CH2 67.7430 DEG F
CH3 68.2057 DEG F
AVG 67.3773 DEG F

TIME 19:16:30
CH1 65.8143 DEG F
CH2 67.7418 DEG F
CH3 68.2049 DEG F
AVG 67.3772 DEG F

TIME 19:16:35
CH1 65.8139 DEG F
CH2 67.7407 DEG F
CH3 68.2043 DEG F
AVG 67.3779 DEG F

TIME 19:16:40
CH1 65.8127 DEG F
CH2 67.7403 DEG F
CH3 68.2049 DEG F
AVG 67.3776 DEG F

TIME 19:16:45
CH1 65.8105 DEG F
CH2 67.7382 DEG F
CH3 68.2044 DEG F
AVG 67.3750 DEG F

TIME 19:13:50
CH1 65.8211 DEG F
CH2 67.7560 DEG F
CH3 68.1687 DEG F
AVG 67.3792 DEG F

TIME 19:13:55
CH1 65.8144 DEG F
CH2 67.7541 DEG F
CH3 68.1661 DEG F
AVG 67.3739 DEG F

TIME 19:14:00
CH1 65.8182 DEG F
CH2 67.7585 DEG F
CH3 68.1735 DEG F
AVG 67.3786 DEG F

TIME 19:14:05
CH1 65.8200 DEG F
CH2 67.7588 DEG F
CH3 68.1732 DEG F
AVG 67.3787 DEG F

TIME 19:14:10
CH1 65.8175 DEG F
CH2 67.7562 DEG F
CH3 68.1772 DEG F
AVG 67.3780 DEG F

TIME 19:14:15
CH1 65.8169 DEG F
CH2 67.7566 DEG F
CH3 68.1771 DEG F
AVG 67.3782 DEG F

TIME 19:14:20
CH1 65.8178 DEG F
CH2 67.7570 DEG F
CH3 68.1788 DEG F
AVG 67.3789 DEG F

TIME 19:14:25
CH1 65.8130 DEG F
CH2 67.7529 DEG F
CH3 68.1755 DEG F
AVG 67.3746 DEG F

TIME 19:14:30
CH1 65.8191 DEG F
CH2 67.7577 DEG F
CH3 68.1792 DEG F
AVG 67.3797 DEG F

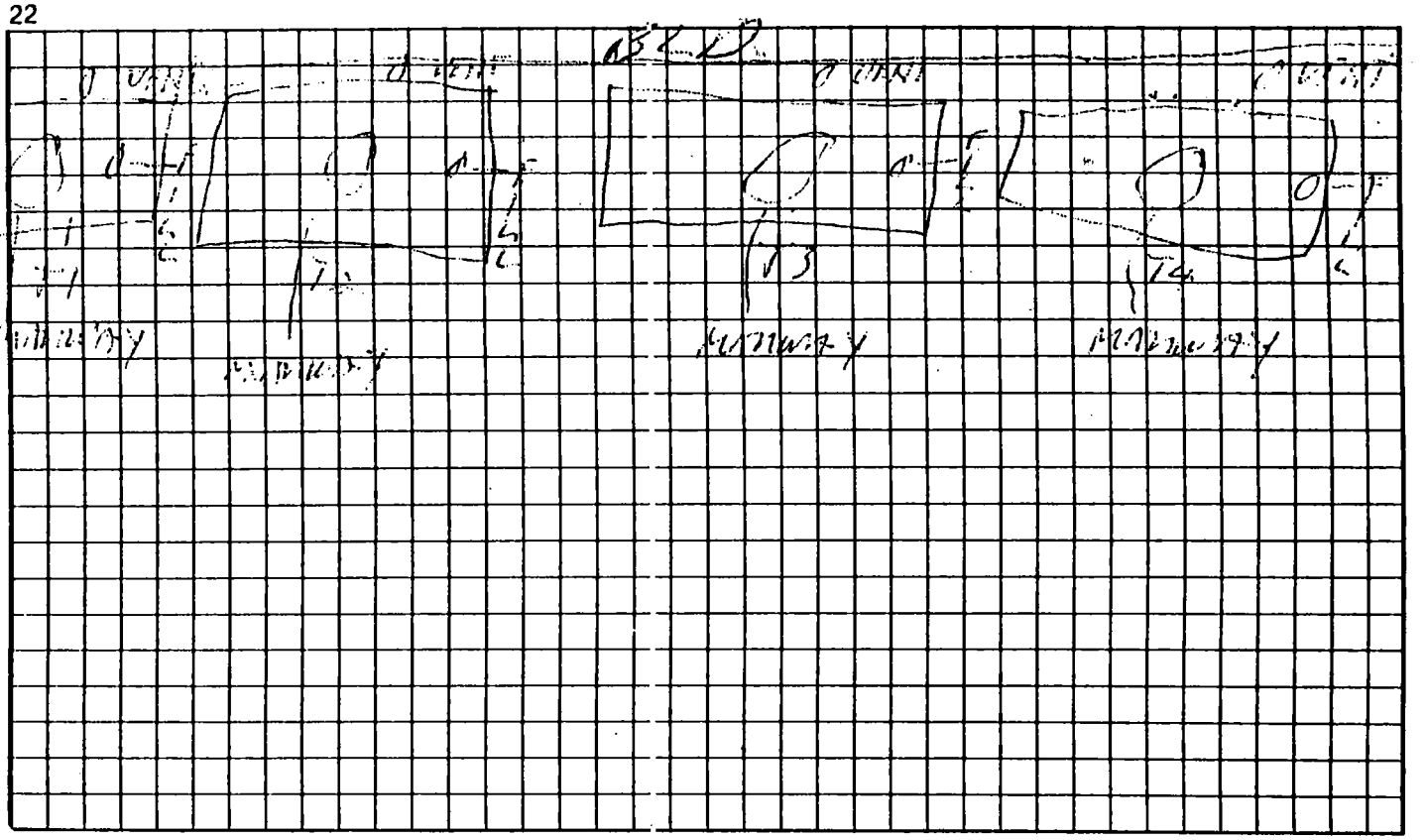
TIME 19:16:50
CH1 65.8149 DEG F
CH2 67.7424 DEG F
CH3 68.2094 DEG F
AVG 67.3779 DEG F

TIME 19:16:55
CH1 65.8099 DEG F
CH2 67.7366 DEG F
CH3 68.2048 DEG F
AVG 67.3726 DEG F

TIME 19:17:00
CH1 65.8111 DEG F
CH2 67.7345 DEG F
CH3 68.2038 DEG F
AVG 67.3730 DEG F

# TEST SITE LAYOUT

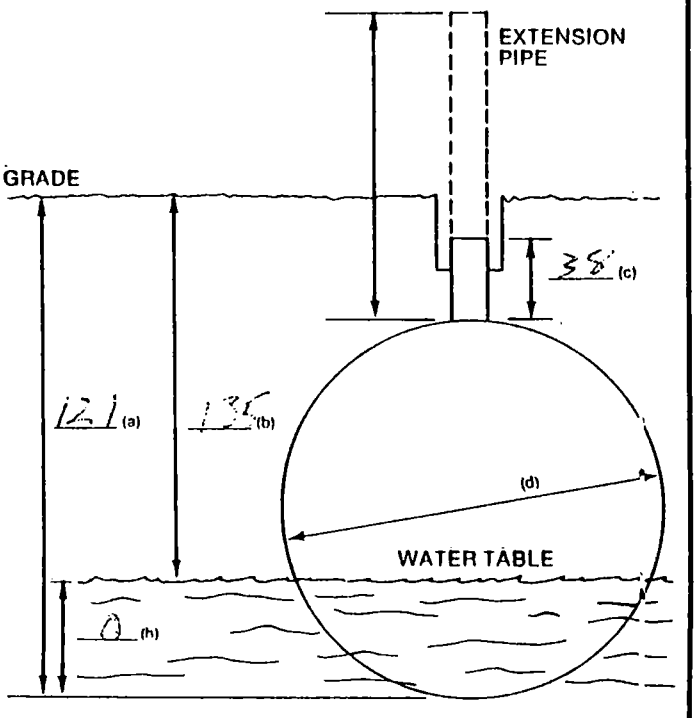
22



TEST COMPANY

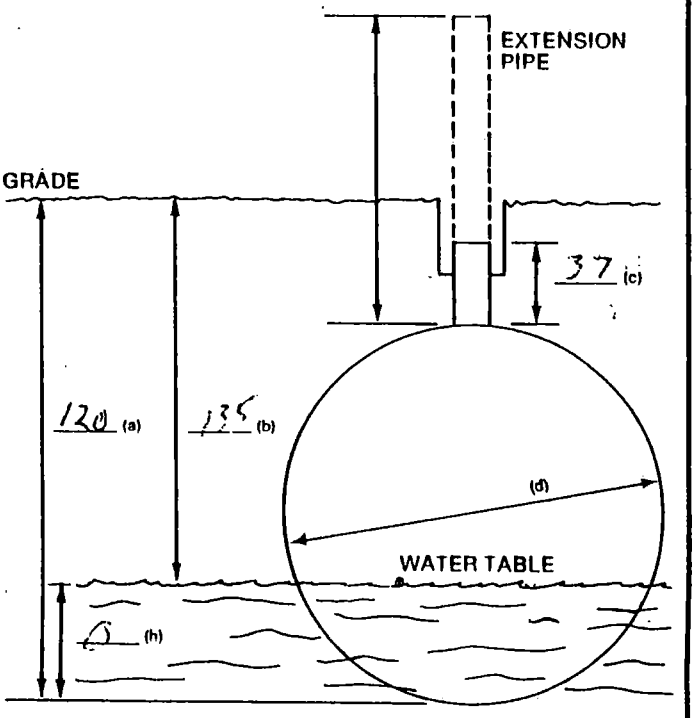
23

## TEST 1: TANK DIMENSIONS




TANK IDENT. T1 002

## TEST 2: TANK DIMENSIONS



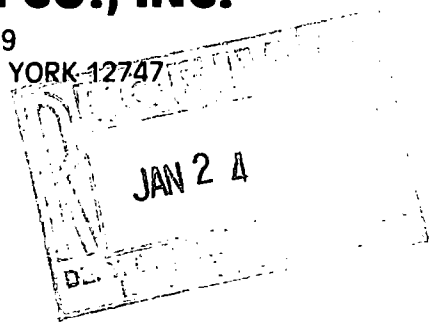

TANK IDENT. T1 003

ADDRESS

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805


October 2, 1989

Vail Ballou Press
187 Clinton Street
Bighamton, New York 13902

Attention: Bob Kalka

Re: Underground tank testing, as per 6NYCRR 613.5(a).

The National Fire Protection Association's criteria for a tight tank system is a system with a rate of leak less than +/- .050 gal/hr. for tank systems 12,500 gallons or less. These are calculated, mathematical tolerances only and are not meant to indicate the permission of any leak.

Criteria for tightness test [6NYCRR 613.5(a)(6)] "A tightness test is a test acceptable to the department which will determine if a tank and piping system is tight or not tight. The test must be capable of detecting a tank or piping leak as small as five hundredths (.05) of a gallon in one hour accounting for variables such as vapor pockets, thermal expansion of product, temperature stratification, groundwater level, evaporation, pressure and end deflection."

During the ***Ainley Tank 'Tegrity Test*** propane gas bubbles are introduced one (1) inch below the product level through a 1/4" tube. The pressure required to introduce bubbles varies with changes in product level, and is related to volume changes. Pressure changes are measured by a manometer type coil (slope tube). A slight liquid level change in the tank is exaggerated approximately fifty (50) times when transmitted from bubble tube to slope tube.

# TRI-STATE TANK SERVICE

# LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805


**Facility:** Vail Ballou Press
187 Clinton Street
Bighamton, N.Y.

**PBS #:** 182230

**Tank #s:** **#001** - 10,300 gallon **#003** - 10,300 gallon
**#002** - 10,300 gallon **#004** - 10,300 gallon

**Test Date: 9-19-89**

Tank system #003 showed a rate of leak of +.127 gallons per hour. Tank system failed the test.

**Test Date: 9-20-89**

Tank system #002 showed a rate of leak of -.025 gallons per hour. Tank system test tight.

**Test Date: 9-22-89**

Tank system #004 showed a rate of leak of +.046 gallons per hour. Tank system tested tight.

**Test Date: 9-25-89** **Test Method: Petro-Tite**

Tank system #001 showed a rate of leak of -.092 gallons per hour. Tank system failed the test.

**New York State Regulations require notification within 2 hours of tank test failure.**

**Spill Notification Number:** 8906060

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805


**A tank system test failure indicates the following:**

a) The tank may be leaking.
b) The attached piping and/or fittings may be leaking.
c) Both the tank and the associated piping may be leaking.

In some cases unstable air along the tank top may cause an erroneous volume reading. We recommend re-testing be performed with tank top excavated to allow isolation of tank from piping and tank top modifications permitting the evacuation of any entrapped air or product vapor.

Enclosed are two (2) copies of this report and the test data. One is for your records and the other is to be sent to New York State D.E.C.

Please be advised that you will need to re-test,abandon, repair or remove this leaking tank as directed by New York State DEC in order to clear your record of the spill.

If you have any questions or need additional information, please contact me.

Very truly yours,

Robert B. Halprin,
Luzon Oil Co., Inc.

/enclosures

RBH:amd

SOILTEST®

# AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

**1 TANK OPERATOR**

NAME / ADDRESS / PHONE

UNCLE BALLOU PRESS
187 CLINTON ST. BINGHAMTON N.Y.

**2 TANKS TO BE TESTED**

| IDENTIFICATION | CAPACITY—GALS. | MANUFACTURER | STEEL/FIBRGLS. | AGE—YRS. |
|---|---|---|---|---|
| TH 0004 | 10,300 | ? | STEEL | ? |
| TH 001 | 10,300 | ? | STEEL | ? |

**3 WATER TABLE**

DISTANCE FROM GRADE TO WATER -135 INS.

**4 TANK FILL-UP**

TANK WILL BE FILLED 5TH (TIME) ON 9/20/89
EXTRA 5 GALS PRODUCT AVAILABLE FROM TRI-STATE TANK
FILL UP TO BE ARRANGED BY MR. TRI-STATE TANK PHONE ( )
CONTACT AT STORAGE TERMINAL IS MR. PHONE ( )

**5 OUTSIDE CONTRACTORS**

NAME / ADDRESS / PHONE

**6 OFFICIALS TO BE CONTACTED**

NAME / AUTHORITY / PHONE

P.F.C. 1-800-457-7362

**7 SPECIAL NOTES OR PRECAUTIONS**

PBS # 182230

SPILL # 890660

**8 TEST RESULTS**

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

| TANK IDENT | TANK IS TIGHT | TANK IS NOT TIGHT | LEAK RATE G. P. H. | TEST DATE |
|---|---|---|---|---|
| TH 004 | X | | +.046 | 9-22-89 |
| TH 001 | | X | +.092 | 9-25-89 |

**9 CERTIFICATION**

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED [signature] CERTIFICATE NO. 1315
ISSUE DATE 10-13-89
FOR (TEST COMPANY) TRI-STATE TANK SERVICE
ADDRESS Lutch Oil Co., Inc.
P.O. Box 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7806
ZIP

ST-6 (REV. 2/87)

# AINLAY TANK TIGHTNESS TEST No. 1

**10 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 83 INS FILL PIPE LENGTH 40 INS

**11 WATER IN TANK**

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

**12 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,300 GALS (c) DEDUCT WATER IN TANK +0 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 10,327 GALS (d) TOTAL PRODUCT VOL. 10,327 GALS

10,327 + 5

**13 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)}$ = $\frac{0 \times 0.036}{.031}$ = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**14 PRELIM TEST DATA**

(a) START TEMP CHECK 805 AM/PM (d) A.P.I. GRAVITY 25.9 AT 66 °F
(b) END TEMP CHECK ____ AM/PM (e) A.P.I. GRAVITY 25.6 AT 60 °F
(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .000425 10

**15 TEST DATA**

(a) START TEST 1005 AM/PM: END TEST 1105 AM/PM: TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1005 | 65.6975 | 65.9453 | 64.1140 | 65.3262 | | | | | |
| 1010 | 65.6975 | 65.9408 | 64.1052 | 65.3213 | | | | | |
| 1015 | 65.6542 | 65.9369 | 64.1049 | 65.3144 | | | | | |
| 1020 | 65.6459 | 65.9413 | 64.1103 | 65.3232 | | | | | |
| 1025 | 65.6512 | 65.9360 | 64.1055 | 65.3171 | | | | | |
| 1030 | 65.6704 | 65.9340 | 64.1101 | 65.3158 | | | | | |
| 1035 | 65.6730 | 65.9354 | 64.1144 | 65.3167 | | | | | |
| 1040 | 65.6685 | 65.9327 | 64.1142 | 65.3139 | | | | | |
| 1045 | 65.6695 | 65.9323 | 64.1132 | 65.3126 | | | | | |
| 1050 | 65.6701 | 65.9292 | 64.1067 | 65.3123 | | | | | |
| 1055 | 65.6725 | 65.9289 | 64.0983 | 65.3080 | | | | | |
| 1100 | 65.6636 | 65.9201 | 64.0838 | 65.2974 | | | | | |
| 1105 | 65.6667 | 65.9242 | 64.0624 | 65.3062 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. − AVG START TEMP.) = 65.3262 − 65.3262 = ±0.0000 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.

= 10,327 (12d) × 0.0000 (15b) × .000425 10 (15f) = ±0.0000 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST = ±0 GALS.

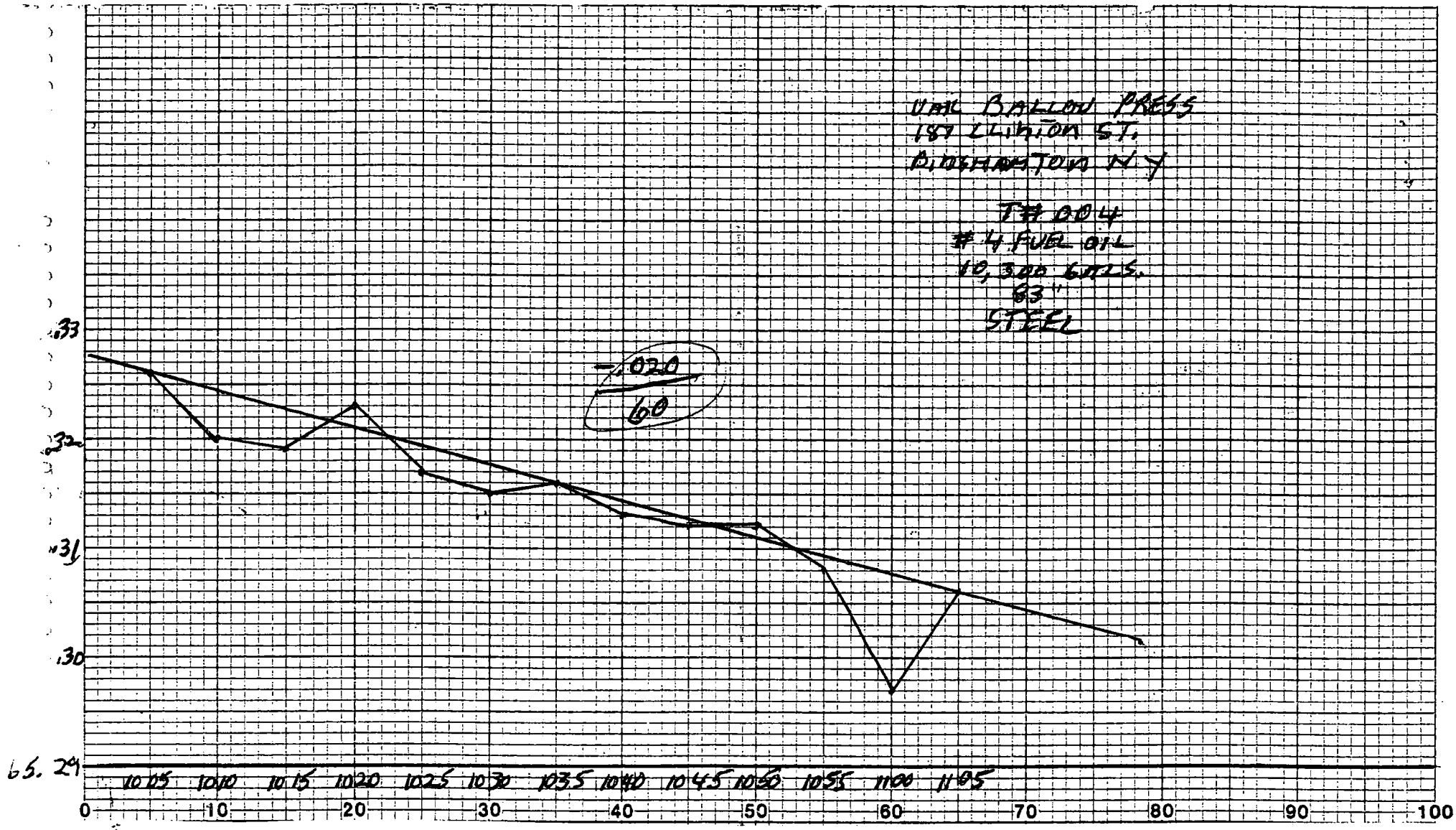
(e) VOL. CHANGE NOT DUE TO TEMP ((c) ± (d)) = 0.0000 ± 0 = ±0.0000 GALS.

(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}}$ = $\frac{0.0000 \times 60}{60}$ = 0.0000 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC.; BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

JOB ADDRESS ____ DATE 1/1 TESTER ____ TEST COMPANY ____


UMC BALLOW PRESS
187 LIBERTY ST.
BINGHAMTON N.Y.
T# 004
#4 FUEL OIL
10,300 GALS.
63'
STEEL
-.020
60
.33
.32
.31
.30
65.29
10 05 10 10 10 15 10 20 10 25 10 30 10 35 10 40 10 45 10 50 10 55 11 00 11 05
0 10 20 30 40 50 60 70 80 90 100

| | | |
|---|---|---|
| TIME | 22:08:05 | |
| CH1 | 65.9211 | DEG F |
| CH2 | 65.8230 | DEG F |
| CH3 | 64.2644 | DEG F |
| AVG | 65.4586 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:10 | |
| CH1 | 65.8448 | DEG F |
| CH2 | 65.7952 | DEG F |
| CH3 | 64.2290 | DEG F |
| AVG | 65.4174 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:15 | |
| CH1 | 65.8044 | DEG F |
| CH2 | 65.7823 | DEG F |
| CH3 | 64.2211 | DEG F |
| AVG | 65.3986 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:20 | |
| CH1 | 65.7756 | DEG F |
| CH2 | 65.7757 | DEG F |
| CH3 | 64.2188 | DEG F |
| AVG | 65.3860 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:25 | |
| CH1 | 65.7663 | DEG F |
| CH2 | 65.7731 | DEG F |
| CH3 | 64.2134 | DEG F |
| AVG | 65.3816 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:30 | |
| CH1 | 65.7583 | DEG F |
| CH2 | 65.7670 | DEG F |
| CH3 | 64.1997 | DEG F |
| AVG | 65.3761 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:35 | |
| CH1 | 65.7520 | DEG F |
| CH2 | 65.7629 | DEG F |
| CH3 | 64.1864 | DEG F |
| AVG | 65.3669 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:40 | |
| CH1 | 65.7482 | DEG F |
| CH2 | 65.7583 | DEG F |
| CH3 | 64.1785 | DEG F |
| AVG | 65.3628 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:45 | |
| CH1 | 65.7544 | DEG F |
| CH2 | 65.7623 | DEG F |
| CH3 | 64.1832 | DEG F |
| AVG | 65.3678 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:50 | |
| CH1 | 65.7460 | DEG F |
| CH2 | 65.7573 | DEG F |
| CH3 | 64.1742 | DEG F |
| AVG | 65.3603 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:55 | |
| CH1 | 65.7490 | DEG F |
| CH2 | 65.7610 | DEG F |
| CH3 | 64.1706 | DEG F |
| AVG | 65.3628 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:00 | |
| CH1 | 65.7470 | DEG F |
| CH2 | 65.7605 | DEG F |
| CH3 | 64.1672 | DEG F |
| AVG | 65.3596 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:05 | |
| CH1 | 65.7411 | DEG F |
| CH2 | 65.7571 | DEG F |
| CH3 | 64.1646 | DEG F |
| AVG | 65.3568 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:10 | |
| CH1 | 65.7300 | DEG F |
| CH2 | 65.7523 | DEG F |
| CH3 | 64.1637 | DEG F |
| AVG | 65.3518 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:15 | |
| CH1 | 65.7230 | DEG F |
| CH2 | 65.7509 | DEG F |
| CH3 | 64.1694 | DEG F |
| AVG | 65.3497 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:20 | |
| CH1 | 65.7217 | DEG F |
| CH2 | 65.7537 | DEG F |
| CH3 | 64.1657 | DEG F |
| AVG | 65.3501 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:25 | |
| CH1 | 65.7175 | DEG F |
| CH2 | 65.7517 | DEG F |
| CH3 | 64.1512 | DEG F |
| AVG | 65.3421 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:30 | |
| CH1 | 65.7191 | DEG F |
| CH2 | 65.7510 | DEG F |
| CH3 | 64.1441 | DEG F |
| AVG | 65.3423 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:35 | |
| CH1 | 65.7193 | DEG F |
| CH2 | 65.7500 | DEG F |
| CH3 | 64.1440 | DEG F |
| AVG | 65.3425 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:40 | |
| CH1 | 65.7196 | DEG F |
| CH2 | 65.7493 | DEG F |
| CH3 | 64.1441 | DEG F |
| AVG | 65.3414 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:45 | |
| CH1 | 65.7181 | DEG F |
| CH2 | 65.7455 | DEG F |
| CH3 | 64.1412 | DEG F |
| AVG | 65.3391 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:50 | |
| CH1 | 65.7201 | DEG F |
| CH2 | 65.7455 | DEG F |
| CH3 | 64.1413 | DEG F |
| AVG | 65.3394 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:55 | |
| CH1 | 65.7225 | DEG F |
| CH2 | 65.7482 | DEG F |
| CH3 | 64.1353 | DEG F |
| AVG | 65.3409 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:00 | |
| CH1 | 65.7041 | DEG F |
| CH2 | 65.7440 | DEG F |
| CH3 | 64.1192 | DEG F |
| AVG | 65.3297 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:05 | |
| CH1 | 65.6975 | DEG F |
| CH2 | 65.7453 | DEG F |
| CH3 | 64.1140 | DEG F |
| AVG | 65.3262 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:10 | |
| CH1 | 65.6875 | DEG F |
| CH2 | 65.7408 | DEG F |
| CH3 | 64.1052 | DEG F |
| AVG | 65.3203 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:15 | |
| CH1 | 65.6842 | DEG F |
| CH2 | 65.7409 | DEG F |
| CH3 | 64.1049 | DEG F |
| AVG | 65.3194 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:20 | |
| CH1 | 65.6889 | DEG F |
| CH2 | 65.7413 | DEG F |
| CH3 | 64.1103 | DEG F |
| AVG | 65.3232 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:25 | |
| CH1 | 65.6812 | DEG F |
| CH2 | 65.7360 | DEG F |
| CH3 | 64.1085 | DEG F |
| AVG | 65.3171 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:30 | |
| CH1 | 65.6761 | DEG F |
| CH2 | 65.7340 | DEG F |
| CH3 | 64.1101 | DEG F |
| AVG | 65.3150 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:35 | |
| CH1 | 65.6730 | DEG F |
| CH2 | 65.7359 | DEG F |
| CH3 | 64.1144 | DEG F |
| AVG | 65.3167 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:40 | |
| CH1 | 65.6689 | DEG F |
| CH2 | 65.7327 | DEG F |
| CH3 | 64.1142 | DEG F |
| AVG | 65.3139 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:45 | |
| CH1 | 65.6695 | DEG F |
| CH2 | 65.7323 | DEG F |
| CH3 | 64.1132 | DEG F |
| AVG | 65.3126 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:50 | |
| CH1 | 65.6701 | DEG F |
| CH2 | 65.7292 | DEG F |
| CH3 | 64.1067 | DEG F |
| AVG | 65.3123 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:55 | |
| CH1 | 65.6725 | DEG F |
| CH2 | 65.7289 | DEG F |
| CH3 | 64.0983 | DEG F |
| AVG | 65.3086 | DEG F |

| | | |
|---|---|---|
| TIME | 22:11:00 | |
| CH1 | 65.6636 | DEG F |
| CH2 | 65.7201 | DEG F |
| CH3 | 64.0838 | DEG F |
| AVG | 65.2974 | DEG F |

| | | |
|---|---|---|
| TIME | 22:11:05 | |
| CH1 | 65.6667 | DEG F |
| CH2 | 65.7292 | DEG F |
| CH3 | 64.0924 | DEG F |
| AVG | 65.3062 | DEG F |

T # 004

# AINLAY TANK TIGHTNESS TEST No.

#4 #1, #4 FUEL OIL

**16 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 83 INS FILL PIPE LENGTH 37 INS

**17 WATER IN TANK**

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

**18 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,300 GALS (c) DEDUCT WATER IN TANK TOP-OFF +5 +0 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 10,322 GALS (d) TOTAL PRODUCT VOL. 10,327 GALS

**19 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = .7031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .7031 = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**20 PRELIM TEST DATA**

(a) START TEMP CHECK 10:30 AM/PM (d) A.P.I. GRAVITY 25.3 AT 68 °F
(b) END TEMP CHECK ____ AM/PM (e) A.P.I. GRAVITY 24.9 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED ½ HRS (f) COEFF. OF EXPANSION .00042562 T

**21 TEST DATA**

(a) START TEST ____ AM/PM END TEST ____ AM/PM: TEST TIME ____ MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1320 | 69,237 | 71,2916 | 70.0218 | 70.5587 | | | | | |
| 1325 | 696150 | 712894 | 700132 | 705557 | | | | | |
| 1330 | 695976 | 712860 | 70.0027 | 705434 | | | | | |
| 1335 | 695942 | 712877 | 70.0030 | 705473 | | | | | |
| 1340 | 695852 | 712876 | 70.0025 | 705432 | | | | | |
| 1345 | 695845 | 712808 | 69.9937 | 705392 | | | | | |
| 1350 | 695914 | 712774 | 699955 | 705369 | | | | | |
| 1355 | 695853 | 712720 | 699946 | 705323 | | | | | |
| 1400 | 695801 | 712742 | 699955 | 705327 | | | | | |
| 1405 | 695755 | 712666 | 699950 | 705256 | | | | | |
| 1410 | 695669 | 712645 | 70.0013 | 705277 | | | | | |
| 1415 | 695621 | 712625 | 699927 | 705237 | | | | | |
| 1420 | 695736 | 712638 | 70.0010 | 705273 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = .5273 - .5587 = +14.0314 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.
= 10,327(18d) × .0314(21b) × .00042562 (20) = +138 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = -1,230 GALS.

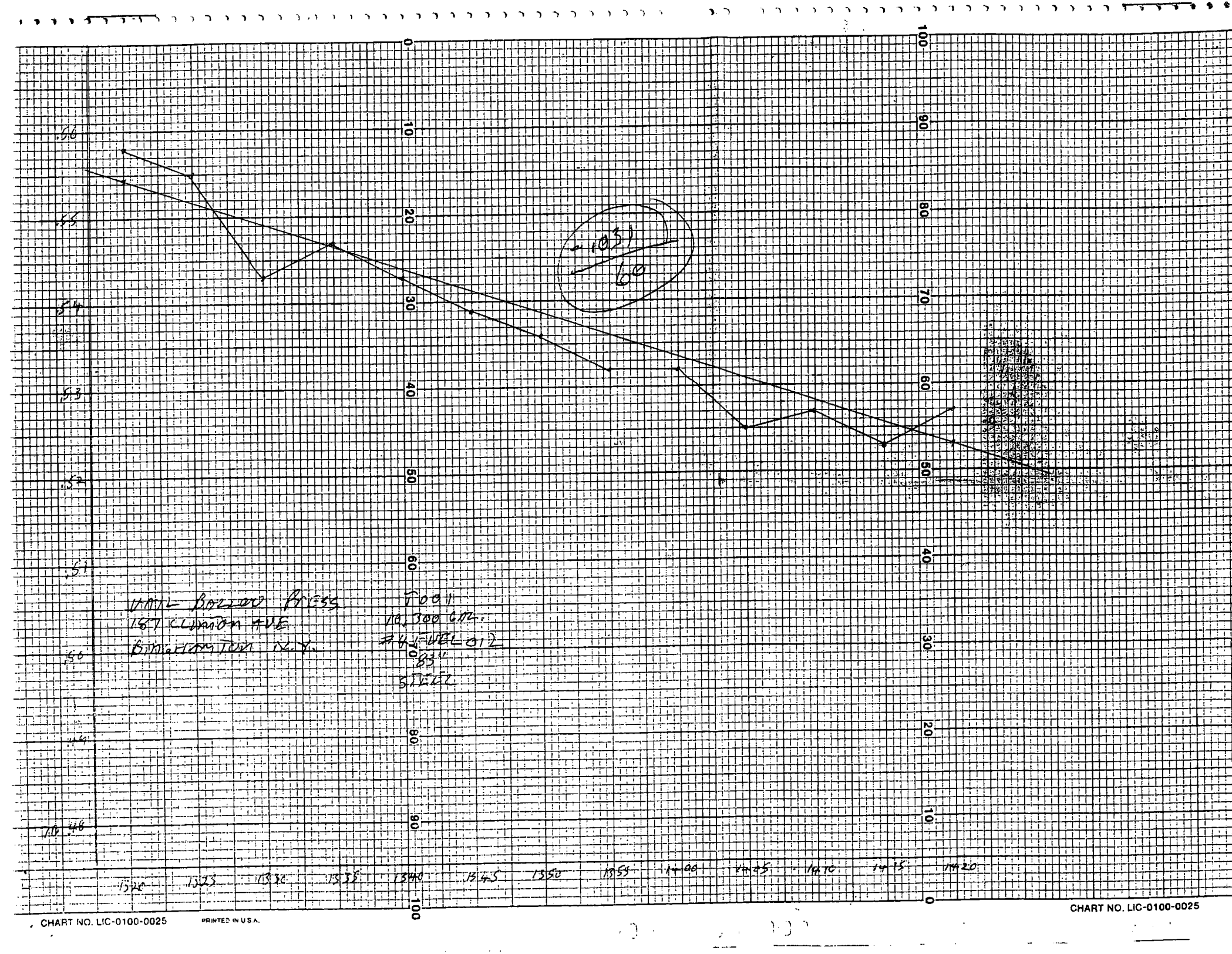
(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = +138 + +1,230 = -1,092 GALS.

(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = +1,092 x 60 / 60 (21a) = +1,092 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☐ / THE TANK IS NOT TIGHT ☒

JOB ____ ADDRESS ____ DATE 1 / 1 TESTER ____ TEST COMPANY ____

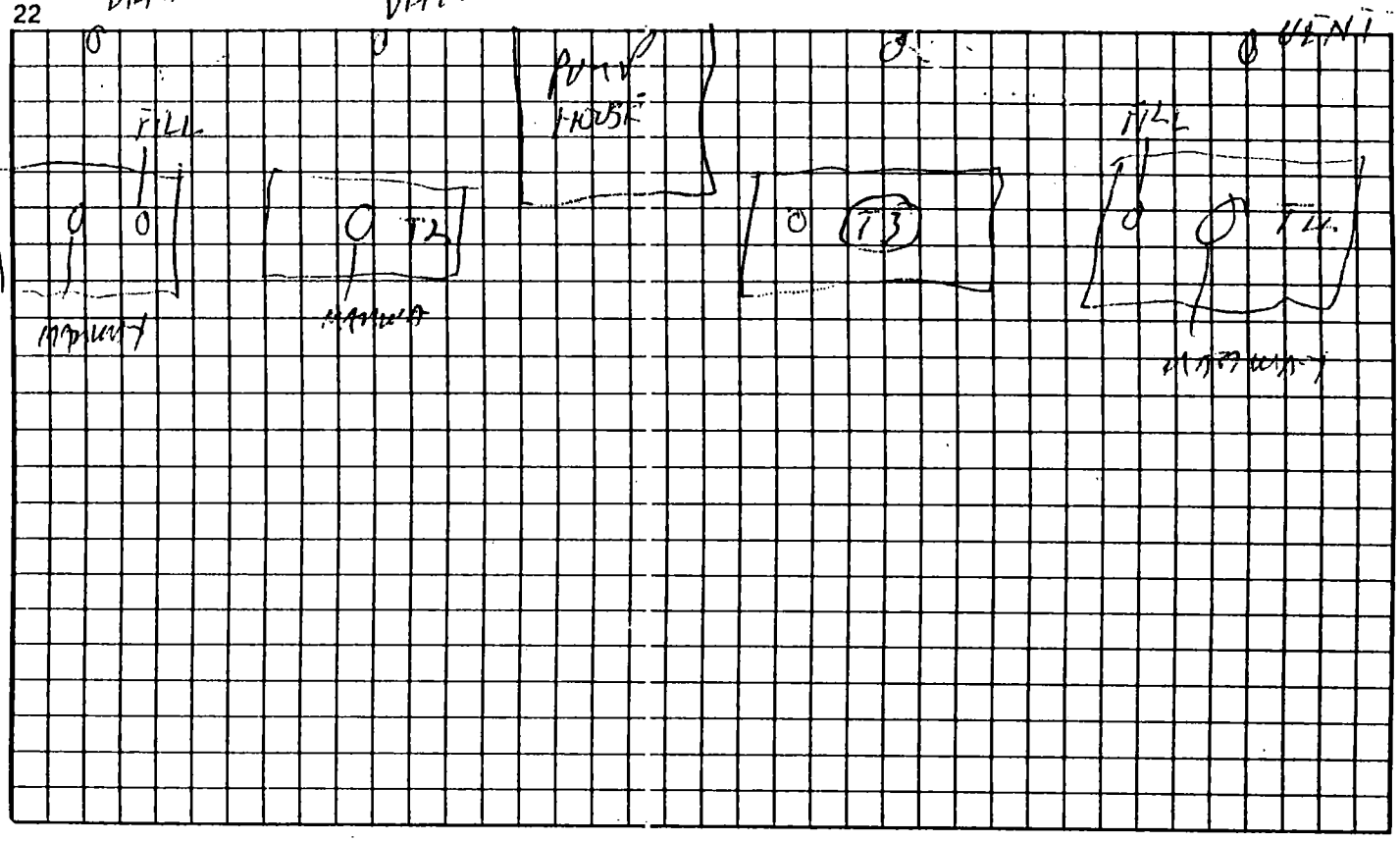

1051
60
MAIL BOILER PRESS
167 CLINTON AVE
BINGHAMTON N.Y.
TOOL
10,300 GAL.
#4-WELD
STEEL
CHART NO. LIC-0100-0025
PRINTED IN U.S.A.
CHART NO. LIC-0100-0025

| TIME | CH1 | CH2 | CH3 | AVG |
|---|---|---|---|---|
| 25:10:30 | 69.4853 DEG F | 71.0357 DEG F | 69.8335 DEG F | 70.3479 DEG F |
| 25:10:35 | 69.6503 DEG F | 71.2167 DEG F | 69.9848 DEG F | 70.5181 DEG F |
| 25:10:40 | 69.6883 DEG F | 71.2660 DEG F | 70.0142 DEG F | 70.5607 DEG F |
| 25:10:45 | 69.7183 DEG F | 71.2904 DEG F | 70.0223 DEG F | 70.5825 DEG F |
| 25:10:50 | 69.7291 DEG F | 71.3005 DEG F | 70.0210 DEG F | 70.5878 DEG F |
| 25:10:55 | 69.7234 DEG F | 71.3034 DEG F | 70.0189 DEG F | 70.5901 DEG F |
| 25:11:00 | 69.7362 DEG F | 71.3082 DEG F | 70.0197 DEG F | 70.5941 DEG F |
| 25:11:05 | 69.7147 DEG F | 71.3099 DEG F | 70.0192 DEG F | 70.5910 DEG F |
| 25:11:10 | 69.7183 DEG F | 71.3030 DEG F | 70.0148 DEG F | 70.5850 DEG F |
| 25:11:15 | 69.7094 DEG F | 71.2939 DEG F | 70.0112 DEG F | 70.5796 DEG F |
| 25:11:20 | 69.7232 DEG F | 71.2953 DEG F | 70.0147 DEG F | 70.5843 DEG F |
| 25:11:25 | 69.7163 DEG F | 71.2978 DEG F | 70.0163 DEG F | 70.5835 DEG F |
| 25:11:30 | 69.7072 DEG F | 71.2969 DEG F | 70.0141 DEG F | 70.5791 DEG F |
| 25:11:35 | 69.7073 DEG F | 71.2975 DEG F | 70.0160 DEG F | 70.5802 DEG F |
| 25:11:40 | 69.7047 DEG F | 71.3016 DEG F | 70.0220 DEG F | 70.5832 DEG F |
| 25:11:45 | 69.7041 DEG F | 71.3006 DEG F | 70.0278 DEG F | 70.5848 DEG F |
| 25:11:50 | 69.6924 DEG F | 71.3002 DEG F | 70.0345 DEG F | 70.5823 DEG F |
| 25:11:55 | 69.6838 DEG F | 71.2982 DEG F | 70.0346 DEG F | 70.5807 DEG F |
| 25:12:00 | 69.6880 DEG F | 71.3007 DEG F | 70.0364 DEG F | 70.5821 DEG F |
| 25:12:05 | 69.7023 DEG F | 71.3061 DEG F | 70.0393 DEG F | 70.5887 DEG F |
| 25:12:10 | 69.6907 DEG F | 71.3065 DEG F | 70.0391 DEG F | 70.5844 DEG F |
| 25:12:15 | 69.6703 DEG F | 71.3030 DEG F | 70.0345 DEG F | 70.5784 DEG F |
| 25:12:20 | 69.6855 DEG F | 71.3045 DEG F | 70.0357 DEG F | 70.5838 DEG F |
| 25:12:25 | 69.6874 DEG F | 71.3010 DEG F | 70.0338 DEG F | 70.5813 DEG F |
| 25:12:30 | 69.6871 DEG F | 71.3006 DEG F | 70.0338 DEG F | 70.5821 DEG F |
| 25:12:35 | 69.6585 DEG F | 71.2978 DEG F | 70.0346 DEG F | 70.5732 DEG F |
| 25:12:40 | 69.6582 DEG F | 71.3003 DEG F | 70.0335 DEG F | 70.5743 DEG F |
| 25:12:45 | 69.6421 DEG F | 71.2968 DEG F | 70.0332 DEG F | 70.5691 DEG F |
| 25:12:50 | 69.6478 DEG F | 71.2972 DEG F | 70.0335 DEG F | 70.5699 DEG F |
| 25:12:55 | 69.6538 DEG F | 71.2945 DEG F | 70.0329 DEG F | 70.5714 DEG F |
| 25:13:00 | 69.6505 DEG F | 71.2907 DEG F | 70.0284 DEG F | 70.5659 DEG F |
| 25:13:05 | 69.6235 DEG F | 71.2927 DEG F | 70.0297 DEG F | 70.5610 DEG F |
| 25:13:10 | 69.6305 DEG F | 71.2926 DEG F | 70.0269 DEG F | 70.5642 DEG F |
| 25:13:15 | 69.6389 DEG F | 71.2949 DEG F | 70.0267 DEG F | 70.5652 DEG F |
| 25:13:20 | 69.6237 DEG F | 71.2916 DEG F | 70.0218 DEG F | 70.5587 DEG F |
| 25:13:25 | 69.6180 DEG F | 71.2894 DEG F | 70.0132 DEG F | 70.5557 DEG F |
| 25:13:30 | 69.5976 DEG F | 71.2860 DEG F | 70.0027 DEG F | 70.5439 DEG F |
| 25:13:35 | 69.5942 DEG F | 71.2877 DEG F | 70.0030 DEG F | 70.5473 DEG F |
| 25:13:40 | 69.5882 DEG F | 71.2876 DEG F | 70.0023 DEG F | 70.5432 DEG F |
| 25:13:45 | 69.5905 DEG F | 71.2800 DEG F | 69.9937 DEG F | 70.5392 DEG F |
| 25:13:50 | 69.5919 DEG F | 71.2774 DEG F | 69.9955 DEG F | 70.5369 DEG F |
| 25:13:55 | 69.5853 DEG F | 71.2720 DEG F | 69.9946 DEG F | 70.5323 DEG F |
| 25:14:00 | 69.5801 DEG F | 71.2742 DEG F | 69.9955 DEG F | 70.5327 DEG F |
| 25:14:05 | 69.5755 DEG F | 71.2666 DEG F | 69.9950 DEG F | 70.5256 DEG F |
| 25:14:10 | 69.5668 DEG F | 71.2685 DEG F | 70.0019 DEG F | 70.5277 DEG F |
| 25:14:15 | 69.5721 DEG F | 71.2625 DEG F | 69.9977 DEG F | 70.5237 DEG F |
| 25:14:20 | 69.5736 DEG F | 71.2638 DEG F | 70.0010 DEG F | 70.5273 DEG F |

T#001

# TEST SITE LAYOUT

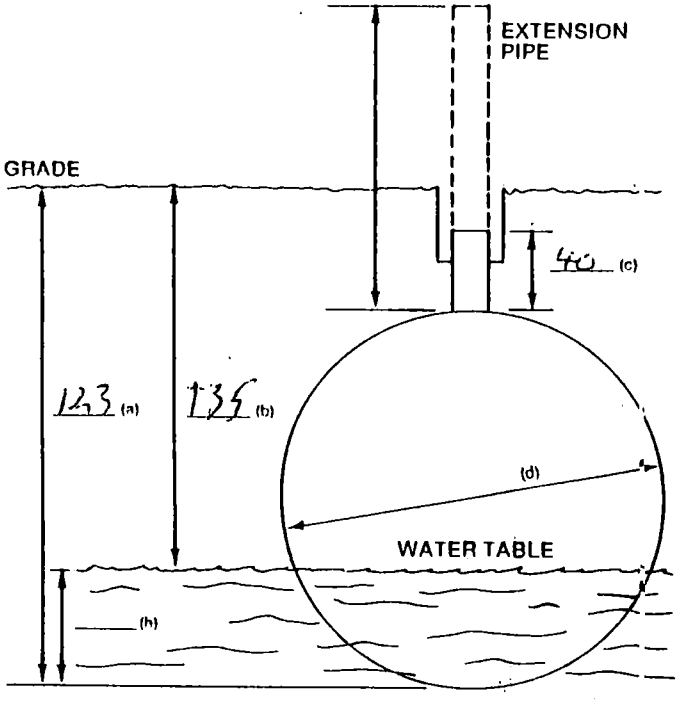
22




TESTER
TEST COMPANY

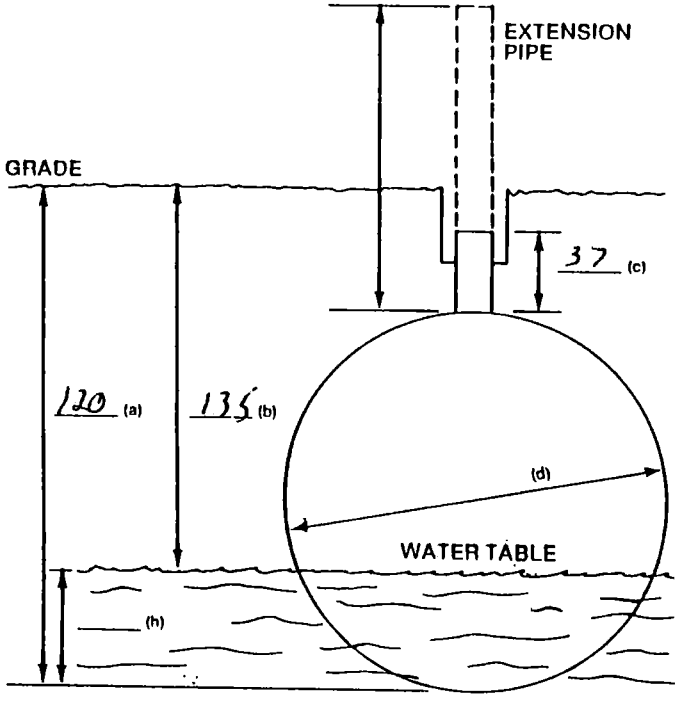
23

## TEST 1: TANK DIMENSIONS




TANK IDENT. T4 004

## TEST 2: TANK DIMENSIONS




TANK IDENT. T4 001

DATE / /

JOB ADDRESS

SOILTEST®

# AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

**1 TANK OPERATOR**

NAME / ADDRESS / PHONE

VAIL BALLOON PRESS
187 CLINTON ST BINGHAMTON N.Y.

**2 TANKS TO BE TESTED**

| IDENTIFICATION | CAPACITY—GALS. | MANUFACTURER | STEEL/FIBRGLS. | AGE—YRS. |
|---|---|---|---|---|
| 1T 003 | 10,300 | ? | STEEL | ? |
| 1T 002 | 10,300 | ? | STEEL | ? |
| | | | | |
| | | | | |
| | | | | |

**3 WATER TABLE**

DISTANCE FROM GRADE TO WATER 135 INS.

**4 TANK FILL-UP**

T3 TANK WILL BE FILLED 1 hour (TIME) ON 1 1 1M2. Tent. to 4-19-89
EXTRA 5 GALS PRODUCT AVAILABLE FROM VAIL BALLOON
FILL UP TO BE ARRANGED BY MR. BOB KALKA PHONE (607) 723-2481
CONTACT AT STORAGE TERMINAL IS MR. _____ PHONE ( ).

**5 OUTSIDE CONTRACTORS**

NAME / ADDRESS / PHONE

**6 OFFICIALS TO BE CONTACTED**

NAME / AUTHORITY / PHONE

U.P.L. 1-800-457-7362

**7 SPECIAL NOTES OR PRECAUTIONS**

PBS.H. 182.30

SPILL PREVENTION

**8 TEST RESULTS**

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

| TANK IDENT | TANK IS TIGHT | TANK IS NOT TIGHT | LEAK RATE G. P. H. | TEST DATE |
|---|---|---|---|---|
| 1T 003 | | X | +.127 | 4-19-89 |
| | | | | |
| 1T 002 | X | | -.025 | 4-20-89 |
| | | | | |

**9 CERTIFICATION**

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED _____ CERTIFICATE NO. 1315
ISSUE DATE 10-15-89

FOR (TEST COMPANY) _____
ADDRESS _____

TRI-STATE TANK SERVICE
Luzon Oil Co., Inc.
Star Box 19
HURLEYVILLE, NEW YORK 12747 ZIP
(914) 434-7805

ST-8 (REV. 2/87)

# AINLAY TANK TIGHTNESS TEST NO. [illegible]

T-1. 002 T-4 FUEL OIL

| | |
|---|---|
| 10 TANK I.D. | INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)<br>TANK DIAMETER 8'3" INS FILL PIPE LENGTH 38' INS |
| 11 WATER IN TANK | (a) START WATER IN TANK 3 INS (c) END WATER IN TANK 3 INS<br>(b) START WATER IN TANK 117 GALS (d) END WATER IN TANK 117 GALS |
| 12 PRODUCT VOLUME | T-1 10,000 GAL<br>T-2 10,000 GAL<br>T-3 10,000 GAL<br>T-4 10,000 GAL<br>(a) NOMINAL CAPACITY 10,300 GALS (c) DEDUCT WATER IN TANK -117 GALS<br>(b) ACTUAL CAPACITY 10,322 GALS (d) TOTAL PRODUCT VOL. +10,210 GALS<br>(FROM TANK CHART) |
| 13 FILL PIPE EXTENSION | (a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS<br>(b) DENSITY OF TANK PRODUCT = 1031 (w) LB/CU. IN. (FROM TABLES)<br>DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.<br>(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .031 = 0 INS<br>NOTE:<br>TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL. |
| 14 PRELIM TEST DATA | (a) START TEMP CHECK 9:00 AM/PM (d) A.P.I. GRAVITY 25.5 AT 73 °F<br>(b) END TEMP CHECK ____ AM/PM (e) A.P.I. GRAVITY 24.7 AT 60 °F<br>(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .000 425 27 |
| 15 TEST DATA | (a) START TEST 12:00 AM/PM: END TEST ____ AM/PM: TEST TIME 60 MINS. |

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 12:00 | 74.7525 | 74.9961 | 82.0801 | 76.7085 | | | | | |
| 12:05 | 74.7475 | 74.9907 | 82.0641 | 76.6995 | | | | | |
| 12:10 | 74.7455 | 75.0015 | 82.0475 | 76.7028 | | | | | |
| 12:15 | 74.7495 | 75.0037 | 82.0331 | 76.6973 | | | | | |
| 12:20 | 74.7469 | 75.0037 | 82.0184 | 76.6951 | | | | | |
| 12:25 | 74.7461 | 75.0125 | 82.0050 | 76.6957 | | | | | |
| 12:30 | 74.7417 | 75.0131 | 81.9886 | 76.6908 | | | | | |
| 12:35 | 74.7435 | 75.0107 | 81.9781 | 76.6866 | | | | | |
| 12:40 | 74.7435 | 75.0037 | 81.9671 | 76.6842 | | | | | |
| 12:45 | 74.7464 | 75.0007 | 81.9593 | 76.6865 | | | | | |
| 12:50 | 74.7651 | 75.0022 | 81.9715 | 76.6955 | | | | | |
| 12:55 | 74.7605 | 75.0014 | 81.9765 | 76.6926 | | | | | |
| 13:00 | 74.7623 | 75.0032 | 81.9749 | 76.6932 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. − AVG START TEMP.) = 76.6932 − 76.7085 = −15.045 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL x TEMP. CHANGE x COEFF. EXP.

= 10,210 (12d) x −15.045 (15b) x .000 425 27 (14f) = −18.1954 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = 81-,120 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP ((c) + (d)) ..... = −18.195 + 18.120 = +18.025 GALS.

(f) LEAK RATE = (e) X 60 / TIME OF TEST (MINS) = 18.025 X 60 / 60 (15a) = 18.025 G.P.H.

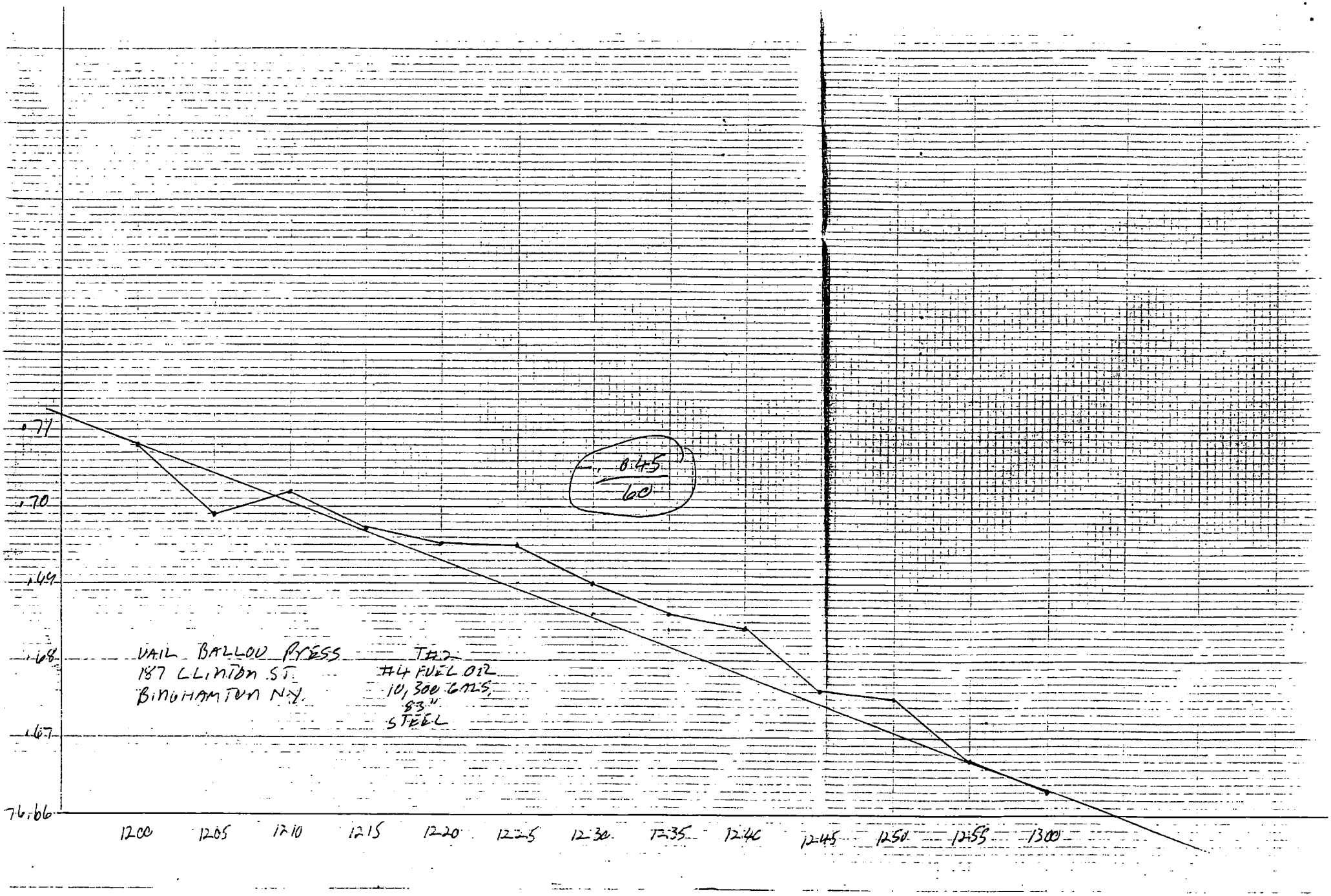
THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC. BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

JOB ADDRESS

TEST CONTRACTOR

SIGN


.74
.70
.69
.68
.67
76.66
8:45
60
VAIL BALLOU PRESS
187 CLINTON ST.
BINGHAMTON N.Y.
T#2
#4 FUEL OIL
10,300 GALS.
83"
STEEL
1200
1205
1210
1215
1220
1225
1230
1235
1240
1245
1250
1255
1300

| | | |
|---|---|---|
| TIME | 20:09:00 | |
| CH1 | 74.6597 | DEG F |
| CH2 | 74.6951 | DEG F |
| CH3 | 82.5716 | DEG F |
| AVG | 76.6585 | DEG F |
| TIME | 20:09:05 | |
| CH1 | 74.6648 | DEG F |
| CH2 | 74.7512 | DEG F |
| CH3 | 82.5799 | DEG F |
| AVG | 76.6887 | DEG F |
| TIME | 20:09:10 | |
| CH1 | 74.6853 | DEG F |
| CH2 | 74.7876 | DEG F |
| CH3 | 82.5969 | DEG F |
| AVG | 76.7167 | DEG F |
| TIME | 20:09:15 | |
| CH1 | 74.6971 | DEG F |
| CH2 | 74.8014 | DEG F |
| CH3 | 82.5870 | DEG F |
| AVG | 76.7231 | DEG F |
| TIME | 20:09:20 | |
| CH1 | 74.6996 | DEG F |
| CH2 | 74.8187 | DEG F |
| CH3 | 82.5669 | DEG F |
| AVG | 76.7285 | DEG F |
| TIME | 20:09:25 | |
| CH1 | 74.7014 | DEG F |
| CH2 | 74.8332 | DEG F |
| CH3 | 82.5570 | DEG F |
| AVG | 76.7340 | DEG F |
| TIME | 20:09:30 | |
| CH1 | 74.6926 | DEG F |
| CH2 | 74.8465 | DEG F |
| CH3 | 82.5475 | DEG F |
| AVG | 76.7354 | DEG F |
| TIME | 20:09:35 | |
| CH1 | 74.6901 | DEG F |
| CH2 | 74.8560 | DEG F |
| CH3 | 82.5337 | DEG F |
| AVG | 76.7344 | DEG F |
| TIME | 20:09:40 | |
| CH1 | 74.6821 | DEG F |
| CH2 | 74.8516 | DEG F |
| CH3 | 82.5090 | DEG F |
| AVG | 76.7251 | DEG F |

| | | |
|---|---|---|
| TIME | 20:09:45 | |
| CH1 | 74.6302 | DEG F |
| CH2 | 74.8456 | DEG F |
| CH3 | 82.4871 | DEG F |
| AVG | 76.7141 | DEG F |
| TIME | 20:09:50 | |
| CH1 | 74.6816 | DEG F |
| CH2 | 74.8436 | DEG F |
| CH3 | 82.4733 | DEG F |
| AVG | 76.7094 | DEG F |
| TIME | 20:09:55 | |
| CH1 | 74.6823 | DEG F |
| CH2 | 74.8398 | DEG F |
| CH3 | 82.4557 | DEG F |
| AVG | 76.7069 | DEG F |
| TIME | 20:10:00 | |
| CH1 | 74.6874 | DEG F |
| CH2 | 74.8850 | DEG F |
| CH3 | 82.4438 | DEG F |
| AVG | 76.7023 | DEG F |
| TIME | 20:10:05 | |
| CH1 | 74.6775 | DEG F |
| CH2 | 74.8294 | DEG F |
| CH3 | 82.4272 | DEG F |
| AVG | 76.6925 | DEG F |
| TIME | 20:10:10 | |
| CH1 | 74.6726 | DEG F |
| CH2 | 74.8304 | DEG F |
| CH3 | 82.4148 | DEG F |
| AVG | 76.6885 | DEG F |
| TIME | 20:10:15 | |
| CH1 | 74.6788 | DEG F |
| CH2 | 74.8394 | DEG F |
| CH3 | 82.4029 | DEG F |
| AVG | 76.6904 | DEG F |
| TIME | 20:10:20 | |
| CH1 | 74.6893 | DEG F |
| CH2 | 74.8628 | DEG F |
| CH3 | 82.3915 | DEG F |
| AVG | 76.7021 | DEG F |
| TIME | 20:10:25 | |
| CH1 | 74.7026 | DEG F |
| CH2 | 74.8921 | DEG F |
| CH3 | 82.3804 | DEG F |
| AVG | 76.7185 | DEG F |

| | | |
|---|---|---|
| TIME | 20:10:30 | |
| CH1 | 74.6988 | DEG F |
| CH2 | 74.9051 | DEG F |
| CH3 | 82.3631 | DEG F |
| AVG | 76.7200 | DEG F |
| TIME | 20:10:35 | |
| CH1 | 74.6898 | DEG F |
| CH2 | 74.9155 | DEG F |
| CH3 | 82.3417 | DEG F |
| AVG | 76.7163 | DEG F |
| TIME | 20:10:40 | |
| CH1 | 74.6814 | DEG F |
| CH2 | 74.9260 | DEG F |
| CH3 | 82.3233 | DEG F |
| AVG | 76.7147 | DEG F |
| TIME | 20:10:45 | |
| CH1 | 74.6784 | DEG F |
| CH2 | 74.9410 | DEG F |
| CH3 | 82.3026 | DEG F |
| AVG | 76.7165 | DEG F |
| TIME | 20:10:50 | |
| CH1 | 74.6734 | DEG F |
| CH2 | 74.9493 | DEG F |
| CH3 | 82.2828 | DEG F |
| AVG | 76.7151 | DEG F |
| TIME | 20:10:55 | |
| CH1 | 74.6777 | DEG F |
| CH2 | 74.9578 | DEG F |
| CH3 | 82.2706 | DEG F |
| AVG | 76.7179 | DEG F |
| TIME | 20:11:00 | |
| CH1 | 74.6798 | DEG F |
| CH2 | 74.9644 | DEG F |
| CH3 | 82.2515 | DEG F |
| AVG | 76.7174 | DEG F |
| TIME | 20:11:05 | |
| CH1 | 74.6805 | DEG F |
| CH2 | 74.9715 | DEG F |
| CH3 | 82.2363 | DEG F |
| AVG | 76.7164 | DEG F |
| TIME | 20:11:10 | |
| CH1 | 74.6836 | DEG F |
| CH2 | 74.9762 | DEG F |
| CH3 | 82.2238 | DEG F |
| AVG | 76.7174 | DEG F |

| | | |
|---|---|---|
| TIME | 20:11:15 | |
| CH1 | 74.6967 | DEG F |
| CH2 | 74.9777 | DEG F |
| CH3 | 82.2134 | DEG F |
| AVG | 76.7171 | DEG F |
| TIME | 20:11:20 | |
| CH1 | 74.7019 | DEG F |
| CH2 | 74.9706 | DEG F |
| CH3 | 82.1978 | DEG F |
| AVG | 76.7113 | DEG F |
| TIME | 20:11:25 | |
| CH1 | 74.7117 | DEG F |
| CH2 | 74.9736 | DEG F |
| CH3 | 82.1835 | DEG F |
| AVG | 76.7112 | DEG F |
| TIME | 20:11:30 | |
| CH1 | 74.7105 | DEG F |
| CH2 | 74.9876 | DEG F |
| CH3 | 82.1580 | DEG F |
| AVG | 76.7125 | DEG F |
| TIME | 20:11:35 | |
| CH1 | 74.7236 | DEG F |
| CH2 | 74.9771 | DEG F |
| CH3 | 82.1464 | DEG F |
| AVG | 76.7071 | DEG F |
| TIME | 20:11:40 | |
| CH1 | 74.7310 | DEG F |
| CH2 | 74.9679 | DEG F |
| CH3 | 82.1266 | DEG F |
| AVG | 76.6994 | DEG F |
| TIME | 20:11:45 | |
| CH1 | 74.7362 | DEG F |
| CH2 | 74.9708 | DEG F |
| CH3 | 82.1049 | DEG F |
| AVG | 76.6969 | DEG F |
| TIME | 20:11:50 | |
| CH1 | 74.7440 | DEG F |
| CH2 | 74.9926 | DEG F |
| CH3 | 82.0917 | DEG F |
| AVG | 76.7077 | DEG F |
| TIME | 20:11:55 | |
| CH1 | 74.7502 | DEG F |
| CH2 | 74.9997 | DEG F |
| CH3 | 82.0837 | DEG F |
| AVG | 76.7100 | DEG F |

| | | |
|---|---|---|
| TIME | 20:12:00 | |
| CH1 | 74.7525 | DEG F |
| CH2 | 74.9961 | DEG F |
| CH3 | 82.0801 | DEG F |
| AVG | 76.7085 | DEG F |
| TIME | 20:12:05 | |
| CH1 | 74.7475 | DEG F |
| CH2 | 74.9907 | DEG F |
| CH3 | 82.0641 | DEG F |
| AVG | 76.6995 | DEG F |
| TIME | 20:12:10 | |
| CH1 | 74.7485 | DEG F |
| CH2 | 75.0005 | DEG F |
| CH3 | 82.0475 | DEG F |
| AVG | 76.7028 | DEG F |
| TIME | 20:12:15 | |
| CH1 | 74.7495 | DEG F |
| CH2 | 75.0037 | DEG F |
| CH3 | 82.0331 | DEG F |
| AVG | 76.6973 | DEG F |
| TIME | 20:12:20 | |
| CH1 | 74.7469 | DEG F |
| CH2 | 75.0037 | DEG F |
| CH3 | 82.0184 | DEG F |
| AVG | 76.6951 | DEG F |
| TIME | 20:12:25 | |
| CH1 | 74.7461 | DEG F |
| CH2 | 75.0125 | DEG F |
| CH3 | 82.0050 | DEG F |
| AVG | 76.6957 | DEG F |
| TIME | 20:12:30 | |
| CH1 | 74.7417 | DEG F |
| CH2 | 75.0131 | DEG F |
| CH3 | 81.9886 | DEG F |
| AVG | 76.6908 | DEG F |
| TIME | 20:12:35 | |
| CH1 | 74.7435 | DEG F |
| CH2 | 75.0107 | DEG F |
| CH3 | 81.9751 | DEG F |
| AVG | 76.6866 | DEG F |
| TIME | 20:12:40 | |
| CH1 | 74.7535 | DEG F |
| CH2 | 75.0039 | DEG F |
| CH3 | 81.9671 | DEG F |
| AVG | 76.6842 | DEG F |

| | | |
|---|---|---|
| TIME | 20:12:45 | |
| CH1 | 74.7664 | DEG F |
| CH2 | 74.9907 | DEG F |
| CH3 | 81.9583 | DEG F |
| AVG | 76.6765 | DEG F |
| TIME | 20:12:50 | |
| CH1 | 74.7651 | DEG F |
| CH2 | 74.9922 | DEG F |
| CH3 | 81.9415 | DEG F |
| AVG | 76.6755 | DEG F |
| TIME | 20:12:55 | |
| CH1 | 74.7605 | DEG F |
| CH2 | 74.9914 | DEG F |
| CH3 | 81.9255 | DEG F |
| AVG | 76.6676 | DEG F |
| TIME | 20:13:00 | |
| CH1 | 74.7623 | DEG F |
| CH2 | 74.9832 | DEG F |
| CH3 | 81.9179 | DEG F |
| AVG | 76.6632 | DEG F |

T#002

# AINLAY TANK TIGHTNESS TEST No. 1

TANK 3 #4 PREM. DSL

**16 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 95 INS FILL PIPE LENGTH 37 INS

**17 WATER IN TANK**

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

**18 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,320 GALS (c) DEDUCT WATER IN TANK 0 GALS
(b) ACTUAL CAPACITY 10,322 GALS (d) TOTAL PRODUCT VOL. 10,322 GALS
(FROM TANK CHART)

**19 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)}$ = $\frac{\times 0.036}{}$ = _____ INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**20 PRELIM TEST DATA**

(a) START TEMP CHECK 1305 AM/PM (d) A.P.I. GRAVITY 25.8 AT 67 °F
(b) END TEMP CHECK 1700 AM/PM (e) A.P.I. GRAVITY 25.3 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .000427394

**21 TEST DATA**

(a) START TEST 16.00 AM/PM END TEST 17.00 AM/PM: TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1600 | 65812 | 677404 | 681955 | 673760 | | | | | |
| 1605 | 658094 | 677409 | 681922 | 673701 | | | | | |
| 1610 | 658132 | 677423 | 681964 | 673746 | | | | | |
| 1615 | 658116 | 677396 | 681963 | 673725 | | | | | |
| 1620 | 658104 | 677386 | 681991 | 673727 | | | | | |
| 1625 | 658146 | 677430 | 682057 | 673773 | | | | | |
| 1630 | 658143 | 677418 | 682045 | 673772 | | | | | |
| 1635 | 658136 | 677417 | 682043 | 673777 | | | | | |
| 1640 | 658127 | 677403 | 682043 | 673726 | | | | | |
| 1645 | 658105 | 677387 | 682046 | 673750 | | | | | |
| 1650 | 658149 | 677424 | 682046 | 673773 | | | | | |
| 1655 | 658094 | 677366 | 682045 | 673726 | | | | | |
| 1700 | 658111 | 677345 | 682033 | 673730 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = 3730 − 3760 = +10.005 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.
= 10,322 (18d) × .005 (21b) × .000427394 (20f) = +10.0132 GALS.

(d) TOTAL LIQUID VOL (ADDED) SUBTRACTED AT END OF TEST ..... = 01-.140 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = .013 + .140 = 01-.127 GALS.

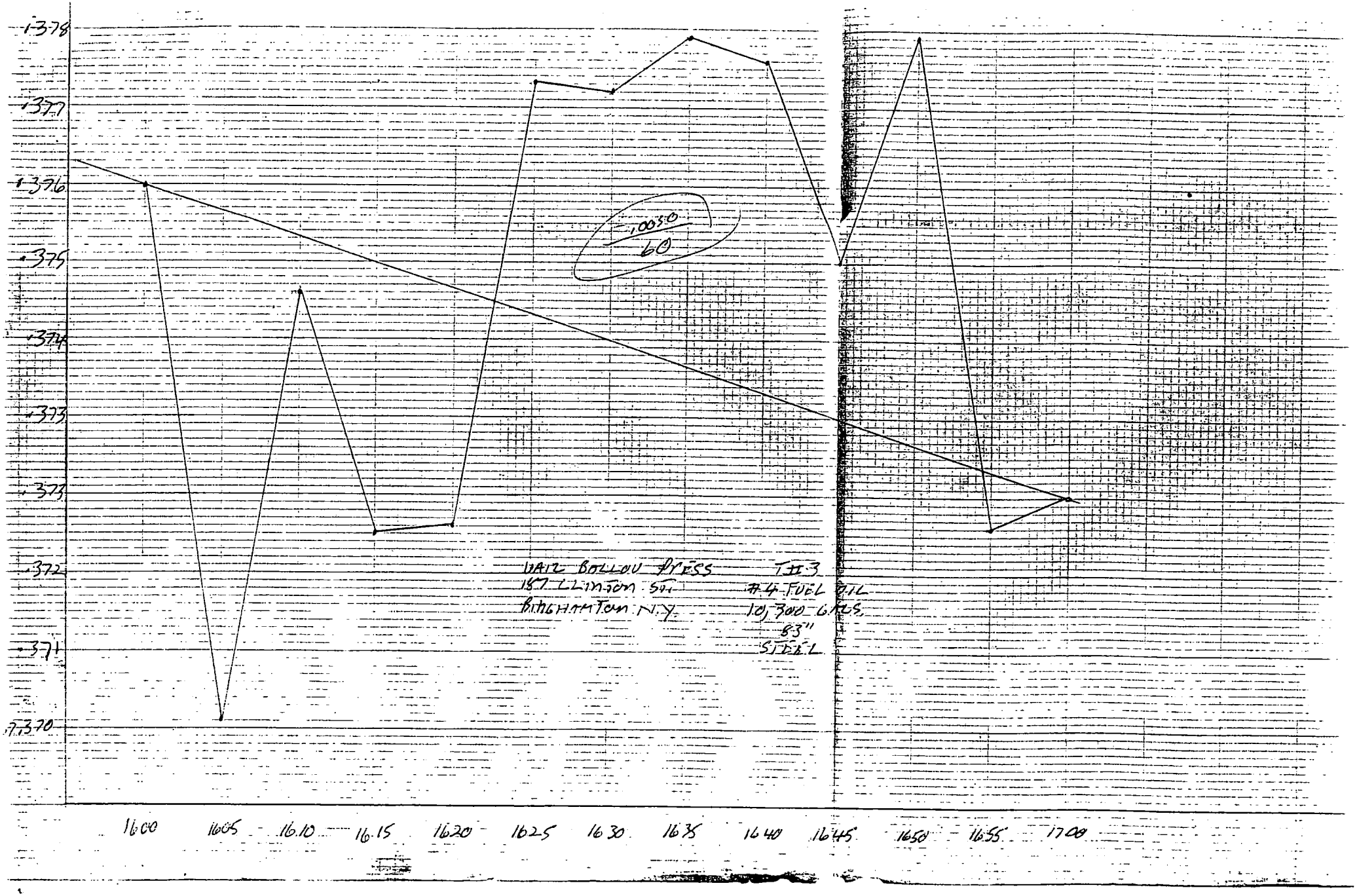
(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}}$ = $\frac{+.127 \times 60}{60}$ (21a) = .127 G.P.H.

THIS LEAK RATE (DOES) / DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☐ / THE TANK IS NOT TIGHT ☒

TEST COMPANY

ADDRESS


1378
1377
1376
1375
1374
1373
1372
1371
1370
1600
1605
16.10
16.15
1620
1625
1630
1635
1640
1645
1650
1655
1700
1003.0
60
DAIL BOILOU PRESS
187 CLINTON ST.
BINGHAMTON N.Y.
III 3
#4 FUEL OIL
10,300 GALS.
83"
STEEL

TIME 19:13:05
CH1 65.7434 DEG F
CH2 67.6923 DEG F
CH3 68.0791 DEG F
AVG 67.3019 DEG F

TIME 19:13:10
CH1 65.7980 DEG F
CH2 67.7406 DEG F
CH3 68.1313 DEG F
AVG 67.3533 DEG F

TIME 19:13:15
CH1 65.8148 DEG F
CH2 67.7535 DEG F
CH3 68.1526 DEG F
AVG 67.3700 DEG F

TIME 19:13:20
CH1 65.8148 DEG F
CH2 67.7521 DEG F
CH3 68.1525 DEG F
AVG 67.3684 DEG F

TIME 19:13:25
CH1 65.8203 DEG F
CH2 67.7565 DEG F
CH3 68.1635 DEG F
AVG 67.3755 DEG F

TIME 19:13:30
CH1 65.8148 DEG F
CH2 67.7505 DEG F
CH3 68.1582 DEG F
AVG 67.3691 DEG F

TIME 19:13:35
CH1 65.8162 DEG F
CH2 67.7501 DEG F
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AVG 67.3709 DEG F

TIME 19:13:40
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TIME 19:13:45
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CH3 68.1699 DEG F
AVG 67.3774 DEG F

TIME 19:14:35
CH1 65.8135 DEG F
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AVG 67.3772 DEG F

TIME 19:14:40
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CH2 67.7609 DEG F
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AVG 67.3830 DEG F

TIME 19:14:45
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CH2 67.7503 DEG F
CH3 68.1773 DEG F
AVG 67.3742 DEG F

TIME 19:14:50
CH1 65.8158 DEG F
CH2 67.7509 DEG F
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AVG 67.3770 DEG F

TIME 19:14:55
CH1 65.8188 DEG F
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AVG 67.3805 DEG F

TIME 19:15:00
CH1 65.8187 DEG F
CH2 67.7570 DEG F
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TIME 19:15:05
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CH2 67.7566 DEG F
CH3 68.1881 DEG F
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TIME 19:15:10
CH1 65.8119 DEG F
CH2 67.7517 DEG F
CH3 68.1860 DEG F
AVG 67.3768 DEG F

TIME 19:15:15
CH1 65.8166 DEG F
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AVG 67.3796 DEG F

TIME 19:15:20
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CH2 67.7492 DEG F
CH3 68.1876 DEG F
AVG 67.3769 DEG F

TIME 19:15:25
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CH2 67.7489 DEG F
CH3 68.1896 DEG F
AVG 67.3759 DEG F

TIME 19:15:30
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CH3 68.1876 DEG F
AVG 67.3764 DEG F

TIME 19:15:35
CH1 65.8171 DEG F
CH2 67.7502 DEG F
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AVG 67.3794 DEG F

TIME 19:15:40
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CH2 67.7450 DEG F
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AVG 67.3750 DEG F

TIME 19:15:45
CH1 65.8113 DEG F
CH2 67.7460 DEG F
CH3 68.1928 DEG F
AVG 67.3736 DEG F

TIME 19:15:50
CH1 65.8111 DEG F
CH2 67.7431 DEG F
CH3 68.1922 DEG F
AVG 67.3750 DEG F

TIME 19:15:55
CH1 65.8068 DEG F
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AVG 67.3713 DEG F

TIME 19:16:00
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CH2 67.7444 DEG F
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TIME 19:16:05
CH1 65.8096 DEG F
CH2 67.7409 DEG F
CH3 68.1922 DEG F
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TIME 19:16:10
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CH3 68.1969 DEG F
AVG 67.3746 DEG F

TIME 19:16:15
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AVG 67.3725 DEG F

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CH1 65.8104 DEG F
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AVG 67.3726 DEG F

TIME 19:16:25
CH1 65.8146 DEG F
CH2 67.7430 DEG F
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TIME 19:16:30
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AVG 67.3772 DEG F

TIME 19:16:35
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CH3 68.2043 DEG F
AVG 67.3779 DEG F

TIME 19:16:40
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AVG 67.3776 DEG F

TIME 19:16:45
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TIME 19:13:50
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CH3 68.1687 DEG F
AVG 67.3792 DEG F

TIME 19:13:55
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CH2 67.7541 DEG F
CH3 68.1661 DEG F
AVG 67.3739 DEG F

TIME 19:14:00
CH1 65.8182 DEG F
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AVG 67.3786 DEG F

TIME 19:14:05
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CH2 67.7588 DEG F
CH3 68.1732 DEG F
AVG 67.3780 DEG F

TIME 19:14:10
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CH2 67.7562 DEG F
CH3 68.1772 DEG F
AVG 67.3780 DEG F

TIME 19:14:15
CH1 65.8169 DEG F
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CH3 68.1771 DEG F
AVG 67.3782 DEG F

TIME 19:14:20
CH1 65.8178 DEG F
CH2 67.7570 DEG F
CH3 68.1788 DEG F
AVG 67.3789 DEG F

TIME 19:14:25
CH1 65.8130 DEG F
CH2 67.7529 DEG F
CH3 68.1755 DEG F
AVG 67.3746 DEG F

TIME 19:14:30
CH1 65.8191 DEG F
CH2 67.7577 DEG F
CH3 68.1798 DEG F
AVG 67.3797 DEG F

TIME 19:16:50
CH1 65.8149 DEG F
CH2 67.7424 DEG F
CH3 68.2094 DEG F
AVG 67.3779 DEG F

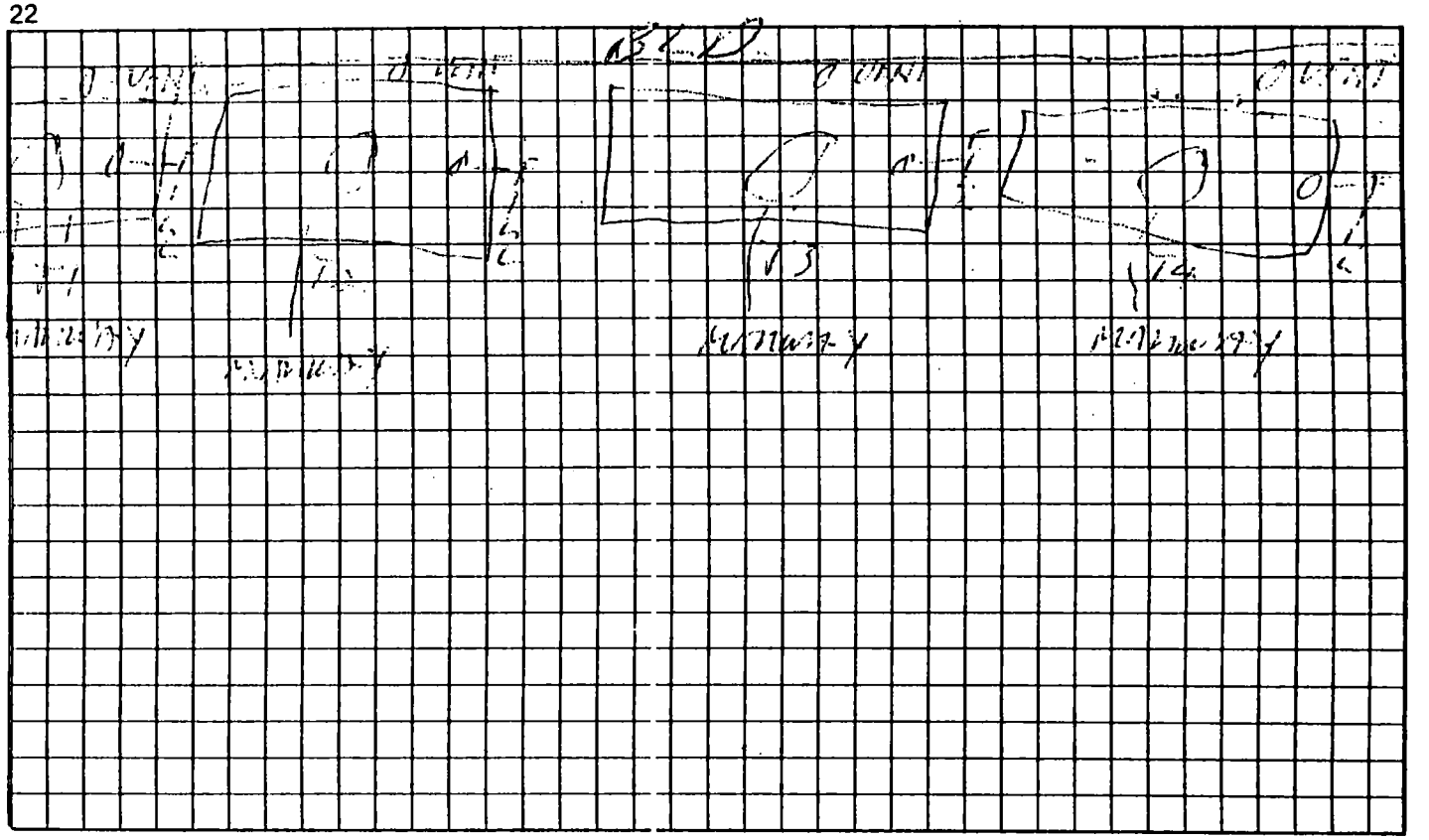
TIME 19:16:55
CH1 65.8099 DEG F
CH2 67.7366 DEG F
CH3 68.2048 DEG F
AVG 67.3726 DEG F

TIME 19:17:00
CH1 65.8111 DEG F
CH2 67.7345 DEG F
CH3 68.2038 DEG F
AVG 67.3730 DEG F

T#003

# TEST SITE LAYOUT

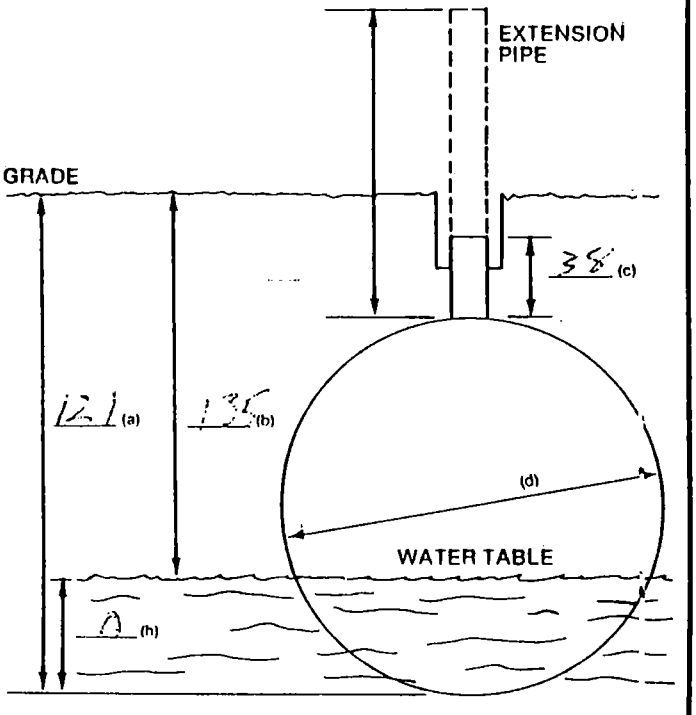
22



TEST COMPANY

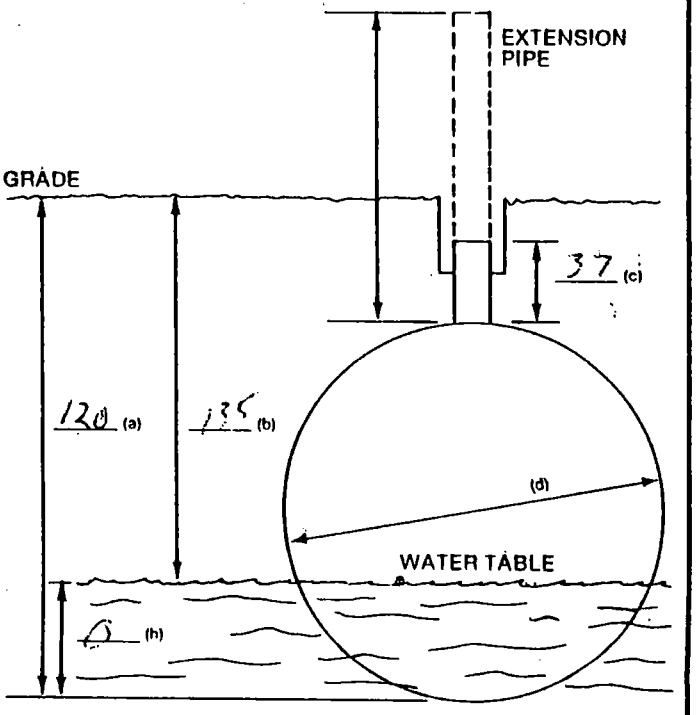
23

## TEST 1: TANK DIMENSIONS




TANK IDENT. T1 T1 002

## TEST 2: TANK DIMENSIONS



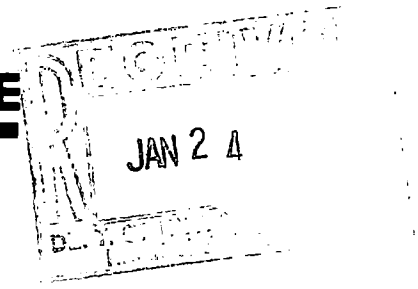

TANK IDENT. T1 T1 003

JOB ADDRESS

**TRI-STATE TANK SERVICE**

**LUZON OIL CO., INC.**

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805




Novmeber 29, 1989

Vail Ballou Press
187 Clinton Street
Bighamton, New York 13902

Attention: Bob Kalka

Re: Underground tank testing, as per 6NYCRR 613.5(a).

The National Fire Protection Association's criteria for a tight tank system is a system with a rate of leak less than +/- .050 gal/hr. for tank systems 12,500 gallons or less. These are calculated, mathematical tolerances only and are not meant to indicate the permission of any leak.

Criteria for tightness test [6NYCRR 613.5(a)(6)] "A tightness test is a test acceptable to the department which will determine if a tank and piping system is tight or not tight. The test must be capable of detecting a tank or piping leak as small as five hundredths (.05) of a gallon in one hour accounting for variables such as vapor pockets, thermal expansion of product, temperature stratification, groundwater level, evaporation, pressure and end deflection."

During the ***Ainley Tank 'Tegrity Test*** propane gas bubbles are introduced one (1) inch below the product level through a 1/4" tube. The pressure required to introduce bubbles varies with changes in product level, and is related to volume changes. Pressure changes are measured by a manometer type coil (slope tube). A slight liquid level change in the tank is exaggerated approximately fifty (50) times when transmitted from bubble tube to slope tube.

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805

**Facility:** Vail Ballou Press
187 Clinton Street
Bighamton, N.Y.

**OLD PBS #:** 182230

**Tank #s:** **#001** - 10,300 gallon **#003** - 10,300 gallon

Boths tank isolated prior to testing.

**Re-Test Date: 11-22-89**

Tank system #003 showed a rate of leak of +.043 gallons per hour. Tank system tested tight.

**Re-Test Date: 11-27-89**

Tank system #001 showed a rate of leak of -.037 gallons per hour. Tank system tested tight.

Enclosed are two (2) copies of this report and the test data. One is for your records and the other is to be sent to New York State D.E.C.

If you have any questions or need additional information, please contact me.

Very truly yours,
Robert B. Halprin
Robert B. Halprin, @
Luzon Oil Co., Inc.

/enclosures

RBH:amd
A:VAILBAL2.WPS

SOILTEST®

# AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

**1 TANK OPERATOR**

NAME / ADDRESS / PHONE

UAIL BALLOU PRESS
CLINTON ST. BINGHAMTON N.Y.

**2 TANKS TO BE TESTED**

| IDENTIFICATION | CAPACITY—GALS. | MANUFACTURER | STEEL/FIBRGLS. | AGE—YRS. |
|---|---|---|---|---|
| TK 3 | 10,000 | — | STEEL | ? |
| TK 1 | 10,000 | — | STEEL | ? |

**3 WATER TABLE**

DISTANCE FROM GRADE TO WATER 125 INS.

**4 TANK FILL-UP**

TANK WILL BE FILLED 2 PM (TIME) ON 11/21/89
EXTRA 5 GALS PRODUCT AVAILABLE FROM TRI-STATE OIL
FILL UP TO BE ARRANGED BY MR. UAIL BALLOU PRESS PHONE ( )
CONTACT AT STORAGE TERMINAL IS MR. PHONE ( )
TK 1 FILLED 11-22-89 4PM

**5 OUTSIDE CONTRACTORS**

NAME / ADDRESS / PHONE

**6 OFFICIALS TO BE CONTACTED**

NAME / AUTHORITY / PHONE

**7 SPECIAL NOTES OR PRECAUTIONS**

RE-TEST ISOLATED BOTH TANKS.

**8 TEST RESULTS**

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

| TANK IDENT | TANK IS TIGHT | TANK IS NOT TIGHT | LEAK RATE G. P. H. | TEST DATE |
|---|---|---|---|---|
| TK 3 | X | | .043 | 11-22-89 |
| TK 1 | X | | .037 | 11-27-89 |

**9 CERTIFICATION**

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED [signature] CERTIFICATE NO. 1315
ISSUE DATE 12-13-89

FOR (TEST COMPANY)
ADDRESS
STATE ZIP

ST-6 (REV. 2/87)

# AINLAY TANK TIGHTNESS TEST No. 771

JOB Ainlay Miss Clinton St Expansion Proj DATE 11/27/95
ADDRESS Clinton St Evanston, IL TESTER David Morgan
TEST COMPANY Tri-State Tank Tester, Inc

**16 TANK I.D.**
INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)
TANK DIAMETER 83 INS FILL PIPE LENGTH 34 INS

**17 WATER IN TANK**
(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

**18 PRODUCT VOLUME**
(a) NOMINAL CAPACITY 10,000 GALS (c) DEDUCT WATER IN TANK +0 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 10,322 GALS (d) TOTAL PRODUCT VOL. 10,327 GALS

Top-off 5 Gals

**19 FILL PIPE EXTENSION**
(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .031 = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**20 PRELIM TEST DATA**
(a) START TEMP CHECK 9:35 AM/PM (d) A.P.I. GRAVITY 25.5 AT 47 °F
(b) END TEMP CHECK 13:00 AM/PM (e) A.P.I. GRAVITY 26.4 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED 1½ HRS (f) COEFF. OF EXPANSION .0004 3129

**21 TEST DATA**
(a) START TEST _____ AM/PM: END TEST _____ AM/PM: TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1200 | 47.2703 | 47.126 | 47.0223 | 47.1427 | | | | | |
| 1205 | 47.2493 | 47.1305 | 47.0251 | 47.1457 | | | | | |
| 1210 | 47.3394 | 47.1315 | 47.0275 | 47.1548 | | | | | |
| 1215 | 47.3165 | 47.1322 | 47.0214 | 47.1516 | | | | | |
| 1220 | 47.3201 | 47.1323 | 47.0289 | 47.1542 | | | | | |
| 1225 | 47.3335 | 47.1344 | 47.0307 | 47.1607 | | | | | |
| 1230 | 47.3367 | 47.1341 | 47.0271 | 47.1604 | | | | | |
| 1235 | 47.3475 | 47.1396 | 47.0306 | 47.1650 | | | | | |
| 1240 | 47.3561 | 47.1395 | 47.0248 | 47.1685 | | | | | |
| 1245 | 47.3546 | 47.1389 | 47.0319 | 47.1703 | | | | | |
| 1250 | 47.3727 | 47.1423 | 47.0338 | 47.1741 | | | | | |
| 1255 | 47.3799 | 47.1406 | 47.0513 | 47.1754 | | | | | |
| 1300 | 47.3685 | 47.1460 | 47.0328 | 47.1773 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG. END TEMP. − AVG. START TEMP.) = 1773 − 1427 = 01-.0344 °F.
(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL. x TEMP. CHANGE x COEFF. EXP.
= 10,327 (18d) x .0344 (21b) x .0004 3129 (20f) = 01-.153 GALS.
(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = +10.190 GALS.
(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = +.153 + -.190 = +10.037 GALS.
(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = -.037 x 60 / 60 (21a) = -.037 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC. BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

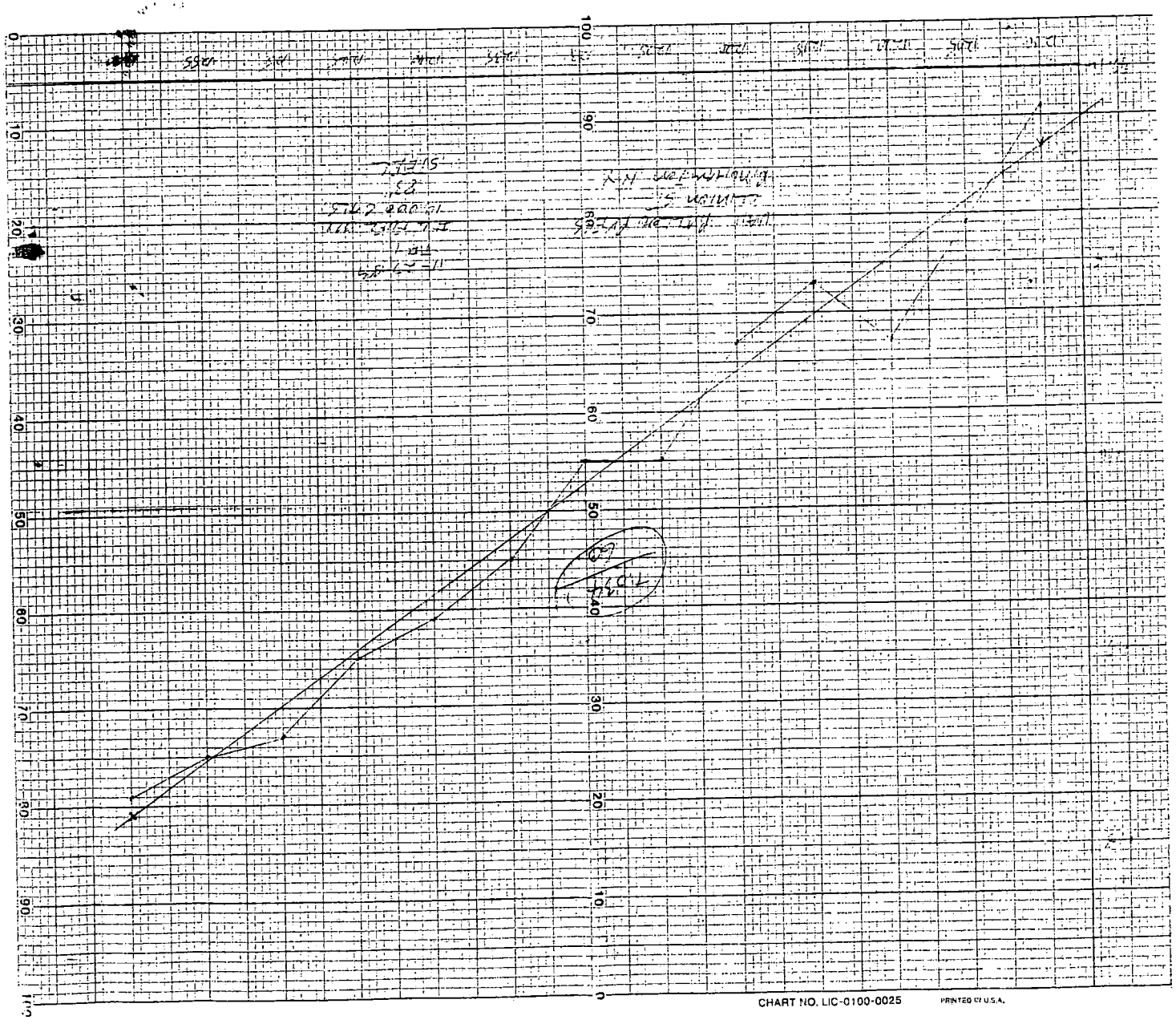


CHART NO. LIC-0100-0025 PRINTED IN U.S.A.

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TIME 27:09:35
CH1   47.2317 DE; F
CH2   47.2801 DE; F
CH3   47.0092 DE; F
AVG   47.2023 DE; F

TIME 27:09:40
CH1   47.1788 DE; F
CH2   47.1621 DE; F
CH3   46.9878 DE; F
AVG   47.1231 DE; F

TIME 27:09:45
CH1   47.1732 DE; F
CH2   47.1519 DE; F
CH3   46.9847 DE; F
AVG   47.1176 DE; F

TIME 27:09:50
CH1   47.1863 DE; F
CH2   47.1641 DE; F
CH3   46.9998 DE; F
AVG   47.1298 DE; F

TIME 27:09:55
CH1   47.1982 DE; F
CH2   47.1730 DE; F
CH3   47.0136 DE; F
AVG   47.1408 DE; F

TIME 27:10:00
CH1   47.1717 DE; F
CH2   47.1207 DE; F
CH3   46.9733 DE; F
AVG   47.0976 DE; F

TIME 27:10:05
CH1   47.1686 DE; F
CH2   47.1167 DE; F
CH3   46.9686 DE; F
AVG   47.0944 DE; F

TIME 27:10:10
CH1   47.1700 DE; F
CH2   47.1188 DE; F
CH3   46.9703 DE; F
AVG   47.0969 DE; F

TIME 27:10:15
CH1   47.1700 DE; F
CH2   47.1204 DE; F
CH3   46.9736 DE; F
AVG   47.0993 DE; F

TIME 27:10:20
CH1   47.1695 DE; F
CH2   47.1226 DE; F
CH3   46.9763 DE; F
AVG   47.1007 DE; F

TIME 27:10:25
CH1   47.1714 DE; F
CH2   47.1291 DE; F
CH3   46.9841 DE; F
AVG   47.1054 DE; F

TIME 27:10:30
CH1   47.1709 DE; F
CH2   47.1296 DE; F
CH3   46.9853 DE; F
AVG   47.1062 DE; F

TIME 27:10:35
CH1   47.1658 DE; F
CH2   47.1189 DE; F
CH3   46.9807 DE; F
AVG   47.0980 DE; F

TIME 27:10:40
CH1   47.1730 DE; F
CH2   47.1280 DE; F
CH3   46.9924 DE; F
AVG   47.1068 DE; F

TIME 27:10:45
CH1   47.1727 DE; F
CH2   47.1259 DE; F
CH3   46.9917 DE; F
AVG   47.1070 DE; F

TIME 27:10:50
CH1   47.1769 DE; F
CH2   47.1274 DE; F
CH3   46.9980 DE; F
AVG   47.1084 DE; F

TIME 27:10:55
CH1   47.1790 DE; F
CH2   47.1244 DE; F
CH3   46.9970 DE; F
AVG   47.1074 DE; F

TIME 27:11:00
CH1   47.1819 DE; F
CH2   47.1235 DE; F
CH3   47.0000 DE; F
AVG   47.1081 DE; F

TIME 27:11:05
CH1   47.1937 DE; F
CH2   47.1271 DE; F
CH3   47.0056 DE; F
AVG   47.1155 DE; F

TIME 27:11:10
CH1   47.2003 DE; F
CH2   47.1262 DE; F
CH3   47.0084 DE; F
AVG   47.1160 DE; F

TIME 27:11:15
CH1   47.2105 DE; F
CH2   47.1261 DE; F
CH3   47.0094 DE; F
AVG   47.1191 DE; F

TIME 27:11:20
CH1   47.2185 DE; F
CH2   47.1251 DE; F
CH3   47.0068 DE; F
AVG   47.1193 DE; F

TIME 27:11:25
CH1   47.2282 DE; F
CH2   47.1242 DE; F
CH3   47.0086 DE; F
AVG   47.1234 DE; F

TIME 27:11:30
CH1   47.2338 DE; F
CH2   47.1250 DE; F
CH3   47.0079 DE; F
AVG   47.1248 DE; F

TIME 27:11:35
CH1   47.2466 DE; F
CH2   47.1295 DE; F
CH3   47.0137 DE; F
AVG   47.1312 DE; F

TIME 27:11:40
CH1   47.2532 DE; F
CH2   47.1240 DE; F
CH3   47.0154 DE; F
AVG   47.1303 DE; F

TIME 27:11:45
CH1   47.2617 DE; F
CH2   47.1242 DE; F
CH3   47.0141 DE; F
AVG   47.1320 DE; F

TIME 27:11:50
CH1   47.2726 DE; F
CH2   47.1259 DE; F
CH3   47.0178 DE; F
AVG   47.1372 DE; F

TIME 27:11:55
CH1   47.2753 DE; F
CH2   47.1226 DE; F
CH3   47.0193 DE; F
AVG   47.1355 DE; F

TIME 27:12:00
CH1   47.2908 DE; F
CH2   47.1266 DE; F
CH3   47.0223 DE; F
AVG   47.1429 DE; F

TIME 27:12:05
CH1   47.2983 DE; F
CH2   47.1305 DE; F
CH3   47.0251 DE; F
AVG   47.1489 DE; F

TIME 27:12:10
CH1   47.3094 DE; F
CH2   47.1368 DE; F
CH3   47.0285 DE; F
AVG   47.1548 DE; F

TIME 27:12:15
CH1   47.3105 DE; F
CH2   47.1322 DE; F
CH3   47.0214 DE; F
AVG   47.1516 DE; F

TIME 27:12:20
CH1   47.3201 DE; F
CH2   47.1323 DE; F
CH3   47.0289 DE; F
AVG   47.1542 DE; F

TIME 27:12:25
CH1   47.3335 DE; F
CH2   47.1344 DE; F
CH3   47.0307 DE; F
AVG   47.1607 DE; F

TIME 27:12:30
CH1   47.3367 DE; F
CH2   47.1346 DE; F
CH3   47.0271 DE; F
AVG   47.1604 DE; F

TIME 27:12:35
CH1   47.3475 DE; F
CH2   47.1396 DE; F
CH3   47.0306 DE; F
AVG   47.1650 DE; F

TIME 27:12:40
CH1   47.3561 DE; F
CH2   47.1395 DE; F
CH3   47.0298 DE; F
AVG   47.1688 DE; F

TIME 27:12:45
CH1   47.3646 DE; F
CH2   47.1389 DE; F
CH3   47.0319 DE; F
AVG   47.1703 DE; F

TIME 27:12:50
CH1   47.3727 DE; F
CH2   47.1423 DE; F
CH3   47.0338 DE; F
AVG   47.1741 DE; F

TIME 27:12:55
CH1   47.3799 DE; F
CH2   47.1400 DE; F
CH3   47.0313 DE; F
AVG   47.1754 DE; F

TIME 27:13:00
CH1   47.3885 DE; F
CH2   47.1400 DE; F
CH3   47.0328 DE; F
AVG   47.1773 DE; F*
```

# AINLAY TANK TIGHTNESS TEST No. 17-3

**10 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 63 INS FILL PIPE LENGTH 33 INS

**11 WATER IN TANK**

(a) START WATER IN TANK 1 INS (c) END WATER IN TANK 1 INS
(b) START WATER IN TANK 23 GALS (d) END WATER IN TANK 23 GALS

**12 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10800 GALS (c) DEDUCT WATER IN TANK -23 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 10,322 GALS (d) TOTAL PRODUCT VOL. 10,304 GALS

TOP-OFF = + 5 GALS.

**13 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)} = \frac{0 \times 0.036}{.031} =$ 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**14 PRELIM TEST DATA**

(a) START TEMP CHECK 11:30 AM/PM (d) A.P.I. GRAVITY 25.1 AT 49 °F
(b) END TEMP CHECK 15:00 AM/PM (e) A.P.I. GRAVITY 25.6 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .000 42846

**15 TEST DATA**

(a) START TEST 14:00 AM/PM END TEST 15:00 AM/PM TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1400 | 504743 | 504407 | 503360 | 504246 | | | | | |
| 1405 | 504241 | 504224 | 503338 | 504236 | | | | | |
| 1410 | 504202 | 504407 | 503252 | 504206 | | | | | |
| 1415 | 504234 | 504442 | 503451 | 504307 | | | | | |
| 1420 | 504331 | 504414 | 503393 | 504258 | | | | | |
| 1425 | 504345 | 504456 | 503415 | 504246 | | | | | |
| 1430 | 504414 | 504414 | 503456 | 504325 | | | | | |
| 1435 | 504252 | 504467 | 503459 | 504302 | | | | | |
| 1441 | 504397 | 504473 | 503454 | 504322 | | | | | |
| 1445 | 504407 | 504465 | 503457 | 504321 | | | | | |
| 1450 | 504356 | 504516 | 503507 | 504353 | | | | | |
| 1455 | 504362 | 504517 | 503553 | 504361 | | | | | |
| 1500 | 504363 | 504452 | 503486 | 504339 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. − AVG START TEMP.) = 14339 − 14246 = -.0093 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.
= 10,304 (12d) × -.0093 (15b) × .000 42846 (14f) = -.041 GALS.

(d) TOTAL LIQUID VOL ADDED/SUBTRACTED AT END OF TEST = -.002 GALS.

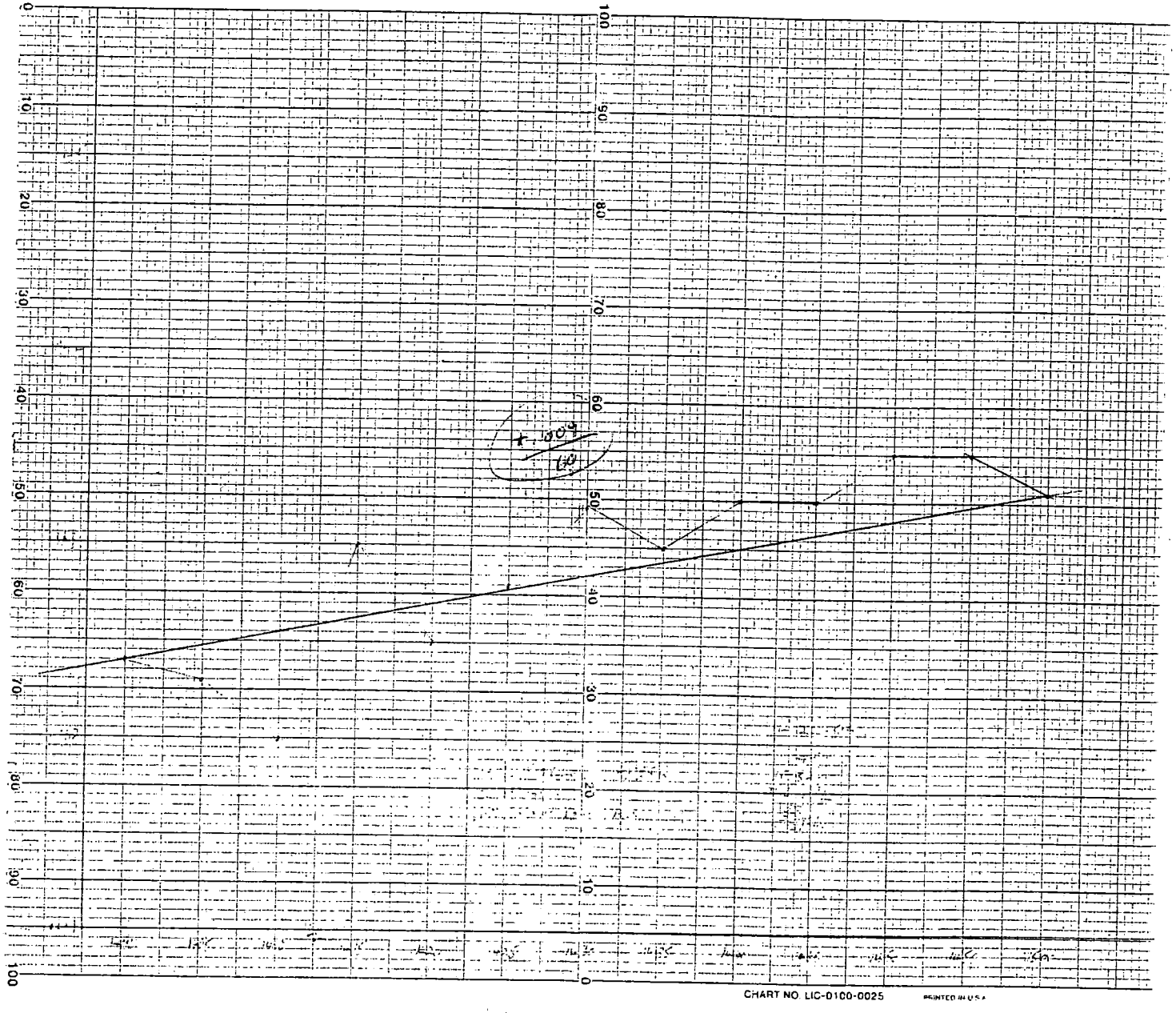
(e) VOL. CHANGE NOT DUE TO TEMP ((c) + (d)) = -.041 + -.002 = -.043 GALS.

(f) LEAK RATE = $\frac{\text{(e)} \times 60}{\text{TIME OF TEST (MINS)}} = \frac{-.043 \times 60}{60} =$ -.043 G.P.H. (15a)

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

JOB Ainlay Station DATE 11/22/94
ADDRESS Ainlay Station Rd. N.W.
TESTER Steve Hoover
TEST COMPANY Tanknology NDE Int'l


0
10
20
30
40
50
60
70
80
90
100
100
90
80
70
60
50
40
30
20
10
0
CHART NO. LIC-0100-0025
PRINTED IN U.S.A.

TIME 22:11:30
CH1 50.4801 DE; F
CH2 50.4422 DE; F
CH3 50.3781 DE; F
AVG 50.4374 DE; F

TIME 22:11:35
CH1 50.5459 DE; F
CH2 50.5182 DE; F
CH3 50.3723 DE; F
AVG 50.4903 DE; F

TIME 22:11:40
CH1 50.5321 DE; F
CH2 50.4933 DE; F
CH3 50.3527 DE; F
AVG 50.4693 DE; F

TIME 22:11:45
CH1 50.4800 DE; F
CH2 50.4420 DE; F
CH3 50.3033 DE; F
AVG 50.4196 DE; F

TIME 22:11:50
CH1 50.4271 DE; F
CH2 50.4370 DE; F
CH3 50.3017 DE; F
AVG 50.4155 DE; F

TIME 22:11:55
CH1 50.4747 DE; F
CH2 50.4317 DE; F
CH3 50.2994 DE; F
AVG 50.4106 DE; F

TIME 22:12:00
CH1 50.4633 DE; F
CH2 50.4243 DE; F
CH3 50.2946 DE; F
AVG 50.4019 DE; F

TIME 22:12:05
CH1 50.4593 DE; F
CH2 50.4241 DE; F
CH3 50.2929 DE; F
AVG 50.4034 DE; F

TIME 22:12:10
CH1 50.4683 DE; F
CH2 50.4330 DE; F
CH3 50.3026 DE; F
AVG 50.4107 DE; F

TIME 22:12:15
CH1 50.4647 DE; F
CH2 50.4350 DE; F
CH3 50.3038 DE; F
AVG 50.4091 DE; F

TIME 22:12:20
CH1 50.4615 DE; F
CH2 50.4335 DE; F
CH3 50.3013 DE; F
AVG 50.4080 DE; F

TIME 22:12:25
CH1 50.4687 DE; F
CH2 50.4365 DE; F
CH3 50.3069 DE; F
AVG 50.4150 DE; F

TIME 22:12:30
CH1 50.4739 DE; F
CH2 50.4423 DE; F
CH3 50.3143 DE; F
AVG 50.4193 DE; F

TIME 22:12:35
CH1 50.4657 DE; F
CH2 50.4319 DE; F
CH3 50.3076 DE; F
AVG 50.4112 DE; F

TIME 22:12:40
CH1 50.4667 DE; F
CH2 50.4319 DE; F
CH3 50.3085 DE; F
AVG 50.4116 DE; F

TIME 22:12:45
CH1 50.4730 DE; F
CH2 50.4410 DE; F
CH3 50.3142 DE; F
AVG 50.4182 DE; F

TIME 22:12:50
CH1 50.4656 DE; F
CH2 50.4336 DE; F
CH3 50.3095 DE; F
AVG 50.4114 DE; F

TIME 22:12:55
CH1 50.4734 DE; F
CH2 50.4385 DE; F
CH3 50.3194 DE; F
AVG 50.4194 DE; F

TIME 22:13:00
CH1 50.4649 DE; F
CH2 50.4334 DE; F
CH3 50.3110 DE; F
AVG 50.4123 DE; F

TIME 22:13:05
CH1 50.4700 DE; F
CH2 50.4388 DE; F
CH3 50.3190 DE; F
AVG 50.4191 DE; F

TIME 22:13:10
CH1 50.4678 DE; F
CH2 50.4368 DE; F
CH3 50.3185 DE; F
AVG 50.4163 DE; F

TIME 22:13:15
CH1 50.4708 DE; F
CH2 50.4403 DE; F
CH3 50.3246 DE; F
AVG 50.4212 DE; F

TIME 22:13:20
CH1 50.4703 DE; F
CH2 50.4374 DE; F
CH3 50.3220 DE; F
AVG 50.4176 DE; F

TIME 22:13:25
CH1 50.4700 DE; F
CH2 50.4380 DE; F
CH3 50.3191 DE; F
AVG 50.4176 DE; F

TIME 22:13:30
CH1 50.4703 DE; F
CH2 50.4361 DE; F
CH3 50.3212 DE; F
AVG 50.4177 DE; F

TIME 22:13:35
CH1 50.4719 DE; F
CH2 50.4385 DE; F
CH3 50.3255 DE; F
AVG 50.4218 DE; F

TIME 22:13:40
CH1 50.4649 DE; F
CH2 50.4358 DE; F
CH3 50.3248 DE; F
AVG 50.4176 DE; F

TIME 22:13:45
CH1 50.4687 DE; F
CH2 50.4357 DE; F
CH3 50.3263 DE; F
AVG 50.4181 DE; F

TIME 22:13:50
CH1 50.4730 DE; F
CH2 50.4426 DE; F
CH3 50.3344 DE; F
AVG 50.4238 DE; F

TIME 22:13:55
CH1 50.4743 DE; F
CH2 50.4393 DE; F
CH3 50.3316 DE; F
AVG 50.4221 DE; F

TIME 22:14:00
CH1 50.4743 DE; F
CH2 50.4407 DE; F
CH3 50.3360 DE; F
AVG 50.4262 DE; F

TIME 22:14:05
CH1 50.4741 DE; F
CH2 50.4428 DE; F
CH3 50.3338 DE; F
AVG 50.4236 DE; F

TIME 22:14:10
CH1 50.4704 DE; F
CH2 50.4402 DE; F
CH3 50.3282 DE; F
AVG 50.4206 DE; F

TIME 22:14:15
CH1 50.4774 DE; F
CH2 50.4442 DE; F
CH3 50.3451 DE; F
AVG 50.4307 DE; F

TIME 22:14:20
CH1 50.4736 DE; F
CH2 50.4414 DE; F
CH3 50.3393 DE; F
AVG 50.4258 DE; F

TIME 22:14:25
CH1 50.4788 DE; F
CH2 50.4456 DE; F
CH3 50.3408 DE; F
AVG 50.4296 DE; F

TIME 22:14:30
CH1 50.4819 DE; F
CH2 50.4464 DE; F
CH3 50.3450 DE; F
AVG 50.4328 DE; F

TIME 22:14:35
CH1 50.4782 DE; F
CH2 50.4467 DE; F
CH3 50.3439 DE; F
AVG 50.4302 DE; F

TIME 22:14:41
CH1 50.4797 DE; F
CH2 50.4473 DE; F
CH3 50.3454 DE; F
AVG 50.4322 DE; F*

TIME 22:14:45
CH1 50.4807 DE; F
CH2 50.4488 DE; F
CH3 50.3459 DE; F
AVG 50.4321 DE; F

TIME 22:14:50
CH1 50.4838 DE; F
CH2 50.4516 DE; F
CH3 50.3507 DE; F
AVG 50.4353 DE; F

TIME 22:14:55
CH1 50.4862 DE; F
CH2 50.4517 DE; F
CH3 50.3533 DE; F
AVG 50.4351 DE; F

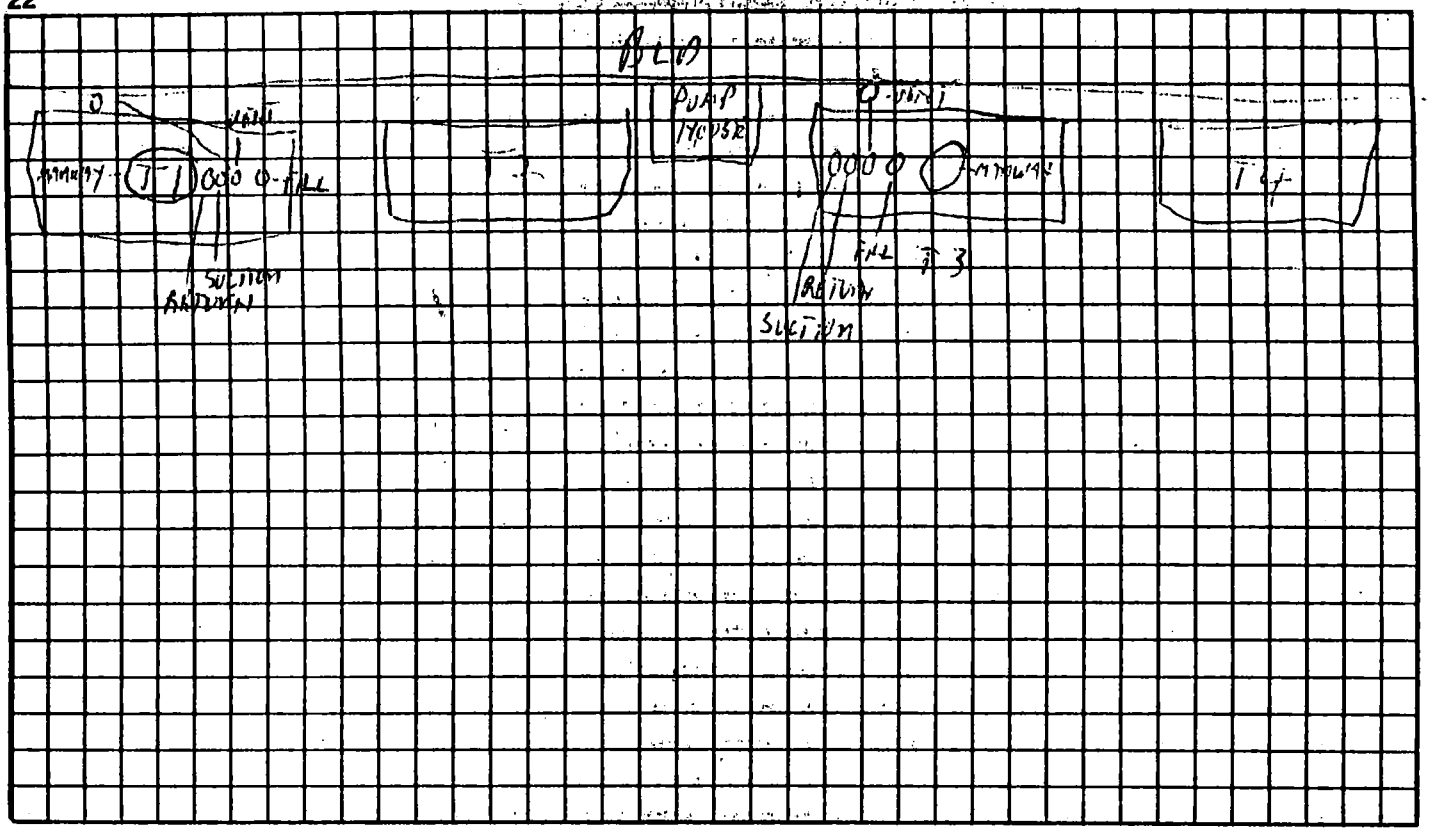
TIME 22:15:00
CH1 50.4853 DE; F
CH2 50.4482 DE; F
CH3 50.3486 DE; F
AVG 50.4339 DE; F*

TIME 22:15:00
CH1 50.4859 DE; F
CH2 50.4479 DE; F
CH3 50.3480 DE; F
AVG 50.4331 DE; F*

# TEST SITE LAYOUT

22

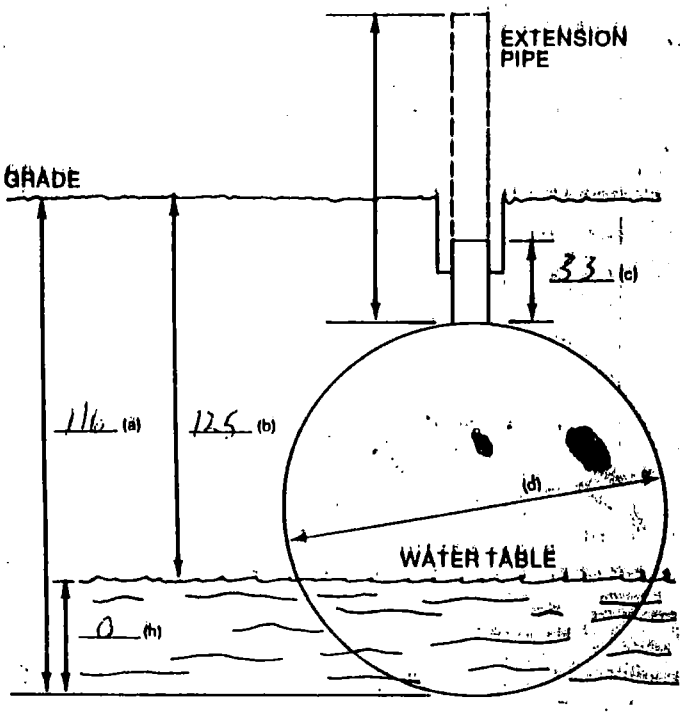
TESTER
TEST COMPANY




23

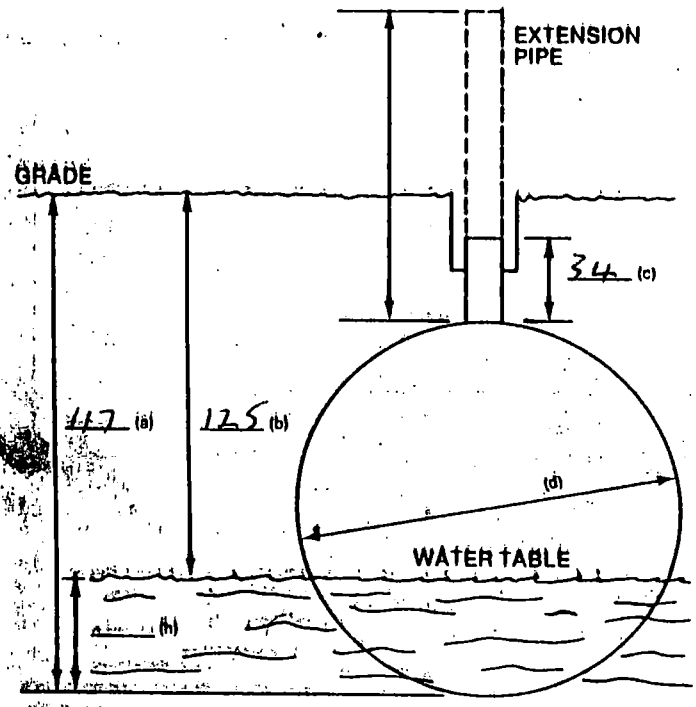
JOB
ADDRESS
DATE

## TEST 1: TANK DIMENSIONS




TANK IDENT. T-1 3

## TEST 2: TANK DIMENSIONS




TANK IDENT. T-4 1

00-17-1 (3/76)
Formerly GA-4

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# TRANSMITTAL SLIP

TO Chris White

FROM [illegible]

DATE 12/6/89

RE: Spill #89-06060 - Retest Passed (NFA) - Spill Closed
PBS# ~~[illegible]~~ 182230

* FOR YOUR RECORDS.

FOR ACTION AS INDICATED:

- [x] Please Handle
- [ ] Prepare Reply
- [ ] Prepare Reply for _____ Signature
- [ ] Information
- [ ] Approval
- [ ] Prepare final/draft in _____ Copies
- [ ] Comments
- [ ] Signature
- [ ] File
- [ ] Return to me
- [ ] _____
- [ ] _____

DEC - 8 [illegible]

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805



RECEIVED

DEC 05 1989

Dept. of Environmental Conservation
Region 7 Binghamton Sub. Office


Novmeber 29, 1989

Vail Ballou Press
187 Clinton Street
Bighamton, New York 13902

Attention: Bob Kalka

Re: Underground tank testing, as per 6NYCRR 613.5(a).

The National Fire Protection Association's criteria for a tight tank system is a system with a rate of leak less than +/- .050 gal/hr. for tank systems 12,500 gallons or less. These are calculated, mathematical tolerances only and are not meant to indicate the permission of any leak.

Criteria for tightness test [6NYCRR 613.5(a)(6)] "A tightness test is a test acceptable to the department which will determine if a tank and piping system is tight or not tight. The test must be capable of detecting a tank or piping leak as small as five hundredths (.05) of a gallon in one hour accounting for variables such as vapor pockets, thermal expansion of product, temperature stratification, groundwater level, evaporation, pressure and end deflection."

During the ***Ainley Tank 'Tegrity Test*** propane gas bubbles are introduced one (1) inch below the product level through a 1/4" tube. The pressure required to introduce bubbles varies with changes in product level, and is related to volume changes. Pressure changes are measured by a manometer type coil (slope tube). A slight liquid level change in the tank is exaggerated approximately fifty (50) times when transmitted from bubble tube to slope tube.

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805


**Facility:** Vail Ballou Press
187 Clinton Street
Bighamton, N.Y.

**OLD PBS #:** 182230

**Tank #s:** **#001** - 10,300 gallon **#003** - 10,300 gallon

Boths tank isolated prior to testing.

**Re-Test Date: 11-22-89**

Tank system #003 showed a rate of leak of +.043 gallons per hour. Tank system tested tight.

**Re-Test Date: 11-27-89**

Tank system #001 showed a rate of leak of -.037 gallons per hour. Tank system tested tight.

Enclosed are two (2) copies of this report and the test data. One is for your records and the other is to be sent to New York State D.E.C.

If you have any questions or need additional information, please contact me.

Very truly yours,

Robert B. Halprin,
Luzon Oil Co., Inc.

/enclosures

RBH:amd
A:VAILBAL2.WPS

SOILTEST®

# AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

**1 TANK OPERATOR**

NAME / ADDRESS / PHONE

VAIL BALLOU PRESS
CLINTON ST. BINGHAMTON N.Y.

**2 TANKS TO BE TESTED**

| IDENTIFICATION | CAPACITY—GALS. | MANUFACTURER | STEEL/FIBRGLS. | AGE—YRS. |
|---|---|---|---|---|
| TA 3 | 10,000 | — | STEEL | ? |
| TA 1 | 10,000 | — | STEEL | ? |

**3 WATER TABLE**

DISTANCE FROM GRADE TO WATER 125 INS.

**4 TANK FILL-UP**

TANK WILL BE FILLED 2PM (TIME) ON 11/21/89
EXTRA 5 GALS PRODUCT AVAILABLE FROM TRI-STATE TANK
FILL UP TO BE ARRANGED BY MR. VAIL BALLOU PRESS PHONE ( )
CONTACT AT STORAGE TERMINAL IS MR. PHONE ( )
TA 1 FILLED 11-22-89 4PM

**5 OUTSIDE CONTRACTORS**

NAME / ADDRESS / PHONE

**6 OFFICIALS TO BE CONTACTED**

NAME / AUTHORITY / PHONE

**7 SPECIAL NOTES OR PRECAUTIONS**

RE-TEST ISOLATED BOTH TANKS.

**8 TEST RESULTS**

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

| TANK IDENT | TANK IS TIGHT | TANK IS NOT TIGHT | LEAK RATE G. P. H. | TEST DATE |
|---|---|---|---|---|
| TA 3 | X | | .043 | 11-22-89 |
| TA 1 | X | | .037 | 11-27-89 |

**9 CERTIFICATION**

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED [signature] CERTIFICATE NO. 1315
ISSUE DATE 10-13-89

FOR (TEST COMPANY)
ADDRESS
STATE ZIP

ST-8 (REV. 2/87)

# AINLAY TANK TIGHTNESS TEST No. 7 #1

| | |
|---|---|
| **16 TANK I.D.** | INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)<br>TANK DIAMETER 83 INS FILL PIPE LENGTH 34 INS |
| **17 WATER IN TANK** | (a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS<br>(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS |
| **18 PRODUCT VOLUME** | (a) NOMINAL CAPACITY 10,000 GALS (c) DEDUCT WATER IN TANK +0 GALS<br>(b) ACTUAL CAPACITY 10,322 GALS (d) TOTAL PRODUCT VOL. 10,327 GALS<br>(FROM TANK CHART) Top-Art T5C125 |
| **19 FILL PIPE EXTENSION** | (a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS<br>(b) DENSITY OF TANK PRODUCT = .831 (w) LB/CU. IN. (FROM TABLES)<br>DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.<br>(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .831 = 0 INS<br>NOTE:<br>TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL. |
| **20 PRELIM TEST DATA** | (a) START TEMP CHECK 9:35 AM/PM (d) A.P.I. GRAVITY 25.5 AT 47 °F<br>(b) END TEMP CHECK 13:00 AM/PM (e) A.P.I. GRAVITY 26.4 AT 60°F<br>(c) TIME SINCE LAST LIQ. ADDED 3½ HRS (f) COEFF. OF EXPANSION .000 43129 |
| **21 TEST DATA** | (a) START TEST _____ AM/PM: END TEST _____ AM/PM: TEST TIME 60 MINS. |

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1200 | 47.2705 | 47.1266 | 47.0223 | 47.1425 | | | | | |
| 1205 | 47.2993 | 47.1305 | 47.0251 | 47.1457 | | | | | |
| 1210 | 47.3194 | 47.1365 | 47.0255 | 47.1548 | | | | | |
| 1215 | 47.3105 | 47.1322 | 47.0214 | 47.1516 | | | | | |
| 1220 | 47.3201 | 47.1323 | 47.0259 | 47.1542 | | | | | |
| 1225 | 47.3335 | 47.1344 | 47.0307 | 47.1607 | | | | | |
| 1230 | 47.3367 | 47.1342 | 47.0271 | 47.1604 | | | | | |
| 1235 | 47.3475 | 47.1390 | 47.0306 | 47.1650 | | | | | |
| 1240 | 47.3561 | 47.1395 | 47.0295 | 47.1685 | | | | | |
| 1245 | 47.3546 | 47.1389 | 47.0315 | 47.1703 | | | | | |
| 1250 | 47.3727 | 47.1423 | 47.0335 | 47.1741 | | | | | |
| 1255 | 47.3749 | 47.1400 | 47.0513 | 47.1754 | | | | | |
| 1300 | 47.3685 | 47.1400 | 47.0324 | 47.1773 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG. END TEMP. – AVG. START TEMP.) = 1773 – 1425 = -.0344 °F.

(c) VOL. CHANGE DUE TO TEMP. = PRODUCT VOL. x TEMP. CHANGE x COEFF. EXP.

= 10,327 (16d) x -.0344 (21b) x .000 43129 (20f) = -.153 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = +10.140 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP. (c) + (d) ..... = -.153 + -.140 = +10.037 GALS.

(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = -.037 x 60 / 60 (21a) = -.037 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC. BULLETIN N.F.P.A. 329.

**THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐**

TESTER David Morgan TEST COMPANY Tri-State Tank Testing

JOB UNLISTED Mass ADDRESS Clinton St Binghamton NY DATE 11/27/95

CHART NO. LIC-0100-0025
PRINTED IN U.S.A.

```
TIME 27:09:35
CH1   47.2317 DEG F
CH2   47.2801 DEG F
CH3   47.0092 DEG F
AVG   47.2023 DEG F

TIME 27:09:40
CH1   47.1788 DEG F
CH2   47.1621 DEG F
CH3   46.9878 DEG F
AVG   47.1231 DEG F

TIME 27:09:45
CH1   47.1732 DEG F
CH2   47.1519 DEG F
CH3   46.9847 DEG F
AVG   47.1176 DEG F

TIME 27:09:50
CH1   47.1863 DEG F
CH2   47.1641 DEG F
CH3   46.9998 DEG F
AVG   47.1298 DEG F

TIME 27:09:55
CH1   47.1982 DEG F
CH2   47.1730 DEG F
CH3   47.0136 DEG F
AVG   47.1408 DEG F

TIME 27:10:00
CH1   47.1717 DEG F
CH2   47.1207 DEG F
CH3   46.9733 DEG F
AVG   47.0976 DEG F

TIME 27:10:05
CH1   47.1686 DEG F
CH2   47.1167 DEG F
CH3   46.9686 DEG F
AVG   47.0944 DEG F

TIME 27:10:10
CH1   47.1700 DEG F
CH2   47.1188 DEG F
CH3   46.9703 DEG F
AVG   47.0969 DEG F

TIME 27:10:15
CH1   47.1700 DEG F
CH2   47.1204 DEG F
CH3   46.9736 DEG F
AVG   47.0993 DEG F

TIME 27:10:20
CH1   47.1695 DEG F
CH2   47.1226 DEG F
CH3   46.9763 DEG F
AVG   47.1007 DEG F

TIME 27:10:25
CH1   47.1714 DEG F
CH2   47.1291 DEG F
CH3   46.9841 DEG F
AVG   47.1054 DEG F

TIME 27:10:30
CH1   47.1709 DEG F
CH2   47.1296 DEG F
CH3   46.9853 DEG F
AVG   47.1062 DEG F

TIME 27:10:35
CH1   47.1658 DEG F
CH2   47.1189 DEG F
CH3   46.9807 DEG F
AVG   47.0980 DEG F

TIME 27:10:40
CH1   47.1730 DEG F
CH2   47.1280 DEG F
CH3   46.9924 DEG F
AVG   47.1068 DEG F

TIME 27:10:45
CH1   47.1727 DEG F
CH2   47.1259 DEG F
CH3   46.9917 DEG F
AVG   47.1070 DEG F

TIME 27:10:50
CH1   47.1769 DEG F
CH2   47.1274 DEG F
CH3   46.9980 DEG F
AVG   47.1084 DEG F

TIME 27:10:55
CH1   47.1790 DEG F
CH2   47.1244 DEG F
CH3   46.9970 DEG F
AVG   47.1074 DEG F

TIME 27:11:00
CH1   47.1819 DEG F
CH2   47.1235 DEG F
CH3   47.0000 DEG F
AVG   47.1081 DEG F

TIME 27:11:05
CH1   47.1937 DEG F
CH2   47.1271 DEG F
CH3   47.0056 DEG F
AVG   47.1155 DEG F

TIME 27:11:10
CH1   47.2003 DEG F
CH2   47.1262 DEG F
CH3   47.0084 DEG F
AVG   47.1160 DEG F

TIME 27:11:15
CH1   47.2105 DEG F
CH2   47.1261 DEG F
CH3   47.0094 DEG F
AVG   47.1191 DEG F

TIME 27:11:20
CH1   47.2185 DEG F
CH2   47.1251 DEG F
CH3   47.0068 DEG F
AVG   47.1193 DEG F

TIME 27:11:25
CH1   47.2282 DEG F
CH2   47.1242 DEG F
CH3   47.0086 DEG F
AVG   47.1234 DEG F

TIME 27:11:30
CH1   47.2338 DEG F
CH2   47.1250 DEG F
CH3   47.0079 DEG F
AVG   47.1248 DEG F

TIME 27:11:35
CH1   47.2466 DEG F
CH2   47.1295 DEG F
CH3   47.0137 DEG F
AVG   47.1312 DEG F

TIME 27:11:40
CH1   47.2532 DEG F
CH2   47.1240 DEG F
CH3   47.0154 DEG F
AVG   47.1303 DEG F

TIME 27:11:45
CH1   47.2617 DEG F
CH2   47.1242 DEG F
CH3   47.0141 DEG F
AVG   47.1320 DEG F

TIME 27:11:50
CH1   47.2726 DEG F
CH2   47.1259 DEG F
CH3   47.0178 DEG F
AVG   47.1372 DEG F

TIME 27:11:55
CH1   47.2753 DEG F
CH2   47.1226 DEG F
CH3   47.0193 DEG F
AVG   47.1355 DEG F

TIME 27:12:00
CH1   47.2908 DEG F
CH2   47.1266 DEG F
CH3   47.0223 DEG F
AVG   47.1429 DEG F

TIME 27:12:05
CH1   47.2983 DEG F
CH2   47.1305 DEG F
CH3   47.0251 DEG F
AVG   47.1489 DEG F

TIME 27:12:10
CH1   47.3094 DEG F
CH2   47.1368 DEG F
CH3   47.0285 DEG F
AVG   47.1548 DEG F

TIME 27:12:15
CH1   47.3105 DEG F
CH2   47.1322 DEG F
CH3   47.0214 DEG F
AVG   47.1516 DEG F

TIME 27:12:20
CH1   47.3201 DEG F
CH2   47.1323 DEG F
CH3   47.0289 DEG F
AVG   47.1542 DEG F

TIME 27:12:25
CH1   47.3335 DEG F
CH2   47.1344 DEG F
CH3   47.0307 DEG F
AVG   47.1607 DEG F

TIME 27:12:30
CH1   47.3367 DEG F
CH2   47.1346 DEG F
CH3   47.0271 DEG F
AVG   47.1604 DEG F

TIME 27:12:35
CH1   47.3475 DEG F
CH2   47.1396 DEG F
CH3   47.0306 DEG F
AVG   47.1650 DEG F

TIME 27:12:40
CH1   47.3561 DEG F
CH2   47.1395 DEG F
CH3   47.0298 DEG F
AVG   47.1688 DEG F

TIME 27:12:45
CH1   47.3646 DEG F
CH2   47.1389 DEG F
CH3   47.0319 DEG F
AVG   47.1703 DEG F

TIME 27:12:50
CH1   47.3727 DEG F
CH2   47.1423 DEG F
CH3   47.0338 DEG F
AVG   47.1741 DEG F

TIME 27:12:55
CH1   47.3799 DEG F
CH2   47.1400 DEG F
CH3   47.0313 DEG F
AVG   47.1754 DEG F

TIME 27:13:00
CH1   47.3885 DEG F
CH2   47.1400 DEG F
CH3   47.0328 DEG F
AVG   47.1773 DEG F*
```

# AINLAY TANK TIGHTNESS TEST No. 17-3

**10 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 63 INS FILL PIPE LENGTH 33 INS

**11 WATER IN TANK**

(a) START WATER IN TANK 1 INS (c) END WATER IN TANK 1 INS
(b) START WATER IN TANK 23 GALS (d) END WATER IN TANK 23 GALS

**12 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10000 GALS (c) DEDUCT WATER IN TANK -23 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 16,322 GALS (d) TOTAL PRODUCT VOL. 16,304 GALS

TOP-OFF = +5 GALS.

**13 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)} = \frac{0 \times 0.036}{.031} = 0$ INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**14 PRELIM TEST DATA**

(a) START TEMP CHECK 11:30 (AM)/PM (d) A.P.I. GRAVITY 25.1 AT 49 °F
(b) END TEMP CHECK 15:00 AM/(PM) (e) A.P.I. GRAVITY 25.6 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .000 42846

**15 TEST DATA**

(a) START TEST 14 00 AM/(PM) END TEST 15 00 AM/(PM) TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1400 | .04343 | .04407 | .03360 | .04246 | | | | | |
| 1405 | .04241 | .04425 | .03339 | .04236 | | | | | |
| 1410 | .04264 | .04437 | .03382 | .04206 | | | | | |
| 1415 | .04276 | .04442 | .03451 | .04307 | | | | | |
| 1420 | .04331 | .04454 | .03343 | .04258 | | | | | |
| 1425 | .04365 | .04456 | .03448 | .04286 | | | | | |
| 1430 | .04419 | .04464 | .03456 | .04325 | | | | | |
| 1435 | .04382 | .04467 | .03439 | .04302 | | | | | |
| 1441 | .04377 | .04473 | .03454 | .04322 | | | | | |
| 1445 | .04407 | .04465 | .03457 | .04321 | | | | | |
| 1450 | .04435 | .04516 | .03507 | .04353 | | | | | |
| 1455 | .04462 | .04517 | .03533 | .04381 | | | | | |
| 1500 | .04463 | .04452 | .03486 | .04339 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = .4339 − .4246 = .0093 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.
= 16,304 (12d) × .0093 (16b) × .000 42846 (14f) = .041 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST = .002 GALS.

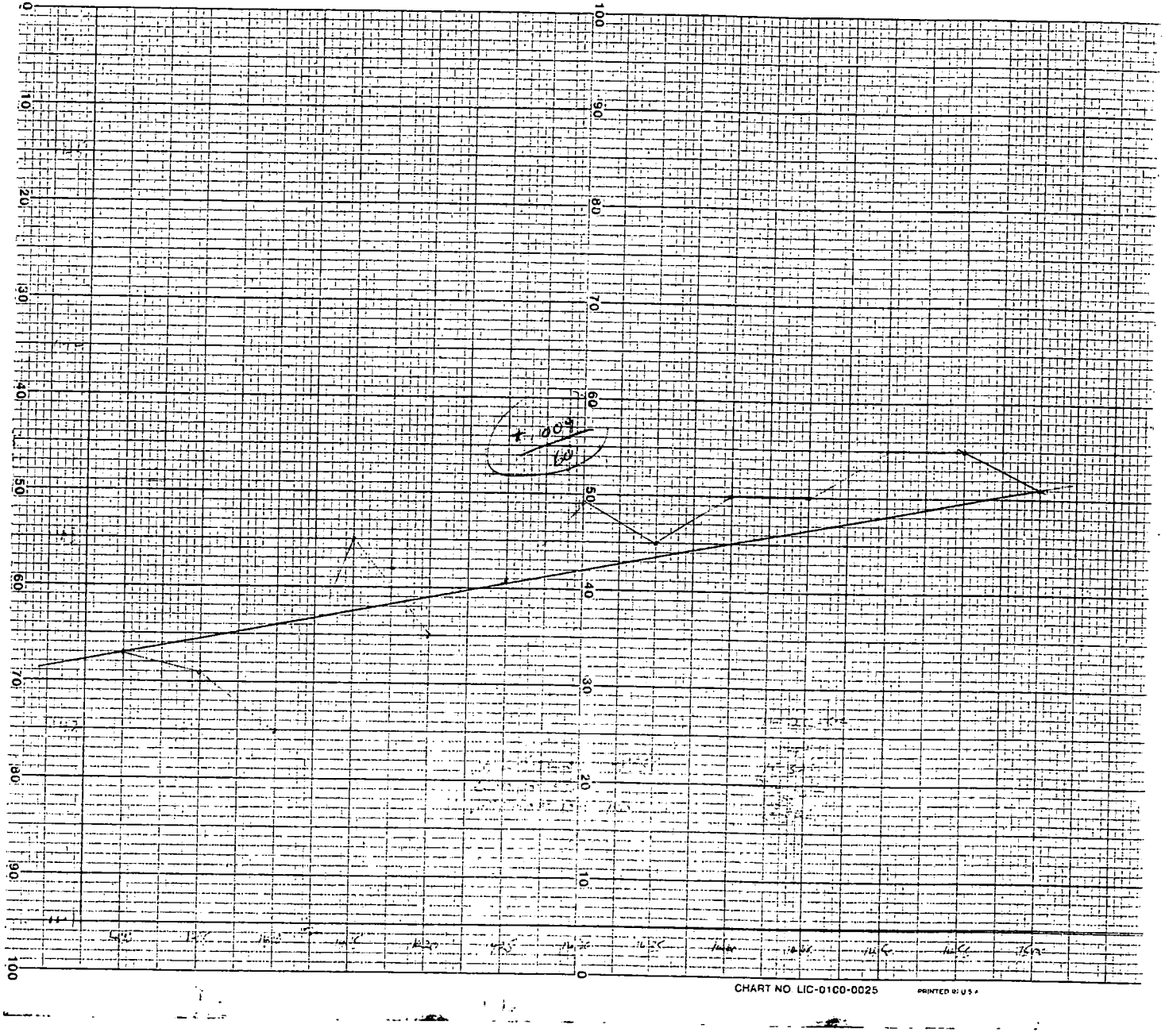
(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] = +.041 + +.002 = .043 GALS.

(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}} = \frac{+.043 \times 60}{60} = +.043$ G.P.H. (15a)

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

JOB Ainlay Petroleum DATE 11/22/89
ADDRESS Lakeview Station N.Y. TESTER Ralph Mercier
TEST COMPANY Tanknology/NDE 1 1/2 gal GAL


0
10
20
30
40
50
60
70
80
90
100
CHART NO. LIC-0100-0025

TIME 22:11:30
CH1 50.4801 DE; F
CH2 50.4422 DE; F
CH3 50.3781 DE; F
AVG 50.4374 DE; F

TIME 22:11:35
CH1 50.5459 DE; F
CH2 50.5182 DE; F
CH3 50.3723 DE; F
AVG 50.4903 DE; F

TIME 22:11:40
CH1 50.5321 DE; F
CH2 50.4933 DE; F
CH3 50.3527 DE; F
AVG 50.4693 DE; F

TIME 22:11:45
CH1 50.4800 DE; F
CH2 50.4420 DE; F
CH3 50.3033 DE; F
AVG 50.4196 DE; F

TIME 22:11:50
CH1 50.4371 DE; F
CH2 50.4370 DE; F
CH3 50.3017 DE; F
AVG 50.4155 DE; F

TIME 22:11:55
CH1 50.4747 DE; F
CH2 50.4317 DE; F
CH3 50.2994 DE; F
AVG 50.4106 DE; F

TIME 22:12:00
CH1 50.4633 DE; F
CH2 50.4243 DE; F
CH3 50.2946 DE; F
AVG 50.4019 DE; F

TIME 22:12:05
CH1 50.4593 DE; F
CH2 50.4241 DE; F
CH3 50.2929 DE; F
AVG 50.4034 DE; F

TIME 22:12:10
CH1 50.4683 DE; F
CH2 50.4330 DE; F
CH3 50.3026 DE; F
AVG 50.4107 DE; F

TIME 22:12:15
CH1 50.4647 DE; F
CH2 50.4350 DE; F
CH3 50.3038 DE; F
AVG 50.4091 DE; F

TIME 22:12:20
CH1 50.4615 DE; F
CH2 50.4335 DE; F
CH3 50.3013 DE; F
AVG 50.4080 DE; F

TIME 22:12:25
CH1 50.4687 DE; F
CH2 50.4365 DE; F
CH3 50.3069 DE; F
AVG 50.4150 DE; F

TIME 22:12:30
CH1 50.4739 DE; F
CH2 50.4423 DE; F
CH3 50.3143 DE; F
AVG 50.4193 DE; F

TIME 22:12:35
CH1 50.4657 DE; F
CH2 50.4319 DE; F
CH3 50.3076 DE; F
AVG 50.4112 DE; F

TIME 22:12:40
CH1 50.4667 DE; F
CH2 50.4319 DE; F
CH3 50.3085 DE; F
AVG 50.4116 DE; F

TIME 22:12:45
CH1 50.4730 DE; F
CH2 50.4410 DE; F
CH3 50.3142 DE; F
AVG 50.4182 DE; F

TIME 22:12:50
CH1 50.4656 DE; F
CH2 50.4336 DE; F
CH3 50.3095 DE; F
AVG 50.4114 DE; F

TIME 22:12:55
CH1 50.4734 DE; F
CH2 50.4385 DE; F
CH3 50.3194 DE; F
AVG 50.4194 DE; F

TIME 22:13:00
CH1 50.4649 DE; F
CH2 50.4334 DE; F
CH3 50.3110 DE; F
AVG 50.4123 DE; F

TIME 22:13:05
CH1 50.4700 DE; F
CH2 50.4388 DE; F
CH3 50.3190 DE; F
AVG 50.4191 DE; F

TIME 22:13:10
CH1 50.4678 DE; F
CH2 50.4368 DE; F
CH3 50.3185 DE; F
AVG 50.4163 DE; F

TIME 22:13:15
CH1 50.4708 DE; F
CH2 50.4403 DE; F
CH3 50.3246 DE; F
AVG 50.4212 DE; F

TIME 22:13:20
CH1 50.4703 DE; F
CH2 50.4374 DE; F
CH3 50.3220 DE; F
AVG 50.4176 DE; F

TIME 22:13:25
CH1 50.4700 DE; F
CH2 50.4380 DE; F
CH3 50.3191 DE; F
AVG 50.4176 DE; F

TIME 22:13:30
CH1 50.4703 DE; F
CH2 50.4361 DE; F
CH3 50.3212 DE; F
AVG 50.4177 DE; F

TIME 22:13:35
CH1 50.4719 DE; F
CH2 50.4385 DE; F
CH3 50.3255 DE; F
AVG 50.4218 DE; F

TIME 22:13:40
CH1 50.4649 DE; F
CH2 50.4358 DE; F
CH3 50.3248 DE; F
AVG 50.4176 DE; F

TIME 22:13:45
CH1 50.4687 DE; F
CH2 50.4357 DE; F
CH3 50.3263 DE; F
AVG 50.4181 DE; F

TIME 22:13:50
CH1 50.4730 DE; F
CH2 50.4426 DE; F
CH3 50.3344 DE; F
AVG 50.4238 DE; F

TIME 22:13:55
CH1 50.4743 DE; F
CH2 50.4393 DE; F
CH3 50.3316 DE; F
AVG 50.4221 DE; F

TIME 22:14:00
CH1 50.4743 DE; F
CH2 50.4407 DE; F
CH3 50.3360 DE; F
AVG 50.4262 DE; F

TIME 22:14:05
CH1 50.4741 DE; F
CH2 50.4428 DE; F
CH3 50.3338 DE; F
AVG 50.4236 DE; F

TIME 22:14:10
CH1 50.4704 DE; F
CH2 50.4402 DE; F
CH3 50.3282 DE; F
AVG 50.4206 DE; F

TIME 22:14:15
CH1 50.4774 DE; F
CH2 50.4442 DE; F
CH3 50.3451 DE; F
AVG 50.4307 DE; F

TIME 22:14:20
CH1 50.4736 DE; F
CH2 50.4414 DE; F
CH3 50.3393 DE; F
AVG 50.4258 DE; F

TIME 22:14:25
CH1 50.4788 DE; F
CH2 50.4456 DE; F
CH3 50.3408 DE; F
AVG 50.4236 DE; F

TIME 22:14:30
CH1 50.4819 DE; F
CH2 50.4464 DE; F
CH3 50.3450 DE; F
AVG 50.4328 DE; F

TIME 22:14:35
CH1 50.4782 DE; F
CH2 50.4467 DE; F
CH3 50.3439 DE; F
AVG 50.4302 DE; F

TIME 22:14:41
CH1 50.4797 DE; F
CH2 50.4473 DE; F
CH3 50.3454 DE; F
AVG 50.4322 DE; F*

TIME 22:14:45
CH1 50.4807 DE; F
CH2 50.4488 DE; F
CH3 50.3459 DE; F
AVG 50.4321 DE; F

TIME 22:14:50
CH1 50.4838 DE; F
CH2 50.4516 DE; F
CH3 50.3507 DE; F
AVG 50.4353 DE; F

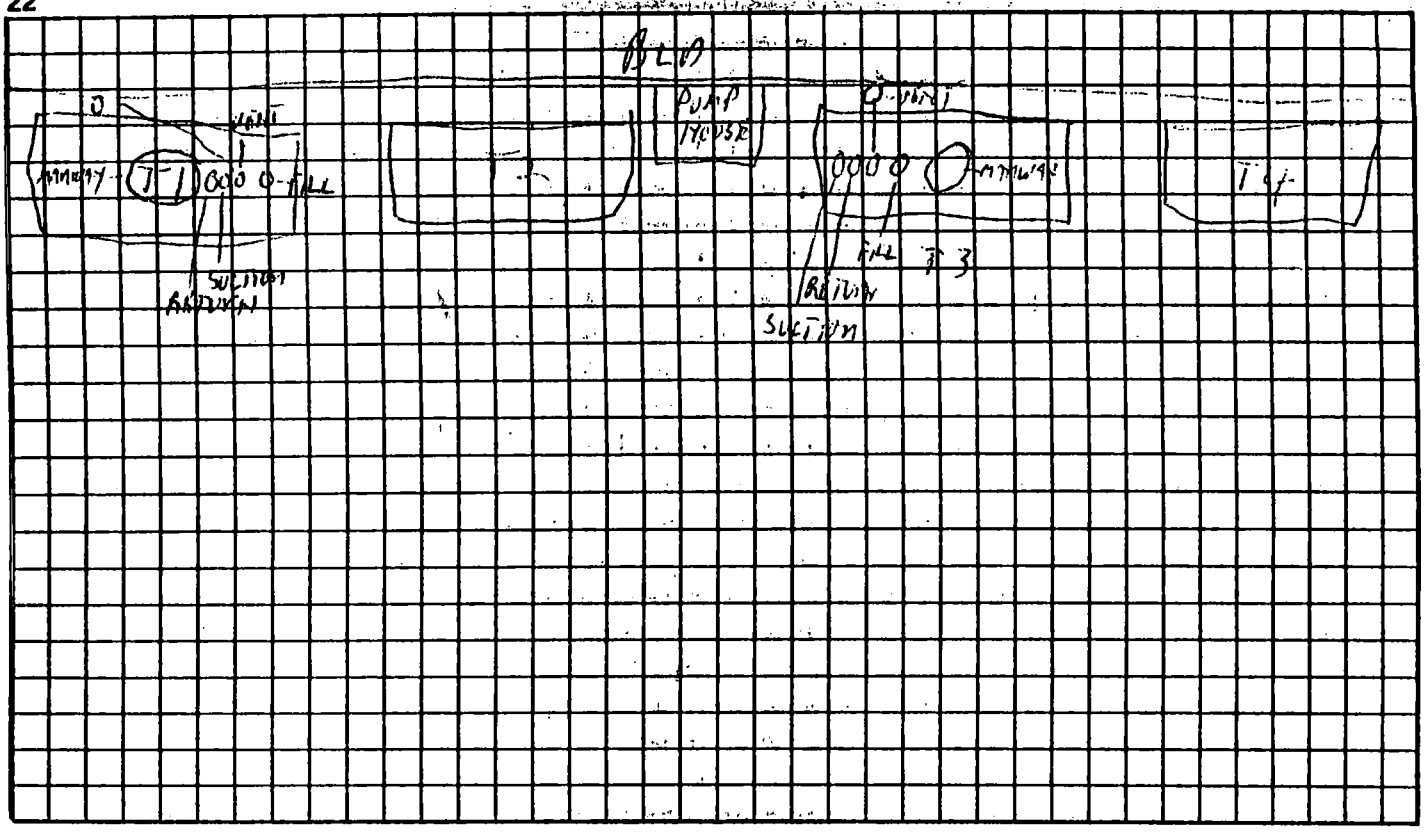
TIME 22:14:55
CH1 50.4862 DE; F
CH2 50.4517 DE; F
CH3 50.3533 DE; F
AVG 50.4351 DE; F

TIME 22:15:00
CH1 50.4853 DE; F
CH2 50.4432 DE; F
CH3 50.3486 DE; F
AVG 50.4339 DE; F*

TIME 22:15:00
CH1 50.4859 DE; F
CH2 50.4479 DE; F
CH3 50.3480 DE; F
AVG 50.4331 DE; F*

# TEST SITE LAYOUT

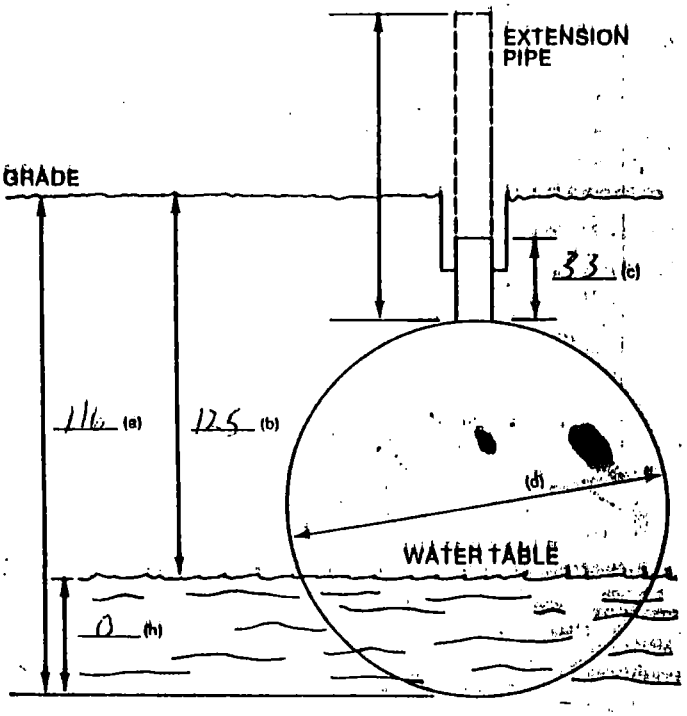
22




TESTER [illegible]
TEST COMPANY [illegible]

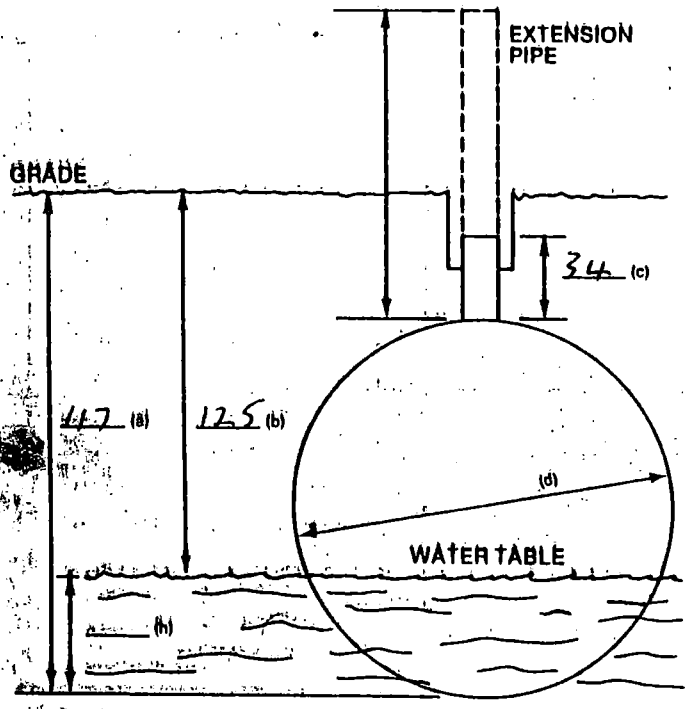
23

## TEST 1: TANK DIMENSIONS




TANK IDENT. T-1 3

## TEST 2: TANK DIMENSIONS



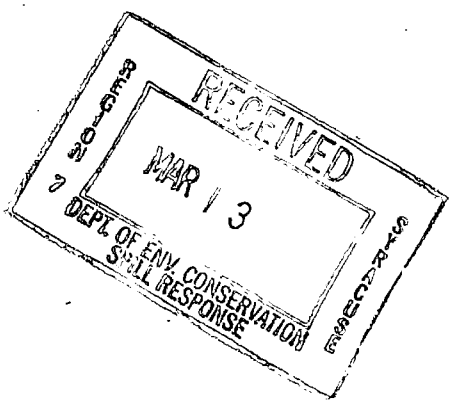

TANK IDENT: T-1

JOB [illegible]
ADDRESS [illegible]
DATE 11-22-85 & 11-27-85

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805




Facility: Vail Ballou Press
187 Clinton Street
Binghamton, N.Y.

PBS #: 182230

Tank #s: #001 - 10,300 gallon
#002 - 10,300 gallon
#003 - 10,300 gallon
#004 - 10,300 gallon

Test Date: 9-19-89

Tank system #003 showed a rate of leak of +.127 gallons per hour. Tank system failed the test.

Test Date: 9-20-89

Tank system #002 showed a rate of leak of -.025 gallons per hour. Tank system test tight.

Test Date: 9-22-89

Tank system #004 showed a rate of leak of +.046 gallons per hour. Tank system tested tight.

Test Date: 9-25-89 Test Method: Petro-Tite

Tank system #001 showed a rate of leak of -.092 gallons per hour. Tank system failed the test.

New York State Regulations require notification within 2 hours of tank test failure.

Spill Notification Number: 8906060

**TRI-STATE TANK SERVICE**

**LUZON OIL CO., INC.**

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805

A tank system test failure indicates the following:

a) The tank may be leaking.
b) The attached piping and/or fittings may be leaking.
c) Both the tank and the associated piping may be leaking.

In some cases unstable air along the tank top may cause an erroneous volume reading. We recommend re-testing be performed with tank top excavated to allow isolation of tank from piping and tank top modifications permitting the evacuation of any entrapped air or product vapor.

Enclosed are two (2) copies of this report and the test data. One is for your records and the other is to be sent to New York State D.E.C.

Please be advised that you will need to re-test, abandon, repair or remove this leaking tank as directed by New York State DEC in order to clear your record of the spill.

If you have any questions or need additional information, please contact me.

Very truly yours,

Robert B. Halprin,
Luzon Oil Co., Inc.

/enclosures

RBH:amd

SOILTEST

# AINLAY TANK TEGRITY TESTER™ FIELD TEST DATA

**1 TANK OPERATOR**

NAME: HALL BALLOU PRESS — ADDRESS: 157 CLINTON ST. BINGHAMTON N.Y. — PHONE:

**2 TANKS TO BE TESTED**

| IDENTIFICATION | CAPACITY—GALS. | MANUFACTURER | STEEL/FIBRGLS. | AGE—YRS. |
|---|---|---|---|---|
| TH004 | 10,000 | ? | STEEL | ? |
| TH001 | 10,000 | ? | STEEL | ? |

**3 WATER TABLE**

DISTANCE FROM GRADE TO WATER = 135 INS.

**4 TANK FILL-UP**

TANK WILL BE FILLED 5TH (TIME) ON 9/20/89

EXTRA 5 GALS PRODUCT AVAILABLE FROM TRI-STATE TANK

FILL UP TO BE ARRANGED BY MR. TRI-STATE TANK PHONE ( )

CONTACT AT STORAGE TERMINAL IS MR. PHONE ( )

**5 OUTSIDE CONTRACTORS**

NAME — ADDRESS — PHONE

**6 OFFICIALS TO BE CONTACTED**

NAME — AUTHORITY: P.E.C. — PHONE: 1-800-457-7362

**7 SPECIAL NOTES OR PRECAUTIONS**

FIRE ID 182230

SPILL #8-906060

**8 TEST RESULTS**

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN, N.F.P.A. 329.

| TANK IDENT | TANK IS TIGHT | TANK IS NOT TIGHT | LEAK RATE G. P. H. | TEST DATE |
|---|---|---|---|---|
| TH004 | X | | +.046 | 9-22-89 |
| TH001 | | X | +.092 | 9-25-89 |

**9 CERTIFICATION**

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED [signature] CERTIFICATE NO. 1315

ISSUE DATE 10-13-89

FOR (TEST COMPANY) TRI-STATE TANK SERVICE

ADDRESS Lucon Oil Co., Inc. P.O. Box 19 [illegible] NEW YORK 13747

ST-8 (REV. 2/87)

# AINLAY TANK TIGHTNESS TEST No. [redacted]

**10 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 93 INS FILL PIPE LENGTH 40 INS

**11 WATER IN TANK**

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

**12 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,300 GALS (c) DEDUCT WATER IN TANK +0 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 10,327 GALS (d) TOTAL PRODUCT VOL. 10,327 GALS

**13 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (H) INS
(b) DENSITY OF TANK PRODUCT = .1031 (W) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = (H) x 0.036 / (W) = 0 x 0.036 / .031 = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**14 PRELIM TEST DATA**

(a) START TEMP CHECK 805 (AM)/PM (d) A.P.I. GRAVITY 25.9 AT 66 °F
(b) END TEMP CHECK ____ AM/PM (e) A.P.I. GRAVITY 25.5 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .0004250

**15 TEST DATA**

(a) START TEST 1005 (AM)/PM: END TEST 1105 (AM)/PM: TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1005 | 65.6975 | 65.7453 | 64.1140 | 65.3262 | | | | | |
| 1010 | 65.6975 | 65.7408 | 64.1052 | 65.[redacted]3 | | | | | |
| 1015 | 65.6945 | 65.7409 | 64.1049 | 65.3149 | | | | | |
| 1020 | 65.6659 | 65.7413 | 64.1103 | 65.3232 | | | | | |
| 1025 | 65.6812 | 65.7360 | 64.1055 | 65.3171 | | | | | |
| 1030 | 65.6704 | 65.7340 | 64.1101 | 65.3185 | | | | | |
| 1035 | 65.6734 | 65.7359 | 64.1144 | 65.3167 | | | | | |
| 1040 | 65.6659 | 65.7327 | 64.1142 | 65.3139 | | | | | |
| 1045 | 65.6695 | 65.7323 | 64.1132 | 65.3126 | | | | | |
| 1050 | 65.6701 | 65.7292 | 64.1017 | 65.3123 | | | | | |
| 1055 | 65.6725 | 65.7289 | 64.0983 | 65.3096 | | | | | |
| 1100 | 65.6636 | 65.7201 | 64.0838 | 65.3070 | | | | | |
| 1105 | 65.6667 | 65.7242 | 64.0920 | 65.3162 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. − AVG START TEMP.) = [redacted] = .3262 = +0.0260 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL. x TEMP. CHANGE x COEFF. EXP.
= 10,327 [redacted] = +0.5584 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = +/− ____ GALS.

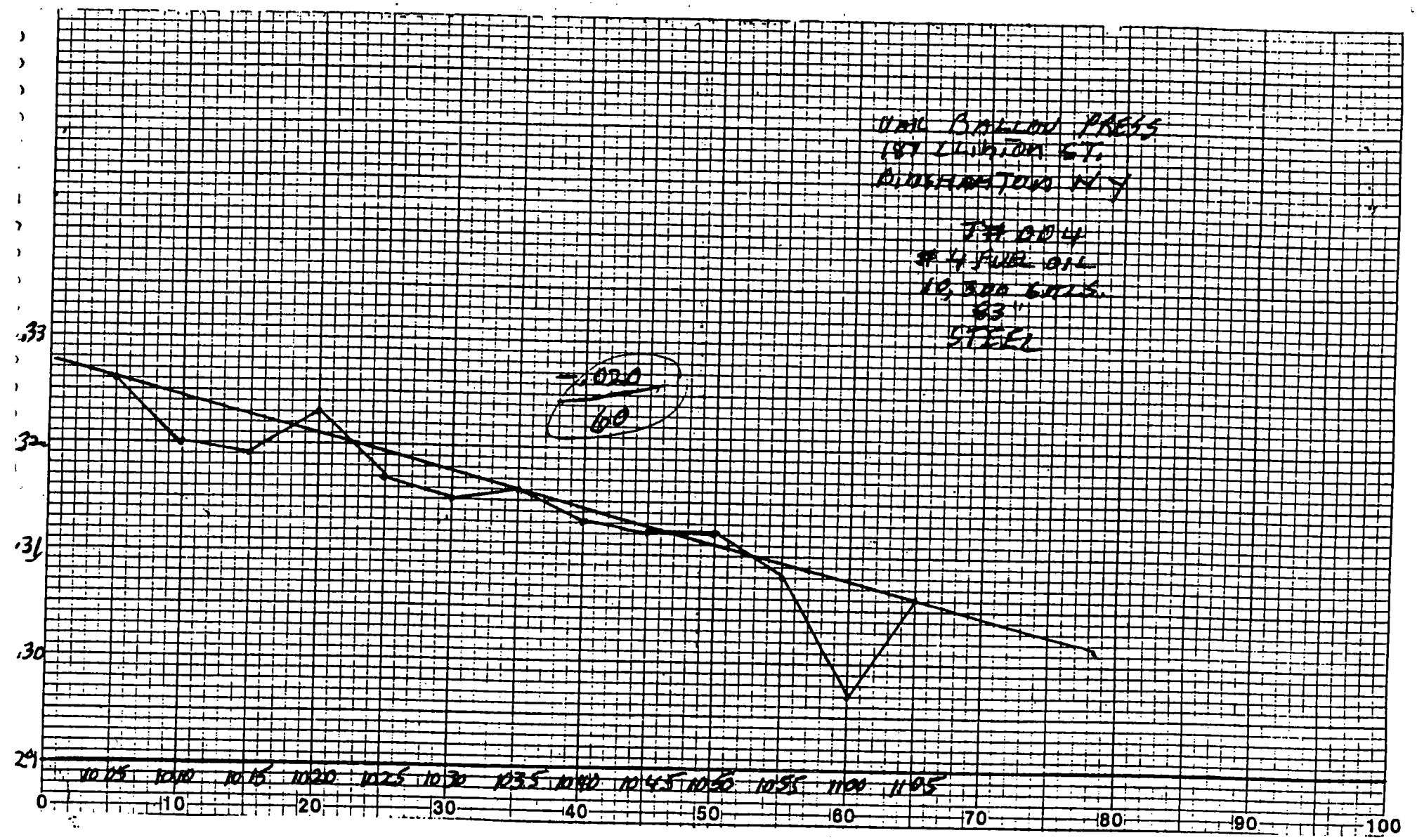
(e) VOL. CHANGE NOT DUE TO TEMP (c) + (d) ..... = [redacted] = +1.30 = 1.044 GALS.

(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = [redacted] G.P.H.

THIS LEAK RATE DOES / DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC. BULLETIN N.F.P.A. [redacted]

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

JOB ADDRESS ____ DATE ____ / ____ / ____ TESTER ____ TEST COMPANY ____


Oak Bellows Press
187 Lexington St.
Binghamton, N.Y.
T# 004
#4 Fuel oil
10,300 Gals.
63'
STEEL
=.020
60
.33
.32
.31
.30
.29
10 05 10 10 10 15 10 20 10 25 10 30 10 35 10 40 10 45 10 50 10 55 11 00 11 05
0
10
20
30
40
50
60
70
80
90
100

```
IE 22:08:05
   65.9211 DEG F
   65.8230 DEG F
   64.2644 DEG F
   65.4586 DEG F

IE 22:08:10
   65.8448 DEG F
   65.7952 DEG F
   64.2290 DEG F
   65.4174 DEG F

E 22:08:15
   65.8044 DEG F
   65.7823 DEG F
   64.2211 DEG F
   65.3986 DEG F

E 22:08:20
   65.7256 DEG F
   65.7757 DEG F
   64.2188 DEG F
   65.3860 DEG F

E 22:08:25
   65.7663 DEG F
   65.7731 DEG F
   64.2134 DEG F
   65.3816 DEG F

 22:08:30
   65.7583 DEG F
   65.7670 DEG F
   64.1997 DEG F
   65.3761 DEG F

 22:08:35
   65.7520 DEG F
   65.7629 DEG F
   64.1864 DEG F
   65.3669 DEG F

 22:08:40
   65.7432 DEG F
   65.7583 DEG F
   64.1785 DEG F
   65.3628 DEG F

 22:08:45
   65.7544 DEG F
   65.7623 DEG F
   64.1832 DEG F
   65.3678 DEG F

TIME 22:08:50
CH1    65.7460 DEG F
CH2    65.7573 DEG F
CH3    64.1742 DEG F
AVG    65.3603 DEG F

TIME 22:08:55
CH1    65.7490 DEG F
CH2    65.7610 DEG F
CH3    64.1706 DEG F
AVG    65.3628 DEG F

TIME 22:09:00
CH1    65.7470 DEG F
CH2    65.7605 DEG F
CH3    64.1672 DEG F
AVG    65.3596 DEG F

TIME 22:09:05
CH1    65.7411 DEG F
CH2    65.7571 DEG F
CH3    64.1646 DEG F
AVG    65.3568 DEG F

TIME 22:09:10
CH1    65.7300 DEG F
CH2    65.7523 DEG F
CH3    64.1637 DEG F
AVG    65.3518 DEG F

TIME 22:09:15
CH1    65.7230 DEG F
CH2    65.7509 DEG F
CH3    64.1694 DEG F
AVG    65.3497 DEG F

TIME 22:09:20
CH1    65.7217 DEG F
CH2    65.7537 DEG F
CH3    64.1657 DEG F
AVG    65.3501 DEG F

TIME 22:09:25
CH1    65.7175 DEG F
CH2    65.7517 DEG F
CH3    64.1512 DEG F
AVG    65.3421 DEG F

TIME 22:09:30
CH1    65.7191 DEG F
CH2    65.7510 DEG F
CH3    64.1441 DEG F
AVG    65.3423 DEG F

TIME 22:09:35
CH1    65.7193 DEG F
CH2    65.7500 DEG F
CH3    64.1440 DEG F
AVG    65.3425 DEG F

TIME 22:09:40
CH1    65.7196 DEG F
CH2    65.7493 DEG F
CH3    64.1441 DEG F
AVG    65.3414 DEG F

TIME 22:09:45
CH1    65.7181 DEG F
CH2    65.7455 DEG F
CH3    64.1412 DEG F
AVG    65.3391 DEG F

TIME 22:09:50
CH1    65.7201 DEG F
CH2    65.7455 DEG F
CH3    64.1413 DEG F
AVG    65.3394 DEG F

TIME 22:09:55
CH1    65.7225 DEG F
CH2    65.7482 DEG F
CH3    64.1353 DEG F
AVG    65.3409 DEG F

TIME 22:10:00
CH1    65.7041 DEG F
CH2    65.7440 DEG F
CH3    64.1192 DEG F
AVG    65.3297 DEG F

TIME 22:10:05
CH1    65.6975 DEG F
CH2    65.7453 DEG F
CH3    64.1140 DEG F
AVG    65.3262 DEG F

TIME 22:10:10
CH1    65.6875 DEG F
CH2    65.7408 DEG F
CH3    64.1052 DEG F
AVG    65.3203 DEG F

TIME 22:10:15
CH1    65.6842 DEG F
CH2    65.7409 DEG F
CH3    64.1049 DEG F
AVG    65.3194 DEG F

TIME 22:10:20
CH1    65.6889 DEG F
CH2    65.7413 DEG F
CH3    64.1103 DEG F
AVG    65.3232 DEG F

TIME 22:10:25
CH1    65.6812 DEG F
CH2    65.7360 DEG F
CH3    64.1085 DEG F
AVG    65.3171 DEG F

TIME 22:10:30
CH1    65.6761 DEG F
CH2    65.7340 DEG F
CH3    64.1101 DEG F
AVG    65.3150 DEG F

TIME 22:10:35
CH1    65.6730 DEG F
CH2    65.7359 DEG F
CH3    64.1144 DEG F
AVG    65.3167 DEG F

TIME 22:10:40
CH1    65.6689 DEG F
CH2    65.7327 DEG F
CH3    64.1142 DEG F
AVG    65.3139 DEG F

TIME 22:10:45
CH1    65.6695 DEG F
CH2    65.7323 DEG F
CH3    64.1132 DEG F
AVG    65.3126 DEG F

TIME 22:10:50
CH1    65.6701 DEG F
CH2    65.7292 DEG F
CH3    64.1067 DEG F
AVG    65.3123 DEG F

TIME 22:10:55
CH1    65.6725 DEG F
CH2    65.7289 DEG F
CH3    64.0983 DEG F
AVG    65.3086 DEG F

TIME 22:11:00
CH1    65.6636 DEG F
CH2    65.7201 DEG F
CH3    64.0838 DEG F
AVG    65.2974 DEG F

TIME 22:11:05
CH1    65.6667 DEG F
CH2    65.7292 DEG F
CH3    64.0924 DEG F
AVG    65.3062 DEG F
```

T#04

# AINLAY TANK TIGHTNESS TEST No.

TANK I.D. #1 & #4 FUEL OIL

**16 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 93 INS FILL PIPE LENGTH 31 INS

**17 WATER IN TANK**

(a) START WATER IN TANK 3 INS (c) END WATER IN TANK 0 INS

(b) START WATER IN TANK 3 GALS (d) END WATER IN TANK 0 GALS

**18 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,300 GALS (c) DEDUCT WATER IN TANK +0 GALS

(b) ACTUAL CAPACITY (FROM TANK CHART) 10,322 GALS (d) TOTAL PRODUCT VOL. 10,327 GALS

Top off +5

**19 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS

(b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES)

DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.

(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .031 = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**20 PRELIM TEST DATA**

(a) START TEMP CHECK 10:50 AM/PM (d) A.P.I. GRAVITY 25.3 AT 68 °F

(b) END TEMP CHECK ____ AM/PM (e) A.P.I. GRAVITY 24.4 AT 60°F

(c) TIME SINCE LAST LIQ. ADDED ½ HRS (f) COEFF. OF EXPANSION .000425 62 / 9

**21 TEST DATA**

(a) START TEST ____ AM/PM END TEST ____ AM/PM: TEST TIME ____ MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| [illegible] | 69237 | 71.2716 | 70.0218 | 70.5587 | | | | | |
| [illegible] | 69153 | 71.2834 | 70.0133 | 70.5557 | | | | | |
| [illegible] | 69276 | 71.2852 | 70.0027 | 70.5639 | | | | | |
| 1335 | 69342 | 71.2877 | 70.0030 | 70.5473 | | | | | |
| 1340 | 69382 | 71.2876 | 70.0025 | 70.5432 | | | | | |
| 1345 | 69[illegible] | 71.2862 | 69.9937 | 70.5392 | | | | | |
| 1350 | 69514 | 71.2774 | 69.9955 | 70.5369 | | | | | |
| 1355 | 69553 | 71.2770 | 69.9946 | 70.5323 | | | | | |
| 1400 | 69581 | 71.2743 | 69.9955 | 70.5327 | | | | | |
| 1405 | 69555 | 71.2662 | 69.9950 | 70.5256 | | | | | |
| 1410 | 69519 | 71.2645 | 70.0013 | 70.5277 | | | | | |
| 1415 | 69521 | 71.2625 | 69.9927 | 70.5237 | | | | | |
| 1420 | 69536 | 71.2638 | 70.0010 | 70.5273 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = 5273 − 5592 = +14.0314 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.

= 10,327 (18d) × .0314 (21b) × .000425 62 (20) = +11.134 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = @1- .232 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = −1134 + 1,230 = @1- .1092 GALS.

(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = 1,092 x 60 / 60 (21a) = 1,092 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☐ / THE TANK IS NOT TIGHT ☐

TESTER ____ TEST COMPANY ____

DATE ____ / ____ / ____

JOB ADDRESS ____

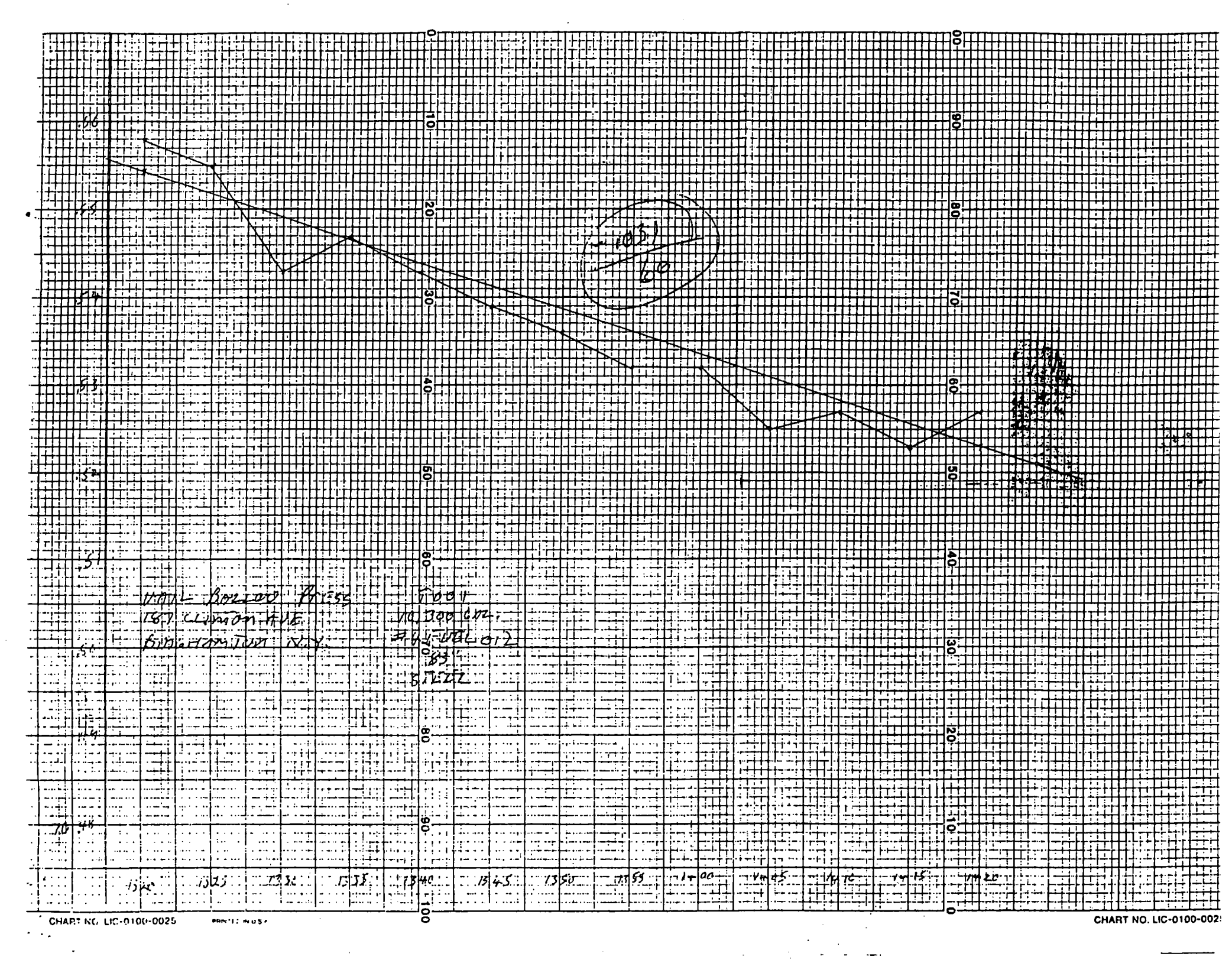


CHART NO. LIC-0100-0025
CHART NO. LIC-0100-0025

ME 25:10:30
1 69.4853 DEG F
2 71.0357 DEG F
3 69.8335 DEG F
G 70.3479 DEG F

ME 25:10:35
1 69.6503 DEG F
2 71.2167 DEG F
3 69.9848 DEG F
G 70.5181 DEG F

ME 25:10:40
1 69.6383 DEG F
2 71.2660 DEG F
3 70.0142 DEG F
G 70.5607 DEG F

ME 25:10:45
69.7183 DEG F
71.2304 DEG F
70.0223 DEG F
70.5825 DEG F

E 25:10:50
69.7291 DEG F
71.3005 DEG F
70.0210 DEG F
70.5878 DEG F

E 25:10:55
69.7234 DEG F
71.3034 DEG F
70.0189 DEG F
70.5901 DEG F

E 25:11:00
69.7362 DEG F
71.3092 DEG F
70.0197 DEG F
70.5941 DEG F

25:11:05
69.7147 DEG F
71.3099 DEG F
70.0192 DEG F
70.5910 DEG F

25:11:10
69.7183 DEG F
71.3030 DEG F
70.0148 DEG F
70.5850 DEG F

TIME 25:11:15
CH1 69.7094 DEG F
CH2 71.2939 DEG F
CH3 70.0112 DEG F
AVG 70.5796 DEG F

TIME 25:11:20
CH1 69.7232 DEG F
CH2 71.2953 DEG F
CH3 70.0147 DEG F
AVG 70.5843 DEG F

TIME 25:11:25
CH1 69.7163 DEG F
CH2 71.2978 DEG F
CH3 70.0163 DEG F
AVG 70.5835 DEG F

TIME 25:11:30
CH1 69.7072 DEG F
CH2 71.2969 DEG F
CH3 70.0141 DEG F
AVG 70.5791 DEG F

TIME 25:11:35
CH1 69.7073 DEG F
CH2 71.2975 DEG F
CH3 70.0160 DEG F
AVG 70.5802 DEG F

TIME 25:11:40
CH1 69.7047 DEG F
CH2 71.3016 DEG F
CH3 70.0220 DEG F
AVG 70.5832 DEG F

TIME 25:11:45
CH1 69.7041 DEG F
CH2 71.3006 DEG F
CH3 70.0278 DEG F
AVG 70.5848 DEG F

TIME 25:11:50
CH1 69.6924 DEG F
CH2 71.3002 DEG F
CH3 70.0345 DEG F
AVG 70.5823 DEG F

TIME 25:11:55
CH1 69.6838 DEG F
CH2 71.2982 DEG F
CH3 70.0346 DEG F
AVG 70.5807 DEG F

TIME 25:12:00
CH1 69.6880 DEG F
CH2 71.3007 DEG F
CH3 70.0364 DEG F
AVG 70.5821 DEG F

TIME 25:12:05
CH1 69.7023 DEG F
CH2 71.3061 DEG F
CH3 70.0393 DEG F
AVG 70.5887 DEG F

TIME 25:12:10
CH1 69.6907 DEG F
CH2 71.3065 DEG F
CH3 70.0391 DEG F
AVG 70.5844 DEG F

TIME 25:12:15
CH1 69.6703 DEG F
CH2 71.3030 DEG F
CH3 70.0345 DEG F
AVG 70.5784 DEG F

TIME 25:12:20
CH1 69.6855 DEG F
CH2 71.3045 DEG F
CH3 70.0357 DEG F
AVG 70.5838 DEG F

TIME 25:12:25
CH1 69.6874 DEG F
CH2 71.3010 DEG F
CH3 70.0338 DEG F
AVG 70.5813 DEG F

TIME 25:12:30
CH1 69.6871 DEG F
CH2 71.3006 DEG F
CH3 70.0338 DEG F
AVG 70.5821 DEG F

TIME 25:12:35
CH1 69.6585 DEG F
CH2 71.2978 DEG F
CH3 70.0346 DEG F
AVG 70.5732 DEG F

TIME 25:12:40
CH1 69.6582 DEG F
CH2 71.3003 DEG F
CH3 70.0335 DEG F
AVG 70.5743 DEG F

TIME 25:12:45
CH1 69.6421 DEG F
CH2 71.2968 DEG F
CH3 70.0332 DEG F
AVG 70.5691 DEG F

TIME 25:12:50
CH1 69.6478 DEG F
CH2 71.2972 DEG F
CH3 70.0335 DEG F
AVG 70.5699 DEG F

TIME 25:12:55
CH1 69.6538 DEG F
CH2 71.2945 DEG F
CH3 70.0329 DEG F
AVG 70.5714 DEG F

TIME 25:13:00
CH1 69.6505 DEG F
CH2 71.2907 DEG F
CH3 70.0284 DEG F
AVG 70.5659 DEG F

TIME 25:13:05
CH1 69.6235 DEG F
CH2 71.2927 DEG F
CH3 70.0297 DEG F
AVG 70.5610 DEG F

TIME 25:13:10
CH1 69.6305 DEG F
CH2 71.2926 DEG F
CH3 70.0269 DEG F
AVG 70.5642 DEG F

TIME 25:13:15
CH1 69.6389 DEG F
CH2 71.2949 DEG F
CH3 70.0267 DEG F
AVG 70.5652 DEG F

TIME 25:13:20
CH1 69.6237 DEG F
CH2 71.2916 DEG F
CH3 70.0218 DEG F
AVG 70.5587 DEG F

TIME 25:13:25
CH1 69.6180 DEG F
CH2 71.2894 DEG F
CH3 70.0132 DEG F
AVG 70.5557 DEG F

TIME 25:13:30
CH1 69.5976 DEG F
CH2 71.2860 DEG F
CH3 70.0027 DEG F
AVG 70.5439 DEG F

TIME 25:13:35
CH1 69.5942 DEG F
CH2 71.2877 DEG F
CH3 70.0030 DEG F
AVG 70.5473 DEG F

TIME 25:13:40
CH1 69.5882 DEG F
CH2 71.2876 DEG F
CH3 70.0023 DEG F
AVG 70.5432 DEG F

TIME 25:13:45
CH1 69.5905 DEG F
CH2 71.2800 DEG F
CH3 69.9937 DEG F
AVG 70.5392 DEG F

TIME 25:13:50
CH1 69.5919 DEG F
CH2 71.2774 DEG F
CH3 69.9955 DEG F
AVG 70.5369 DEG F

TIME 25:13:55
CH1 69.5853 DEG F
CH2 71.2720 DEG F
CH3 69.9946 DEG F
AVG 70.5323 DEG F

TIME 25:14:00
CH1 69.5801 DEG F
CH2 71.2742 DEG F
CH3 69.9955 DEG F
AVG 70.5327 DEG F

TIME 25:14:05
CH1 69.5755 DEG F
CH2 71.2666 DEG F
CH3 69.9950 DEG F
AVG 70.5256 DEG F

TIME 25:14:10
CH1 69.5668 DEG F
CH2 71.2685 DEG F
CH3 70.0019 DEG F
AVG 70.5277 DEG F

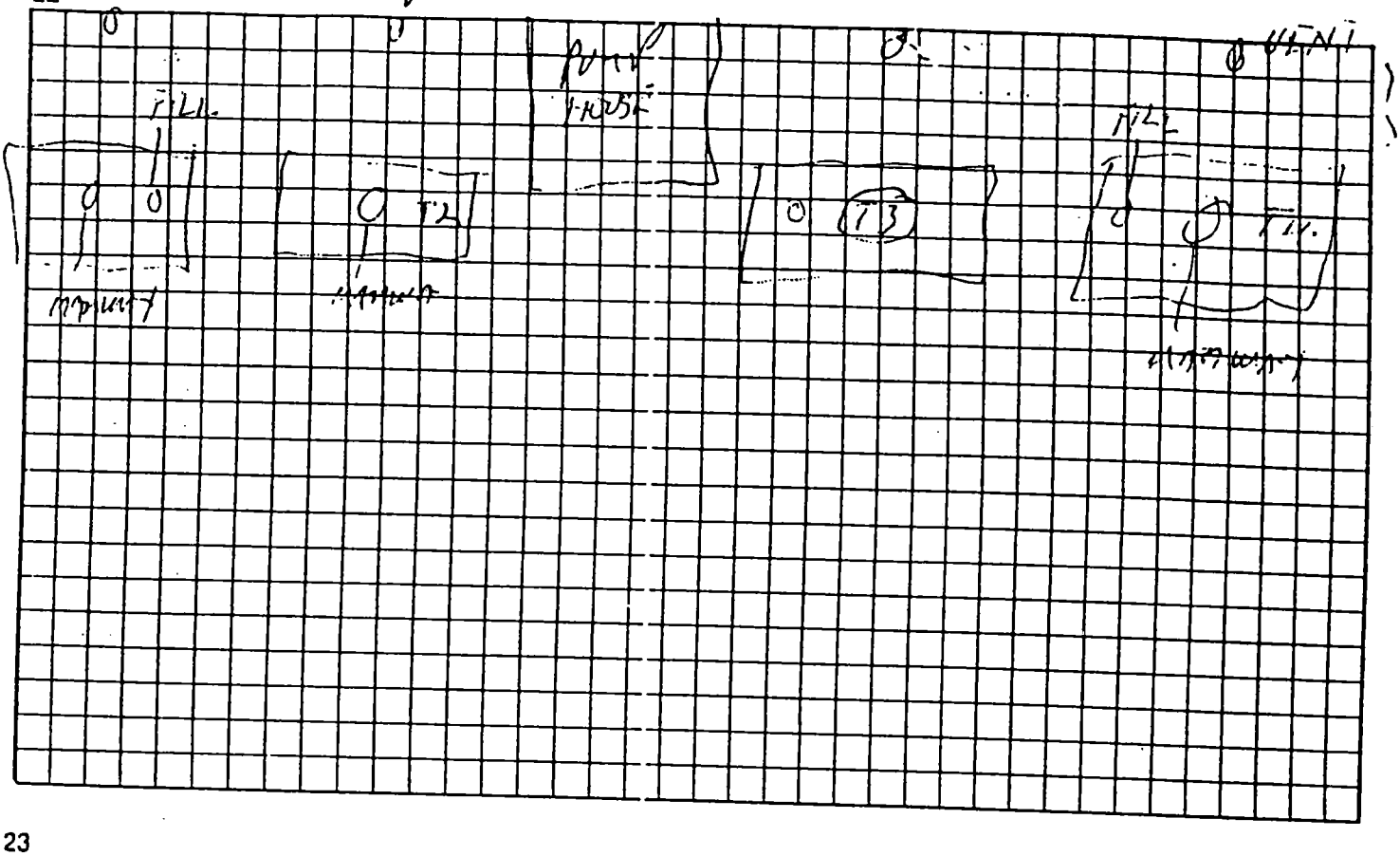
TIME 25:14:15
CH1 69.5721 DEG F
CH2 71.2625 DEG F
CH3 69.9977 DEG F
AVG 70.5237 DEG F

TIME 25:14:20
CH1 69.5736 DEG F
CH2 71.2638 DEG F
CH3 70.0010 DEG F
AVG 70.5273 DEG F

T #001

22

# TEST SITE LAYOUT

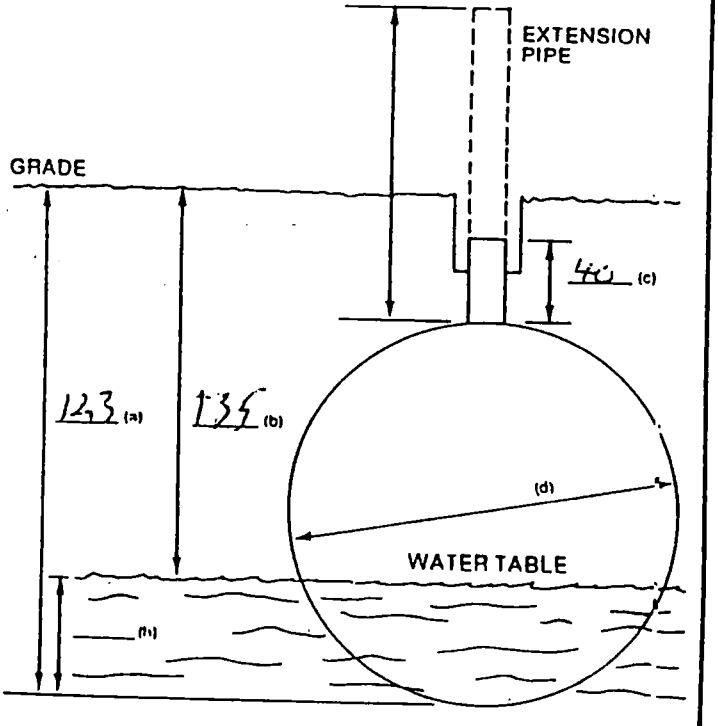



TESTER

TEST COMPANY

23

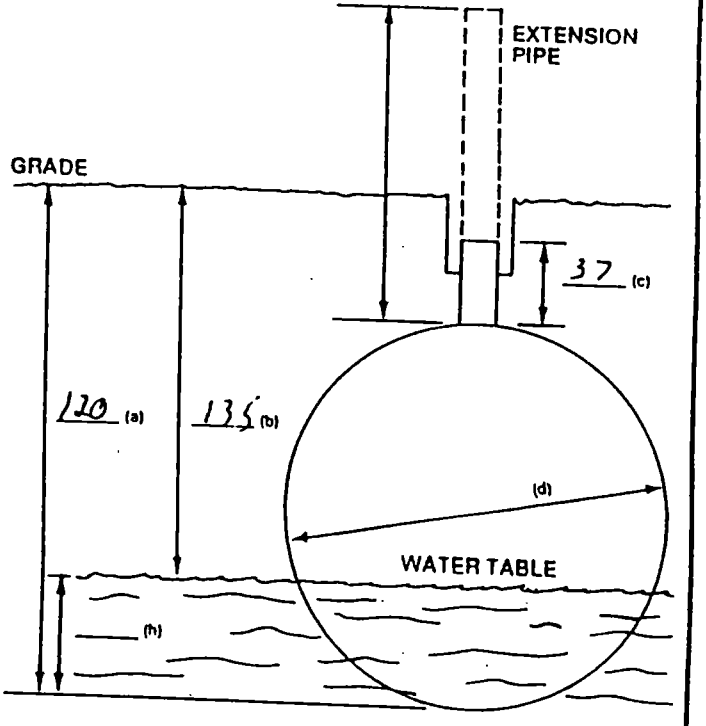
## TEST 1: TANK DIMENSIONS




DATE

TANK IDENT. TH 004

## TEST 2: TANK DIMENSIONS




TANK IDENT. TH 001

JOB

ADDRESS

SOILTEST

# AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

**1 TANK OPERATOR**

NAME: VAIL BALLOU PRESS — ADDRESS: 187 CLINTON ST BINGHAMTON N.Y. — PHONE:

**2 TANKS TO BE TESTED**

| IDENTIFICATION | CAPACITY—GALS. | MANUFACTURER | STEEL/FIBRGLS. | AGE—YRS. |
|---|---|---|---|---|
| 17-003 | 10,300 | ? | STEEL | ? |
| 17-002 | 10,300 | ? | STEEL | ? |
| | | | | |
| | | | | |
| | | | | |

**3 WATER TABLE**

DISTANCE FROM GRADE TO WATER 135 INS.

**4 TANK FILL-UP**

TANK WILL BE FILLED 1 hour (TIME) ON 1 1 Tu. Tent. fo. 4-19-55

EXTRA 5 GALS PRODUCT AVAILABLE FROM VAIL BALLOU

FILL UP TO BE ARRANGED BY MR. BOB KALKA PHONE (607) 723-2981

CONTACT AT STORAGE TERMINAL IS MR. PHONE ( ).

**5 OUTSIDE CONTRACTORS**

NAME — ADDRESS — PHONE

**6 OFFICIALS TO BE CONTACTED**

NAME — AUTHORITY O.F.C. — PHONE 1-800-457-7362

**7 SPECIAL NOTES OR PRECAUTIONS**

PSI-H 182.238

SPILL H 8'9 0'6060

**8 TEST RESULTS**

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

| TANK IDENT | TANK IS TIGHT | TANK IS NOT TIGHT | LEAK RATE G. P. H. | TEST DATE |
|---|---|---|---|---|
| 17 003 | | X | .1127 | 4-19-55 |
| 17 002 | X | | .1025 | 4-20-55 |
| | | | | |

**9 CERTIFICATION**

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED [signature] CERTIFICATE NO. 1315

ISSUE DATE 10-15-55

FOR (TEST COMPANY) TRI-STATE TANK SERVICE

ADDRESS Luzon Oil Co., Inc.

ST-6 (REV. 2/87)

# AINLAY TANK TIGHTNESS TEST No: [redacted]

1-77002 FT 4 FUEL OIL

**10 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK: (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 96 INS FILL PIPE LENGTH 36 INS

**11 WATER IN TANK**

(a) START WATER IN TANK 3 INS (c) END WATER IN TANK 3 INS
(b) START WATER IN TANK 117 GALS (d) END WATER IN TANK 117 GALS

**12 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,500 GALS (c) DEDUCT WATER IN TANK -117 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 10,322 GALS (d) TOTAL PRODUCT VOL. +10,210 GALS

73105-27-1

**13 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = 1031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .031 = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**14 PRELIM TEST DATA**

(a) START TEMP CHECK 9:00 (AM)/PM (d) A.P.I. GRAVITY 25.5 At 73 °F
(b) END TEMP CHECK ____ AM/PM (e) A.P.I. GRAVITY 24.7 At 60°F
(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .000 425 27

**15 TEST DATA**

(a) START TEST 12:00 AM/PM: END TEST ____ AM/PM: TEST TIME = 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1200 | 74.7525 | 74.9961 | 82.0801 | 76.3565 | | | | | |
| 1205 | 74.7475 | 74.9907 | 82.0641 | 76.6455 | | | | | |
| 1210 | 74.7455 | 75.0005 | 82.0475 | 76.7028 | | | | | |
| 1215 | 74.7495 | 75.0037 | 82.0331 | 76.6973 | | | | | |
| 1220 | 74.7464 | 75.0057 | 82.0184 | 76.6951 | | | | | |
| 1225 | 74.7461 | 75.0125 | 82.0050 | 76.6957 | | | | | |
| 1230 | 74.7417 | 75.0131 | 81.9956 | 76.6908 | | | | | |
| 1235 | 74.7435 | 75.0107 | 81.9751 | 76.6866 | | | | | |
| 1240 | 74.7535 | 75.0037 | 81.9671 | 76.6942 | | | | | |
| 1245 | 74.7614 | 75.9907 | 81.9593 | 76.6965 | | | | | |
| 1250 | 74.7651 | 75.9922 | 81.9415 | 76.6955 | | | | | |
| 1255 | 74.7605 | 75.9414 | 81.9[redacted]5 | 76.6676 | | | | | |
| 1300 | 74.7623 | 75.9532 | 81.9[redacted]9 | 76.6637 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. − AVG START TEMP.) = 76.6637 − 76.3565 = +0.3072 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL x TEMP. CHANGE x COEFF. EXP.
= 10,210 (12d) x 0.3072 (11b) x .000 425 27 (11f) = +0.1954 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = 81-, 120 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP ((c) + (d)) ..... = -0.125 + 16.120 = +15.925 GALS.

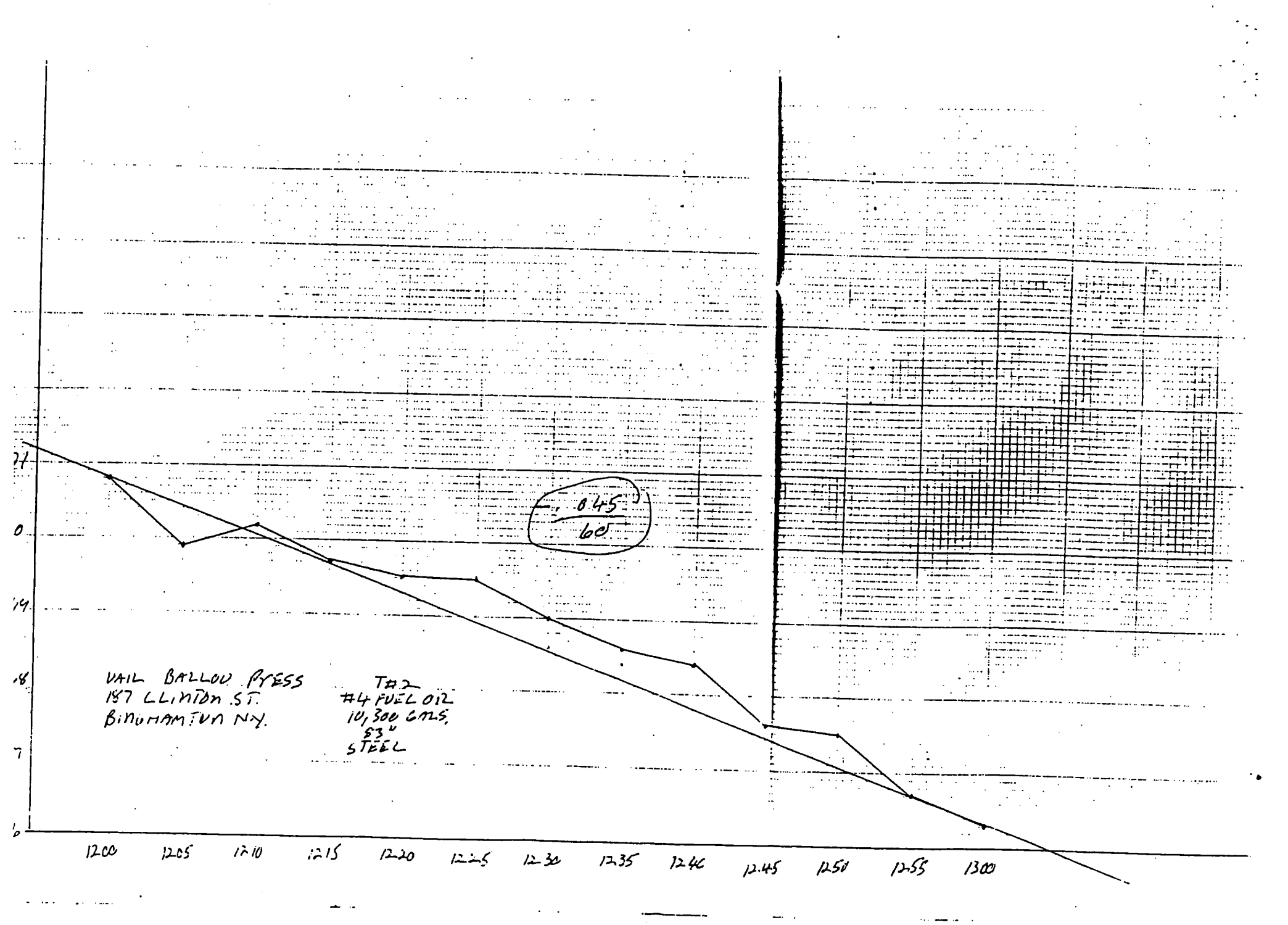
(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = 15.925 x 60 / 60 (15a) = 15.925 G.P.H.

THIS LEAK RATE DOES / DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC. BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

ADDRESS

TEST COMPANY


0.45
60
VAIL BALLOU PRESS
187 CLINTON ST.
BINGHAMTON N.Y.
T#2
#4 FUEL OIL
10,300 GALS.
53"
STEEL
1200
1205
1210
1215
1220
1225
1230
1235
1240
12.45
1250
12.55
1300

```
ME 20:09:30
H1   74.6597 DEG F
H2   74.6951 DEG F
H3   82.5716 DEG F
AVG  76.6585 DEG F

ME 20:09:05
H1   74.6548 DEG F
H2   74.7512 DEG F
H3   82.5799 DEG F
AVG  76.6887 DEG F

ME 20:09:10
H1   74.6853 DEG F
H2   74.7876 DEG F
H3   82.5969 DEG F
AVG  76.7167 DEG F

ME 20:09:15
1    74.6971 DEG F
2    74.8014 DEG F
3    82.5370 DEG F
G    76.7231 DEG F

ME 20:09:20
1    74.6996 DEG F
2    74.8187 DEG F
3    82.5569 DEG F
     76.7285 DEG F

ME 20:09:25
     74.7014 DEG F
     74.8332 DEG F
     82.5570 DEG F
     76.7340 DEG F

ME 20:09:30
     74.6926 DEG F
     74.8465 DEG F
     82.5475 DEG F
     76.7354 DEG F

E 20:09:35
    74.6901 DEG F
    74.8560 DEG F
    82.5337 DEG F
    76.7344 DEG F

E 20:09:40
    74.6821 DEG F
    74.8516 DEG F
    82.5090 DEG F
    76.7251 DEG F
```

```
TIME 20:09:45
CH1   74.6302 DEG F
CH2   74.8456 DEG F
CH3   82.4371 DEG F
AVG   76.7141 DEG F

TIME 20:09:50
CH1   74.6816 DEG F
CH2   74.8436 DEG F
CH3   82.4733 DEG F
AVG   76.7094 DEG F

TIME 20:09:55
CH1   74.6823 DEG F
CH2   74.8398 DEG F
CH3   82.4557 DEG F
AVG   76.7069 DEG F

TIME 20:10:00
CH1   74.6824 DEG F
CH2   74.8250 DEG F
CH3   82.4438 DEG F
AVG   76.7023 DEG F

TIME 20:10:05
CH1   74.6775 DEG F
CH2   74.8294 DEG F
CH3   82.4272 DEG F
AVG   76.6925 DEG F

TIME 20:10:10
CH1   74.6726 DEG F
CH2   74.8304 DEG F
CH3   82.4148 DEG F
AVG   76.6885 DEG F

TIME 20:10:15
CH1   74.6788 DEG F
CH2   74.8394 DEG F
CH3   82.4029 DEG F
AVG   76.6904 DEG F

TIME 20:10:20
CH1   74.6893 DEG F
CH2   74.8628 DEG F
CH3   82.3915 DEG F
AVG   76.7021 DEG F

TIME 20:10:25
CH1   74.7026 DEG F
CH2   74.8921 DEG F
CH3   82.3804 DEG F
AVG   76.7185 DEG F
```

```
TIME 20:10:30
CH1   74.6988 DEG F
CH2   74.9051 DEG F
CH3   82.3631 DEG F
AVG   76.7200 DEG F

TIME 20:10:35
CH1   74.6898 DEG F
CH2   74.9155 DEG F
CH3   82.3417 DEG F
AVG   76.7163 DEG F

TIME 20:10:40
CH1   74.6814 DEG F
CH2   74.9260 DEG F
CH3   82.3233 DEG F
AVG   76.7147 DEG F

TIME 20:10:45
CH1   74.6784 DEG F
CH2   74.9410 DEG F
CH3   82.3026 DEG F
AVG   76.7165 DEG F

TIME 20:10:50
CH1   74.6734 DEG F
CH2   74.9493 DEG F
CH3   82.2828 DEG F
AVG   76.7151 DEG F

TIME 20:10:55
CH1   74.6777 DEG F
CH2   74.9578 DEG F
CH3   82.2706 DEG F
AVG   76.7179 DEG F

TIME 20:11:00
CH1   74.6798 DEG F
CH2   74.9644 DEG F
CH3   82.2515 DEG F
AVG   76.7174 DEG F

TIME 20:11:05
CH1   74.6305 DEG F
CH2   74.9715 DEG F
CH3   82.2363 DEG F
AVG   76.7164 DEG F

TIME 20:11:10
CH1   74.6836 DEG F
CH2   74.9762 DEG F
CH3   82.2238 DEG F
AVG   76.7174 DEG F
```

```
TIME 20:11:15
CH1   74.6967 DEG F
CH2   74.9777 DEG F
CH3   82.2134 DEG F
AVG   76.7171 DEG F

TIME 20:11:20
CH1   74.7019 DEG F
CH2   74.9706 DEG F
CH3   82.1978 DEG F
AVG   76.7113 DEG F

TIME 20:11:25
CH1   74.7117 DEG F
CH2   74.9736 DEG F
CH3   82.1835 DEG F
AVG   76.7112 DEG F

TIME 20:11:30
CH1   74.7105 DEG F
CH2   74.9876 DEG F
CH3   82.1580 DEG F
AVG   76.7125 DEG F

TIME 20:11:35
CH1   74.7236 DEG F
CH2   74.9771 DEG F
CH3   82.1464 DEG F
AVG   76.7071 DEG F

TIME 20:11:40
CH1   74.7310 DEG F
CH2   74.9679 DEG F
CH3   82.1266 DEG F
AVG   76.6994 DEG F

TIME 20:11:45
CH1   74.7362 DEG F
CH2   74.9708 DEG F
CH3   82.1049 DEG F
AVG   76.6969 DEG F

TIME 20:11:50
CH1   74.7440 DEG F
CH2   74.9926 DEG F
CH3   82.0917 DEG F
AVG   76.7077 DEG F

TIME 20:11:55
CH1   74.7502 DEG F
CH2   74.9997 DEG F
CH3   82.0837 DEG F
AVG   76.7100 DEG F
```

```
TIME 20:12:00
CH1   74.7525 DEG F
CH2   74.9961 DEG F
CH3   82.0801 DEG F
AVG   76.7085 DEG F

TIME 20:12:05
CH1   74.7475 DEG F
CH2   74.9907 DEG F
CH3   82.0641 DEG F
AVG   76.6995 DEG F

TIME 20:12:10
CH1   74.7485 DEG F
CH2   75.0005 DEG F
CH3   82.0475 DEG F
AVG   76.7028 DEG F

TIME 20:12:15
CH1   74.7495 DEG F
CH2   75.0037 DEG F
CH3   82.0331 DEG F
AVG   76.6973 DEG F

TIME 20:12:20
CH1   74.7469 DEG F
CH2   75.0037 DEG F
CH3   82.0184 DEG F
AVG   76.6951 DEG F

TIME 20:12:25
CH1   74.7461 DEG F
CH2   75.0125 DEG F
CH3   82.0050 DEG F
AVG   76.6957 DEG F

TIME 20:12:30
CH1   74.7417 DEG F
CH2   75.0131 DEG F
CH3   81.9886 DEG F
AVG   76.6908 DEG F

TIME 20:12:35
CH1   74.7435 DEG F
CH2   75.0107 DEG F
CH3   81.9751 DEG F
AVG   76.6866 DEG F

TIME 20:12:40
CH1   74.7535 DEG F
CH2   75.0039 DEG F
CH3   81.9671 DEG F
AVG   76.6842 DEG F
```

```
TIME 20:12:45
CH1   74.7664 DEG F
CH2   74.9907 DEG F
CH3   81.9583 DEG F
AVG   76.6765 DEG F

TIME 20:12:50
CH1   74.7651 DEG F
CH2   74.9922 DEG F
CH3   81.9415 DEG F
AVG   76.6755 DEG F

TIME 20:12:55
CH1   74.7605 DEG F
CH2   74.9914 DEG F
CH3   81.9255 DEG F
AVG   76.6676 DEG F

TIME 20:13:00
CH1   74.7628 DEG F
CH2   74.9832 DEG F
CH3   81.9179 DEG F
AVG   76.6632 DEG F
```

# AINLAY TANK TIGHTNESS TEST No. 1

TEST COMPANY _____ ADDRESS _____

**16 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 7 3 INS FILL PIPE LENGTH 3 7 INS

**17 WATER IN TANK**

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS

(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

**18 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,000 GALS (c) DEDUCT WATER IN TANK 10 GALS

(b) ACTUAL CAPACITY (FROM TANK CHART) 10,322 GALS (d) TOTAL PRODUCT VOL. 10,327 GALS

**19 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS

(b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES)

DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.

(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)}$ = $\frac{\times 0.036}{}$ = _____ INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**20 PRELIM TEST DATA**

(a) START TEMP CHECK 1305 AM/PM. (d) A.P.I. GRAVITY 25.8 AT 67 °F

(b) END TEMP CHECK 1700 AM/PM (e) A.P.I. GRAVITY 25.3 AT 60°F

(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .000427 39

**21 TEST DATA**

(a) START TEST 16.00 AM/PM END TEST 17.00 AM/PM: TEST TIME = 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1600 | 65.4121 | 67.7444 | 68.1455 | 67.3760 | | | | | |
| 1605 | 65.5031 | 67.7409 | 68.1422 | 67.3701 | | | | | |
| 1610 | 65.5132 | 67.7423 | 68.1464 | 67.3746 | | | | | |
| 1615 | 65.5011 | 67.7344 | 68.1463 | 67.3725 | | | | | |
| 1620 | 65.4104 | 67.7382 | 68.1491 | 67.3721 | | | | | |
| 1625 | 65.4146 | 67.7403 | 68.2057 | 67.3773 | | | | | |
| 1630 | 65.4143 | 67.7418 | 68.2044 | 67.3777 | | | | | |
| 1635 | 65.4134 | 67.7407 | 68.2043 | 67.3774 | | | | | |
| 1640 | 65.4127 | 67.7403 | 68.2044 | 67.3776 | | | | | |
| 1645 | 65.4105 | 67.7352 | 68.2044 | 67.3750 | | | | | |
| 1650 | 65.4149 | 67.7424 | 68.2042 | 67.3787 | | | | | |
| 1655 | 65.4094 | 67.7366 | 68.2045 | 67.3726 | | | | | |
| 1700 | 65.4111 | 67.7345 | 68.2033 | 67.3730 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = 3730 − 13760 = +10.005 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.

= 10,327 (18d) × .005 (21b) × .000427 39 (20) = +10.0132 GALS.

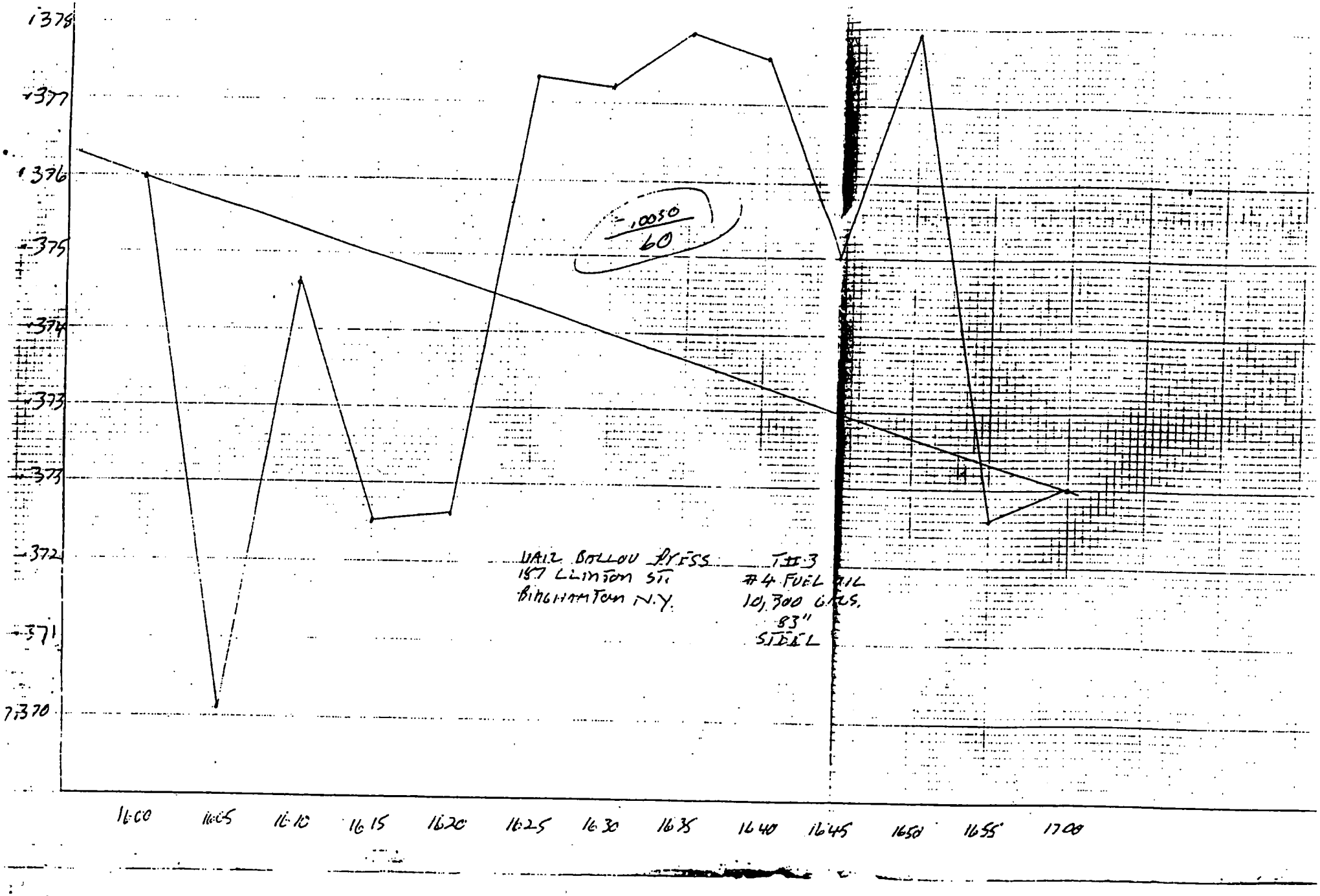
(d) TOTAL LIQUID VOL (ADDED) SUBTRACTED AT END OF TEST ..... = 31-.140 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = .013 + .140 = 41-.127 GALS.

(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}}$ = $\frac{.127 \times 60}{60}$ (21a) = .127 G.P.H.

THIS LEAK RATE, DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☐ / THE TANK IS NOT TIGHT ☒


1378
377
1376
375
374
373
372
371
1370
1050
60
VAIL BALLOU PRESS
157 CLINTON ST.
BINGHAMTON N.Y.
T-113
#4 FUEL OIL
10,300 GALS.
83"
STEEL
16:00
16:05
16:10
16:15
16:20
16:25
16:30
16:35
16:40
16:45
16:50
16:55
17:00

IME 19:13:05
H1 65.7434 DEG F
H2 67.6923 DEG F
H3 68.0791 DEG F
VG 67.3019 DEG F

IME 19:13:10
H1 65.7980 DEG F
H2 67.7406 DEG F
H3 68.1313 DEG F
VG 67.3538 DEG F

IME 19:13:15
H1 65.8148 DEG F
H2 67.7535 DEG F
H3 68.1526 DEG F
VG 67.3700 DEG F

ME 19:13:20
H1 65.8148 DEG F
H2 67.7521 DEG F
H3 68.1525 DEG F
VG 67.3684 DEG F

ME 19:13:25
H1 65.8208 DEG F
H2 67.7565 DEG F
H3 68.1638 DEG F
VG 67.3755 DEG F

ME 19:13:30
1 65.8148 DEG F
2 67.7505 DEG F
3 68.1582 DEG F
G 67.3691 DEG F

ME 19:13:35
1 65.8162 DEG F
2 67.7501 DEG F
3 68.1602 DEG F
G 67.3709 DEG F

ME 19:13:40
1 65.8229 DEG F
2 67.7594 DEG F
3 68.1693 DEG F
G 67.3795 DEG F

ME 19:13:45
1 65.8215 DEG F
2 67.7573 DEG F
3 68.1699 DEG F
G 67.3774 DEG F

TIME 19:14:35
CH1 65.8135 DEG F
CH2 67.7565 DEG F
CH3 68.1769 DEG F
AVG 67.3772 DEG F

TIME 19:14:40
CH1 65.8203 DEG F
CH2 67.7609 DEG F
CH3 68.1848 DEG F
AVG 67.3830 DEG F

TIME 19:14:45
CH1 65.8134 DEG F
CH2 67.7503 DEG F
CH3 68.1773 DEG F
AVG 67.3742 DEG F

TIME 19:14:50
CH1 65.8158 DEG F
CH2 67.7509 DEG F
CH3 68.1798 DEG F
AVG 67.3770 DEG F

TIME 19:14:55
CH1 65.8188 DEG F
CH2 67.7554 DEG F
CH3 68.1842 DEG F
AVG 67.3805 DEG F

TIME 19:15:00
CH1 65.8187 DEG F
CH2 67.7570 DEG F
CH3 68.1884 DEG F
AVG 67.3788 DEG F

TIME 19:15:05
CH1 65.8192 DEG F
CH2 67.7566 DEG F
CH3 68.1881 DEG F
AVG 67.3825 DEG F

TIME 19:15:10
CH1 65.8119 DEG F
CH2 67.7517 DEG F
CH3 68.1860 DEG F
AVG 67.3768 DEG F

TIME 19:15:15
CH1 65.8166 DEG F
CH2 67.7532 DEG F
CH3 68.1890 DEG F
AVG 67.3796 DEG F

TIME 19:15:20
CH1 65.8147 DEG F
CH2 67.7492 DEG F
CH3 68.1876 DEG F
AVG 67.3769 DEG F

TIME 19:15:25
CH1 65.8132 DEG F
CH2 67.7489 DEG F
CH3 68.1896 DEG F
AVG 67.3759 DEG F

TIME 19:15:30
CH1 65.8116 DEG F
CH2 67.7465 DEG F
CH3 68.1876 DEG F
AVG 67.3764 DEG F

TIME 19:15:35
CH1 65.8171 DEG F
CH2 67.7502 DEG F
CH3 68.1944 DEG F
AVG 67.3794 DEG F

TIME 19:15:40
CH1 65.8103 DEG F
CH2 67.7450 DEG F
CH3 68.1898 DEG F
AVG 67.3750 DEG F

TIME 19:15:45
CH1 65.8113 DEG F
CH2 67.7460 DEG F
CH3 68.1928 DEG F
AVG 67.3736 DEG F

TIME 19:15:50
CH1 65.8111 DEG F
CH2 67.7431 DEG F
CH3 68.1922 DEG F
AVG 67.3750 DEG F

TIME 19:15:55
CH1 65.8068 DEG F
CH2 67.7402 DEG F
CH3 68.1894 DEG F
AVG 67.3713 DEG F

TIME 19:16:00
CH1 65.8126 DEG F
CH2 67.7444 DEG F
CH3 68.1958 DEG F
AVG 67.3760 DEG F

TIME 19:16:05
CH1 65.8096 DEG F
CH2 67.7409 DEG F
CH3 68.1922 DEG F
AVG 67.3701 DEG F

TIME 19:16:10
CH1 65.8132 DEG F
CH2 67.7427 DEG F
CH3 68.1969 DEG F
AVG 67.3746 DEG F

TIME 19:16:15
CH1 65.8116 DEG F
CH2 67.7394 DEG F
CH3 68.1963 DEG F
AVG 67.3725 DEG F

TIME 19:16:20
CH1 65.8104 DEG F
CH2 67.7386 DEG F
CH3 68.1991 DEG F
AVG 67.3726 DEG F

TIME 19:16:25
CH1 65.8146 DEG F
CH2 67.7430 DEG F
CH3 68.2057 DEG F
AVG 67.3773 DEG F

TIME 19:16:30
CH1 65.8143 DEG F
CH2 67.7418 DEG F
CH3 68.2049 DEG F
AVG 67.3772 DEG F

TIME 19:16:35
CH1 65.8139 DEG F
CH2 67.7407 DEG F
CH3 68.2043 DEG F
AVG 67.3779 DEG F

TIME 19:16:40
CH1 65.8127 DEG F
CH2 67.7403 DEG F
CH3 68.2049 DEG F
AVG 67.3776 DEG F

TIME 19:16:45
CH1 65.8105 DEG F
CH2 67.7382 DEG F
CH3 68.2044 DEG F
AVG 67.3750 DEG F

TIME 19:13:50
CH1 65.8211 DEG F
CH2 67.7560 DEG F
CH3 68.1687 DEG F
AVG 67.3792 DEG F

TIME 19:13:55
CH1 65.8144 DEG F
CH2 67.7541 DEG F
CH3 68.1661 DEG F
AVG 67.3739 DEG F

TIME 19:14:00
CH1 65.8182 DEG F
CH2 67.7585 DEG F
CH3 68.1725 DEG F
AVG 67.3786 DEG F

TIME 19:14:05
CH1 65.8205 DEG F
CH2 67.7562 DEG F
CH3 68.1772 DEG F
AVG 67.3780 DEG F

TIME 19:14:15
CH1 65.8169 DEG F
CH2 67.7566 DEG F
CH3 68.1771 DEG F
AVG 67.3782 DEG F

TIME 19:14:20
CH1 65.8178 DEG F
CH2 67.7570 DEG F
CH3 68.1788 DEG F
AVG 67.3789 DEG F

TIME 19:14:25
CH1 65.8130 DEG F
CH2 67.7529 DEG F
CH3 68.1755 DEG F
AVG 67.3746 DEG F

TIME 19:14:30
CH1 65.8191 DEG F
CH2 67.7577 DEG F
CH3 68.1792 DEG F
AVG 67.3797 DEG F

TIME 19:16:50
CH1 65.8149 DEG F
CH2 67.7424 DEG F
CH3 68.2094 DEG F
AVG 67.3779 DEG F

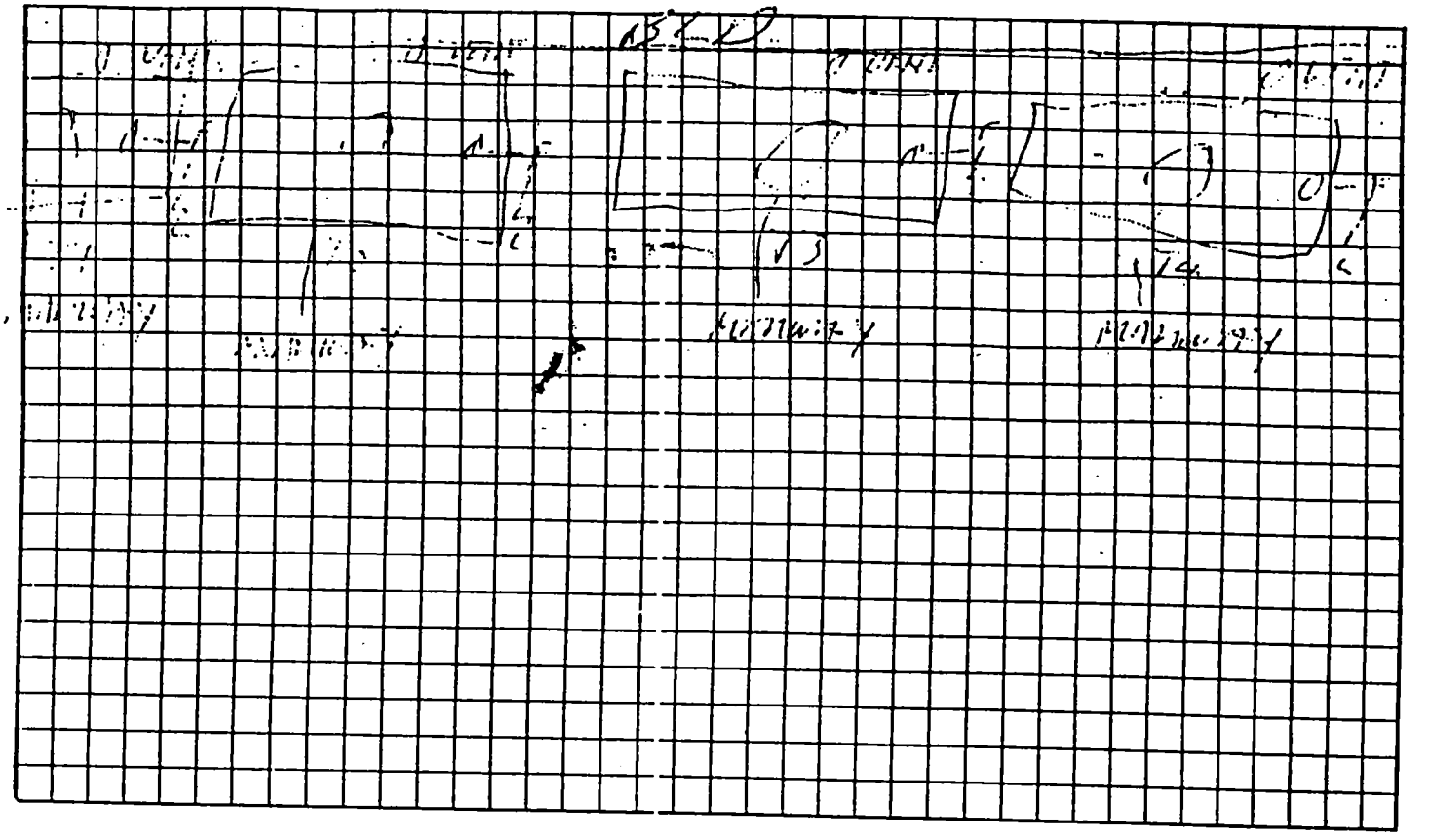
TIME 19:16:55
CH1 65.8099 DEG F
CH2 67.7366 DEG F
CH3 68.2048 DEG F
AVG 67.3726 DEG F

TIME 19:17:00
CH1 65.8111 DEG F
CH2 67.7345 DEG F
CH3 68.2038 DEG F
AVG 67.3730 DEG F

Tape 3

# TEST SITE LAYOUT

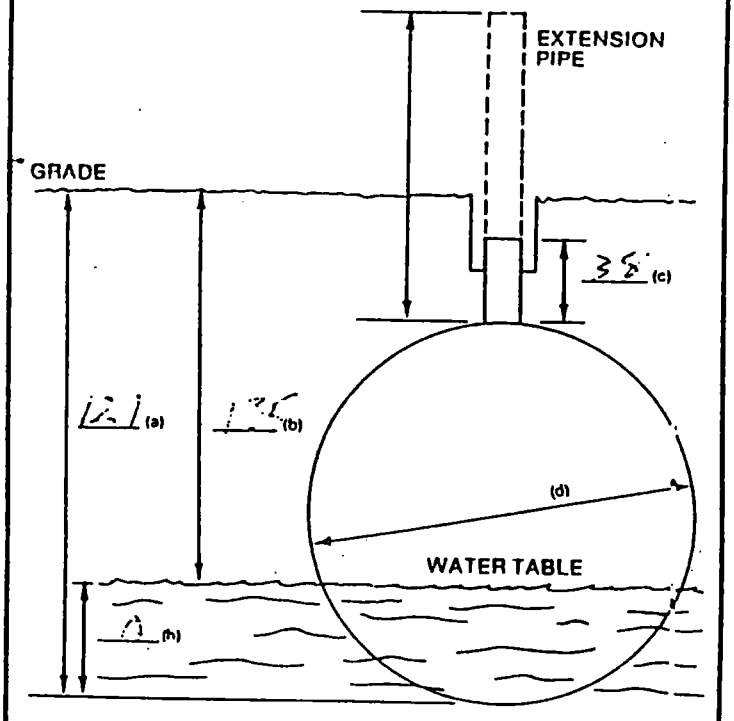
22



TEST COMPANY

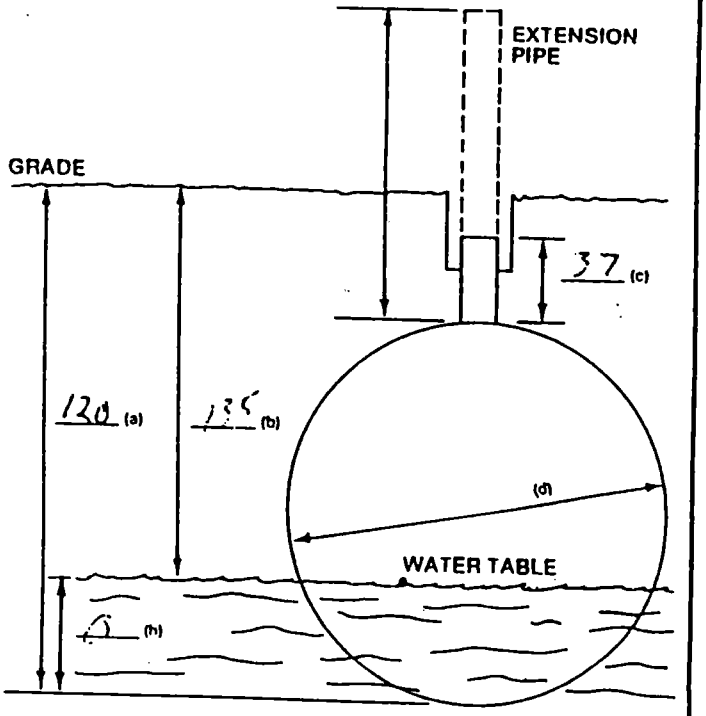
23

## TEST 1: TANK DIMENSIONS




TANK IDENT. T1T002

## TEST 2: TANK DIMENSIONS



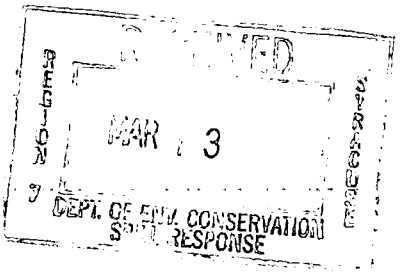

TANK IDENT. T1T003

ADDRESS

**TRI-STATE TANK SERVICE**

**LUZON OIL CO., INC.**

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805




Novmeber 29, 1989

Vail Ballou Press
187 Clinton Street
Bighamton, New York 13902

Attention: Bob Kalka

Re: Underground tank testing, as per 6NYCRR 613.5(a).

The National Fire Protection Association's criteria for a tight tank system is a system with a rate of leak less than +/- .050 gal/hr. for tank systems 12,500 gallons or less. These are calculated, mathematical tolerances only and are not meant to indicate the permission of any leak.

Criteria for tightness test [6NYCRR 613.5(a)(6)] "A tightness test is a test acceptable to the department which will determine if a tank and piping system is tight or not tight. The test must be capable of detecting a tank or piping leak as small as five hundredths (.05) of a gallon in one hour accounting for variables such as vapor pockets, thermal expansion of product, temperature stratification, groundwater level, evaporation, pressure and end deflection."

During the ***Ainley Tank 'Tegrity Test*** propane gas bubbles are introduced one (1) inch below the product level through a 1/4" tube. The pressure required to introduce bubbles varies with changes in product level, and is related to volume changes. Pressure changes are measured by a manometer type coil (slope tube). A slight liquid level change in the tank is exaggerated approximately fifty (50) times when transmitted from bubble tube to slope tube.

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805


Facility: Vail Ballou Press
187 Clinton Street
Bighamton, N.Y.

OLD PBS #: 182230

Tank #s: #001 - 10,300 gallon #003 - 10,300 gallon

Boths tank isolated prior to testing.

Re-Test Date: 11-22-89

Tank system #003 showed a rate of leak of +.043 gallons per hour. Tank system tested tight.

Re-Test Date: 11-27-89

Tank system #001 showed a rate of leak of -.037 gallons per hour. Tank system tested tight.

Enclosed are two (2) copies of this report and the test data. One is for your records and the other is to be sent to New York State D.E.C.

If you have any questions or need additional information, please contact me.

Very truly yours,

Robert B. Halprin

Robert B. Halprin,
Luzon Oil Co., Inc.

/enclosures

RBH:amd
A:VAILBAL2.WPS

SOILTEST

# AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

**1 TANK OPERATOR**

NAME: Vail Ballou Press ADDRESS: Clinton St. Binghamton N.Y. PHONE:

**2 TANKS TO BE TESTED**

| IDENTIFICATION | CAPACITY—GALS. | MANUFACTURER | STEEL/FIBRGLS. | AGE—YRS. |
|---|---|---|---|---|
| TA 3 | 10000 | — | STEEL | ? |
| TA 1 | 10000 | — | STEEL | ? |

**3 WATER TABLE**

DISTANCE FROM GRADE TO WATER 125 INS.

**4 TANK FILL-UP**

TANK WILL BE FILLED 2PM (TIME) ON 11/21/59
EXTRA 5 GALS PRODUCT AVAILABLE FROM Tri-State Tank
FILL UP TO BE ARRANGED BY MR. Vail Ballou Press PHONE ( )
CONTACT AT STORAGE TERMINAL IS MR. PHONE ( )
TA 1 Filled 11-22-59 am

**5 OUTSIDE CONTRACTORS**

NAME ADDRESS PHONE

**6 OFFICIALS TO BE CONTACTED**

NAME AUTHORITY PHONE

**7 SPECIAL NOTES OR PRECAUTIONS**

RE-TEST ISOLATED BOTH TANKS.

**8 TEST RESULTS**

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

| TANK IDENT | TANK IS TIGHT | TANK IS NOT TIGHT | LEAK RATE G. P. H. | TEST DATE |
|---|---|---|---|---|
| TA 3 | X | | .043 | 11-22-59 |
| TA 1 | X | | .037 | 11-27-59 |

**9 CERTIFICATION**

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED [signature] CERTIFICATE NO. 1315
ISSUE DATE 12-13-59
FOR (TEST COMPANY)
ADDRESS
STATE

ST-4 (REV. 2/57)

# AINLAY TANK TIGHTNESS TEST No. 7711

JOB Unleaded Mass DATE 11/27/89
ADDRESS Lexington St Burlington MA
TESTER David Morgan TEST COMPANY Tri-State Tank Tightness

**16 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 83 INS FILL PIPE LENGTH 34 INS

**17 WATER IN TANK**

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

**18 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,000 GALS (c) DEDUCT WATER IN TANK +0 GALS
(b) ACTUAL CAPACITY 10,322 GALS (d) TOTAL PRODUCT VOL. 10,322 GALS
(FROM TANK CHART)

13P-ART T5C723

**19 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = .831 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .831 = 0

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**20 PRELIM TEST DATA**

(a) START TEMP CHECK 9:35 AM/PM (d) A.P.I. GRAVITY 25.5 AT 47 °F
(b) END TEMP CHECK 13:00 AM/PM (e) A.P.I. GRAVITY 26.4 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED ½ HRS (f) COEFF. OF EXPANSION .00043129

**21 TEST DATA**

(a) START TEST _____ AM/PM: END TEST _____ AM/PM: TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1200 | 472705 | 471266 | 470223 | 471427 | | | | | |
| 1205 | 472495 | 471305 | 470251 | 471457 | | | | | |
| 1210 | 472594 | 471315 | 470255 | 471545 | | | | | |
| 1215 | 473105 | 471322 | 470214 | 471516 | | | | | |
| 1220 | 473207 | 471323 | 470249 | 471542 | | | | | |
| 1225 | 473335 | 471344 | 470307 | 471607 | | | | | |
| 1230 | 473367 | 471341 | 470271 | 471604 | | | | | |
| 1235 | 473475 | 471346 | 470306 | 471650 | | | | | |
| 1240 | 473561 | 471395 | 470344 | 471685 | | | | | |
| 1245 | 473546 | 471398 | 470319 | 471703 | | | | | |
| 1250 | 473727 | 471423 | 470339 | 471741 | | | | | |
| 1255 | 473749 | 471466 | 470513 | 471754 | | | | | |
| 1300 | 473685 | 471460 | 470324 | 471773 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG. TEMP. _____ - START TEMP.) = 1273 - 1427 = (1) -.0344 °F

(c) VOL. CHANGE DUE TO TEMP. = PRODUCT VOL. x TEMP. CHANGE x COEFF. EXP.
= 10,322 (18d) x -.0344 (21b) x .00043129 (20f) = (1) -.153 GALS

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = +10.190 GALS

(e) VOL. CHANGE NOT DUE TO TEMP (c) + (d) ..... = +.153 + -.190 = +10.037 GALS

(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = -.037 x 60 / 60 (21a) = -.037 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC. BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

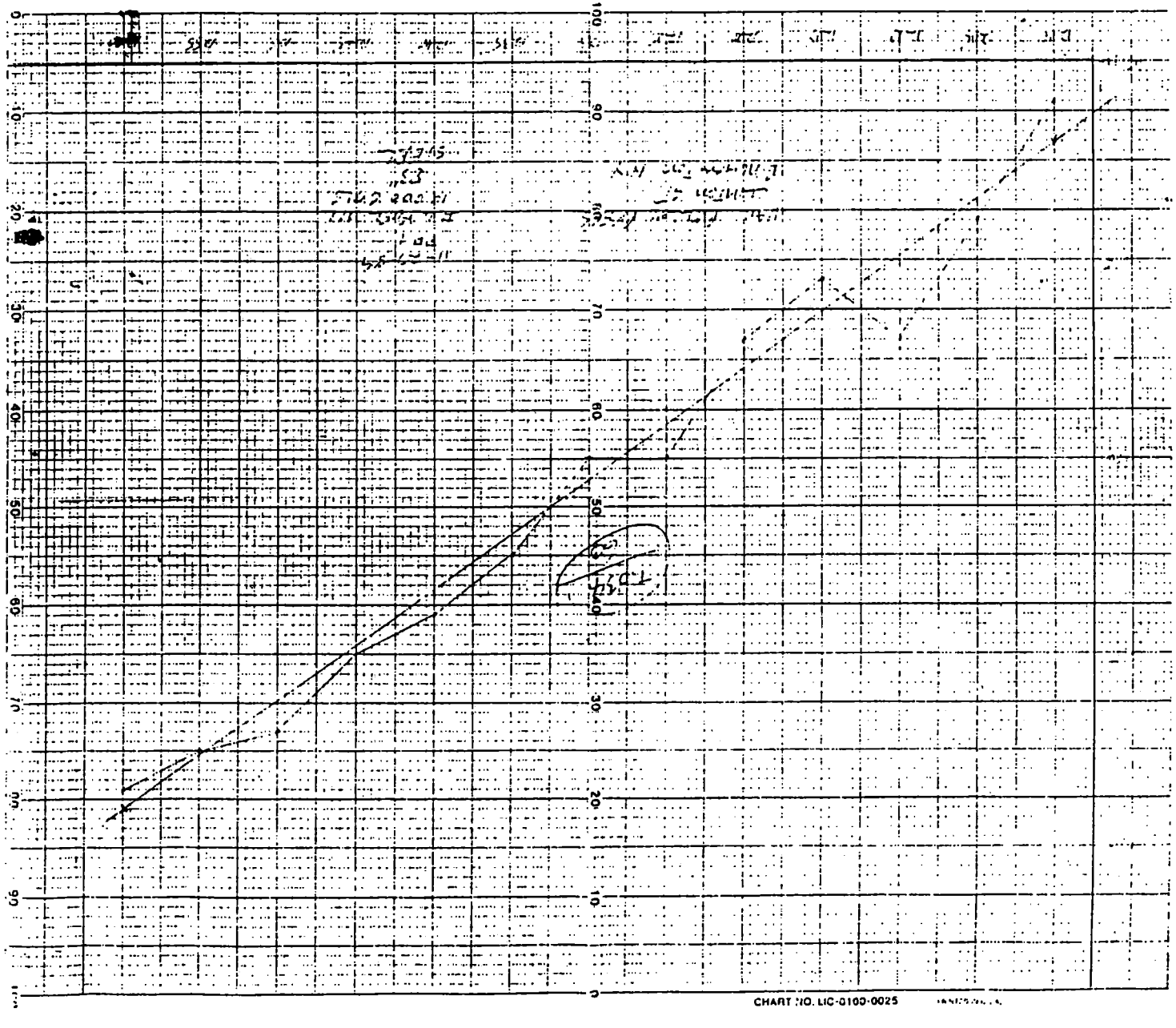


CHART NO. LIC-0100-0025

```
TIME 27:09:35
CH1   47.2317 DE; F
CH2   47.2801 DE; F
CH3   47.0092 DE; F
AVG   47.2023 DE; F

TIME 27:09:40
CH1   47.1788 DE; F
CH2   47.1621 DE; F
CH3   46.9878 DE; F
AVG   47.1231 DE; F

TIME 27:09:45
CH1   47.1732 DE; F
CH2   47.1519 DE; F
CH3   46.9847 DE; F
AVG   47.1176 DE; F

TIME 27:09:50
CH1   47.1863 DE; F
CH2   47.1641 DE; F
CH3   46.9998 DE; F
AVG   47.1298 DE; F

TIME 27:09:55
CH1   47.1982 DE; F
CH2   47.1730 DE; F
CH3   47.0136 DE; F
AVG   47.1408 DE; F

TIME 27:10:00
CH1   47.1717 DE; F
CH2   47.1207 DE; F
CH3   46.9733 DE; F
AVG   47.0976 DE; F

TIME 27:10:05
CH1   47.1686 DE; F
CH2   47.1167 DE; F
CH3   46.9636 DE; F
AVG   47.0944 DE; F

TIME 27:10:10
CH1   47.1700 DE; F
CH2   47.1188 DE; F
CH3   46.9703 DE; F
AVG   47.0969 DE; F

TIME 27:10:15
CH1   47.1700 DE; F
CH2   47.1204 DE; F
CH3   46.9736 DE; F
AVG   47.0993 DE; F

TIME 27:10:20
CH1   47.1695 DE; F
CH2   47.1226 DE; F
CH3   46.9763 DE; F
AVG   47.1007 DE; F

TIME 27:10:25
CH1   47.1714 DE; F
CH2   47.1291 DE; F
CH3   46.9841 DE; F
AVG   47.1054 DE; F

TIME 27:10:30
CH1   47.1709 DE; F
CH2   47.1296 DE; F
CH3   46.9853 DE; F
AVG   47.1062 DE; F

TIME 27:10:35
CH1   47.1658 DE; F
CH2   47.1189 DE; F
CH3   46.9807 DE; F
AVG   47.0980 DE; F

TIME 27:10:40
CH1   47.1730 DE; F
CH2   47.1280 DE; F
CH3   46.9924 DE; F
AVG   47.1068 DE; F

TIME 27:10:45
CH1   47.1727 DE; F
CH2   47.1359 DE; F
CH3   46.9917 DE; F
AVG   47.1070 DE; F

TIME 27:10:50
CH1   47.1769 DE; F
CH2   47.1274 DE; F
CH3   46.9980 DE; F
AVG   47.1084 DE; F

TIME 27:10:55
CH1   47.1790 DE; F
CH2   47.1244 DE; F
CH3   46.9970 DE; F
AVG   47.1074 DE; F

TIME 27:11:00
CH1   47.1819 DE; F
CH2   47.1235 DE; F
CH3   47.0000 DE; F
AVG   47.1081 DE; F

TIME 27:11:05
CH1   47.1937 DE; F
CH2   47.1271 DE; F
CH3   47.0056 DE; F
AVG   47.1155 DE; F

TIME 27:11:10
CH1   47.2003 DE; F
CH2   47.1262 DE; F
CH3   47.0084 DE; F
AVG   47.1160 DE; F

TIME 27:11:15
CH1   47.2105 DE; F
CH2   47.1261 DE; F
CH3   47.0094 DE; F
AVG   47.1191 DE; F

TIME 27:11:20
CH1   47.2185 DE; F
CH2   47.1251 DE; F
CH3   47.0068 DE; F
AVG   47.1193 DE; F

TIME 27:11:25
CH1   47.2282 DE; F
CH2   47.1242 DE; F
CH3   47.0086 DE; F
AVG   47.1234 DE; F

TIME 27:11:30
CH1   47.2338 DE; F
CH2   47.1250 DE; F
CH3   47.0079 DE; F
AVG   47.1248 DE; F

TIME 27:11:35
CH1   47.2466 DE; F
CH2   47.1295 DE; F
CH3   47.0137 DE; F
AVG   47.1312 DE; F

TIME 27:11:40
CH1   47.2532 DE; F
CH2   47.1240 DE; F
CH3   47.0154 DE; F
AVG   47.1303 DE; F

TIME 27:11:45
CH1   47.2617 DE; F
CH2   47.1242 DE; F
CH3   47.0141 DE; F
AVG   47.1320 DE; F

TIME 27:11:50
CH1   47.2726 DE; F
CH2   47.1259 DE; F
CH3   47.0178 DE; F
AVG   47.1372 DE; F

TIME 27:11:55
CH1   47.2753 DE; F
CH2   47.1226 DE; F
CH3   47.0193 DE; F
AVG   47.1355 DE; F

TIME 27:12:00
CH1   47.2908 DE; F
CH2   47.1266 DE; F
CH3   47.0223 DE; F
AVG   47.1429 DE; F

TIME 27:12:05
CH1   47.2983 DE; F
CH2   47.1305 DE; F
CH3   47.0251 DE; F
AVG   47.1489 DE; F

TIME 27:12:10
CH1   47.3094 DE; F
CH2   47.1368 DE; F
CH3   47.0285 DE; F
AVG   47.1548 DE; F

TIME 27:12:15
CH1   47.3105 DE; F
CH2   47.1322 DE; F
CH3   47.0214 DE; F
AVG   47.1516 DE; F

TIME 27:12:20
CH1   47.3201 DE; F
CH2   47.1323 DE; F
CH3   47.0289 DE; F
AVG   47.1542 DE; F

TIME 27:12:25
CH1   47.3335 DE; F
CH2   47.1344 DE; F
CH3   47.0307 DE; F
AVG   47.1607 DE; F

TIME 27:12:30
CH1   47.3367 DE; F
CH2   47.1346 DE; F
CH3   47.0271 DE; F
AVG   47.1604 DE; F

TIME 27:12:35
CH1   47.3475 DE; F
CH2   47.1396 DE; F
CH3   47.0306 DE; F
AVG   47.1650 DE; F

TIME 27:12:40
CH1   47.3561 DE; F
CH2   47.1395 DE; F
CH3   47.0298 DE; F
AVG   47.1688 DE; F

TIME 27:12:45
CH1   47.3646 DE; F
CH2   47.1389 DE; F
CH3   47.0319 DE; F
AVG   47.1703 DE; F

TIME 27:12:50
CH1   47.3727 DE; F
CH2   47.1423 DE; F
CH3   47.0338 DE; F
AVG   47.1741 DE; F

TIME 27:12:55
CH1   47.3799 DE; F
CH2   47.1400 DE; F
CH3   47.0313 DE; F
AVG   47.1754 DE; F

TIME 27:13:00
CH1   47.3885 DE; F
CH2   47.1400 DE; F
CH3   47.0328 DE; F
AVG   47.1773 DE; F
```

# AINLAY TANK TIGHTNESS TEST No. 17-3

**10 TANK I.D.**

INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 63 INS FILL PIPE LENGTH 33 INS

**11 WATER IN TANK**

(a) START WATER IN TANK 1 INS (c) END WATER IN TANK 1 INS
(b) START WATER IN TANK 2.3 GALS (d) END WATER IN TANK 2.3 GALS

**12 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10000 GALS (c) DEDUCT WATER IN TANK -2.3 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 16,322 GALS (d) TOTAL PRODUCT VOL. 16,319.7 GALS

TOP-OFF +3 GALS

**13 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .031 = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**14 PRELIM TEST DATA**

(a) START TEMP CHECK 11:30 (AM)/PM (d) A.P.I. GRAVITY 25.1 AT 49 °F
(b) END TEMP CHECK 15:00 AM/(PM) (e) A.P.I. GRAVITY 25.1 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .0004284

**15 TEST DATA**

(a) START TEST 14 00 AM/(PM) END TEST 15 00 AM/(PM) TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 14 00 | 54243 | 54247 | 54336 | 54246 | | | | | |
| 14 05 | 54241 | 54245 | 54338 | 54236 | | | | | |
| 14 10 | 54242 | 54247 | 54342 | 54246 | | | | | |
| 14 15 | 54244 | 54242 | 54341 | 54240 | | | | | |
| 14 20 | 54241 | 54244 | 54343 | 54258 | | | | | |
| 14 25 | 54245 | 54246 | 54345 | 54256 | | | | | |
| 14 30 | 54241 | 54241 | 54345 | 54235 | | | | | |
| 14 35 | 54252 | 54247 | 54339 | 54252 | | | | | |
| 14 41 | 54243 | 54243 | 54354 | 54322 | | | | | |
| 14 45 | 54247 | 54245 | 54347 | 54321 | | | | | |
| 14 50 | 54236 | 54246 | 54347 | 54253 | | | | | |
| 14 55 | 54252 | 54252 | 54355 | 54251 | | | | | |
| 15 00 | 54243 | 54242 | 54346 | 54239 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = 14339 − 14246 = 01-.093°F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL. x TEMP. CHANGE x COEFF. EXP.
= 16,319.7 (12d) x .093 (15b) x .0004284 (14f) = 01-.041 GALS.

(d) TOTAL LIQUID VOL ADDED/SUBTRACTED AT END OF TEST ..... = 01-.002 GALS.

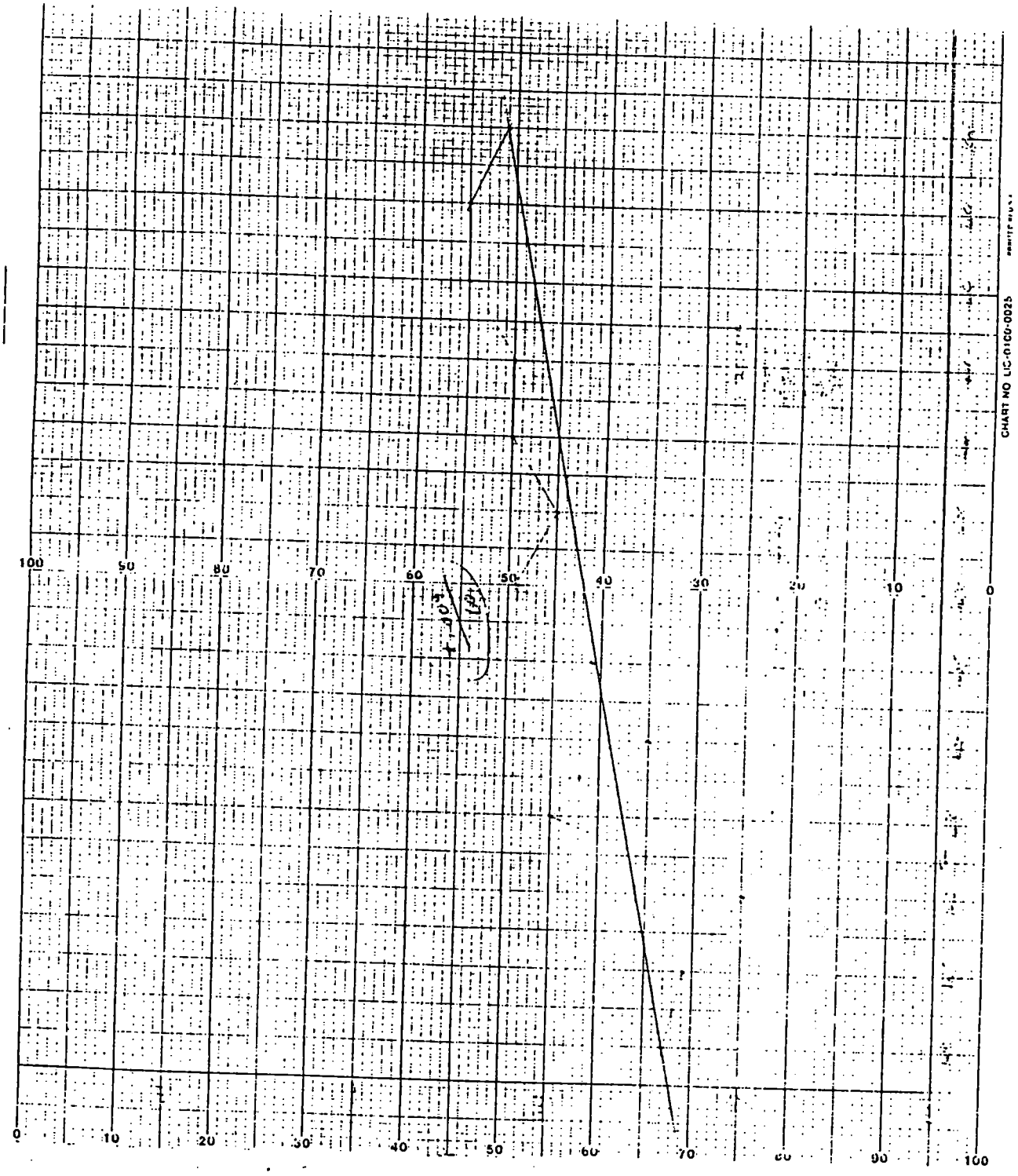
(e) VOL. CHANGE NOT DUE TO TEMP ((c) + (d)) ..... = +.041 + .002 = 01-.043 GALS.

(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = +.043 x 60 / 60 (15a) = +.043 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

JOB [illegible] DATE 11/22/93
ADDRESS [illegible] TESTER [illegible]
TEST COMPANY [illegible]


100
90
80
70
60
50
40
30
20
10
0
0
10
20
30
40
50
60
70
80
90
100
CHART NO LIC-0100-0025

```
TIME 22:11:30
CH1    50.4301 DE; F
CH2    50.4422 DE; F
CH3    50.3781 DE; F
AVG    50.4374 DE; F

TIME 22:11:35
CH1    50.5459 DE; F
CH2    50.5182 DE; F
CH3    50.3723 DE; F
AVG    50.4903 DE; F

TIME 22:11:40
CH1    50.5381 DE; F
CH2    50.4933 DE; F
CH3    50.3527 DE; F
AVG    50.4693 DE; F

TIME 22:11:45
CH1    50.4300 DE; F
CH2    50.4420 DE; F
CH3    50.3033 DE; F
AVG    50.4196 DE; F

TIME 22:11:50
CH1    50.4271 DE; F
CH2    50.4370 DE; F
CH3    50.3017 DE; F
AVG    50.4155 DE; F

TIME 22:11:55
CH1    50.4747 DE; F
CH2    50.4317 DE; F
CH3    50.2994 DE; F
AVG    50.4106 DE; F

TIME 22:12:00
CH1    50.4633 DE; F
CH2    50.4243 DE; F
CH3    50.2946 DE; F
AVG    50.4319 DE; F

TIME 22:12:05
CH1    50.4593 DE; F
CH2    50.4241 DE; F
CH3    50.2929 DE; F
AVG    50.4034 DE; F

TIME 22:12:10
CH1    50.4683 DE; F
CH2    50.4330 DE; F
CH3    50.3026 DE; F
AVG    50.4100 DE; F

TIME 22:12:15
CH1    50.4647 DE; F
CH2    50.4350 DE; F
CH3    50.3038 DE; F
AVG    50.4091 DE; F

TIME 22:12:20
CH1    50.4615 DE; F
CH2    50.4335 DE; F
CH3    50.3013 DE; F
AVG    50.4030 DE; F

TIME 22:12:25
CH1    50.4682 DE; F
CH2    50.4365 DE; F
CH3    50.3069 DE; F
AVG    50.4150 DE; F

TIME 22:12:30
CH1    50.4739 DE; F
CH2    50.4423 DE; F
CH3    50.3143 DE; F
AVG    50.4193 DE; F

TIME 22:12:35
CH1    50.4657 DE; F
CH2    50.4319 DE; F
CH3    50.3076 DE; F
AVG    50.4112 DE; F

TIME 22:12:40
CH1    50.4667 DE; F
CH2    50.4319 DE; F
CH3    50.3085 DE; F
AVG    50.4116 DE; F

TIME 22:12:45
CH1    50.4730 DE; F
CH2    50.4410 DE; F
CH3    50.3142 DE; F
AVG    50.4132 DE; F

TIME 22:12:50
CH1    50.4656 DE; F
CH2    50.4336 DE; F
CH3    50.3095 DE; F
AVG    50.4114 DE; F

TIME 22:12:55
CH1    50.4734 DE; F
CH2    50.4335 DE; F
CH3    50.3194 DE; F
AVG    50.4194 DE; F

TIME 22:13:00
CH1    50.4649 DE; F
CH2    50.4334 DE; F
CH3    50.3110 DE; F
AVG    50.4123 DE; F

TIME 22:13:05
CH1    50.4700 DE; F
CH2    50.4388 DE; F
CH3    50.3190 DE; F
AVG    50.4191 DE; F

TIME 22:13:10
CH1    50.4678 DE; F
CH2    50.4368 DE; F
CH3    50.3185 DE; F
AVG    50.4163 DE; F

TIME 22:13:15
CH1    50.4708 DE; F
CH2    50.4403 DE; F
CH3    50.3246 DE; F
AVG    50.4212 DE; F

TIME 22:13:20
CH1    50.4703 DE; F
CH2    50.4374 DE; F
CH3    50.3220 DE; F
AVG    50.4176 DE; F

TIME 22:13:25
CH1    50.4700 DE; F
CH2    50.4380 DE; F
CH3    50.3191 DE; F
AVG    50.4176 DE; F

TIME 22:13:30
CH1    50.4703 DE; F
CH2    50.4361 DE; F
CH3    50.3212 DE; F
AVG    50.4177 DE; F

TIME 22:13:35
CH1    50.4719 DE; F
CH2    50.4385 DE; F
CH3    50.3255 DE; F
AVG    50.4218 DE; F

TIME 22:13:40
CH1    50.4649 DE; F
CH2    50.4358 DE; F
CH3    50.3248 DE; F
AVG    50.4176 DE; F

TIME 22:13:45
CH1    50.4687 DE; F
CH2    50.4357 DE; F
CH3    50.3263 DE; F
AVG    50.4181 DE; F

TIME 22:13:50
CH1    50.4730 DE; F
CH2    50.4426 DE; F
CH3    50.3344 DE; F
AVG    50.4238 DE; F

TIME 22:13:55
CH1    50.4743 DE; F
CH2    50.4393 DE; F
CH3    50.3316 DE; F
AVG    50.4221 DE; F

TIME 22:14:00
CH1    50.4743 DE; F
CH2    50.4407 DE; F
CH3    50.3360 DE; F
AVG    50.4262 DE; F

TIME 22:14:05
CH1    50.4741 DE; F
CH2    50.4428 DE; F
CH3    50.3338 DE; F
AVG    50.4236 DE; F

TIME 22:14:10
CH1    50.4704 DE; F
CH2    50.4402 DE; F
CH3    50.3282 DE; F
AVG    50.4206 DE; F

TIME 22:14:15
CH1    50.4774 DE; F
CH2    50.4442 DE; F
CH3    50.3451 DE; F
AVG    50.4307 DE; F

TIME 22:14:20
CH1    50.4736 DE; F
CH2    50.4414 DE; F
CH3    50.3393 DE; F
AVG    50.4258 DE; F

TIME 22:14:25
CH1    50.4788 DE; F
CH2    50.4456 DE; F
CH3    50.3408 DE; F
AVG    50.4236 DE; F

TIME 22:14:30
CH1    50.4819 DE; F
CH2    50.4464 DE; F
CH3    50.3450 DE; F
AVG    50.4328 DE; F

TIME 22:14:35
CH1    50.4782 DE; F
CH2    50.4467 DE; F
CH3    50.3439 DE; F
AVG    50.4302 DE; F

TIME 22:14:41
CH1    50.4797 DE; F
CH2    50.4473 DE; F
CH3    50.3454 DE; F
AVG    50.4322 DE; F*

TIME 22:14:45
CH1    50.4807 DE; F
CH2    50.4488 DE; F
CH3    50.3459 DE; F
AVG    50.4321 DE; F

TIME 22:14:50
CH1    50.4838 DE; F
CH2    50.4516 DE; F
CH3    50.3507 DE; F
AVG    50.4353 DE; F

TIME 22:14:55
CH1    50.4852 DE; F
CH2    50.4517 DE; F
CH3    50.3533 DE; F
AVG    50.4351 DE; F

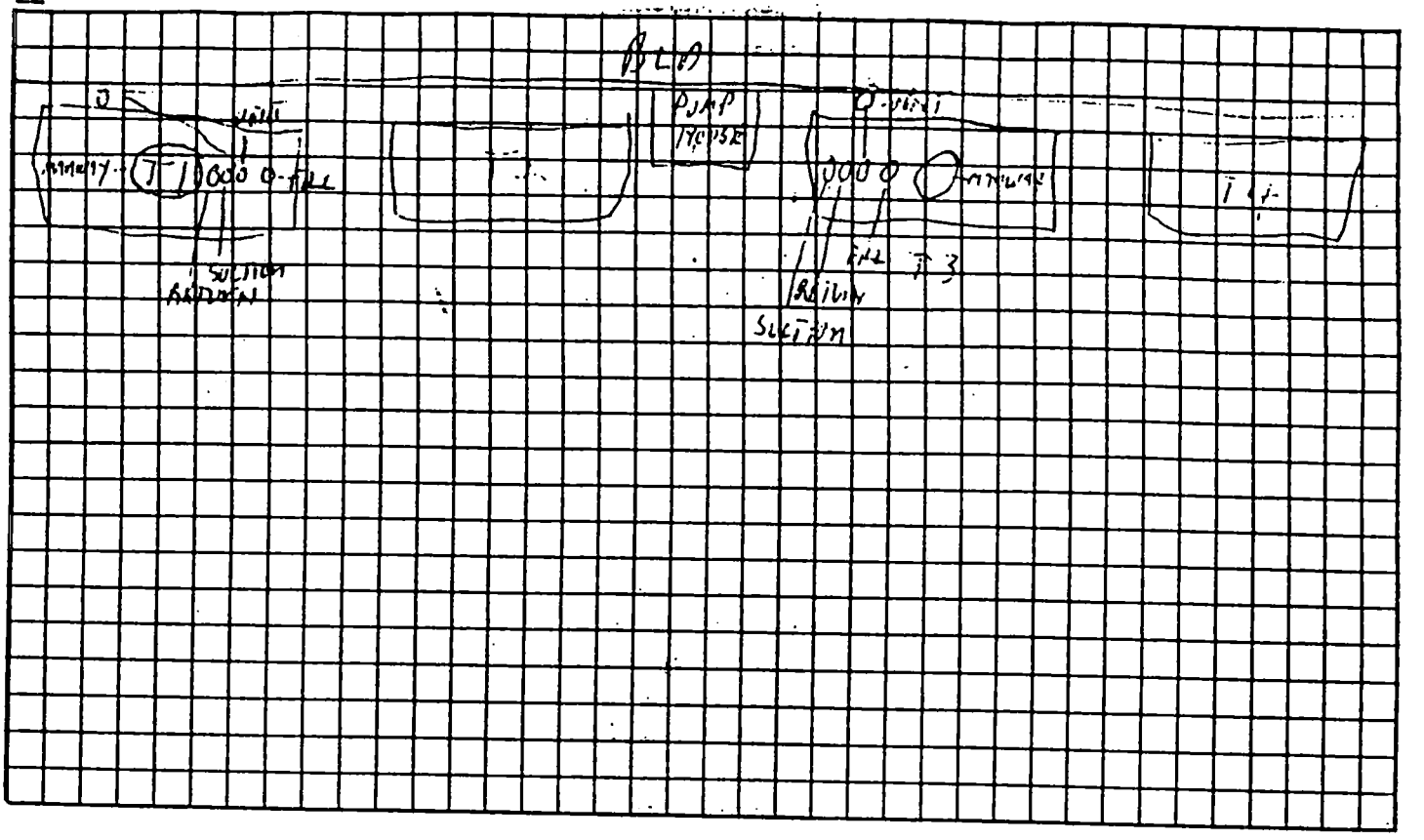
TIME 22:15:00
CH1    50.4853 DE; F
CH2    50.4432 DE; F
CH3    50.3436 DE; F
AVG    50.4339 DE; F*

TIME 22:15:00
CH1    50.4859 DE; F
CH2    50.4479 DE; F
CH3    50.3480 DE; F
AVG    50.4331 DE; F*
```

# TEST SITE LAYOUT

22

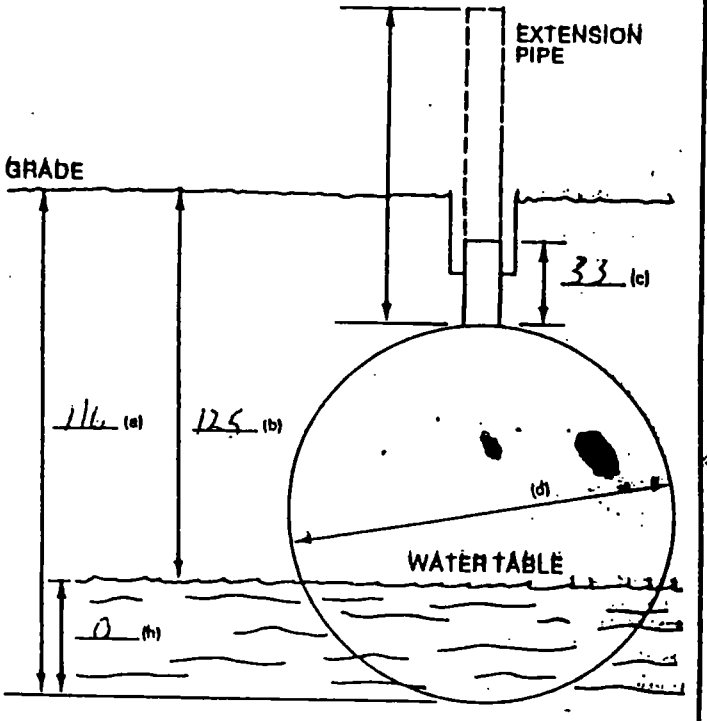
TESTER
TEST COMPANY




23

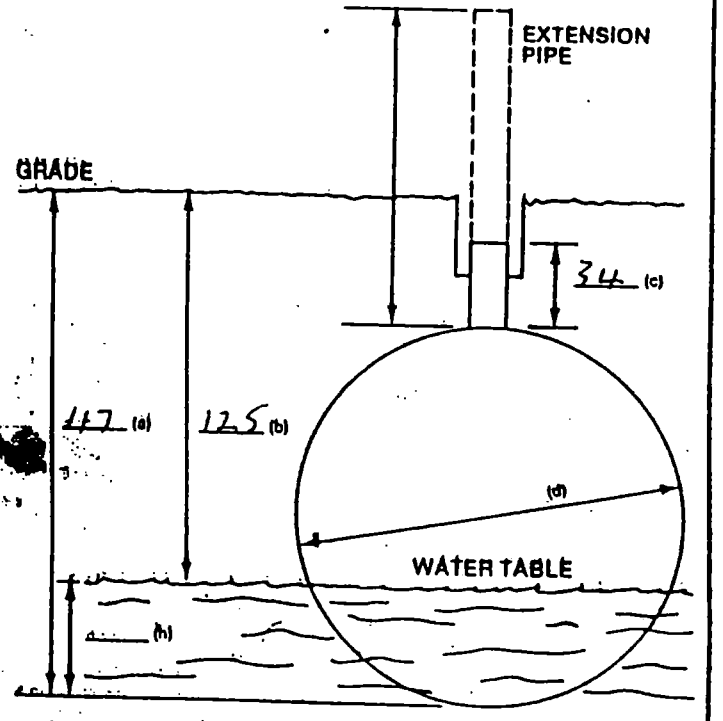
JOB
ADDRESS
DATE

## TEST 1: TANK DIMENSIONS




TANK IDENT. TK 3

## TEST 2: TANK DIMENSIONS

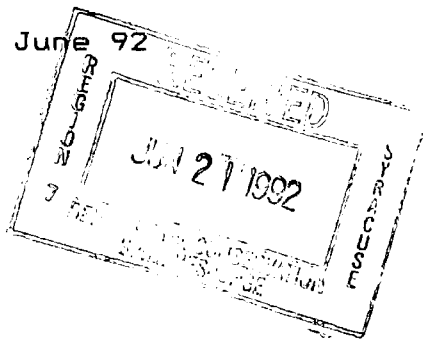



TANK IDENT. TK 1

# THE MAPLE-VAIL BOOK MANUFACTURING GROUP

Vail-Ballou Press, Inc.
Pine Camp Drive
P.O. Box 1005
Binghamton, New York 13902-1005
607-723-7981

19 June 92




N.Y.S.Department of Environmental Conservation
615 Erie Blvd. W
Syracuse, NY 13204

This facility is no longer owned by Maple-Vail Book Manufacturing Group. The new owner is:

Apex Building Products
Grossett Drive
Kirkwood, NY 13795

Charlie Hugunine
Maintenance Superintendent

afr

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Petroleum Bulk Storage Program
Facility Information Report

Printed : 09/04/92

PBS # : 7-182230

Site : VAIL BALLOU PRESS CUNTON ST D
187-195 CLINTON ST
BINGHAMTON, NY 13905

County : BROOME Town : BINGHAMTON (C)
Latitude : N Longitude : W
SPDES# : CBS# :
Site Type : Info Not Given.

Operator : FRANK KEFFER (607) 723-7981
Emergency : ROBERT KALKA (607) 797-7090

Site status : Active
Total Active Tanks : 4
Active Capacity : 41,200 gals.

Reg Expires : 06/30/92
Last Inspection : / /
Cert Printed : 06/30/87

Site Errors : Minor Data Missing
Owner Error : Minor Data Missing
Tank Errors : Minor Data Missing

Owner : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Phone : (717) 764-5911
Owner Type : Corporate/Commercial

Mail : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Att : (717) 764-5911

| TankNo | TankLoc | Stat | DateIn | Capac (g) | Product | TankType | TankInt | TankExt | PipeLoc | PipeType | PipeInt | PipeExt | SecCont | Leak | OverFil | Disp | LastTest | NextTest | TStat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 002 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |
| 003 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 004 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |

APEX BLDG. SUPPLY
187 CLINTON ST.
BINGHAMTON, N.Y. 13905

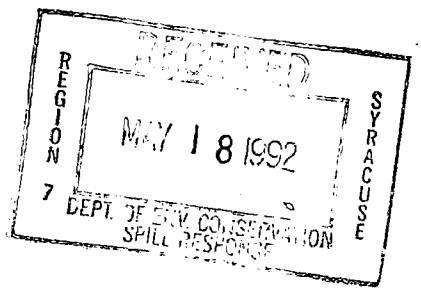
# APEX

(717) 288-3683

P.O. BOX 1347
KINGSTON, PENNSYLVANIA 18704

WHOLESALE ONLY

May 13, 1992




NYS DEC - REGION 7
615 Erie Blvd W.
Syracuse, NY 13204

Re: STORAGE TANKS
PBS #7-182230

To Whom It May Concern:

It is our understanding that the storage tanks in question were disconnected by Vail Ballou Press. While located on our property these tanks are in fact under control of Vail Ballou by virtue of an easement granted by the previous owners of this property. The easement granted Vail Ballou the right to keep and maintain underground tanks on this property and to have access to them and the pipeline under Hudson Street from our property to the Vail Ballou building. A copy of the deed conveying these rights to Vail Ballou Press is attached here. Apex has never had any control or influence over the tanks in question. As point of fact, in about 1987 Vail Ballou did send a crew in to dig up, examine and empty the tanks in question. This was done without our authorization and in fact Vail's crew damaged our fence and did not repair it when they went in.

At this point we at Apex are in a quandry as to what to do about these tanks. Should we make arrangements with your agency to have these tanks checked and then filled with either sand or water? It would appear that Vail Ballou is responsible for these tanks but since they do not own the property that was serviced by these tanks any more perhaps whoever bought this property from them is now responsible since the deed says "Vail Ballou Press, Inc. its successors and assigns". In any case Apex would like to see these tanks put out of service permanently but is unsure of how to proceed since Apex does not feel it controls these tanks.

Please advise us.

Sincerely,

APEX BUILDING PRODUCTS CO.

Dennis M. McCartney

Dennis M. McCartney

DMM:rc

Enc.

This Indenture, Made the day of October Nineteen Hundred and Eighty-Four

Between HARRY R. McCARTNEY and GLORIA M. McCARTNEY, his wife, residing at Kingston, Pennsylvania (Post Office Address: P. O. Box 1347, Kingston, Pennsylvania 18704),

parties of the first part, and BROOME COUNTY INDUSTRIAL DEVELOPMENT AGENCY, a public benefit corporation of the State of New York, having its principal office at 349 Chenango Street, Binghamton, New York 13902,

parties of the second part,

Witnesseth that the parties of the first part, in consideration of

---------- O N E ---------- Dollar ($1.00 )

lawful money of the United States, and other good and valuable consideration, paid by the party of the second part, do hereby grant and release unto the party of the second part, their assigns and to the ~~and assigns of such~~ survivor of them, their distributees and assigns forever,

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Binghamton, County of Broome and State of New York, bounded and described as follows: COMMENCING at a point in the southerly line of Slauson Avenue, 15 feet, measured along said street line from the intersection of the same with the easterly line of Hudson Street; THENCE eastwardly and along the southerly line of Slauson Avenue 298.26 feet to the intersection of said street line with the westerly line of Crandall Street; THENCE southwardly at an interior angle of 88° 28' and along said street line 65 feet to a point therein; THENCE westwardly at an interior angle of 91° 32' and along the southerly line of the Isaac Hanchett location subdivision shown on a map filed in the Broome County Clerk's Office in Book 1 of Maps at page 297, 108 feet to an angle in said subdivision; THENCE southwardly along an easterly line of said subdivision 15.31 feet to a point; THENCE westwardly and along the southerline of said subdivision 165.45 feet to a point which is 16.3 feet from the easterly line of Hudson Street, measured along an extension of the last course; THENCE northwardly at an interior angle of 107° 33' along the westerly line of Lot 7 as shown on said subdivision 81 feet more or less, to the point or place of beginning, making an interior angle of 75° 22' with the first course.

There is also hereby conveyed the right to use in common with General Aniline & Film Corporation, its successors and assigns, for the purpose of entering upon the premises above conveyed from Hudson Street and of egress from said premises to said Hudson Street, to pass, repass and travel over the strip of land fifteen feet wide, or thereabouts, which lies immediately west of the premises above conveyed and immediately east of the easterly line of said Hudson Street, and which strip of land extends from the southwesterly corner of the premises above conveyed, northwardly to Slauson Avenue (formerly Hanchett Avenue), a distance of approximately 81 feet as more particularly described in the deed from General Aniline & Film Corporation to Vail-Ballou Press, Inc., dated February 19, 1947 and recorded in said Clerk's Office on the same day in Book 628, at page 100.

This conveyance is subject to a reservation by Vail Ballou Press, Inc., its successors and assigns, to use, maintain, repair and replace the three westermost oil storage tanks and the pump house location south of the quonset warehouse on the above property, together with the oil line, heat line and electrical line in or near the underground conduits running from said tanks and pump house to other lands of said Vail Ballou Press, Inc. lying west of Hudson Street, together with rights of ingress and egress to and from said tanks, pump house and conduits for purposes of using, repairing, replacing and maintaining the same, any damage resulting therefrom to be the responsibility of said Vail Ballou Press, Inc.

Being the same premises conveyed to the parties of the first part by Sandra K. Perkins by warranty deed dated July 30, 1984 and recorded July 30, 1984 in the Broome County Clerk's Office in Liber 1412 of deeds at page 300.

DECKER, DECKER & DUDICK
ATTORNEYS AT LAW

ROBERT G. DECKER
JANNELL L. DECKER
CHESTER F. DUDICK, JR.

1043 WYOMING AVENUE
FORTY FORT, PA. 18704
(717) 283-1371

December 29, 1988

Mr. H.R. McCartney
Apex Building Products Company
Post Office Box 1347
Kingston, Pennsylvania 18704

607-797-2345

Dear "Mac":

Enclosed herewith is a photocopy of your and Gloria's deed unto the Broome County Industrial Development Agency. I have circled in red the reservation concerning the three underground tanks and have underlined that part of the reservation which makes Vail Ballou Press, Inc. liable for any damage resulting from the tanks.

The reservation does not state who owns the tanks, so that question is really not resolved by the reservation. Generally, a reservation in Pennsylvania passes ownership to the successors in title. I do not know how a reservation operates in New York. With Vail Ballou Press, Inc. out of existence, I really cannot say where ownership of the tanks lies, i.e., in you or Vail Ballou Press, Inc.'s successor.

My suggestion is that you just pass the deed unto the realtor, show him the provision in question, and let me take it from there with any prospective purchasers he may have. done 12/29

I believe that covers the matter at this time, Mac. We will have to wait to see what happens with a prospective purchaser.

Sincerely yours,

Robert G. Decker

RGD:d
enc:

# THE MAPLE-VAIL BOOK MANUFACTURING GROUP

Vail-Ballou Press, Inc.
Pine Camp Drive
P.O. Box 1005
Binghamton, New York 13902-1005
607-723-7981

30 Apr 92

N.Y.S.Department of Environmental Conservation
615 Erie Blvd. W
Syracuse, NY 13204

This facility is no longer owned by Maple-Vail Book Manufacturing Group. The new owner is:

TO

Apex Building Products
Grossett Drive
Kirkwood, NY 13795

Charlie Hugunine
Maintenance Superintendent

afr

DEPT. OF ENV. CONSERVATION
SPILL RESPONSE
REGION 7
SYRACUSE
RECEIVED
MAY 1 - 1992

93-19-1 (12/90)—26c

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF WATER • BUREAU OF SPILL PREVENTION AND RESPONSE

# PETROLEUM BULK STORAGE APPLICATION

**Pursuant to the Petroleum Bulk Storage Law, Article 17, Title 10 of ECL; and 6 NYCRR 612-614.**

(Continued on Reverse Side—Please Be Sure to Complete Section B)

RETURN COMPLETED FORM & FEE TO:

NYS DEC - REGION 7
615 ERIE BLVD. W.
SYRACUSE, NY 13204
(315) 426-7519

Please Type or Print Clearly and Complete All Items

## SECTION A—See Instructions on Cover Sheet

PBS NUMBER: 7-182230

Indicate Other Existing DEC Numbers, If any, for this Facility:

CBS Number: _____

SPDES Number: _____

TRANSACTION TYPE (Check all that apply)
**NOTE:** Transaction Types 1, 2 and 5 require a fee.

1. ☐ Initial/ New Facility
2. ☐ Change of Ownership
3. ☐ Substantial Tank Modification
4. ☐ Information Correction
5. ☒ Renewal

Geographical Locator for this Facility: (If known)

LATITUDE: ____ ____ ____ DEG MIN SEC

LONGITUDE: ____ ____ ____ DEG MIN SEC

### FACILITY

NAME: VAIL BALLOU PRESS CUNTON ST D

LOCATION (Not P.O. Boxes): 187-195 CLINTON ST

LOCATION (Continued):

CITY/TOWN/VILLAGE: BINGHAMTON | STATE: NY | ZIP CODE: 13905

COUNTY: BROOME | TOWNSHIP OR CITY: BINGHAMTON (C)

NAME OF OPERATOR AT FACILITY: FRANK KEFFER | FACILITY TELEPHONE NUMBER: ( 607 ) 723-7981

EMERGENCY CONTACT NAME: ROBERT KALKA | EMERGENCY CONTACT PHONE NO.: ( 607 ) 797-7090

### OWNER

NAME: MAPLE-VAIL BOOK MANUF GROUP

ADDRESS (Street and/or P.O. Box): P O BOX 2695 WILLOW SPRINGS LN

CITY: YORK | STATE: PA | ZIP CODE: 17405

FEDERAL TAX ID NO.: | OWNER TELEPHONE NUMBER: ( 717 ) 764-5911

TYPE OF OWNER (Check only one)

1 ☐ Private Resident 2 ☐ State Government 3 ☐ Local Government
4 ☐ Federal Government 5 ☐ Corporate/Commercial

### TYPE OF PETROLEUM FACILITY:

(Check all that apply)

A. ☐ Storage Terminal/Petroleum Distributor
B. ☐ Retail Gasoline Sales
C. ☐ Other Retail Sales
D. ☐ Manufacturing
E. ☐ Utility
F. ☐ Trucking/Transportation
G. ☐ Apartment Building
H. ☐ School
I. ☐ Farm
J. ☐ Private Residence
K. ☐ Airline (Air Taxi)
L. ☐ Other (Specify)

RECEIVED
NOV 1 - 1992
DEPT. OF ENV. CONSERVATION
SPILL RESPONSE

I hereby certify under penalty of perjury that the information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

NAME OF OWNER OR AUTHORIZED REPRESENTATIVE: | AMOUNT ENCLOSED: $

TITLE:

SIGNATURE: | DATE:

### MAILING CORRESPONDENCE

ATTENTION:

NAME OF COMPANY: MAPLE-VAIL BOOK MANUF GROUP

ADDRESS: P O BOX 2695 WILLOW SPRINGS LN

ADDRESS:

CITY/STATE/ZIP CODE: YORK, PA 17405

TELEPHONE NUMBER: ( 717 ) 764-5911

### OFFICIAL USE ONLY

Page _____ of _____

Date Received: ____/____/____

Date Processed: ____/____/____

Amount Received $ _____

Reviewed By: _____

PBS NUMBER: 7-182230

# Tank Information for Petroleum Bulk Storage Facility

**SECTION B—See Instructions on Cover Sheet**

EXPIRATION DATE: 06/30/92



| Action | Tank Number | Tank Location | Status | Installation or Permanent Closure Date (MO) | | (YR) | | Capacity (Gallons) | Product Stored | Tank Type | Tank Internal Prot. | Tank External Protection | | Piping Location | Piping Type | Piping Internal Prot. | Piping External Protection | | Secondary Containment | | Leak Detection | | Spill/ Overfill Prevention | | Dispenser | Last Test Date (underground Tanks) (MO) | | (YR) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 001 | 4 | 2 | 0 | 0 | 0 | 0 | 10,300 | 3 | 1 | | | | | 1 | | | | 0 | | 0 | | | | 2 | 1 | 1 | 8 | 9 |
| 1 | 002 | 4 | 1 | 0 | 0 | 0 | 0 | 10,300 | 3 | 1 | | | | | 1 | | | | 0 | | 0 | | | | 2 | 0 | 9 | 8 | 9 |
| 1 | 003 | 4 | 1 | 0 | 0 | 0 | 0 | 10,300 | 3 | 1 | | | | | 1 | | | | 0 | | 0 | | | | 2 | 1 | 1 | 8 | 9 |
| 1 | 004 | 4 | 2 | 0 | 0 | 0 | 0 | 10,300 | 3 | 1 | | | | | 1 | | | | 0 | | 0 | | | | 2 | 0 | 9 | 8 | 9 |

**KEY FOR SECTION B**

**ACTION**
1 Initial Listing
2 Add Tank
3 Close/Remove Tank
4 Information Correction
5 Recondition/Repair/ Reline Tank

**TANK LOCATION**
1 Aboveground
2 Aboveground on saddles legs, stilts, rack, or cradle
3 Aboveground: 10% or more below ground
4 Underground
5 Underground, vaulted, with access

**STATUS**
1 In-service
2 Temporarily out-of-service
3 Closed—Removed
4 Closed—In Place
5 Tank Converted to Non-Regulated Use

**PRODUCT STORED**
0 Empty
1 Leaded Gasoline
2 Unleaded Gasoline
3 Nos. 1, 2, or 4 Fuel Oil
4 Nos. 5 or 6 Fuel Oil
5 Kerosene
6 Diesel
A Lube Oil
9 Other*

**TANK TYPE**
1 Steel/Carbon Steel
2 Stainless Steel Alloy
3 Concrete
4 Fiberglass Coated Steel
5 Fiberglass Reinforced Plastic (FRP)
6 Equivalent Technology
9 Other*

**PIPING TYPE**
0 None
1 Steel/Iron
2 Galvanized Steel
3 Fiberglass (FRP)
4 Copper
9 Other*

**INTERNAL PROTECTION: Tank/Piping**
0 None
1 Epoxy Liner
2 Rubber Liner
3 Fiberglass Liner (FRP)
4 Glass Liner
9 Other*

**EXTERNAL PROTECTION: Tank/Piping**
0 None
1 Painted/Asphalt Coating
2 Sacrificial Anode
3 Impressed Current
4 Fiberglass
5 Jacketed
6 Wrapped (Piping)
9 Other*

**PIPING LOCATION**
0 None
1 Aboveground
2 Underground
3 Aboveground/Underground Combination

**SECONDARY CONTAINMENT**
0 None
1 Vault
2 Double-Walled Tank
3 Excavation Liner
4 Cut-off Walls
5 Impervious Underlayment
6 Earthen Dike
7 Prefabicated Steel Dike
8 Concrete Dike
A Synthetic Liner
B Natural Liner
9 Other*

**LEAK DETECTION**
0 None
1 Interstitial Monitoring
2 Vapor Well
3 Groundwater Well
4 In-tank System
5 Concrete Pad w/channels
6 Double Bottom
9 Other*

**SPILL/OVERFILL PREVENTION**
0 None
1 Float Vent Valve
2 High Level Alarm
3 Automatic Shut-off
4 Product Level Gauge
5 Catch Basin
6 Vent Whistle
9 Other*

**DISPENSER**
1 Submersible
2 Suction
3 Gravity

* If Other, please list on separate sheet including the Tank Number

NYS DEC, REGION 7
**PBS & SPILL UPDATE FORM**

NAME: _____ PBS NO. _____

DATE 1/11 SPILL NO. _____

DEC REP. _____

Val Ballou Pres
sold property to Cantro in 1989
property where tanks are actually on Hudson

607 723-7981 ext 323
Charlie Hugunin

1/13 Les Platt

c:spilupda.frm

AIRPORT RD.
TO RIGHT (⇨ B'T).

DOWNES
⇒ GLENWOOD
⇐ CLINTON

PIPES OVER RD (ANGLED)

CL BANK ON RT

⇒ CRANDALL (PIZZA)

TOWARD RR

CROSS SCS / QUANSET HUT

~~BET~~
~~SLAUSON~~
HUDSON

TRUCK DOOR

~9:00

7-182230

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# Important Message

For J.P.

Date 3/31 | Time 11:00 AM PM

## While You Were Away

Name Les Platt

Of OVER FOR DIRECTIONS

Phone No. 607 722-4962

- [x] Telephoned You
- [ ] Visited You
- [ ] Wants To See You
- [ ] Urgent
- [x] Please Phone Him/Her
- [ ] Will Phone Again
- [ ] Will Visit Again
- [ ] _____

Message: VAIL BALLOU → CONCRO
4 10K's
ON R.O.W. REMOVE TANKS
LEAK

00-12-60 Signed _____

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Petroleum Bulk Storage Program
Facility Information Report

Printed : 04/26/93

PBS # : 7-182230

Site : VAIL BALLOU PRESS CUNTON ST D
187-195 CLINTON ST
BINGHAMTON, NY 13905

County : BROOME Town : BINGHAMTON (C)
Latitude : N Longitude : W
SPDES# : CBS# :
Site Type : Info Not Given.

Operator : FRANK KEFFER (607) 723-7981
Emergency : ROBERT KALKA (607) 797-7090

Site status : Active
Total Active Tanks : 4
Active Capacity : 41,200 gals.

Reg Expires : 06/30/92
Last Inspection : / /
Cert Printed : 06/30/87

Site Errors : Minor Data Missing
Owner Error : Minor Data Missing
Tank Errors : Minor Data Missing

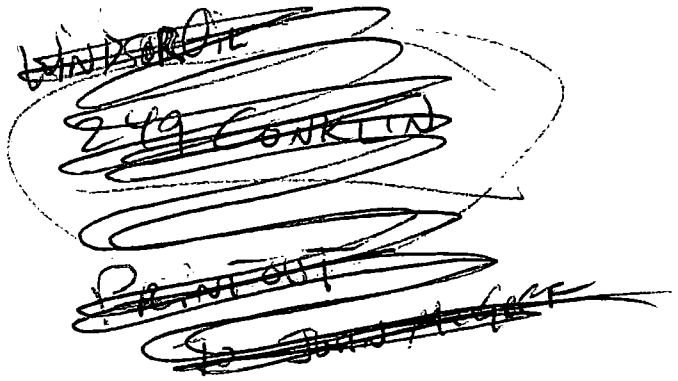
Owner : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Phone : (717) 764-5911
Owner Type : Corporate/Commercial

Mail : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Att : (717) 764-5911

| TankNo | TankLoc | Stat | DateIn | Capac (g) | Product | TankType | TankInt | TankExt | PipeLoc | PipeType | PipeInt | PipeExt | SecCont | Leak | OverFil | Disp | LastTest | NextTest | TStat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 002 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |
| 003 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 004 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |




OWNER OF RECORD
BROOME CO.
IDA (INDUSTRIAL DEVELOPMENT AGENCY)

CHRIS GAVRY

(607) 797 2345 (?)

OWNER OF FACT
APEX BLDG. PRODUCTS

OWNER/PRES.
DENNIS MCCARTNEY

(717) 288 3683

COMPTROLLER
BILL GREYTOCH
CHARLIE (KIRKWOOD FACILITY)
(607) 775-5427

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Petroleum Bulk Storage Program

Facility Information Report

Printed : 04/26/93

PBS # : 7-422207

Site : VAIL-BALLOU PRESS INC.
PINE CAMP DRIVE
KIRKWOOD INDUSTRIAL PARK
KIRKWOOD, NY 13795
County : BROOME Town : KIRKWOOD
Latitude : N Longitude : W
SPDES# : CBS# :
Site Type : Manufacturing

Operator : CHARLES HUGUNINE (607) 723-7981
Emergency : CHARLES HUGUNINE (607) 669-4655

Site status : Active
Total Active Tanks : 2
Active Capacity : 20,000 gals.

Reg Expires : 08/17/97
Last Inspection : / /
Cert Printed : 10/02/92

Site Errors : Complete
Owner Error : Complete
Tank Errors : Complete

Owner : VAIL-BALLOU PRESS INC.
P.O. BOX 1005
BINGHAMTON, NY 13902

Phone : (607) 723-7981
Owner Type : Corporate/Commercial

Mail : VAIL-BALLOU PRESS INC.
PINE CAMP DRIVE
P.O. BOX 1005
BINGHAMTON, NY 13902
Att : CHARLES HUGUNINE (607) 723-7981

| TankNo | TankLoc | Stat | DateIn | Capac (g) | Product | TankType | TankInt | TankExt | PipeLoc | PipeType | PipeInt | PipeExt | SecCont | Leak | OverFil | Disp | LastTest | NextTest | TStat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | 1 | 05/91 | 10,000 | 3 | 1 | 0 | 25 | 2 | 1 | 0 | 35 | 02 | 24 | 34 | 2 | | | 1 |
| 2 | 4 | 1 | 05/91 | 10,000 | 3 | 1 | 0 | 25 | 2 | 1 | 0 | 35 | 02 | 24 | 34 | 2 | | | 1 |
| 001 | 4 | 3 | 09/65 | 20,000 | 3 | 1 | | | | 1 | | | 1 | 0 | 4 | 2 | | REMOVED : | 05/91 |

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Petroleum Bulk Storage Program
Facility Information Report

Printed : 12/02/93

PBS # : 7-182230

Site : VAIL BALLOU PRESS CUNTON ST D
187-~~189~~ CLINTON ST
BINGHAMTON, NY 13905

County : BROOME Town : BINGHAMTON (C)
Latitude : N Longitude : W
SPDES# : CBS# :
Site Type : Info Not Given.

Operator : FRANK KEFFER (607) 723-7981
Emergency : ROBERT KALKA (607) 797-7090

Site status : Active
Total Active Tanks : 4
Active Capacity : 41,200 gals.

Reg Expires : 06/30/92
Last Inspection : / /
Cert Printed : 06/30/87

Site Errors : Minor Data Missing
Owner Error : Minor Data Missing
Tank Errors : Minor Data Missing

Owner : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Phone : (717) 764-5911
Owner Type : Corporate/Commercial

Mail : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Att : (717) 764-5911

| TankNo | TankLoc | Stat | DateIn | Capac (g) | Product | TankType | TankInt | TankExt | PipeLoc | PipeType | PipeInt | PipeExt | SecCont | Leak | OverFil | Disp | LastTest | NextTest | TStat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 002 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |
| 003 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 004 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |

1/11 left msg for Charles Costa

Charles Costa
132 Clinton St.
Binghamton NY 13905
~~607 723-8718~~
904 788-1427

Al Terzella from Vail Ballou

New York State Department of Environmental Conservation
615 Erie Blvd. W., Syracuse, NY 13204-2400
Region 7
Division of Spills Management
(315) 426-7519

Thomas C. Jorling
Commissioner

DATE: Dec 10, 1993

TO: Charles Contra
132 Clinton St.
Binghamton NY 13905

RE: SITE: Vail Ballou Press
187 Clinton St.
Binghamton NY 13905
PBS 7-182230

Gentlemen:

This letter is to advise you of your responsibility associated with the ownership of petroleum storage tanks under New York State DEC Regulations 6NYCRR 612, 6NYCRR 613, and 6NYCRR 614. Enclosed you will find a copy of these regulations and an application for registration.

If you are the owner of a petroleum storage facility having a capacity of over eleven hundred (1,100) gallons you must register with the Department. This shall include any out of service facility which has not been permanently closed under section 613.9(a) (b) (c) of 6NYCRR 613. Should you decide to close your facility, please contact this office 30 days prior to closure. A copy of closure requirements will be sent to you at that time.

If you have any further questions, please contact me at (315) 426-7519.

Sincerely,

John D'Aoust

John D'Aoust
Environmental Engineering Tech I
Petroleum Bulk Storage
c:pbsnotif.ltr

OFFICE OF FIRE ADMINISTRATION • CITY OF BINGHAMTON

Richard Bucci, Mayor
MARTIN J. TILLAPAUGH, FIRE CHIEF

January 6, 1994

RECEIVED
REGION 7
JAN 10 1994
DEPT OF ENV CONSERVATION
SPILL RESPONSE
SYRACUSE

John Piston
D.E.C.
615 Erie Blvd. West
Syracuse, NY 13204-2400

Dear John,

I am sorry about the delay in responding to your request for our State Regs concerning tank removal as it completely slipped my mind. As per our agreement you will forward your regs concerning this same issue.

Due to recent action concerning the tanks at 8 Slauson Avenue, Binghamton, NY, I would like to know the present status of this issue as it pertains to your office.

Sincerely,

Lt. John W. McGoff
Fire Inspector/Investigator

JM/smr

PBS# 182230

1164.5 ABANDONMENT OR REMOVAL OF ANY CLASS I, II AND III LIQUID STORAGE TANK.

1164.5(a) Storage tanks rendered temporarily out of service for a period of 30 days to one year shall be made safe by capping the fill line, gauge opening, and pump suction and securing against tampering.

1164.5(b) Storage tanks not placed back in service within one year must be removed or abandoned in place with proper safeguarding.

1164.5(c) All storage tanks abandoned in place shall be made safe by removing flammable or combustible liquids from the tank and connecting lines, disconnecting the suction, inlet, gauge, and vent lines, filling the tanks completely with an inert, solid material, and capping the remaining piping.

1164.5(d) All storage tanks removed from their location shall be made safe by removing flammable or combustible liquids from the tank and connecting lines, disconnecting the suction, inlet, gauge, and vent lines, removing sections of connecting lines not to be used further, and capping or plugging inlets, outlets, and leaks, if any.

1164.5(e) The Code Enforcement Official shall be notified by the owner of the storage tanks whenever tanks are rendered temporarily out of service, abandoned in place, or removed.

1164.5(f) All storage tanks disposed of as junk shall be rendered free of hazardous vapors.

1164.5(g) Above ground tanks which have been removed shall not be reinstalled until the tank has been appropriately cleaned, repaired if necessary, tested and made corrosion resistant. These tanks shall not be used for underground storage.

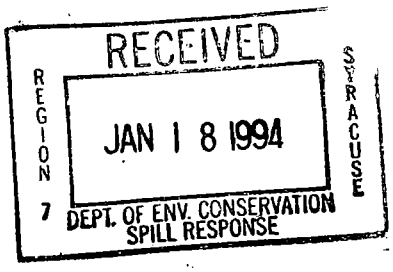
1164.5(h) Underground tanks which have been removed from the ground shall not be used for the storage of any Class I, II or III liquid or any other hazardous chemical unless approved by the Code Enforcement Official and reinstalled according to generally accepted standards.

1164.5(i) In cases where tanks are either rendered "temporarily out of service" or permanently abandoned, records shall be supplied to the Code Enforcement Official of tank size, location, date of abandonment, and method used for placing the abandoned tank in a safe condition.

Redemption Fundraiser

P.O. Box 555 ▪ Binghamton, N.Y. 13902 (607) 722-4962

January 12, 1994




Councilman Anthony F. Fiala
Binghamton City Council Chambers
38 Hawley Street
Binghamton, NY 13903

Councilman Fiala:

I have been trying for a week to get in touch with you. I am sorry, but I must talk to you and Binghamton City Council.

The fire marshall has been very patient with my project as has the city code enforcement people. An escalator clause in my lease has now kicked in and I must soon purchase the 9 Slauson Avenue property or abandon the project for a more suitable location.

You led the opposition to my project in city council and appeared satisfied when the city's environmental committee recommended conditional approval, only to change your position when it was discovered that my landlord had not paid back taxes.

I am not responsible for the back taxes on 9 Slauson Avenue or 4 Hudson Street, but I do hold a possible solution to that problem. If I was to purchase the property, the back taxes could be withheld from the purchase price, as could the cost of removing the oil tanks; plus the cost of any other environmental problem that may be discovered. All this, of course, is contingent on my being able to receive economic development help. My cost for space in 1994 will be $36,800. The purchase of the 9 Slauson/4 Hudson properties is $160,000. It will cost $20,000 to electrify the property, $10,000 for a parking lot required by the city, $28,000 for a machine I need, and $10,000 for extraneous expenses.

My neighbors have found me to be compatible and would like to see my project move ahead.

I have plans for the Vail Ballou property next door. (See Attachment)

I need the city's help to bring together an economic/development package and encourage the Department of Environmental Conservation to enforce the regulations with regard to the oil tanks.

I would appreciate an opportunity to discuss this with you and city council.

Kindest regards,

Les Platt

Les Platt (607) 722-4962

CC: City Council Members
Binghamton Fire Marshall
Binghamton Code Enforcement
Binghamton Economic Development
Binghamton Corporate Council
Southern Tier East Regional Planning
Department of Environmental Conservation

Courtesy Copy: Governor Cuomo
Commissioner Jorling
Mayor Rich Bucci
Frank Shaw, Attorney

Redemption Fundraiser

P.O. Box 555 ▪ Binghamton, N.Y. 13902 (607) 722-4962

# Overview of Redemption Fundraiser Activities

There are thousands of successful recycling projects throughout the United States and the world. For the most part, successful recycling projects fall into four basic categories; community collection systems; intermediate processing facilities; finishing industries; and primary manufacturing facilities. The Redemption Fundraiser is focused on the final three; intermediate processing, finishing and manufacturing.

The Fundraiser is located in a double Quonset hut on Slauson Avenue in Binghamton's First Ward. Recently we leased three thousand feet of space in the old Vail Ballou building owned by Charles Contro and adjacent to the Slauson property.

The Redemption Fundraiser has a proven track record extending back to the mid seventies. Since June of 1990 we have been working with IBM Endicott to handle and market difficult to recycle materials.

Throughout the summer of 1990 we worked with a pickup truck in an open field. The winter of 90/91 we operated from a deteriorating warehouse on Whitney Avenue in Binghamton. The summer of 91 through 92 we moved to and operated from a trucking terminal on Karlada Drive in Binghamton, storing excess materials in tractor trailer bodies parked behind the building.

Throughout the early phases of our project, goals were to identify materials, learn how to handle them, find markets, validate markets, train core people and form reliable relationships. A combination of good luck, hard work and loyal friends has seen us through these very difficult times to a point where we can confidently point the way to a secure project based on proven technology and profitable operations.

We need now to bring our project up to speed. Here is what we know. Most of the materials we handle are recyclable in their current form. We need only to segregate them into categories L.D.P.E. foam; L.D.P.E.; H.D.P.E.; A.B.S.; H.I.P.S.; G.P.S.; E.P.S.; PC's; P.E.T.; PU foams; PVC; pallets; drill board; miscellaneous items, and residuals. The miscellaneous items and residuals may have to be landfilled, however we have a plan to grind them and use them as paving materials or aggregate for roof coatings. In any case they represent less than 10% of our total.

If we recycle our materials in their current form, we will receive minimal value for them. In some cases minimal value translates into negative value. In some cases we lack sufficient quantity to justify shipping current materials.

If however, we process our materials into higher value, they all become profitable with the exception of miscellaneous materials and residual material which will change from negative value, to cost effective, if we find a beneficial use for them (paving or roof aggregate).

We do not have sufficient quantities of any material to cost justify technology for processing them to higher value. For that reason, we have been exploring sources of material other than I.B.M. to cost justify processing technology. We have also put in place a study group project using students from SUNY Binghamton. We expect our study group project to bring to light more efficient technologies and possible products we could manufacture. The study group also serves to familiarize students with the problems of recycling and encourages then to search for solutions.

There are many profitable courses of action. One example is to pelletize L.D.P.E. foam, changing it from a material worth 5 cents per pound as scrap which is not cost effective to ship; to a very profitable 15 cents for mixed colors and 30 cents for natural, which is cost effective to ship. We hope eventually to get to the point where we can pelletize L.D.P.E. foams and films. For now the technology is prohibitivly expensive. We can however set up a very profitable toll grinding program; grinding materials for other people like our selves or for industries who want to recycle their materials but lack quantities to cost justify the technology.

A toll grinding program is our next logical step. Not only will we be able to profit from grinding other peoples' materials but we will be able to cost justify grinding our own material. A toll grinding program will move us forward to a point where we will inevitably gain a wider understanding of available markets and validate those who keep their commitments.

A toll grinding program is not expensive to set up, $25,000 for new equipment which will process 1500 pounds per hour. Toll grinding commands 5 to 10 cents per pound depending on the material and required preparation. $75 to $150 dollars per hour, more than enough to cover overhead, purchase equipment, install it, hook up needed electric, and start preparing us for our next step. With a toll grinding program, our inhouse A.B.S. styrene and PC's will increase in value from 15 to 20 cents per pound.

In the meantime we continue to explore profitable side ventures. We are currently manufacturing an innovative target printed on a coated paper we receive which is not recyclable in its current form. We also occasionally broker materials from other sources, and are working on a collection program for photo resist materials with circuit board manufacturers throughout the northeastern United States.

With a little assist from public structure in the form of clearing red tape and low interest loans, we can move forward more securely.

Les Platt
(607) 722-4962

Is your RETURN ADDRESS completed on the reverse side?

**SENDER:**

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

ATTN DENNIS MCCARTNEY
APEX BUILDING PRODUCTS
P O BOX 1347
KINGSTON PA 18704

4a. Article Number
Z 795 204 310

4b. Service Type
☐ Registered ☐ Insured
☐ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery

5. Signature (Addressee)

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

Thank you for using Return Receipt Service.

PS Form **3811**, December 1991 ☆U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

UNITED STATES POSTAL SERVICE

Official Business

PENALTY FOR PRIVATE
USE TO AVOID PAYMENT
OF POSTAGE, $300

U.S.MAIL

Print your name, address and ZIP Code here

NYSDEC, JOHN DAOUST
615 ERIE BLVD WEST
SYRACUSE NY 13204

**New York State Department of Environmental Conservation**
**615 Erie Blvd. W., Syracuse, NY 13204-2400**

Region 7
Division of Spills Management
(315) 426-7519

**Thomas C. Jorling**
**Commissioner**

DATE: Feb 21 1994

TO: Apex Building Products Company
P.O. Box 1347
Kingston, Pennsylvania 18704
Att: Dennis McCartney

RE: SITE: 4 Hudson St.
Binghamton, NY 13905

Gentlemen:

This letter is to advise you of your responsibility associated with the ownership of petroleum storage tanks under New York State DEC Regulations 6NYCRR 612, 6NYCRR 613, and 6NYCRR 614. Enclosed you will find a copy of these regulations and an application for registration.

If you are the owner of a petroleum storage facility having a capacity of over eleven hundred (1,100) gallons you must register with the Department. This shall include any out of service facility which has not been permanently closed under section 613.9(a) (b) (c) of 6NYCRR 613. Should you decide to close your facility, please contact this office 30 days prior to closure. A copy of closure requirements will be sent to you at that time.

If you have any further questions, please contact me at (315) 426-7519.

Sincerely,

John D'Aoust

John D'Aoust
Environmental Engineering Tech I
Petroleum Bulk Storage
c:pbsnotif.ltr

printed on recycled paper

APEX
BUILDING PRODUCTS CO., INC.
(717) 288-3683
P.O. BOX 1347
KINGSTON, PENNSYLVANIA 18704

WHOLESALE ONLY

RECEIVED
REGION 7
MAR 21 1994
DEPT. OF ENV. CONSERVATION
SPILL RESPONSE
SYRACUSE

March 17, 1994

Mr. John D'Aoust
NY STATE DEPARTMENT OF
ENVIROMENT CONSERVATION
615 Erie Blvd. W.
Syracuse, NY 13204-2400

Re: 2-21-94 Letter

Dear Mr. D'Aoust:

Received your letter about registering a tank which may be at 4 Hudson Street in Binghamton. As you can see from the copies of correspondence from 1992 the tank in question is on our property but not under our control. I would suggest you contact Vail Ballou Press, Inc. on its "successors and assigns" regarding the status of this tank.

Sincerely,

APEX BUILDING PRODUCTS CO.

Dennis M. McCartney

DMM:rc

Enc.

APEX
BUILDING PRODUCTS CO., INC.
(717) 288-3683
P.O. BOX 1347
KINGSTON, PENNSYLVANIA 18704
WHOLESALE ONLY

May 13, 1992

NYS DEC - REGION 7
615 Erie Blvd W.
Syracuse, NY 13204

Re: STORAGE TANKS
PBS #7-182230

To Whom It May Concern:

It is our understanding that the storage tanks in question were disconnected by Vail Ballou Press. While located on our property these tanks are in fact under control of Vail Ballou by virtue of an easement granted by the previous owners of this property. The easement granted Vail Ballou the right to keep and maintain underground tanks on this property and to have access to them and the pipeline under Hudson Street from our property to the Vail Ballou building. A copy of the deed conveying these rights to Vail Ballou Press is attached here. Apex has never had any control or influence over the tanks in question. As point of fact, in about 1987 Vail Ballou did send a crew in to dig up, examine and empty the tanks in question. This was done without our authorization and in fact Vail's crew damaged our fence and did not repair it when they went in.

At this point we at Apex are in a quandry as to what to do about these tanks. Should we make arrangements with your agency to have these tanks checked and then filled with either sand or water? It would appear that Vail Ballou is responsible for these tanks but since they do not own the property that was serviced by these tanks any more perhaps whoever bought this property from them is now responsible since the deed says "Vail Ballou Press, Inc. its successors and assigns". In any case Apex would like to see these tanks put out of service permanently but is unsure of how to proceed since Apex does not feel it controls these tanks.

Please advise us.

Sincerely,

APEX BUILDING PRODUCTS CO.

Dennis M. McCartney

Dennis M. McCartney

DMM:rc

Enc.

**This Indenture,** *Made the* *day of*
October *Nineteen Hundred and* Eighty-Four

**Between** HARRY R. McCARTNEY and GLORIA M. McCARTNEY, his wife, residing at Kingston, Pennsylvania (Post Office Address: P. O. Box 1347, Kingston, Pennsylvania 18704),

*part ies* *of the first part, and*
BROOME COUNTY INDUSTRIAL DEVELOPMENT AGENCY, a public benefit corporation of the State of New York, having its principal office at 349 Chenango Street, Binghamton, New York 13902,

*part y* *of the second part,*
**Witnesseth** *that the part ies* *of the first part, in consideration of* ----------

----------O N E----------*Dollar* ($1.00 )
*lawful money of the United States,* and other good and valuable consideration, *paid by the party* *of the second part, do* *hereby grant and release unto the party* *of the second part,* their assigns and to the ~~and assigns of such~~ survivor of them, their distributees and assigns forever,

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Binghamton, County of Broome and State of New York, bounded and described as follows: COMMENCING at a point in the southerly line of Slauson Avenue, 15 feet, measured along said street line from the intersection of the same with the easterly line of Hudson Street; THENCE eastwardly and along the southerly line of Slauson Avenue 298.26 feet to the intersection of said street line with the westerly line of Crandall Street; THENCE southwardly at an interior angle of 88° 28' and along said street line 65 feet to a point therein; THENCE westwardly at an interior angle of 91° 32' and along the southerly line of the Isaac Hanchett location subdivision shown on a map filed in the Broome County Clerk's Office in Book 1 of Maps at page 297, 108 feet to an angle in said subdivision; THENCE southwardly along an easterly line of said subdivision 15.31 feet to a point; THENCE westwardly and along the southerline of said subdivision 165.45 feet to a point which is 16.3 feet from the easterly line of Hudson Street, measured along an extension of the last course; THENCE northwardly at an interior angle of 107° 33' along the westerly line of Lot 7 as shown on said subdivision 81 feet more or less, to the point or place of beginning, making an interior angle of 75° 22' with the first course.

There is also hereby conveyed the right to use in common with General Aniline & Film Corporation, its successors and assigns, for the purpose of entering upon the premises above conveyed from Hudson Street and of egress from said premises to said Hudson Street, to pass, repass and travel over the strip of land fifteen feet wide, or thereabouts, which lies immediately west of the premises above conveyed and immediately east of the easterly line of said Hudson Street, and which strip of land extends from the southwesterly corner of the premises above conveyed, northwardly to Slauson Avenue (formerly Hanchett Avenue), a distance of approximately 81 feet as more particularly described in the deed from General Aniline & Film Corporation to Vail-Ballou Press, Inc., dated February 19, 1947 and recorded in said Clerk's Office on the same day in Book 628, at page 100.

This conveyance is subject to a reservation by Vail Ballou Press, Inc., its successors and assigns, to use, maintain, repair and replace the three westermost oil storage tanks and the pump house location south of the quonset warehouse on the above property, together with the oil line, heat line and electrical line in or near the underground conduits running from said tanks and pump house to other lands of said Vail Ballou Press, Inc. lying west of Hudson Street, together with rights of ingress and egress to and from said tanks, pump house and conduits for purposes of using, repairing, replacing and maintaining the same, any damage resulting therefrom to be the responsibility of said Vail Ballou Press, Inc.

Being the same premises conveyed to the parties of the first part by Sandra K. Perkins by warranty deed dated July 30, 1984 and recorded July 30, 1984 in the Broome County Clerk's Office in liber 1412 of deeds at page 300.

APEX
BUILDING PRODUCTS CO., INC.
(717) 288-3683
P.O. BOX 1347
KINGSTON, PENNSYLVANIA 18704

WHOLESALE ONLY

RECEIVED
REGION 7
MAR 21 1994
DEPT. OF ENV. CONSERVATION
SPILL RESPONSE
SYRACUSE

March 17, 1994

Mr. John D'Aoust
NY STATE DEPARTMENT OF
ENVIROMENT CONSERVATION
615 Erie Blvd. W.
Syracuse, NY 13204-2400

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Sincerely,

APEX BUILDING PRODUCTS CO.

Dennis M. McCartney

DMM:rc

Enc.

APEX

(717) 288-3683

BUILDING PRODUCTS CO., INC.

P.O. BOX 1347

KINGSTON, PENNSYLVANIA 18704

WHOLESALE ONLY

May 13, 1992

NYS DEC - REGION 7
615 Erie Blvd W.
Syracuse, NY 13204

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PBS #7-182230

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Please advise us.

Sincerely,

APEX BUILDING PRODUCTS CO.

Dennis M. McCartney

Dennis M. McCartney

DMM:rc

Enc.

This Indenture, *Made the* *day of*
October *Nineteen Hundred and* Eighty-Four

*Between* HARRY R. McCARTNEY and GLORIA M. McCARTNEY, his wife, residing at Kingston, Pennsylvania (Post Office Address: P. O. Box 1347, Kingston, Pennsylvania 18704),

*part ies* *of the first part, and*
BROOME COUNTY INDUSTRIAL DEVELOPMENT AGENCY, a public benefit corporation of the State of New York, having its principal office at 349 Chenango Street, Binghamton, New York 13902,

*Witnesseth that the part ies* *part y* *of the second part,*
*of the first part, in consideration of* ----------

----------O N E----------*Dollar* ($1.00 )
*lawful money of the United States,* and other good and valuable consideration, *paid by the party* *of the second part, do* *hereby grant and release unto the party* *of the second part,* their assigns and to the ~~and assigns of such~~ survivor of them, their distributees and assigns forever,

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Binghamton, County of Broome and State of New York, bounded and described as follows: COMMENCING at a point in the southerly line of Slauson Avenue, 15 feet, measured along said street line from the intersection of the same with the easterly line of Hudson Street; THENCE eastwardly and along the southerly line of Slauson Avenue 298.26 feet to the intersection of said street line with the westerly line of Crandall Street; THENCE southwardly at an interior angle of 88° 28' and along said street line 65 feet to a point therein; THENCE westwardly at an interior angle of 91° 32' and along the southerly line of the Isaac Hanchett location subdivision shown on a map filed in the Broome County Clerk's Office in Book 1 of Maps at page 297, 108 feet to an angle in said subdivision; THENCE southwardly along an easterly line of said subdivision 15.31 feet to a point; THENCE westwardly and along the southerline of said subdivision 165.45 feet to a point which is 16.3 feet from the easterly line of Hudson Street, measured along an extension of the last course; THENCE northwardly at an interior angle of 107° 33' along the westerly line of Lot 7 as shown on said subdivision 81 feet more or less, to the point or place of beginning, making an interior angle of 75° 22' with the first course.

There is also hereby conveyed the right to use in common with General Aniline & Film Corporation, its successors and assigns, for the purpose of entering upon the premises above conveyed from Hudson Street and of egress from said premises to said Hudson Street, to pass, repass and travel over the strip of land fifteen feet wide, or thereabouts, which lies immediately west of the premises above conveyed and immediately east of the easterly line of said Hudson Street, and which strip of land extends from the southwesterly corner of the premises above conveyed, northwardly to Slauson Avenue (formerly Hanchett Avenue), a distance of approximately 81 feet as more particularly described in the deed from General Aniline & Film Corporation to Vail-Ballou Press, Inc., dated February 19, 1947 and recorded in said Clerk's Office on the same day in Book 628, at page 100.

This conveyance is subject to a reservation by Vail Ballou Press, Inc., its successors and assigns, to use, maintain, repair and replace the three westermost oil storage tanks and the pump house location south of the quonset warehouse on the above property, together with the oil line, heat line and electrical line in or near the underground conduits running from said tanks and pump house to other lands of said Vail Ballou Press, Inc. lying west of Hudson Street, together with rights of ingress and egress to and from said tanks, pump house and conduits for purposes of using, repairing, replacing and maintaining the same, any damage resulting therefrom to be the responsibility of said Vail Ballou Press, Inc.

Being the same premises conveyed to the parties of the first part by Sandra K. Perkins by warranty deed dated July 30, 1984 and recorded July 30, 1984 in the Broome County Clerk's Office in liber 1412 of deeds at page 300.

March 30, 1995

From : Howard T. McLaughlin

Note To File :

RE: Vail Ballou
PBS # 7182230
187-195 Clinton street
Binghamton, N.Y. 13095

Gary peterson contacted me this morning and requested information about the Vail Ballou site.
He was responding to a request from a State Senator's office and was told that NYSDEC was insisting that the present owner register the facility before it could be sold.

This is a problem facility one that John D'Aoust has been working to rectify for some time.
NYSDEC has had to track the owners because no one admits to owning this property and persons who have contacted us by telephone representing themselves as prospective buyers turned out to be listed as possible owners of this facility.

One such person was Mr. Platt who was reportedly the next door property owner but may actually own a part of the facility which was at one time spread out over several sites.

The original complex involved right of ways that ran through adjacent properties for the purpose of pipe runs to larger storage tanks.

Site history that we have tracked indicates that this site was split up some time ago and the persons who own the property with piping and or tanks that were not removed are now not willing to acknowledge that they must take responsibility for their situation.
We have tried to work with the reputed owners but apparently the schedules requested for testing , registration and closure have been ignored.

This office has made it clear that we do not get involved with real estate deals between owners and prospective purchasers nor will we go into a site do an environmental review for someone looking at the property for the purpose of purchasing it.
Furthermore we will not clean up a site so it can be sold or purchased which seems to be the repeated theme of the requests we get about this site.

Gary Peterson told me that the neighboring land owner has the results from an environmental review conducted by an Engineer and the information obtained indicates that the property has petroleum contamination but he did not know what the analysis looked like. If this is the fact then someone forgot that they are supposed to inform DEC that a discharge has occurred see 613.8 of 6NYCRR 612,613,614 Petroleum Bulk Storage Publication revised 02/12/92.

Gary has a spill number for the site SPILL NUMBER 89 06060 which was generated after two tanks failed testingthe records show that those tanks were later tested and passed, see TRI-STATE TANK SERVICE letter of 11-29-89.

All four tanks on site are presently overdue for testing .
Inventory records are also reportedly missing.
There is no leak detection or corrosion protection listed.
The dates the tanks were installed is not listed.
Two tanks are listed as active #002 & #003 .
Two Tanks are listed as temporarily closed # 001 & #004.
Registration at this site expired 06/30/92 .

CC: Tom Male
John D'Aoust

March 30, 1995

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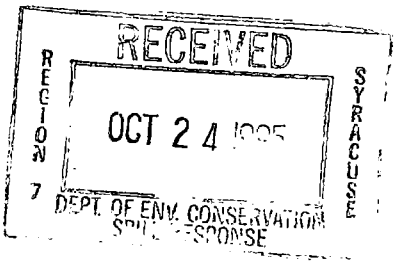
Broome County
**HEALTH DEPARTMENT**
One Wall Street / Binghamton, New York 13901 / (607) 778-8885

Richard A. Parsells, M.P.A., M.B.A. Public Health Director
*Fax (607) 778-2838*

Timothy M. Grippen, County Executive

October 20, 1995




Howard McLaughlin
Bulk Petroleum Storage Program
NYS Department of Environmental
Conservation - Region Seven
615 Erie Blvd. West
Syracuse, NY 13204

Re: Subsurface Oil Storage Tanks, Former Apex Warehouse

Dear Mr. McLaughlin:

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Because of the questionable construction of these tanks and the probable lack of maintenance devoted to them in recent years, the Broome County Health Department is concerned about leakage of fuel oil into underlying soils and groundwater. Two houses are present immediately to the east of the former warehouse site; both have basements that could trap volatile organics if a leak was to occur.

It is hereby requested that your office determine the status of the above-referenced tanks and seek to have them decommissioned if they are found to pose a threat to human health or the environment. Please contact Mr. Ronald Brink of my staff at (607) 778-2887 if you have questions concerning this matter, or if assistance is needed in locating the warehouse owner.

Very Truly Yours,

Robert W. Denz, P.E.
Director Environmental Health
Services

enc.

cc: Keith Heron -
City of Binghamton Code Enforcement
Gary Robinson - NYSDOH SRO

RECEIVED
OCT 24 1995
ENV. CONSERVATION
RESPONSE
SYRACUSE

SUNDAY PRESS
7/9/95

# Not much alarm in DEC response to warehouse fire

GUEST VIEWPOINT
BY BETTY K. WOOD

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When the Green Party learned that no tests are planned by the health Department, members decided that citizen action was required.

According to Robert Denz, Broome County Director of Environmental Health, the New York State Health Department has recommended that testing isn't appropriate now and probably won't be.

Their recommendation is that "if people notice some effect from the smoke, like an odor in the house or something like that, perhaps washing would be an appropriate course of action."

The difficulty that the health department faces is what does it do if it finds dioxin? How does it determine the exposure level, and how does that translate to risk? And what does the department do about it?

**The difficulty that the health department faces is what does it do if it finds dioxin? How does it determine the exposure level, and how does that translate to risk? And what does the department do about it?**

It is our contention that there were 45,000-50,000 pounds of polyvinylchloride (PVC), about 200,000 pounds of styrene and styrenics, and about 50,000 pounds of phynelics in the building. Most of the rest of the more than 1 million pounds of contents were olefins and polymers.

The Department of Environmental Conservation (DEC) in Binghamton and in Syracuse both have large files on this building, and at least one, if not both, have a fairly complete inventory of the contents.

The Binghamton DEC disavowed any knowledge of the building. The Syracuse DEC is familiar with the building, but after citing it two or three years ago, now indicates it has no more interest or responsibility for it. The Health Department apparently still doesn't have a complete inventory for its assessment.

Also on the site, for more than 20 years, are four 10,000-gallon underground oil tanks with oil still in them. One of these tanks, and the oil in it, was seen by the Green Party members. The DEC has also been aware of these tanks for a number of years, but nothing has been done.

The First Ward neighborhood where the fire took place is a low-income, densely populated residential area, an area with lots of backyard gardens of much pride. Closely placed homes line the street on two sides of the block, less than 10 yards from where the building stood. it's a neighborhood with people of all ages.

The site has no signs warning of the toxics. So far there has been nothing from the health department that would let people know what to do to take precautions, or even the need for precautions.

*Wood of Blodgett Mills is a member of the Green Party.*

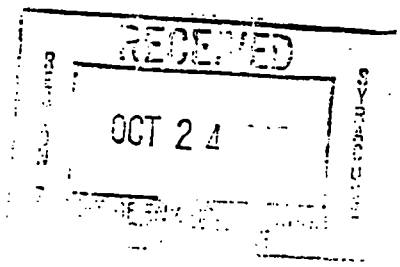
TO: GARY PETERSON

Broome County
**HEALTH DEPARTMENT**
One Wall Street / Binghamton, New York 13901 / (607) 778-8885

Richard A. Parsells, M.P.A., M.B.A. Public Health Director
*Fax (607) 778-2838*

Timothy M. Grippen, County Executive

October 20, 1995




Howard McLaughlin
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Very Truly Yours,

Robert W. Denz, P.E.
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Services

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24 [illegible]

SUNDAY PRESS
7/9/95

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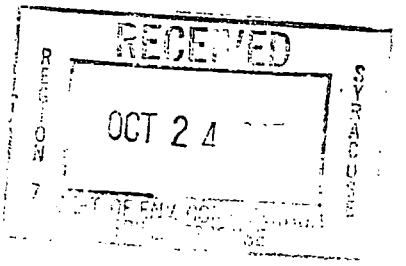


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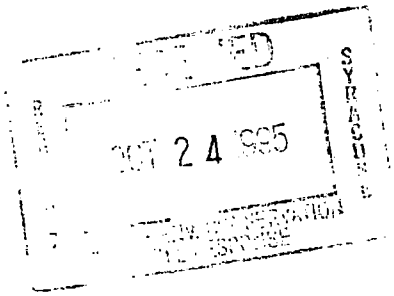

SUNDAY PRESS
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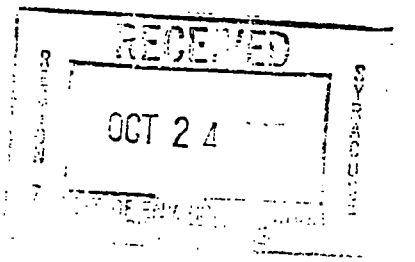
Timothy M. Grippen, County Executive

October 20, 1995

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Director Environmental Health
Services

enc.

cc: Keith Heron -
City of Binghamton Code Enforcement
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November 9, 1995

RE: APEX SITE, BINGHAMTON

Does anyone know anything about this facility or have a file on it? If so, please contact Gary Robinson , NYS Dept. Health 426-7627 or Howard McLaughlin.

CC: Richard Brazell
CC: Hazardous Waste
CC: Pollution Prevention
CC: Solid and Hazardous Materials
CC: Water
CC: Regulatory Services

RECEIVED
0 1995

Broome County
**HEALTH DEPARTMENT**
One Wall Street / Binghamton, New York 13901 / (607) 778-8885

Richard A. Parsells, M.P.A., M.B.A. Public Health Director
*Fax (607) 778-2838*

Timothy M. Grippen, County Executive

October 20, 1995

OCT 24

Howard McLaughlin
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NYS Department of Environmental
Conservation - Region Seven
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Services

enc.

cc: Keith Heron -
City of Binghamton Code Enforcement
Gary Robinson - NYSDOH SRO

SUNDAY PRESS
7/9/95

# Not much alarm in DEC response to warehouse fire

**GUEST VIEWPOINT**
**BY BETTY K. WOOD**

Wednesday evening, members of the Binghamton Green party, wearing rubber gloves, rubber boots and face masks, went to the site of the June 29-30 plastics warehouse fire on Slauson Street in Binghamton to collect samples of ash and soot for testing of toxic substances, including dioxins and furans.

When the Green Party learned that no tests are planned by the health Department, members decided that citizen action was required.

According to Robert Denz, Broome County Director of Environmental Health, the New York State Health Department has recommended that testing isn't appropriate now and probably won't be.

Their recommendation is that "if people notice some effect from the smoke, like an odor in the house or something like that, perhaps washing would be an appropriate course of action."

The difficulty that the health department faces is what does it do if it finds dioxin? How does it determine the exposure level, and how does that translate to risk? And what does the department do about it?

**The difficulty that the health department faces is what does it do if it finds dioxin? How does it determine the exposure level, and how does that translate to risk? And what does the department do about it?**

It is our contention that there were 45,000-50,000 pounds of polyvinylchloride (PVC), about 200,000 pounds of styrene and styrenics, and about 50,000 pounds of phynelics in the building. Most of the rest of the more than 1 million pounds of contents were olefins and polymers.

The Department of Environmental Conservation (DEC) in Binghamton and in Syracuse both have large files on this building, and at least one, if not both, have a fairly complete inventory of the contents.

The Binghamton DEC disavowed any knowledge of the building. The Syracuse DEC is familiar with the building, but after citing it two or three years ago, now indicates it has no more interest or responsibility for it. The Health Department apparently still doesn't have a complete inventory for its assessment.

Also on the site, for more than 20 years, are four 10,000-gallon underground oil tanks with oil still in them. One of these tanks, and the oil in it, was seen by the Green Party members. The DEC has also been aware of these tanks for a number of years, but nothing has been done.

The First Ward neighborhood where the fire took place is a low-income, densely populated residential area, an area with lots of backyard gardens of much pride. Closely placed homes line the street on two sides of the block, less than 10 yards from where the building stood. it's a neighborhood with people of all ages.

The site has no signs warning of the toxics. So far there has been nothing from the health department that would let people know what to do to take precautions, or even the need for precautions.

*Wood of Blodgett Mills is a member of the Green Party.*

Mailed to me on 27th

Broome County
**HEALTH DEPARTMENT**
One Wall Street / Binghamton, New York 13901 / (607) 778-8885

Richard A. Parsells, M.P.A., M.B.A. Public Health Director
*Fax (607) 778-2838*

Timothy M. Grippen, County Executive

RECEIVED
NOV 28
REGION 7 DEPT. OF ENV. CONSERVATION SPILL RESPONSE SYRACUSE

November 22, 1995

Robert Murphy, Esq.
City of Binghamton Corporation Counsel
City Hall
Binghamton, New York 13901-3776

Re: Buried Oil Storage Tanks, 9 Slauson Avenue

Dear Mr. Murphy:

This letter is intended to inform your office about a potential safety hazard at the former Apex Building at the above-referenced address. A total of four underground oil storage tanks were found at the Apex site during recent inspections by the New York State Departments of Health and Environmental Conservation. Three of the four tanks have access holes that are closed by unattached blocks of concrete lying loosely on the surface of the ground. The fourth tank has a steel lid that is bolted in place. All four tanks are situated along the south end of the former Apex Building foundation. The three partially closed tanks are about seven feet in diameter; all were found to contain oil and oil sludge in varying amounts. Access ports were about 18 inches in diameter.

Safety concerns include the possibility that children may enter the tanks and become trapped, and the possibility of a fire or explosion should a spark or lighted match find its way into one of the partly closed tanks.

The New York State DEC is attempting to determine who owns the tanks and the proper methods that should be used to permanently close them. In the meantime, it is recommended that the property owner take measures to limit access to the three partly closed tanks; the simplest action would be to replace the current concrete lids with much heavier versions that would be more difficult to remove.

Feel free to contact Mr. Ronald Brink of my staff at 778-2887 if there are any questions concerning this matter.

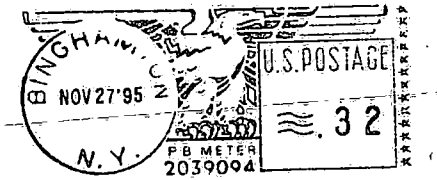
Very truly yours,

Robert W. Denz, P.E.
Director
Environmental Health Services

RWD/js

cc: Gary Robinson - N.Y.S.D.O.H.-Syracuse Regional Office
Howard McLaughlin - N.Y.S.D.E.C.-Syracuse

Broome County
**HEALTH DEPARTMENT**
One Wall Street
Binghamton, New York 13901




HOWARD MCLAUGHLIN
NEW YORK STTE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
REGION 7
615 ERIE BLVD W
SYRACUSE NY 13204-2400

RECEIVED
NOV 2 1 19
DEPT OF ENV CONSERVATION
SPILL RESPONSE
SYRACUSE

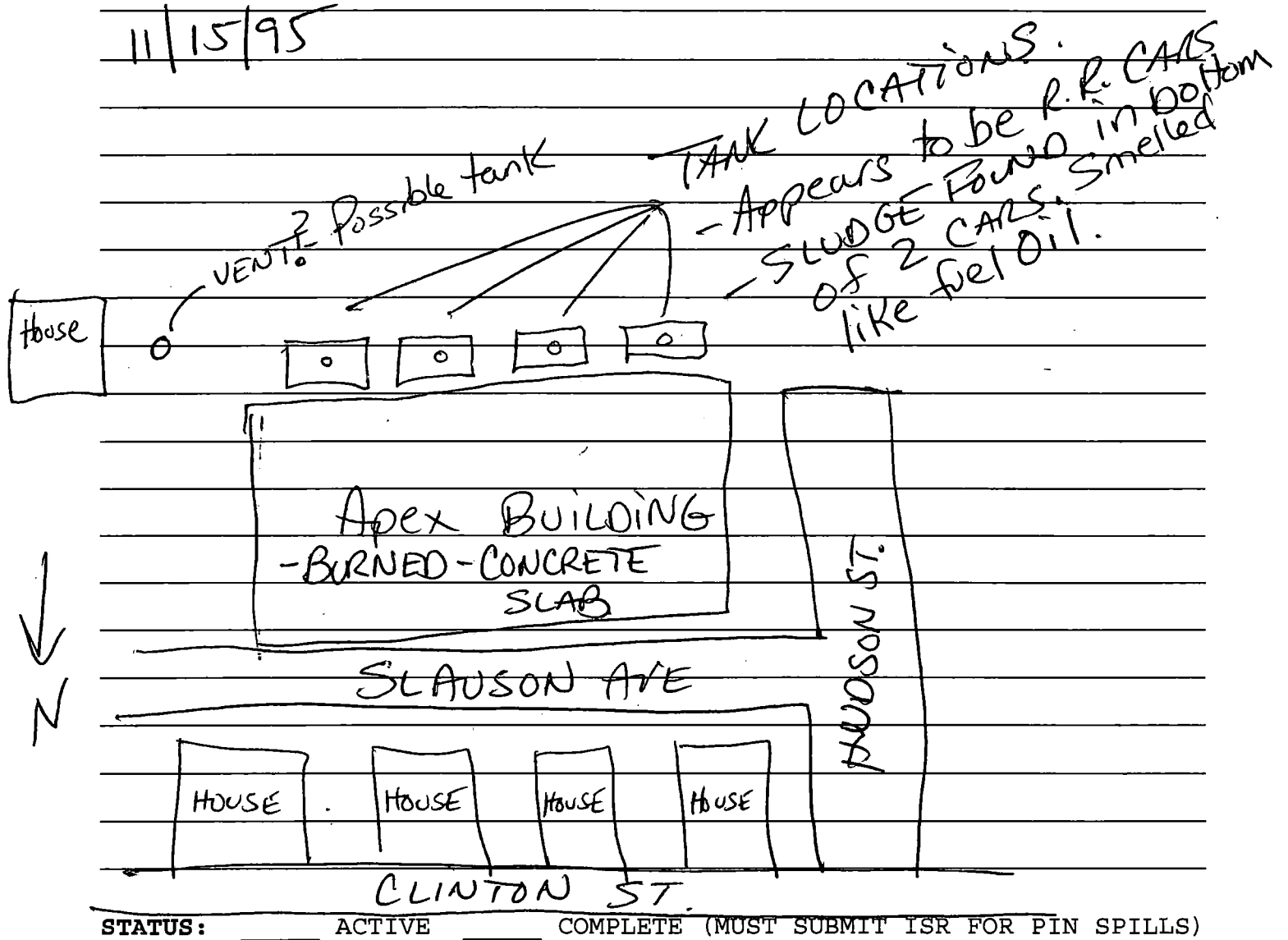
NYSDEC REGION 7 - KIRKWOOD
SPILL REPORT UPDATE FORM

SPILL NAME Apex Building SPILL# PBS Inspection

SITE ACTIVITY: 11/15/95 - Visited site w/ G. Robinson (DOH). located ~~4~~ 4, possible 5 TANKS.

RR. TRACKS

11/15/95



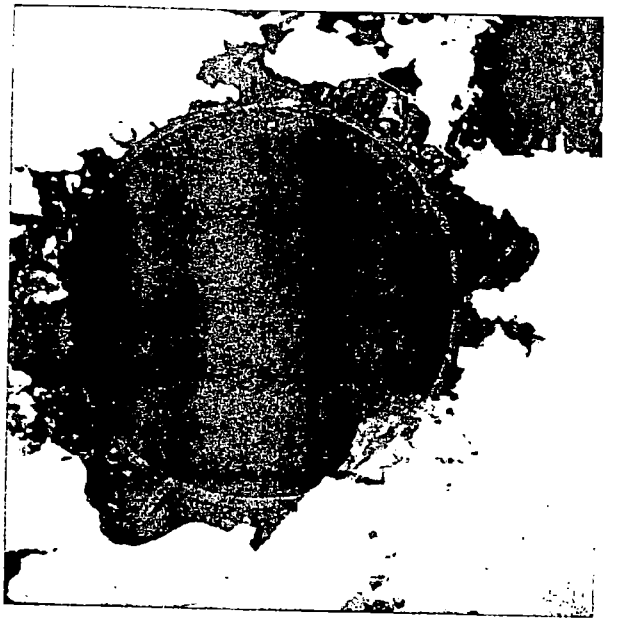

STATUS: _____ ACTIVE _____ COMPLETE (MUST SUBMIT ISR FOR PIN SPILLS)

_____ ENVIRONMENTALLY COMPLETE DATE

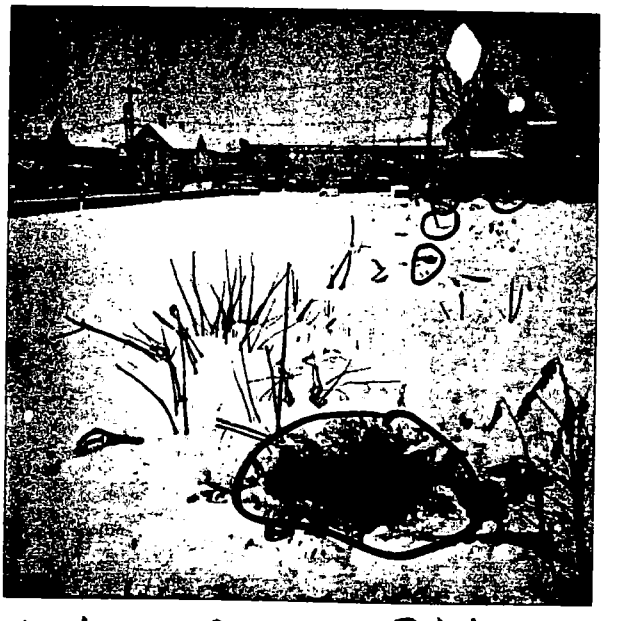
_____ ISR DATE

DEC INSPECTOR _____ INSPECTION DATE _____

11/15/95 - Apex Building VENT w/ CONCRETE GS



11/15/95 Apex Building Manway to TANK. GS



11/15/95 Apex Site Building SLAB. Circle are tank locations. GS

Broome County
**HEALTH DEPARTMENT**
One Wall Street / Binghamton, New York 13901 / (607) 778-8885

Richard A. Parsells, M.P.A., M.B.A. Public Health Director
*Fax (607) 778-2833*

Timothy M. Grippen, County Executive

**DATE/TIME:** 11/27/95 2:30PM

**TO:** Gary Robinson

**FROM:** Ron Brink

**TOTAL NUMBER OF PAGES INCLUDING COVER LETTER:** 11

**IF ALL PAGES ARE NOT RECEIVED, PLEASE CALL (607) 778-8885.**

**NOTES:** _____

Broome County
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One Wall Street / Binghamton, New York 13901 / (607) 778-8885

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Page 1

BROOME COUNTY CLERK
COUNTY CLERK'S RECORDING PAGE

Return To:

THOMAS COLLISON & PLACE
PO BOX 329
1201 MONROE STREET
ENDICOTT NY 13760

Index BOOK OF DEEDS
Book 01850 Page 0466
No. Pages 0005
Instrument DEED
Control # 199504240011

OPMENT AGENCY
BROOME COUNTY INDUSTRIAL DEVEL

APEX BUILDING PRODUCTS COMPANY

| | | |
|---|---|---|
| Recording | | 25.00 |
| | | .00 |
| | | .00 |
| | | .00 |
| trans tax | | .00 |
| | | .00 |
| | | .00 |
| | | .00 |
| | | .00 |
| Total: | $ | 25.00 |

MORTGAGE TAX

| | | |
|---|---|---|
| Serial # | | |
| City/Town | $ | .00 |
| S.M.A. | $ | .00 |
| Trans. Auth. | $ | .00 |
| Total | $ | .00 |

STATE OF NEW YORK
BROOME COUNTY CLERK

Recorded on 4/24/1995 at 9:38:01
Book 01850 Page 0466 of BOOK OF DEEDS

RICHARD HOGAN

TRANSFER TAX

| | | |
|---|---|---|
| Transfer Tax | $ | .00 |
| Amount | $ | .00 |
| Transfer Tax # | | TT1995003522 |

THIS PAGE IS A PART OF THE INSTRUMENT

Comp
Ver.
Bk.

RICHARD A. HOGAN
Broome County Clerk

A 291

Standard N.Y.B.T.U. Form 8002
Bargain & sale deed, with covenant against grantor's acts Ind. or Corp.

15

JULIUS BLUMBERG, INC., LAW BLANK PUBLISHERS

Page

CONSULT YOUR LAWYER BEFORE SIGNING THIS INSTRUMENT – THIS INSTRUMENT SHOULD BE USED BY LAWYERS ONLY

**THIS INDENTURE,** made the 14th day of April , nineteen hundred and Ninety-Five

**BETWEEN** BROOME COUNTY INDUSTRIAL DEVELOPMENT AGENCY, a public-benefit corporation of the State of New York with an office for the transaction of business located at 109 Main Street, Johnson City, New York 13790

party of the first part, and

APEX BUILDING PRODUCTS COMPANY, a corporation of the State of Pennsylvania with an office for the transaction of business located at Main and Page Streets, Post Office Box 1347, Kingston, Pennsylvania 18704

party of the second part,

**WITNESSETH,** that the party of the first part, in consideration of ----------

----------ONE----------dollars,

lawful money of the United States, and other good and valuable consideration paid

by the party of the second part, does hereby grant and release unto the party of the second part, the heirs or

successors and assigns of the party of the second part forever,

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Binghamton, County of Broome and State of New York, bounded and described as follows: COMMENCING at a point in the southerly line of Slauson Avenue, 15 feet, measured along said street line from the intersection of the same with the easterly line of Hudson Street; THENCE eastwardly and along the southerly line of Slauson Avenue 298.26 feet to the intersection of said street line with the westerly line of Crandall Street; THENCE southwardly at an interior angle of 88 degrees 28 minutes and along said street line 65 feet to a point therein; THENCE westwardly at an interior angle of 91 degrees 32 minutes and along the southerly line of the Isaac Hanchett location subdivision shown on a map filed in the Broome County Clerk's Office in Book 1 of Maps at page 297, 108 feet to an angle in said subdivision; THENCE southwardly along an easterly line of said subdivision 15.31 feet to a point; THENCE westwardly and along the southerly line of said subdivision 165.45 feet to a point which is 16.3 feet from the easterly line of Hudson Street, measured along an extension of the last course; THENCE northwardly at an interior angle of 107 degrees 33 minutes along the westerly line of Lot 7 as shown on said subdivision 81 feet more or less, to the point or place of beginning, making an interior angle of 75 degrees 22 minutes with the first course.

APEX BUILDING PRODUCTS COMPANY, a corporation of the State of Pennsylvania with an office for the transaction of business located at Main and Page Streets, Post Office Box 1347, Kingston, Pennsylvania 18704

Page 2 (cont.)

party of the second part,

WITNESSETH, that the party of the first part, in consideration of ----------

----------ONE----------dollars,

lawful money of the United States, and other good and valuable consideration paid

by the party of the second part, does hereby grant and release unto the party of the second part, the heirs or

successors and assigns of the party of the second part forever,

[redacted]

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Binghamton, County of Broome and State of New York, bounded and described as follows: COMMENCING at a point in the southerly line of Slauson Avenue, 15 feet, measured along said street line from the intersection of the same with the easterly line of Hudson Street; THENCE eastwardly and along the southerly line of Slauson Avenue 298.26 feet to the intersection of said street line with the westerly line of Crandall Street; THENCE southwardly at an interior angle of 88 degrees 28 minutes and along said street line 65 feet to a point therein; THENCE westwardly at an interior angle of 91 degrees 32 minutes and along the southerly line of the Isaac Hanchett location subdivision shown on a map filed in the Broome County Clerk's Office in Book 1 of Maps at page 297, 108 feet to an angle in said subdivision; THENCE southwardly along an easterly line of said subdivision 15.31 feet to a point; THENCE westwardly and along the southerly line of said subdivision 165.45 feet to a point which is 16.3 feet from the easterly line of Hudson Street, measured along an extension of the last course; THENCE northwardly at an interior angle of 107 degrees 33 minutes along the westerly line of Lot 7 as shown on said subdivision 81 feet more or less, to the point or place of beginning, making an interior angle of 75 degrees 22 minutes with the first course.

There is also hereby conveyed the right to use in common with General Aniline & Film Corporation, its successors and assigns, for the purpose of entering upon the premises above conveyed from Hudson Street and of egress from said premises to said Hudson Street, to pass, repass and travel over the strip of land fifteen feet wide, or thereabouts, which lies immediately west of the premises above conveyed and immediately east of the easterly line of said Hudson Street, and which strip of land extends from the southwesterly corner of the premises above conveyed, northwardly to Slauson Avenue (formerly Hanchett Avenue), a distance of

approximately 81 feet as more particularly described in the deed from General Aniline & Film Corporation to Vail-Ballou Press, Inc., dated February 19, 1947 and recorded in said Clerk's Office on the same day in Book 628, at page 100.

This conveyance is subject to a reservation by Vail Ballou Press, Inc., its successors and assigns, to use, maintain, repair and replace the three westernmost oil storage tanks and the pump house location south of the gonset warehouse on the above property, together with the oil line, heat line and electrical line in or near the underground conduits running from said tanks and pump house to other lands of said Vail Ballou Press, Inc. lying west of Hudson Street, together with rights of ingress and egress to and from said tanks, pump house and conduits for purposes of using, repairing, replacing and maintaining the same, any damage resulting therefrom to be the responsibility of said Vail Ballou Press, Inc.

BEING the same premises conveyed to the Broome County Industrial Development Agency by Warranty Deed of Harry R. McCartney and Gloria M. McCartney dated October 25, 1984 and recorded in the Broome County Clerk's Office on October 26, 1984 in Book 1421 of Deeds at Page 110.

**TOGETHER** with all right, title and interest, if any, of the party of the first part in and to any streets and roads abutting the above described premises to the center lines thereof,

**TOGETHER** with the appurtenances and all the estate and rights of the party of the first part in and to said premises,

**TO HAVE AND TO HOLD** the premises herein granted unto the party of the second part, the heirs or successors and assigns of the party of the second part forever.

**AND** the party of the first part covenants that the party of the first part has not done or suffered anything whereby the said premises have been incumbered in any way whatever, except as aforesaid.

**AND** the party of the first part, in compliance with Section 13 of the Lien Law, covenants that the party of the first part will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.

The word "party" shall be construed as if it read "parties" whenever the sense of this indenture so requires.

**IN WITNESS WHEREOF,** the party of the first part has duly executed this deed the day and year first above written.

In presence of:

**AND** the party of the first part covenants that the party of the first part has not done or suffered anything whereby the said premises have been incumbered in any way whatever, except as aforesaid.

**AND** the party of the first part, in compliance with Section 13 of the Lien Law, covenants that the party of the first part will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.

The word "party" shall be construed as if it read "parties" whenever the sense of this indenture so requires.

**IN WITNESS WHEREOF,** the party of the first part has duly executed this deed the day and year first above written.

IN PRESENCE OF:

BROOME COUNTY INDUSTRIAL DEVELOPMENT AGENCY

By: Lynn L. Sweetland

Lynn L. Sweetland
Vice Chairman

STATE OF NEW YORK, COUNTY OF ss:

On the day of 19 , before me personally came

to me known to be the individual described in and who executed the foregoing instrument, and acknowledged that executed the same.

STATE OF NEW YORK, COUNTY OF ss:

On the day of 19 , before me personally came

to me known to be the individual described in and who executed the foregoing instrument, and acknowledged that executed the same.

STATE OF NEW YORK, COUNTY OF BROOME ss:

On the 14th day of April 1995 , before me personally came LYNN L. SWEETLAND to me known, who, being by me duly sworn, did depose and say that he resides at No. Endwell, New York

that he is the Vice Chairman of Broome County Industrial Development Agency, the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the board of directors of said corporation, and that he signed his name thereto by like order.

Notary Public

JOSEPH B. MEAGHER
Notary Public, State of New York
Broome County 4974837
Commission Expires Nov. 26, 19

STATE OF NEW YORK, COUNTY OF ss:

On the day of 19 , before me personally came

the subscribing witness to the foregoing instrument, with whom I am personally acquainted, who, being by me duly sworn, did depose and say that he resides at No.

that he knows

to be the individual described in and who executed the foregoing instrument; that he, said subscribing witness, was present and saw execute the same; and that he, said witness, at the same time subscribed h name as witness thereto.

## Bargain and Sale Deed
With Covenant Against Grantor's Acts

Title No.

BROOME COUNTY INDUSTRIAL DEVELOPMENT AGENCY

TO

APEX BUILDING PRODUCTS COMPANY

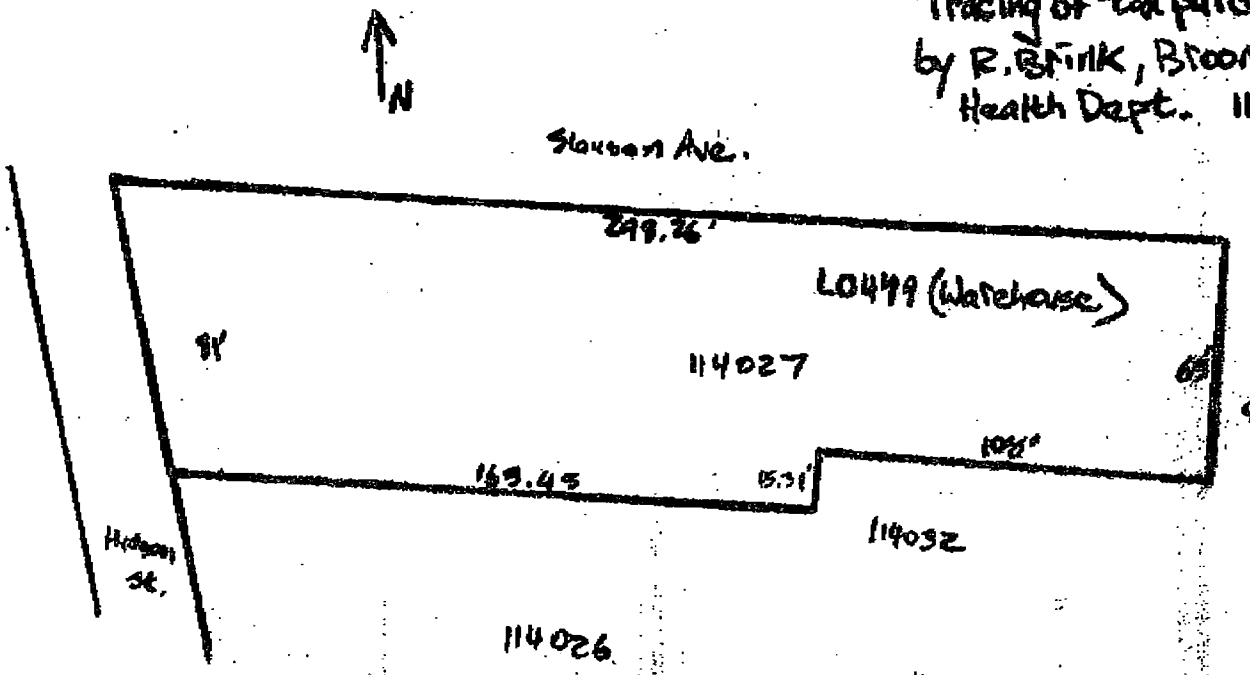
SECTION
BLOCK
LOT
COUNTY OR TOWN

RETURN BY MAIL TO:

Zip No.

Rec.

Tracing of tax parcel MAP
by R. Brink, Broome County
Health Dept. 11/27/95




Vital data; tax #-09-0014-027
owner- Apex Building Products Co.
P.O. Box 1347
Kingston, PA 18704

deed book#- 1850
Page#- PG 466

Broome County
**HEALTH DEPARTMENT**
One Wall Street / Binghamton, New York 13901 / (607) 778-8885

Richard A. Parsells, M.P.A., M.B.A. Public Health Director
*Fax (607) 778-2836*

Timothy M. Grippen, County Executive

November 22, 1995

Robert Murphy, Esq.
City of Binghamton Corporation Counsel
City Hall
Binghamton, New York 13901-3776

Re: Buried Oil Storage Tanks, 9 Slauson Avenue

Dear Mr. Murphy:

This letter is intended to inform your office about a potential safety hazard at the former Apex Building at the above-referenced address. A total of four underground oil storage tanks were found at the Apex site during recent inspections by the New York State Departments of Health and Environmental Conservation. Three of the four tanks have access holes that are closed by unattached blocks of concrete lying loosely on the surface of the ground. The fourth tank has a steel lid that is bolted in place. All four tanks are situated along the south end of the former Apex Building foundation. The three partially closed tanks are about seven feet in diameter; all were found to contain oil and oil sludge in varying amounts. Access ports were about 18 inches in diameter.

Safety concerns include the possibility that children may enter the tanks and become trapped, and the possibility of a fire or explosion should a spark or lighted match find its way into one of the partly closed tanks.

The New York State DEC is attempting to determine who owns the tanks and the proper methods that should be used to permanently close them. In the meantime, it is recommended that the property owner take measures to limit access to the three partly closed tanks; the simplest action would be to replace the current concrete lids with much heavier versions that would be more difficult to remove.

Feel free to contact Mr. Ronald Brink of my staff at 778-2887 if there are any questions concerning this matter.

Very truly yours,

Robert W. Denz, P.E.
Director
Environmental Health Services

RWD/js

cc: Gary Robinson - N.Y.S.D.O.H.-Syracuse Regional Office
Howard McLaughlin - N.Y.S.D.E.C.-Syracuse

FILE UPDATE

November 28, 1995

City of Binghamton---607-772-7000
Contact Mr. Bob Murphy Corporation Council
Information to date: Site belongs to APEX.
Mr.Murphy's staff will try to furnish this information, He was not in today.

NEED :

* Name of Owner
* Contact Person
* Address
* Possible Telephone #

Contacted Gary Peterson NYSDEC, 11-28-95. No records of a spill on Hudson street.

DEC records in Syracuse do not have a listing for APEX in Binghamton.

Broome County Health Department---607-778-2887
Contact Mr. Ron Brinks- NOT in the office.
Health Department reportedly has a record indicating a 6K spill occurred on Hudson Street in Binghamton.

Gary Robinson stopped at the office yesterday and we discussed the site inspection of 11-15-95.
Gary stated that three of the tank man-ways were exposed and do not have latches on them making the tanks accessible to anyone. The fourth tank has a bolted latch.
Gary stated that the recent site remediation work may have exposed the tank tops; however, he has not confirmed this.
During his inspection some product and sludge was found to exist in the three tanks that were open. He did not attempt to open the fourth tank.
Gary stated that there may be some contaminated soil still present between the tanks and a concrete slab where the building used to be. That material, if any, would be residue from the fire.

From what Gary told me the tanks are Rail Road Cars and they appear to have baffle plates still intact. If this is the case the removal of sludge and cleaning may be a problem, including filling all voids if the owners select that closure method.

11-28-95 (Continued)

I am trying to locate the Vall-Ballou file which may show the existence of pipe lines from the APEX property. PBS 7-182230, Vall Ballou is no longer located near the APEX property, but they do run a plant in Broome county for more information see PBS # 7-422207 and correspondence between John Piston and the plant's operator.
(Located most of the file but not the large prints, one small map was still with the file)

STREETS:

HUDSON STREET ( ON THE WEST )
SLAUSON AVE. ( NORTH )
CRANDALL ST. ( EAST )
LACKAWANA RAILROAD (Boarders the south line of this property)

File Now includes :
* FAX from Ron Brink to Gary Robinson and a letter from the Broome County Health Department to the Broome County Corporate Counsel, City Hall. That letter puts the City of Binghamton on notice.( Dated 11-22-95)

* Photographs of the tank man-ways taken on 11-15-95 during Gary Robinson's visit with John Okesson.

* See spill # 8906060 Tank Test Failure
TRI-STATE PETRO-TITE # 003 failed, re-tested found okay.

#4 FUEL ?

November 29, 1995 Wednesday

Tom Suozzo , DEC Kirkwood, contacted me this morning to review the site history of APEX.
After a brief discussion we found the tanks may not be regulated under 40 CFR 280 because it is believed that the petroleum stored was used for heating. Furthermore the site is under 40,200 gallons which is the volume regulated under 40 CFR 112, again only if near a navigable waterway. (SPCC)
Tom stated that he will try to establish who the land owners are and forward that information to me.

Tentative plan : Request that the owners close the tanks as per DEC 6 NYCRR Part 613.9. Option for in place closure

11-29-95 (Continued)

RON BRINKS BROOME COUNTY HEALTH DEPT. contacted me this morning +/-9:45 and stated that the APEX Corp. purchased the property back from Broome County in April of this year. Gary Robinson, NYS Health Dept., dropped off a copy of the deed; however it contains a conveyance similar to the 1984 deed.

Brinks further stated that :

* Roland Austin of the County Health Department recorded a 1000 gallon per day leak in 1971 . The leak was reported on 10-13-71 and an estimated 6,000 gallons of fuel was lost.

* There is no record of recovery when the line was repaired.

* The line was a 2" high pressure fuel line at 30 lbs. psq"

* Petroleum use was for heat/ steam.

Tom Suozzo contacted me after Ron Brinks got off the telephone and stated that he had just spoken to the Corporate Council's office and found that the deal may not have gone through.

* The papers were signed by the County but I see no signatures by the APEX Corp.
* Tom has spoken to Mr. Frank Evangelisti who stated that he will contact me to confirm ownership.

SIDE NOTE : THE TANK CARS ARE VERY HEAVY AND THE VALUE OF THE SCRAP IRON MAY COVER A LOT OF THE CLOSURE COSTS.

November 30, 1995 Thursday

Mr. Evangelisti of the Broome County Council's Office contacted me at 9:30 AM conveyed the following:

* The County never took the property!
* A tax map will be faxed to me, that map should list the property owner.
* He is going to request that Ms. Tracy Corbitt of the Broome County Planning Dept. contact me and provide additional information.
Her telephone number is 607-772-7063.

December 6, 1995

Ms. Tracy Corbitt contacted me this morning. She stated that the property belongs to APEX !
Her office sent a letter to APEX informing them that the County considers APEX to be responsible for the tanks and directed APEX to take corrective action to satisfy the NY State DEC regulations.

Ms.Corbitt requested that I contact her to keep Broome County updated. We also discussed the condition of the man-ways and I told her that Mr. Gary Robinson considers them to be a problem which should be addressed. She told me she will send the Fire Department to the site to investigate for a hazard.

FILE UPDATE

November 28, 1995

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November 28, 1995

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Her telephone number is 607-772-7063.

December 6, 1995

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Her office sent a letter to APEX informing them that the County considers APEX to be responsible for the tanks and directed APEX to take corrective action to satisfy the NY State DEC regulations.

Ms.Corbitt requested that I contact her to keep Broome County updated. We also discussed the condition of the man-ways and I told her that Mr. Gary Robinson considers them to be a problem which should be addressed. She told me she will send the Fire Department to the site to investigate for a hazard.

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November 30, 1995

Howard McLaughlin
fax (315) 426-2653

Dear Mr. McLaughlin;

As requested, please find attached the tax parcel map and a site plan that was submitted for a special use permit review for 9 Slauson Avenue. The following is a list of properties owners for adjacent properties to 9 Slauson Avenue:

| TAX MAP # | ADDRESS | PROPERTY OWNER |
|---|---|---|
| 114025 | 2 Hudson Street | Milton Rozen<br>2120 East Hamton Rd.<br>Binghamton, New York 13903 |
| 114026 | 4 Hudson Street | Apex Building Products<br>Main & Page Street<br>Kingston, PA 18704 |
| 114027 | 9 Slauson Avenue | Broome County IDA<br>% Apex Building Products<br>PO Box 206<br>Kirkwood, NY 13795 |
| 114035 | 21 Crandall Street | Eagle Properties Corp.<br>Box 681<br>Binghamton, NY 13902-0222 |
| 114034 | 25 Crandall Street | Eagle Properties Corp.<br>Same as above |
| 114033 | 27 Crandall Street | John Pratko<br>27 Crandall Street<br>Binghamton, NY 13905 |
| 114032 | 27 1/2 Crandall St. | Micheal Curyto<br>27 1/2 Crandall St.<br>Binghamton, NY 13905 |

If you have any further questions regarding this matter, please do not hesitate to call me at (607) 772-7063.

Sincerely,

Tracey S. Corbitt, Senior Planner

enc.
cc: chron; I:\HOME\TRACEY\LET_9sl.DOC

City of Binghamton

# FAX CORRESPONDENCE

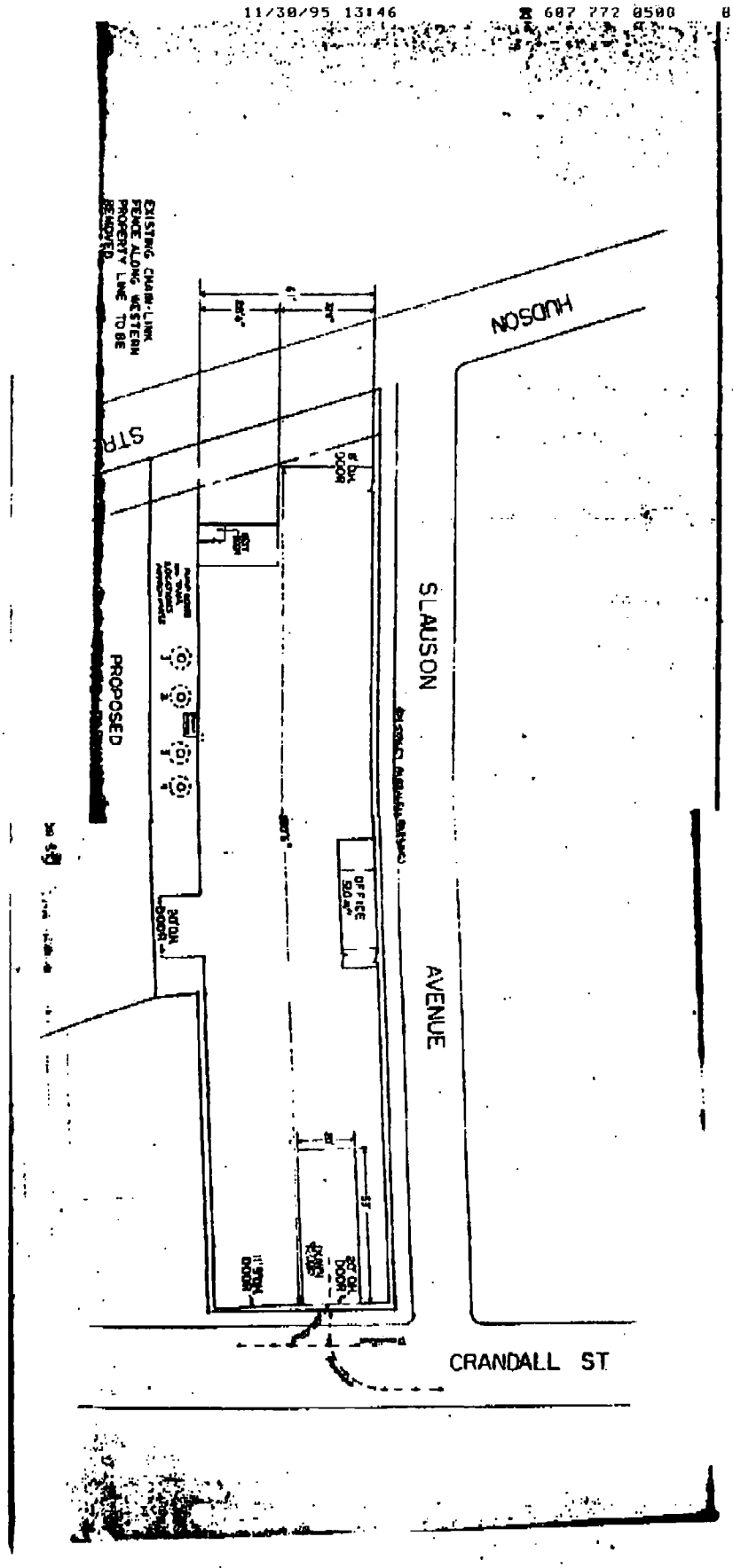
City of Binghamton
Government Plaza
38 Hawley Street
Binghamton, N.Y. 13901-3776
Fax (607) 772-0508

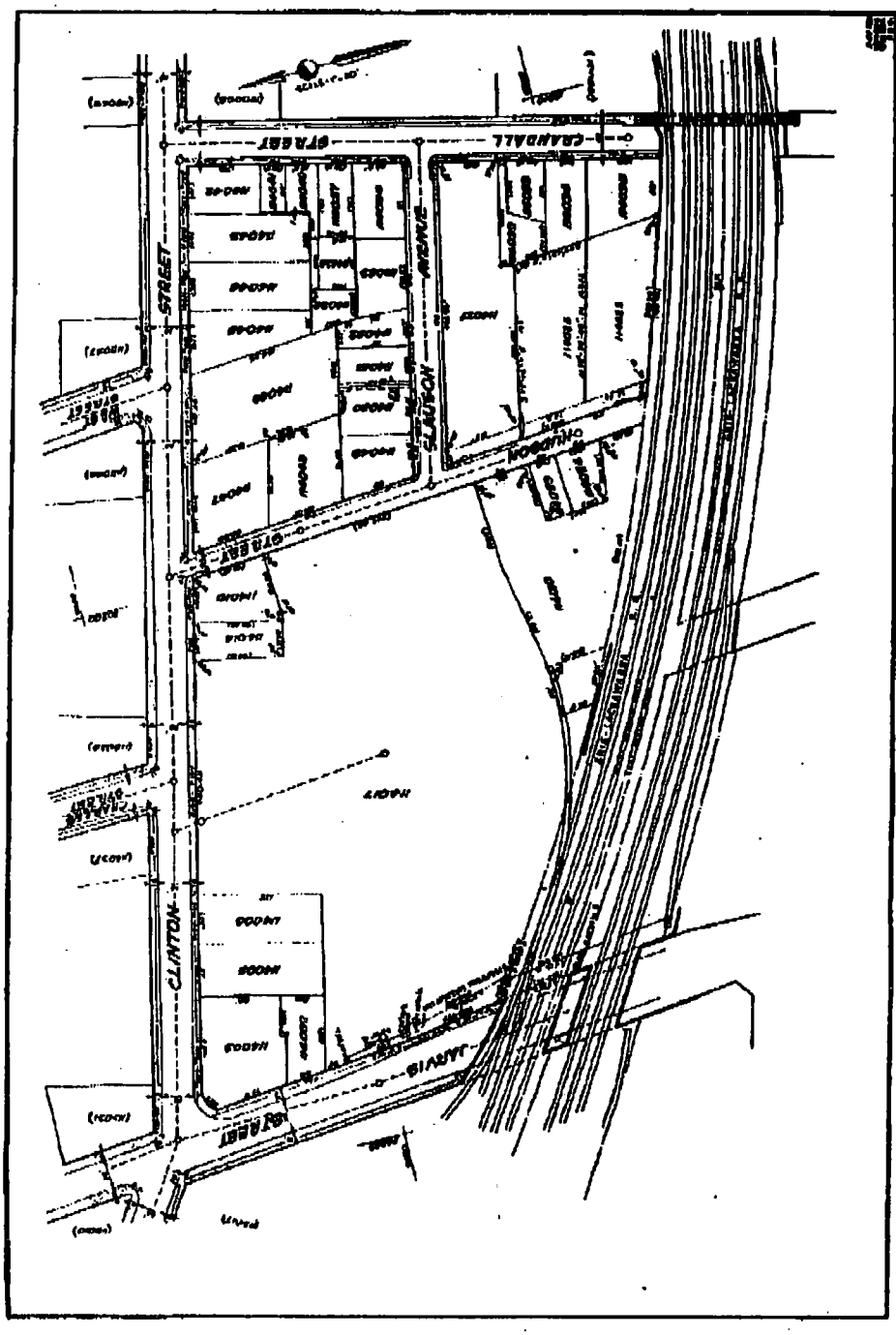
Date: 11/30/95
Time: 11:40
Number of Pages: 4
(including cover)

To: Howard McLaughlin
Company: NYSDEC
Fax #: 315-426-2653
From: Tracy S. Corbitt, Senior Planner
City Hall Department: Planning, Housing & Com. Dev.
Phone number: 772-7063 (607)

Message:

PHCD: 6/95


EXISTING CHAIN-LINK FENCE ALONG WESTERN PROPERTY LINE TO BE REMOVED
HUDSON
STR
PROPOSED
SLAUSON
AVENUE
OFFICE
CRANDALL ST




CITY OF BINGHAMTON N. Y. PLATE 114

112

MEMO TO APEX/VAIL BALLOU (BINGHAMTON SPILL/TANK CLOSURE)

DATE: DECEMBER 6, 1995

I met with Howard McLaughlin and he informed me of the history of the case and gave me the file for review. We determined that both Apex, as owner, and Vail Ballou, pursuant to deed reservation would be responsible parties.

Howard later spoke with Apex which informed him that they were checking w/ their attorney regarding closure responsibility and at least go out and secure the tank openings.

12/7/95

I received a phone call from Jim Cahill, attorney for Apex (Binghamton 607-748-7481). He informed me that his client would be pumping the tanks and filling them with sand. He also stated that have or would secure the tanks for the time being. He has been conducting the search as to the other responsible parties--i.e. Vail Ballou and its successors. He suspected there may be one or more viable entities which would be responsible for the tanks. He asked for a week or two to attempt to locate these people.

I informed him that any closure plan would have to be cleared with Howard first and that the important immediate action would be to secure the tank tops. I also asked him to let me know if he attained any info. regarding other responsible parties since it would enable the department to seek action elsewhere.

I need to:

-review procedures for spills/closure
-review short form stip. and discuss the possiblity w/ Howard of sending these out to Apex and other resp. parties.

HOWARD –

614 / 40 CFR ~~580~~

4 RAILROAD CARS – BURIED

~~4 TANKS~~

RESPONSIBLE PARTY –

APEX / Vallow Blvd

Sludge

① Secure Tank
② Closing 6 NYCRR 612-614
40 CFR 280 – Testing

[HEARING SOURCE EXEMPTION] ?

B.C.I.D.A

RECENT SITE REMEDIATION ?
OWNERSHIP ?

OTHER SUBSTANCES IN FILE – ? – Hoo Hlth Dept Testing –
1987 Gary Robinson

Spoke Apex (Jack 1989)
they are speaking w/ Atty
Securing tanks

- Short form Petroleum STIP. to
Both Parties -
OK on Content of Short Form Petrol.
STIP.

December 6, 1995

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Her office sent a letter to APEX informing them that the County considers APEX to be responsible for the tanks and directed APEX to take corrective action to satisfy the NY State DEC regulations.

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January 3, 1996

RE: APEX SITE

UPDATE

I spoke to Mr. Dennis McCartney of APEX INC. this morning.
He stated that APEX has received a bid from Environmental Products and Services to clean the tanks, sample the soil, and fill the vessels in place.

The weather is presenting a problem therefore work will not begin until April of 1996. I requested that he send me a schedule no latter than March 1996.

Mr. McCartney can be reached at 717-288-3683
See PBS # 7-422207 and 7-182230 for reference!

HTM

RECEIVED
JAN 11 1996
N.Y.S.D.E.C. - Legal Affairs
Region VII - Syracuse

CAHILL & BEEHM
ATTORNEYS AT LAW
145 WASHINGTON AVENUE
POST OFFICE BOX 119
ENDICOTT, NEW YORK 13761-0119

JAMES N. CAHILL *
ROBERT S. BEEHM

TELEPHONE
(607) 748-7481

* ALSO ADMITTED IN PENNSYLVANIA

January 10, 1996

COPY

Vail Ballou Press, Inc.
Pine Camp Drive
Kirkwood, NY 13904

Maple Vail Book Manufacturing Group
187 Clinton Street
Binghamton, NY 13905

Attention: Real Estate Department

Ladies and Gentlemen:

I represent Apex Building Products Company which is the present owner of premises on Slauson Street which were previously conveyed by you to New Milford Development Corporation. A copy of that deed of conveyance is enclosed herewith. I have highlighted that portion of the second page of that deed which is the subject matter of this letter.

The DEC has advised Apex that the tanks which are referred to in the enclosed deed must be rendered harmless. The DEC obviously came to Apex because the tanks are located on Apex's property.

However, the enclosed deed makes it clear, we believe, that the responsibility for those tanks is yours.

We believe, by the way, that the cost of meeting DEC's requirement is not hugely onerous.

CAHILL & BEEHM
ATTORNEYS AT LAW
145 WASHINGTON AVENUE
POST OFFICE BOX 119
ENDICOTT, NEW YORK 13761-0119

JAMES N. CAHILL *
ROBERT S. BEEHM

* ALSO ADMITTED IN PENNSYLVANIA

TELEPHONE
(607) 748-7481

RECEIVED
JAN 22 1996
N.Y.S.D.E.C. - Legal Affairs
Region VII - Syracuse

January 19, 1996

Alan M. Zalbowitz, Esq.
32 Riverside Drive
Binghamton, NY 13905

Re: Contro - Clinton Street Property

Dear Alan:

I represent Apex Building Products Company, owner of property at 9 Slauson Avenue in Binghamton.

I understand that you represented Charles Contro in connection with the purchase of a building on Clinton Street from Vail-Ballou Press, Inc. in 1988.

I am enclosing a copy of a 1965 deed from Vail-Ballou to New Milford Development Corporation in which Vail-Ballou, its successors and assigns, reserved the right to use storage tanks located on Slauson Avenue.

The DEC has informed my client that the tanks must be rendered harmless. I notified Vail-Ballou by letter January 10, 1996 (copy enclosed) that the responsibility for the tanks rests with them. This morning I received a letter from Robert Smith (copy enclosed) indicating that your "Contro from Vail-Ballou" file contains documents relating to the tanks. Please forward copies of those documents and any other information you may have in connection with the measures taken to abandoned the tanks.

Thank you for your attention to this matter.

Very truly yours,

James N. Cahill

JNC:elc
Encs.

cc: Dennis McCartney
Kenneth Lynch, Esq.

COUGHLIN & GERHART, L.L.P.
ATTORNEYS AND COUNSELLORS
ONE MARINE MIDLAND PLAZA
P. O. BOX 2039
BINGHAMTON, NEW YORK
13902-2039
(607) 723-9511
FAX (607) 772-6093

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PETER H. BOUMAN *
GORDON E. THOMPSON
FRANK W. MILLER
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ROBERT R. JONES
PAUL J. SWEENEY
SUSAN A. INNEO *

GEORGE G. COUGHLIN
(1900-1986)

DONALD G. SWEENEY
(1942-1988)

EUGENE C. GERHART
EDWARD S. DERMODY
GEORGE L. INGALLS
CARL R. GITLITZ
WILLIAM L. GIBSON, JR.
OF COUNSEL

ROBERT D. W. LANDON, II, P.A.
OF COUNSEL IN FLORIDA ONLY

190 MAIN ST., P. O. BOX 462
AFTON, NY 13730
(607) 639-2222

257 MAIN ST.
JOHNSON CITY, NY 13790
(607) 770-0894
FAX (607) 770-1978

MAIN ST., P. O. BOX 429
UNADILLA, NY 13849
(607) 369-3811
FAX (607) 369-3315

* ALSO ADMITTED IN PENNSYLVANIA

January 18, 1996

James N. Cahill, Esq.
Cahill & Beehm
145 Washington Avenue
P.O. Box 119
Endicott, New York 13760

RE: Vail-Ballou Press, Inc.

Dear Jim:

We represent Vail-Ballou Press, Inc. and your letter of January 10, 1996 has been referred to me for a reply.

Prior to the sale of our Clinton Street building to Contro, the tanks in question were pressure tested, pumped out and abandoned by Vail-Ballou. It is my recollection that the DEC was notified of this at the time. Alan Zalbowitz represented Contro when he purchased the Clinton Street property and I believe he has copies of documents related to these tanks.

Very truly yours,

Robert J. Smith

RJS:dco

cc: Mr. Francis X. Keffer

ENV. R. PRODUCTS - INVESTIGATING / CLOSURE / REMEDIATION

40 CFR 280 SOIL SAMPLING -

OVR REGS - NOTHING THAT SAYS SOIL SAMPLING REQUIRED

OLD SPILL PER HEALTH DEPT (BROOME CTY)

└ SUPPLY LINE ↳ GARY ROBINSON NYSDEPT HEALTH

NO WAY TO ISOLATE LINES → TANK TEST SUSPECT

TANK TESTING MUST BE BY DEC APP'D LTR.

TANKS NEVER LEGAL - 619

HOLD FOR NOW

CAHILL & BEEHM
ATTORNEYS AT LAW
145 WASHINGTON AVENUE
POST OFFICE BOX 119
ENDICOTT, NEW YORK 13761-0119

JAMES N. CAHILL *,
ROBERT S. BEEHM

* ALSO ADMITTED IN PENNSYLVANIA

TELEPHONE
(607) 748-7481

RECEIVED
FEB _ 8 1996
N.Y.S.D.E.C. - Legal Affairs
Region VII - Syracuse

February 6, 1996

Kenneth Lynch, Esq.
NYS Dept. of Environmental Conservation
615 Erie Boulevard West
Syracuse, NY 13204-2400

Re: Apex Building Products Company
Underground tank at 9 Slauson Avenue, Binghamton, NY

Dear Mr. Lynch:

Enclosed please find copies of correspondence I received today from attorney Alan Zalbowitz in connection with the underground tanks located at 9 Slauson Avenue in Binghamton. I will forward attorney Smith's response as soon as it is received.

Very truly yours,

James N. Cahill

JNC:elc
Encs.

cc: Dennis McCartney

RECEIVED
2-6-96

CHARLES W. YETTER
ALAN M. ZALBOWITZ*
EDWARD M. GARTELL

KELLY A. MOONEY

GEORGE H. ELWOOD*
OF COUNSEL

*ALSO ADMITTED IN PENNSYLVANIA

YETTER, ZALBOWITZ & GARTELL
ATTORNEYS & COUNSELLORS AT LAW
32 RIVERSIDE DRIVE
BINGHAMTON, NEW YORK 13905

(607) 723-9551
FAX (607) 723-2523

151 FRONT STREET
DEPOSIT, NEW YORK 13754
(607) 467-3322

8 MAIN STREET
WINDSOR, NEW YORK 13865
(607) 655-2050

R.R. 6, BOX 6022C
(RT. 706 ON THE LAKE)
MONTROSE, PA 18801
(717) 278-4711

10 W. MAIN STREET
HANCOCK, NEW YORK 13783
(607) 637-4791
FAX NO. (607) 637-4701

February 5, 1996

Robert J. Smith, Esq.
Coughlin & Gerhart
One Marine Midland Plaza
Binghamton, NY 13902-2039

FOR YOUR INFORMATION

RE: Contro - Clinton Street Property

Dear Bob:

I received a letter from Jim Cahill a few weeks ago inquiring as to the status of some tanks which were apparently utilized by Vail Ballou and transferred to New Milford Development Corporation. He also sent me a copy of your letter of January 18 in which you advised we represent Contro and that you thought we had copies of the documents related to these tanks. I am sending you a copy of your letter of December 4, 1989 which referred to the underground tanks and indicated that once the certifications had been issued, you were going to try to get a copy to send to us for our file. I am not certain whether those are the same tanks as the tanks involving Slauson Avenue, but in reviewing my file after your letter of December 1989, I do not find that we ever received any certifications from DEC.

Very truly yours,

YETTER, ZALBOWITZ & GARTELL

Alan M. Zalbowitz

Alan M. Zalbowitz

AMZ/mn
cc: James N. Cahill, Esq.
Charles Contro
Peter Contro

COUGHLIN & GERHART
ATTORNEYS AND COUNSELLORS
ONE MARINE MIDLAND PLAZA
P. O. BOX 2039
BINGHAMTON, NEW YORK
13902-2039
(607) 723-9511
TELEX: 221500 ASAS COHART
FAX: (607) 772-6093

CHENANGO COUNTY OFFICE
190 MAIN STREET
P. O. BOX 462
AFTON, NEW YORK 13730
(607) 639-2222

LOREN W. GUY
RICHARD B. LONG
G GORDON COUGHLIN, JR.
ROBERT J. SMITH *
HENRY J. RODE II
PETER H. BOUMAN *
GORDON E. THOMPSON
FRANK W. MILLER
MARK S. GORGOS
JAMES P. O'BRIEN
RICHARD W. MERTENS

CARL A. KIEPER
JEFFREY A. BROWN
DAVID H. GUY
BETH E. SECAUR
ROBERT C. MURPHY
CHRISTOPHER T. CAFARO
GARY B. KLINE

* ALSO ADMITTED IN PENNSYLVANIA

GEORGE G. COUGHLIN
(1900-1986)

DONALD G. SWEENEY
(1942-1988)

EUGENE C. GERHART
EDWARD S. DERMODY
GEORGE L. INGALLS
OF COUNSEL

ROBERT D. W. LANDON, II, P.A.
OF COUNSEL IN FLORIDA ONLY

December 4, 1989

Alan M. Zalbowitz, Esq.
Yetter, Zalbowitz, Hester & Gartell
66 Hawley Street
Binghamton, New York 13901

FOR YOUR INFORMATION

RE: Vail-Ballou Press, Inc./
Charles Contro

Dear Alan:

We are enclosing herewith the agreement covering the lease extension between Charles Contro and Vail-Ballou Press, Inc. As I related in our telephone conversation, I have taken the liberty of revising paragraph 8.

As a matter of information, it is my understanding that the underground tanks have in fact now been certified by the DEC. Once the certifications have in fact been issued, I will try and get a copy to send for your file.

Sincerely,

Robert J. Smith

RJS:dcp

Enclosure

NYS ENVIRONMENTAL CONSERVATION
7481 HENRY CLAY BLVD.
LIVERPOOL, NY 13088



(315) 428-4514

93-12-001 (4/85)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# PETROLEUM BULK STORAGE NOTICE

Required Test Schedule for Underground Storage Tanks

PETROLEUM BULK STORAGE NUMBER: 182230

Tests must be completed by the last day of the month indicated.
Reporting requirements are indicated on the back of this form.

| Test Date(s) | Method(s) | TANK NUMBER | DUE DATE | TANK TYPE | CAPACITY | PRODUCT | INDICATE TEST RESULTS (P-pass; F-fail) Tank P | Tank F | Piping P | Piping F | Unable To Test |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PLEASE DISREGARD THIS NOTICE FOR RESULTS ALREADY SENT TO DEC | | | | | | | | | | | |
| 11-27-89 | Ainlay | 001 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL | X | | | X | |
| 9-20-89 | Ainlay | 002 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL | X | | X | | |
| 11-22-89 | Ainlay | 003 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL | X | | | X | |
| 9-22-89 | Ainlay | 004 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL | X | | X | | |

RECEIVED
MAR 13
DEC

This notice and a copy of the underground test report should be returned to DEC with the following information:

Tester's Name: TRI-STATE TANK service / Luzon oil co.

Tester's Address: P.O. Box 19, Harleyville N.Y. 12747

NAME OF FACILITY

VAIL BALLOU PRESS CUNTON ST D'
187-195 CLINTON ST
BINGHAMTON NY 13905

I affirm that:
1. I am trained in performance of the test and have an understanding of the variables which affect the test.
2. The test methods used meet the Department's criteria.

Tester's Signature

Owner's Signature

NAME OF OWNER

MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK PA 17405

DEC DISPOSITION:

DEPARTMENT COPY

CAHILL & BEEHM
ATTORNEYS AT LAW
145 WASHINGTON AVENUE
POST OFFICE BOX 119
ENDICOTT, NEW YORK 13761-0119

JAMES N. CAHILL *
ROBERT S. BEEHM

* ALSO ADMITTED IN PENNSYLVANIA

TELEPHONE
(607) 748-7481

March 12, 1996

Howard McLaughlin, Esq.
NYS Dept. of Environmental Conservation
615 Erie Boulevard North
Syracuse, NY 13204-2400

Re: Apex Building Products
Underground tanks at 9 Slauson Avenue, Binghamton

Dear Mr. McLaughlin:

Does the information we enclose now enable us to obtain satisfaction in full of DEC's concerns regarding the above referenced tanks. Please advise.

Very truly yours,

James N. Cahill

JNC:elc
Encs.

cc: Dennis McCartney

**New York State Department of Environmental Conservation**
**Region 7 Division of Spills Management**
**615 Erie Boulevard West**
**Syracuse, New York 13204-2400**
**(315) 426-7519**

**Michael D. Zagata**
**Commissioner**

March 13, 1996

Mr. James N. Cahill Esq.
Cahill & Beehm
145 Washington Avenue
P.O.Box 119
Endicott, New York 13761-0119

**FILE COPY**

Re: PBS # 7-182230
APEX-Binghamton, N.Y.

Dear Mr. Cahill:

I have reviewed your letter of March 12, 1996 and find that it contains information already listed which doesn't satisfy the rules and regulations as listed in 6NYCRR Parts 612, 613 & 614. A copy of that publication is enclosed for your review.

The problem remains that all four tanks are overdue for testing. See page 26, 613.9 (a) which requires that tanks temporarily out of service are still subject to testing requirements. Our records also indicate that two of the tanks are still in service.

If the tanks listed under PBS # 7-182230 were tested after the due date of 1994 please forward a copy of the test results to this office care of my attention.

612.2 (2) Re-registration : Registrations must be renewed every five years until the department receives written notification that the facility has been permanently closed or the ownership of the facility has been transferred.

My records indicate that the registration for this facility expired in 1992. Enclosed is an application for your use to re-register this site. You may also use the same form to closure the facility as per 613.9 (b).

Please return the application to my attention along with a check in the amount of $250 made out to New York State D.E.C. ( see page 11 for the fee schedule).

I am also requesting a closure schedule, the name of the contractor and lab your client will use.

If you have any questions please contact me at (315) 426-7519 or Mr. Kenneth Lynch, Regional Attorney R-7 at (315) 426-7405.

Sincerely,

Howard T. McLaughlin
Construction Inspector 11
Petroleum Bulk Storage
Division Spills Management

CC: Kenneth Lynch
CC: Richard Brazell

FILE COPY

April 18, 1996

Reference numbers:

PBS 7-422207
PBS 7-182230

Site: APEX

Status Report:

* Tanks are still listed as overdue for testing since 1994.

* The site is not registered

* Tanks have not been closed correctly as per 6NYCRR Parts 613.9 (a) and (b).
Item (v) calls for removal or filling of these tanks.

* The site history indicates that there was a release in the vicinity of the tanks. The volume was reported as 1000 gallons a day and there is no record of recovery. (Health Department Broome County)

* A site visit on 11-15-95 found that the tanks were not secures and one fill port was open.

* Spill # 89-06060 Tank # 003 failed a tank test. The tank was re-tested at a later date and it passed. There is no record of a recovery.

* New york State Health Department has reason to believe that the tanks once contained chemicals therefore they are also interested in a sampling event taking place.

* It is believed that these tanks could also fall under the rules and regulations of 40 CFR 280 because of the duel use pattern. In short if these tanks were supplying a separate source such as power generation they would be covered under 40 CFR.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Petroleum Bulk Storage Program

Facility Information Report

Printed : 03/21/97

PBS # : 7-182230

Site : VAIL-BALLOU PRESS-CLINTON ST.
187-195 CLINTON ST
BINGHAMTON, NY 13905

County : BROOME Town : BINGHAMTON (C)
Latitude : N Longitude : W
SPDES# : CBS# :
Site Type : Info Not Given.

Operator : FRANK KEFFER (607) 723-7981
Emergency : ROBERT KALKA (607) 797-7090

Site status : Active
Total Active Tanks : 4
Active Capacity : 41,200 gals.

Reg Expires : 06/30/92
Last Inspection : / /
Cert Printed : 06/30/87

Site Errors : Minor Data Missing
Owner Error : Minor Data Missing
Tank Errors : Minor Data Missing

Owner : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Phone : (717) 764-5911
Owner Type : Corporate/Commercial

Mail : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Att : (717) 764-5911

| TankNo | TankLoc | Stat | DateIn | Capac (g) | Product | TankType | TankInt | TankExt | PipeLoc | PipeType | PipeInt | PipeExt | SecCont | Leak | OverFil | Disp | LastTest | NextTest | TStat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 002 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |
| 003 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 004 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |

May 28, 1996

UPDATE

RE: APEX

Mr. McCartney contacted me this morning and stated that the first phase of testing will begin on site this Thursday 5-30-96.

He asked if that was acceptable? I stated yes.
He agreed to fax me a copy of the soil analyses as soon as he got it.
Phase 11 will depend upon the analytical results, but tentatively it is scheduled for full closure in June.

**From:** Lucille Schreiner
**To:** htmclaug
**Date:** 8/31/98 2:00pm
**Caller:** John Bowman
**Company:** Vail Ballou Press
**Phone:** 717-764-5911

| | |
|---|---|
| [ ] Telephoned | [*] Please call |
| [ ] Will call again | [ ] Returned your call |
| [ ] Wants to see you | [ ] Came to see you |
| [ ] Urgent | |

RE: PBS 7-182230

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Petroleum Bulk Storage Program
Facility Information Report

Printed : 08/31/98

PBS # : 7-182230

Site : VAIL-BALLOU PRESS-CLINTON ST.
187-195 CLINTON ST
BINGHAMTON, NY 13905

County : BROOME Town : BINGHAMTON (C)
Latitude : N Longitude : W
SPDES# : CBS# :
Site Type : Info Not Given.

Operator : FRANK KEFFER (607) 723-7981
Emergency : ROBERT KALKA (607) 797-7090

Site status : Active
Total Active Tanks : 4
Active Capacity : 41,200 gals.

Reg Expires : 06/30/92
Last Inspection : / /
Cert Printed : 06/30/87

Site Errors : Minor Data Missing
Owner Error : Minor Data Missing
Tank Errors : Minor Data Missing

Owner : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Phone : (717) 764-5911
Owner Type : Corporate/Commercial

Mail : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Att : (717) 764-5911

| TankNo | TankLoc | Stat | DateIn | Capac (g) | Product | TankType | TankInt | TankExt | PipeLoc | PipeType | PipeInt | PipeExt | SecCont | Leak | OverFil | Disp | LastTest | NextTest | TStat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 002 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |
| 003 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 004 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |

Bob Smith → ATTORNEY

JOHN BOARMAN claims they do NOT own TANKS - they SOLD property.

CATCH 22 - did they SELL TANKS with property?

NOTE: This form purports to show only the change of ownership from Vail-Ballou Press, Inc. to Charles Contro, which occured on November 18, 1988. There has been at least one (1) additional change of ownership.

93-19-1 (1/97)—q

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION

# PETROLEUM BULK STORAGE APPLICATION

**Pursuant to the Petroleum Bulk Storage Law, Article 17, Title 10 of ECL; 6 NYCRR 612-614 and 6 NYCRR, Subpart 360-14**
**(Continued on the Reverse Side—Please Be Sure to Complete Section B)**

Please Type or Print Clearly and Complete All Items

## SECTION A—See Instructions on Cover Sheet

SEP-14-1998 15:22 SPILL RESPONSE REG 7 SYR. 315 426 2653 P.03/06

**PBS NUMBER** 7-182230

Indicate other existing DEC Numbers, if any, for this facility:

CBS Number

SPDES Number

TRANSACTION TYPE (Check all that apply) NOTE: Transaction Types 1, 2 and 5 may require a fee.

1 ☐ Initial/New Facility
2 ☒ Change of Ownership
3 ☐ Substantial Tank Modification
4 ☒ Information Correction
5 ☐ Renewal

Geographical Locator for this Facility: (If known)

LATITUDE: DEG MIN SEC

LONGITUDE: DEG MIN SEC

### FACILITY

FACILITY NAME: Vail-Ballou Press - Clinton Street

LOCATION (Not P.O. Boxes): 187-195 Clinton Street

LOCATION (Continued):

CITY/TOWN/VILLAGE: Binghamton | STATE: NY | ZIP CODE: 13905

COUNTY: Broome | TOWNSHIP OR CITY: Binghamton

NAME OF OPERATOR AT FACILITY | FACILITY TELEPHONE NUMBER ( )

EMERGENCY CONTACT NAME | EMERGENCY TELEPHONE NO. ( )

### TYPE OF PETROLEUM FACILITY: (Check all that apply)

A. ☐ Storage Terminal/Petroleum Distributor
B. ☐ Retail Gasoline Sales
C. ☐ Other Retail Sales
D. ☒ Manufacturing (Prior to fire)
E. ☐ Utility
F. ☐ Trucking/Transportation
G. ☐ Apartment Building
H. ☐ School
I. ☐ Farm
J. ☐ Private Residence
K. ☐ Airline (Air Taxi)
L. ☒ Other (Specify Below) Vacant land due to fire loss

### OWNER

OWNER NAME: Charles Contro

ADDRESS (Street and/or PO Box): 21 Oak Street

CITY: Harbor Oaks | STATE: Fl | ZIP CODE: 32019

FEDERAL TAX ID NUMBER | OWNER TELEPHONE NUMBER ( )

TYPE OF OWNER (Check only one)
1 ☒ Private Resident 2 ☐ State Government 3 ☐ Local Government
4 ☐ Federal Government 5 ☐ Corporate/Commercial
See Note above

I hereby certify under penalty of perjury that the information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

NAME OF OWNER OR AUTHORIZED REPRESENTATIVE: Robert J. Smith | AMOUNT ENCLOSED: $

TITLE: Attorney for Vail-Ballou Press, Inc.

SIGNATURE: Robert J. Smith | DATE: 9/15/98

### CORRESPONDENCE

ATTENTION: John Bowman

NAME OF COMPANY: Maple-Vail Book Manufacturing Group

ADDRESS: PO Box 2695

ADDRESS: Willow Springs Lane

CITY/STATE/ZIP CODE: York PA 17405

TELEPHONE NUMBER: (717) 764-5911

**OFFICIAL USE ONLY**

Page ____ of ____
Date Received: 9/14/98
Date Processed: 9/17/98
Amount Received $ ____
Reviewed By: ____

93-06-004 (12/94)—26c

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# PETROLEUM BULK STORAGE REGISTRATION CERTIFICATE

NYS DEC - REGION 7
615 ERIE BLVD. W.
SYRACUSE, NY 13204
(315) 426-7519



| TANK NUMBER | DATE INSTALLED | TANK TYPE | CAPACITY (GALLONS) | DATE LAST TESTED | TESTING DUE DATE |
|---|---|---|---|---|---|
| 001 | 00/00 | Steel/Carbon Steel | 10,300 | 11/89 | 11/94 |
| 002 | 00/00 | Steel/Carbon Steel | 10,300 | 09/89 | 09/94 |
| 003 | 00/00 | Steel/Carbon Steel | 10,300 | 11/89 | 11/94 |
| 004 | 00/00 | Steel/Carbon Steel | 10,300 | 09/89 | 09/94 |

FILE COPY

OWNER
CHARLES CONTRO
21 OAK ST.
HARBOR OAKS, FL 32019

SITE
VAIL-BALLOU PRESS-CLINTON ST.
187-195 CLINTON ST
BINGHAMTON, NY 13905

OPERATOR (Name and Telephone Number)
FRANK KEFFER
(607) 723-7981

EMERGENCY CONTACT (Name and Telephone Number)
ROBERT KALKA
(607) 797-7090

As an authorized representative of the above named facility, I affirm under penalty of perjury that the information displayed on this form is correct to the best of my knowledge. Additionally, I recognize that I am responsible for assuring that this facility is in compliance with all sections of 6 NYCRR Parts 612, 613 and 614, and applicable sections of 6 NYCRR Subpart 360-14 (used oil tanks only), not just those cited below:

- The facility must be re-registered if there is a transfer of ownership.
- The Department must be notified within 30 days prior to adding, replacing, reconditioning, or permanently closing a stationary tank.
- The facility must be operated in accordance with the code for storing petroleum, 6 NYCRR Part 613.
- Any new facility or substantially modified facility must comply with 6 NYCRR Part 614.
- **This certificate must be posted on the premises at all times.** Posting must be at the tank, at the entrance of the facility, or the main office where the storage tanks are located.
- Any person with knowledge of a spill, leak or discharge must report the incident to DEC within two hours **(1-800-457-7362).**

Signature of Authorized Representative/Owner Date

Name of Authorized Representative/Owner (Please Print)

Title

ISSUED BY:
Commissioner John P.Cahill

PETROLEUM BULK STORAGE ID NUMBER
7-182230

DATE ISSUED
09/21/98

EXPIRATION DATE
06/30/92

FEE PAID
$ 250

MAILING CORRESPONDENCE
JOHN BOWMAN
MAPLE-VAIL BOOK MANUFACTURING
P.O. BOX 2695 WILLOW SPRINGS L
YORK, PA 17405

**THIS REGISTRATION CERTIFICATE IS NON-TRANSFERABLE**

NOTE: This form purports to show only the change of ownership from Vail-Ballou Press, Inc. to Charles Contro, which occured on November 18, 1988. There has been at least one (1) additional change of ownership.

93-19-1 (1/97)—q

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION

# PETROLEUM BULK STORAGE APPLICATION

**Pursuant to the Petroleum Bulk Storage Law, Article 17, Title 10 of ECL; 6 NYCRR 612-614 and 6 NYCRR, Subpart 360-14**
**(Continued on the Reverse Side—Please Be Sure to Complete Section B)**

Please Type or Print Clearly and Complete All Items

## SECTION A—See Instructions on Cover Sheet

**PBS NUMBER** 7-182230

Indicate other existing DEC Numbers, if any, for this facility:

CBS Number

SPDES Number

**TRANSACTION TYPE** (Check all that apply)
NOTE: Transaction Types 1, 2 and 5 may require a fee.

1 ☐ Initial/New Facility
2 ☒ Change of Ownership
3 ☐ Substantial Tank Modification
4 ☒ Information Correction
5 ☐ Renewal

Geographical Locator for this Facility: (If known)

LATITUDE: DEG MIN SEC

LONGITUDE: DEG MIN SEC

**FACILITY**

FACILITY NAME: Vail-Ballou Press - Clinton Street
LOCATION (Not P.O. Boxes): 187-195 Clinton Street
LOCATION (Continued):
CITY/TOWN/VILLAGE: Binghamton | STATE: NY | ZIP CODE: 13905
COUNTY: Broome | TOWNSHIP OR CITY: Binghamton
NAME OF OPERATOR AT FACILITY: | FACILITY TELEPHONE NUMBER: ( )
EMERGENCY CONTACT NAME: | EMERGENCY TELEPHONE NO.: ( )

**OWNER**

OWNER NAME: Charles Contro
ADDRESS (Street and/or PO Box): 21 Oak Street
CITY: Harbor Oaks | STATE: Fl | ZIP CODE: 32019
FEDERAL TAX ID NUMBER: | OWNER TELEPHONE NUMBER: ( )
TYPE OF OWNER (Check only one)
1 ☒ Private Resident 2 ☐ State Government 3 ☐ Local Government
4 ☐ Federal Government 5 ☐ Corporate/Commercial
See Note above

**TYPE OF PETROLEUM FACILITY:** (Check all that apply)

A. ☐ Storage Terminal/Petroleum Distributor
B. ☐ Retail Gasoline Sales
C. ☐ Other Retail Sales
D. ☒ Manufacturing (Prior to fire)
E. ☐ Utility
F. ☐ Trucking/Transportation
G. ☐ Apartment Building
H. ☐ School
I. ☐ Farm
J. ☐ Private Residence
K. ☐ Airline (Air Taxi)
L. ☒ Other (Specify Below) Vacant land due to fire loss

I hereby certify under penalty of perjury that the information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

NAME OF OWNER OR AUTHORIZED REPRESENTATIVE: Robert J. Smith | AMOUNT ENCLOSED: $
TITLE: Attorney for Vail-Ballou Press, Inc.
SIGNATURE: Robert J. Smith | DATE: 9/15/98

**CORRESPONDENCE**

ATTENTION: John Bowman
NAME OF COMPANY: Maple-Vail Book Manufacturing Group
ADDRESS: PO Box 2695
ADDRESS: Willow Springs Lane
CITY/STATE/ZIP CODE: York PA 17405
TELEPHONE NUMBER: (717) 764-5911

**OFFICIAL USE ONLY**

Page ____ of ____
Date Received: __/__/__
Date Processed: __/__/__
Amount Received $ ____
Reviewed By: ____

SEP-14-1998 15:22 P.03/06 315 426 2653 SPILL RESPONSE REG 7 SYR.

COUGHLIN & GERHART, L.L.P.
ATTORNEYS AND COUNSELLORS
ONE MARINE MIDLAND PLAZA
P. O. BOX 2039
BINGHAMTON, NEW YORK
13902-2039
(607) 723-9511
FAX (607) 723-1530

100 YEAR ANNIVERSARY

190 MAIN ST., P.O. BOX 462
AFTON, NY 13730
(607) 639-2222
FAX (607) 639-2227

FRONT ST., P. O. BOX 42
DEPOSIT, NY 13754
(607) 467-4010
FAX (607) 467-4700

32-34 LAKE ST., P. O. BOX 188
OWEGO, NY 13827
(607) 687-1831
FAX (607) 687-1858

MAIN ST., P.O. BOX 429
UNADILLA, NY 13849
(607) 369-3811
FAX (607) 369-3315

RICHARD B. LONG
ROBERT J. SMITH
HENRY J. RODE II
PETER H. BOUMAN *
GORDON E. THOMPSON
MARK S. GORGOS
JAMES P. O'BRIEN
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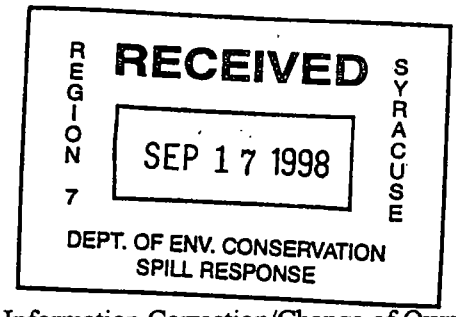
ROBERT D.W. LANDON, II, P.A.
OF COUNSEL IN FLORIDA ONLY

SUSAN A. INNEO *
STEPHEN M. SEDOR
KEITH A. O'HARA
ANN M. SHARPE
OLIVER N. BLAISE III

September 16, 1998

Mr. Howard T. McLaughlin
NYS Department of Environmental Conservation
Region 7 - Petroleum Bulk Storage
615 Erie Blvd. West
Syracuse, NY 13204




**RE: PBS#7-182230**
**VAIL-BALLOU PRESS**

Dear Mr. McLaughlin:

Enclosed is the completed application for Information Correction/Change of Ownership which you had faxed to me earlier. As back-up for the change of ownership which occurred in 1988, we enclose a copy of the recorded deed from Vail-Ballou Press, Inc. to Charles Contro.

It is our understanding that Mr. Contro sold this property to Greenpeace Environmental Consulting Services, Inc. This transaction occurred on or about June 27, 1996. To the best of our knowledge, the property is still owned by this company. However, the buildings were destroyed by fire and have been removed, leaving a vacant lot.

It is further our understanding that the tanks in question are actually located on the real estate owned by Apex Building Products Company, Slauson Avenue, Binghamton, New York. This property is contiguous to the Clinton Street property.

Please contact me if you need any additional information.

Sincerely,

Robert J. Smith

RJS:llp
Enclosure
cc: John W. Bowman (w/o encl)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Petroleum Bulk Storage Program
Facility Information Report

Printed : 09/14/1999

607
Atty Bob Smith 723-9511

PBS # : 7-182230

Site : VAIL-BALLOU PRESS-CLINTON ST.
187-195 CLINTON ST
BINGHAMTON, NY 13905

County : BROOME Town : BINGHAMTON (C)
Latitude : N Longitude : W
SPDES# : CBS# :
Site Type : Info Not Given.

Operator : FRANK KEFFER (607) 723-7981
Emergency : ROBERT KALKA (607) 797-7090

Site status : Active
Total Active Tanks : 4
Active Capacity : 41,200 gals.

Reg Expires : 06/30/1992
Last Inspection : / /
Cert Printed : 09/21/1998

Site Errors : Minor Data Missing
Owner Error : Minor Data Missing
Tank Errors : Minor Data Missing

Owner : CHARLES CONTRO
21 OAK ST.
HARBOR OAKS, FL 32019

Phone : (000) 000-0000
Owner Type : Corporate/Commercial

Mail : MAPLE-VAIL BOOK MANUFACTURING GROUP
P.O. BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Att : JOHN BOWMAN (717) 764-5911

| TankNo | TankLoc | Stat | DateIn | Capac (g) | Product | TankType | TankInt | TankExt | PipeLoc | PipeType | PipeInt | PipeExt | SecCont | Leak | OverFil | Disp | LastTest | NextTest | TStat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 002 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |
| 003 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 004 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |

January 3, 1996

RE: APEX SITE

UPDATE

APEX
240 Grosset Dr.
Kirkwood
607-775-5427
Branch office

I spoke to Mr. Dennis McCartney of APEX INC. this morning. He stated that APEX has received a bid from Environmental Products and Services to clean the tanks, sample the soil, and fill the vessels in place.

The weather is presenting a problem therefore work will not begin until April of 1996. I requested that he send me a schedule no latter than March 1996.

Mr. McCartney can be reached at ~~717~~ 570-288-3683
See PBS # 7-422207 and 7-182230 for reference!

HTM

187 Clinton

772-7027

Bing. Assesor 607 772 7002

James Cahill 607 748 7481
Atty for APEX

12,433.52
Nov 98 TAX > not paid
MAR 99 TAX

Owner of record
Greenpeace Env. Consulting Services
685 N. Queens Ave
Lindenhurst NY. 11757
516 888 2222

asper
APEX does not own. BCIDA bought, leased to APEX. BCIDA - X-fered to APex w/out Apex permission. Richard Place (Atty B.C.). APEX never paid taxes. APEX did not handle Petroleum.

**From:** Richard Coriale
**To:** htmclaug
**Date:** 9/13/99 11:57am
**Subject:** Missing Owner

Charles Contro
PBS # 7-182230

The packet came back as no forwarding address.

I mailed the packet to Maple Vail, however, they claimed to have sold the property to Mr. Contro several years ago. Maple Vail should be taken off of the PBS file. Did you receive information about the transfer of ownership? The company attorney claims that someone here received a package containing the information.

Do you have any information on Mr. Contro's whereabouts?

COUGHLIN & GERHART, L.L.P.
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ONE MARINE MIDLAND PLAZA
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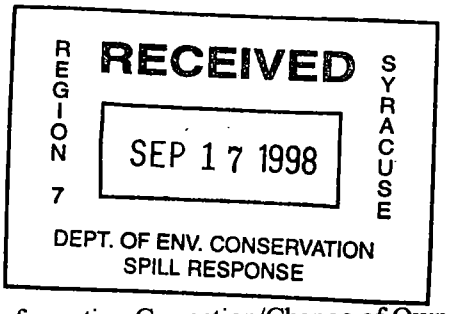
September 16, 1998

Mr. Howard T. McLaughlin
NYS Department of Environmental Conservation
Region 7 - Petroleum Bulk Storage
615 Erie Blvd. West
Syracuse, NY 13204




**RE: PBS#7-182230**
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It is further our understanding that the tanks in question are actually located on the real estate owned by Apex Building Products Company, Slauson Avenue, Binghamton, New York. This property is contiguous to the Clinton Street property.

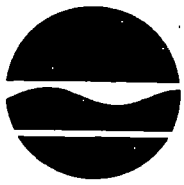
Please contact me if you need any additional information.

Sincerely,

Robert J. Smith

RJS:llp
Enclosure
cc: John W. Bowman (w/o encl)

**New York State Department of Environmental Conservation**
**Regional Enforcement Coordinator, Region 7**
615 Erie Boulevard West, Syracuse, New York 13204-2400
Phone: (315) 426-7403 FAX: (315) 426-0371



John P. Cahill
Commissioner

August 30, 1999

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**
Charles Contro
21 Oak Street
Harbor Oaks, Florida 32019

Re: Order on Consent: PBS Number: 7-182230
Vail-Ballou Press-Clinton Street
187-195 Clinton Street
Binghamton, New York

Dear Mr. Contro:

The New York State Department of Environmental Conservation (the Department) previously issued a Notice of Violation advising you that your Petroleum Bulk Storage (PBS) facility was in violation of New York State's PBS regulations. The Notice of Violation (NOV) required that you submit evidence of compliance within 60 days of receipt of the NOV. The NOV advised you that failure to comply voluntarily within such 60 day period would result in the Department undertaking formal enforcement measures to seek compliance and penalties.

The Department's records indicate that you have failed to submit the required evidence of compliance within 60 days of your receipt of the NOV. Due to such failure, you now are liable for civil penalties for your violation(s) of New York State's PBS regulations.

Attached is an Order on Consent to settle your civil liability for the PBS violation. If you fail to sign and return the Order on Consent within 30 days of you receipt hereof, the Department will commence a formal enforcement action against you by issuing a Notice of Hearing and Complaint. Such action will result in an administrative hearing in which the Department will seek the **maximum appropriate penalties**, registration fees, and a schedule of compliance.

If you wish to avoid such formal enforcement action and settle this matter, you must sign and return the Order on Consent within 30 days of you receipt hereof, along with payment for the penalty imposed, to the above address.

Sincerely,

Richard R. Coriale

Richard R. Coriale

Attachment

cc: Richard Brazell, Regional Spill Engineer

**From:** Howard McLaughlin
**To:** Peterson, Gary
**Subject:** Vail -Ballou PBS # 7-182230

I received a notice from Okessen about the permanent closure of three small USTs at this site , but nothing about the four ten K tanks buried at this site.

Were they ever pulled or permanently closed in place ? Is there a new owner ?

**CC:** Brazell, Richard; Coriale, Richard; Powell, Jennifer

FILE COPY

00-00-103 (6/78)

**New York State Department of Environmental Conservation**
**MEMORANDUM**

RECEIVED
REGION 7 SYRACUSE
JUL 27 2000
DEPT. OF ENV. CONSERVATION
SPILL RESPONSE

TO: Howard McLoughlin.
FROM: John O.
SUBJECT: TANK Removal
DATE: 7/25/00

- Three tanks removed a 181 Clinton ST.
I told GeoLogic to have owner contact you concerning registering tanks.

NYS-DEC REGION 7-KIRKWOOD
TANK REMOVAL/CLOSURE INSPECTION FORM

NAME: FORMER Vail Ballou SPILL# None

LOCATION: 187 Clinton ST.
BINGHAMTON, N.Y.

COUNTY: BROOME TEL#

OWNER: ? PBS#

ADDRESS:

TEL# CONTACT:

NOTES: 7/6/00 - 3 UST's Removed by Gary Dyer + Geologic
1-275, 1-1K-Naptha, 1-1K Gas. NO pet. Noted
in bottom of ~~Excavation~~. Area backfilled. Soil
Samples taken. JFC

TANK LOCATION:

RECEIVED
REGION 7 SYRACUSE
JUL 27 2000
DEPT. OF ENV. CONSERVATION
SPILL RESPONSE

GeoLogic

GeoLogic NY, Inc. P.O. Box 5080 • Cortland, NY 13045 • 607.836.4400 • Fax: 607.836.4403

RECEIVED
NYSDEC-REGION-7
KIRKWOOD SUB-OFFICE
JUL 24 2000

July 19, 2000

Mr. Brian Kradjian
Kradjian Properties
84 Court Street, Suite 600
Binghamton, NY 13901-3316

Reference: Former Vail-Ballou Press, Inc.
187 Clinton Street
Binghamton, New York

Dear Mr. Kradjian:

This letter report presents the results of the Limited Phase II Environmental Site Assessment conducted at the above referenced site. The work was conducted to permit the formulation of an opinion as to adverse impact(s) to the subject site from prior uses and surrounding land use. The purpose of conducting the ESA work is to reduce, not eliminate, the risk of Kradjian Properties, purchasing a site that is contaminated with hazardous materials or petroleum products as defined by the State of New York. The opinions expressed by GeoLogic, NY, Inc. (GeoLogic) regarding the conditions of the site will be based solely on the observations made and the data collected during the study. Kradjian Properties is hereby advised that conditions observed by GeoLogic are subject to change. Certain indicators of the presence of hazardous materials or petroleum products may not have been evident at the time the site work was completed and may subsequently become observable. Not finding such indicators does not mean that hazardous materials or petroleum products do not exist at the site.

The opinions regarding the environmental integrity of the site do not represent a warranty that all areas within the study area are of the same quality. GeoLogic is not able to represent that the site is free of hazardous materials or petroleum products beyond that detected by GeoLogic during the study.

Problems have arisen in the past because people and organizations have assumed, improperly, that they could rely on an ESA report developed for another party. So there is no confusion in this respect, recognize that Kradjian Properties is the only intended beneficiary of this work. With the consent of Kradjian Properties, GeoLogic will be available to contract with other parties to develop findings and opinions related to such other parties' unique risk management concerns.

## BACKGROUND

The site had been used for industrial purposes dating back to at least 1898.

Sanborn fire insurance maps indicate that the site has been used for industrial purposes dating back at least to 1898. The site may have been adversely impacted by the prior industrial processes at the site.

Quality Standards and Guidance Values for groundwater for the volatile and semi-volatile organics. Copies of the laboratory results are attached.

NYSDEC Ambient Water Quality Standards and Guidance Values for groundwater were exceeded for one or more of the RCRA Metals in monitoring wells MW-1, MW-2 and MW-3 (see attached Table). We believe that this was due to the short time period the monitoring wells had to stabilize before being sampled. Therefore, monitoring wells MW-1, MW-2 and MW-3 were scheduled to be re-sampled on May 30, 2000.

On May 30, 2000, groundwater samples were obtained from monitoring wells (MW-1, MW-2, and MW-3) and submitted for analysis of RCRA Metals.

The analytical results for the groundwater samples obtained from MW-1, MW-2 and MW-3 on May 30, 2000, were below laboratory detection limits and/or NYSDEC Ambient Water Quality Standards and Guidance Values for groundwater for the RCRA Metals (Table No. 1). Copies of the laboratory results are attached.

Water table elevations measured in the monitoring wells on May 30, 2000 are shown on Drawing No. 1. The depth to water ranged from 12.47 feet in MW-2 to 18.52 feet in MW-3. Based on these groundwater elevations, the groundwater flow appears to be eastward.

**Underground Storage Tank Removal:**

The three UST's were removed from the site on July 6, 2000 (Drawing No. 1). Mr. John Okesson, NYSDEC, was on site to observe the removal of the three UST's. After the UST's were removed and soils samples were obtained and scanned with a PID the NYSDEC agreed to place the excavated soil from around the UST's back onto the excavation.

Composite soil samples were obtained from the bottom and sidewall of the fuel oil / naphtha UST test pit excavation and the gasoline UST test pit excavation. The composite soil samples were analyzed for volatile organics by EPA Method 8021 for NYSDEC STARS parameters, and/or semi-volatile organics by EPA Method 8270 for NYSDEC STARS parameters.

The analytical results for the composite soil samples obtained from the fuel oil / naphtha UST test pit and the composite soil sample obtained from the gasoline UST test pit on July 6, 2000, were below laboratory detection limits and/or NYSDEC STARS Guidance Values. See the attached tank pull report for more detail.

According to the NYSDEC records, the three UST's referenced in this report had not been registered as required by the NYSDEC. Therefore, the UST's need to be registered with the NYSDEC, and then officially closed out.

If you have any questions concerning this Limited Subsurface Evaluation Report, please do not hesitate to call us at (607) 836-4400.

Sincerely,

GeoLogic NY, Inc.

Joseph L. Nossal/pd

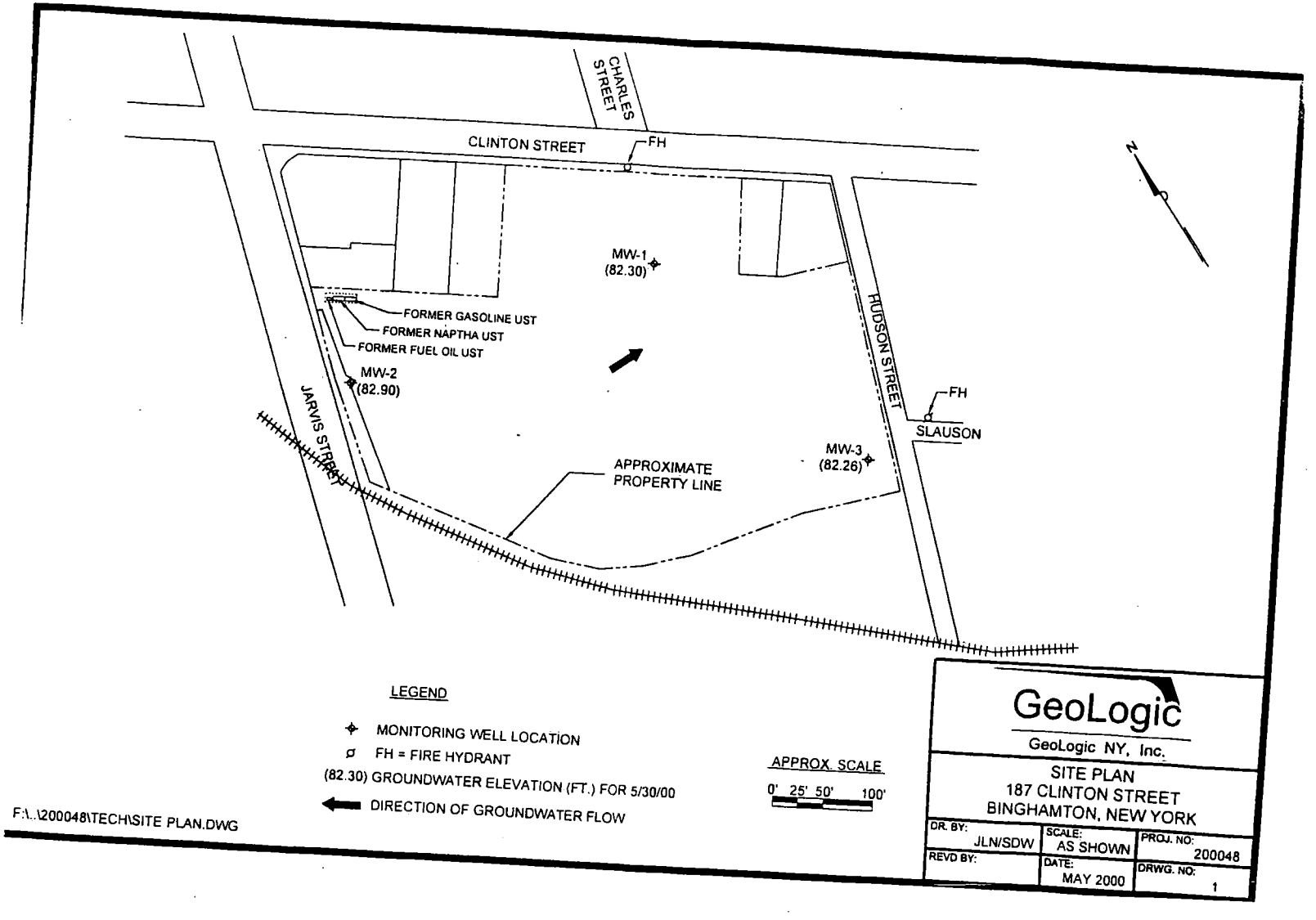
Joseph L. Nossal
Hydrogeologist

Forrest C. Earl

Forrest C. Earl
Vice President/Principal Hydrogeologist

Enc: Site Map, Metals Analytical Table, Analytical Results, Subsurface Logs (with Key), Methodologies and Tank Pull Report

cc: John Okesson, NYSDEC
Thomas Suozzo, NYSDEC
File: ..200048/report/Limited Phase II Evaluation


CHARLES STREET
CLINTON STREET
FH
MW-1
(82.30)
FORMER GASOLINE UST
FORMER NAPTHA UST
FORMER FUEL OIL UST
MW-2
(82.90)
JARVIS STREET
HUDSON STREET
FH
SLAUSON
MW-3
(82.26)
APPROXIMATE
PROPERTY LINE
N
LEGEND
MONITORING WELL LOCATION
FH = FIRE HYDRANT
(82.30) GROUNDWATER ELEVATION (FT.) FOR 5/30/00
DIRECTION OF GROUNDWATER FLOW
APPROX. SCALE
0' 25' 50' 100'
F:\..\200048\TECH\SITE PLAN.DWG
GeoLogic
GeoLogic NY, Inc.
SITE PLAN
187 CLINTON STREET
BINGHAMTON, NEW YORK
DR. BY: JLN/SDW
SCALE: AS SHOWN
PROJ. NO: 200048
REVD BY:
DATE: MAY 2000
DRWG. NO: 1

**From:** John Okesson
**To:** McLaughlin, Howard
**Date:** 1/24/01 3:57PM
**Subject:** Vail Ballou - Clinton St.

FILE COPY

7-422207

7-182230

Howard: FYI

I was out on site today with GeoLogic to determine the location of piping on the Vail Ballou building from the former Apex property of Slauson St. . We found oil in a man way for the water line to the property . GeoLogic is performing a limited investigation for the possible purchase of the building.
Also, for your information a Wayne Rosen stopped by to ask if there was work ongoing on the neighboring property (former Apex). We said no, but he indicated that he just purchased the property from the City of Binghamton. We had a discussion regarding the 4 UST's at the site. However, he was not aware that there were tanks and indicated that the City had taken the property because Apex had not paid the taxes. He also said that the City was not aware of any environmental problems with the site. Mr. Rosen said that he was going to contact he attorney because they had not closed on the property with the City. Therefore, it appears that he will not be taking ownership and the City of Binghamton owns the property with the tanks .

New York State Department of Environmental Conservation
Region 7 Headquarters
Division of Remediation
615 Erie Blvd. W.
Syracuse, New York 13204-2400

January 24, 2001

FAX # Kirkwood

Number of sheets faxed (9 )

To: John Okesson
Kirkwood

From : Howard T. Mclaughlin
Division of Remediation

RE: PBS 7-182230 APEX - Vail- Ballou

John :

This is what we have in the way of drawings. Rich Coriale has some blue prints for a site that may have been connected to these four tanks.

If you have any questions please contact me at (315) 426-7516, Thank You.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Petroleum Bulk Storage Program

Facility Information Report

Printed : 01/24/2001

PBS # : 7-182230

Site : VAIL-BALLOU PRESS-CLINTON ST.
187-195 CLINTON ST
BINGHAMTON, NY 13905

County : BROOME Town : BINGHAMTON (C)
Latitude : N Longitude : W
SPDES# : CBS# :
Site Type : Info Not Given.

Operator : FRANK KEFFER (607) 723-7981
Emergency : ROBERT KALKA (607) 797-7090

Site status : Active
Total Active Tanks : 4
Active Capacity : 41,200 gals.

Reg Expires : 06/30/1992
Last Inspection : / /
Cert Printed : 09/21/1998

Site Errors : Minor Data Missing
Owner Error : Minor Data Missing
Tank Errors : Minor Data Missing

Owner : CHARLES CONTRO
21 OAK ST.
HARBOR OAKS, FL 32019

Phone : (000) 000-0000
Owner Type : Corporate/Commercial

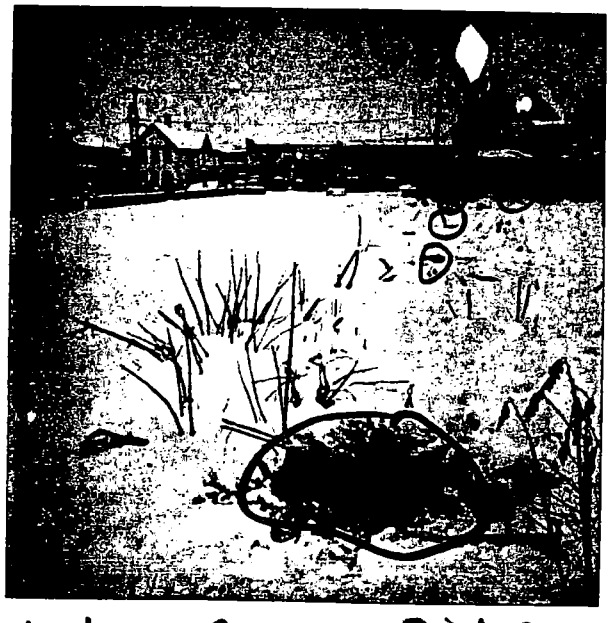
Mail : MAPLE-VAIL BOOK MANUFACTURING GROUP
P.O. BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Att : JOHN BOWMAN (717) 764-5911

| TankNo | TankLoc | Stat | DateIn | Capac (g) | Product | TankType | TankInt | TankExt | PipeLoc | PipeType | PipeInt | PipeExt | SecCont | Leak | OverFil | Disp | LastTest | NextTest | TStat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | 4 | 2 | / / | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/01/1989 | 11/01/1994 | 2 |
| 002 | 4 | 1 | / / | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/01/1989 | 09/01/1994 | 2 |
| 003 | 4 | 1 | / / | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/01/1989 | 11/01/1994 | 2 |
| 004 | 4 | 2 | / / | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/01/1989 | 09/01/1994 | 2 |

11/15/95 - Apex Building VENT w/ CONCRETE GB

11/15/95 Apex Building MANWAY to TANK. GB



11/15/95 Apex Site Building SLAB. CIRCLE are tank locations. GB

RECEIVED
NOV 21
DEPT OF ENV CONSERVATION
SPILL RESPONSE
SYRACUSE

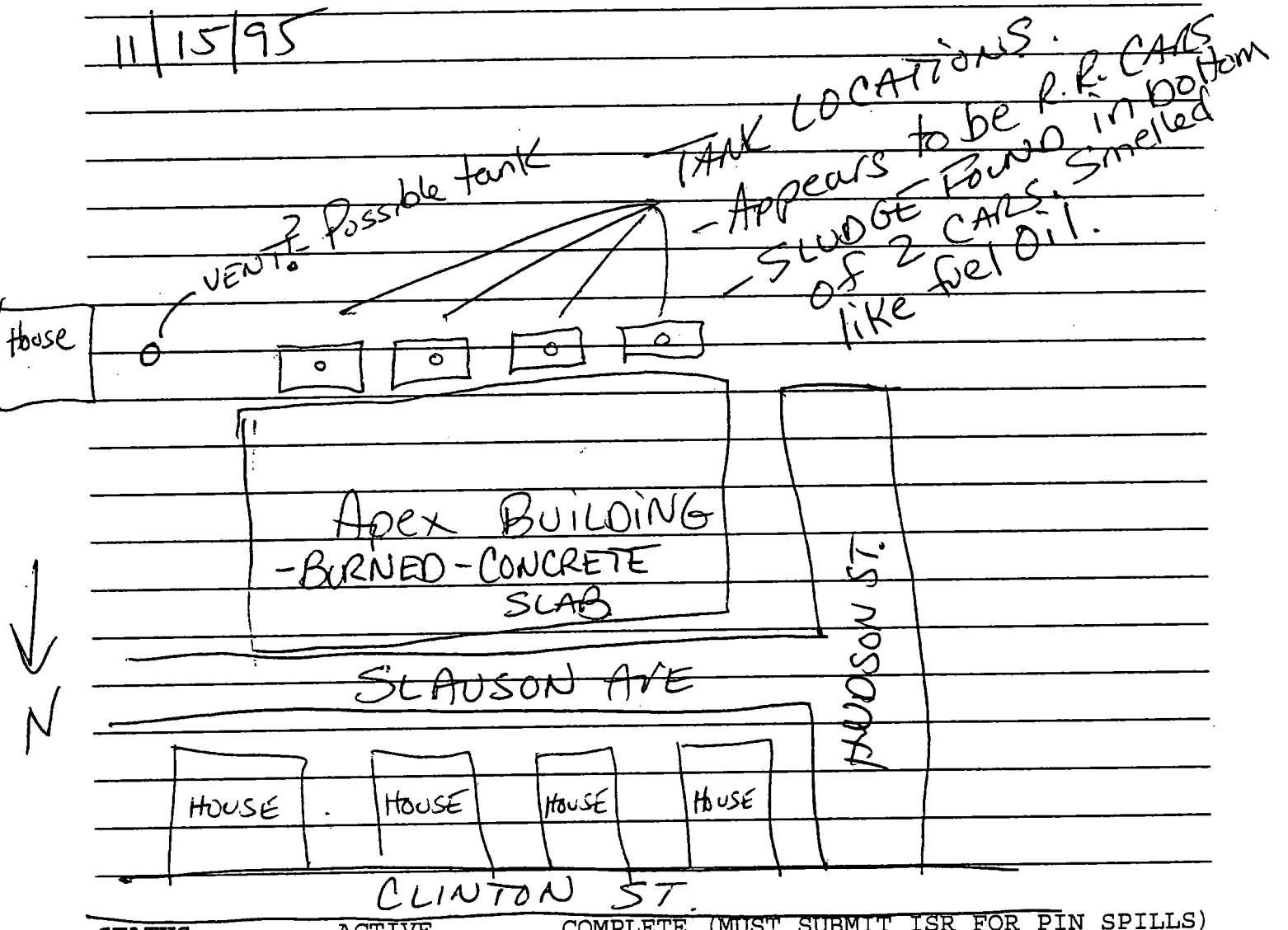
NYSDEC REGION 7 - KIRKWOOD
SPILL REPORT UPDATE FORM

SPILL NAME Apex Building SPILL# PBS Inspection

SITE ACTIVITY: 11/15/95 - Visited site w/ G. Robinson (DOH). located ⊗ 4, possible 5 TANKS.

RR. TRACKS

11/15/95




STATUS: _____ ACTIVE _____ COMPLETE (MUST SUBMIT ISR FOR PIN SPILLS)

_____ ENVIRONMENTALLY COMPLETE DATE

_____ ISR DATE

DEC INSPECTOR _____ INSPECTION DATE _____

November 30, 1995

Howard McLaughlin
fax (315) 426-2653

Dear Mr. McLaughlin;

As requested, please find attached the tax parcel map and a site plan that was submitted for a special use permit review for 9 Slauson Avenue. The following is a list of properties owners for adjacent properties to 9 Slauson Avenue:

| TAX MAP # | ADDRESS | PROPERTY OWNER |
|---|---|---|
| 114025 | 2 Hudson Street | Milton Rozen<br>2120 East Hamton Rd.<br>Binghamton, New York 13903 |
| 114026 | 4 Hudson Street | Apex Building Products<br>Main & Page Street<br>Kingston, PA 18704 |
| 114027 | 9 Slauson Avenue | Broome County IDA<br>% Apex Building Products<br>PO Box 206<br>Kirkwood, NY 13795 |
| 114035 | 21 Crandall Street | Eagle Properties Corp.<br>Box 681<br>Binghamton, NY 13902-0222 |
| 114034 | 25 Crandall Street | Eagle Properties Corp.<br>Same as above |
| 114033 | 27 Crandall Street | John Pratko<br>27 Crandall Street<br>Binghamton, NY 13905 |
| 114032 | 27 1/2 Crandall St. | Micheal Curyto<br>27 1/2 Crandall St.<br>Binghamton, NY 13905 |

If you have any further questions regarding this matter, please do not hesitate to call me at (607) 772-7063.

Sincerely,

Tracey S. Corbitt, Senior Planner

enc.
cc: chron; I:\HOME\TRACEY\LET_9sl.DOC

City of Binghamton

# FAX CORRESPONDENCE

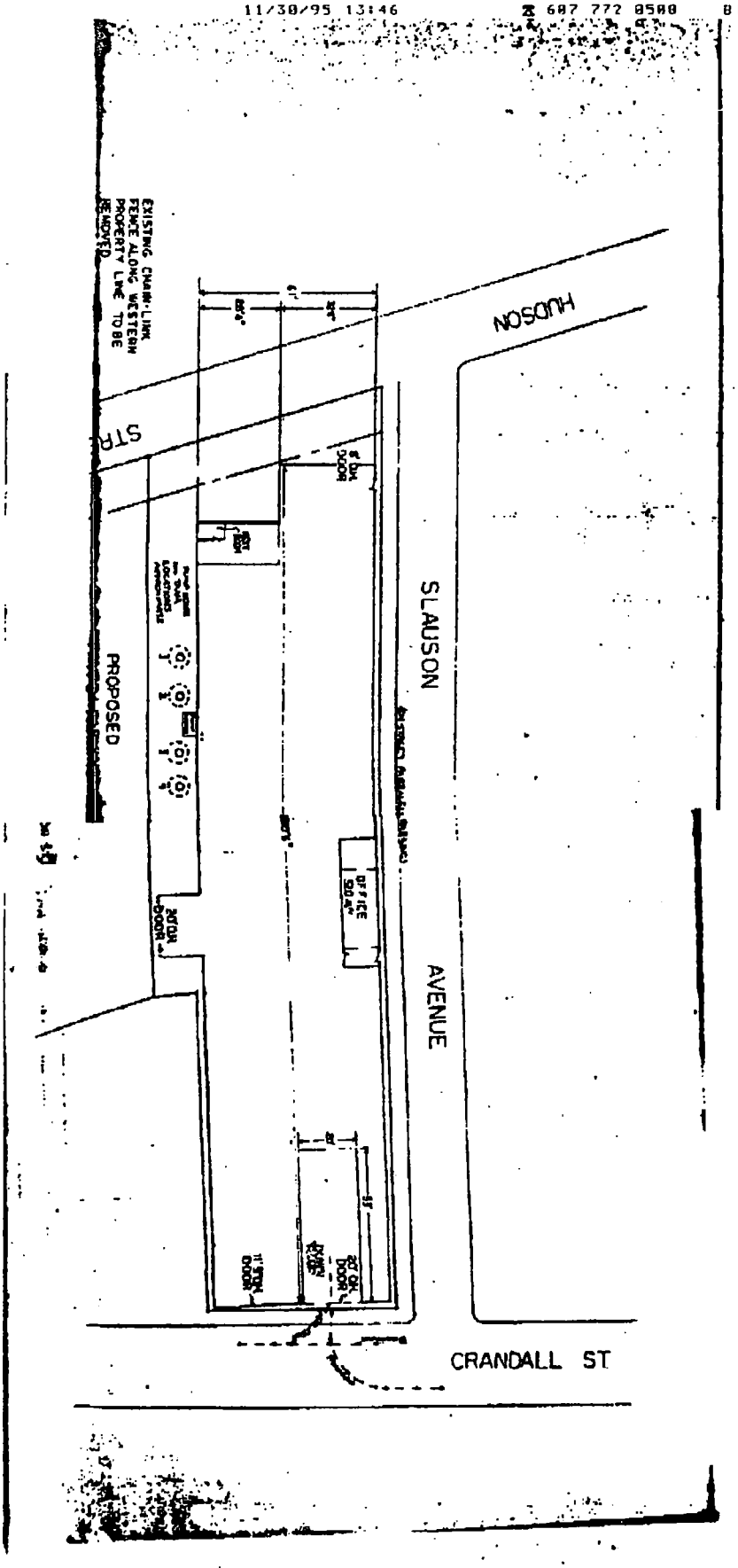
City of Binghamton
Government Plaza
38 Hawley Street
Binghamton, N.Y. 13901-3776
Fax (607) 772-0508

Date: 11/30/95
Time: 1140
Number of Pages: 4
(including cover)

To: Howard McLaughlin
Company: NYSDEC
Fax #: 315-426-2653
From: Tracy S. Corbitt, Senior Planner
City Hall Department: Planning, Housing & Com. Dev.
Phone number: 772-7063 (607)

Message:

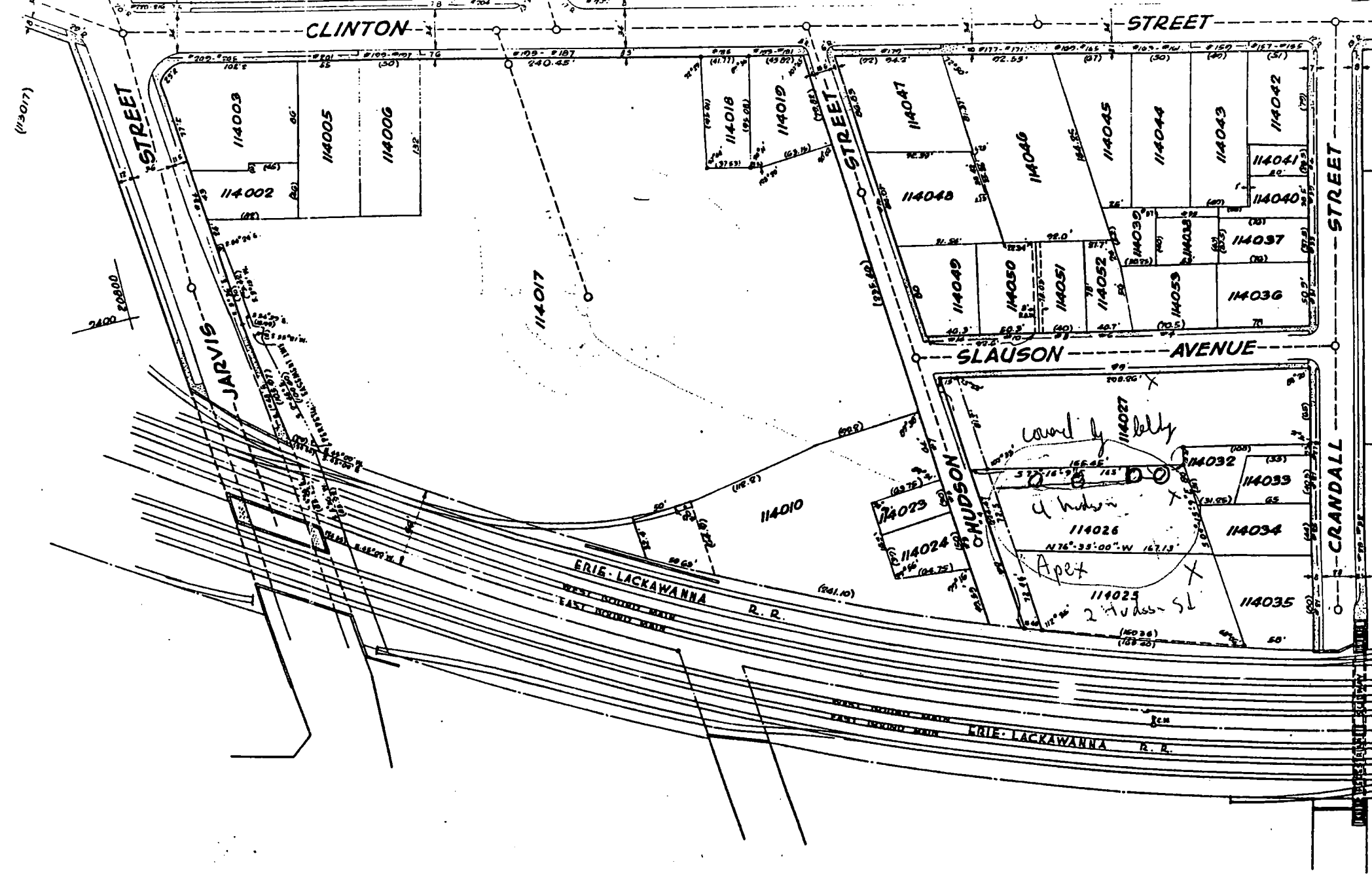
PHCD: 6/95


EXISTING CHAIN-LINK FENCE ALONG WESTERN PROPERTY LINE TO BE REMOVED
HUDSON
STR
PROPOSED
SLAUSON
AVENUE
OFFICE
CRANDALL ST

112

CITY OF BINGHAMTON N. Y. PLATE 114

11/30/95 13:42 ☎ 607 772 0500 BINGHAMTON MAYOR 03




# CITY OF BINGHAMTON N. Y.

PLA

MODE = MEMORY TRANSMISSION START=JAN-24 16:12 END=JAN-24 16:13

FILE NO.= 134

| STN NO. | COM | ABBR NO. | STATION NAME/TEL.NO. | PAGES | DURATION |
|---|---|---|---|---|---|
| 001 | OK | <01> | KIRKWOOD | 009/009 | 00:01'19" |

-SPILL RESPONSE REG 7 SYR.-

********** -315 426 2653 - ***** - 315 426 2653- **********

New York State Department of Environmental Conservation
Region 7 Headquarters
Division of Remediation
615 Erie Blvd. W.
Syracuse, New York 13204-2400

January 24, 2001

FAX # Kirkwood

Number of sheets faxed (9 )

To: John Okesson
Kirkwood

From : Howard T. Mclaughlin
Division of Remediation

RE: PBS 7-182230 APEX - Vail- Ballou

John :

This is what we have in the way of drawings. Rich Coriale has some blue prints for a site that may have been connected to these four tanks.

If you have any questions please contact me at (315) 426-7516, Thank You.

January 26, 2001

To : John Okesson
From : Howard McLaughlin

I am sending you a copy of the tank test records for Vail- Ballou - APEX . I did not find a sketch of the piping, but I do recall that there was one . The file has been around for a while ...someone may have needed that sketch more than we did or so they thought. I will keep looking.

I enclosed a copy of the deeds and other related material.

What about the county records ? How about the Health Dept or City records ?

**From:** Jennifer Powell
**To:** Okesson, John; Peterson, Gary
**Date:** 5/6/02 10:15AM
**Subject:** Vail-Bailou - - PBS no 7-182230

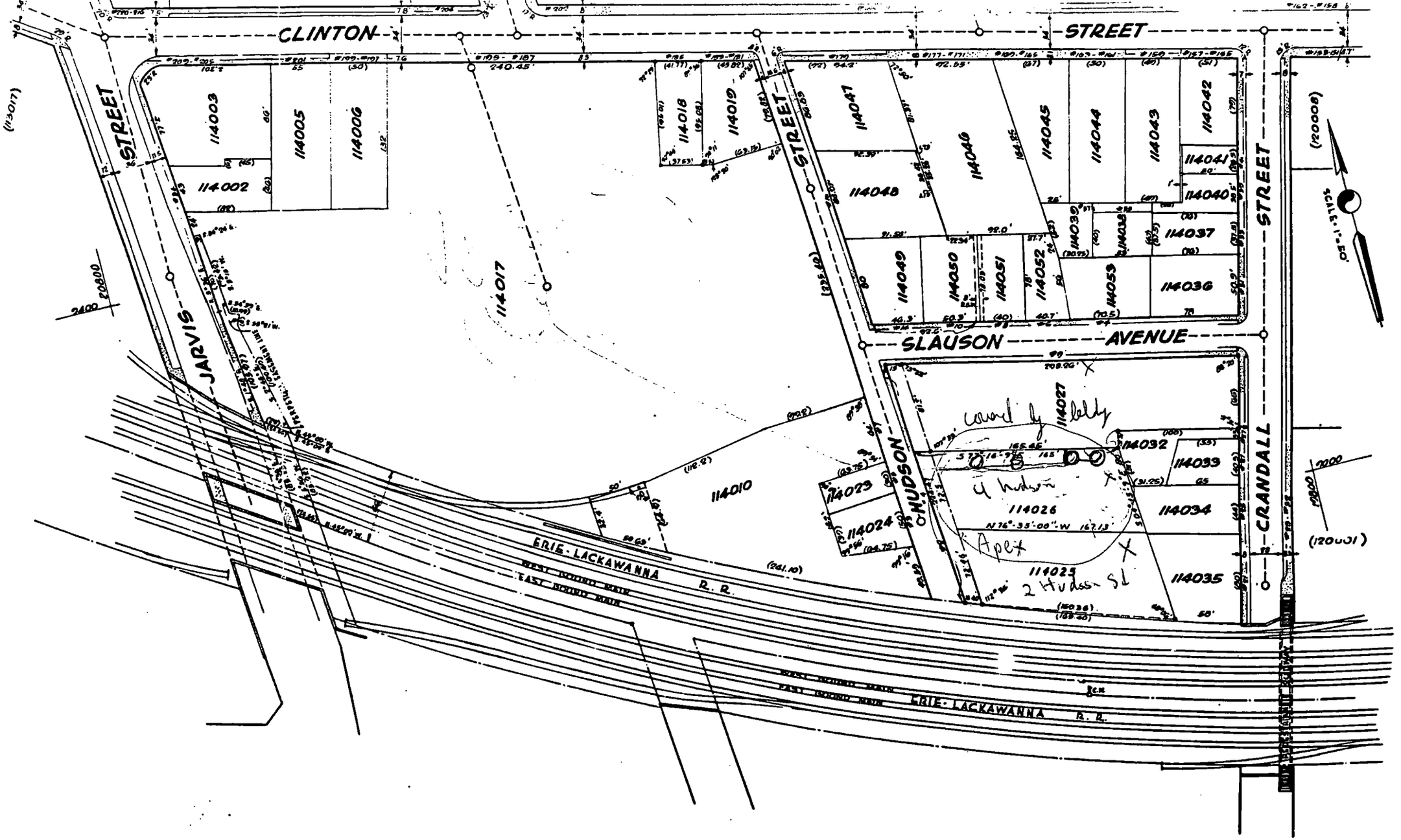
Hi guys - - I got a call from Gary Holmes from the City of Binghamton, in response to an NOV/consent order we sent for this site, 187-195 Clinton Street. He's saying the City doesn't own that site, but he's going to call you guys to try to figure it out for sure. He's not sure where the tanks themselves are, in relation to the property the city owns.

If you do work it out that the city doesn't own them, will you please sweet-talk him into finding out for us for sure who DOES own them? This is turning into a real pain in the you know what.

Thanks, and have a great day! Jen.

Jennifer L. Powell
Assistant Regional Attorney
NYSDEC Region 7
615 Erie Blvd West, Syracuse NY 13204
Phone 315-426-7405 Fax 315-426-7408

**CC:** McLaughlin, Howard




# CITY OF BINGHAMTON N. Y.

PLATE 4

**New York State Department of Environmental Conservation**
**Division of Legal Affairs, Region 7**
615 Erie Boulevard West, Syracuse, New York 13204-2400
**Phone:** (315) 426-7405 • **FAX:** (315) 426-7408
**Website:** www.dec.state.ny.us

Erin M. Crotty
Commissioner

January 29, 2003

City of Binghamton
Attn.: Mayor Richard A. Bucci
38 Hawley Street
Binghamton, New York 13901

**Re: PBS Number: 7-182230**
**9 Slauson Avenue, City of Binghamton**

Dear Mayor Bucci:

In response to Gary Holmes's letter of August 28, 2002 to John Okesson, the Department has thoroughly researched the deed history of 9 Slauson Avenue. Beginning with the deed dated in 1965 until the City of Binghamton's acquisition of the property, there are references to oil storage tanks located at 9 Slauson Avenue. Whether or not the Department's database listed this address as a PBS facility, it is clear that the City was or should have been on notice from the property deeds that oil storage tanks existed at 9 Slauson Avenue when it acquired the property.

In light of this, we have no basis to withdraw the consent order first sent to you on April 26, 2002. For your convenience, an updated order is enclosed, reflecting the change in calendar year and the correct address of the facility. To settle this matter, please have the enclosed order signed by the appropriate City official before a notary public and return it to my attention by February 14, 2003.

Thank you for your anticipated cooperation in this matter.

Sincerely,

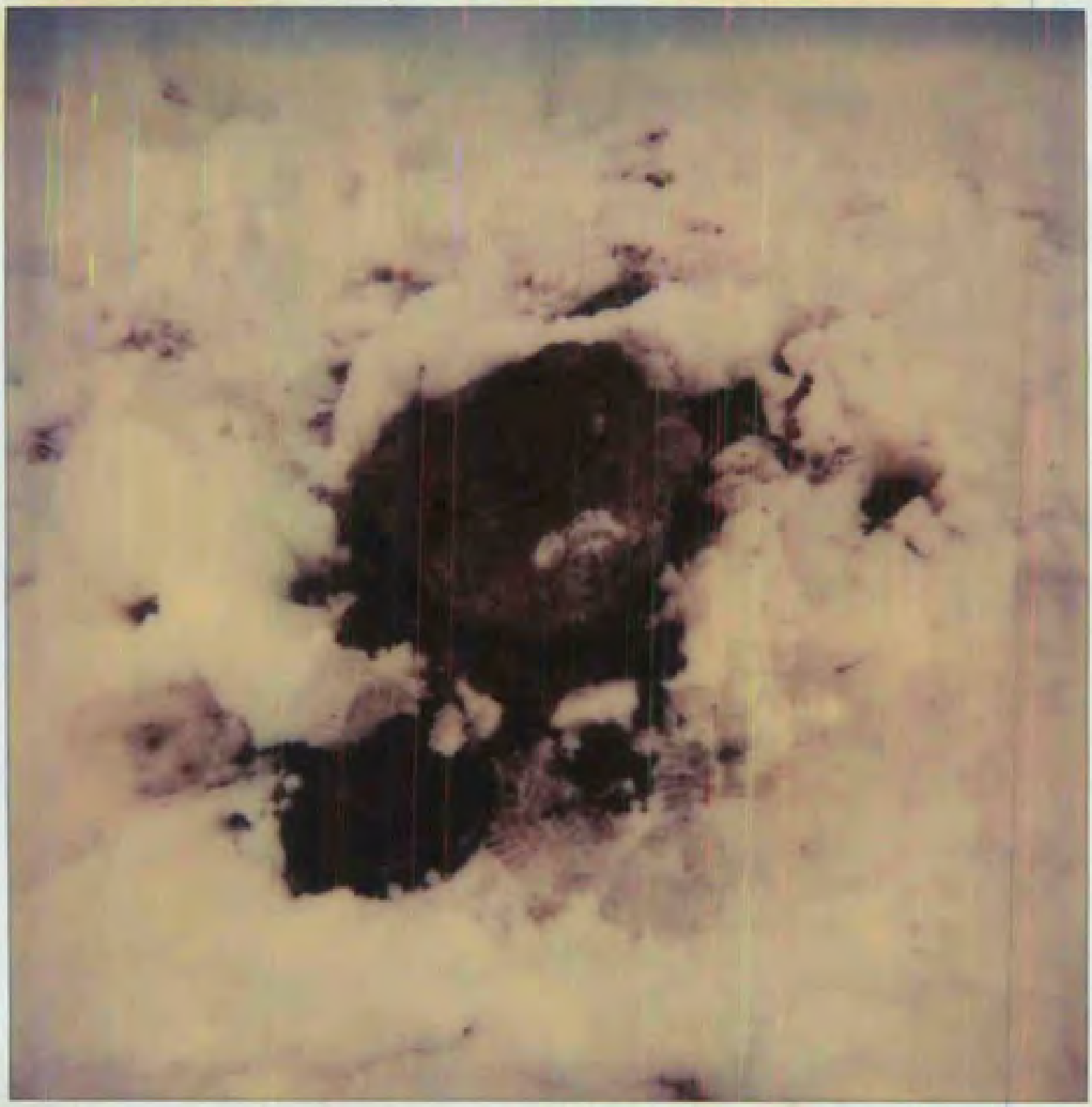
Amanda C. Hess

Amanda C. Hess
Legal Intern

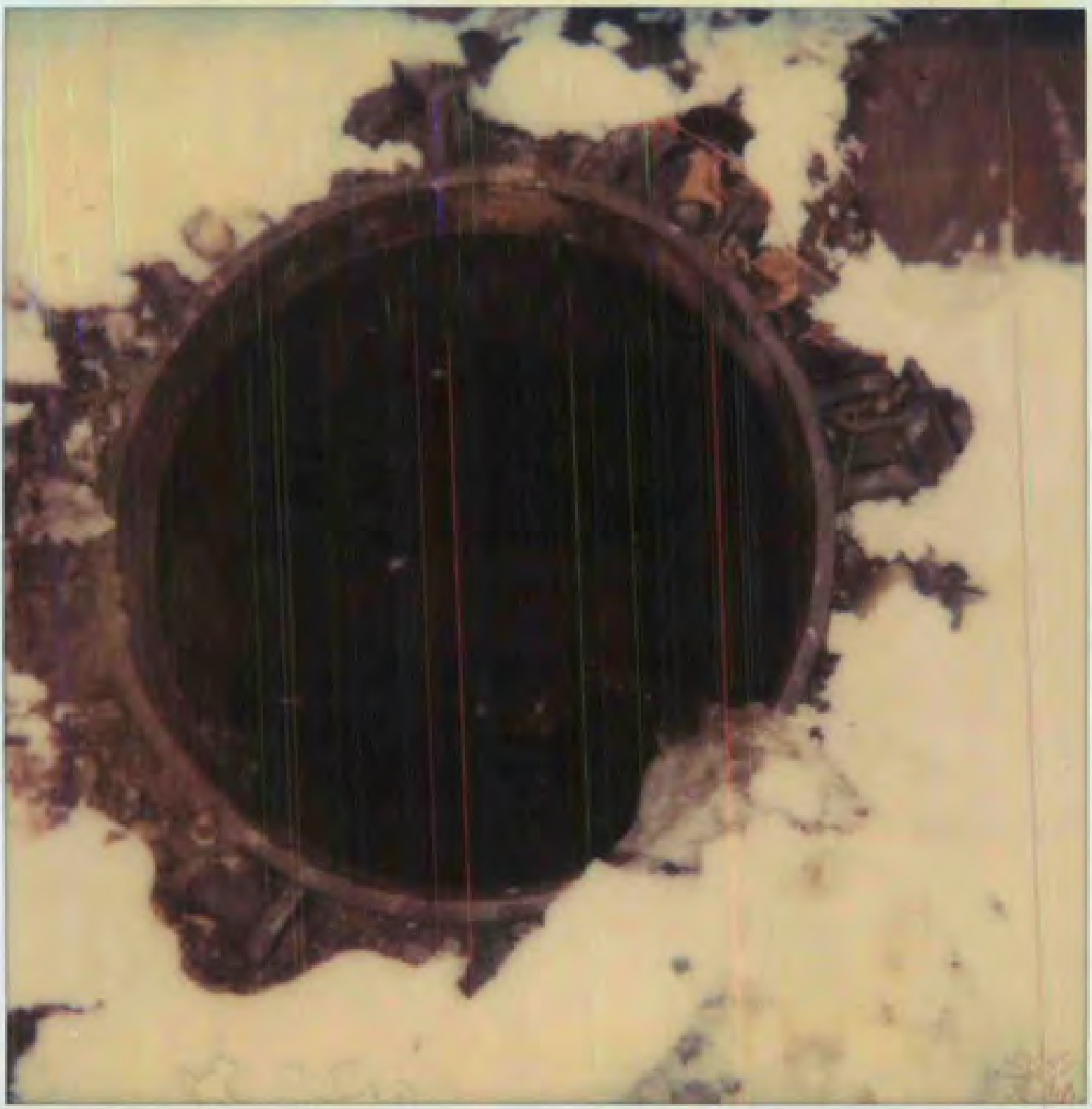
ACH:dld

cc: H. McLaughlin
J. Powell
J. Okesson

11/15/95 Apex Site Building SLAB. Circle are tank locations. SE



11/15/95 - Apex Building
VENT w/ Concrete



11/15/95 Apex Buildings
Manway to TANK 9ED

DRAWING NO 45980-E REV

| BLDG. # | DESCRIPTION |
|---|---|
| 4 | ENGINEERING STORAGE |
| 6 | CHEMICAL MANUFACTURING |
| 8 | ENERGIES POWER PLANT |
| 9 | REFRIGERATION PLANT |
| 10 | EQUIPMENT STORAGE |
| 11 | T.V. GUARD HOUSE |
| 12 | AREA MAINTENANCE SHOP, RECREATION AREA |
| 14 | DOPE MAKING, SUBBING 7 STILLS |
| 16 | FINISHED GOODS WAREHOUSE, SHIPPING |
| 22 | GELATIN STORAGE & BLENDING |
| 24 | LACQUER STORAGE & PREPARATION |
| 25 | FILM EMULSION & COATING PCM#1, #2 & RAW MATERIAL WAREHOUSE |
| 26 | FILM FINISHING LABORATORIES AND RAW MATERIAL WAREHOUSE |
| 27 | FILM CASTING |
| 28 | ENERGIES |
| 29 | FILM CASTING FACILITIES & ROLL STORAGE |
| 30 | FILM RECOVERY |
| 31 | INERT GAS |
| 32 | SOLVENT STORAGE CENTER |
| 35 | FILM COATING PCM#4 AND RAW MATERIAL WAREHOUSE |
| 36 | RAW MATERIAL WAREHOUSE, STAGING AREA AND OFFICES |
| 37 | PAPER & FILM FINISHING, ANALYTICAL TESTING, DATA |
| 38 | TANK FARM, CHEMICAL PACKING |
| 42 | RESEARCH LABS, PLANT ADMINISTRATION, MAIL ROOM, TECHNICAL SERVICES, ORDER ENTRY |
| 43 | ENGINEERING SERVICES, SHOPS AND ACCOUNTING |
| 44 | RESEARCH & DEVELOPMENT, PERSONNEL, CREDIT UNION, MANAGEMENT INFORMATION SERVICES |
| 46 | PROCESS DEVELOPMENT, ENGINEERING DEVELOPMENT |
| 47 | ENGINEERING STORAGE |
| 48 | SOLVENT PUMP STATION & CONTROL HOUSE |
| 52 | CHEMICAL PREPARATION LAB |
| 53 | SOLVENT DRUM STORAGE |
| 54 | HYDROGENERATOR BUILDING |
| 63 | PIPE TUNNELS |
| 70 | BRIDGE TO POWER HOUSE |
| 71 | WELL HOUSE |
| 77 | WEST STREET GUARD OFFICE |
| 80 | STORAGE SHEDS |
| 84 | SOLVENT PUMP STATION - R.R. |
| 86 | SILVER RECOVERY STORAGE |
| 91 | FILM SORTING |
| 92 | MAINTENANCE BUILDING |
| 95 | AMMONIA STRIPPING BUILDING |
| 96 | METAL REMOVAL BUILDING |
| 102 | FILM COATING AND CASTING FACILITY |
| 103 | RESERVOIR & WATER COOLING TOWER |
| 104 | DOPE MIXING |
| 105 | PAPER PLANT, COATING PCM#4 AND RAW MATERIAL WAREHOUSE |
| 105 1/2 | MAINTENANCE & STORAGE |
| 106 | ENERGIES - PAPER PLANT |
| 110 | SUB STATION #1A & #9 |

MAY ST
HOLLAND ST
COLFAX AVE
CLINTON ST
FIELD ST
RESIDENTIAL
BERLIN ST
GRACE ST
JARVIS ST
CHARLES ST
ELM ST
SPRING
FOREST
CEMETERY
WELL #11
WELL #5
WELL #4
WELL #9
WELL #3
WELL #1
TANK 922-1000 GALLON DIESEL
TANK 921-1000 GALLON REG. GASOLINE
ERIE LACKAWANNA RAILROAD
TANK 8-1 10000 GALLON #2 FUEL OIL
COMMERCIAL
INDUSTRIAL
WEST ST
MURPHY ST
PHELPS ST
CYRIL AVE
HALFORD ST
CLINTON ST
HUDSON ST
SLAUSON AVE
CRANDALL ST
ELM ST
WELL #8
KARLADA DRIVE
RIGHT OF WAY
FRONT ST
WELL #7
COMMON RIGHT OF WAY
WELL #9
ELM ST
SPRUCE ST
WELL #6
ELM ST
WELL #10
MYGATT ST
LYDIA ST

ANITEC IMAGE CORPORATION

BINGHAMTON PHOTO PLANT

BINGHAMTON, NEW YORK

SCALE: 1" = 100'

LEGEND

PROPERTY LINE

BUILDING

PREVAILING WINDS
W NW 10.5 MPH AVG.

This drawing is the property of Anitec Image Corporation, Binghamton, New York, and contains information of a proprietary nature. It is to be used only for the express purpose for which it is issued and is not to be copied nor used for any other purpose nor in any manner directly or indirectly detrimental to the interests of the corporation. This drawing should be returned promptly upon completion of the work for which it was loaned.

| DWG. NO. | REFERENCE DRAWINGS | SYM. | DWG. NO. | REFERENCE DRAWINGS | SYM. |
|---|---|---|---|---|---|
| | | | | | |

| REVISIONS | DATE | BY | APP. |
|---|---|---|---|
| | | | |

| REVISIONS | DATE | BY | APP. |
|---|---|---|---|
| 3 SOLD | 1-29-85 | GH | |
| 2 SOLD PLOT TO ROGERS | 6/13/83 | B.G. | |
| 1 SOLD TWO PLOTS | 1/14/83 | D.W. | |

| SHOP ORDER NO. | DATE | BY |
|---|---|---|
| | | |

ASS'Y DWG. NO. _____
B/M NO. _____
DESIGNED NAME _____ DATE _____
DRAWN D. Wolfe 6/14/82
CHECKED [illegible] 8-10-82
APPROVED [illegible] GEO 8-82
TOLERANCE UNLESS OTHERWISE SPECIFIED
DEC. ____ FRACT. ____ ANGLE ____
SCALE 1" = 100'
AFE/CC

Anitec Image Corporation
P.O. BOX 4444
BINGHAMTON, N.Y.

BUILDING, PROPERTY PLAN
ANITEC IMAGE CORPORATION

GROUP NO. 90-B-1
DRAWING NO. 45980-E 3

FORM 12204 (2/82)

GeoLogic

GeoLogic NY, Inc. P.O. Box 5080 • Cortland, NY 13045 • 607.836.4400 • Fax: 607.836.4403

RECEIVED
NYSDEC-REGION-7
KIRKWOOD SUB-OFFICE
JUL 24 2000

July 19, 2000

Mr. Brian Kradjian
Kradjian Properties
84 Court Street, Suite 600
Binghamton, NY 13901-3316

Reference: Former Vail-Ballou Press, Inc.
187 Clinton Street
Binghamton, New York

Dear Mr. Kradjian:

This letter report presents the results of the Limited Phase II Environmental Site Assessment conducted at the above referenced site. The work was conducted to permit the formulation of an opinion as to adverse impact(s) to the subject site from prior uses and surrounding land use. The purpose of conducting the ESA work is to reduce, not eliminate, the risk of Kradjian Properties, purchasing a site that is contaminated with hazardous materials or petroleum products as defined by the State of New York. The opinions expressed by GeoLogic, NY, Inc. (GeoLogic) regarding the conditions of the site will be based solely on the observations made and the data collected during the study. Kradjian Properties is hereby advised that conditions observed by GeoLogic are subject to change. Certain indicators of the presence of hazardous materials or petroleum products may not have been evident at the time the site work was completed and may subsequently become observable. Not finding such indicators does not mean that hazardous materials or petroleum products do not exist at the site.

The opinions regarding the environmental integrity of the site do not represent a warranty that all areas within the study area are of the same quality. GeoLogic is not able to represent that the site is free of hazardous materials or petroleum products beyond that detected by GeoLogic during the study.

Problems have arisen in the past because people and organizations have assumed, improperly, that they could rely on an ESA report developed for another party. So there is no confusion in this respect, recognize that Kradjian Properties is the only intended beneficiary of this work. With the consent of Kradjian Properties, GeoLogic will be available to contract with other parties to develop findings and opinions related to such other parties' unique risk management concerns.

## BACKGROUND

The site had been used for industrial purposes dating back to at least 1898.

Sanborn fire insurance maps indicate that the site has been used for industrial purposes dating back at least to 1898. The site may have been adversely impacted by the prior industrial processes at the site.

The site may have been occupied by a gasoline station (Clinton Street area).

Sanborn fire insurance maps indicate that a former gas station was located on Clinton Street, immediately north of the site. Petroleum contamination from this former gas station could also have or had an adverse impact on the site.

Leaking drums and barrels of materials were noted by Broome County Health Department personnel in the basement of the former Vail-Ballou building.

A February 1995 Environmental Site Assessment report for the site was reviewed (prepared by Enviro-Testing). The building was being used for storage of computer supplies and an automobile repair business. The report pointed out that "numerous drums, containers, temporary mixing vats, etc...still on site, some corroded and leaking unknown materials". The New York State Industrial Chemical Survey listed the following materials used by Vail-Ballou at the site: developing chemicals, diazo solutions, activators, stabilizers and fixers as part of photo processing.

A portion of the site was used as an automobile repair business. Possible injection wells were noted in the area of the repair business.

A February 1995 Environmental Site Assessment report for the site was reviewed (prepared by Enviro-Testing). The report identified possible Class V injection wells. Some of the injection wells were identified in an area being used to repair automobiles and a concern of oil, gas or antifreeze entering the wells was discussed.

Possible PCB-containing transformers were noted at the facility (as described in the Environmental Site Assessment prepared by Enviro Testing in February 1995).

The February 1995 Environmental Site Assessment report for the site was reviewed (prepared by Enviro-Testing). The report discussed the presence of possible PCB-containing transformers.

Fill ports for underground storage tanks were noted at the northwest corner of the former building (as described in the Environmental Site Assessment prepared by Enviro Testing in February 1995).

The February 1995 Environmental Site Assessment report for the site was reviewed (prepared by Enviro-Testing). The report mentions the presence of three underground storage tank fill ports at the northwest corner of the former building. The location and status of these tanks was not discussed further in the report. The observations reported by Enviro-Testing could have an adverse impact on the site.

A petroleum spill was reported beneath Hudson Street (adjacent to site) and there was a former chemical off-loading rack adjacent to the site. Soil gas samples obtained by others west of the site had reportable concentrations of methylene chloride.

Information in a Broome County Health Department (BCHD) file indicates that petroleum product lines located beneath Hudson Street were leaking oil in 1971. Oil was reportedly entering a manhole and observed on the ground surface. These lines apparently brought product from a property located immediately west of Hudson Street to the site. The product was stored in four buried railroad cars. Limited tank closure activities for the railroad cars were conducted in May 1996 and free product was observed in the soil adjacent to these tanks. Mr. John Okesson of the New York State Department of Environmental Conservation (NYSDEC) has indicated that these railroad car petroleum storage tanks were not closed out properly. Mr. Okesson also indicated that the NYSDEC is pursuing enforcement action to force the investigation and/or clean up of petroleum from these railroad cars. Mr. Okesson stated there is some mention in the Deed of Vail-Ballou being responsible for these railroad cars.

## SCOPE OF SERVICES

The scope of services conducted at the site, based on the above background information, was as follows:

Utilized a drill rig to obtain soil samples and install 2-inch PVC monitoring wells. The borings were located around the perimeter of the former building foundation. MW-1 is located on the northern portion of the site, approximately 100 feet south of the intersection of Clinton and Charles Streets; MW-2 is located on the western portion of the site, near the railroad trestle along Jarvis Street and MW-3 is located on the southeastern portion of the site near the intersection of Hudson Street and Slauson Avenue;

Obtained soil samples, at five-(5) foot intervals, from each boring and screened the samples in the field for volatiles with a photo-ionization detector (PID);

Obtained depth to water measurements and a groundwater sample from each well;

Submitted the groundwater samples for analysis for one or more of the following: volatile organics by EPA Method 8260, semi-volatile organics by EPA Method 8270 for NYSDEC STARS parameters and RCRA Metals;

Established the location and elevations of the monitoring wells relative to the existing site features;

Observed the removal of three underground storage tanks (UST's) from the property;

Observed the UST's being removed from the ground;

Obtained soil samples from the tank pit excavations and screened the samples in the field for volatile organic compounds with a photo-ionization detector (PID). Soil samples were submitted for laboratory analysis of volatiles (STARS 8021 parameters) and/or semi-volatiles (STARS 8270 parameters);

Backfilled the excavation with the excavated soil from around the UST's;

Prepared this report summarizing the findings of the work, including the subsurface and well construction details, and analytical results.

## FINDINGS

### Soil Borings and Monitoring Well Installation:

The monitoring wells (MW-1, MW-2 and MW-3) were installed on May 8, 2000 and May 9, 2000. Groundwater samples were obtained on May 9, 2000 and May 30, 2000. Mr. John Okesson, NYSDEC, was on site and approved the monitoring well locations. The monitoring well locations are shown on Drawing No. 1 – Site Plan.

For the purposes of evaluating the subsurface soils at the site, soil samples were obtained at 5-foot intervals in borings MW-1, MW-2 and MW-3 from the ground surface to their terminus. PID readings ranged from 0 to 4 ppm in the soil samples obtained from the borings. Two-inch PVC monitoring wells were installed in each of the borings. The drilling and monitoring well installation methodologies are attached.

The soils at the site generally consisted of fill (sand and gravel with brick, ash and cinders), underlain by sand and gravel with little to trace silt. The Subsurface Logs are attached.

### Groundwater Sampling:

Groundwater samples were obtained from monitoring wells MW-1, MW-2 and MW-3 at two sampling events. The first sampling event occurred on May 9, 2000; the second event occurred on May 30, 2000.

On May 9, 2000, groundwater samples were obtained from the newly installed monitoring wells (MW-1, MW-2, and MW-3). The groundwater samples were submitted for analysis of volatile organics by EPA Method 8260, semi-volatile organics by EPA Method 8270 for NYSDEC STARS parameters and RCRA Metals. The groundwater sampling methodologies are attached.

The analytical results for the groundwater samples obtained from MW-1, MW-2 and MW-3 on May 9, 2000, were below laboratory detection limits and/or NYSDEC Ambient Water

Quality Standards and Guidance Values for groundwater for the volatile and semi-volatile organics. Copies of the laboratory results are attached.

NYSDEC Ambient Water Quality Standards and Guidance Values for groundwater were exceeded for one or more of the RCRA Metals in monitoring wells MW-1, MW-2 and MW-3 (see attached Table). We believe that this was due to the short time period the monitoring wells had to stabilize before being sampled. Therefore, monitoring wells MW-1, MW-2 and MW-3 were scheduled to be re-sampled on May 30, 2000.

On May 30, 2000, groundwater samples were obtained from monitoring wells (MW-1, MW-2, and MW-3) and submitted for analysis of RCRA Metals.

The analytical results for the groundwater samples obtained from MW-1, MW-2 and MW-3 on May 30, 2000, were below laboratory detection limits and/or NYSDEC Ambient Water Quality Standards and Guidance Values for groundwater for the RCRA Metals (Table No. 1). Copies of the laboratory results are attached.

Water table elevations measured in the monitoring wells on May 30, 2000 are shown on Drawing No. 1. The depth to water ranged from 12.47 feet in MW-2 to 18.52 feet in MW-3. Based on these groundwater elevations, the groundwater flow appears to be eastward.

**Underground Storage Tank Removal:**

The three UST's were removed from the site on July 6, 2000 (Drawing No. 1). Mr. John Okesson, NYSDEC, was on site to observe the removal of the three UST's. After the UST's were removed and soils samples were obtained and scanned with a PID the NYSDEC agreed to place the excavated soil from around the UST's back onto the excavation.

Composite soil samples were obtained from the bottom and sidewall of the fuel oil / naphtha UST test pit excavation and the gasoline UST test pit excavation. The composite soil samples were analyzed for volatile organics by EPA Method 8021 for NYSDEC STARS parameters, and/or semi-volatile organics by EPA Method 8270 for NYSDEC STARS parameters.

The analytical results for the composite soil samples obtained from the fuel oil / naphtha UST test pit and the composite soil sample obtained from the gasoline UST test pit on July 6, 2000, were below laboratory detection limits and/or NYSDEC STARS Guidance Values. See the attached tank pull report for more detail.

According to the NYSDEC records, the three UST's referenced in this report had not been registered as required by the NYSDEC. Therefore, the UST's need to be registered with the NYSDEC, and then officially closed out.

If you have any questions concerning this Limited Subsurface Evaluation Report, please do not hesitate to call us at (607) 836-4400.

Sincerely,

GeoLogic NY, Inc.

Joseph L. Nossal/jpo

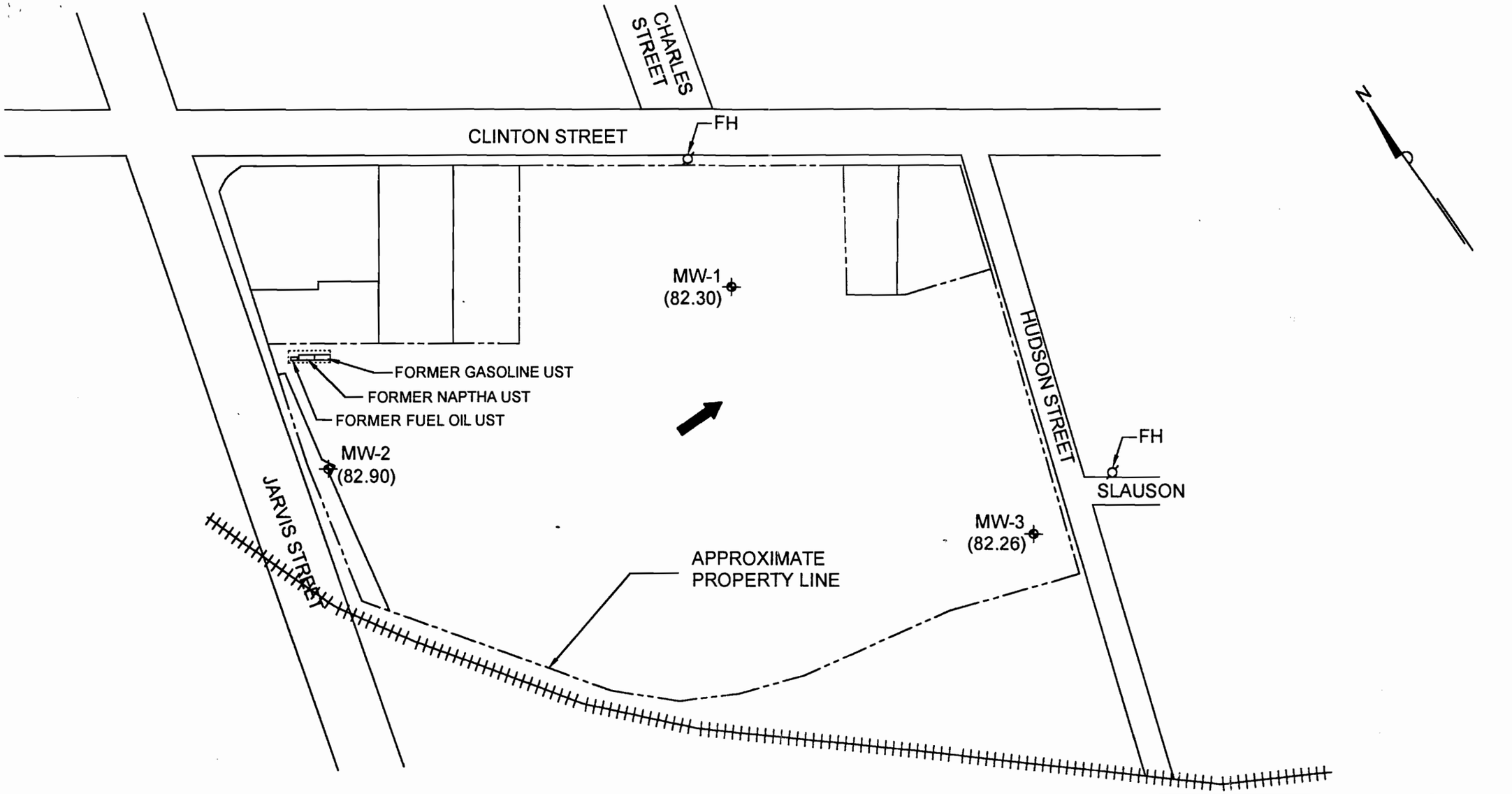
Joseph L. Nossal
Hydrogeologist

Forrest C. Earl

Forrest C. Earl
Vice President/Principal Hydrogeologist

Enc: Site Map, Metals Analytical Table, Analytical Results, Subsurface Logs (with Key), Methodologies and Tank Pull Report

cc: John Okesson, NYSDEC
Thomas Suozzo, NYSDEC
File: ..200048/report/Limited Phase II Evaluation




LEGEND

- MONITORING WELL LOCATION
- FH = FIRE HYDRANT
- (82.30) GROUNDWATER ELEVATION (FT.) FOR 5/30/00
- DIRECTION OF GROUNDWATER FLOW

APPROX. SCALE

0' 25' 50' 100'

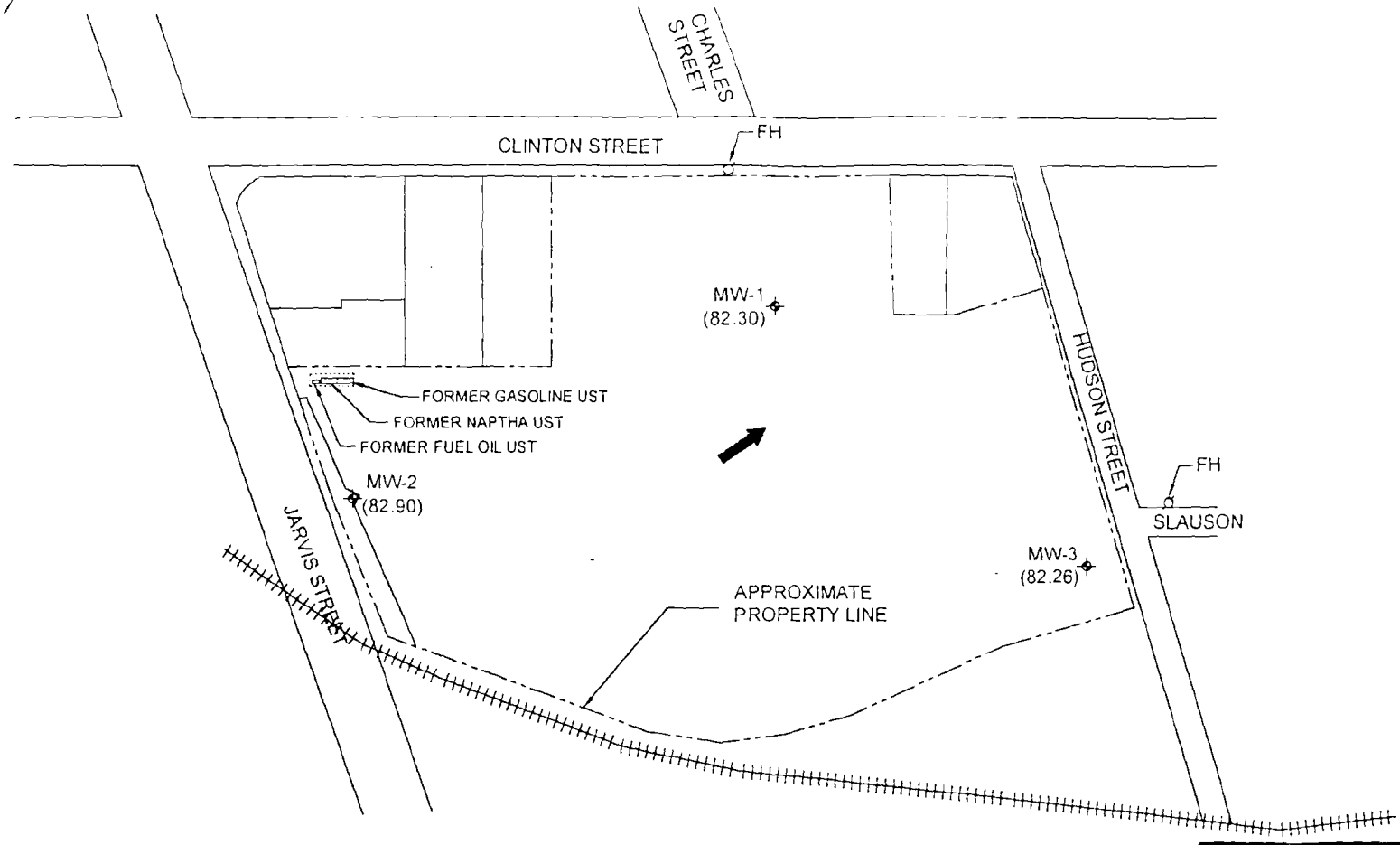
GeoLogic

GeoLogic NY, Inc.

SITE PLAN
187 CLINTON STREET
BINGHAMTON, NEW YORK

| DR. BY: | SCALE: | PROJ. NO: |
|---|---|---|
| JLN/SDW | AS SHOWN | 200048 |
| REVD BY: | DATE: | DRWG. NO: |
| | MAY 2000 | 1 |

F:\..\200048\TECH\SITE PLAN.DWG




LEGEND

- MONITORING WELL LOCATION
- FH = FIRE HYDRANT
- (82.30) GROUNDWATER ELEVATION (FT.) FOR 5/30/00
- DIRECTION OF GROUNDWATER FLOW

APPROX. SCALE

0' 25' 50' 100'

GeoLogic

GeoLogic NY, Inc.

SITE PLAN
187 CLINTON STREET
BINGHAMTON, NEW YORK

| DR. BY: | SCALE: | PROJ. NO: |
|---|---|---|
| JLN/SDW | AS SHOWN | 200048 |
| REVD BY: | DATE: | DRWG. NO: |
| | MAY 2000 | 1 |

F:\..\200048\TECH\SITE PLAN.DWG

**Table No. 1**

**Former Vail-Ballou**
**187 Clinton Street**
**Binghamton, NY**

**Total Metals - Unfiltered**

| Metals in Groundwater | NYSDEC Standards/GV mg/L (ppm) | 05/09/2000 MW-1 mg/L | 05/30/2000 MW-1 mg/L | 05/09/2000 MW-2 mg/L | 05/30/2000 MW-2 mg/L | 05/09/2000 MW-3 mg/L | 5/30/200 MW-3 mg/L |
|---|---|---|---|---|---|---|---|
| mercury | 0.0007 | 0.0015 | ND | 0.0102 | ND | 0.0251 | ND |
| | | | | | | | |
| arsenic | 0.025 | ND | ND | 0.0378 | ND | 0.117 | ND |
| barium | 1.0 | 0.159 | 0.0829 | 3.85 | ND | 0.847 | 0.0816 |
| cadmium | 0.005 | ND | ND | 0.018 | ND | 0.027 | ND |
| chromium | 0.05 | 0.0168 | ND | 0.322 | ND | 0.609 | ND |
| lead | 0.025 | 0.0342 | 0.00538 | 2.43 | ND | 0.894 | 0.00557 |
| selenium | 0.01 | ND | ND | ND | ND | ND | ND |
| silver | 0.05 | ND | ND | ND | ND | ND | ND |
| | | | | | | | |

Exceeds NYSDEC Standards / Guidance Values

**North Star Drilling**
P. O. Box 67
Cortland, New York 13045
(607) 753-8820

# KEY TO SUBSURFACE LOG

Boring No.: B-1
Project No.: 200001
Date Started: 1/31/00
Date Completed: 1/31/00
Sheet 1 of 1

Project:
Location:

Reference Elevation: 100.0

| Depth (ft.) | Sample No. | Type | SPT Blows | N-Value | Recovery (ft.) | PID Reading (ppm) | MATERIAL DESCRIPTION | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Ground Surface | Water level at 2.0' with augers at 7.5'. |
| 1 | 1 | ss | 1 2 2 1 | 4 | 2.0 | 32 | Brown SILT, Some fine-coarse Sand, trace clay, moist-loose | At completion water level at 2.2' with augers at 10.0'. |
| 2 | 2 | | | | | | Gray SHALE, medium hard weathered, thin bedded, some fractures | Run #1: 3.0'-5.0' 95% Recovery, 50% RQD |

1 2 3 4 5 6 7 8 9 10

**TABLE I**

Identification of soil type is made on basis of an estimate of particle sizes, and in the case of fine-grained soils also on basis of plasticity.

| Soil Type | | Soil Particle | |
|---|---|---|---|
| Boulder | | > 12" | |
| Cobble | | 12" - 3" | |
| Gravel | - Coarse | 3" - 3/4" | Coarse Grained |
| | - Fine | 3/4" - #4 | (Granular) |
| Sand | - Coarse | #4 - #10 | |
| | - Medium | #10 - #40 | |
| | - Fine | #40 - #200 | |
| Silt-Non Plastic (Granular) | | < #200 | Fine Grained |
| Clay-Plastic (Cohesive) | | | |

**TABLE II**

The following terms are used in classifying soils consisting of mixtures of two or more soil types. The estimate is based on weight of total sample.

| Term | Percent of Total Sample |
|---|---|
| "and" | 35 - 50 |
| "some" | 20 - 35 |
| "little" | 10 - 20 |
| "trace" | 1 - 10 |

(When sampling gravelly soils with a standard split spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter.)

**TABLE III**

The relative compactness or consistency is described in accordance with the following terms.

| Granular Soils | | Cohesive Soils | |
|---|---|---|---|
| Term | Blows per Foot, N | Term | Blows per Foot, N |
| Loose | < 11 | Very Soft | < 2 |
| Firm | 11 - 30 | Soft | 2 - 4 |
| Compact | 31 - 50 | Medium | 4 - 8 |
| Very Compact | > 51 | Stiff | 8 - 15 |
| | | Very Stiff | 15 - 30 |
| | | Hard | >30 |

(Large particles in the soils will often significantly influence the blows per foot recorded during the Penetration Test.)

**TABLE IV**

| Stratified Soils | |
|---|---|
| Descriptive Term | Thickness |
| Parting | - 0" - 1/16" |
| Seam | - 1/16" - 1/2" |
| Layer | - 1/2" - 12" |
| Stratum | - >12" |
| Varved Clay | - Alternating seams or layers of sand, silt & clay |
| Pocket | - small, erratic deposit, usually <12" |
| Lens | - lenticular deposit |
| Occasional | - one or less per foot of thickness |
| Frequent | - more than one per foot of thickness |

**North Star Drilling**
P.O. Box 67
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## SUBSURFACE LOG

Boring No.: MW-1
Project No.: 200048
Date Started: 5-8-00
Date Completed: 5-8-00
Page 1 of 1
Reference Elevation: 98.22

Project: Former Vail-Ballou
Location:187 Clinton St. Binghamton NY

| Depth (ft) | Number | SPT Blows (6") | N-Value | Recovery (ft) | MATERIAL DESCRIPTION | PID Readings (ppm) | Well Detail | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | Ground Surface | | | |
| 0-1 | 1 | 50<br>50-.4 | | 0.5 | FILL: Brown SAND and GRAVEL, trace silt<br>very compact, moist | 0 | | Curb Box with locking cap in Concrete |
| 1-5 | | | | | | | | Auger cuttings 2.0' - 4.5' |
| 5-6 | 2 | 7<br>8<br>50-.4 | | 0.8 | similar | 0 | | 2" dia. PVC Riser 0'-10' |
| 6-10 | | | | | | | | Bentonite Seal, 4.5'-7.5' |
| 10-11 | 3 | 8<br>50-.4 | | 0.9 | Brown SAND and GRAVEL, trace silt<br>very compact, moist-wet | 0 | | Sandpack 7.5'-25' |
| 11-15 | | | | | | | | |
| 15-16 | 4 | 35<br>25<br>16<br>12 | 41 | 1.6 | similar | 0 | | 2" dia. PVC Well Screen,<br>10'-25', 0.020" slot size |
| 16-20 | | | | | | | | |
| 20-21 | 5 | 3<br>3<br>5<br>4 | 8 | 1.1 | washed GRAVEL, loose-saturated | 0 | | |
| 21-25 | | | | | | | | At completion, water at 17.7',<br>augers at 25'. |
| 25 | | | | | End of Borehole | | | |
| 25-27 | | | | | | | | |

Sampling Method: ASTM D-1586
Notes: 4 1/4" I.D. Hollow Stem Augers

Visually Classified: J. Nossal
File: 200048/tech/ MW1

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## SUBSURFACE LOG

Boring No.: MW-2
Project No.: 200048
Date Started: 5-8-00
Date Completed: 5-8-00
Page 1 of 1
Reference Elevation: 95.37

Project: Former Vail-Ballou
Location:187 Clinton St. Binghamton NY

| Depth (ft) | Number | SPT Blows (6") | N-Value | Recovery (ft) | MATERIAL DESCRIPTION | PID Readings (ppm) | Well Detail | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | Ground Surface | | | |
| 1 | 1 | 2<br>3<br>7<br>16 | 10 | 1.0 | FILL: Brick, Cinders, Ash, with SAND and GRAVEL, moist | 0 | | Curb Box with locking cap in Concrete |
| 5 | 2 | 7<br>30<br>36<br>22 | 66 | 1.6 | Brown SAND and GRAVEL, trace silt, compact, moist | 0 | | Auger Cuttings 2.0' - 5.0'<br>2" dia. PVC Riser 0'-10' |
| 10 | 3 | 38<br>38<br>27<br>30 | 65 | 1.8 | Brown SAND and GRAVEL, trace silt, compact, moist | 0 | | Bentonite Seal, 5.0'-8.0'<br>Sandpack 8.0'-20.0' |
| 15 | 4 | 3<br>6<br>19<br>8 | 25 | 0.1 | similar, saturated | 0 | | 2" dia. PVC Well Screen, 10.0'-20.0', 0.020" slot size |
| 20 | 5 | 12<br>7<br>7<br>8 | 14 | 1.7 | similar, saturated | 0 | | |
| 22 | | | | | End of Borehole | | | At completion, water at 15.2', augers at 20.0'. |

Sampling Method: ASTM D-1586
Notes: 4 1/4" I.D. Hollow Stem Augers

Visually Classified: J. Nossal
File: 200048/tech/ MW2

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## SUBSURFACE LOG

Boring No.: MW-3
Project No.: 200048
Date Started: 5-8-00
Date Completed: 5-8-00

Reference Elevation: 100.78

Project: Former Vail-Ballou
Location:187 Clinton St. Binghamton NY

| Depth (ft) | Number | SPT Blows (6") | N-Value | Recovery (ft) | MATERIAL DESCRIPTION | PID Readings (ppm) | Well Detail | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | Ground Surface | | | |
| 1 | | | | | FILL: Brick, Cinders, SAND and GRAVEL, auger cuttings | | | Curb Box with locking cap in Concrete |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | Auger cuttings, 2.0' - 9.5' |
| 6 | 1 | 11<br>7<br>25<br>50-.1 | 32 | 0.7 | FILL: Cinders, SAND and GRAVEL, brick, moist | 4 | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | Bentonite Seal, 9.5'-12.5' |
| 11 | 2 | 11<br>50-.4 | | 0.9 | Brown SAND and GRAVEL, little-trace silt, moist | 3 | | |
| 12 | | | | | | | | 2" dia. PVC Riser 0'-10' |
| 13 | | | | | | | | |
| 14 | | | | | | | | Sandpack 9.5'-25.0' |
| 15 | | | | | | | | |
| 16 | 3 | 35<br>50<br>40<br>49 | 90 | 1.8 | similar, very compact, moist | 4 | | 2" dia. PVC Well Screen, 15.0'-25.0', 0.020" slot size |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 21 | 4 | 16<br>30<br>15<br>15 | 45 | 1.6 | similar, saturated at 21' | 3 | | |
| 22 | | | | | | | | |
| 23 | | | | | | | | At completion, water at 20.0', augers at 25.0'. |
| 24 | | | | | | | | |
| 25 | | | | | End of Borehole | | | |
| 26 | | | | | | | | |
| 27 | | | | | | | | |

Sampling Method: ASTM D-1586
Notes: 4 1/4" I.D. Hollow Stem Augers

Visually Classified: J. Nossal
File: 200048/tech/ MW3

## DRILLING METHODOLOGY

### SOIL BORINGS

Borings were advanced using 4¼-inch I.D. hollow stem augers.

Representative samples of the overburden were obtained by driving a 2-inch OD split spoon sampler into the soil, through and beneath the augers, using a 140-pound hammer free-falling 30 inches (ASTM D 1586).

The soil samples were classified in the field by the geologist.

The drilling equipment was steam cleaned before starting work at the site and between each boring to minimize the possibility of cross contamination.

The Subsurface Logs attached to this report presents the observations and mechanical data collected at the site, supplemented by classification of material removed from the borings as determined through visual identification. It is cautioned that the materials removed from the borings represent only a fraction of the total volume of the deposits at the site and may not necessarily be representative of the subsurface conditions between adjacent borings or between the sampled intervals. The data presented on the Subsurface Logs, together with the recovered samples, will provide a basis for evaluating the character of the subsurface conditions relative to the project. The evaluation must consider all the recorded details and their significance relative to each other. Often the analysis of boring data indicate the need for additional testing or sampling procedures to more adequately evaluate the subsurface conditions. Any evaluation of the contents of this report and the recovered samples must be performed by knowledgeable Professionals.

### MONITORING WELL CONSTRUCTION

A water table monitoring well was installed in each boring. The well screen was positioned to straddle the water table at the time of installation.

The monitoring wells are constructed of 2-inch diameter PVC well pipe. The well screens are 10 feet to 15-feet long and have 0.020-inch size slots.

A medium grade sand pack was placed around the wells 2 to 4 feet above the top of the well screen. A 2 to 4-foot bentonite seal was placed above the sand pack to minimize the vertical migration of contaminants into the well. The remainder of the borehole was backfilled with natural material.

Locking caps and flushed mounted curb boxes were placed on the wells to protect the well.

## SURVEY METHODOLOGY

The locations of the monitoring wells were determined by taped measurements from existing site structures.

Elevations of the monitoring wells were determined by differential leveling.

A temporary bench mark was established and assigned an elevation of 100.00.

The temporary benchmark was top nut of the fire hydrant located on south side of Clinton Street across from Charles Street.

## GROUNDWATER SAMPLING METHODOLOGY

### WATER LEVEL MEASUREMENTS

All water levels were referenced to the top of the well casing.

Water levels were measured with a water level indicator to the nearest 0.01 foot.

The water level indicator was rinsed with distilled water between each well.

### GROUNDWATER SAMPLES

Groundwater samples were obtained utilizing new-dedicated bailers and new polypropylene rope.

Prior to obtaining groundwater samples, at least three well volumes were purged from the wells, or until the wells were purged dry.

Groundwater samples were placed in containers provided by the analytical laboratory and kept chilled until delivery to the laboratory.

A chain of custody was maintained throughout sampling and delivery of the samples to the laboratory.

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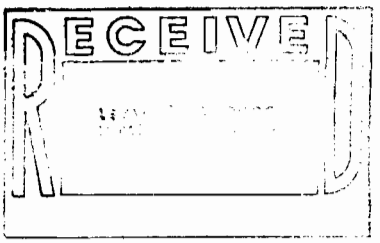
**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-1
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-01A

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **STARS SEMIVOLATILES BY EPA 8270** | | Analyst: **JK** | Analysis Date: **05/22/00** | | | |
| Acenaphthene | 83-32-9 | 1 | 10 | ND | µg/L | |
| Acenaphthylene | 208-96-8 | 1 | 10 | ND | µg/L | |
| Anthracene | 120-12-7 | 1 | 10 | ND | µg/L | |
| Benz(a)anthracene | 56-55-3 | 1 | 10 | ND | µg/L | |
| Benzo(a)pyrene | 50-32-8 | 1 | 10 | ND | µg/L | |
| Benzo(b)fluoranthene | 205-99-2 | 1 | 10 | ND | µg/L | |
| Benzo(g,h,i)perylene | 191-24-2 | 1 | 10 | ND | µg/L | |
| Benzo(k)fluoranthene | 207-08-9 | 1 | 10 | ND | µg/L | |
| Chrysene | 218-01-9 | 1 | 10 | ND | µg/L | |
| Dibenz(a,h)anthracene | 53-70-3 | 1 | 10 | ND | µg/L | |
| Fluoranthene | 206-44-0 | 1 | 10 | ND | µg/L | |
| Fluorene | 86-73-7 | 1 | 10 | ND | µg/L | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 1 | 10 | ND | µg/L | |
| Naphthalene | 91-20-3 | 1 | 10 | ND | µg/L | |
| Phenanthrene | 85-01-8 | 1 | 10 | ND | µg/L | |
| Pyrene | 129-00-0 | 1 | 10 | ND | µg/L | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 1 | 10-102.8 | 45.6 | %REC | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 1 | 10-111.7 | 53.9 | %REC | |
| Surr: Terphenyl-d14 | 98904-43-9 | 1 | 10-156.4 | 47.0 | %REC | |




This laboratory analysis has been performed in accordance with generally accepted laboratory practices and requirements of the New York State Department of Health ELAP Program. Buck Environmental Laboratories, Inc. makes no recommendations, representations or warranties other than as specifically set forth in this report and shall not be responsible or liable for any action or the consequences of any action taken in connection with this report.

**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

**Abbreviations:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Est., Value exceeds quantitation range
H - Est., Holding time exceedance

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*Tel 607.753.3403 Fax 607.753.3415*

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ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

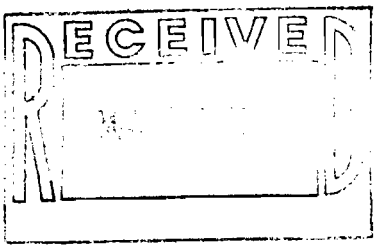
**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-1
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-01B

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **MERCURY, TOTAL** | | Analyst: **MB** | Analysis Date: **05/22/00** | | | |
| Mercury | 7439-97-6 | 1 | 0.000400 | **0.00150** | mg/L | |
| **METALS BY ICP** | | Analyst: **MB** | Analysis Date: **05/24/00** | | | |
| Arsenic | 7440-38-2 | 1 | 0.0250 | **ND** | mg/L | |
| Barium | 7440-39-3 | 1 | 0.0450 | **0.159** | mg/L | |
| Cadmium | 7440-43-9 | 1 | 0.00500 | **ND** | mg/L | |
| Chromium | 7440-47-3 | 1 | 0.00500 | **0.0168** | mg/L | |
| Lead | 7439-92-1 | 1 | 0.00500 | **0.0342** | mg/L | |
| Selenium | 7782-49-2 | 1 | 0.0200 | **ND** | mg/L | |
| Silver | 7440-22-4 | 1 | 0.0150 | **ND** | mg/L | |

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**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-1
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-01C

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **GC/MS VOLATILES BY EPA 8260** | | Analyst: **PI** | Analysis Date: **05/16/00** | | | |
| Acetone | 67-64-1 | 1 | 25 | ND | µg/L | |
| Benzene | 71-43-2 | 1 | 5.0 | ND | µg/L | |
| Bromobenzene | 108-86-1 | 1 | 5.0 | ND | µg/L | |
| Bromochloromethane | 74-97-5 | 1 | 5.0 | ND | µg/L | |
| Bromodichloromethane | 75-27-4 | 1 | 5.0 | ND | µg/L | |
| Bromoform | 75-25-2 | 1 | 5.0 | ND | µg/L | |
| Bromomethane | 74-83-9 | 1 | 5.0 | ND | µg/L | |
| 2-Butanone | 78-93-3 | 1 | 25 | ND | µg/L | |
| n-Butylbenzene | 104-51-8 | 1 | 5.0 | ND | µg/L | |
| sec-Butylbenzene | 135-98-8 | 1 | 5.0 | ND | µg/L | |
| tert-Butylbenzene | 98-06-6 | 1 | 5.0 | ND | µg/L | |
| Carbon disulfide | 75-15-0 | 1 | 5.0 | ND | µg/L | |
| Carbon tetrachloride | 56-23-5 | 1 | 5.0 | ND | µg/L | |
| Chlorobenzene | 108-90-7 | 1 | 5.0 | ND | µg/L | |
| Chloroethane | 75-00-3 | 1 | 5.0 | ND | µg/L | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 1 | 5.0 | ND | µg/L | |
| Chloroform | 67-66-3 | 1 | 5.0 | ND | µg/L | |
| Chloromethane | 74-87-3 | 1 | 5.0 | ND | µg/L | |
| 2-Chlorotoluene | 95-49-8 | 1 | 5.0 | ND | µg/L | |
| 4-Chlorotoluene | 106-43-4 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 1 | 5.0 | ND | µg/L | |
| Dibromochloromethane | 124-48-1 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dibromoethane | 106-93-4 | 1 | 5.0 | ND | µg/L | |
| Dibromomethane | 74-95-3 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dichlorobenzene | 95-50-1 | 1 | 5.0 | ND | µg/L | |
| 1,3-Dichlorobenzene | 541-73-1 | 1 | 5.0 | ND | µg/L | |
| 1,4-Dichlorobenzene | 106-46-7 | 1 | 5.0 | ND | µg/L | |
| Dichlorodifluoromethane | 75-71-8 | 1 | 5.0 | ND | µg/L | |
| 1,1-Dichloroethane | 75-34-3 | 1 | 5.0 | ND | µg/L | |

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**NYSDOH ELAP #10795**

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ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-1
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-01C

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 107-06-2 | 1 | 5.0 | ND | µg/L | |
| 1,1-Dichloroethene | 75-35-4 | 1 | 5.0 | ND | µg/L | |
| cis-1,2-Dichloroethene | 156-59-2 | 1 | 5.0 | ND | µg/L | |
| trans-1,2-Dichloroethene | 156-60-5 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dichloropropane | 78-87-5 | 1 | 5.0 | ND | µg/L | |
| 1,3-Dichloropropane | 142-28-9 | 1 | 5.0 | ND | µg/L | |
| 2,2-Dichloropropane | 590-20-7 | 1 | 5.0 | ND | µg/L | |
| cis-1,3-Dichloropropene | 10061-01-5 | 1 | 5.0 | ND | µg/L | |
| trans-1,3-Dichloropropene | 10061-02-6 | 1 | 5.0 | ND | µg/L | |
| Hexachlorobutadiene | 87-68-3 | 1 | 5.0 | ND | µg/L | |
| Ethylbenzene | 100-41-4 | 1 | 5.0 | ND | µg/L | |
| 1,1-Dichloropropene | 563-58-6 | 1 | 5.0 | ND | µg/L | |
| 2-Hexanone | 591-78-6 | 1 | 25 | ND | µg/L | |
| Methylene chloride | 75-09-2 | 1 | 5.0 | ND | µg/L | |
| 4-Isopropyltoluene | 99-87-6 | 1 | 5.0 | ND | µg/L | |
| Methyl tert-butyl ether | 1634-04-4 | 1 | 5.0 | ND | µg/L | |
| 4-Methyl-2-pentanone | 108-10-1 | 1 | 25 | ND | µg/L | |
| n-Propylbenzene | 103-65-1 | 1 | 5.0 | ND | µg/L | |
| Styrene | 100-42-5 | 1 | 5.0 | ND | µg/L | |
| Isopropylbenzene | 98-82-8 | 1 | 5.0 | ND | µg/L | |
| Naphthalene | 91-20-3 | 1 | 5.0 | ND | µg/L | |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 1 | 5.0 | ND | µg/L | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 1 | 5.0 | ND | µg/L | |
| Tetrachloroethene | 127-18-4 | 1 | 5.0 | ND | µg/L | |
| Toluene | 108-88-3 | 1 | 5.0 | ND | µg/L | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 1 | 5.0 | ND | µg/L | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 1 | 5.0 | ND | µg/L | |
| 1,1,1-Trichloroethane | 71-55-6 | 1 | 5.0 | ND | µg/L | |
| Trichloroethene | 79-01-6 | 1 | 5.0 | ND | µg/L | |
| 1,1,2-Trichloroethane | 79-00-5 | 1 | 5.0 | ND | µg/L | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

**Abbreviations:**
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E - Est., Value exceeds quantitation range
H - Est., Holding time exceedance

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*Tel 607.753.3403 Fax 607.753.3415*



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ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

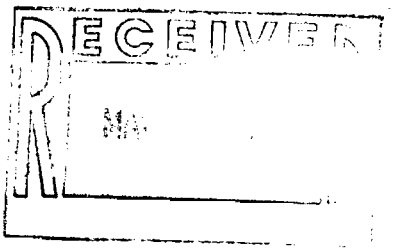
**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-1
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-01C

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| 1,2,3-Trichloropropane | 96-18-4 | 1 | 5.0 | ND | µg/L | |
| Trichlorofluoromethane | 75-69-4 | 1 | 5.0 | ND | µg/L | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 1 | 5.0 | ND | µg/L | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 1 | 5.0 | ND | µg/L | |
| Vinyl acetate | 108-05-4 | 1 | 5.0 | ND | µg/L | |
| Vinyl chloride | 75-01-4 | 1 | 5.0 | ND | µg/L | |
| m,p-Xylene | 1330-20-7 | 1 | 10 | ND | µg/L | |
| o-Xylene | 95-47-6 | 1 | 5.0 | ND | µg/L | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 1 | 72.2-115.6 | 98.4 | %REC | |
| Surr: Dibromofluoromethane | 1868-53-7 | 1 | 82.7-126.6 | 106 | %REC | |
| Surr: Toluene-d8 | 2037-26-5 | 1 | 83.8-114.2 | 102 | %REC | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

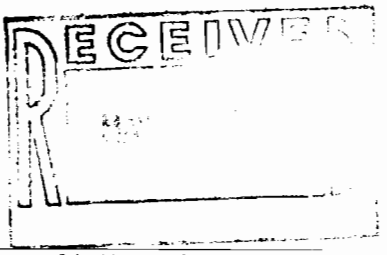
**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-2
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-02A

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **STARS SEMIVOLATILES BY EPA 8270** | | Analyst: **JK** | Analysis Date: **05/22/00** | | | |
| Acenaphthene | 83-32-9 | 1 | 10 | ND | µg/L | |
| Acenaphthylene | 208-96-8 | 1 | 10 | ND | µg/L | |
| Anthracene | 120-12-7 | 1 | 10 | ND | µg/L | |
| Benz(a)anthracene | 56-55-3 | 1 | 10 | ND | µg/L | |
| Benzo(a)pyrene | 50-32-8 | 1 | 10 | ND | µg/L | |
| Benzo(b)fluoranthene | 205-99-2 | 1 | 10 | ND | µg/L | |
| Benzo(g,h,i)perylene | 191-24-2 | 1 | 10 | ND | µg/L | |
| Benzo(k)fluoranthene | 207-08-9 | 1 | 10 | ND | µg/L | |
| Chrysene | 218-01-9 | 1 | 10 | ND | µg/L | |
| Dibenz(a,h)anthracene | 53-70-3 | 1 | 10 | ND | µg/L | |
| Fluoranthene | 206-44-0 | 1 | 10 | ND | µg/L | |
| Fluorene | 86-73-7 | 1 | 10 | ND | µg/L | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 1 | 10 | ND | µg/L | |
| Naphthalene | 91-20-3 | 1 | 10 | ND | µg/L | |
| Phenanthrene | 85-01-8 | 1 | 10 | ND | µg/L | |
| Pyrene | 129-00-0 | 1 | 10 | ND | µg/L | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 1 | 10-102.8 | 30.0 | %REC | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 1 | 10-111.7 | 34.1 | %REC | |
| Surr: Terphenyl-d14 | 98904-43-9 | 1 | 10-156.4 | 40.8 | %REC | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

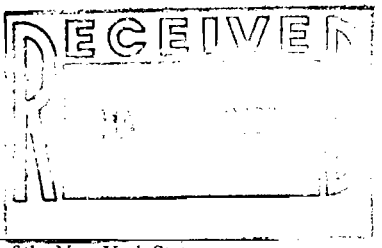
**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-2
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-02B

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **MERCURY, TOTAL** | | Analyst: **MB** | Analysis Date: **05/22/00** | | | |
| Mercury | 7439-97-6 | 10 | 0.00400 | **0.0102** | mg/L | |
| **METALS BY ICP** | | Analyst: **MB** | Analysis Date: **05/24/00** | | | |
| Arsenic | 7440-38-2 | 1 | 0.0250 | **0.0378** | mg/L | |
| Barium | 7440-39-3 | 1 | 0.0450 | **3.85** | mg/L | |
| Cadmium | 7440-43-9 | 1 | 0.00500 | **0.0180** | mg/L | |
| Chromium | 7440-47-3 | 1 | 0.00500 | **0.322** | mg/L | |
| Lead | 7439-92-1 | 1 | 0.00500 | **2.43** | mg/L | |
| Selenium | 7782-49-2 | 1 | 0.0200 | **ND** | mg/L | |
| Silver | 7440-22-4 | 1 | 0.0150 | **ND** | mg/L | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-2
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-02C

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **GC/MS VOLATILES BY EPA 8260** | | Analyst: **PI** | Analysis Date: **05/16/00** | | | |
| Acetone | 67-64-1 | 1 | 25 | ND | µg/L | |
| Benzene | 71-43-2 | 1 | 5.0 | ND | µg/L | |
| Bromobenzene | 108-86-1 | 1 | 5.0 | ND | µg/L | |
| Bromochloromethane | 74-97-5 | 1 | 5.0 | ND | µg/L | |
| Bromodichloromethane | 75-27-4 | 1 | 5.0 | ND | µg/L | |
| Bromoform | 75-25-2 | 1 | 5.0 | ND | µg/L | |
| Bromomethane | 74-83-9 | 1 | 5.0 | ND | µg/L | |
| 2-Butanone | 78-93-3 | 1 | 25 | ND | µg/L | |
| n-Butylbenzene | 104-51-8 | 1 | 5.0 | ND | µg/L | |
| sec-Butylbenzene | 135-98-8 | 1 | 5.0 | ND | µg/L | |
| tert-Butylbenzene | 98-06-6 | 1 | 5.0 | ND | µg/L | |
| Carbon disulfide | 75-15-0 | 1 | 5.0 | ND | µg/L | |
| Carbon tetrachloride | 56-23-5 | 1 | 5.0 | ND | µg/L | |
| Chlorobenzene | 108-90-7 | 1 | 5.0 | ND | µg/L | |
| Chloroethane | 75-00-3 | 1 | 5.0 | ND | µg/L | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 1 | 5.0 | ND | µg/L | |
| Chloroform | 67-66-3 | 1 | 5.0 | **5.3** | µg/L | |
| Chloromethane | 74-87-3 | 1 | 5.0 | ND | µg/L | |
| 2-Chlorotoluene | 95-49-8 | 1 | 5.0 | ND | µg/L | |
| 4-Chlorotoluene | 106-43-4 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 1 | 5.0 | ND | µg/L | |
| Dibromochloromethane | 124-48-1 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dibromoethane | 106-93-4 | 1 | 5.0 | ND | µg/L | |
| Dibromomethane | 74-95-3 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dichlorobenzene | 95-50-1 | 1 | 5.0 | ND | µg/L | |
| 1,3-Dichlorobenzene | 541-73-1 | 1 | 5.0 | ND | µg/L | |
| 1,4-Dichlorobenzene | 106-46-7 | 1 | 5.0 | ND | µg/L | |
| Dichlorodifluoromethane | 75-71-8 | 1 | 5.0 | ND | µg/L | |
| 1,1-Dichloroethane | 75-34-3 | 1 | 5.0 | ND | µg/L | |

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**NYSDOH ELAP #10795**

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ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-2
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-02C

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 107-06-2 | 1 | 5.0 | ND | µg/L | |
| 1,1-Dichloroethene | 75-35-4 | 1 | 5.0 | ND | µg/L | |
| cis-1,2-Dichloroethene | 156-59-2 | 1 | 5.0 | ND | µg/L | |
| trans-1,2-Dichloroethene | 156-60-5 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dichloropropane | 78-87-5 | 1 | 5.0 | ND | µg/L | |
| 1,3-Dichloropropane | 142-28-9 | 1 | 5.0 | ND | µg/L | |
| 2,2-Dichloropropane | 590-20-7 | 1 | 5.0 | ND | µg/L | |
| cis-1,3-Dichloropropene | 10061-01-5 | 1 | 5.0 | ND | µg/L | |
| trans-1,3-Dichloropropene | 10061-02-6 | 1 | 5.0 | ND | µg/L | |
| Hexachlorobutadiene | 87-68-3 | 1 | 5.0 | ND | µg/L | |
| Ethylbenzene | 100-41-4 | 1 | 5.0 | ND | µg/L | |
| 1,1-Dichloropropene | 563-58-6 | 1 | 5.0 | ND | µg/L | |
| 2-Hexanone | 591-78-6 | 1 | 25 | ND | µg/L | |
| Methylene chloride | 75-09-2 | 1 | 5.0 | ND | µg/L | |
| 4-Isopropyltoluene | 99-87-6 | 1 | 5.0 | ND | µg/L | |
| Methyl tert-butyl ether | 1634-04-4 | 1 | 5.0 | ND | µg/L | |
| 4-Methyl-2-pentanone | 108-10-1 | 1 | 25 | ND | µg/L | |
| n-Propylbenzene | 103-65-1 | 1 | 5.0 | ND | µg/L | |
| Styrene | 100-42-5 | 1 | 5.0 | ND | µg/L | |
| Isopropylbenzene | 98-82-8 | 1 | 5.0 | ND | µg/L | |
| Naphthalene | 91-20-3 | 1 | 5.0 | ND | µg/L | |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 1 | 5.0 | ND | µg/L | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 1 | 5.0 | ND | µg/L | |
| Tetrachloroethene | 127-18-4 | 1 | 5.0 | ND | µg/L | |
| Toluene | 108-88-3 | 1 | 5.0 | ND | µg/L | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 1 | 5.0 | ND | µg/L | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 1 | 5.0 | ND | µg/L | |
| 1,1,1-Trichloroethane | 71-55-6 | 1 | 5.0 | ND | µg/L | |
| Trichloroethene | 79-01-6 | 1 | 5.0 | ND | µg/L | |
| 1,1,2-Trichloroethane | 79-00-5 | 1 | 5.0 | ND | µg/L | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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*Tel 607.753.3403 Fax 607.753.3415*

BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

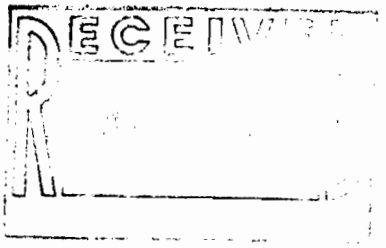
**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-2
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-02C

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| 1,2,3-Trichloropropane | 96-18-4 | 1 | 5.0 | ND | µg/L | |
| Trichlorofluoromethane | 75-69-4 | 1 | 5.0 | ND | µg/L | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 1 | 5.0 | ND | µg/L | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 1 | 5.0 | ND | µg/L | |
| Vinyl acetate | 108-05-4 | 1 | 5.0 | ND | µg/L | |
| Vinyl chloride | 75-01-4 | 1 | 5.0 | ND | µg/L | |
| m,p-Xylene | 1330-20-7 | 1 | 10 | ND | µg/L | |
| o-Xylene | 95-47-6 | 1 | 5.0 | ND | µg/L | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 1 | 72.2-115.6 | 98.4 | %REC | |
| Surr: Dibromofluoromethane | 1868-53-7 | 1 | 82.7-126.6 | 102 | %REC | |
| Surr: Toluene-d8 | 2037-26-5 | 1 | 83.8-114.2 | 88.2 | %REC | |



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**NYSDOH ELAP #10795**

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BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-3
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-03A

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **STARS SEMIVOLATILES BY EPA 8270** | | Analyst: **JK** | Analysis Date: **05/22/00** | | | |
| Acenaphthene | 83-32-9 | 1 | 11 | ND | µg/L | |
| Acenaphthylene | 208-96-8 | 1 | 11 | ND | µg/L | |
| Anthracene | 120-12-7 | 1 | 11 | ND | µg/L | |
| Benz(a)anthracene | 56-55-3 | 1 | 11 | ND | µg/L | |
| Benzo(a)pyrene | 50-32-8 | 1 | 11 | ND | µg/L | |
| Benzo(b)fluoranthene | 205-99-2 | 1 | 11 | ND | µg/L | |
| Benzo(g,h,i)perylene | 191-24-2 | 1 | 11 | ND | µg/L | |
| Benzo(k)fluoranthene | 207-08-9 | 1 | 11 | ND | µg/L | |
| Chrysene | 218-01-9 | 1 | 11 | ND | µg/L | |
| Dibenz(a,h)anthracene | 53-70-3 | 1 | 11 | ND | µg/L | |
| Fluoranthene | 206-44-0 | 1 | 11 | ND | µg/L | |
| Fluorene | 86-73-7 | 1 | 11 | ND | µg/L | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 1 | 11 | ND | µg/L | |
| Naphthalene | 91-20-3 | 1 | 11 | ND | µg/L | |
| Phenanthrene | 85-01-8 | 1 | 11 | ND | µg/L | |
| Pyrene | 129-00-0 | 1 | 11 | ND | µg/L | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 1 | 10-102.8 | 46.7 | %REC | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 1 | 10-111.7 | 54.1 | %REC | |
| Surr: Terphenyl-d14 | 98904-43-9 | 1 | 10-156.4 | 50.5 | %REC | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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*Tel 607.753.3403 Fax 607.753.3415*

BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-3
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-03B

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **MERCURY, TOTAL** | | Analyst: **MB** | Analysis Date: **05/22/00** | | | |
| Mercury | 7439-97-6 | 10 | 0.00400 | **0.0251** | mg/L | |
| **METALS BY ICP** | | Analyst: **MB** | Analysis Date: **05/24/00** | | | |
| Arsenic | 7440-38-2 | 1 | 0.0250 | **0.117** | mg/L | |
| Barium | 7440-39-3 | 1 | 0.0450 | **0.847** | mg/L | |
| Cadmium | 7440-43-9 | 1 | 0.00500 | **0.0270** | mg/L | |
| Chromium | 7440-47-3 | 1 | 0.00500 | **0.609** | mg/L | |
| Lead | 7439-92-1 | 1 | 0.00500 | **0.894** | mg/L | |
| Selenium | 7782-49-2 | 1 | 0.0200 | ND | mg/L | |
| Silver | 7440-22-4 | 1 | 0.0150 | ND | mg/L | |

RECEIVED

This laboratory analysis has been performed in accordance with generally accepted laboratory practices and requirements of the New York State Department of Health ELAP Program. Buck Environmental Laboratories, Inc. makes no recommendations, representations or warranties other than as specifically set forth in this report and shall not be responsible or liable for any action or the consequences of any action taken in connection with this report.

**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

**Abbreviations:**
ND - Not Detected at the Reporting Limit
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R - RPD outside accepted recovery limits
E - Est., Value exceeds quantitation range
H - Est., Holding time exceedance

*3821 Buck Drive, Cortland, NY 13045-5150*
*Tel 607.753.3403 Fax 607.753.3415*

BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-3
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-03C

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **GC/MS VOLATILES BY EPA 8260** | | Analyst: **PI** | Analysis Date: **05/16/00** | | | |
| Acetone | 67-64-1 | 1 | 25 | ND | µg/L | |
| Benzene | 71-43-2 | 1 | 5.0 | ND | µg/L | |
| Bromobenzene | 108-86-1 | 1 | 5.0 | ND | µg/L | |
| Bromochloromethane | 74-97-5 | 1 | 5.0 | ND | µg/L | |
| Bromodichloromethane | 75-27-4 | 1 | 5.0 | ND | µg/L | |
| Bromoform | 75-25-2 | 1 | 5.0 | ND | µg/L | |
| Bromomethane | 74-83-9 | 1 | 5.0 | ND | µg/L | |
| 2-Butanone | 78-93-3 | 1 | 25 | ND | µg/L | |
| n-Butylbenzene | 104-51-8 | 1 | 5.0 | ND | µg/L | |
| sec-Butylbenzene | 135-98-8 | 1 | 5.0 | ND | µg/L | |
| tert-Butylbenzene | 98-06-6 | 1 | 5.0 | ND | µg/L | |
| Carbon disulfide | 75-15-0 | 1 | 5.0 | ND | µg/L | |
| Carbon tetrachloride | 56-23-5 | 1 | 5.0 | ND | µg/L | |
| Chlorobenzene | 108-90-7 | 1 | 5.0 | ND | µg/L | |
| Chloroethane | 75-00-3 | 1 | 5.0 | ND | µg/L | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 1 | 5.0 | ND | µg/L | |
| Chloroform | 67-66-3 | 1 | 5.0 | ND | µg/L | |
| Chloromethane | 74-87-3 | 1 | 5.0 | ND | µg/L | |
| 2-Chlorotoluene | 95-49-8 | 1 | 5.0 | ND | µg/L | |
| 4-Chlorotoluene | 106-43-4 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 1 | 5.0 | ND | µg/L | |
| Dibromochloromethane | 124-48-1 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dibromoethane | 106-93-4 | 1 | 5.0 | ND | µg/L | |
| Dibromomethane | 74-95-3 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dichlorobenzene | 95-50-1 | 1 | 5.0 | ND | µg/L | |
| 1,3-Dichlorobenzene | 541-73-1 | 1 | 5.0 | ND | µg/L | |
| 1,4-Dichlorobenzene | 106-46-7 | 1 | 5.0 | ND | µg/L | |
| Dichlorodifluoromethane | 75-71-8 | 1 | 5.0 | ND | µg/L | |
| 1,1-Dichloroethane | 75-34-3 | 1 | 5.0 | ND | µg/L | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-3
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-03C

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 107-06-2 | 1 | 5.0 | ND | µg/L | |
| 1,1-Dichloroethene | 75-35-4 | 1 | 5.0 | ND | µg/L | |
| cis-1,2-Dichloroethene | 156-59-2 | 1 | 5.0 | ND | µg/L | |
| trans-1,2-Dichloroethene | 156-60-5 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dichloropropane | 78-87-5 | 1 | 5.0 | ND | µg/L | |
| 1,3-Dichloropropane | 142-28-9 | 1 | 5.0 | ND | µg/L | |
| 2,2-Dichloropropane | 590-20-7 | 1 | 5.0 | ND | µg/L | |
| cis-1,3-Dichloropropene | 10061-01-5 | 1 | 5.0 | ND | µg/L | |
| trans-1,3-Dichloropropene | 10061-02-6 | 1 | 5.0 | ND | µg/L | |
| Hexachlorobutadiene | 87-68-3 | 1 | 5.0 | ND | µg/L | |
| Ethylbenzene | 100-41-4 | 1 | 5.0 | ND | µg/L | |
| 1,1-Dichloropropene | 563-58-6 | 1 | 5.0 | ND | µg/L | |
| 2-Hexanone | 591-78-6 | 1 | 25 | ND | µg/L | |
| Methylene chloride | 75-09-2 | 1 | 5.0 | ND | µg/L | |
| 4-Isopropyltoluene | 99-87-6 | 1 | 5.0 | ND | µg/L | |
| Methyl tert-butyl ether | 1634-04-4 | 1 | 5.0 | ND | µg/L | |
| 4-Methyl-2-pentanone | 108-10-1 | 1 | 25 | ND | µg/L | |
| n-Propylbenzene | 103-65-1 | 1 | 5.0 | ND | µg/L | |
| Styrene | 100-42-5 | 1 | 5.0 | ND | µg/L | |
| Isopropylbenzene | 98-82-8 | 1 | 5.0 | ND | µg/L | |
| Naphthalene | 91-20-3 | 1 | 5.0 | ND | µg/L | |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 1 | 5.0 | ND | µg/L | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 1 | 5.0 | ND | µg/L | |
| Tetrachloroethene | 127-18-4 | 1 | 5.0 | ND | µg/L | |
| Toluene | 108-88-3 | 1 | 5.0 | ND | µg/L | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 1 | 5.0 | ND | µg/L | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 1 | 5.0 | ND | µg/L | |
| 1,1,1-Trichloroethane | 71-55-6 | 1 | 5.0 | ND | µg/L | |
| Trichloroethene | 79-01-6 | 1 | 5.0 | ND | µg/L | |
| 1,1,2-Trichloroethane | 79-00-5 | 1 | 5.0 | ND | µg/L | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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*Tel 607.753.3403 Fax 607.753.3415*

BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

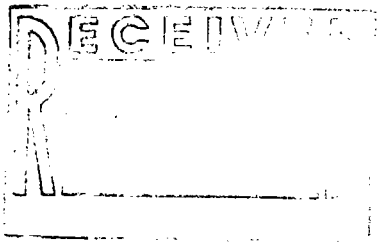
**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-3
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-03C

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| 1,2,3-Trichloropropane | 96-18-4 | 1 | 5.0 | ND | µg/L | |
| Trichlorofluoromethane | 75-69-4 | 1 | 5.0 | ND | µg/L | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 1 | 5.0 | ND | µg/L | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 1 | 5.0 | ND | µg/L | |
| Vinyl acetate | 108-05-4 | 1 | 5.0 | ND | µg/L | |
| Vinyl chloride | 75-01-4 | 1 | 5.0 | ND | µg/L | |
| m,p-Xylene | 1330-20-7 | 1 | 10 | ND | µg/L | |
| o-Xylene | 95-47-6 | 1 | 5.0 | ND | µg/L | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 1 | 72.2-115.6 | 99.0 | %REC | |
| Surr: Dibromofluoromethane | 1868-53-7 | 1 | 82.7-126.6 | 104 | %REC | |
| Surr: Toluene-d8 | 2037-26-5 | 1 | 83.8-114.2 | 97.8 | %REC | |



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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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***3821 Buck Drive, Cortland, NY 13045-5150***
***Tel 607.753.3403 Fax 607.753.3415***

B U C K
ENVIRONMENTAL LABORATORIES, INC.

May 25, 2000

Mr. Nossal
GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080
TEL: (607) 836-4400
FAX: (607) 836-4403

RE: 200048 Order No.: 0005141

Dear Mr. Nossal,

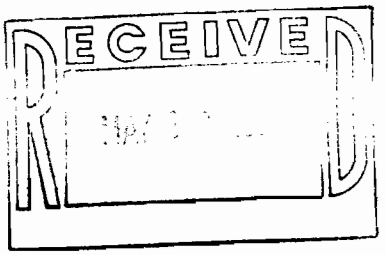
Buck Environmental Labs, Inc. received 3 samples on 05/10/00 for the analyses presented in the following report.

The analytical results for your samples are presented on the enclosed laboratory report(s). In accordance with NYSDOH-ELAP and NELAC regulations, we are required to notify you of any aspects of the analysis that did not comply with these regulations. A summary of problems, notations, and non-compliant parameters is presented on the attached "Narrative". Any data qualifiers are noted on the laboratory report. The Laboratory also maintains a "Sample Receipt Checklist" and the submitted "Chain of Custody" forms in its files that are available upon request.

Thank you for the opportunity to provide these analytical services. Please contact Pamela Brown, Client Services Manager, or Barbara Houskamp, QA/QC Manager, with questions on the analysis.

Sincerely,

John H. Buck, P.E.
Laboratory Director
ELAP Lab ID # 10795




CC:

3821 Buck Drive, P.O. Box 5150, Cortland, NY 13045 • 607.753.3403 fax 607.753.3415
Branch Office: 14 Smith Avenue, Binghamton, NY 13904 • 607.771.0866 fax 607.771.0966

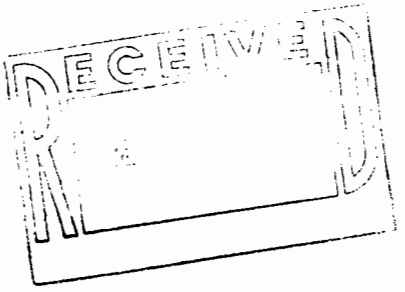
**Buck Environmental Labs, Inc.** **Date:** *25-May-00*

**CLIENT:** GEOLOGIC NY, INC
**Project:** 200048
**Lab Order:** 0005141

# CASE NARRATIVE

Samples were analyzed using Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition or other methods specifically approved by NYSDOH-ELAP.

All quality control parameters for the analyses in this log number met the laboratory acceptance limits and no data were qualified.



B U C K
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

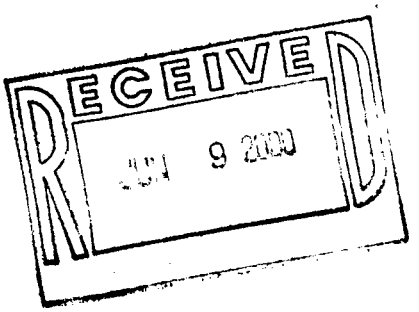
**Report Date:** *07-Jun-00*
**Lab Log No:** 0005396

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-1
**Sampled By:** J.N.
**Collection Date:** 05/30/00
**Received at Lab:** 05/31/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005396-01A

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **MERCURY, TOTAL** | | Analyst: **MB** | Analysis Date: **06/07/00** | | | |
| Mercury | 7439-97-6 | 1 | 0.000400 | ND | mg/L | |
| **METALS BY ICP** | | Analyst: **MB** | Analysis Date: **06/05/00** | | | |
| Arsenic | 7440-38-2 | 1 | 0.0250 | ND | mg/L | |
| Barium | 7440-39-3 | 1 | 0.0450 | **0.0829** | mg/L | |
| Cadmium | 7440-43-9 | 1 | 0.00500 | ND | mg/L | |
| Chromium | 7440-47-3 | 1 | 0.00500 | ND | mg/L | |
| Lead | 7439-92-1 | 1 | 0.00500 | **0.00538** | mg/L | |
| Selenium | 7782-49-2 | 1 | 0.0200 | ND | mg/L | |
| Silver | 7440-22-4 | 1 | 0.0150 | ND | mg/L | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *07-Jun-00*
**Lab Log No:** 0005396

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-2
**Sampled By:** J.N.
**Collection Date:** 05/30/00
**Received at Lab:** 05/31/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005396-02A

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **MERCURY, TOTAL** | | Analyst: **MB** | Analysis Date: **06/07/00** | | | |
| Mercury | 7439-97-6 | 1 | 0.000400 | ND | mg/L | |
| **METALS BY ICP** | | Analyst: **MB** | Analysis Date: **06/05/00** | | | |
| Arsenic | 7440-38-2 | 1 | 0.0250 | ND | mg/L | |
| Barium | 7440-39-3 | 1 | 0.0450 | ND | mg/L | |
| Cadmium | 7440-43-9 | 1 | 0.00500 | ND | mg/L | |
| Chromium | 7440-47-3 | 1 | 0.00500 | ND | mg/L | |
| Lead | 7439-92-1 | 1 | 0.00500 | ND | mg/L | |
| Selenium | 7782-49-2 | 1 | 0.0200 | ND | mg/L | |
| Silver | 7440-22-4 | 1 | 0.0150 | ND | mg/L | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *07-Jun-00*
**Lab Log No:** 0005396

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-3
**Sampled By:** J.N.
**Collection Date:** 05/30/00
**Received at Lab:** 05/31/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005396-03A

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **MERCURY, TOTAL** | | Analyst: **MB** | Analysis Date: **06/07/00** | | | |
| Mercury | 7439-97-6 | 1 | 0.000400 | ND | mg/L | |
| **METALS BY ICP** | | Analyst: **MB** | Analysis Date: **06/05/00** | | | |
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| Cadmium | 7440-43-9 | 1 | 0.00500 | ND | mg/L | |
| Chromium | 7440-47-3 | 1 | 0.00500 | **ND** | mg/L | |
| Lead | 7439-92-1 | 1 | 0.00500 | **0.00557** | mg/L | |
| Selenium | 7782-49-2 | 1 | 0.0200 | **ND** | mg/L | |
| Silver | 7440-22-4 | 1 | 0.0150 | **ND** | mg/L | |

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**NYSDOH ELAP #10795**

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**Laboratory Director**

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B U C K
ENVIRONMENTAL LABORATORIES, INC.
accredited environmental analysis

June 07, 2000

Mr. Nossal
GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080
TEL: (607) 836-4400
FAX: (607) 836-4403

RE: 200048 Order No.: 0005396

Dear Mr. Nossal,

Buck Environmental Labs, Inc. received 3 samples on 05/31/00 for the analyses presented in the following report.

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Thank you for the opportunity to provide these analytical services. Please contact Pamela Brown, Client Services Manager, or Barbara Houskamp, QA/QC Manager, with questions on the analysis.

Sincerely,

John H. Buck, P.E.
Laboratory Director
ELAP Lab ID # 10795

CC:

RECEIVED
JUN 9 2000

**Buck Environmental Labs, Inc.**

**Date:** *07-Jun-00*

**CLIENT:** GEOLOGIC NY, INC
**Project:** 200048
**Lab Order:** 0005396

# CASE NARRATIVE

Samples were analyzed using Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition or other methods specifically approved by NYSDOH-ELAP.

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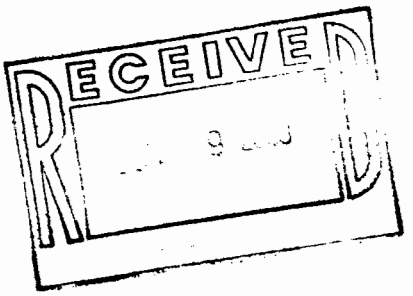

# NYSDEC SPILL REPORT FORM

DEC REGION# 7 (Kirkwood) SPILL NUMBER 0065067

SPILL NAME: FORMER VAIL-BALLOU PRESS DEC LEAD: JOS

CALLER'S NAME: JOE NOSSAL NOTIFIER'S NAME: JOE NOSSAL

CALLER'S AGENCY: GEOLOGIC OF NY NOTIFIER'S AGENCY: GEOLOGIC OF NY

CALLER'S PHONE: (607) 836-4400 EXT. NOTIFIER'S PHONE: (607) 836-4400 EXT.

SPILL DATE: 07/06/2000 TIME: 12:00

CALL RECEIVED DATE: 07/24/2000 TIME: 12:00 RECEIVED BY CID #:

| | Material Spilled | Mat. Class | Am't Spilled | Units | Am't Recovered |
|---|---|---|---|---|---|
| 1) | #2 FUEL OIL | (Pet)-Haz-Other-Unk. | Unknown | (Gal) - Lbs | Unknown |
| 2) | | Pet-Haz-Other-Unk. | | Gal - Lbs | |
| 3) | | Pet-Haz-Other-Unk. | | Gal - Lbs | |
| 4) | | Pet-Haz-Other-Unk. | | Gal - Lbs | |

## SPILL LOCATION

PLACE: FORMER VAIL-BALLOU PRESS

STREET: 187 CLINTON STREET

T/C/V: BINGHAMTON CO: BROOME

CONTACT:

PHONE: EXT.

## POTENTIAL SPILLER

NAME: UNKNOWN

STREET:

CITY:

STATE: ZIP: -

CONTACT:

PHONE: ( ) - EXT.

## SPILL CAUSE

| | | |
|---|---|---|
| Human Error | Tank Test Failure* | (Tank Failure) |
| Traffic Accident | Housekeeping | Tank Overfill |
| Equipment Failure | Deliberate | Other |
| Vandalism | Abandoned Drums | Unknown |

## SPILL SOURCE

| | | |
|---|---|---|
| Gas Station | Private Dwelling | Non-Maj Facility |
| Passenger Vehicle | Vessel | (Comm/Indust) |
| Comm. Vehicle | Railroad Car | Non-Comm/Instit |
| Tank Truck | Major Facility | Unknown |

## RESOURCE AFFECTED

| | | |
|---|---|---|
| (On Land) | Groundwater | Air |
| In Sewer | Surface Water** | |

**WATERBODY:

## SPILL REPORTED BY

| | | |
|---|---|---|
| (Responsible Party) | Tank Tester | Local Agency |
| Affected Persons | DEC | Federal Gov't |
| Police Department | Citizen | Other |
| Fire Department | Health Dept. | |

CALLER REMARKS: UST'S REMOVED FROM SITE. SOIL SAMPLE RESULTS FOUND LOW LEVAL PETROLEUM CONTAMINATION IN SOIL . BELOW STARS GUIDANCES VALUES.

| *PBS Number | Tank Number | Tank Size | Test Method | Leak Rate |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

PRIMARY CONTACT CALLED DATE: TIME: hrs. REACHED DATE: TIME: hrs.

SECONDARY CONT. CALLED DATE: TIME: hrs. FAXED BY CID#:

| | | | | |
|---|---|---|---|---|
| PIN # | T & A | Cost Center | ISR to Central Office | |
| Cleanup Ceased | Meets St'ds NO | Last Inspection 07/06/2000 | Penalty NO | |
| RP-CUI | ENF-INIT | INVES-COM | CAP | |
| UST Trust Eligible NO | Site: A B C (D) E | Resp. Party 1 2 (3) 4 5 6 | Reg Close Date | |

Created on 07/28/2000 Last Updated on 07/28/2000 Is Updated? YES EDO DATA INPUT [ ]

Date Printed: 07/28/2000

PrintFor 1/9/98 AAA

**New York State Department of Environmental Conservation**
**Region 7 - Kirkwood Sub-Office**
**1679 NY Route 11**
**Kirkwood, New York 13795-1602**
(607) 775-2545
FAX (607) 775-2019

**John P. Cahill**
**Commissioner**

COVER SHEET

# FAX

**IMMEDIATE ATTENTION**

**TO:** Geologic ATTN: Joe Nossal

**FROM:** John O.
**REGION 7 KIRKWOOD OFFICE - SPILL RESPONSE**

**DATE:** 8/16/00

**NUMBER OF PAGES** 1 **PLUS COVER**

**MESSAGE:** Letter Concering former Vail-Balka.

C:\OFFICE\WPWIN\WPDOCS\FORMS\FAX.WPD

**New York State Department of Environmental Conservation**
**Division of Environmental Remediation, Region 7**
**Spill Prevention and Response**
1679 NY Route 11, Kirkwood, New York 13795-1602
**Phone:** (607) 775-2545 • **FAX:** (607) 775-2019
**Website:** www.dec.state.ny.us

John P. Cahill
Commissioner

August 16, 2000

FILE COPY

GeoLogic NY, Inc.
P.O. Box 5080
Cortland, NY 13045

Attn: Mr. Joseph Nossal

RE: Spill # 00-65067
Former Vail-Ballou Press Inc. - Tank Removal
187 Clinton Street
Binghamton - Broome County

Dear Mr. Nossal :

This office is in receipt of GeoLogic NY Inc. July 19, 2000 Tank Removal Report concerning the above referenced location. Upon review of the soil sample results, it has been concluded that all compounds analyzed were found to be below Soil Guidance Values determined by the NYSDEC Petroleum-Contaminated Soil Guidance Policy (STARS Memo # 1).

Based on the above information, this department is not requiring any further work and considers the above referenced spill closed.

Be advised, the tanks in question are regulated within our Petroleum Bulk Storage program and must be properly registered by the owner. If you have any questions regarding the above mentioned, please contact John Okesson at 607-775-2545.

Very truly yours,

Gary L. Peterson, P.E.
Region 7 - Kirkwood Spill Engineer

GLP/jeo
C:\OFFICE\WPWIN\WPDOCS\OKEY\0065067.A

cc: Mr. Brian Kradjian

GeoLogic

GeoLogic NY, Inc. P.O. Box 5080 • Cortland, NY 13045 • 607.836.4400 • Fax: 607.836.4403

July 19, 2000

Mr. Brian Kradjian
Kradjian Properties
84 Court Street, Suite 600
Binghamton, NY 13901-3316

Reference: Former Vail-Ballou Press, Inc.
187 Clinton Street, Binghamton, New York

Dear Mr. Kradjian:

GeoLogic NY, Inc. was requested by the Kradjian Properties to observe the removal of three underground storage tanks (UST's) at the above referenced site (see Site Location Plan) on July 6, 2000. Attached is the Tank Removal Report that contains the observations made by our personnel during the removal activities. Also attached are the analytical results from the analysis of the soil samples obtained.

The composite sample obtained from the sidewalls and bottom of the fuel oil/naphtha UST excavation was below the NYSDEC STARS guidance values for fuel oil and gasoline contaminated soils. The composite soil sample obtained from the sidewalls and bottom of the gasoline UST excavation was below the NYSDEC STARS guidance values for gasoline-contaminated soils. Copies of the analytical results are attached.

Mr. John Okesson, NYSDEC, was on site to observe the removal of the three UST's. After the UST's were removed and soils samples were obtained and scanned with a photo-ionization detector (PID). Based on the field results, the NYSDEC agreed to place the excavated soil from around the UST's back onto the excavation.

Recommendations:

According to the NYSDEC records, the three UST's referenced in this report had not been registered as required by the NYSDEC. Therefore, the UST's need to be registered with the NYSDEC then officially closed out.

If you have any questions about this report, please contact us at 607-836-4400.

Sincerely,

GeoLogic NY, Inc.
Joseph L. Nossal/JRD
Joseph L. Nossal
Project Manager/Hydrogeologist

Forrest C. Earl
Vice President/Principal Hydrogeologist

Enc: (Tank Removal Report, and Analytical Results)
cc: Mr. John Okesson, NYSDEC
File f:\...\200048\report\tankpull

## TANK REMOVAL REPORT
## Project No. 200048

**Site:** 187 Clinton Street Property.

**Client:** Kradjian Properties.

**Date of Removal Activities:** July 6, 2000.

**Personnel on Site:** Joseph L. Nossal, GeoLogic NY, Inc., and John Okesson, NYSDEC.

**Reason Tank(s) Are Being Removed:** Closure.

**Number of Tanks Removed:** Three (3).

**Description of Soils Encountered:** Sand and Gravel fill underlain by sand and gravel with little silt.

**Dimensions of Excavation:** One excavation divided into two sections.

The fuel oil/naphtha UST excavation was approximately 9 feet wide by 18 feet long by 6.5 feet deep.

The gasoline UST excavation was approximately 9 feet wide by 13 feet long by 6.5 feet deep.

**Depth to Groundwater:** Groundwater was not encountered.

**Was Contamination Encountered?** No.

**Was Free Product Encountered?** No.

**Estimated Volume of Soil Removed:** None.

**Estimated Volume of Contaminated Soil Removed:** None.

**Disposition of Excavated Soil:** The soil was placed back into the excavation.

**Were Any Remedial Components Placed in the Excavation?** No.

**TANK No. 1**

**Capacity:** 275 gallons

**Contents:** Fuel Oil

**Diameter:** 4 feet by 2.5 feet

**Length:** 5 feet

**Construction:** Steel, single-walled

**Physical Condition:** Poor

**Surface Conditions:** Pitted surface with holes

**Depth to Top of Tank:** 3 feet bgs

**Comments:** Holes observed in UST

**Contamination:** A composite soil sample was obtained in the fuel oil/naphtha. The analytical results were below the NYSDEC Guidance values / standards.

**TANK No. 2**

**Capacity:** 1,000 gallons

**Contents:** Naphtha

**Diameter:** 4 feet

**Length:** 11.5 feet

**Construction:** Steel, single-walled

**Physical Condition:** Fair

**Surface Conditions:** Pitted surface

**Depth to Top of Tank:** 2 feet bgs

**Comments:** No holes observed in UST

**Contamination:** A composite soil sample was obtained in the fuel oil/naphtha. The analytical results were below the NYSDEC Guidance values / standards.

**TANK No. 3**

**Capacity:** 1,000 gallons

**Contents:** Gasoline

**Diameter:** 4 feet

**Length:** 11.5 feet

**Construction:** Steel, single-walled

**Physical Condition:** Fair

**Surface Conditions:** Pitted surface

**Depth to Top of Tank:** 2 feet bgs

**Comments:** No holes observed in UST

**Contamination:** A composite soil sample was obtained in the gasoline tank pit. The analytical results were below the NYSDEC Guidance values / standards.

Photo-ionization Detector Readings

Fuel Oil/Naphtha Tank Pit

| Sample Location | Reading (PPM) |
|---|---|
| Sidewall & Bottom composite | 0 ppm |

Gasoline Tank Pit

| Sample Location | Reading (PPM) |
|---|---|
| Sidewall & Bottom composite | 0 ppm |

Analytical Samples

| Sample Description | Testing Requested |
|---|---|
| Soil-Fuel Oil/Naphtha Tank Pit Composite | STARS 8020 & STARS 8270 |
| Soil–Gasoline Tank Pit Composite | STARS 8020 |

**Potential Contaminant Receptors:**

Based on the field readings and the analytical results it is unlikely that the adjoining properties and/or the municipal utility would be impacted.

BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *13-Jul-00*
**Lab Log No:** 0007050

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** F.O/NAPTHA TEST PIT
**Sampled By:** J.N.
**Collection Date:** 07/06/00
**Received at Lab:** 07/07/00
**Matrix:** SOLID

**Project:** 200048
**Lab ID:** 0007050-01A

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **STARS SEMIVOLATILES BY EPA 8270** | | Analyst: PI | Analysis Date: 07/12/00 | | | |
| Acenaphthene | 83-32-9 | 1 | 330 | ND | µg/Kg | |
| Acenaphthylene | 208-96-8 | 1 | 330 | ND | µg/Kg | |
| Anthracene | 120-12-7 | 1 | 330 | ND | µg/Kg | |
| Benz(a)anthracene | 56-55-3 | 1 | 330 | ND | µg/Kg | |
| Benzo(a)pyrene | 50-32-8 | 1 | 330 | ND | µg/Kg | |
| Benzo(b)fluoranthene | 205-99-2 | 1 | 330 | ND | µg/Kg | |
| Benzo(g,h,i)perylene | 191-24-2 | 1 | 330 | ND | µg/Kg | |
| Benzo(k)fluoranthene | 207-08-9 | 1 | 330 | ND | µg/Kg | |
| Chrysene | 218-01-9 | 1 | 330 | ND | µg/Kg | |
| Dibenz(a,h)anthracene | 53-70-3 | 1 | 330 | ND | µg/Kg | |
| Fluoranthene | 206-44-0 | 1 | 330 | ND | µg/Kg | |
| Fluorene | 86-73-7 | 1 | 330 | ND | µg/Kg | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 1 | 330 | ND | µg/Kg | |
| Naphthalene | 91-20-3 | 1 | 330 | ND | µg/Kg | |
| Phenanthrene | 85-01-8 | 1 | 330 | ND | µg/Kg | |
| Pyrene | 129-00-0 | 1 | 330 | ND | µg/Kg | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 1 | 10-113.1 | 32.0 | %REC | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 1 | 10-96.7 | 28.1 | %REC | |
| Surr: Terphenyl-d14 | 98904-43-9 | 1 | 10-156.7 | 35.3 | %REC | |

RECEIVED

This laboratory analysis has been performed in accordance with generally accepted laboratory practices and requirements of the New York State Department of Health ELAP Program. Buck Environmental Laboratories, Inc. makes no recommendations, representations or warranties other than as specifically set forth in this report and shall not be responsible or liable for any action or the consequences of any action taken in connection with this report.

**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

**Abbreviations:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Est., Value exceeds quantitation range
H - Est., Holding time exceedance



***3821 Buck Drive, Cortland, NY 13045-5150***
***Tel 607.753.3403 Fax 607.753.3415***

BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *13-Jul-00*
**Lab Log No:** 0007050

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** F.O/NAPTHA TEST PIT
**Sampled By:** J.N.
**Collection Date:** 07/06/00
**Received at Lab:** 07/07/00
**Matrix:** SOLID

**Project:** 200048
**Lab ID:** 0007050-01A

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **STARS VOLATILES BY EPA 8021** | | Analyst: **NA** | Analysis Date: **07/13/00** | | | |
| Benzene | 71-43-2 | 1 | 1.0 | ND | µg/Kg | |
| n-Butylbenzene | 104-51-8 | 1 | 1.0 | ND | µg/Kg | |
| sec-Butylbenzene | 135-98-8 | 1 | 1.0 | **2.3** | µg/Kg | |
| tert-Butylbenzene | 98-06-6 | 1 | 1.0 | ND | µg/Kg | |
| Ethylbenzene | 100-41-4 | 1 | 1.0 | ND | µg/Kg | |
| Isopropylbenzene | 98-82-8 | 1 | 1.0 | ND | µg/Kg | |
| p-Isopropyltoluene | 99-87-6 | 1 | 1.0 | **3.8** | µg/Kg | |
| MTBE | 1634-04-4 | 1 | 5.0 | ND | µg/Kg | |
| Naphthalene | 91-20-3 | 1 | 1.0 | **20** | µg/Kg | |
| n-Propylbenzene | 103-65-1 | 1 | 1.0 | ND | µg/Kg | |
| Toluene | 108-88-3 | 1 | 1.0 | ND | µg/Kg | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 1 | 1.0 | **1.4** | µg/Kg | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 1 | 1.0 | ND | µg/Kg | |
| m,p-Xylene | 1330-20-7 | 1 | 2.0 | ND | µg/Kg | |
| o-Xylene | 95-47-6 | 1 | 1.0 | ND | µg/Kg | |
| Surr: PID Surrogate (4BCB) | 106-39-8 | 1 | 41-144 | 68.1 | %REC | |

RECEIVED

This laboratory analysis has been performed in accordance with generally accepted laboratory practices and requirements of the New York State Department of Health ELAP Program. Buck Environmental Laboratories, Inc. makes no recommendations, representations or warranties other than as specifically set forth in this report and shall not be responsible or liable for any action or the consequences of any action taken in connection with this report.

**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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*Tel 607.753.3403 Fax 607.753.3415*

B U C K
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *13-Jul-00*
**Lab Log No:** 0007050

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** GASOLINE TEST PIT
**Sampled By:** J.N.
**Collection Date:** 07/06/00
**Received at Lab:** 07/07/00
**Matrix:** SOLID

**Project:** 200048
**Lab ID:** 0007050-02A

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **STARS VOLATILES BY EPA 8021** | | Analyst: **NA** | Analysis Date: **07/13/00** | | | |
| Benzene | 71-43-2 | 1 | 1.0 | ND | µg/Kg | |
| n-Butylbenzene | 104-51-8 | 1 | 1.0 | ND | µg/Kg | |
| sec-Butylbenzene | 135-98-8 | 1 | 1.0 | ND | µg/Kg | |
| tert-Butylbenzene | 98-06-6 | 1 | 1.0 | ND | µg/Kg | |
| Ethylbenzene | 100-41-4 | 1 | 1.0 | ND | µg/Kg | |
| Isopropylbenzene | 98-82-8 | 1 | 1.0 | ND | µg/Kg | |
| p-Isopropyltoluene | 99-87-6 | 1 | 1.0 | ND | µg/Kg | |
| MTBE | 1634-04-4 | 1 | 5.0 | ND | µg/Kg | |
| Naphthalene | 91-20-3 | 1 | 1.0 | ND | µg/Kg | |
| n-Propylbenzene | 103-65-1 | 1 | 1.0 | ND | µg/Kg | |
| Toluene | 108-88-3 | 1 | 1.0 | ND | µg/Kg | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 1 | 1.0 | ND | µg/Kg | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 1 | 1.0 | ND | µg/Kg | |
| m,p-Xylene | 1330-20-7 | 1 | 2.0 | ND | µg/Kg | |
| o-Xylene | 95-47-6 | 1 | 1.0 | ND | µg/Kg | |
| Surr: PID Surrogate (4BCB) | 106-39-8 | 1 | 41-144 | 65.0 | %REC | |

RECEIVED

This laboratory analysis has been performed in accordance with generally accepted laboratory practices and requirements of the New York State Department of Health ELAP Program. Buck Environmental Laboratories, Inc. makes no recommendations, representations or warranties other than as specifically set forth in this report and shall not be responsible or liable for any action or the consequences of any action taken in connection with this report.

**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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E - Est., Value exceeds quantitation range
H - Est., Holding time exceedance

***3821 Buck Drive, Cortland, NY 13045-5150***
***Tel 607.753.3403 Fax 607.753.3415***

B U C K
ENVIRONMENTAL LABORATORIES, INC.
accredited environmental analysis

July 13, 2000

Mr. Earl
GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080
TEL: (607) 836-4400
FAX: (607) 836-4403

RE: 200048 Order No.: 0007050

Dear Mr. Earl,

Buck Environmental Labs, Inc. received 2 samples on 07/07/00 for the analyses presented in the following report.

The analytical results for your samples are presented on the enclosed laboratory report(s). In accordance with NYSDOH-ELAP and NELAC regulations, we are required to notify you of any aspects of the analysis that did not comply with these regulations. A summary of problems, notations, and non-compliant parameters is presented on the attached "Narrative". Any data qualifiers are noted on the laboratory report. The Laboratory also maintains a "Sample Receipt Checklist" and the submitted "Chain of Custody" forms in its files that are available upon request.

Thank you for the opportunity to provide these analytical services. Please contact Pamela Brown, Client Services Manager, or Barbara Houskamp, QA/QC Manager, with questions on the analysis.

Sincerely,

John H. Buck, P.E.
Laboratory Director
ELAP Lab ID # 10795

CC:

RECEIVED

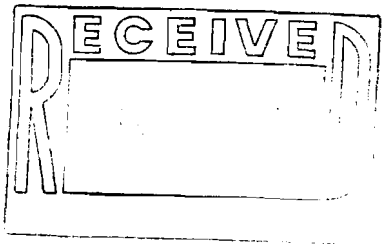
**Buck Environmental Labs, Inc.** **Date:** *13-Jul-00*

**CLIENT:** GEOLOGIC NY, INC
**Project:** 200048
**Lab Order:** 0007050

# CASE NARRATIVE

Samples were analyzed using Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition or other methods specifically approved by NYSDOH-ELAP.

All quality control parameters for the analyses in this log number met the laboratory acceptance limits and no data were qualified.



GALLAGHER BASSETT | TECHNICAL SERVICES

# PHASE I

# ENVIRONMENTAL

# SITE ASSESSMENT

## 181-187 and 205 Clinton Street
## and 34 Jarvis Street
### City of Binghamton
### Broome County, New York

**Tax IDs: Section 160.22, Block 1, Lots 1 to 4, and Section 144.78, Block 1, Lot 30**

**February 5, 2024**

**GBTS Project: 23003-0060**

---

22 IBM Road – Suite 101
Poughkeepsie, NY 12601
O: 845-452-1658
www.gallagherbassett.com

# PHASE I
# ENVIRONMENTAL
# SITE ASSESSMENT

**February 5, 2024**

**GBTS Project: 23003-0060**

***Prepared By***

**Gallagher Bassett Technical Services**
**22 IBM Road – Suite 101**
**Poughkeepsie, New York 12601**

***Prepared For***

**Think City LLC**
**545 Vanderbilt Avenue, 12C**
**Brooklyn, New York 11238**

Gallagher Bassett Technical Services conducted a Phase I Environmental Site Assessment in accordance with ASTM Method E 1527-21.

The undersigned have prepared and reviewed this Phase I Environmental Site Assessment and certify to Think City LLC that the information provided in this document is to the best of our abilities considered accurate as of the date of issuance by this office.

_____

Szabolcs David
Gallagher Bassett Technical Services
Environmental Field Technician

_____

Scott Spitzer
Gallagher Bassett Technical Services
Technical Director – Environmental Consulting

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## EXECUTIVE SUMMARY

Gallagher Bassett Technical Services (GBTS) performed a Phase I Environmental Site Assessment (ESA) of the property located at 181-187 and 205 Clinton Street, and 34 Jarvis Street, City of Binghamton, Broome County, New York (Section 160.22, Block 1, Lots 1 to 4, and Section 144.78, Block 1, Lot 30). A Phase II ESA was additionally conducted to investigate specific concerns identified during the Phase I ESA (see Section 3.4).

This ESA identifies Recognized Environmental Conditions (RECs) in conformance with the scope and limitations of ASTM Practice E 1527-21, as well as conditions that do not meet the threshold to be considered a REC but represent a significant existing or likely environmental liability (de minimis conditions and items outside the ASTM scope are noted as appropriate).

Findings, conclusions and recommendations are summarized below and in Section 4.0.

**Subject Property Description and History**

The subject property is an irregularly shaped 4.3-acre urban parcel comprised of five contiguous commercial lots (approximately 87% of the site is occupied by Lot 2). The property is vacant, with exception of Lot 30, which contains a single-story office building.

Historical property uses (documented as early as the 1880s) include a sleigh and wagon manufacturer (until the 1930s), a printer and book manufacturer (Vail Ballou Co.; 1910s to 1990s), a filling station (Lot 3; 1940s and 1950s), numerous small commercial operations, and residential uses. Available records indicate that Lot 3 has been vacant since the 1950s, the former Vail-Ballou manufacturing facility on Lot 2 (operations also extended to adjoining properties to the east) was demolished in stages in the mid to late 1990s, and the former structures on Lots 1 and 4 were demolished between 2018 and 2019.

Previous subsurface investigations at Lot 2 in 2001 documented petroleum contamination in soil, and surface soil sampling by GBTS in December 2023 documented elevated levels of metals (arsenic, barium, lead, and mercury) and/or semi-volatile organic compounds (SVOCs) in soil at all subject property parcels. This contamination is likely related to former on-site commercial uses and/or impacts from building demolition or poor-quality urban fill materials.

Known and potential impacts from historical commercial uses, including documented soil contamination, are collectively considered to be a REC, comprised of several Areas of Concern (AOC). This finding supports the conclusion that further site investigation will be required prior to any site redevelopment.

**Identified Areas of Environmental Concern**

| Category | Specific Environmental Concerns | Recommendations |
|---|---|---|
| **RECs** | AOC 1: General impacts from former on-site manufacturing facilities and similar uses, including documented soil and groundwater contamination, and potential releases from former storage tanks | Perform Phase II subsurface investigation |
| | AOC 2: Potential impacts directly associated with former on-site filling station (Lot 3) | |
| | AOC 3: Potential releases from underground storage tank (UST; Lot 30) | Properly close UST if not in operation or intended for future use; document soil integrity in the vicinity of the tank |
| | AOC 4: Potential impacts from commercial uses at adjoining properties, including a filing station | Any impacts may be determined during investigation activities for AOCs 1 and 2 |
| | AOC 5: On-site debris and soil piles of unknown origin (potentially includes materials containing asbestos or lead) | Dispose off-site; any impacts may be determined during investigation activities for AOCs 1 and 2 |
| **HRECs** | Closed NYSDEC spill event | Any impacts may be determined during investigation activities for AOCs 1 and 2 |
| **General Concerns** | Potential subsurface demolition debris | Properly manage any materials encountered during site development/use |
| | Small quantities of paint products | Properly store containers |
| | On-site scattered trash | Dispose off-site |
| **De Minimis Conditions** | None identified | No further investigation/action |
| **Non-Scope Considerations** | Asbestos-containing materials (ACM) and lead-based paint (LBP) at on-site building | Test suspect materials as needed; handle materials in accordance with applicable regulations |
| | Elevated radon concentrations | Perform radon testing in the event of residential site development |

# 1.0 INTRODUCTION

## 1.1 Purpose

This Phase I Environmental Site Assessment (Report) identifies recognized environmental conditions (RECs) and/or other significant environmental liabilities resulting from or associated with the storage, use, transport or disposal of hazardous or other regulated materials on the property described in Section 2.1.

## 1.2 Methodology

This Report documents an Environmental Site Assessment (ESA) prepared in conformance with the attached Scope of Services and with guidelines set by American Society for Testing and Materials (ASTM) Method E1527-21 (no exceptions to or deletions from this practice have occurred, and there were no client imposed limitations to the ESA). All work was performed under the direct supervision and responsible charge of a qualified environmental professional, following requirements for "all appropriate inquiry" as defined in 40 CFR Part 312. Gallagher Bassett Technical Services (GBTS) performed the following work:

1. Investigation of the subject property's history and characteristics through the analysis of available physical settings maps, historical documents, local municipal records, and information provided by subject property representatives and/or other knowledgeable individuals.
2. Review of Federal, State, and/or Tribal regulatory-agency databases and printed records for documentation of potential environmental liabilities relevant to the property, consistent with (or exceeding) applicable ASTM requirements. All interviews, and the review of government records, were completed on or after the date of the site reconnaissance.
3. Inspection of the property by Szabolcs David of GBTS on December 13, 2023. Nick Chambers of Rogers Service Group, representing the property manager, was present during portions of the site inspection.

## 1.3 Limitations

This Report is a representation and evaluation of the property described in Section 2.1 below as of the dates that services were provided, and is not valid for any other property or location. This Report is based in part on information provided in writing or verbally by federal, state, and local officials (including public records) and other referenced parties. The accuracy or completeness of this information was not independently verified. Unless specifically noted, the findings and conclusions contained herein must be considered not as scientific certainties, but as probabilities based on professional judgment. Limitations specific to the site inspection (if any) are detailed in Section 3.3.

### 1.4 Key Terms and Definitions

**Recognized Environmental Condition (REC)**

A REC is defined as (1) the presence of hazardous substances or petroleum products in, on or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on or at the subject property under conditions that pose a material threat of a future release to the environment. [Note: A material threat is an obvious threat likely to lead to a release and that, in the opinion of the environmental professional, would likely result in impact to public health or the environment.] A **Controlled Recognized Environmental Condition (CREC)** is a REC affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities with hazardous substances or petroleum products allowed to remain in place subject to implementation of controls (e.g., activity and use limitations).

**Historical Recognized Environmental Condition (HREC)**

A HREC is a previous release of hazardous substances or petroleum products affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities *and* meeting unrestricted use criteria established by the applicable regulatory authority or authorities, without subjecting the property to any controls (e.g., activity and use limitations).

**De Minimis Conditions**

An environmental condition is considered de minimis when that condition generally does not present a threat to human health or the environment and generally would not be the subject of an enforcement action if brought to the attention of appropriate government agencies.

*Conditions determined to be de minimis are not recognized environmental conditions*.

**Data Gap**

A data gap is the lack of, or inability to obtain, required information despite good faith efforts by the environmental professional to gather such information (data gaps are common during performance of a Phase I ESA). A “significant data gap” exists when the lack of required information affects the ability of the environmental professional to identify a REC.

**Sensitive Environmental Receptors**

Sensitive Environmental Receptors (SERs) are valued physical (natural or human-made) or biological features that may be adversely impacted by environmental contamination, and where a discharge or release could pose a greater threat than a discharge or release to other less valued areas. SERs include (but are not limited to) potable supply wells, wetlands, and protected wildlife habitat.

## 2.0 SITE LOCATION AND PHYSICAL SETTING

This ESA was performed for the parcel of land ("subject property") located at 181, 183, 187, and 205 Clinton Street, and 34 Jarvis Street, City of Binghamton, Broome County, New York. The site is comprised of five contiguous parcels, from east to west identified as City of Binghamton tax IDs Section 160.22, Block 01, Lots 04, 03, 02 and 01, and Section 144.78, Block 1, Lot 30. Site maps are located on Pages 7 and 8, and photographs are provided in Appendix A. Information sources are cited in Section 5.0 and site-specific topographic, wetlands and/or other maps are provided in Appendix B.

### 2.1 Description of Subject Property

The subject property is an approximately 4.3-acre irregularly-shaped parcel with frontage on the southern side of Clinton Street, east side of Jarvis Street, and west side of Hudson Street. A single story office building is located on Lot 30 (205 Clinton Street) and is currently occupied by one tenant (Allstate Insurance broker). The remainder of the property is a vacant, former industrial site generally containing remnant concrete building slabs and paved areas. Comprehensive observations from a physical inspection of the property are provided in Section 3.3.

### 2.2 Description of Adjoining and Surrounding Area Properties

The property is located in an urban setting, with a mix of both residential and commercial uses. Uses at adjoining properties include a filling station to the west and railroad tracks to the south (see the Selected Site Features Map).

### 2.3 Physical Setting

#### 2.3.1 Topography

Local area topography is generally somewhat hilly. Surface relief in the vicinity of the subject property is relatively uniform, with overall gentle downward slopes to the east towards the Chenango River, located approximately 3,700-feet east of the property.

The USGS Topographic map providing coverage for the subject property indicates an approximate on-site surface elevation of 850 feet above mean sea level. No on-site structures are depicted on the map (the property is located in a developed area where only selected landmark buildings are shown). The map did not indicate the presence of any soil/gravel mining operations or unusual topographic patterns indicative of landfilling activities on the property.

#### 2.3.2 Local Geology and Hydrogeology

*Soils and Bedrock*

Soils in the vicinity of the subject property are likely to be derived from alluvial deposits, which overlie sands and gravel. Soil survey maps indicate Cut and Fill lands, gravely materials (0-8% slopes) soils at the property.

Depth to bedrock in on-site soils is likely to be greater than 80 inches below surface grade (bsg). No bedrock was observed on the property.

*Groundwater*

Soil survey data indicate generalized groundwater depths ranging from 36 to 72 inches bsg in on-site soils. Shallow groundwater flow in the vicinity of the property is likely to generally follow surficial topography and be in an overall easterly direction, toward the Chenango River.

*Site-Specific Information*

Previous site investigations at the subject property (see Section 3.1.6, Previous Environmental Reports) documented on-site soils consisting primarily of fill (sand, gravel, brick, cinders and ash) at depths of 1 to 19 feet underlain by native sand and gravel with little to trace silt. Groundwater was encountered between 14.5 and 18.5 feet bsg.

### 2.3.3 Surface Hydrology and Wetlands

No waterbodies or wet areas were observed on the subject property or in the immediate vicinity during the site inspection. Federal and state mapping data do not identify any classified surface waterbodies, wet areas, or regulated wetlands on or in the immediate vicinity of the property.

According to the applicable National Flood Insurance Program Flood Insurance Rate Map (FIRM) for the City of Binghamton, the subject property is in a 500-year flood plain.

### 2.3.4 Sensitive Environmental Receptors

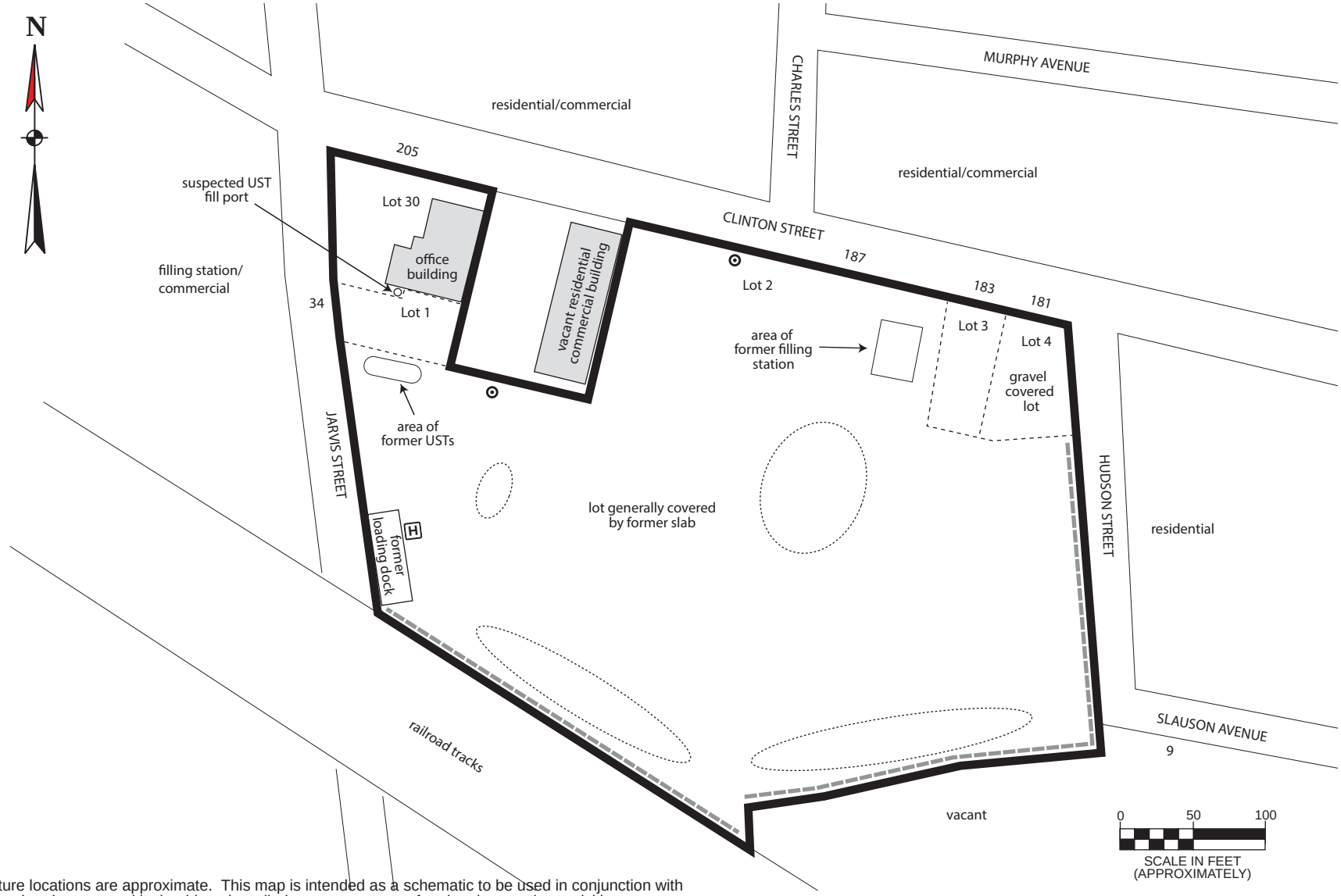
The review of maps and observations made during the site inspection indicate that no SERs are located on or in the immediate vicinity of the subject property. The Chenango River is located approximately 0.7 mile to the east.

**Site Location Map**
181-187 and 205 Clinton Street, 34 Jarvis Street
City of Binghamton
Broome County, New York

N

File No: 23003-0060

February 2024




All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

# Selected Site Features Map

181-187 & 205 Clinton Street, 34 Jarvis Street
City of Binghamton
Broome County, New York

Legend:

- subject property border
- lot lines
- foundation wall remnants
- soil debris piles
- H suspected hydraulic lift
- manhole

File: 23003-0060

February 2024

Scale as shown

# 3.0 INVESTIGATION

## 3.1 Site History

The history of the property was researched by interviewing knowledgeable individuals and reviewing standard ASTM historical sources (local agency records, historical maps, aerial photographs or city directories) and additional sources (if reasonably ascertainable and sufficiently useful, accurate, and complete considering the objective of the records review).

### 3.1.1 User-Reported Information

ASTM Practice E 1527-21, Section 6, requires the User (the party seeking to complete the environmental site assessment [ESA] of the property) to provide specific information to the Environmental Professional to meet the requirements for "all appropriate inquiry".

Myles Monaghan, representing Think City Partners (the User), responded to a questionnaire provided by GBTS requesting information regarding the subject property as specified in Section 6. Mr. Monaghan indicated that a Phase I ESA was previously prepared for the subject property by Nelson Pope Voorhis, LLC in 2022 (see Section 3.1.6), and that he had no other specialized knowledge or experience, actual knowledge, or knowledge of commonly known or reasonably ascertainable information regarding: 1) information material to recognized environmental conditions or other environmental liabilities in connection with the property; 2) the results of a review of title and/or judicial records for environmental liens/AULs; or 3) reason(s) for a purchase price that does not reasonably reflect fair market value because of known or suspected contamination.

GBTS assumes that the User requested that the Phase I ESA be performed in order to qualify for one or more Landowner Liability Protections (LLPs) to CERCLA liability and to document potential environmental liabilities on the subject property.

### 3.1.2 Interviews

Ron Rogers (representing the property owner, FRGK Realty) was identified as the Key Site Manager (a person having good knowledge of the uses and physical characteristics of the subject property) and was interviewed regarding specific site conditions and recent uses, as well as the topics detailed in the User Questionnaire (see Section 3.1.1, above). When asked about known or suspected environmental conditions at the subject property, Mr. Rogers stated that he was not aware of any potential environmental conditions and/or liabilities in connection with the property. [Note: The environmental reports discussed in Section 3.1.6 were provided to GBTS by the User, who indicated that the reports were originally provided by Mr. Rogers.]

Michael Butler, Allstate office manager (see Section 2.1, above), was identified as an occupant of the subject property (Lot 30, 205 Clinton Street), and was interviewed regarding property features and site history and use. Mr. Butler stated that a suspected heating oil underground storage tank (UST) located at the property was already inactive when he began utilizing the property in 2012.

Pertinent information from interviews is provided in relevant report sections, where appropriate.

### 3.1.3 Ownership Records

Property ownership information, based on reviews of property sale information from Broome County GIS Real Property Search records, are summarized below.

| Tax Lot Parcel | Owner | Date |
|---|---|---|
| **160.22-1-1** | FRGK Realty, LLC (Current Owner) | 9/6/2018 |
| | BC Land Bank Corp. | 5/14/2018 |
| | City of Binghamton | 10/25/2016 |
| | Broome County | 8/24/2016 |
| | City of Binghamton | 6/28/2013 |
| | OMEGA Holding One, LLC | 7/31/2012 |
| | Keough, Kevin P (director RPTS) | 5/1//2006 |
| | Connor, William H | Not listed |
| **160.22-1-2** | FRGK Realty, LLC (Current Owner) | 6/18/2018 |
| | MM 187, LLC | 5/7/2008 |
| | Clintvest, LLC | 3/28/2001 |
| | Greenpeace Environmental | 1/9/2001 |
| | Greenpeace Environmental | 6/27/1996 |
| | Contro, Charles | Not Listed |
| **160.22-1-3** | FRGK Realty, LLC (Current Owner) | 6/18/2018 |
| | Broome County | 6/30/2017 |
| | Broome County | 3/21/2000 |
| | Manufacturers | 3/14/2000 |
| | Manufacturers | 9/24/1999 |
| | First City National Bank | Not listed |
| **160.22-1-4** | FRGK Realty, LLC (Current Owner) | 6/18/2018 |
| | Broome County | 6/30/2017 |
| | Broome County | 3/21/2000 |
| | Manufacturers | 3/14/2000 |
| | Manufacturers | 9/24/1999 |
| | First City National Bank | Not listed |
| **144.78-1-30** | FRGK Realty, LLC (Current Owner) | 9/20/2021 |
| | Net2000 Computers, LLC | 7/25/2001 |
| | FRGK Realty, LLC | 6/5/2001 |
| | Napierala, Daniel T | 9/25/1998 |
| | Rogers, Ronald J | 8/20/1998 |
| | FRGJK, Partnership | 1/2/1997 |
| | Rogers, Ronald J | 6/6/1996 |
| | Wilder, Michael A | 10/12/1990 |
| | Rogers, Ronald J | Not listed |

### 3.1.4 Standard ASTM Historical Sources

This section provides a summary of environmentally significant information from a review of standard historical sources (topographic maps, fire insurance maps, aerial photographs, and/or city directories).

Although the following historical research indicates that the subject property was already developed at the time of the earliest historical record (1880s), there are no other reasonably ascertainable historical sources that are both applicable to the subject property and that would likely be useful in determining obvious and relevant site uses prior to this time. Based on all known subject property history, this failure to achieve the historical research objective (i.e., data failure) does not represent a significant data gap.

[Note: Property outlines on supporting documents are reasonable approximations.]

*Historical Topographic Maps*

GBTS reviewed historical USGS topographic maps dated 1904, 1935, 1942, 1947, 1961, 1968, 1976, 2013, 2016 and 2019 (copies of reviewed maps are provided in Appendix C).

1904: The subject property is bordered to the south by railroad tracks. A structure, most likely a dwelling, is located along the mid-eastern property line. An unlisted roadway bisects the subject property midway, north to south. The surrounding area is moderately developed with likely residential and commercial structures.

1935-1947: The previous structure is not depicted on the subject property. No other significant changes are depicted to the subject property or surrounding area.

1961-2019: The roadway bisecting the subject property is no longer shown.

*Sanborn Fire Insurance Maps*

GBTS reviewed historical Sanborn Fire Insurance Company Maps dated 1887, 1891, 1898, 1919, 1950, 1952, and 1970 (relevant copies of these maps are provided in Appendix D).

1887-1898: [Note: The 1887 map does not provide coverage for the northernmost portion of the subject property or northern and western adjoining properties.] The subject property is bound by Clinton Street to the north, Hudson Street to the east, railroad tracks to the south, and Jarvis Street to the west. Charles Street runs north/south through the central part of the property. The southern portion of the property is occupied by a wagon and sleigh manufacturer (east of Charles Street, which extends off-site to the south) and a lumber yard (west of Charles Street). The northern portion of the property contains multiple buildings, primarily dwellings and small commercial uses. Adjoining properties generally contain residential or small commercial uses.

1918: The southwestern portion of the subject property west of Charles Street is now occupied by "Vail-Ballou", a printing and book binding facility, and by a warehouse with coal yard. Additional dwellings and stores are now present on the northern portion of the property. Adjoining properties and the surrounding areas are now more fully developed, generally with additional residential and commercial uses.

1950-1952: The entire southern half of the subject property is now occupied by Vail-Ballou, with multiple new structures throughout the area, including on the southern half of Charles Street. Several dwellings/small commercial uses at the northeastern portion have been replaced with a filling station and bank (Clinton Street) and a storage building (Hudson Street). Agfa-Ansco Division of General Aniline and Film Corporation is now present at the adjoining properties to the west, south and southeast. A filling station is depicted at the adjoining property to the east at 179 Clinton Street. The surrounding area shows increased development with new commercial uses.

1970: The Vail-Ballou facility has expanded northwards on the subject property and a new office building covers additional portions of Charles Street (displacing the last dwellings). The filling station on the northeastern portion has been replaced by a parking lot, and multiple small structures on the northwestern portion have been replaced by a one-story commercial building (current on-site offices). The adjoining property to the south (north of the railroad) is now a parking lot.

*Aerial Photographs*

GBTS reviewed historical aerial photographs dated 1942*, 1948, 1957*, 1960*, 1967, 1974, 1982, 1984, 1995, 1999, 2006, 2008, 2011, 2015 and 2019 (reviewed images are provided in Appendix E). The small scale and quality of some photographs (particularly those noted with *) made distinguishing details difficult.

1942-1995: The subject property is developed with large structures associated with the Vail-Ballou facility, and likely commercial buildings on the northeastern and northwestern portions. The filling station (identified on the 1950s Sanborn maps; see above) is readily apparent in 1948 and is clearly absent by 1967. Adjoining properties to the north and east are developed with likely residential and commercial properties. A filling station (identified in the 1950s Sanborn maps) is visible at the adjoining property to the east, a railway corridor is to the south, and an industrial park is present to the west. The surrounding area is well developed with likely residential and commercial properties.

1999: The Vail-Ballou facility appears to have been mostly demolished ( remaining structure may be present on the southeastern portion of the property). The adjoining industrial park to the west along Jarvis Street appears to be in the process of being redeveloped, and a former large structure along Hudson Street to the east has been razed.

2006-2019: The subject property generally appears as it is today with the exception of a large commercial building on the corner of Clinton and Hudson Streets (through 2015).

*City Directories*

GBTS reviewed historical city directories dated 1930, 1940, 1949, 1958, 1961, 1965, 1970, 1992, 1995, 2000, 2005, 2010, 2014, 2017 and 2020 for the subject property and for several adjoining properties (data sources are provided in Appendix F). Current and former occupants of the subject property have included the Vail-Ballou Press (1930-1970), Maple Vail Book Manufacturers (1992-2000), Plastics Manufacturing and Recycling Systems (2000), Crain Industries (1992), various small commercial uses (hotel, bakery, bank, computer store, offices from 1940-2020), and individual residential tenants (1940-2017).

Relevant occupants at adjoining and nearby properties included, Agfa Ansco warehouse (10-12 Charles Street 1940-1949; 42-52 Jarvis Street 1930-1940; and 235 Clinton Street 1958-1965), J & A drycleaners at 186 Clinton Street (1961-1970), a filling station at 179 Clinton Street (listed as 'gasoline' in 1961), Potters Carpet Cleaners at 210 Clinton Street (2010), and multiple automotive repair facilities at 38 Jarvis Street (1949-2014).

### 3.1.5 Municipal and Regulatory Agency Records

*Assessor's Office Records*

GBTS requested access to City records (Assessor's Office and Building Department) on December 6, 2023. As of the date of this Report, the requested property records were not available for review. Based on other known historical information, the inability to review these local records is not considered to be a significant data gap.

*NYSDEC*

A request was made on December 6, 2023 to search available NYSDEC records for information regarding the subject property.

A response from the NYSDEC included previous environmental documents, spill reports, and petroleum bulk storage (PBS) applications for the subject property and the adjoining property to the east at 9 Slauson Avenue (see Sections 3.1.6 and 3.2.2).

### 3.1.6 Previous Environmental Reports

GBTS has reviewed the following relevant previous environmental reports:

- GeoLogic NY, Inc. (GeoLogic), Limited Phase II Environmental Site Assessment (July 2000);
- Geologic, Tank Removal Report (July 2000); and,
- Nelson, Pope & Voorhis, LLC (NPV), Phase I Environmental Site Assessment (March 2022).

The NPV report further references several earlier reports (not available for review by GBTS, and not provided in the Phase I ESA appendices), including:

- Enviro Testing, Environmental Site Assessment (1995);
- GeoLogic, Additional Site Investigation Letter Report (2001); and,
- GeoLogic, Phase I ESA and Direct Push Sampling Report (2008).

Note: All of the above-referenced documents appear to have been intended to generally be inclusive of the former Vail-Ballou industrial facility in its entirety, which comprised the subject property as well as adjoining off-site locations; the following discussion describes relevant findings for the subject property, based on the available information.

Excerpts from previous reports are provided in Appendix G.

**1995**

According to NPV, the 1995 Enviro Testing report stated that:

> *Site inspection indicated there was a partially vacant 196,000-square foot industrial building, currently used for storage of computer supplies and an auto repair business…numerous drums, containers, temporary mixing vats, etc. still exist on site and some are corroded and leaking unknown materials…Vail-Ballou listed as storing developing chemicals, diazo solutions, activators, stabilizers and fixers, most of which are used in photo processing… evidence of possible Class V underground injection wells were identified inside the building and may be receiving waste (i.e. oils, gas, antifreeze) from the auto repair operation*.

Based on the reported building size, as well as the 1995 aerial photograph reviewed by GBTS, this description likely includes one or more structures located on Lot 2 of the subject property. The referenced automotive repair business may be the facility identified in City Directories (see Section 3.1.4).

The 2000 Geologic Phase II ESA noted that Enviro Testing stated that there were possible "Class V injection wells" at the property (including near the automotive repair facility) and that there were potential buried railroad cars used as fuel tanks, which were located at an adjoining property (later reports make clear that this property is located off-site east of Hudson Street, but that fuel lines carried oil onto the southeastern portion of the subject property).

**2000**

The GeoLogic Limited Phase II Report summarized installation of three borings around the foundation of the former building(s) at Lot 2, soil sampling, conversion of the borings to groundwater monitoring wells, and groundwater sampling. No notable field evidence of contamination was observed during the fieldwork, and no significant contamination was reported in soil or groundwater.

The GeoLogic Tank Removal Report documented removal of three USTs (275-gallon fuel oil, and 1,000-gallon naphtha and gasoline tanks) at the northwestern portion of Lot 2. Although holes were observed in the fuel-

oil UST, and the other tanks were pitted, no field evidence of contamination was observed and soil testing documented an absence of contamination (note, however, that testing was limited to petroleum compounds only; samples were not analyzed for either chlorinated solvents or PCBs).

**2001**

According to NPV, the 2001 Enviro Testing report stated that additional work was completed based on the discovery of petroleum in a manhole located on the southeast corner of the property. Five borings were drilled (one near the former gasoline station, one along the southern property line, one in the central portion of the property and two at the southeast corner of the property) and six test pits were excavated in the southeast corner of the property.

Cut pipes with residual petroleum, extending from the adjoining property to the east, were encountered and removed from test pits along the eastern side of the property. Soil samples from the southeastern portion of the property had field evidence of petroleum contamination and elevated levels of petroleum compounds. The piping was reportedly "likely connected to the four underground storage tanks that had been located on the EAST side of Hudson Street. These former tanks were reported to be buried railroad cars with a capacity of 10,300 gallons. These tanks provided fuel to the Vail-Ballou boiler room that had been located near the southeastern portion of the property)."

Groundwater impacts were limited to low-level exceedances for acetone and chloroform, and low levels of petroleum (at the southeast corner).

**2008**

According to NPV, the 2008 Enviro Testing Phase I ESA and Direct Push Sampling Report stated that a floor drain present in the automotive repair facility likely discharged on the subject property.

Two existing groundwater monitoring wells were sampled and borings were extended at multiple locations, including "downgradient of the property boundary", in the vicinity of the former gasoline station and the 2000 tank removal area, near the former petroleum pipes, and several other areas. Groundwater sampling documented chloroform, tetrachloroethene, acetone, and several polycyclic aromatic hydrocarbons at concentrations below NYSDEC groundwater standards. No soils samples appear to have been submitted for laboratory analysis.

### 3.2 Review of Federal and State Agency Records

Federal and state records were reviewed for documentation of environmental conditions and/or liabilities relevant to the property.

### 3.2.1 Methodology

The following ASTM Standard Environmental Record Sources (as available for the subject property's locality) were reviewed (search distances are consistent with, or exceed, ASTM requirements).

Federal National Priority List (1.0 mile) and delisted National Priority List sites (0.5 mile)
Federal SEMS (formerly CERCLIS) list and SEMS NFRAP site list (0.5 mile)
Federal RCRA CORRACTS facilities list (1.0 mile)
Federal RCRA non-CORRACTS TSD facilities list (0.5 mile)
Federal RCRA generators list (subject/adjoining properties)
Federal ERNS list (subject property)
Federal, State, and Tribal Institutional Control / Engineering Control registries (subject property)
State- and Tribal-equivalent NPL (1.0 mile)
State- and Tribal-equivalent SEMS (0.5 mile)
State and Tribal Brownfield and voluntary cleanup sites (0.5 mile)
State and Tribal leaking storage tank lists (0.125; reduced distance due to dense urban development)
State (including locally administered) and Tribal registered storage tank lists (subject/adjoining properties)
State and Tribal landfill and/or solid waste disposal site lists (0.5 mile)

Additional Environmental Record Sources (as available for the subject property's locality) were reviewed to enhance and supplement the review of standard sources, including: spill file records; oil storage facility lists; radon data; wastewater discharge permits; and federal Toxic Release Information System (TRIS) and Facility Index System (FINDS) databases.

A copy of relevant portions of a database search conducted by Environmental Data Resources, Inc. (EDR) for GBTS is provided is provided in Appendix H. Not all sites identified in the attached database search may be referenced below, as some sites may have been excluded based on one or more of the following: ASTM requirements; GBTS's scope of services or professional opinion; and/or information obtained during the review of historical records and the site inspection. Some information may have been deemed to not be practically reviewable as defined in ASTM E1527 (e.g., records lack adequate address information). Sites or additional information not included in the EDR report may also be referenced based on GBTS's search of additional records and/or knowledge of the subject property area.

GBTS's opinion is presented for any sites identified within the specified approximate minimum search distances as to any possible impacts that might result in RECs in connection with the subject property, arising from the migration of contaminated soil, soil vapor and/or groundwater. Evaluation of potential impacts to the subject property is based on: distance and direction to the identified site; type of regulated materials and other relevant information found in available records; presence of intervening roadways and/or other physical conduits; local physical setting (topography, soil conditions, geology, hydrology, etc.); and other information known to GBTS.

In accordance with ASTM requirements, this Report assesses the potential for hazardous vapors to migrate onto or within the target property. To accomplish this task, GBTS has performed an evaluation of potential Vapor Encroachment Conditions (VECs) arising from identified sites, consistent with a "Tier 1" screening as

specified in ASTM E2600-15 (including a review of database records as well as analysis of historical uses, physical setting information and other known information).

### 3.2.2 Findings of Regulatory Records Review

**Federal Hazardous Waste-Contaminated Sites**

The subject property is not identified on the United States Environmental Protection Agency's (USEPA): National Priority List (NPL) of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions; Superfund Enterprise Management System (SEMS, formerly CERCLIS) list of sites that are proposed to the NPL or that are in the screening and assessment phase for possible proposal to the NPL; SEMS-Archive list (formerly CERCLIS NFRAP), which are former SEMS sites that were delisted because no significant contamination was found, or because the site has been remediated; or Federal Brownfields list of sites with known or potential contaminants receiving federal cleanup funding. The subject property is not identified on available USEPA Institutional Control/Engineering Control registries.

The following relevant sites were identified:

| Site Name | Site ID | Distance/Direction | Database |
|---|---|---|---|
| Canny Trucking | NYD009802380 | 0.12 mile, S | SEMS ARCHIVE |
| E.H. Titchener & Co. | NYN000205907 | 0.39 mile, E | SEMS |

Based on a review of reported information, these sites are not likely to impact the property.

**State Sites**

*Inactive Hazardous Waste Disposal Sites*

NYSDEC maintains a Registry of Inactive Hazardous Waste Disposal Sites (IHWDS), a state equivalent to the federal NPL, which are commonly referred to as "Registry" or "Superfund" sites. Sites are placed on the Registry if there is evidence that hazardous waste was disposed and a determination has been made that a significant threat to public health is present. Once a Registry site has been remediated, it is reclassified or removed (delisted) to indicate that the significant threat(s) has been addressed. Non-Registry sites may (but usually do not) also present significant threats. The property is not identified as a NYSDEC IHWD site, and has not been listed as a site under investigation for inclusion in the IHWDS Registry (a state equivalent to the federal SEMS List).

The following relevant sites were identified:

| Site Name | Site ID | Distance/Direction | Classification Code |
|---|---|---|---|
| Anitec Image Corp. | 704022 | 0.18 mile, N | C – all work completed (delisted) |
| 93 Main Street | 704027 | 0.36 mile, SE | 4 – closed, management required |
| GAF Dump | 704011 | 0.43 mile, N | C – all work completed (delisted) |
| American Cleaners | 704030 | 0.55 mile, SE | 4 – closed, management required |

Based on a review of reported information, these sites are not likely to impact the property.

*Voluntary Cleanup, Brownfields Cleanup, and Environmental Restoration Programs*

Contaminated properties that are not Registry sites may be listed in database records under the NYSDEC Voluntary Cleanup (VCP), Brownfields Cleanup (BCP) or Environmental Restoration (ERP) programs. The property is not identified as a NYSDEC remedial program site.

The following relevant sites were identified:

| Site Name (Program) | Site ID | Distance/Direction | Classification Code |
|---|---|---|---|
| 113-115 Clinton St. (VCP) | V00172 | 0.22 mile, E | N – no further action at this time |
| 93 Main St. (VCP) | V00010 | 0.36 mile, SE | N – no further action at this time |

Based on a review of reported information, these sites are not likely to impact the property.

*New York Institutional and Engineering Controls*

The subject property is not identified in NYSDEC Institutional and Engineering Control databases.

**Federal Hazardous Waste Handlers**

The SEMS database details facilities that report treatment, storage or disposal of hazardous waste (TSD facilities) or generation or transportation of hazardous waste. Facilities that have been notified by USEPA to take corrective action regarding their handling of hazardous waste are classified as CORRACTS facilities.

The subject property is not registered with the USEPA as a CORRACTS and/or TSD facility, and no sites are located within one mile of the property. The subject property and adjoining properties are not registered with the USEPA as generators or transporters of hazardous waste.

*Generators or Transporters (Non-CORRACTS)*

The subject property (former Vail-Ballou Press) is identified in USEPA records as a RCRA Non Generator (Facility ID NYD057770679) in 1987, 1995, and 2007. Listed former materials include ignitable waste, spent halogenated solvents, and spent non-halogenated solvents.

The following relevant site was identified at an adjoining property:

| Site Name | Site ID | Distance/Direction | Classification |
|---|---|---|---|
| Kodak Polychrome Graphics | NY0000059782 | 0.03 mile, W | RCRA Non Generator |

The former Kodak Polychrome Graphics (Agfa Ansco Co.) site, located at the adjoining property to the west at 215-225 Clinton Street, is listed in database records as a large quantity generator in 1998 and a conditionally exempt small quantity generator in 1998. Listed materials include corrosive waste, ignitable waste, cadmium, mercury, silver, spent halogenated solvents, and spent non-halogenated solvents.

**Landfills and Solid Waste Disposal Facilities**

The state Facility Register does not list the subject property as an active or inactive landfill or solid waste disposal facility. The following relevant sites were identified:

| Site Name | Site Status | Distance/Direction | Type |
|---|---|---|---|
| Anitec Image Site | Inactive | 0.12 mile, N | SWF/LF |
| 93 Main Street | Inactive | 0.33 mile, SE | SWF/LF |
| GAF Dump | Inactive | 0.42 mile, N | SWF/LF |

Based on a review of reported information, these sites are not likely to impact the property.

**Chemical Bulk Storage (CBS)**

The subject property and adjoining properties are not identified in database records as CBS facilities. Observations made during the site inspection did not indicate the presence of chemical bulk storage on the subject property or at adjoining properties. A 1,000-gallon naphtha UST was removed in 2000 from the northwestern portion of Lot 2 in connections with spill 0065067 (see the State Chemical and Petroleum Spill and Leaking Underground Storage Tank Events subsection, below).

**Petroleum Bulk Storage (PBS)**

*Subject Property*

GBTS identified a fill port and vent pipe along the southern building wall, indicating a potential fuel-oil UST (the capacity and regulatory status is unknown; see Section 3.3.3). Three USTs were removed in 2000 from the northwestern portion of Lot 2 (275-gallon fuel oil, and 1,000-gallon naphtha and gasoline tanks) in connections with spill 0065067. According to available information, these tanks were not registered with the NYSDEC PBS program.

One closed NYSDEC spill event is reported for the subject property (see the State Chemical and Petroleum Spill and Leaking Underground Storage Tank Events subsection, below).

The subject property was not identified in database records as a PBS facility.

*Adjoining Properties*

The adjoining property to the east at 9 Slauson Avenue (PBS No. 9-182230), historically part of the former Vail-Ballou facility, contains four 10,300-gallon USTs that were closed in place in 2004. The adjoining Morabito filling station to the west at 215 Clinton Street (PBS No. 7-600964) contains multiple active motor fuel USTs (4,000 and 12,000 gallon gasoline and 4,000 gallon diesel fuel).

Six closed NYSDEC spill events are reported for adjoining properties (see the State Chemical and Petroleum Spill and Leaking Underground Storage Tank Events subsection, below).

**Major Oil Storage Facilities**

The subject property is not listed with the NYSDEC as a major oil storage facility (MOSF). The following relevant site was identified:

| Site Name | Site ID | Distance/Direction | Total Capacity |
|---|---|---|---|
| Binghamton Co-Generation Plant | 7-2240 | 0.06 mile, N | 57,0000 gal |

Based on a review of reported information, this site is not likely to impact the property.

**Federal Chemical and Petroleum Spills**

The USEPA Emergency Response Notification System (ERNS) database documents releases as reported to federal authorities. There are currently no chemical or petroleum spills on record for the subject property.

**State Chemical and Petroleum Spill and Leaking Underground Storage Tank Events**

NYSDEC database records were reviewed to determine possible impacts from leaking tanks and other reported releases within a half mile of the subject property. The following closed spill events are reported for the subject property and adjoining properties.

| Spill File ID | Location | Material Spilled | Spill Date (Closure Date) |
|---|---|---|---|
| 0065067 | subject property | #2 fuel oil | 7/6/2000 (August 16. 2000) |
| 8906060 | adjoining property | #4 fuel oil | 9/19/1989 (November 30, 1989) |
| 9602895 | adjoining property | #4 fuel oil | 5/30/1996 (December 28, 2004) |
| 0065133 | adjoining street | unknown petroleum | 1/24/2001 (December 28, 2004) |
| 1700677 | adjoining street | petroleum | 4/21/2017 (May 16, 2017) |
| 1806564 | adjoining property | gasoline | 9/19/2018 (October 22, 2018) |
| 1807380 | adjoining property | gasoline | 10/10/2018 (October 10, 2018) |

Spill 0065067 was reported during the removal of three USTs on Lot 2 (see the PBS subsection, above), due to a suspected release of fuel oil. Soil sampling documented an absence of any significant contamination and NYSDEC closed the spill (excavated soil was allowed to be returned to the tank grave).

Spills 8906060 and 9602895 were reported due to tank test failures of 10,300-gallon fuel oil USTs at a former Vail-Ballou Press facility at 9 Slauson Avenue. The tanks subsequently passed retests and the spills were closed. Spill 0065133 was reported due to petroleum found in a manhole test pit on Hudson Street. This spill event was apparently closed out by the NYSDEC in connection with Spill 9602895.

Spills 1700677, 1806564, and 1807380 were reported due to limited releases of motor fuels, which were contained and remediated; all spill files were promptly closed by NYSDEC and are unlikely to significantly impact the subject property.

No other relevant spill events were identified in database records.

**Air Discharges**

No NYSDEC permits for air discharges from the subject property are known to exist. No operations likely to require a NYSDEC air discharge permit were noted on the subject property.

**Wastewater Discharges**

No USEPA National or NYSDEC State Pollutant Discharge Elimination System (NPDES or SPDES) permit was identified for the subject property. No wastewater discharges are known to exist on the subject property

According to available information, the subject property is connected to the municipal wastewater system. No adjoining properties are registered as NPDES or SPDES facilities.

**Radon**

The USEPA maintains a Map of Radon Zones to identify areas with the potential for elevated indoor radon levels, and has established a guidance value (the level where mitigation measures may be appropriate) for radon concentrations of 4.0 or greater picoCuries/liter (pCi/l). The subject property is located in Broome County, which is designated as Zone 1, indicating predicted average indoor radon screening levels greater than 4 pCi/L. New York State Department of Health (NYSDOH) data indicate that the average radon level in the City of Binghamton (1081 homes tested) is 3.05 pCi/L, and that 41 percent of homes exceed USEPA guidance. GBTS has not reviewed any radon test data for the subject property.

Based on the NYSDOH data, radon above actionable levels may be present at the subject property.

**Vapor Encroachment Conditions at Identified Sites**

Information obtained during the database review was evaluated consistent with the Tier 1 screening process presented in ASTM E2600-15. Although a review of database records indicates that identified releases are not likely to have resulted in vapor encroachment at the subject property, potential impacts from historical commercial activities at the subject property may have resulted in vapor contamination conditions.

### 3.3 Site Inspection

The subject property was inspected by GBTS on December 13, 2023. The weather at the time of the inspection was partly cloudy and 37°F. The site reconnaissance was performed at the following areas: building interior including common areas, vacant retail unit, utility rooms, and all exterior areas (there were no relevant limitations to the inspection of the subject property

#### 3.3.1 Protocol

The site inspection was conducted to address any potential concerns raised during the investigation of site history (Section 3.1) and the regulatory agency records review (Section 3.2), and to identify any additional indications of contamination from the use, storage, or disposal of hazardous or regulated materials. To the extent possible, on-site structures, vegetation, topography, surface waters, and other property features were examined for obvious evidence of existing or previous contamination or unusual patterns (e.g., soil staining, vegetative stress, surface water sheen, or the physical presence of contaminants), which would indicate that the environmental integrity had been or could be impacted.

Section 3.3.2 describes the physical characteristics of the subject property. Section 3.3.3 is divided into topics on specific environmental conditions or concerns, actual or potential, noted on the subject property during the site inspection. Section 3.3.4 describes the physical characteristics of adjoining properties as they concern the potential or actual environmental condition of the subject property.

A Selected Site Features Map illustrating the subject property layout and locations of specific areas of concern (if any) is provided on Page 8, and photographs of the property are provided in Appendix A.

### 3.3.2 Physical Characteristics of the Subject Property

#### 3.3.2.1 Property

The subject property is an approximately 4.3-acre irregularly-shaped parcel, which has approximately 460 feet of frontage on the southern side of Clinton Street, and a maximum depth of approximately 430 feet. A small commercial building is located at the northeastern corner on Lot 30 (205 Clinton Street). The remainder of the property is a vacant, former industrial site generally containing remnant concrete building slabs, degraded asphalt-paved and gravel surfaces, and overgrown areas. Partially demolished concrete foundation walls define the southern and eastern borders; the remaining property lines are undefined.

#### 3.3.2.2 Structures

The on-site building is a one-story wood frame structure with a concrete slab and gabled roof. Exterior siding is brick and the roof is covered by asphaltic materials. Broome County records indicate that the building dates from 1960. Sanborn maps and historical aerial photographs, however, suggest a construction date between 1970 and 1974. The building contains two retail units, with only one currently occupied by an Allstate Insurance broker. Interior floors are covered with carpeting and with ceramic floor tiles. Walls are generally covered with wallboard, and ceilings are generally cover by acoustic ceiling tiles.

**Potable Water Supply and Sanitary Waste**

According to available information, the subject property is serviced by the public water supply and sanitary sewer systems. No water supply wells were noted on the subject property during the site inspection and no on-site uses of groundwater are known to exist for the subject property.

**Potable Water Supply**

According to available information, potable water is obtained from the municipal water system. No water supply wells were noted on the subject property during the site inspection and no on-site uses of groundwater are known to exist for the subject property.

**Sanitary Waste**

According to available information, the on-site structure is serviced by the municipal sewer system.

**Heating/Cooling**

The on-site structure is heated with a forced hot air system using a natural gas furnace in the rear mechanical room. Cooling is provided by a wall mounted air conditioning unit. An electric water heater is located in a separate utility closet.

### 3.3.3 Specific On-Site Environmental Conditions

*Debris Areas*

Soil piles containing concrete, brick, asphalt and stone (likely from illegal dumping) are located throughout the southern and central portions of Lot 2, and scattered trash is present throughout the property.

*Petroleum Storage*

GBTS identified a fill port and vent pipe along the southern building wall, indicating a potential fuel-oil UST (likely to have a capacity of ≤1,000 gallons). No evidence of a release (e.g. staining, odors, etc.) was noted at or near the fill or vent. According to Mr. Butler, the suspected UST located at the property was already inactive when he began utilizing the property in 2012. No other small quantities of petroleum products, aboveground storage tanks (e.g., fill ports or vent pipes) were observed on the property.

*Chemical Storage*

Several small containers of paint products were observed in a storage closet at the on-site structure. The containers were stored on shelves above an impervious concrete ground surface and no evidence of a release (e.g. staining, odors, etc.) was noted during the site inspection. No other small quantities of chemical products, aboveground chemical storage tanks or indications of underground chemical storage tanks (e.g., fill ports or vent pipes) were observed on the property.

*Asbestos-Containing Materials and Lead Based Paint*

The likely dates of construction of the current and former on-site buildings suggests that asbestos-containing materials (ACM) and lead-based paint (LBP) may have been used during initial building construction and/or during subsequent maintenance work. Suspect materials at the existing structure included roofing, ceiling tiles, and wallboard systems. Evidence of remaining construction materials of former structures (concrete and brick foundation walls) was observed during the site inspection (Lot 2), and debris from former structures could be present in subsurface soils (such materials, should any exist, could contain asbestos or LBP).

*Wastewater Discharges*

The term “wastewater” indicates water that: (1) is or has been used in an industrial or manufacturing process; (2) or is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant; (3) or conveys or has conveyed sewage (water originating on or passing through or adjacent to a site, such as stormwater flows, is not generally considered to be wastewater). No evidence of wastewater discharges into drains, ditches, or streams on or adjacent to the property was observed during the site inspection.

*Interior Floor Drains/Sumps/Conduits*

A floor drain is located in each bathroom at the on-site building. No staining, odors, or other evidence of contamination was noted in or near any of the drains. According to Mr. Butler, the occupant, all floor drains

inside the buildings lead to the municipal sewage system. No other floor drains, sumps, or conduits to the subsurface were noted inside the on-site structure.

*Stormwater Management and Exterior Drains/Sumps/Conduits*

No exterior stormwater catch basins, drains, sumps, or other potential significant conduits to the subsurface, or indications of liquid discharges into drains, ditches, or streams on or adjacent to the property, were observed during the site inspection.

*Staining/Corrosion/Leaks*

No evidence of corrosion, leaks, or staining (indicative of an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products onto the property, including on-site structures and paved areas) was observed on the property.

*Topographic Irregularities*

Soil piles containing concrete, brick, asphalt and stone are located throughout southern and central portions of Lot 2. No other overt topographic irregularities (e.g., sinkholes or berms) indicative of the presence of non-natural materials (including debris) in the subsurface were observed on the property.

*Vegetative Features*

No overt areas of stressed or dying vegetation indicative of the presence of contaminants in surface or subsurface soils were observed on the property.

*Pits, Ponds, or Lagoons*

No pits, ponds, or lagoons exhibiting evidence (e.g., discolored water, distressed vegetation, obvious wastewater discharge) of holding liquids or sludge containing hazardous substances or petroleum products were observed on the property.

*Surface Waters*

No surface water bodies are located on the subject property.

*Odors*

No unusual odors indicative of the presence of contamination were noted during the site inspection.

*PCBs*

Polychlorinated biphenyls (PCBs) were widely used in equipment such as transformers, capacitors, and hydraulic equipment until 1979 when the USEPA regulated their use in this capacity. A suspected hydraulic loading dock lift was observed at a partially demolished loading dock on the western side of the subject property (Lot 2). No staining or other evidence of a release observed during the site inspection. No other equipment that may contain PCBs was noted on the subject property.

### 3.3.4 Environmental Concerns at Adjoining and Nearby Properties

Adjoining and nearby properties were observed from the subject property and from public thoroughfares to identify any recognized environmental conditions or other potential environmental concerns. Several utility company-owned pole-mounted transformers were noted to the north of the subject property along Clinton Street. No staining indicative of a release was noted on the units, the pole, or on the ground around the base of the pole. The presence these transformers is not a significant environmental concern

A gasoline service station is located on the adjoining property to the west; a release from this site could potentially impact the subject property. No other potentially significant environmental conditions were noted on adjoining or nearby properties.

## 3.4 On-Site Environmental Investigations

Surface soil sampling, conducted by GBTS concurrently with the Phase I ESA, is documented in a Phase II Environmental Investigation Report (provided in Appendix I). Twenty surface soil samples (0-4”) were collected and submitted for laboratory analysis for metals and polycyclic aromatic hydrocarbons (PAHs) in order to provide a general screening of the subject property. Data documented exceedances of NYSDEC Restricted Residential Soil Cleanup Objectives (RRU SCOs) for arsenic, barium, lead, mercury, and several PAHs.

# 4.0 FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Gallagher Bassett Technical Services (GBTS) performed a Phase I Environmental Site Assessment, in conformance with the scope and limitations of ASTM E 1527-21, to identify recognized environmental conditions (RECs), Controlled RECs (CRECs), Historical RECs (HRECs) and/or other significant environmental liabilities resulting from or associated with the storage, use, transport, or disposal of hazardous or regulated materials at the property located at 181-187, 205 Clinton Street, and 34 Jarvis Street, City of Binghamton, Broome County, New York. Any exceptions to, or deletions from, this practice are described in Section 1.2 of this report.

Identified RECs are presented in Section 4.1. GBTS's findings, conclusions and recommendations regarding RECs, other potential environmental liabilities associated with the property, and de minimis conditions are presented in Sections 4.2 through 4.5.

## 4.1 Recognized Environmental Conditions

*Significant Data Gaps*

The Environmental Professionals preparing this report have not identified any significant data gaps that affect their ability to identify RECs.

*Overview of Identified RECs*

This assessment has revealed evidence of the following RECs in connection with the property, presented as specific "areas of concern" (AOCs):

**AOC 1**: General impacts from former on-site manufacturing facilities and similar uses, including documented soil and groundwater contamination, and potential releases from former storage tanks

**AOC 2**: Impacts directly associated with former on-site filling station (Lot 3)

**AOC 3**: Potential releases from underground storage tank (UST; Lot 30)

**AOC 4**: Potential impacts from commercial uses at adjoining properties, including a filing station

**AOC 5**: On-site debris and soil piles of unknown origin (potentially includes materials containing asbestos or lead)

No evidence of the CRECs or de minimis conditions were found in connection with the subject property.

The following HRECs are identified:

- Closed NYSDEC spill event

### 4.2 Site History

The subject property is an urban parcel comprised of five contiguous commercial lots, which is vacant with the exception of Lot 30, which contains a single-story office building.

Historical property uses (documented as early as the 1880s) include a sleigh and wagon manufacturer (until the 1930s), a printer and book manufacturer (Vail Ballou Co.; 1910s to 1990s), a filling station (Lot 3; 1940s and 1950s), numerous small commercial operations, and residential uses. A historical filling station and several historical industrial sites have been present at adjoining properties. Available records indicate that Lot 3 has been vacant since the 1950s, the former Vail-Ballou manufacturing facility on Lot 2 (operations also extended to adjoining properties to the east) was demolished in stages in the mid to late 1990s, and the former structures on Lots 1 and 4 were demolished between 2018 and 2019.

Previous subsurface investigations at Lot 2 in 2001 documented petroleum contamination in soil, and surface soil sampling by GBTS in December 2023 documented elevated levels of metals (arsenic, barium, lead, and mercury) and/or semi-volatile organic compounds (SVOCs) in soil at all subject property parcels. This contamination is likely related to former on-site commercial uses and/or impacts from building demolition or poor-quality urban fill materials.

General impacts from former on-site manufacturing facilities and similar uses, including documented soil and groundwater contamination, and potential releases from former storage tanks and piping, constitute a REC (AOC 1). Potential impacts directly associated with the former on-site filling station are considered to be a distinct REC (AOC 2).

**No further investigation of historical records is recommended. A comprehensive subsurface investigation should be conducted to identify known and/or suspect contamination associated with AOC 1 and AOC 2.**

Demolition debris may be present in the subsurface.

**Any future development activities at the property should be conducted with an awareness of the potential presence of subsurface debris and provision should be made for the proper management of any materials that warrant special handling.**

### 4.3 Review of Regulatory Records

The subject property is identified as a former generator of hazardous wastes, and the site of former USTs and a closed spill event (considered to be HRECs at this time). Any impacts from these former on-site activities are associated with AOC 1. Several adjoining properties have similarly been identified in regulatory databases as former generators of hazardous wastes, petroleum bulk storage facilities (an active filling station is located west of the subject property), and/or spill sites (no active spills are located at nearby properties). Potential historical and/or future releases from these sites constitute a REC (AOC 4).

**No further investigation of regulatory records is recommended. Any impacts to the property associated with AOC 4 should be investigated concurrently with AOC 1 (Section 4.2).**

### 4.4. Relevant Site Observations and General Concerns

A suspected inactive heating oil UST is located at Lot 30, near the existing office building. The capacity and integrity of the tank is unknown. Potential impacts associated with the UST constitute a REC (AOC 3).

**It is recommended that the UST be removed from the property, and surrounding soils be investigated, in accordance with applicable NYSDEC and local regulations.**

Soil piles and debris of unknown origin, potentially containing contaminated material (including lead and/or asbestos), are located throughout southern and central portions of the subject property. A suspected hydraulic lift observed at a former loading dock is considered to be debris. Potential impacts associated with these materials constitute a REC (AOC 5). Additionally, scatter trash is present throughout the property.

**Soil piles and debris (including scattered trash) should be removed from the subject property. Any impacts to the property associated with AOC 5 should be investigated concurrently with AOC 1 (Section 4.2).**

Several small containers of paint products were observed in a storage closet at the on-site structure.

**All containers should be properly stored.**

### 4.5 Non-scope Considerations

Limited visual observations by GBTS and the likely dates of current and former building construction suggest that asbestos-containing materials (ACM) and lead-based paint (LBP) may be present. No surveys for ACM or LBP are known to have been conducted.

**No further investigation is recommended. Any suspect material encountered during maintenance, renovation, or demolition activities should be tested for asbestos or lead, or, in the absence of analytical data, be treated as though it contained asbestos or lead. All maintenance, renovation, or demolition activities should be conducted in accordance with applicable regulations.**

Elevated concentrations of radon may be present at the subject property.

**It is recommended that radon testing be conducted in the event of future residential development.**

# 5.0 SOURCES OF INFORMATION

## 5.1 Maps and Documents

Environmental Data Resources, Inc. (EDR), Aerial Photo Decade Package, December 11, 2023

EDR, City Directory Image Report, December 18, 2023

EDR, Historical Topo Map Report, December 6, 2023

EDR, Radius Map Report, December 6, 2023

EDR, Certified Sanborn Map Report, December 11, 2023

GeoLogic NY, Inc., Limited Phase II Environmental Site Assessment (ESA), July 19, 2000

Geologic NY, Inc., Tank Removal report, July 2000

Nelson Pope Voorhis, LLC: Phase I ESA Report, dated March 15, 2022

New York State Department of Environmental Conservation, Freshwater Wetlands Map of the Binghamton West, NY Quadrangle, accessed online December 6, 2023 via Environmental Resource Mapper at dec.ny.gov

United States Department of Agriculture, Natural Resources Conservation Service, Soil Survey for Broome County, New York, accessed online December 11, 2023 via websoilsurvey.sc.egov.usda.gov

United States Department of the Interior National Wetlands Inventory Map of the Binghamton West, NY Quadrangle, accessed online December 6, 2023 via fws.gov/wetlands/Data/Mapper.html

United States Geological Survey (USGS) Topographic Map of the Binghamton West, NY Quadrangle, dated 2023, digital image provided by https://ngmdb.usgs.gov/topoview

## 5.2 Local Agency Records

City of Binghamton Assessor's Office records, requested December 6, 2023

City of Binghamton Building Department records, requested December 6, 2023

New York State Department of Environmental Conservation records, requested December 6, 2023

## 5.3 Communications

Mr. Michael Butler, Allstate Office Manager, December 13, 2023

Mr. Myles Monahan, representing Think City Partners (the User), various dates, December 2023

Mr. Ron Rogers, current site owner, December 15, 2023

## 6.0 ENVIRONMENTAL PROFESSIONAL STATEMENT

The following statements are required by 40 CFR 312.21(d) of the environmental professional(s) responsible for conducting and preparing the Phase I Environmental Site Assessment report.

**I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.**

***and***

**I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.**

_____

Scott Spitzer – February 5, 2024
Gallagher Bassett Technical Services
Senior Environmental Consultant
Technical Director – Environmental Services

# APPENDIX A

# Site Photographs

1. **Northeast corner of subject property facing south from Clinton Street (former foundation wall in background)**

2. **Subject property facing southwest from Clinton Street**

3. **Degraded pavement and debris/soil piles on property, facing southeast from Jarvis Street**

4. **Office building on northwest corner of property (205 Clinton Street)**

**5. Degraded concrete slab and debris/soil piles on property, facing northwest from southeast portion**

**6. Former loading dock near southwest corner of property**

**7. Suspected hydraulic lift at former loading dock**

**8. Vacant office unit inside 205 Clinton Street**

9. UST vent pipe along southern building wall of 205 Clinton Street

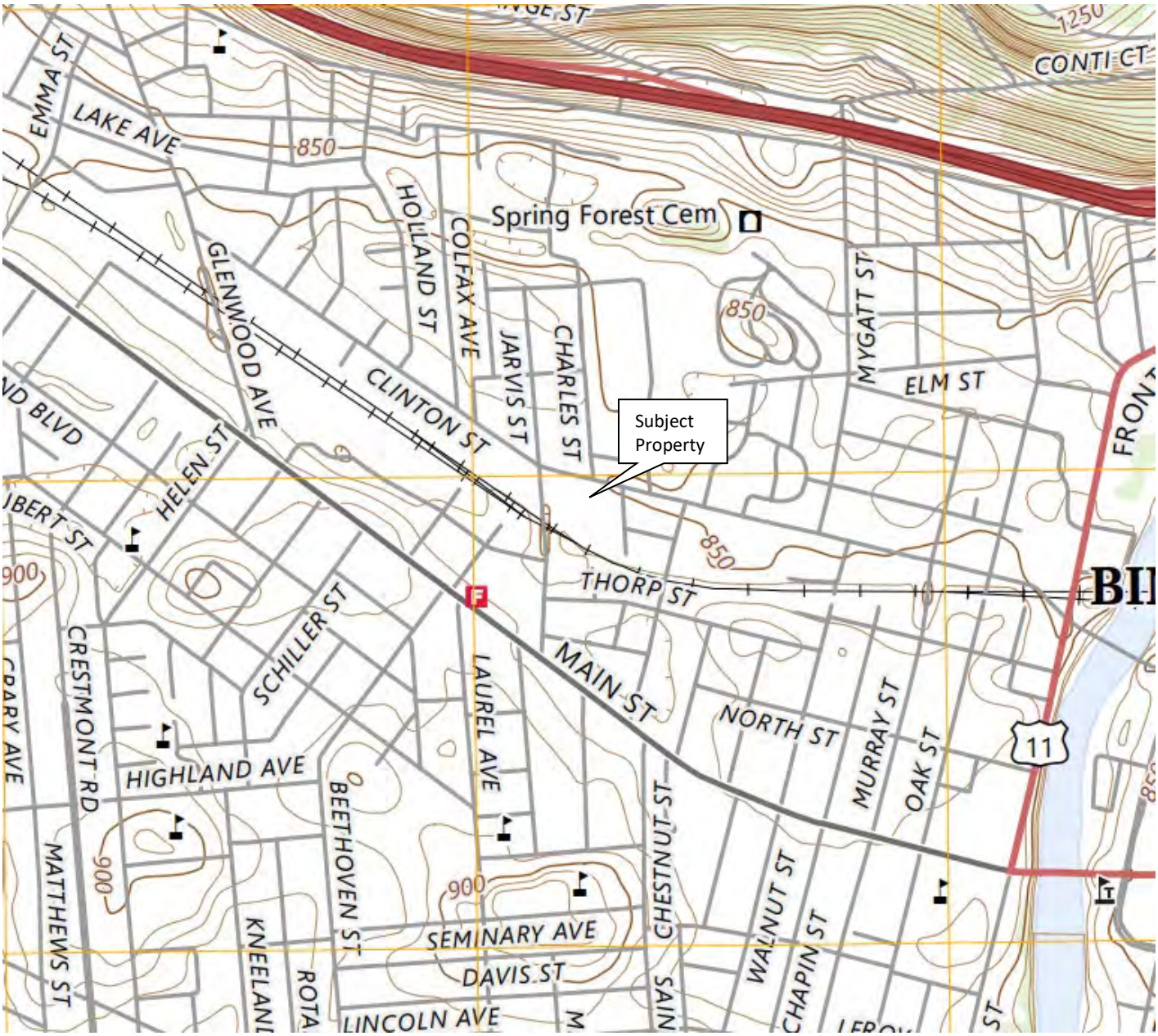
10. UST fill port at 205 Clinton Street

11. Adjoining filling station to the west across Jarvis Street

12. Former warehouse and location of inactive petroleum storage tanks, adjoining property at 9 Slauson Avenue

# APPENDIX B

# Physical-Setting Maps




Source: USGS Topographic Map of the Binghamton West, New York Quadrangle, dated 2023, digital image provided by https://ngmdb.usgs.gov/topoview

**U.S.G.S. Topographic Map**
181-187 and 205 Clinton Street, 34 Jarvis Street
City of Binghamton
Broome County, New York

N

File No: 23003-0060

February 2024

Appendix B

U.S. Fish and Wildlife Service

# National Wetlands Inventory

23003-0060

December 6, 2023

**Wetlands**

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

# 23003-0060 - NYS Wetlands

December 6, 2023

1:4,514

0 0.04 0.08 0.16 mi

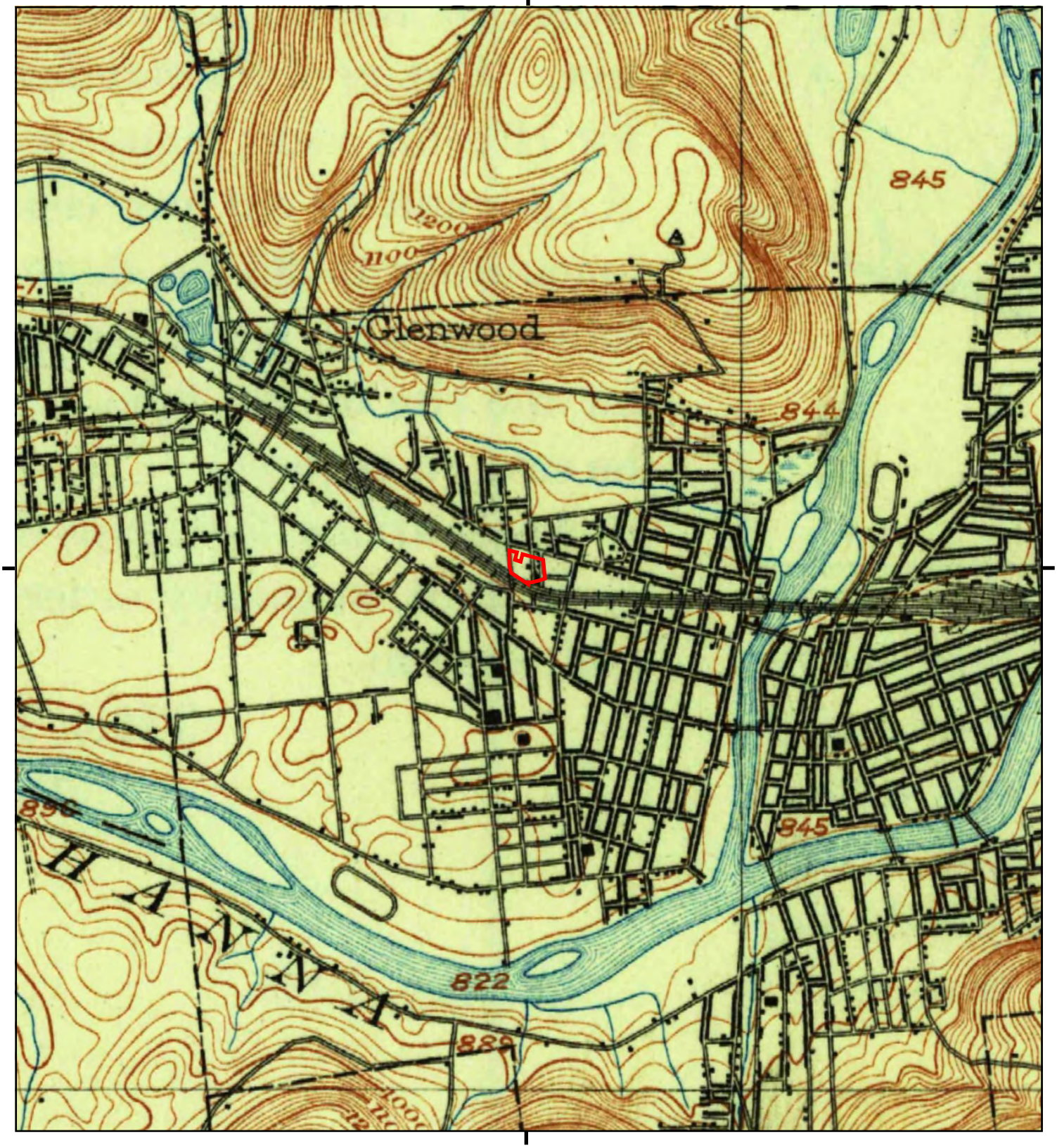
0 0.05 0.1 0.2 km

County of Broome, Province of Ontario, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, EPA, USDA

NYS Department of Environmental Conservation
Not a legal document

# APPENDIX C

# Historical Topographic Maps




This report includes information from the following map sheet(s).

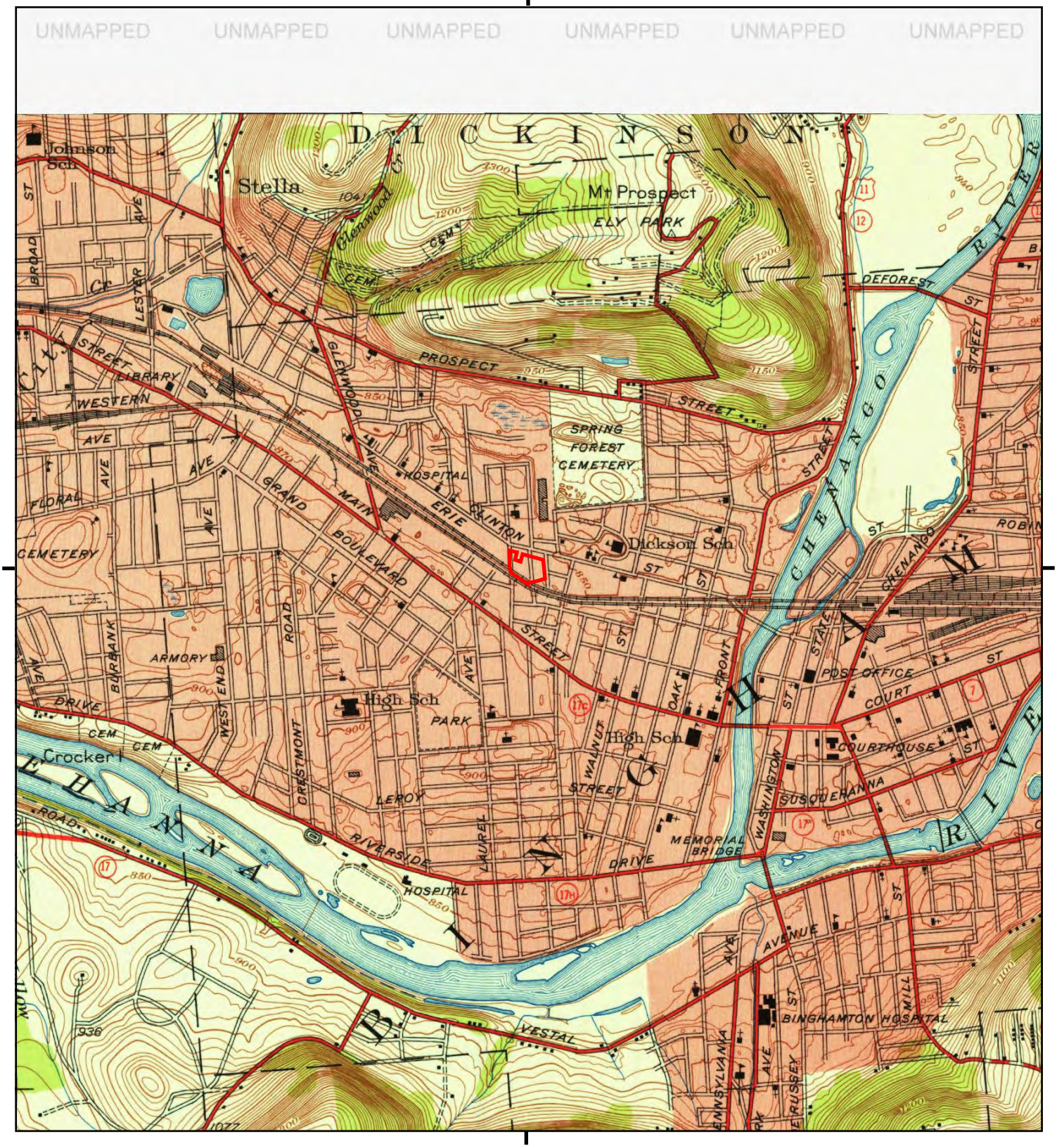
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Binghamton, 1904, 15-minute

SITE NAME: 181 - 187 CLINTON ST
ADDRESS: 181 - 187 CLINTON ST
Binghamton, NY 13905
CLIENT: Gallagher Bassett Technical Services

N

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W E
SW S SE

TP, Binghamton West, 1935, 7.5-minute

SITE NAME: 181 - 187 CLINTON ST
ADDRESS: 181 - 187 CLINTON ST
Binghamton, NY 13905
CLIENT: Gallagher Bassett Technical Services

N

This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Binghamton West, 1942, 7.5-minute
N, Castle Creek, 1942, 7.5-minute

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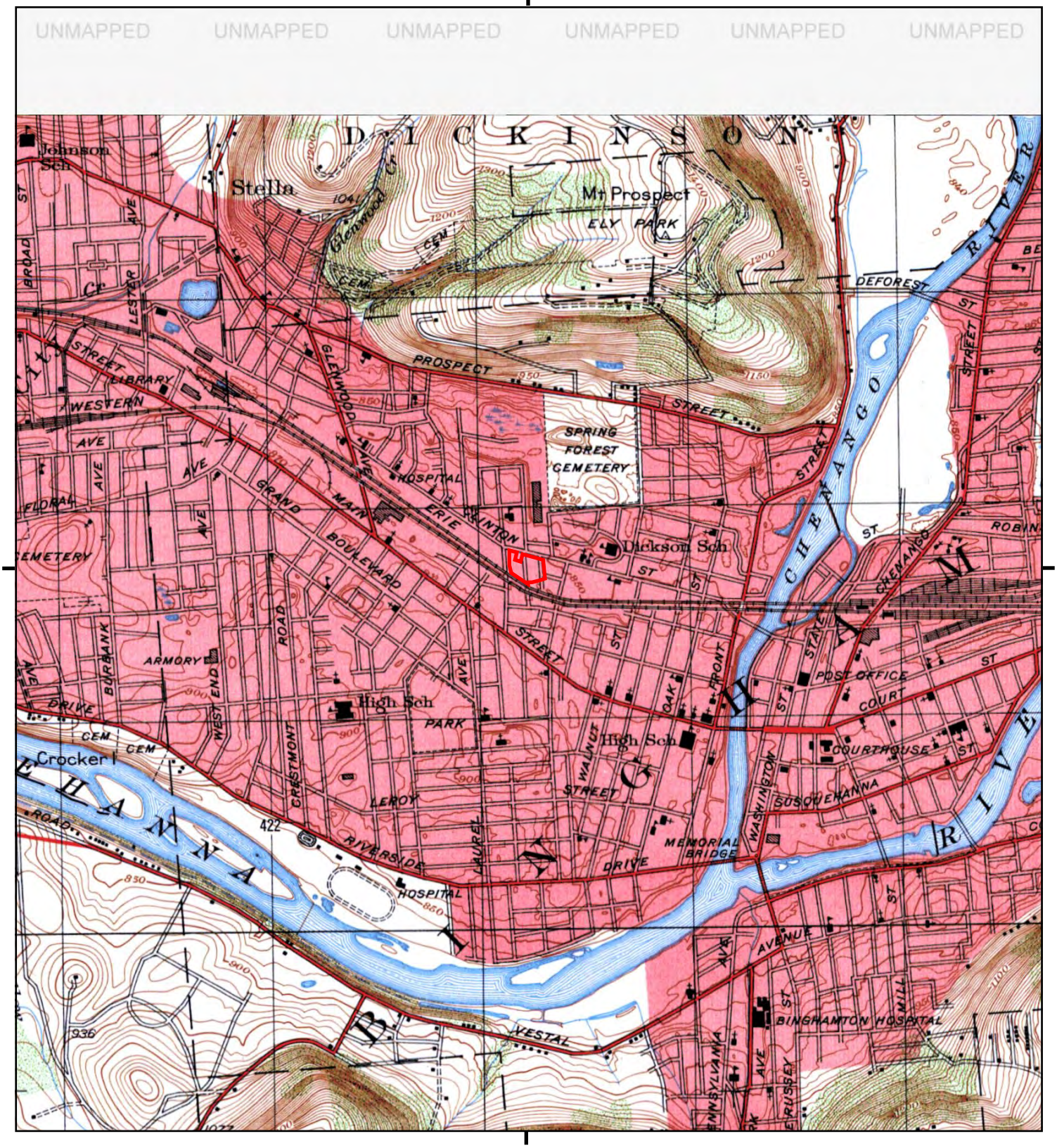
ADDRESS: 181 - 187 CLINTON ST
Binghamton, NY 13905
CLIENT: Gallagher Bassett Technical Services

N

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NW N NE
W E
SW S SE

TP, BINGHAMTON WEST, 1947, 7.5-minute

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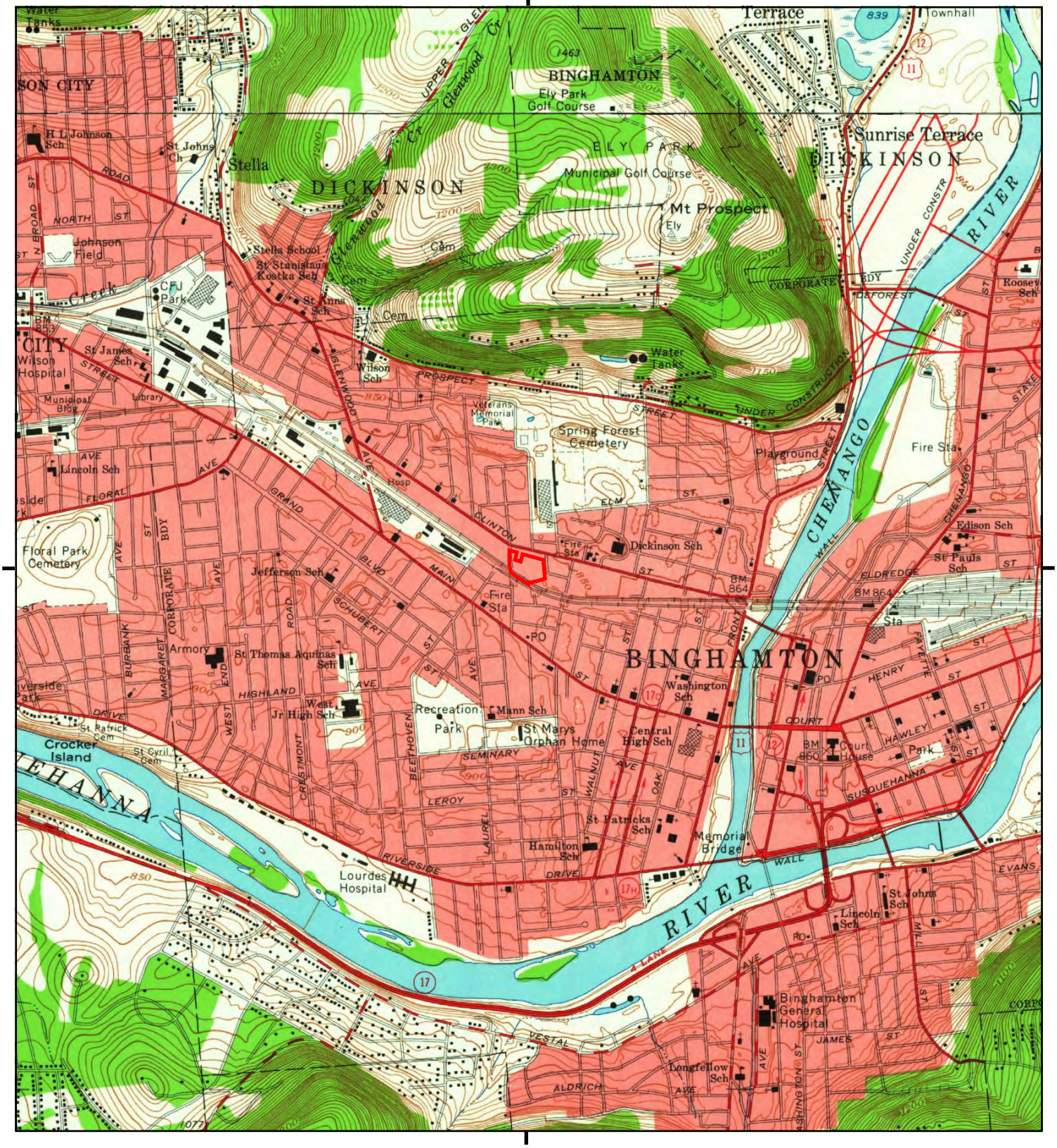
ADDRESS: 181 - 187 CLINTON ST
Binghamton, NY 13905
CLIENT: Gallagher Bassett Technical Services

N

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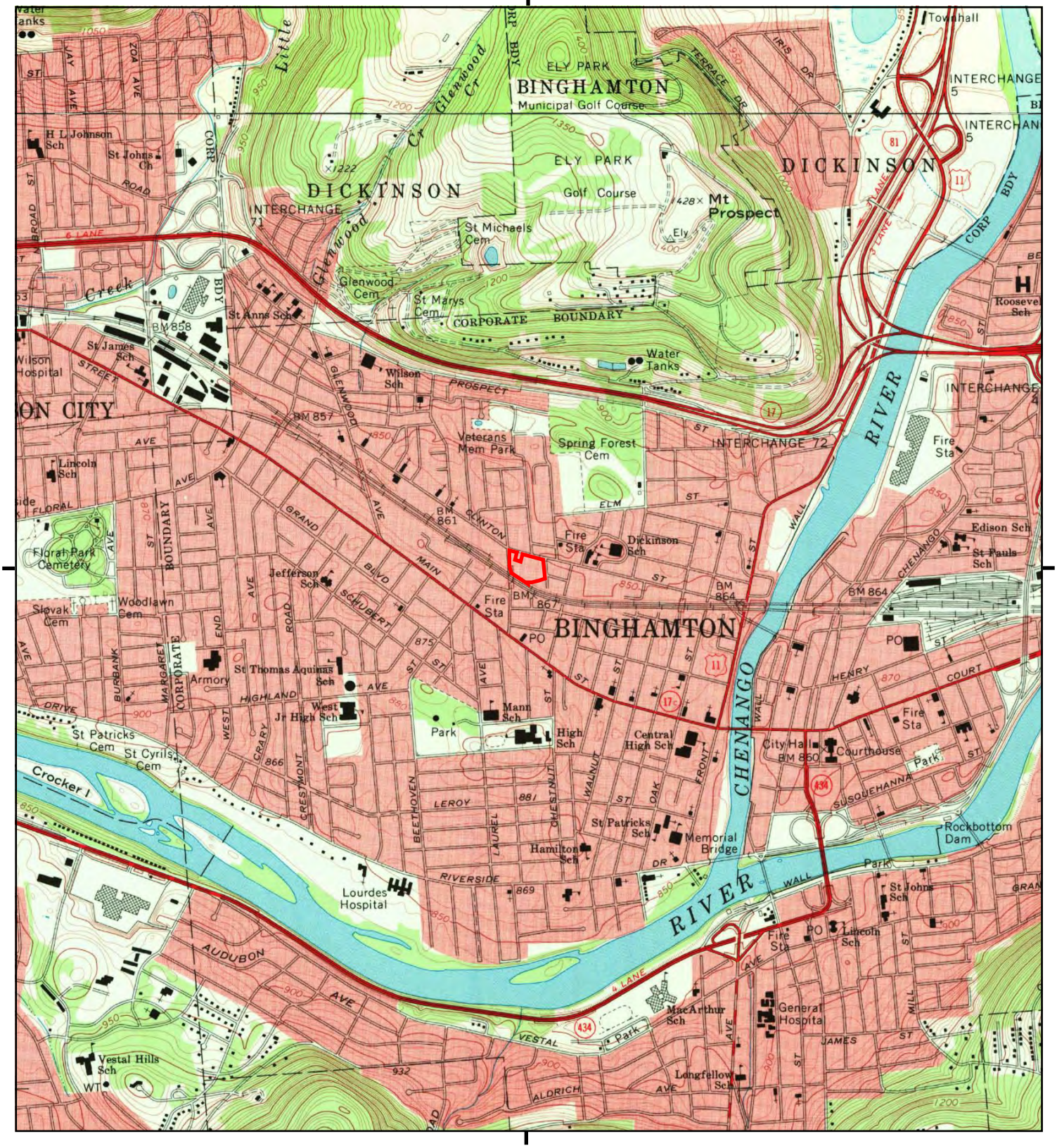
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Binghamton West, 1961, 7.5-minute
N, Castle Creek, 1961, 7.5-minute

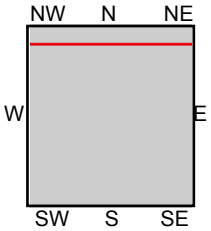
SITE NAME: 181 - 187 CLINTON ST
ADDRESS: 181 - 187 CLINTON ST
Binghamton, NY 13905
CLIENT: Gallagher Bassett Technical Services

N




This report includes information from the following map sheet(s).

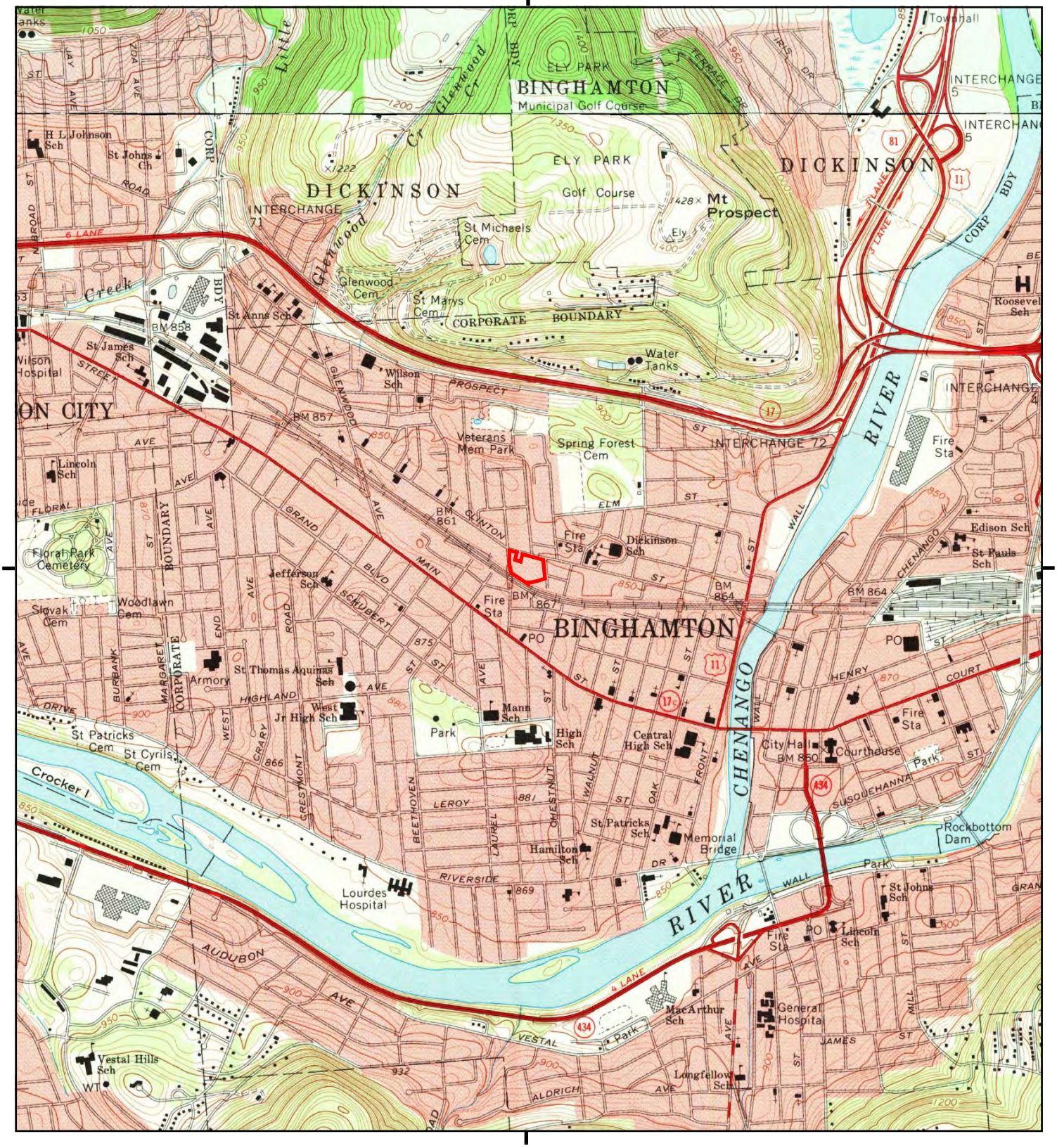
0 Miles 0.25 0.5 1 1.5




TP, Binghamton West, 1968, 7.5-minute
N, Castle Creek, 1968, 7.5-minute

SITE NAME: 181 - 187 CLINTON ST
ADDRESS: 181 - 187 CLINTON ST
Binghamton, NY 13905
CLIENT: Gallagher Bassett Technical Services

N




This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

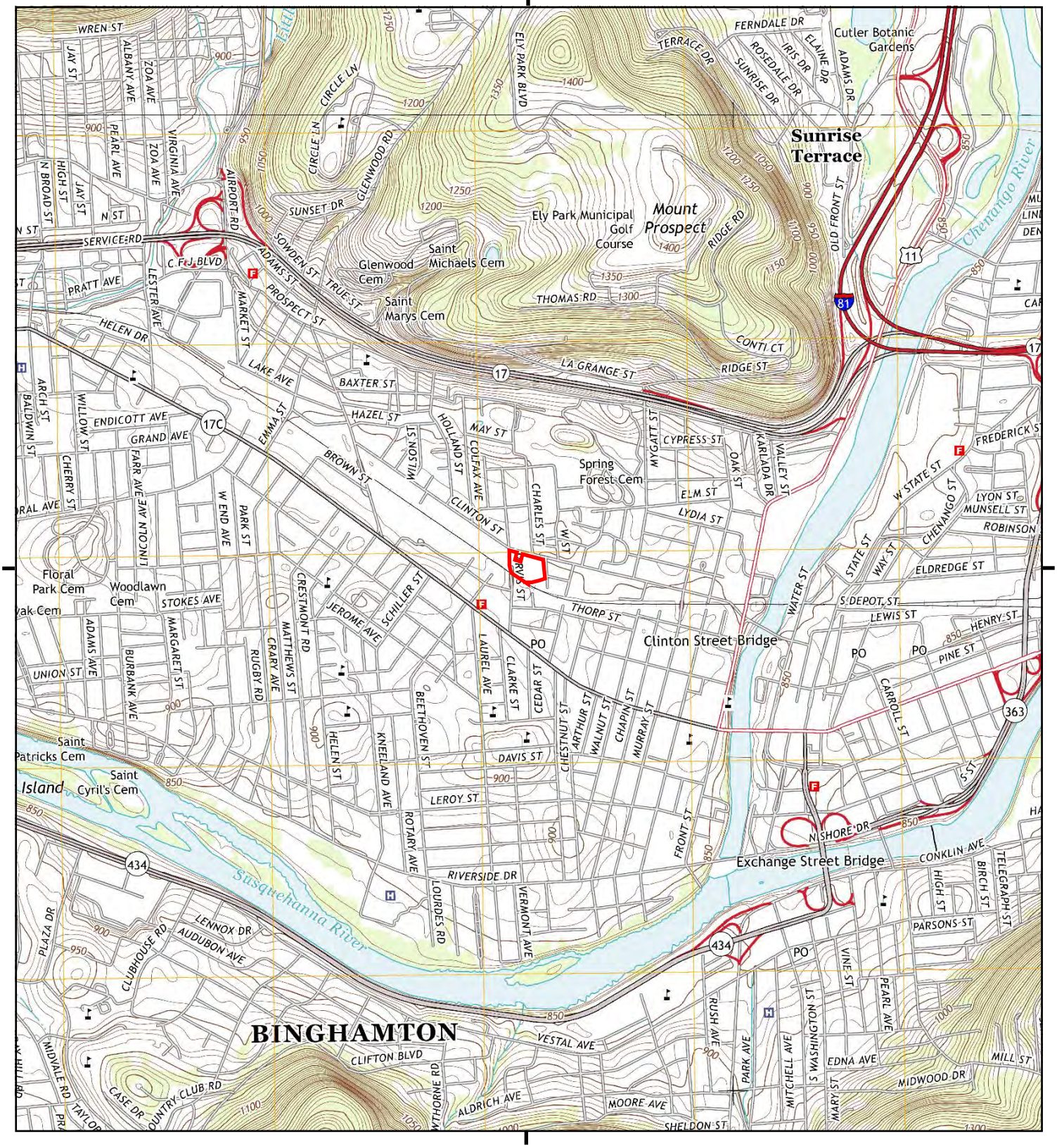
TP, Binghamton West, 1976, 7.5-minute
N, Castle Creek, 1976, 7.5-minute

SITE NAME: 181 - 187 CLINTON ST
ADDRESS: 181 - 187 CLINTON ST
Binghamton, NY 13905
CLIENT: Gallagher Bassett Technical Services

N

# Historical Topo Map

2013




This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

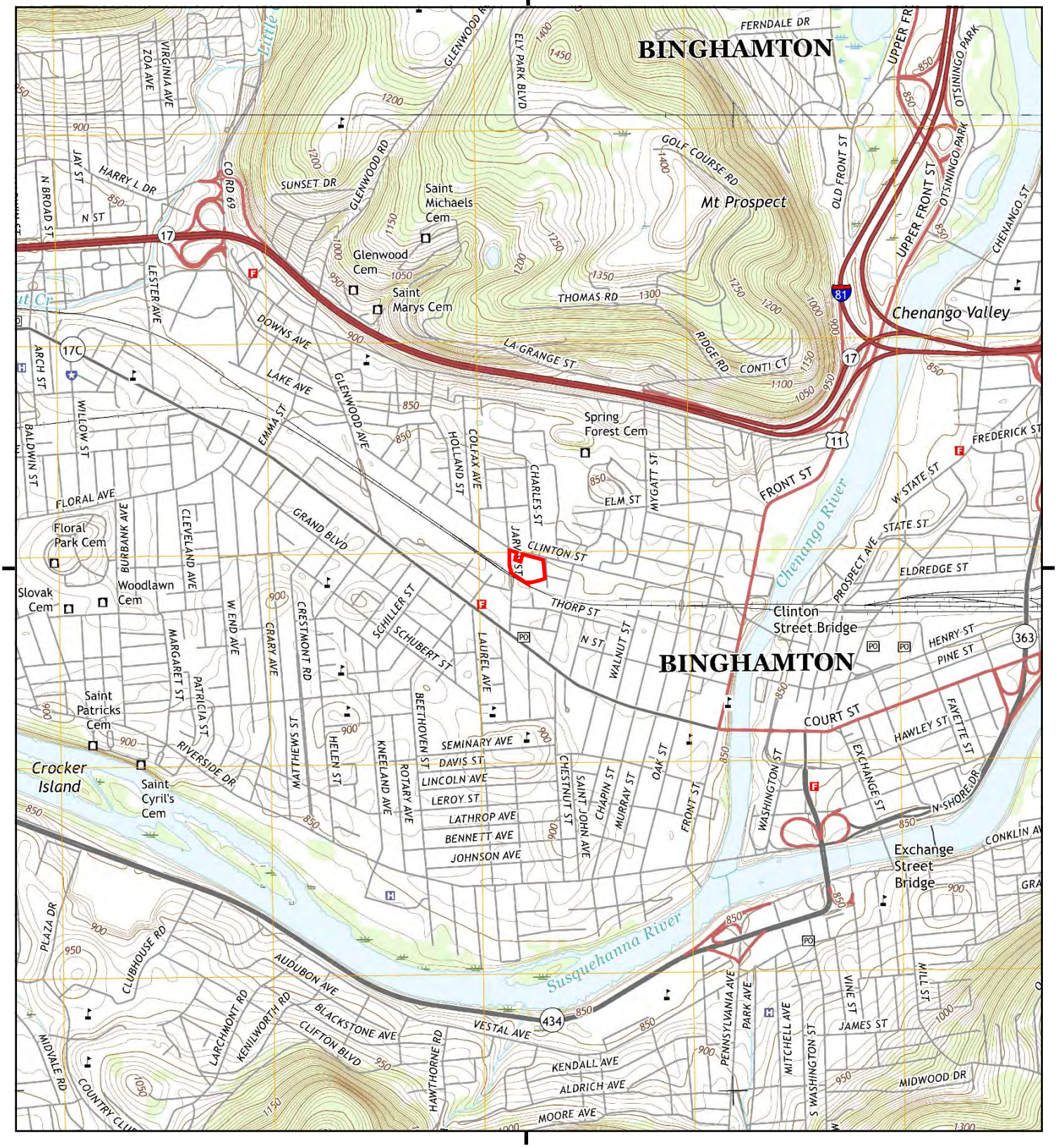
TP, Binghamton West, 2013, 7.5-minute
N, Castle Creek, 2013, 7.5-minute

SITE NAME: 181 - 187 CLINTON ST
ADDRESS: 181 - 187 CLINTON ST
Binghamton, NY 13905
CLIENT: Gallagher Bassett Technical Services

N

# Historical Topo Map

2016




This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

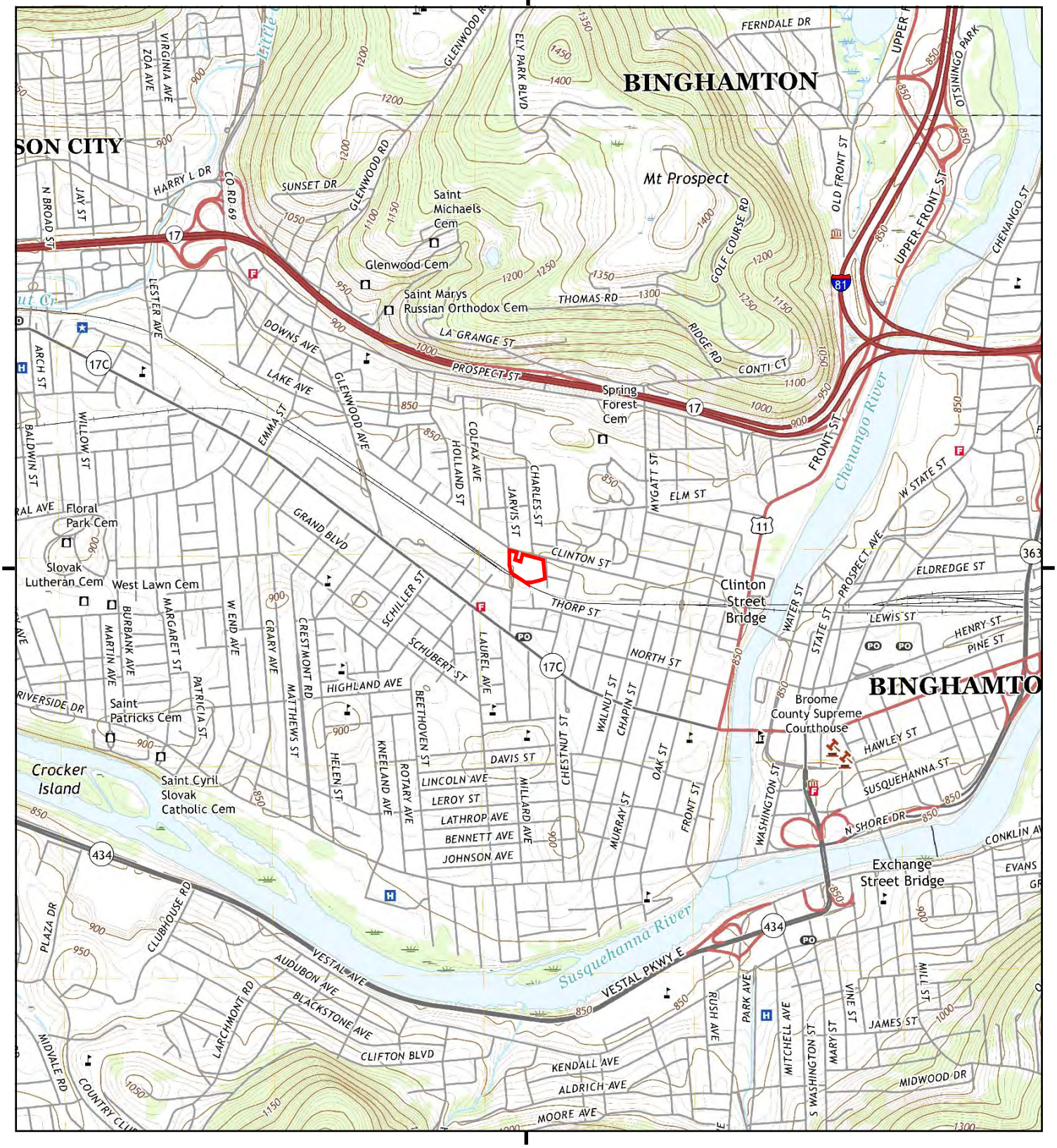
TP, Binghamton West, 2016, 7.5-minute
N, Castle Creek, 2016, 7.5-minute

SITE NAME: 181 - 187 CLINTON ST
ADDRESS: 181 - 187 CLINTON ST
Binghamton, NY 13905
CLIENT: Gallagher Bassett Technical Services

N

# Historical Topo Map

2019




This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Binghamton West, 2019, 7.5-minute
N, Castle Creek, 2019, 7.5-minute

SITE NAME: 181 - 187 CLINTON ST
ADDRESS: 181 - 187 CLINTON ST
Binghamton, NY 13905
CLIENT: Gallagher Bassett Technical Services

N

# APPENDIX D

# Sanborn Fire Insurance Maps

Site Name: 181 - 187 CLINTON ST
Address: 181 - 187 CLINTON ST
City, ST, ZIP: Binghamton, NY 13905
Client: Gallagher Bassett Technical Services
EDR Inquiry: 7514313.3
Order Date: 12/06/2023
Certification #: AC1F-496C-A060
Copyright 1887

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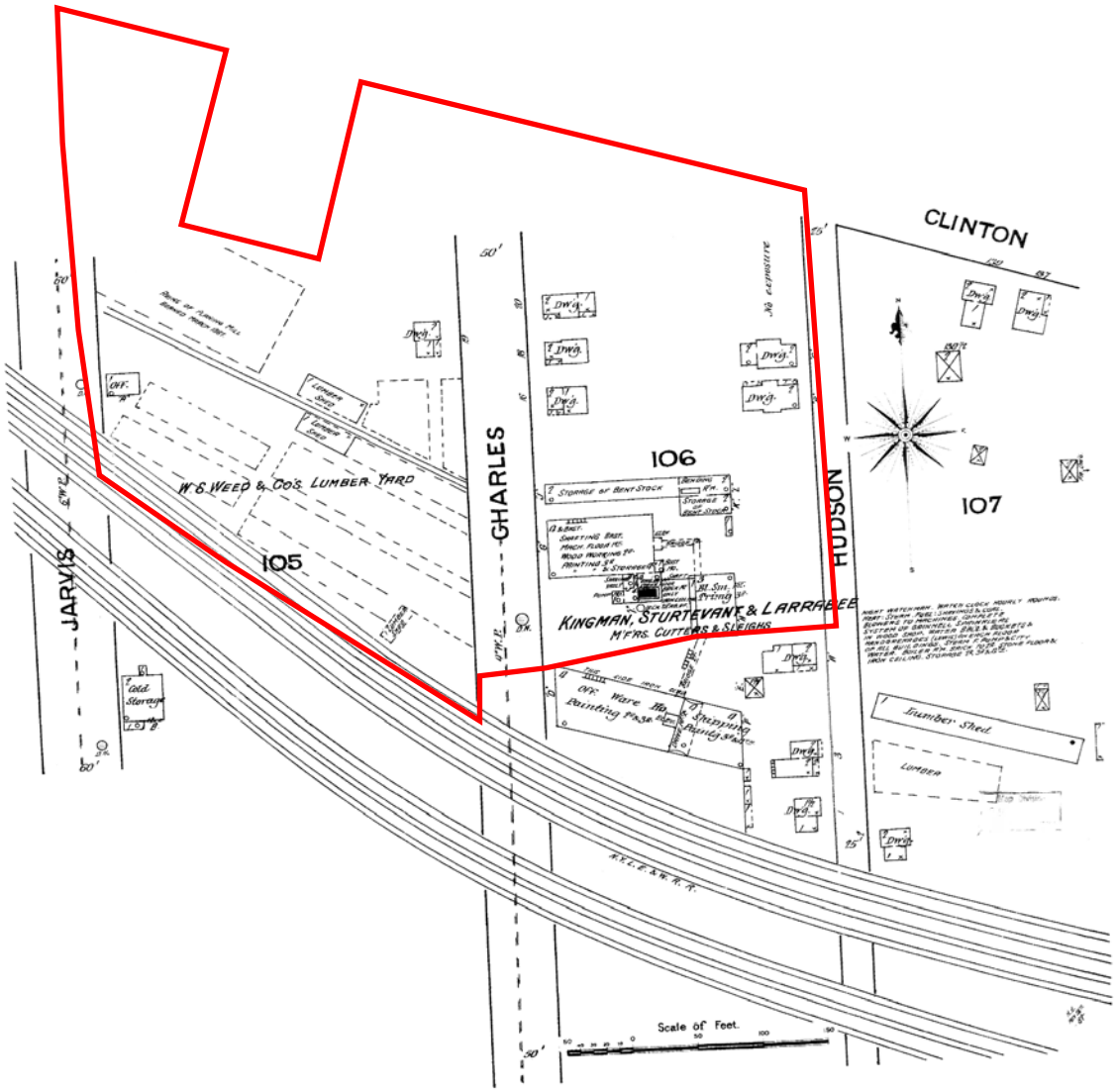
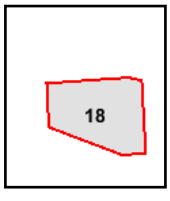
Certification # AC1F-496C-A060




This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

0 Feet 150 300 600




Volume 1, Sheet 18

N

Site Name: 181 - 187 CLINTON ST
Address: 181 - 187 CLINTON ST
City, ST, ZIP: Binghamton, NY 13905
Client: Gallagher Bassett Technical Services
EDR Inquiry: 7514313.3
Order Date: 12/06/2023
Certification #: AC1F-496C-A060
Copyright 1891

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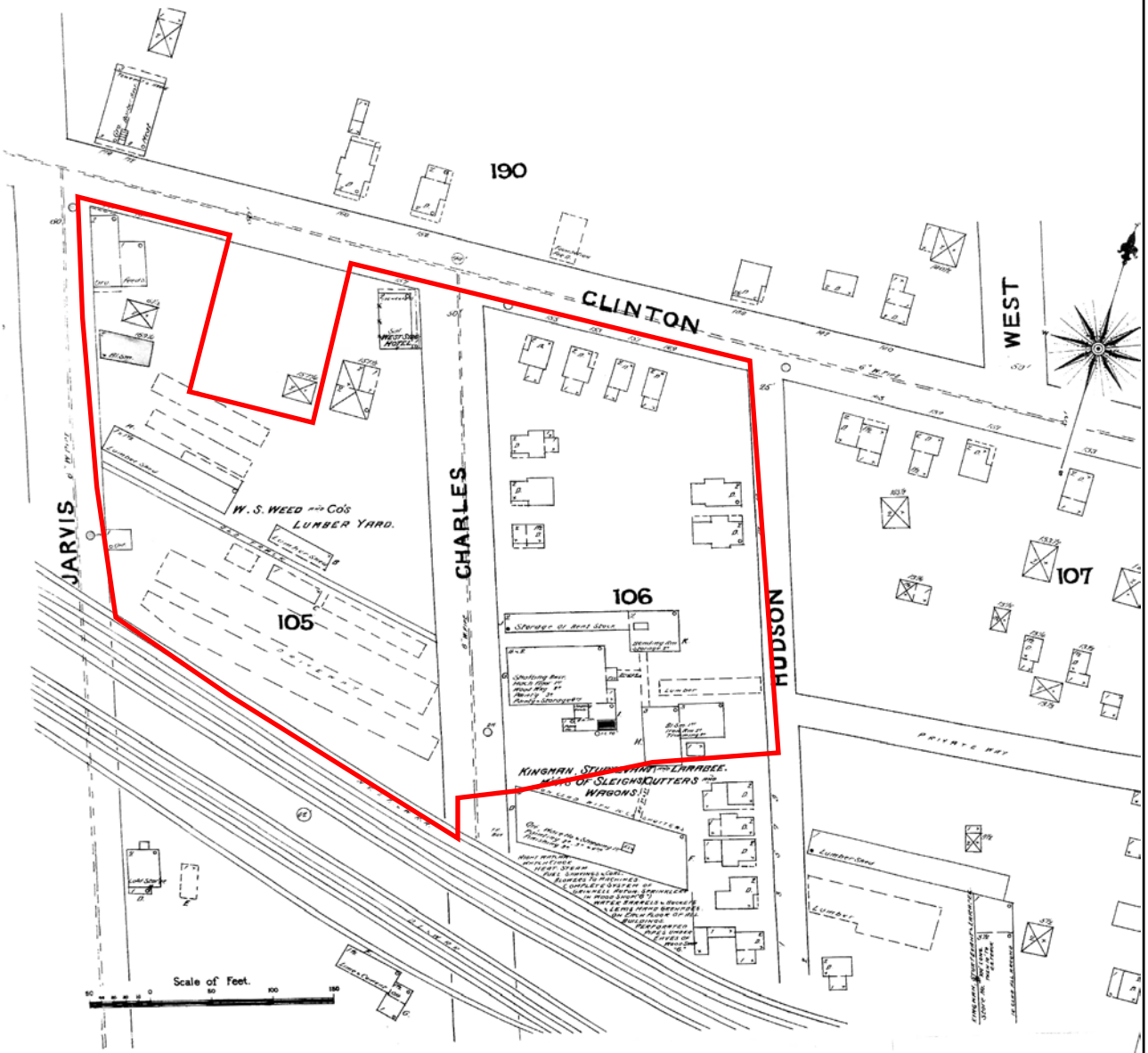
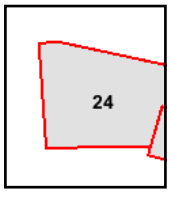
Certification # AC1F-496C-A060




This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

0 Feet 150 300 600




Volume 1, Sheet 24

N

Site Name: 181 - 187 CLINTON ST
Address: 181 - 187 CLINTON ST
City, ST, ZIP: Binghamton, NY 13905
Client: Gallagher Bassett Technical Services
EDR Inquiry: 7514313.3
Order Date: 12/06/2023
Certification #: AC1F-496C-A060
Copyright 1898

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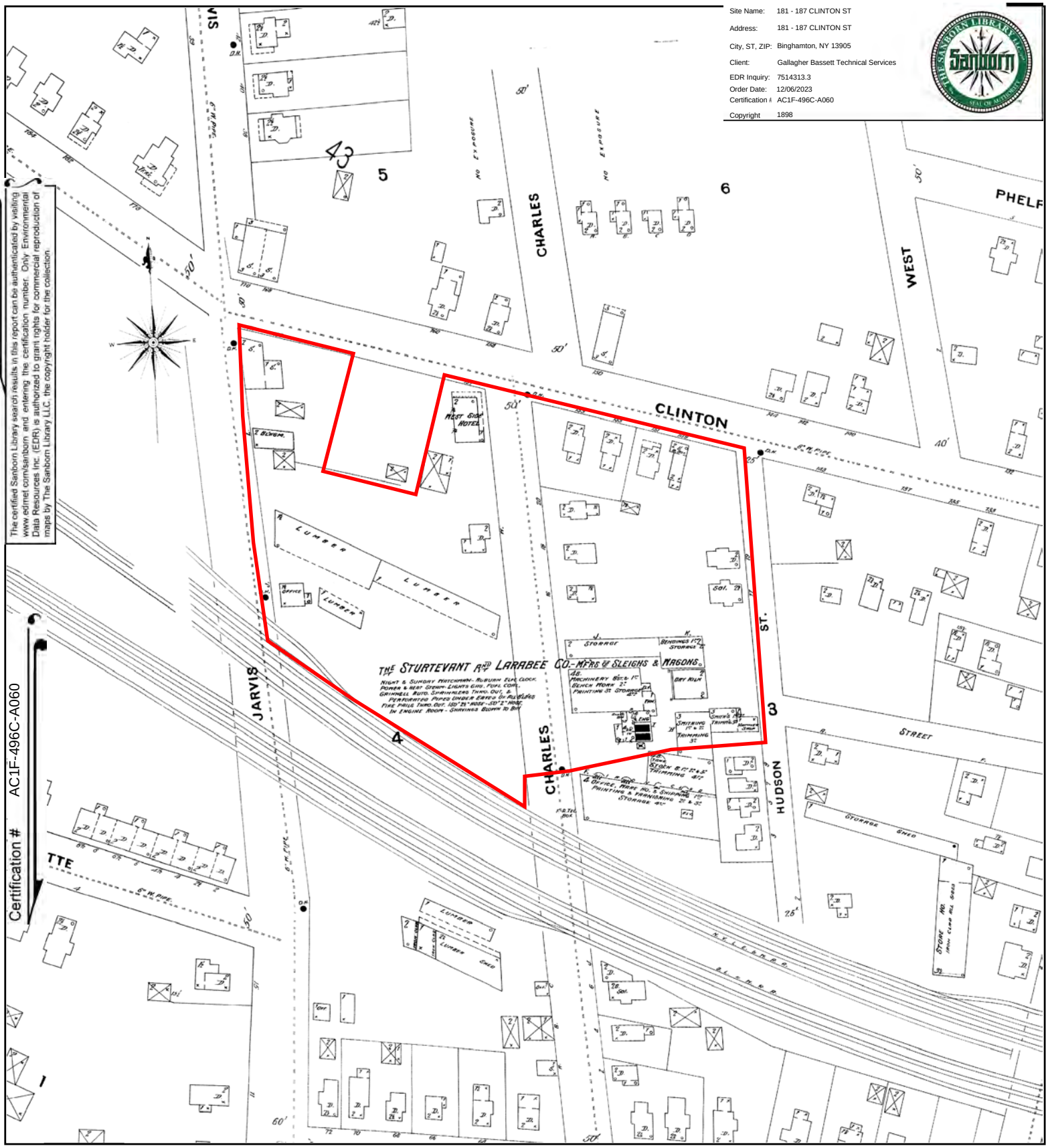
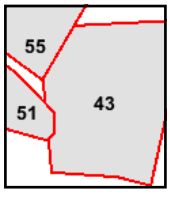
Certification # AC1F-496C-A060




This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

0 Feet 150 300 600




Volume 1, Sheet 55
Volume 1, Sheet 51
Volume 1, Sheet 43

N

# Certified Sanborn® Map

1918

Site Name: 181 - 187 CLINTON ST
Address: 181 - 187 CLINTON ST
City, ST, ZIP: Binghamton, NY 13905
Client: Gallagher Bassett Technical Services
EDR Inquiry: 7514313.3
Order Date: 12/06/2023
Certification #: AC1F-496C-A060
Copyright 1918

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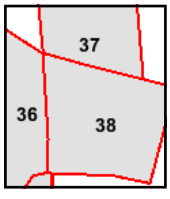
Certification # AC1F-496C-A060

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

0 Feet 150 300 600



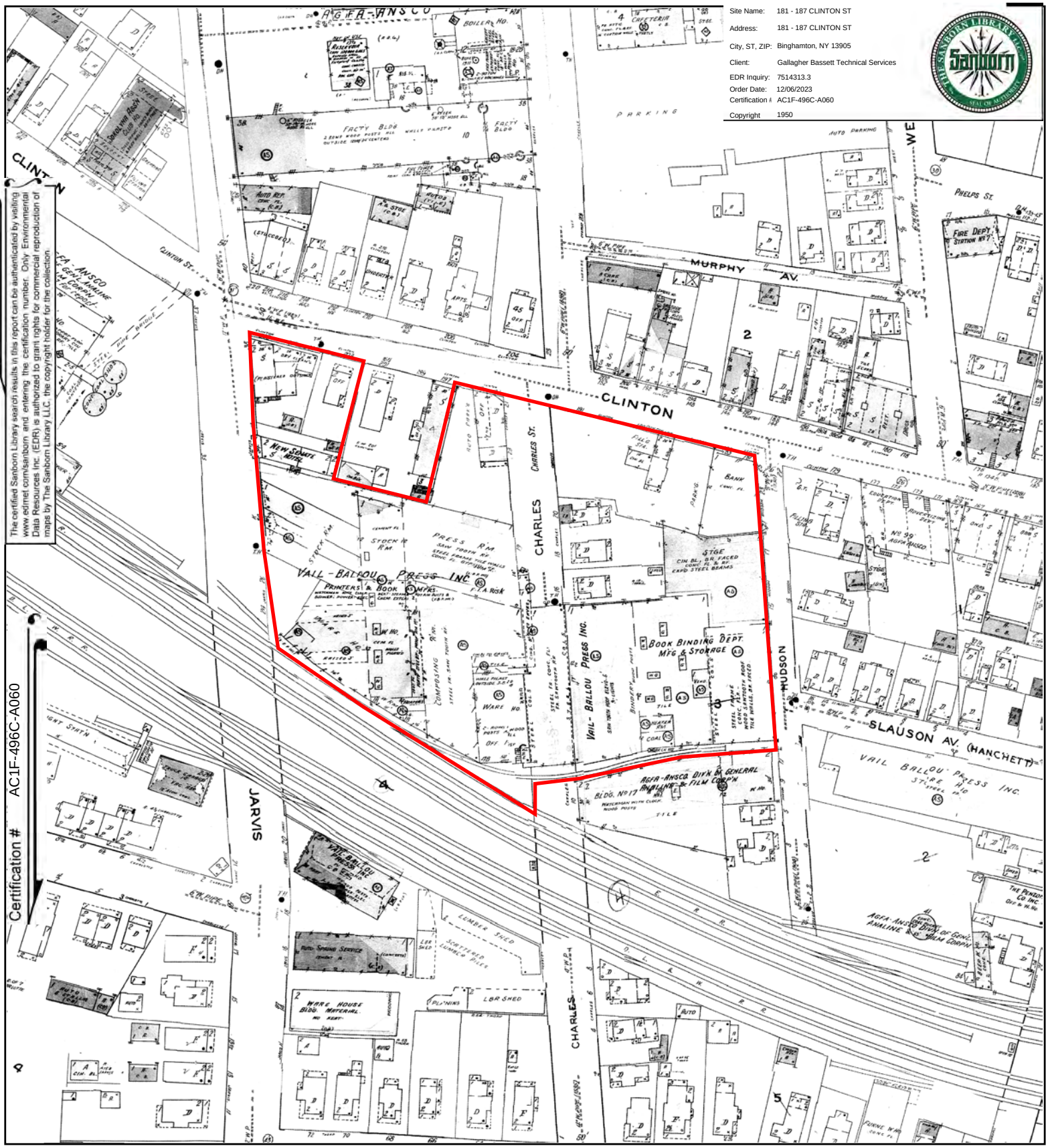

Volume 1, Sheet 38
Volume 1, Sheet 36
Volume 1, Sheet 37

N

# Certified Sanborn® Map

1950

| | |
|---|---|
| Site Name: | 181 - 187 CLINTON ST |
| Address: | 181 - 187 CLINTON ST |
| City, ST, ZIP: | Binghamton, NY 13905 |
| Client: | Gallagher Bassett Technical Services |
| EDR Inquiry: | 7514313.3 |
| Order Date: | 12/06/2023 |
| Certification #: | AC1F-496C-A060 |
| Copyright | 1950 |

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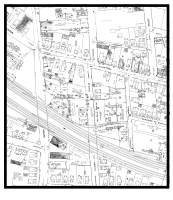
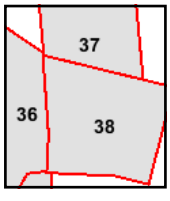
Certification # AC1F-496C-A060

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

0 Feet 150 300 600






Volume 1, Sheet 36
Volume 1, Sheet 37
Volume 1, Sheet 38

N

# Certified Sanborn® Map

1952

Site Name: 181 - 187 CLINTON ST
Address: 181 - 187 CLINTON ST
City, ST, ZIP: Binghamton, NY 13905
Client: Gallagher Bassett Technical Services
EDR Inquiry: 7514313.3
Order Date: 12/06/2023
Certification #: AC1F-496C-A060
Copyright 1952

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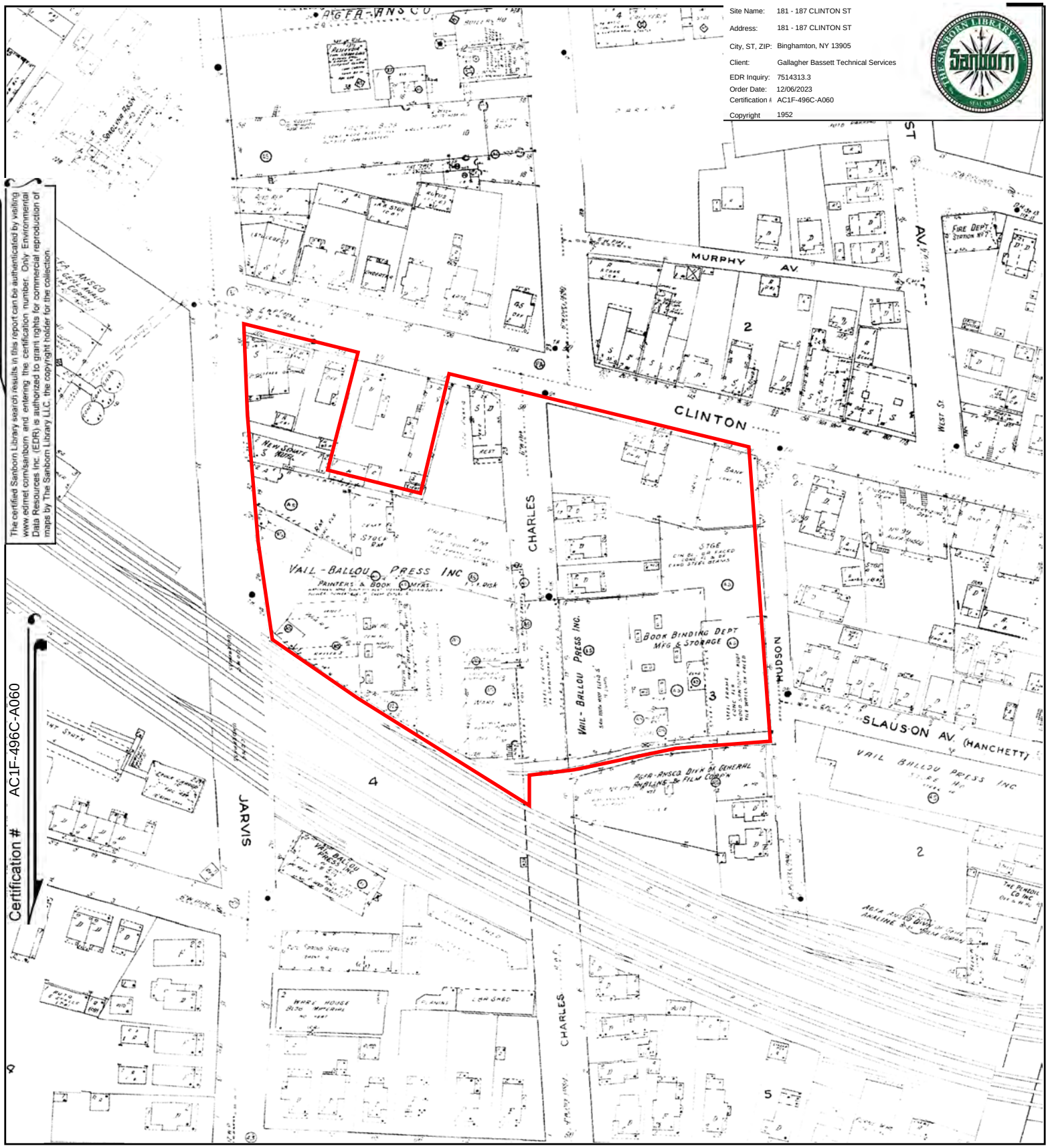
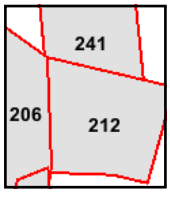
Certification # AC1F-496C-A060




This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

0 Feet 150 300 600




Volume 2, Sheet 212
Volume 2, Sheet 241
Volume 2, Sheet 206

N

# Certified Sanborn® Map

1970

Site Name: 181 - 187 CLINTON ST
Address: 181 - 187 CLINTON ST
City, ST, ZIP: Binghamton, NY 13905
Client: Gallagher Bassett Technical Services
EDR Inquiry: 7514313.3
Order Date: 12/06/2023
Certification #: AC1F-496C-A060
Copyright 1970

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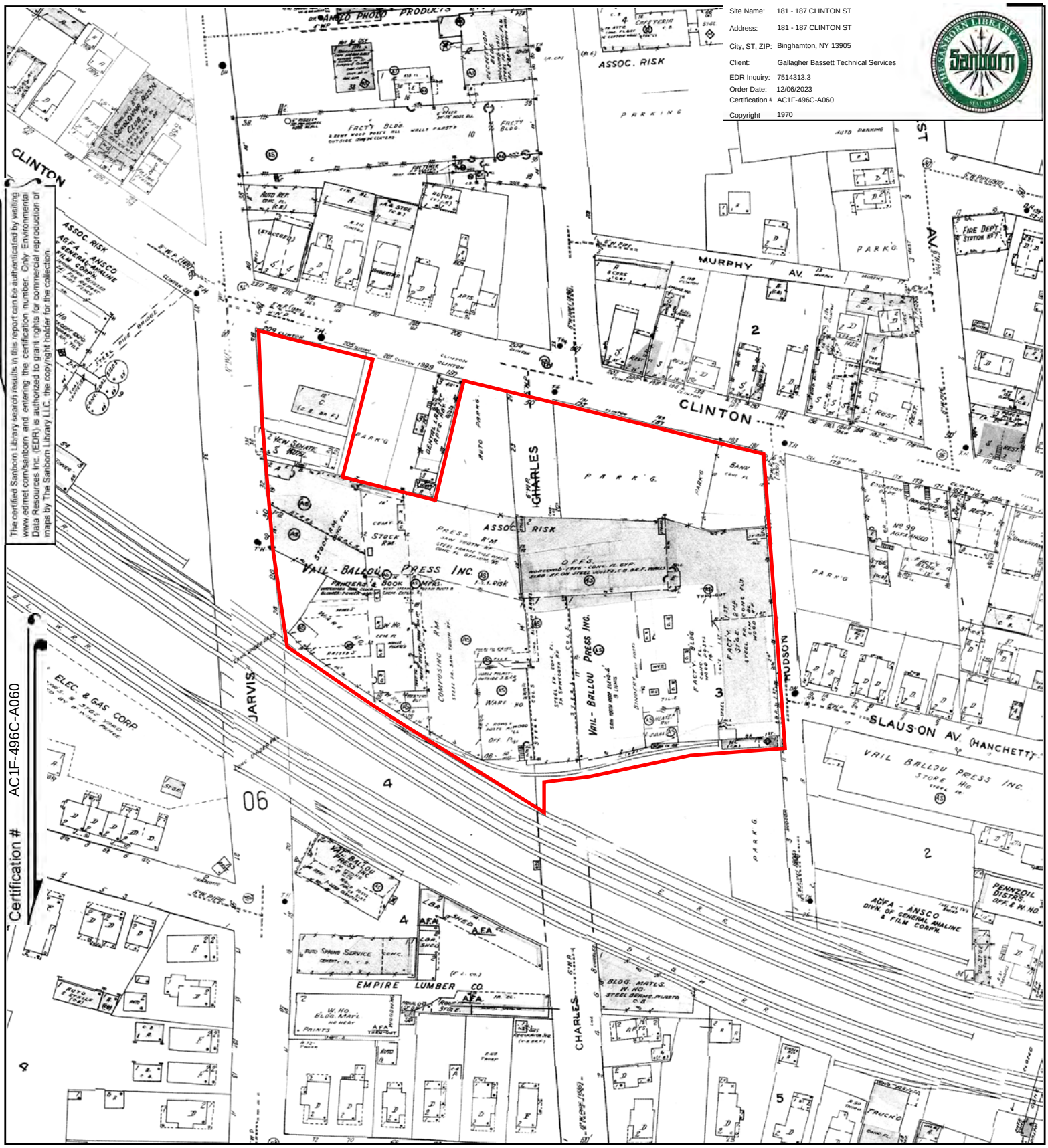
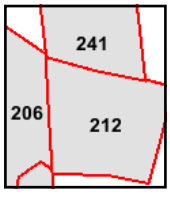
Certification # AC1F-496C-A060




This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

0 Feet 150 300 600



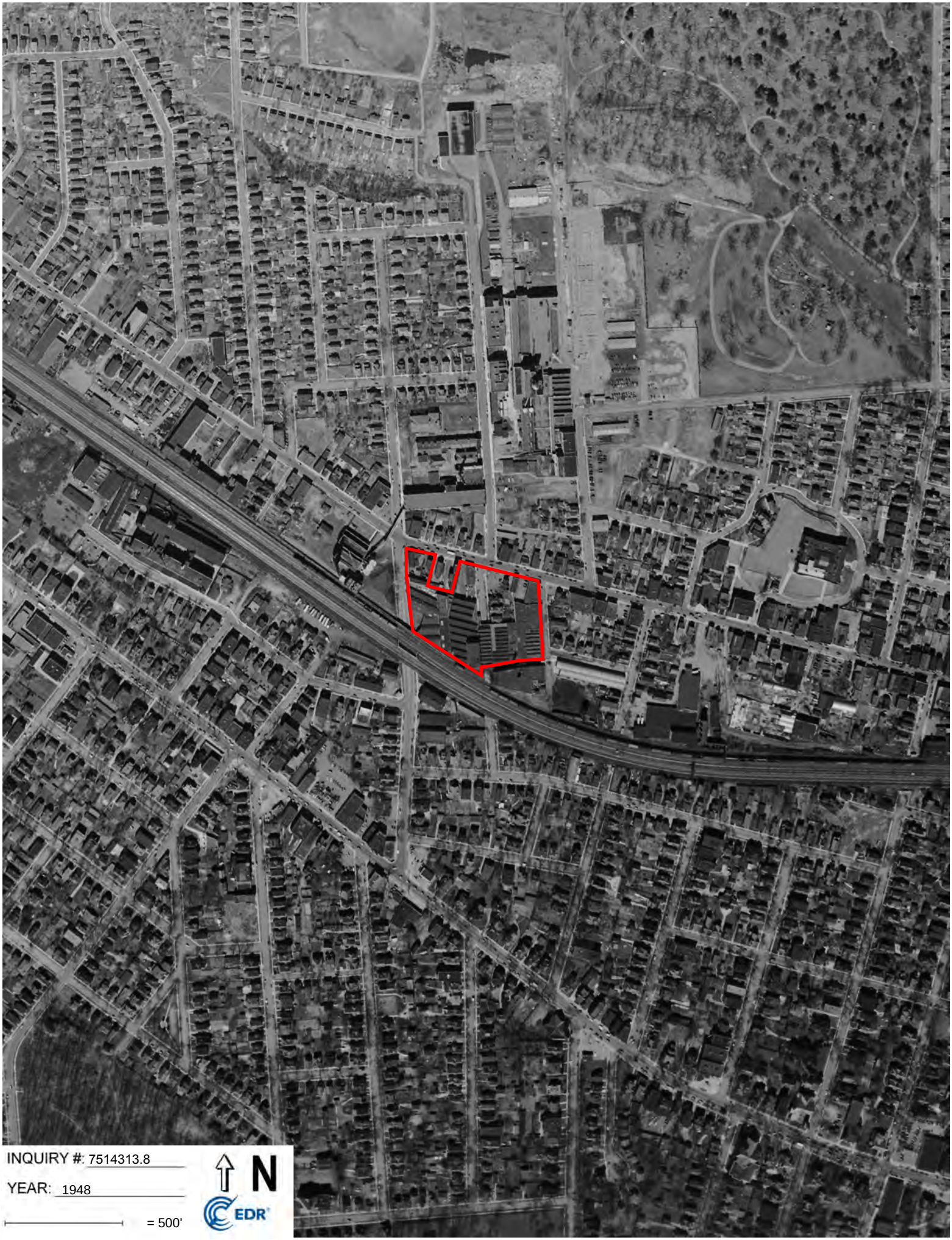

Volume 2, Sheet 206
Volume 2, Sheet 241
Volume 2, Sheet 212

N

# APPENDIX E

# Aerial Photographs

INQUIRY #: 7514313.8
YEAR: 1942
= 500'
N
EDR


INQUIRY #: 7514313.8
YEAR: 1948
= 500'
N
EDR

INQUIRY #: 7514313.8
YEAR: 1957
= 500'
N
EDR

INQUIRY #: 7514313.8
YEAR: 1960
= 500'
N
EDR

INQUIRY #: 7514313.8
YEAR: 1967
= 500'
N
EDR

INQUIRY #: 7514313.8
YEAR: 1974
= 500'
N
EDR

INQUIRY #: 7514313.8
YEAR: 1982
= 500'
N
EDR

INQUIRY #: 7514313.8
YEAR: 1984
= 500'
N
EDR

INQUIRY #: 7514313.8
YEAR: 1995
= 500'
N
EDR

INQUIRY #: 7514313.8
YEAR: 1999
= 500'
N
EDR

INQUIRY #: 7514313.8
YEAR: 2006
= 500'
N
EDR

INQUIRY #: 7514313.8
YEAR: 2008
= 500'
N
EDR

INQUIRY #: 7514313.8
YEAR: 2011
= 500'
N
EDR

INQUIRY #: 7514313.8
YEAR: 2015
= 500'
N
EDR

INQUIRY #: 7514313.8
YEAR: 2019
= 500'
N
EDR

# APPENDIX F

# City Directories

**181 - 187 CLINTON ST**
181 - 187 CLINTON ST
Binghamton, NY 13905

Inquiry Number: 7514313.5
December 18, 2023

# The EDR-City Directory Image Report

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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## SECTION

**Executive Summary**

**Findings**

**City Directory Images**

***Thank you for your business.***
Please contact EDR at 1-800-352-0050
with any questions or comments.

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# EXECUTIVE SUMMARY

## DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available business directory data at approximately five year intervals.

## RECORD SOURCES

The EDR City Directory Report accesses a variety of business directory sources, including Haines, InfoUSA, Polk, Cole, Bresser, and Stewart. Listings marked as EDR Digital Archive access Cole and InfoUSA records. The various directory sources enhance and complement each other to provide a more thorough and accurate report.

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## RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

| *Year* | *Target Street* | *Cross Street* | *Source* |
|---|---|---|---|
| 2020 | ☑ | ☑ | EDR Digital Archive |
| 2017 | ☑ | ☑ | Cole Information |
| 2014 | ☑ | ☑ | Cole Information |
| 2010 | ☑ | ☑ | Cole Information |
| 2005 | ☑ | ☑ | Cole Information |
| 2000 | ☑ | ☑ | Cole Information |
| 1995 | ☑ | ☑ | Cole Information |
| 1992 | ☑ | ☑ | Cole Information |
| 1970 | ☑ | ☑ | Calkin-Kelly Directory Co |
| 1965 | ☑ | ☑ | Calkin-Kelly Directory Co |
| 1961 | ☑ | ☑ | Calkin-Kelly Directory Co |
| 1958 | ☑ | ☑ | Calkin-Kelly Directory Co |
| 1949 | ☑ | ☑ | Calkin-Kelly Directory Co |
| 1940 | ☑ | ☑ | Calkin-Kelly Directory Co |
| 1930 | ☑ | ☑ | Calkin-Kelly Directory Co |

# FINDINGS

## TARGET PROPERTY STREET

181 - 187 CLINTON ST
Binghamton, NY 13905

| *Year* | *CD Image* | *Source* |
|---|---|---|
| **CLINTON ST** | | |
| 2020 | pg A2 | EDR Digital Archive |
| 2017 | pg A12 | Cole Information |
| 2014 | pg A19 | Cole Information |
| 2010 | pg A28 | Cole Information |
| 2005 | pg A37 | Cole Information |
| 2000 | pg A47 | Cole Information |
| 1995 | pg A57 | Cole Information |
| 1992 | pg A62 | Cole Information |
| 1970 | pg A73 | Calkin-Kelly Directory Co |
| 1970 | pg A74 | Calkin-Kelly Directory Co |
| 1965 | pg A79 | Calkin-Kelly Directory Co |
| 1965 | pg A80 | Calkin-Kelly Directory Co |
| 1961 | pg A85 | Calkin-Kelly Directory Co |
| 1961 | pg A86 | Calkin-Kelly Directory Co |
| 1958 | pg A89 | Calkin-Kelly Directory Co |
| 1958 | pg A90 | Calkin-Kelly Directory Co |
| 1958 | pg A91 | Calkin-Kelly Directory Co |
| 1958 | pg A92 | Calkin-Kelly Directory Co |
| 1949 | pg A98 | Calkin-Kelly Directory Co |
| 1940 | pg A103 | Calkin-Kelly Directory Co |
| 1940 | pg A104 | Calkin-Kelly Directory Co |
| 1930 | pg A109 | Calkin-Kelly Directory Co |
| 1930 | pg A110 | Calkin-Kelly Directory Co |

# FINDINGS

## CROSS STREETS

| *Year* | *CD Image* | *Source* | |
|---|---|---|---|
| **CHARLES ST** | | | |
| 2020 | pg. A1 | EDR Digital Archive | |
| 2017 | pg. A11 | Cole Information | |
| 2014 | pg. A18 | Cole Information | |
| 2010 | pg. A27 | Cole Information | |
| 2005 | pg. A36 | Cole Information | |
| 2000 | pg. A46 | Cole Information | |
| 1995 | pg. A56 | Cole Information | |
| 1992 | pg. A61 | Cole Information | |
| 1970 | pg. A72 | Calkin-Kelly Directory Co | |
| 1965 | pg. A77 | Calkin-Kelly Directory Co | |
| 1965 | pg. A78 | Calkin-Kelly Directory Co | |
| 1961 | pg. A83 | Calkin-Kelly Directory Co | |
| 1961 | pg. A84 | Calkin-Kelly Directory Co | |
| 1958 | pg. A88 | Calkin-Kelly Directory Co | |
| 1949 | pg. A96 | Calkin-Kelly Directory Co | |
| 1949 | pg. A97 | Calkin-Kelly Directory Co | |
| 1940 | pg. A102 | Calkin-Kelly Directory Co | |
| 1930 | pg. A108 | Calkin-Kelly Directory Co | |
| **HUDSON ST** | | | |
| 2020 | pg. A8 | EDR Digital Archive | |
| 2017 | pg. A16 | Cole Information | |
| 2014 | pg. A24 | Cole Information | |
| 2010 | pg. A33 | Cole Information | |
| 2005 | pg. A42 | Cole Information | |
| 2000 | pg. A52 | Cole Information | |
| 1995 | - | Cole Information | Target and Adjoining not listed in Source |
| 1992 | pg. A68 | Cole Information | |
| 1970 | - | Calkin-Kelly Directory Co | Target and Adjoining not listed in Source |

# FINDINGS

| Year | CD Image | Source | |
|---|---|---|---|
| 1965 | - | Calkin-Kelly Directory Co | Target and Adjoining not listed in Source |
| 1961 | - | Calkin-Kelly Directory Co | Target and Adjoining not listed in Source |
| 1958 | pg. A93 | Calkin-Kelly Directory Co | |
| 1949 | pg. A99 | Calkin-Kelly Directory Co | |
| 1940 | pg. A105 | Calkin-Kelly Directory Co | |
| 1930 | pg. A111 | Calkin-Kelly Directory Co | |

**JARVIS ST**

| | | | |
|---|---|---|---|
| 2020 | pg. A10 | EDR Digital Archive | |
| 2017 | pg. A17 | Cole Information | |
| 2014 | pg. A26 | Cole Information | |
| 2010 | pg. A35 | Cole Information | |
| 2005 | pg. A44 | Cole Information | |
| 2000 | pg. A54 | Cole Information | |
| 1995 | pg. A60 | Cole Information | |
| 1992 | pg. A70 | Cole Information | |
| 1970 | pg. A75 | Calkin-Kelly Directory Co | |
| 1970 | pg. A76 | Calkin-Kelly Directory Co | |
| 1965 | pg. A81 | Calkin-Kelly Directory Co | |
| 1965 | pg. A82 | Calkin-Kelly Directory Co | |
| 1961 | pg. A87 | Calkin-Kelly Directory Co | |
| 1958 | pg. A94 | Calkin-Kelly Directory Co | |
| 1958 | pg. A95 | Calkin-Kelly Directory Co | |
| 1949 | pg. A100 | Calkin-Kelly Directory Co | |
| 1949 | pg. A101 | Calkin-Kelly Directory Co | |
| 1940 | pg. A106 | Calkin-Kelly Directory Co | |
| 1940 | pg. A107 | Calkin-Kelly Directory Co | |
| 1930 | pg. A112 | Calkin-Kelly Directory Co | |
| 1930 | pg. A113 | Calkin-Kelly Directory Co | |

# City Directory Images

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | EDR Digital Archive |

# CHARLES ST 2020

| | |
|---|---|
| 2 | BARBARA WALSH |
| | VICKI WALSH |
| 4 | CHLOE ROTH |
| | ELENA TURRELL |
| 15 | BROOME COUNTY DANCE CTR LLC |
| | CATHOLIC CHARITIES OF BROOME |
| | DANIEL MOORE |
| | DENEIL HILL |
| | JARED RAPHEL |
| | JONATHAN REED |
| | KYLE SADLIK |
| | MH ENTERPRISES |
| | NYISHA EDWARDS |
| | RERENT PROPERTY MANAGEMENT |
| | TED HUNT |
| 17 | HOWELL ELIZABETH A |
| | REHAB SUPPLY |
| | SOUTHERN TIER PHYSICAL THERAPY |
| | SOUTHERN TIER PHYSICAL THRPY |
| 22 | BINGHAMTON CO-GENERATION PLANT |
| 30 | SAVEAROUND |
| 37 | ROBERT METERA |
| | WILLIAM METERA |
| 39 | EMILY BENEDICT |
| | LEAH LEMON |
| | MARC PONZIO |
| | TYEMEEKA GALBREITH |
| 41 | SEVERTA FREDERICKS |
| 47 | MIKE BAER |
| | SARAH ROACH |
| 49 | ALENA VANTULL |
| | SEAN VANTULL |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | EDR Digital Archive |

# CLINTON ST 2020

| | |
|---|---|
| 19 | JULIE PUTANO |
| 20 | ATM |
| | DAVID TESTER |
| | ERNEST CADE |
| | JOHN VAIL |
| | JOSEPH MONDOK |
| | KEVIN HITCHCOCK |
| | MASON GUMBLE |
| 23 | SHANNON FOLK |
| 30 | SHANNON WILLIAMS |
| | SHARON COBBINS |
| 32 | SHARON LAWTON |
| 34 | MARK BUEMI |
| | NIA LABELLE |
| | VIOLET ADAMS |
| | WILLIAM MASON |
| 40 | ANTHONY ABBADESSA |
| | CRESCENT CLEANERS |
| 42 | CRISTINA FUENTES |
| | DOMONIQUE SLADE |
| | JAMES GREEN |
| | LAKWANZA DOOLEY |
| | LOUISE HAWKINS |
| | SABLE SESSION |
| 44 | PATRICIA DONSON |
| 52 | CLINTON ST CAFE |
| 54 | GAFFNEY PLUMBING & HEATING |
| | LAWRENCE GOLDSTEIN |
| 56 | ANDREW GARDNER |
| | KRISTOFER GOODISON |
| 58 | ATM |
| | KAITLYN MORRIS |
| | MARIA PEREZ |
| | MEREDITH LANSKA |
| | QUENTON BUCHANAN |
| | T MULLIGANS FOOD & SPIRITS |
| 81 | ANANDA GRANT |
| | FATIMA HOUSTON |
| | JESSICA RIEFLER |
| | TIFFANY JENNINGS |
| 87 | ANTOINE WHITAKER |
| | MUSTAFA FOSTER |
| | MUSTAFA RAHMAN |
| 90 | BOYS & GIRLS CLUB OF AMERICA |
| 91 | CATHLEEN WILCOX |
| | CHANIEQUA WILCOX |
| | CHARLES RITZ |
| | JAMES BUCKLEY |
| | JOHN BELL |
| | SHENELL THAMES |

| Target Street | Cross Street | Source |
|---|---|---|
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## CLINTON ST 2020 (Cont'd)

| | |
|---|---|
| 91 | ZULMARIE MARTINEZ |
| 93 | OLD ODD & UNIQUE |
| | SHENELL THAMES |
| 95 | JOEL MARTE |
| | NICOLE JUMPER |
| 99 | BLACK DOG |
| | STRIP SHOPPE |
| 111 | AMG PARTS PLUS AUTOSTORES |
| | AUTO PLUS |
| | BINGHAMTON MAIN BRANCH |
| 114 | COMMUNITY TREATMENT & RECOVERY |
| | DELGADO JUANITA M RN |
| | DEROSA CHERYL A |
| | GORDON HEATHER |
| | SATTERFIELD ASHLEY E |
| 119 | CHRISTINA ALLYN |
| | CHRISTOPHER GABRIEL |
| | DIRK SINCLER |
| | DONALD JARNAGIN |
| | GREGORY JONES |
| | HAROLD BLISS |
| 126 | BARRY BLAKESLEE |
| | HELEN BLAKESLEE |
| | ROBOT CITY GAMES |
| 128 | FABRICRAFT |
| | ISAAC WHITE |
| | JESSICA IRVINE |
| | JOHN SHEPLEY |
| | SARAH LEE |
| | SHERYL BRUMER |
| | THERESA DANIELS |
| | TONYIA BRISBANE |
| 132 | JACK'S GENERAL CLINTON INC |
| 139 | CATHI GIL |
| 141 | KEVIN ZHANG |
| | TOP CHINA |
| | ZUXING ZHANG |
| 142 | CRANE LAUREN NP |
| | TARBOX KRISTEN NP |
| | UHS PRIMARY CARE CLINTON STRT |
| | UNITED HEALTH SVC MED GROUP |
| 144 | ANNA DASZEWSKI |
| | BEVERLY FRIEDMAN |
| | CHERYL STEPHENS |
| | CHRISTOPHER REZMERSKI |
| | GAIL GAETANI |
| | PAT FAUSEY |
| | ROBERT PIROS |
| | ROBERTA BRAINARD |
| | SOPHIE BURNS |

## CLINTON ST 2020 (Cont'd)

| | |
| --- | --- |
| 147 | ANN LARKIN |
| 148 | EDWARD ONDRAKO |
| | JAMES FUKES |
| | ROBERT AMRHEIN |
| | ST CYRIL & METHODIUS CHURCH |
| 149 | ANTOINETTE CACCIOLA |
| | GUST STEFANELLI |
| 151 | FITNESS RX |
| 155 | ASHLEY GAURNIER |
| | KRYSTINA DAVIS |
| | LAURIE CODY |
| | NATASSIA ABEL |
| 157 | TALK OF DA TOWN |
| 161 | LORI SEDLOCK |
| | STEPHEN SEDLOCK |
| 165 | BENETH HANSEN |
| | CARLESHA MCCLENINGHAM |
| | DEBORAH WILMER |
| | JUSTIN BLANCHARD |
| | NICOLE INGRAHAM |
| 167 | CHOCONUT CREEK HOUSING CORP |
| | CRANDALL STREET MANAGERS CORP |
| | E J APARTMENTS LLC |
| | FIRST WARD ACTION COUNCIL |
| 171 | ALLISON CICH |
| | BARBARA INGRAHAM |
| | CLAIRE TERZI |
| | FRAN KRUGER |
| | JOAN LYNN |
| | JOSEPH MICKS |
| | LEON JICHA |
| | LINDA TRUEX |
| | LORI MORTON |
| | MELISSA COGSWELL |
| | MICHAEL TRUEX |
| | PARLOR CITY CARDS-CLLCTBLS |
| | ROSE THORNE |
| 174 | DAVID HYDE |
| | DEANNA GIORDANI |
| | KATHRYN EKSTRAND |
| | SHAUN SAMSON |
| 175 | FIRST ANTIQUE CTR LLC |
| | SHUNA'S HAIR STUDIO |
| 180 | ARLENE NANNERY |
| | BRASS RAIL GRILL |
| | CHRISTOPHER NANNERY |
| | GEORGE DODD |
| | SHAUN NANNERY |
| 184 | NANNERY'S GROCERY STORE |
| 186 | ALAN SCHRAUGER |

## CLINTON ST 2020 (Cont'd)

| | |
| --- | --- |
| 186 | DAVID KNAPP |
| | GARY MURPHY |
| | JASON BARTON |
| | JOSEPH CARRASQUILLO |
| | KEYARA MCNAIR |
| | KIM PRICE |
| | THOMAS STECKLER |
| | WILLIAM HENDRICKSON |
| 188 | QUIANA HUNT |
| 190 | CREATIVE BEGINNINGS HAIR SALON |
| 194 | TUU NGUYEN |
| 196 | AEGIS CREMATION & FUNERAL SVC |
| | DEBORAH HOVER |
| 197 | JOHN CONORQUIE |
| | KATHY GARCIA |
| | LAURIE JESSEN |
| | MARINA WEINBERG |
| | VINCENT WALLACE |
| 202 | ATM |
| | M&T BANK |
| 205 | ALLSTATE FINANCIAL SVC |
| | ALLSTATE INSURANCE |
| | MICHAEL BUTLER |
| | NET 2000 COMPUTERS LLC |
| 206 | CHARLENE ASHLEY |
| | EVELYN DOLD |
| | KELLY LAW |
| | LISA TAYLOR |
| 210 | ALCOHOLICS ANONYMOUS |
| | BINGHAMTON WOOD FLOORS |
| | CHRISTINE CAMINITI |
| | OVEREATERS ANONYMOUS |
| | RANDALL MAIO |
| | RICHARD KOCAK |
| | ROOT'S TREE SVC |
| | TRI-CITIES COMMUNICATIONS |
| 212 | ELLEN LAPATRA |
| 214 | CHRISTINE KOCAK |
| | JOHN KIRCHER |
| | ROSITA MARTINEZ |
| | SUMMER MURRAY |
| 215 | ALL SPECIALTY FINISHING |
| | ANTHONY MILASI |
| | ATM |
| | BIG AL'S PIZZA |
| | MIRABITO CONVENIENCE STORE |
| 226 | FIRST WARD SENIOR CTR |
| 228 | DOREEN WILLIAMS |
| | GLORIA SPARLING |
| | JAMES ACCORD |

| Target Street | Cross Street | Source |
|---|---|---|
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## CLINTON ST 2020 (Cont'd)

| | |
|---|---|
| 230 | PHUONG NGUYEN |
| 232 | DANIEL COLON |
| | JAMES MINER |
| | STEVEN ALLEN |
| | STEVEN TABER |
| 234 | CAROL LINSKEY |
| | ROXANNE WOODRUFF |
| | STEPHEN SCHWEITZER |
| 236 | VARINDER SINGH |
| 238 | ALL LINES INSURANCE AGENCY |
| 245 | FRANCIS ROGERS |
| | ROGERS SERVICE GROUP |
| | UNITED VAN LINES |
| 246 | OLD UNION HOTEL |
| 274 | JONATHAN PEDRAZA |
| | KALFORD SOMERVILLE |
| | MELINDA BURRELL |
| 276 | BLUE RHINO |
| | KOVARIK TRUE VALUE HARDWARE CO |
| | MARY BRAINARD |
| 280 | JAMES DUTKO |
| | MARY DUTKO |
| | MICHAEL EBOH |
| | ST MICHAEL'S GREEK CATHOLIC |
| 284 | MAD HATTER ANTIQUES |
| 288 | ST MICHAEL'S GREEK CATHOLIC |
| 291 | CLAYTON MONROE |
| 293 | CINDY TORRES |
| | RONNIE TORRES |
| | YVONNE TORRES |
| 298 | ST MICHAEL'S GREEK CATHOLIC |
| 299 | EUGENE WEBB |
| | JENNIFER WEBB |
| | KENNETH SIMMONS |
| | MARYA ANDERS |
| 300 | TREASURE HUNT ANTIQUES |
| 301 | GERALD MACBLANE |
| | JACINDA MACBLANE |
| | JAMES DYES |
| | MARCIA MACBLANE |
| 303 | JEAN CHAKANOVSKY |
| 304 | JUSTIN LEWIS |
| | MARION KULIK |
| | NANCY SIMONDS |
| | ROSINA SCOTT |
| | SILVER FOX ANTIQUES |
| 305 | FLORENCE GRIVAS |
| | GERALDINE WOODRUFF |
| | GREATER BINGHAMTON HEALTH CTR |
| | ROBERT CARPENTER |

| Target Street | Cross Street | Source |
|---|---|---|
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## CLINTON ST 2020 (Cont'd)

| | |
|---|---|
| 305 | SUSAN CLEARY |
| | WAYNE ERRANTE |
| 308 | JANET TOMPKINS |
| | PHILLIP BAKIC |
| 309 | MATTHEW GROFF |
| 310 | K9 DESIGN DOG GROOMING |
| 312 | ALISHA SHABAZZ |
| | BRIANNA OSBORNE |
| | THEODORE BROWN |
| | TIMOTHY SAPP |
| 315 | TRI CITIES OPERA |
| 320 | DANIEL MCCLOE |
| | DAVID HOCHMUTH |
| | LESLEY HOCHMUTH |
| | LESLEY MCCLOE |
| 325 | DOLLAR GENERAL |
| | WESTERN UNION AGENT LOCATION |
| 328 | ALL AROUND HEMP |
| | CAROL CHANDLER |
| | ERIN MCKINNEY |
| | LANCE JOHNSON |
| | MARC'S COUNTY APPLIANCE |
| | SUSAN LOWE |
| 330 | VALERIE MELENDEZ |
| | VALERIE MORENO |
| 332 | DARRELL OLIVER |
| 333 | AARON SLOCUM |
| | AMANDA TEEKASINGH |
| | RONALD TEEKASINGH |
| 337 | DEMETRA SHANNON |
| | KATHY BEECHER |
| | MANDY WALKER |
| | TOBEY BLOUNT |
| 339 | JEANI BLAASCH |
| | SHEILA WORMUTH |
| | TENARKA COOPER |
| 341 | TIMOTHY WILLIAMS |
| 343 | CLINTWOOD APOTHECARY LLC |
| 344 | CLINTON STREET XPRESSMART BK |
| 346 | YEL-HELP LOCKSMITHS |
| 348 | ATM |
| 352 | CHRISTINA SHRIBER |
| | DOMINIQUE DIXON |
| 360 | HOLY SPIRIT BYZANTINE CHURCH |
| | MICHELLE TOMAS |
| | PETER TOMAS |
| 368 | FOR YOUR LISTENING PLEASURE |

| Target Street | Cross Street | Source |
|---|---|---|
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# HUDSON ST 2020

| | |
|---|---|
| 131 | ALLAN KRESOCK |
| | LINDA KRESOCK |
| | NICOLE KRISKO |
| 139 | CARL BEAM |
| | KAREN BEAM |
| 143 | CHONE SISEN |
| | KHAMMANH SYSEN |
| | LAMMONE PHRAKOUSONH |
| | NIKKI PHRAKOUSONH |
| | SISEN SYSEN |
| 144 | JOYCE REINHART |
| | LANNY REINHART |
| | MATTHEW VAGLICA |
| 175 | SAMANTHA HAYWARD |
| 176 | RANDY HICKOK |
| 179 | JOLENE SPOONHOWER |
| 180 | ANN OSBORN |
| | ERIK JONES |
| | TODD FORKEY |
| 187 | STEVEN WENZINGER |
| 195 | ANGELA MERTZ |
| | JAMES CHILSON |
| | PHILIP COMBS |
| | VICTORIA MCGLASHON |
| 196 | FRANCIS MAJOR |
| | MARTHA MAJOR |
| | RENE WILLIAMS |
| 200 | GEORGE SOPHIE |
| | LOUIS SOPHIE |
| | MARGARET SOPHIE |
| 201 | ETTI MEDOVICH |
| 203 | GABRIELLE GRAHAM |
| | GENNESSA THOMAS |
| | JAMES MCCARTHY |
| | JOHN GRAHAM |
| 204 | MUHAMMAD RIVERS |
| 205 | JESSICA LAURENCE |
| 209 | KRISTEL SLATER |
| 211 | DENNIS LEWIS |
| | LORRIE RANDALL |
| | THOMAS ROSA |
| 212 | JEFFREY CHAFFEE |
| 215 | BRENDA ASHBY |
| 216 | JANET ABEL |
| 219 | DONALD KIDD |
| | REBEKAH KIDD |
| | SARAH KIDD |
| | SUE KIDD |
| 220 | ARDENIA ERVIN |
| | WISAL KHAN |

## HUDSON ST 2020 (Cont'd)

| | |
| --- | --- |
| 223 | DENISE SPANGENBERG |
| | JODY SPANGENBERG |
| | MARGARET PEKMEZCI |
| 224 | DOME SOUNTHALA |
| | VIENGXAY SOUNTHALA |
| 227 | JANNETTE DAVIES |
| | JAYNE JEWETT |
| | RODNEY JEWETT |
| 232 | ILIANA BAEZ |
| | JESSICA PARRA |
| | RIZA VARGAS |
| 235 | DARLENE COLE |
| | ERIC SIGLER |
| 236 | PEGGY BEARDSLEY |
| | ROBERT BEARDSLEY |
| | SURENDRAN VISUVALINGAM |
| 240 | AMANATULLAH AFSAR |
| | CARLOS KONOWALSKYZ |
| 243 | BARKLEY BARRY |
| | DOMINIC KOMINOS |
| | DONNA TAYLOR |
| | HOWARD SCHOONOVER |
| 244 | GARY LEE |
| | JINHUA XIE |
| | WENNA DUAN |
| 248 | DANIEL MORGAN |
| 252 | CARMAN RINAL |

| Target Street | Cross Street | Source |
|---|---|---|
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# JARVIS ST 2020

| | |
|---|---|
| 6 | HARRINGTON GIBSON |
| | KERRY BORIHANE |
| | KHAMPHOUK BORIHANE |
| | PHETMANY BORIHANE |
| 7 | BRIAN BOWMAN |
| | TRISTAN KATES |
| | WYAK INSURANCE |
| 8 | ARIEL THOMAS |
| | CARLA KING |
| | GLENN WARD |
| 10 | JOANN GIORGIO |
| 15 | CLARENCE HAUSE |
| | GREGORY BRANSON |
| 17 | ASHLEY VANVORCE |
| | DONALD ELLSWORTH |
| 18 | HAL AUTO SALES |
| 45 | JOSEPH RANO |
| | SHERRIANN JUMAN |
| 51 | RICHARD NAPPI |
| | THEODORE NAPPI |
| 57 | CONSTANCE VARSIK |
| | JOSEPH VARSIK |
| 58 | CELESTE ABBADESSA |
| | DEBRA ABBADESSA |
| | JOHN ABBADESSA |
| | NICOLE GAETA |
| | THOMAS ABBADESSA |
| 59 | STEVEN BRUSIL |
| 60 | RALPH HUBBERT |
| 61 | AMANDA WAGNER |
| | MATTHEW BARNES |
| 62 | DONNA MASSAR |
| 63 | PAMELA ONDRUSEK |
| | SRO PRODUCTIONS |
| 64 | ARTHUR FAUBION |
| 65 | CHARLENE STARCHOK |
| | DOMINICK EASTERLING |
| | MORRELL EASTERLING |
| | TYSON EASTERLING |
| 66 | FRANK REGULSKI |
| | PATRICIA REGULSKI |
| 67 | KADRI SHAUL |
| 68 | DIEM TRINH |
| 69 | DAVID JACKOWSKI |
| | LINDA JACKOWSKI |
| 70 | JOHN KURCIN |
| | SHIRLEY KURCIN |
| 72 | DANA LACROIX |
| | JAKOB ROSTBOLL |
| 73 | DANIASIA TANKS |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# CHARLES ST 2017

| | |
|---|---|
| 2 | WALSH, EDWARD R |
| 15 | BROOME COUNTY DANCE CENTER |
| | DAVIES, CAREY S |
| | PORTER, NATHAN S |
| 16 | CARRIER |
| 17 | NORTHEAST REHAB |
| | SOUTHERN TIER PHYSICAL THERAPY |
| 30 | CONTROL CONCEPTS CORP BUSINESS OFFIC |
| 37 | METERA, ROBERT W |
| 39 | BENEDICT, M |
| | GROSS, ROBERT J |
| | PRATT, LEKENDRA |
| | YOUNG, ELIZABETH A |
| | YOUNG, TANEESHA |
| 41 | FREDERICKS, SEVERTA |
| 43 | SPITZ, JUDY M |
| 45 | CHRISTENSEN, ELLA M |
| 47 | BAER, MICHAEL E |
| 49 | VANTULL, SEAN C |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 2017

| | |
|---|---|
| 19 | BURDICK, LOU |
| 20 | BETTERS, DAVID |
| | CHITTY, CHARLES C |
| 30 | JENKINS, RAY |
| | JOHNSON, KEITH |
| | NEMBHARD, JASON |
| 31 | JIMMYS A & W RESTRNT |
| | JOHN M CONTRO & SONS PLUMBING & HE |
| 32 | GOODALL, AMILITA |
| | LAWTON, SHARON |
| | PECK, LORI |
| 34 | ADAMS, DAVID M |
| | BUEMI, MARK S |
| 36 | LAMURAGLIA, JULIE K |
| 40 | CRESCENT CLEANERS |
| 42 | SESSION, SABLE E |
| 48 | CAMELOT JEWELERS |
| 52 | CLINTON STREET CAFE |
| 54 | ANNYS |
| | GAFFNEY PLUMBING & HEATING |
| 56 | INMAN, KAREN |
| 58 | T MULLIGANS BAR |
| | TORO, MICHAEL A |
| 81 | PARLOR CITY TATTOOS |
| | PURSEL, WENDY A |
| | RIEFLER, JESSICA L |
| 90 | BOYS & GIRLS CLUBS OF AMERICA |
| 91 | BUCKLEY, JAMES W |
| | KENNEDY, J |
| | SNOW, HEATHER |
| | THAMES, SHENELLE |
| | WILCOX, CHANIEQUA N |
| 93 | PHAMES, SHENELLE |
| | SEYMOUR, JUDSON D |
| 95 | CICAK, SAMANTHA E |
| | CIMINI, VALERIE |
| | THE STOREKEEPER |
| | WHITAKER, ANTOINE |
| 99 | THE STRIP SHOPPE |
| 113 | PARK OUTDOOR ADVERTISING |
| | PARTS PLUS |
| 114 | HAWK HAPPENING LINE |
| 119 | BLISS, HAROLD E |
| | DEISS, JOSEPH M |
| | JONES, GREGORY I |
| 126 | BLAKE FOOD INC |
| | ROBOT CITY GAMES |
| 128 | BRISBANE, TONYIA |
| | BRUMER, SHERYL J |
| | FABRICRAFT |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 2017 (Cont'd)

| | |
|---|---|
| 128 | OLAOSEBIKAN, MONICA |
| | SHEPLEY, JOHN D |
| | VELEZ, MELVIN |
| 132 | CARMEN, JACK M |
| | JACKS GENERAL CLINTON INC |
| 141 | TOP CHINA |
| 142 | UHS |
| 144 | MAHAR, DONNA R |
| | SUCHOCKI, STANLEY J |
| 147 | LARKIN, ANN M |
| 149 | CACCIOLA, ANTOINETTE M |
| 155 | BOOST MOBILE |
| 157 | BOOST MOBILE |
| 165 | BLANCHARD, JUSTIN J |
| | FIRST WARD ACTION COUNCIL |
| | MATRAY, MARIA |
| | MCCLENINGHAM, BEVERLY |
| | SIMMONS, SHAKIA |
| 171 | LAROUSSI, MARY T |
| | LJS SPORTS CARDS |
| | LYNN, JOAN M |
| 174 | EKSTRAND, KATHRYN M |
| | FLORCZYK, CAROLYN |
| | KASMARCIK, LACEY |
| | MAHR, ANDREA R |
| | ROBOT CITY GAMES |
| 175 | FIRST ANTIQUE CENTER LLC |
| | SHUNAS HAIR STUDIO |
| 180 | BRASS RAIL GRILL |
| | NANNERY, CHRISTOPHER F |
| 184 | NANNERYS GROCERY STORE |
| 186 | BREWER, DAVID |
| | GUMAER, TERRI L |
| | LAMOREE, DEANA |
| | PERRY, STACY L |
| 188 | HUNT, QUIANA M |
| | MERCADO, MARTHA |
| 190 | CREATIVE BEGINNINGS HAIR SALON |
| 192 | JOHNSON, SHELDON |
| 194 | NGUYEN, TUU V |
| 196 | AEGIS CREMATION & FUNERAL SERVICES |
| 197 | JACKSON, JESSICA |
| | MARKOVER, ALAN |
| 205 | ALLSTATE |
| | MCNALLY, DANIEL M |
| | MICHAEL BUTLER CHARLES HAMMOND LICE |
| | NET 2000 COMPUTERS LLC |
| 206 | TAYLOR, LISA J |
| | VANEK, MICHAEL M |
| 208 | LUTZ, DONE |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 2017 (Cont'd)

| | |
|---|---|
| 210 | ALCOHOLICS ANONYMOUS |
| | OVEREATERS ANONYMOUS |
| | ROOTS TREE & LANDSCAPE SVCE |
| | ROOTS TREE SERVICE |
| | TRICITIES COMMUNICATIONS |
| 212 | ALLEN, BRENDA |
| | CONNORS, CAROL A |
| 214 | KIRCHER, JOHN F |
| 215 | ALL SPEC FINISHING |
| | MANLEYS MIGHTY MART |
| | MILASI, SHIRLEY A |
| 218 | J C SHOE REPAIR & LEATHER SUPPLIES |
| 222 | BC CAB |
| 226 | CITY OF BINGHAMTON |
| | COUNTY OF BROOME |
| 228 | ACCORD, JAMES A |
| 230 | NGUYEN, HUNG P |
| 232 | MCCOY, CLIFFORD D |
| 234 | LINSKEY, CAROL S |
| 236 | SINGH, VARINDER |
| | YOUNG, JOHN J |
| 238 | ALL LINES INSURANCE AGENCY |
| | BRUSIL, CHARLENE |
| | GREINER, STEPHEN J |
| 245 | ROGERS SERVICE GROUP |
| 246 | OLD UNION HOTEL |
| 254 | BOUCHER, DEANNA L |
| 262 | CLEVELAND PLANT & FLOWER CO |
| 274 | PEDRAZA, MARGARITA |
| 276 | BRAINARD, IRVIN |
| | KOVARIK TRUE VALUE HARDWARE CO |
| | MICKS, JOSEPH |
| | TRUE VALUE |
| 280 | DUTKO, JAMES J |
| | ST MARYS CHURCH |
| | ST MICHAELS GREEK CATHOLIC CHURCH |
| 284 | MAD HATTER ANTIQUES |
| 287 | J V LOGO LINE |
| 288 | ST MICHAELS GREEK CATHOLIC CHURCH |
| 291 | MONROE, CLAYTON D |
| | TORRES, RONNIE |
| 293 | TORRES, RONNIE J |
| 295 | COMMUNITY CORRECTIONS CENTER |
| | VOLUNTEERS OF AMERICA |
| | WOMANS VOA |
| | WOMANS, VOA |
| 298 | ST MICHAELS GREEK CATHOLIC CHURCH |
| 300 | TREASURE HUNT |
| 301 | DYES, JAMES |
| | MACBLANE, GERALD G |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 2017 (Cont'd)

| | |
|---|---|
| 303 | CHAKANOVSKY, JEAN M |
| 304 | BLAKESLEE RESTAURANT SUPPLY |
| | LEWIS, DEBBI |
| 306 | PALENCAR, DESTINY |
| 308 | BAKIC, PHILLIP A |
| 310 | K9 DESIGN DOG GROOMING |
| 314 | THE SHOWCASE |
| 320 | HOCHMUTH, DAVID A |
| 324 | ASCENSION LUTHERAN CHURCH |
| 328 | BABCOCK, ELIAS |
| | BRAINARD, RAYMOND |
| | MARCS COUNTY APPLIANCE |
| | ROBERTSON, D R |
| 330 | FARGO, DALE J |
| 332 | ROTGER, LUCILLE |
| | SHULER, SHEENA |
| | SUM FIN FISHY |
| | SUM, FIN |
| 336 | BEMBRIGE, ERNEST |
| | DOUGHER, CASEY M |
| 337 | BRANCH, TASMEIA |
| | WALKER, MANDY |
| 339 | BRADFORD, CHARLENE |
| 341 | JIMMYS A & W RESTAURANT |
| 344 | CLINTON STREET XPRESSMART BK |
| 346 | GENERALL PROPERTY SERVICES LLC |
| | YELHELP LOCKSMITHS |
| 348 | 17 EAST |
| 352 | DIXON, DOMINIQUE |
| | LYNCH, JOHN B |
| | PEARSALL, QUWAN |
| | ZAKRI, CRYSTAL |
| 368 | SCOTTS TV FOR YOUR LISTENING PLEASU |
| 370 | TWODE TOTS |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# HUDSON ST 2017

| | |
|---|---|
| 76 | CARL, WANDA R |
| 131 | KRESOCK, ALLAN W |
| 139 | BEAM, CARL L |
| 143 | PHRAKOUSONH, NIKKI |
| 144 | REINHART, LANNY J |
| 149 | COBBINS, JOHNNY M |
| | MCGINN, PAUL J |
| 175 | THOGODE, CHRISTOPHER D |
| | TRIPP, JOHN R |
| 176 | HICKOK, RANDY E |
| 179 | SPOONHOWER, JOLENE |
| 180 | OSBORN, ANN M |
| 183 | SNYDER, CHELSEA |
| 184 | FRAYER, VERNON C |
| | SEVERSON, KORI K |
| 187 | MORRIS, KAREN |
| 188 | MATICH, ERYN K |
| 191 | BICKFORD, LAURALEE J |
| | COLLINS, LATOYA |
| 195 | COMBS, PHILIP |
| | MERTZ, BRYDEN |
| | TALLON, CHRIS |
| 196 | MAREAN, THOMAS |
| | WILLIAMS, RENE L |
| 199 | STANTON, N |
| 200 | SOPHIE, LOUIS P |
| 203 | GRAHAM, JOHN |
| 204 | COOK, BRIAN J |
| | RILEY, BENJAMIN |
| | RIVERS, MUHAMMAD |
| 205 | DAVIS, JESSE |
| 207 | MCBRIDE, GEORGE |
| 208 | TAYLOR, DARLENE |
| 209 | PURDY, ASHLEY |
| 212 | CHAFFEE, R D |
| 215 | BECKLES, BRENDA |
| 216 | ABEL, JANE L |
| 219 | KIDD, DONALD |
| 220 | ERVIN, ARDENIA |
| 224 | SOUNTHALA, VIENGXAY |
| 227 | JEWETT, RODNEY J |
| 235 | COLE, JOSEPH W |
| 236 | BEARDSLEY, ROBERT A |
| 243 | TAYLOR, DONA L |
| 247 | MANEY, JUDITH A |
| 248 | MORGAN, DANIEL C |
| 252 | MUNCAN, PETER |
| | POLUMURU, JAYA |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# JARVIS ST 2017

| | |
|---|---|
| 4 | NIEVES, MIGDALIA |
| | RODRIGUEZ, MIGDALIA |
| 6 | BORIHANE, INPANE P |
| 7 | WYAK INSURANCE |
| 8 | DURHAM, SANORA |
| 13 | SMITH, WILLIAM |
| | WALKER, THERESA A |
| 15 | TRENT, GREGORY B |
| 17 | CRUTCHER, HEATHER |
| | HOTALING, MATTHEW |
| | STANTON, JAZARAH |
| | TAVERAS, CHASTITY |
| 18 | HAL AUTO SALES |
| 34 | MARTINIZ, DARWIN |
| 45 | ALBRECHTA, MARTIN J |
| 49 | JASKIEWICZ, WILLIAM L |
| 51 | NAPPI, RICHARD M |
| 59 | BRUMMER, STEVEN |
| 60 | HUBBERT, KENNEY |
| 61 | ROBERT, TROWBRIDGE H |
| 62 | MASSAR, BERNARD A |
| 63 | S R O PRODUCTIONS |
| | WILLIAMS, GREGORY L |
| 64 | FAUBION, ARTHUR R |
| 65 | STARCHOK, CHARLENE M |
| 66 | REGULSKI, FRANK S |
| 68 | TRINH, DIEM T |
| 69 | CONNOR, JAMES J |
| 70 | MERLINO, FRANK J |
| 71 | HELMS, BOBBY L |
| 72 | DOCALAVICH, EDWARD |
| | ROSTBOLL, JAKOB |
| 73 | SITAR, STEVEN M |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# CHARLES ST 2014

| | |
|---|---|
| 2 | WALSH, EDWARD W |
| 4 | GONZALES, DIANA |
| | GONZALEZ, ROBERT A |
| 15 | HAMLIN, JACOB A |
| | NICHOLS, SCOTT D |
| | PINTONG, KEVIN |
| | PORTER, NATHAN S |
| 17 | NORTHEAST REHAB |
| | NORTHEAST REHABILITATION |
| | SOUTHERN TIER PHYSICAL THERAPY |
| 30 | OCCUPANT UNKNOWN, |
| 37 | METERA, ROBERT W |
| 39 | BENEDICT, M |
| | LEMON, LEAH E |
| 41 | ATON, DOUGLAS G |
| 43 | NAZAK, NICOLE |
| 45 | CHRISTENSEN, ELLA M |
| 47 | BAER, PAULA N |
| 49 | VANTULL, SEAN C |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 2014

| | |
|---|---|
| 19 | BURDICK, LOU |
| 20 | BETTERS, DAVID |
| | CADE, ERNEST |
| | DABROWSKI, JOHN W |
| | FOX, CHARLES |
| | HITCHCOCK, KEVIN J |
| | HOUSE, MICHAEL |
| | MAY, MICHAEL |
| | SPAULDING, MICHAEL |
| | THE CLINTON HOTEL |
| | WILLIAMS, DOREEN |
| 26 | CLARK, BRANDON |
| 30 | BLANK, GLORIA |
| | KAMINSKY, JENNIFER E |
| 31 | JOHN M CONTRO & SONS PLUMBING & HE |
| 32 | GILLETTE, RICHARD P |
| | HARRINGTON, MARGARET M |
| | PECK, LORI |
| 34 | ADAMS, DAVID M |
| 36 | MCLARNEY, JOYCE M |
| 40 | CRESCENT CLEANERS |
| 42 | SESSION, SABLE |
| 48 | CAMELOT JEWELERS |
| 52 | CLINTON STREET CAFE |
| 54 | ANNYS |
| | GAFFNEY PLUMBING & HEATING |
| 56 | BODEGA |
| | ENVY YOU |
| | ONEIL, BRIANNE |
| 58 | BERNARD, MARC |
| 81 | FOSTER, RASHIDA |
| | JONES, GREGORY |
| | PARLOR CITY TATTOOS |
| | PURSEL, WENDY A |
| 85 | ISLAMIC BOOKS |
| 87 | RANDOLPH, RASHIDA |
| 90 | BINGHAMTON BOYS & GIRLS CLUB |
| 91 | ELLIOTT, AURORA |
| | THAMES, SHENELLE |
| 95 | BROOKS, MICHAEL A |
| | BUTLER, JANEL |
| | STOREKEEPER THE |
| 113 | PARK OUTDOOR ADVERTISING |
| | PARTS PLUS |
| 114 | HAWK HAPPENING LINE |
| 119 | BLISS, HAROLD E |
| | GABRIEL, CHRISTOPHER |
| | JORDON, PATRICIA |
| 126 | BLAKE FOOD INCORPORATED |
| 128 | BATTLE, STEPHANIE L |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 2014 (Cont'd)

| | |
|---|---|
| 128 | FABRICRAFT |
| | IRVINE, JESSICA |
| | SALEEM, CARLOS D |
| | SHEPLEY, JOHN D |
| 132 | CARMEN, JACK M |
| | JACKS GENERAL CLINTON |
| 141 | MARIANI, CYNTHIA |
| | TOP CHINA |
| 142 | ROCHE TIMOTHY DO |
| | UHS |
| | UHS PRIMARY CARE CLINTON STREET |
| 144 | ANTHONY, ANNA |
| | DEPERSIS, THERESA E |
| | FRIEDMAN, BEVERLY G |
| | VAVRA, WILLIAM |
| 147 | WYSOCKI, ANNE S |
| 148 | ST CYRIL & METHOD |
| 149 | CACCIOLA, AGATHA |
| 151 | JESSE KATEN SCHOOL OF DANCE |
| 152 | BRIMMER, G R |
| 157 | JONES, VAKYLA |
| | TALK OF DA TOWN |
| 158 | SUNRISE DINER |
| 161 | SEDLOCK FUNERAL HOME INCORPORATED |
| 165 | BLANCHARD, JUSTIN J |
| | FIRST WARD ACTION COUNCIL |
| | MCCLENINGHAM, BEVERLY |
| | SIMMONS, SHAKIA |
| 170 | NGUYEN, TOAN Q |
| 171 | GNG ARTISANS |
| | LAROUSSI, MARY T |
| | LJS SPORTS CARDS |
| | LYNN, JOAN M |
| | MDT PERSONNEL |
| | MICKS, JOSEPH A |
| 174 | EKSTRAND, KATHRYN M |
| | GIORDANI, DEANNA |
| | MAHR, ANDREA R |
| | ROBOT CITY GAMES |
| | SAMSON, SHAUN |
| 175 | FIRST ANTIQUE CENTER LLC |
| | SHUNAS HAIR STUDIO |
| 180 | BRASS RAIL GRILL |
| | DODD, GEORGE E |
| 184 | NANNERYS GROCERY STORE |
| 186 | BARTON, GARY L |
| | BARTON, JASON J |
| | CONNIS, MARY E |
| | GARMON, JODI |
| | GUMAER, TERRI L |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 2014 (Cont'd)

| | |
|---|---|
| 186 | MURPHY, GARY |
| | PERRY, STACY L |
| 188 | BERNAL, FREDDY |
| | HUNT, QUIANA M |
| 190 | CREATIVE BEGINNINGS |
| 194 | NGUYEN, MINH |
| 196 | AEGIS CREMATION & FUNERAL SERVICES |
| 197 | DIGES, JAMES |
| | GARCIA, CATHY |
| | MARKOVER, ALAN |
| | PARADISE HAIR WORLD |
| | ROSS, PATRICIA T |
| 205 | ALLSTATE |
| | MCNALLY, DANIEL M |
| | MICHAEL BUTLER ALLSTATE INSURANCE |
| | MICHAEL BUTLER CHARLES HAMMOND LICE |
| | NET 2000 COMPUTERS LLC |
| 206 | STEELE, SHAWN M |
| 208 | DEMIR, ONUR |
| 210 | ROOTS TREE & LANDSCAPE SVCE |
| | TRICITIES COMMUNICATIONS |
| 212 | ALLEN, BRENDA |
| | CONNORS, CAROL A |
| | LAPATRA, ELLEN |
| 214 | ROSH, JOHN A |
| 215 | ALL SPEC FINISHING |
| | MANLEY, S |
| | MANLEYS MIGHTY MART |
| 218 | J C SHOE REPR & LEATHER PRODS |
| 222 | BC CAB |
| 226 | BROOME COUNTY GOVERNMENT |
| | CITY OF BINGHAMTON |
| | FIRST WARD SENIOR CENTER |
| 228 | ACCORD, JAMES A |
| 230 | NGUYEN, HUNG V |
| 232 | ALLEN, STEVEN D |
| | COLON, DANIEL R |
| | MCCOY, CLIFFORD D |
| 234 | LINSKEY, CAROL S |
| | WYATT, ANGELA |
| 236 | PRINCE, GERALD A |
| 238 | ALL LINES INSURANCE |
| | GREINER, STEPHEN J |
| | LATORREY, BARBARA |
| 245 | ROGERS COMMERCIAL MOVING |
| | ROGERS SERVICE GROUP INC |
| 246 | OLD UNION HOTEL |
| 252 | OCCUPANT UNKNOWN, |
| 254 | BOUCHER, DEANNA L |
| 257 | ULRICH, VERONICA |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

## CLINTON ST 2014 (Cont'd)

| | |
|---|---|
| 262 | CLEVELAND PLANT & FLOWER CO |
| 274 | TOMPKINS, NEIL P |
| 276 | FARGO, DALE J |
| | FURR, JOHN |
| | KOVARIK TRUE VALUE HARDWARE COMPANY |
| | MICKS, JOSEPH |
| | ROGALAVICH, PETER P |
| 280 | DUTKO, JAMES J |
| | ST MICHAELS GREEK CATHOLIC CHURCH |
| 282 | OCCUPANT UNKNOWN, |
| 284 | MAD HATTER ANTIQUES |
| 287 | J V LOGO LINE |
| 291 | MONROE, CLAYTON D |
| 293 | TORRES, RONNIE J |
| 295 | COMMUNITY CORRECTIONS CENTER |
| | OCCUPANT UNKNOWN, |
| | WOMANS, VOA |
| 298 | ST MICHAELS GREEK CATHOLIC CHURCH |
| 299 | ALEXANDER, STACEY L |
| | LINDSEYS LAUNDRY SERVICE |
| | RODRIGUEZ, MARAELA |
| | WEBB, EUGENE |
| 300 | BRONSBURG, THOMAS J |
| | TREASURE HUNT |
| 301 | DYES, JAMES |
| | GIANNINI, GARY |
| 303 | CHAKANOVSKY, JEAN M |
| 304 | KULIK, JUNE M |
| 305 | GREATER BINGHAMTON HEALTH CENTER |
| 306 | OCCUPANT UNKNOWN, |
| 308 | OCCUPANT UNKNOWN, |
| 309 | MCLAIN, JEFFERY |
| 310 | K9 DESIGN DOG GROOMING |
| 312 | HAIR CARE CENTER THE |
| | SHABAZZ, ALISHA |
| | STODDARD, J |
| | WEATHERS, ALISHA |
| 315 | TRI CITIES OPERA |
| 316 | DARCY, JOHN M |
| 320 | MCCLOE, DANIEL E |
| 324 | ASCENSION LUTHERAN CHURCH |
| 328 | BABCOCK, ELIAS |
| | CARTER, WARREN G |
| | JOHNSON, LANCE A |
| | MARCS COUNTY APPLIANCE |
| | MORENO, VICTORIA V |
| | STEC, MARY |
| 330 | MELENDEZ, VALERIE D |
| | MORENO, VALERIE H |
| | SHIELDS, JAMES |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

## CLINTON ST 2014 (Cont'd)

| | |
|---|---|
| 331 | OCCUPANT UNKNOWN, |
| 332 | ROTGER, LUCILLE |
| | WEBSTER, PATRICIA |
| 336 | BEMBRIGE, ERNEST |
| | DOUGHER, CASEY M |
| | DRURY, CHRISTINE |
| 337 | BRANCH, TASMEIA |
| | JOHNSON, KATHLEEN |
| | SHANNON, DEMETRA D |
| | TIFFT, ANDREW |
| 338 | HEER, BALWANT S |
| 341 | JIMMYS A & W RESTRNT |
| 346 | GENERALL PROPERTY SERVICES LLC |
| | YELP INCORPORATED |
| 348 | 17 EAST |
| 352 | LORD DANIEL |
| | LYNCH, JOHN |
| 358 | HOLY SPIRIT CHURCH BUILDING TWO |
| 360 | HOLY SPIRIT CHURCH |
| 368 | SCOTTS TV FOR YOUR LISTENING PLEASU |
| 370 | TWO DE TOTS |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# HUDSON ST 2014

| | |
|---|---|
| 7 | TAYLOR, HEATHER |
| 22 | JEWETT, JAYNE |
| 42 | TWANNA, DRUMGOOLE |
| 44 | KNIGHT, LAURIA |
| 52 | MALLAH, BARAAH |
| 63 | HIDOCK, LILLIAN E |
| 66 | PACE, DEBRA Y |
| 68 | MONOPOLI, M |
| 76 | CARL, NEAL L |
| 131 | OCCUPANT UNKNOWN, |
| 139 | BEAM, CARL L |
| 143 | PHRAKOUSONH, KHOUTKEO K |
| 144 | REINHART, LANNY J |
| 149 | MCGINN, PAUL J |
| | STELMAH, JOHN |
| 151 | GIBSON, WILLIAM |
| | SMITH, KURT F |
| 153 | OCCUPANT UNKNOWN, |
| 175 | BOWMAN, DAVID |
| | COREAS, KAREN |
| | THOGODE, CHRISTINA |
| 176 | HICKOK, RANDY E |
| 179 | KENYON, JAIME |
| | SPOONHOWER, JOLENE |
| | STOOMHOWER, JOLENE |
| 180 | FORKEY, TODD J |
| | OSBORN, ANN M |
| 183 | MUELLER, ELIZABETH J |
| | SNYDER, CHELSEA |
| 184 | SEVERSON, KORI K |
| 187 | BIBI, ASIA |
| | BIXBY, TRINA E |
| | MORRIS, KAREN |
| 188 | MATICH, ALEX J |
| 195 | COWELL, GEMMA |
| | MERTZ, BRYDEN B |
| 196 | MAREAN, THOMAS |
| | WILLIAMS, RENE L |
| 199 | GIBSON, M |
| 200 | SOPHIE, LOUIS P |
| 203 | GRAHAM, JOHN |
| | SERRANO, ANTHONY |
| 204 | RILEY, BENJAMIN |
| | RIVERS, MUHAMMAD |
| 205 | OCCUPANT UNKNOWN, |
| 207 | LAYTON, TERESA |
| | SHOOP, ASHLEY |
| 208 | MOMOH, TAMMY |
| | SCHMITKONS, JOAN S |
| | WILLIAMS, TAMMY |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

## HUDSON ST 2014 (Cont'd)

| | |
|---|---|
| 209 | OCCUPANT UNKNOWN, |
| 211 | PANGBURN, J |
| 212 | CHAFFEE, RAY D |
| | LOOMIS, JUDITH E |
| 215 | OCCUPANT UNKNOWN, |
| 216 | OCCUPANT UNKNOWN, |
| 219 | KIDD, DONALD |
| 220 | FLEMING, THOMAS R |
| 223 | OCCUPANT UNKNOWN, |
| 224 | SOUNTHALA, VIENGXAY |
| 227 | JEWETT, RODNEY J |
| 228 | PATRICK, FRANK A |
| 231 | ONEIL, LEO P |
| 232 | CASTRO, EMILY |
| 235 | COLE, JOSEPH W |
| 236 | BEARDSLEY, ROBERT A |
| 239 | MCCOURTNEY, ROBERT |
| 241 | REYNOLDS, JILL M |
| | SKRINE, CHANTAY C |
| | SMITH, PETER |
| 243 | TAYLOR, DONA L |
| 244 | LEE, GARY |
| 247 | MANEY, JUDITH A |
| 248 | BRINK, MARY L |
| | MORGAN, DANIEL C |
| 252 | POLUMURU, JAYA |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# JARVIS ST 2014

| | |
|---|---|
| 4 | HARAGEONES, ALISHA |
| 6 | GIBSON, HARRINGTON A |
| 7 | WYAK INSURANCE |
| 8 | WARD, GLENN M |
| 10 | WHEELAND, CLARA M |
| 13 | ARNER, ROBERT C |
| | FONTANAS, KONSTANTINOS E |
| | ISLAR, STEPHEN |
| | OLIVER, GLENDA |
| | ROJAS, ASHLEY L |
| | SWIDERSKI, MICHELE |
| | VANWINKLE, STEVEN |
| | WALKER, THERESA A |
| 17 | LEWIS, SAMANTHA R |
| | MURPHY, JESSICA K |
| 18 | HAL AUTO SALES |
| 34 | MARTINIZ, DARWIN |
| 38 | BINGHAMTON AUTO & BODY |
| 43 | SOCHANALIAN, MARITZA |
| 45 | ALBRECHTA, MARTIN J |
| | ROSATI, JAMES D |
| 47 | CARD, GENE A |
| 49 | JASKIEWICZ, WILLIAM L |
| 51 | NAPPI, RICHARD M |
| 55 | MOSHER, MICHAEL W |
| | ROBINSON, HOPE A |
| 57 | VARSIK, JOSEPH E |
| 58 | ABBADESSA, THOMAS J |
| 59 | BRUMMER, STEVEN |
| 60 | HUBBERT, KENNEY |
| 61 | ROBERT, TROWBRIDGE H |
| 62 | MASSAR, BERNARD A |
| 63 | ONDRUSEK, PAMELA A |
| | S R O PRODUCTIONS |
| 64 | WHITELONIS, CAROL A |
| 65 | STARCHOK, CHARLENE M |
| 66 | REGULSKI, FRANK S |
| 67 | SHAUL, ROY F |
| 68 | TRINH, DIEM T |
| 69 | JACKOWSKI, DAVID C |
| 70 | MERLINO, FRANK J |
| 72 | ROSTBOLL, JAKOB |
| | VANKENIC, INGRID |
| 73 | MICHEL, WARIE M |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# CHARLES ST 2010

| | |
|---|---|
| 2 | WALSH, EDWARD W |
| 4 | GONZALES, DIANA |
| 15 | ALLEN TUNNELL CORP |
| | FINGER LAKES INSTRUMENTATION |
| 17 | REHAB SUPPLY |
| | SOUTHERN TIER PHYSICAL THRPY |
| | THUNDERFLAPPER, KYLE |
| 30 | CONTROL CONCEPTS CORP BUS OFC |
| 37 | OCCUPANT UNKNOWN, |
| 39 | BENEDICT, EMILY A |
| 41 | ATON, EVELYN A |
| 43 | FORD, JUSTIN R |
| 45 | CHRISTENSEN, ELLA M |
| 47 | WOLONSKY, MICHAEL R |
| 49 | OCCUPANT UNKNOWN, |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 2010

| | |
|---|---|
| 19 | BURDICK, LOU |
| 20 | MAY, MICHAEL |
| | MCEVOY, WILLIAM F |
| | WARNER, GARY D |
| 30 | BLANK, GLORIA |
| | BUTTON, S |
| | KOLL, KIM |
| | NEMBHARD, JASON |
| 31 | JOHN M CONTROSONS PLBG & HTG |
| 32 | GILLETTE, RICHARD P |
| | LAWTON, SHARON |
| | OSTRANDER, BRANDEN J |
| 34 | ADAMS, DAVID M |
| | HEEMAN, VIOLET |
| | WATSON, ASHLEY |
| 36 | MCLARNEY, JOYCE M |
| 40 | CRESCENT CLEANERS |
| 42 | VANDUNK, LAWRENCE |
| 44 | PATS HAIRSTYLING |
| 48 | CAMELOT JEWELERS |
| 52 | CLINTON ST CAFE |
| 54 | ANNYS |
| | GAFFNEY PLUMBING & HEATING |
| 56 | CORNWELL, JOSH |
| | HI FI MUSIC |
| | SIRINGO, JOSEPH |
| 58 | CATALFINO, TINA |
| | CRAWFORD, JAMES N |
| | CYR, ANNA |
| 81 | VYMISLICKY, HERMAN |
| 87 | INTEGRITY TRAVEL SVC |
| | VILLAGERS BEST |
| 90 | BOYS & GIRLS CLUB OF AMERICA |
| 91 | BELCHER, LINDA S |
| | DREES, DALAL |
| 93 | TARSH, TERRY |
| 95 | STOREKEEPER |
| 111 | AUTO PAINT PLUS |
| | TIER PARTS WAREHOUSE INC |
| 113 | BINGHAMTON MAIN BRANCH |
| | MIDSTATE OUTDOOR ADVTNG |
| | PARTS PLUS |
| 119 | BLISS, HAROLD |
| | HOCHRUN, JOHN G |
| | LOEFFLER, MARK A |
| | WARREN, DANIELLE |
| 126 | BLAKESLEE RESTAURANT SUPPLY |
| 128 | BLATT, DANIEL |
| | BRUMER, SHERYL J |
| | FABRICRAFT |

| | |
| --- | --- |
| 128 | SHEPLEY, JOHN D |
| 132 | JACKS GENERAL CLINTON RFNSHNG |
| 141 | MARIANI, CYNTHIA |
| 142 | CLINTON STREET FAMILY CARE CTR |
| 144 | DAHULICH, ANN S |
| | FLORANCE, LILLIAN A |
| | ROSS, AGNES D |
| 147 | WYSOCKI, ANNE S |
| 148 | ST CYRIL & METHODIUS |
| 149 | CACCIOLA, ANTOINETTE M |
| 151 | LIGHTHOUSE PRODUCTIONS |
| 152 | BRIMMER, G R |
| 155 | ROMAN HEAVEN |
| 157 | JONES, VAKYLA |
| | TALK OF DA TOWN |
| 158 | KATIES KITCHEN |
| | SUNRISE DINER |
| 161 | SEDLOCK FUNERAL HOME INC |
| 165 | ABDURRAFI, RAFIQ |
| | BLANCHARD, JUSTIN |
| | CRABB, COLIN C |
| | MCCLENINGHAM, CARLESHA M |
| 167 | FIRST WARD ACTION COUNCIL |
| 170 | NGUYEN, LUA |
| 171 | BUTLER, FRANCIS O |
| | L JS SPORTS CARDS |
| | POWELL, ALLYSSA |
| | STRIP SHOPPE |
| 174 | COX, ANDREA |
| | EKSTRAND, KATHRYN M |
| | HYNES, EGYPT |
| | LAMOREE, DARCY M |
| | OKELLO, MAURICE O |
| | ROBOT CITY GAMES |
| | SAMSON, SHAUN |
| | SMITH, JEFF |
| 175 | FIRST ANTIQUE CTR LLC |
| 176 | BLACKWELL BEAUTY SUPPLIES |
| 177 | CHICAGO NAIL SALON |
| 180 | BRASS RAIL GRILL |
| | DODD, GEORGE E |
| | NANNERY, ARLENE E |
| 184 | NANNERYS GROCERY STORE |
| 186 | COLON, DANIEL |
| | CONNIS, MARY E |
| | JUKEBOX DONUT SHOP |
| | MURPHY, GARY |
| | SHIFFLET, DAVID |
| | WARD, JASON A |
| | WAYMAN, SUSAN |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

## CLINTON ST 2010 (Cont'd)

| | |
|---|---|
| 188 | BERNAL, FREDDY |
| 190 | CREATIVE BEGINNIGS |
| 192 | ALLSTATE INSURANCE CO |
| | BENJAMIN, CHERIE J |
| 194 | NGUYEN, TUU V |
| 196 | AEGIS CREMATION SVC |
| 197 | BELLITTO, JOHN |
| | MINARD, LATAYA |
| | PARADISE HAIR WORLD |
| | ROSS, PATRICIA T |
| | TURK, MICHELE |
| 202 | M&T BANK |
| 205 | NET 2000 COMPUTERS LLC |
| | OCCUPANT UNKNOWN, |
| 206 | FLANNAGAN, SUSAN L |
| | ROSH, LISA |
| | VANEK, MICHAEL |
| 208 | BALKAYA, HILMI Y |
| | CONROY, JAMES J |
| 210 | ABBEY BUSINESS FORMS |
| | ALL CUSTOM BUILDING |
| | BECKWITH CONSTRUCTION |
| | CONSISTENTLY CLEAN |
| | NARCOTICS ANONYMOUS |
| | OVEREATERS ANONYMOUS |
| | POTTERS CARPET CLEANERS |
| | TRI CITIES COMMUNICATIONS |
| | UNIVERSITY SINGLES INC |
| 212 | CONNORS, CAROL |
| 214 | TAYLOR, LISA |
| | WOODS, PAUL W |
| 215 | ALL SPEC FINISHING |
| | BIG ALS PIZZA |
| | BIG ALS SANDWICH |
| | MANLEY, S |
| | MANLEYS MIGHTY MART |
| 226 | FIRST WARD SENIOR CTR |
| 228 | ACCORD, JAMES A |
| | WILLIAMS, DOREEN Q |
| 230 | OCCUPANT UNKNOWN, |
| 232 | MCCOY, CLIFFORD |
| 234 | IWAMOTO, FUMIO |
| 236 | PRINCE, GERALD A |
| 237 | COLEMAN, GRACE |
| 238 | ALL LINES INSURANCE |
| | GREINER, STEPHEN J |
| 244 | GATES, SANDRA E |
| 245 | ROGERS SERVICE GROUP INC |
| | UPS |
| 246 | UNION HOTEL |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 2010 (Cont'd)

252 OCCUPANT UNKNOWN,
257 ULRICH, VERONICA
262 CLEVELAND PLANT & FLOWER CO
274 OCCUPANT UNKNOWN,
276 KOVARIK TRUE VALUE HARDWARE CO
LADUE, MERVIN R
SCHRAUGER, ALAN
280 DUTKO, JAMES J
ST MICHAELS GREEK CATHOLIC
284 MAD HATTER ANTIQUES
291 SILVA, LUIS
293 TORRES, RONNIE J
295 COSME, SERNANDO R
OCCUPANT UNKNOWN,
VOLUNTEERS OF AMERICA
WOMANS, VOA
299 ALEXANDER, STACEY L
LINDSEYS LAUNDRY SVC
300 BRONSBURG, THOMAS J
301 DYES, JAMES
MACBLANE, MATTHEW
303 CHAKANOVSKY, JEAN C
DOBISH, THERESA J
304 KULIK, JUNE M
305 GREATER BINGHAMTON HEALTH CTR
308 OCCUPANT UNKNOWN,
309 MCLAIN, JEFFERY
310 K9 DESIGN DOG GROOMING
312 BRUNELLE, CHARLE
HAIR CARE CTR
JOHNSON, MARLENE
314 ANDERSON, KIMBERLY
SHOWCASE
315 TRI CITIES OPERA
316 DARCY, JOHN M
324 ASCENSION LUTHERAN CHURCH
325 DOLLAR GENERAL
328 BUTLER, ARTHUR W
CARTER, WARREN
FISCHER, DONNA
HINES, HERMAN
JOHNSON, LANCE A
MARCS COUNTY APPLIANCE SVC
MILES, GORDON
PENNY LANE NOSTALGIA MART
330 BROWNLEE, SUSAN
331 OCCUPANT UNKNOWN,
ROGERS, MICHAEL J
332 SUMPTHIN FISHY
WEBSTER, PATRICIA

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

## CLINTON ST 2010 (Cont'd)

| | |
|---|---|
| 334 | AHMEDKHAN, RASHID |
| | ALI, RASHID |
| | NGUYEN, THI |
| | TAITT, FELICIA |
| 335 | JOHNSON, N |
| | PRESTON, JUDITH |
| 336 | DOUGHER, CASEY M |
| | HENDERSHOT, P |
| | MASSO, EFRAIN L |
| 337 | BLOUNT, TOBEY |
| | PARSON, JANETTE A |
| | PROCTOR, MYRTLE A |
| | STOVALL, LAURA |
| 341 | A&W ALLAMERICAN FOOD |
| | GORGOL, FRANK C |
| 343 | CLINTWOOD APOTHECARY |
| | CLINTWOOD PHARMACY LLC |
| 344 | UHAUL CO |
| 346 | DOCUFIT TYPESETTING & PRINTING |
| | HOLTSLANDER, CASEY L |
| 352 | AYRES, JUDITH |
| | COMFORT HEATING |
| | PEREZ, FRANCA |
| 360 | HOLY SPIRIT BYZANTINE CATHOLIC |
| | HOLY SPIRIT CTR |
| 368 | FOR YOUR LISTENING PLEASURE |
| | SCOTTS TVFOR YOUR LISTENING |
| 370 | TWO DE TOTS |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# HUDSON ST 2010

| | |
|---|---|
| 7 | TAYLOR, HEATHER |
| 34 | DAILY REMINDER |
| 44 | KNIGHT, LAURIA |
| 52 | MALLAH, BARAAH |
| 56 | SALVA, VIRGINIA R |
| 60 | ALGER, M |
| | WHITE, TRACY A |
| 62 | POLLAK, DONNA M |
| 63 | HIDOCK, LILLIAN E |
| 66 | PACE, DEBRA Y |
| 67 | AGRON, JAMIE |
| 68 | GEORGE, MARK |
| 76 | CARL, NEAL L |
| 131 | KRESOCK, ALLAN W |
| 139 | BEAM, CARL L |
| 143 | FISEN, CHONE |
| 144 | REINHART, LANNY J |
| 149 | LICIANDRELLO, JOSEPH J |
| 151 | OCCUPANT UNKNOWN, |
| 153 | OCCUPANT UNKNOWN, |
| 163 | JOINER, ARLENE J |
| 175 | BOWMAN, DAVID |
| | DIBBLE, TAMMY |
| | FINK, CAMERON |
| | HEAD, JOSEPH |
| | MAFFIA, VINVENT |
| 176 | DAVIS, SACHA L |
| 179 | KENYON, JAIME |
| | SPOONHOWER, JOLENE |
| 180 | OSBORN, ANN M |
| 183 | SNYDER, CHELSEA |
| | TURCOTTE, R |
| 184 | SEVERSON, LARRY F |
| 187 | HARRIS, JOE |
| | MEADE, MELISSA |
| | MYERS, MELISSA |
| | SMITH, BLAIN S |
| 188 | MATICH, ALEX J |
| 191 | BICKFORD, KINGSTON P |
| | GODBAY, JACQUE |
| | JOHNSON, DAVON |
| 195 | CALLOWAY, THOMAS |
| | HENRICKSEN, MARIEN |
| | MORRISON, H |
| 196 | MAJOR, FRANCIS J |
| 199 | GIBSON, M |
| 200 | SOPHIE, LOUIS P |
| 201 | CHILSON, KIRA A |
| 203 | SOBOLESKI, JUSTIN |
| 204 | RILEY, BENJAMIN |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

## HUDSON ST 2010 (Cont'd)

| | |
|---|---|
| 205 | OCCUPANT UNKNOWN, |
| 207 | DELMONTIE, ALARIC K |
| | LAYTON, TERESA |
| | PIERCE, TRACEY L |
| | SHOOP, ASHLEY |
| | WASHINGTON, RAYQUAN |
| 208 | BENZI, ROBERT |
| | KUEHNER, JAMES P |
| | LUDWIG, PHILLIP |
| 209 | ROGERS, NICOLE I |
| 211 | OCCUPANT UNKNOWN, |
| 212 | LOOMIS, JUDITH E |
| 215 | OCCUPANT UNKNOWN, |
| 216 | ABLE, JANET L |
| 219 | KIDD, DONALD |
| 220 | DRAGONRIDER ENTERPRISES |
| | FLEMING, THOMAS R |
| 223 | SCHUCHMAN, PETER F |
| 224 | SOUNTHALA, VIENGXAY |
| 227 | JEWETT, RODNEY J |
| 228 | PATRICK, FRANK A |
| 231 | ONEIL, LEO P |
| 235 | COLE, JOSEPH W |
| 236 | BEARDSLEY, ROBERT |
| 239 | HUTCHINGS, BRIAN K |
| | MCCOURTNEY, ROBERT |
| 243 | TAYLOR, DONA L |
| 244 | LEE, GARY |
| 247 | MANEY, JUDITH A |
| 248 | MORGAN, DANIEL C |
| 291 | PELKOSKI, MEGAN |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# JARVIS ST 2010

| | |
|---|---|
| 4 | JOHNSON, SABRINA W |
| 6 | OCCUPANT UNKNOWN, |
| 7 | AAWYAK INSURANCE |
| 8 | LOURDES, SIMONE |
| 10 | WHEELAND, CLARA M |
| 13 | CADE, BENITA |
| | FELIX, LAURA J |
| | FONTANAS, KONSTANTINOS E |
| | GRAHAM, JOHN L |
| | HARRISON, LATISHA |
| | NELSON, PATRICIA |
| | WALKER, THERESA A |
| 15 | OCCUPANT UNKNOWN, |
| 17 | CAO, WENYI |
| | CHANG, MYUNG S |
| | CONDI, AMANDA |
| | ESWORTHY, BARRETT |
| | FIELDS, NATAE |
| | LEWIS, SAMANTHA R |
| | PITT, DAVID |
| | WILLIAMS, NYQUAN |
| 34 | OCCUPANT UNKNOWN, |
| 38 | BINGHAMTON AUTO & BODY |
| 40 | SRM DANCE |
| 43 | SOCHANALIAN, MARITZA |
| 45 | ALBRECHTA, MARTIN J |
| 47 | CARD, GENE |
| 49 | JASKIEWICZ, WILLIAM L |
| 51 | NAPPI, CONSTANCE M |
| 55 | MOSHER, MICHAEL W |
| | UNDERWOOD, CAROL |
| 56 | MARKOVICH, SAMUEL |
| 57 | OCCUPANT UNKNOWN, |
| 58 | ABBADESSA, THOMAS J |
| 59 | BRUSIL, STEVEN T |
| 60 | HUBBERT, RALPH K |
| 61 | TROWBRIDGE, JOAN A |
| 62 | MASSAR, BERNARD A |
| 63 | ONDRUSEK, PAMELA A |
| | SRO PRODUCTIONS |
| 64 | WHITELONIS, CAROL A |
| 65 | EASTERLING, MORRELL J |
| 66 | REGULSKI, FRANK S |
| 67 | SHAUL, ROY F |
| 68 | KRUKOWSKI, MARK R |
| 69 | HELMS, TERESA |
| 70 | MERLINO, FRANK J |
| 71 | OCCUPANT UNKNOWN, |
| 72 | VOLEK, JOSEPHINE M |
| 73 | HUBBERT, KATHLEEN A |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# CHARLES ST 2005

| | |
|---|---|
| 4 | CANNIFF, WILLIAM H |
| | GREINER, STEPHEN J |
| 15 | PERANICH & SHELP CONSTRUCTION |
| 17 | MANSFIELD JOHN TODD PHYS THER |
| | NORTHEAST REHABILITATION INC |
| | SOUTHERN TIER PHYSICAL THERAPY ASSOC |
| | STHRN TIER PHYSCL THRPY OF BI |
| 37 | METERA, ROBERT W |
| 39 | BENEDICT, M |
| | HUGG, EMILY Y |
| | WRIGHT, STEPHANIE |
| 40 | IMAGING PRODUCTS DIVISION |
| 41 | ATON, EVELYN A |
| 43 | WHITELONIS, JOHN J |
| 45 | CHRISTENSEN, ELLA M |
| 47 | WOLONSKY, MICHAEL R |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 2005

| | |
|---|---|
| 16 | CLARK, STEVEN A |
| 19 | BURDICK, LOU |
| 20 | CLINTON HOTEL |
| | MAY, MICHAEL |
| | SCHWEHM, BILL D |
| | WARNER, GARY |
| 30 | ARMSTRONG, KATHY |
| | DUFFORD, LINDA |
| | KNAPP, DEBBIE |
| | WORMUTH, DAWN |
| 32 | GILLETTE, RICHARD P |
| | PECK, CAROL A |
| 34 | ADAMS, DAVID M |
| | SEES, MATTHEW |
| | WATSON, JOSHUA P |
| 36 | MCLARNEY, HELEN M |
| 39 | PRATT, HAROLD |
| 40 | CRESCENT CLEANERS |
| 42 | DOOLEY, LAKWANCE |
| 48 | CAMELOT JEWELERS |
| 52 | CLINTON ST CAFE |
| 56 | MARCOU, DIANA M |
| | ROSE, JOHN D |
| 57 | E H TITCHENER & CO |
| 58 | MARCOU, DIANA |
| | ROSE, JOHN |
| 67 | E H TITCHENER CO |
| 81 | NEW CHEERS PUB |
| 87 | HALAL MEAT & DELI |
| 91 | BELCHER, MARJORIE |
| | KENNETH, E M |
| | MARVIN, STEPHEN L |
| | RITZ, CHARLES F |
| | STRIP SHOPPE |
| 93 | AUSBY, ALANZO |
| 95 | ALSALMAN, HUSAIN |
| | STOREKEEPER |
| 113 | PARK OUTDOOR ADVERTISING OF NEW YORK |
| 119 | JONES, DAVID R |
| | JORDON, SHAWN |
| | LOEFFLER, MARK A |
| | WARD, MICHAEL |
| 123 | SOYKE, JACKIE L |
| 126 | OLEMS OF BINGHAMTON |
| 128 | ANDERSON, CHANTAL S |
| | BRUMER, SHERYL J |
| | K M FABRIC CRAFT |
| | SHEPLEY, JOHN D |
| 132 | CARMEN, JACK L |
| | FISKE, JACKIE L |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 2005 (Cont'd)

| | |
|---|---|
| 132 | SHOEMAKER, STACI L |
| | SPROUSE, ERIC |
| 142 | CLINTON STREET FAMILY CARE |
| | PURI SONA |
| 148 | SAINT CYRIL & METHOD |
| 157 | INTHIRATH, KHAMKEUNG |
| | JOOMWONG, NIKOM |
| | OLSON, EUGENE |
| | SIHAVA, BOUALIENES |
| 161 | SEDLOCK FUNERAL HOME INC |
| 165 | ANDERSON, JACQUELINE L |
| | BAKER, M |
| | DAVIS, K |
| | EDENFIELD, C |
| | HADDAD, CYNTHIA |
| | HARRELL, VINCENT |
| 166 | OCCUPANT UNKNOWN, |
| | SALISBURY, FRANK L |
| 167 | SCHOOL HOUSE APTS LLC |
| 170 | LE, LINH |
| 171 | STRIP SHOPPE THE |
| | WELCOME HOUSE DECORATIVE ACCEN |
| | WELCOME HOUSE DECORATIVE ACCENTS |
| | WELCOME HOUSE DECORATIVE ACNT |
| 174 | BARRETT, LISA |
| | CHAMBERLIN, CHARLES |
| | DAVIS, PATRICIA R |
| | DELONG, LORI |
| | LAMOREE, DARCY M |
| | PARSONS, WILLIAM J |
| | VETERNS SUPPORT COUNCIL F TH STH |
| 175 | DEVINE GIFTS 4 |
| | DEVINE GIFTS 4 YOU |
| 176 | JONES, KIM |
| | PATTERSON, PATRICIA R |
| 180 | RIKER, ANDREA E |
| | THE BRASS RAIL |
| 184 | NANNERYS GROCERY STORE |
| 186 | BLACKWELL BEAUTY SUPPLIES |
| | CHAMBERS, TAMMY |
| | COGAN, KENNY |
| | CONNIS, MARY |
| | CRAMPTON, STEVEN |
| | PELKEY, ROBERT |
| | PRINCE, RICHARD |
| | RICK, C |
| | WALLACE, ANNA M |
| 188 | BLACK, S |
| | LE, SONYA |
| | ROOKER, KELLY |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 2005 (Cont'd)

188 VIERA, G
192 ACROSS FROM DMV INSURANCE
KULIGOWSKI CARL
194 NGUYEN, TUU V
197 AGUILERA, NILDA
BARNES, CARROL H
BLAKESLEE FOOD SERVICE
GRUBER, KURT E
MONIGAN, SONIA
ROSS, PATRICIA P
SAKOVITCH, MICHAEL J
THORNE, ROBERT
WATSON, CLARENCE A
202 M & T BANK
205 BLUE OCEAN DIVERS LLC
NET 2000 COMPUTERS LLC
OCCUPANT UNKNOWN,
208 BALKAYA, HILMI Y
CONROY, JAMES J
SMITH, RAYMOND D
210 ALCOHOLIC ANONYMOUS WORLD SERVICES
BRUCES APPLIANCE SERVICE
DANCE WORKS UNLIMITED
212 CONNORS, CAROL
SAYLES, MARGARET A
215 ALLSPEC FINISHING CORP
MANLEYS MIGHTY MART
OCCUPANT UNKNOWN,
226 FIRST WARD SENIOR CENTER
228 ECKERT, WILLIAM J
JOHNSON, M
RAHILLY, LAURI A
TURNER, CATHY E
WILLIAMS, DOREEN Q
230 BENYA, ANNA T
232 BRENNAN, BETHANN
CARO, NATHAN
FELSHEIM, WAYNE C
JACKSON, CATHERINE
LEONARD, DAVID S
234 CARLE, CATHY M
IWAMOTO, FUMIO
TOKARCIK, JOHNNA D
236 PRINCE, GERALD A
237 COLEMAN, GRACE
238 ALL LINES INSURANCE
HAAS, HEATHER E
SIMMONS, KATE
TYNEWAY DA
244 GATES, SANDRA E

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 2005 (Cont'd)

| | |
|---|---|
| 245 | ROGERS SERVICE GROUP INC |
| 246 | OCCUPANT UNKNOWN, |
| 252 | OCCUPANT UNKNOWN, |
| 254 | OCCUPANT UNKNOWN, |
| 262 | CLEVELAND PLANT AND FLOWER CO |
| 274 | BRENNAN, SCOTT |
| 276 | LADUE, MERVIN R |
| | ROGALAVICH, JULIA |
| 280 | DUTKO, JAMES S |
| | ST MICHAELS ORTHODOX CHURCH |
| 282 | HRISKO, FRANCES |
| 284 | MAD HATTER ANTIQUES |
| 287 | JV LOGO LINE LLC |
| 291 | GALLA, STEPHEN M |
| 293 | HULL, FRANK W |
| 295 | OCCUPANT UNKNOWN, |
| | WOMANS, VOA |
| 296 | ST MICHAELS GREEK CATHOLIC CHURCH |
| | ST MICHELS ARC MNS WELFARE CLB |
| 299 | ALEXANDER, STACEY |
| 300 | BRONSBURG, THOMAS J |
| 301 | MACBLANE, GERALD G |
| 303 | DOBISH, THERESA J |
| 304 | KULIK, JUNE M |
| | MY PLACE |
| | SILVER FOX ANTIQUES |
| 305 | COMMUNITY TREATMENT & REHABILITATION |
| | GREATER BINGHAMTON HEALTH CENTER |
| | NEW YORK STATE MENTAL HEALTH |
| 306 | OCCUPANT UNKNOWN, |
| 308 | KIDS AT HEART PHOTO LLC |
| 309 | MICHELLE, FLEURY |
| | PODRAZIL, FRANK |
| | RUIZ-SINCHI, EVELYN |
| 312 | GOLDEN, WILLIAM |
| | HAIR CARE CENTER THE |
| | RUSNAK, C |
| | SMITH, FREDERICK |
| 314 | OCCUPANT UNKNOWN, |
| 315 | T R I C I T I E S O P E R A |
| | TRI CITIES OPERATION SCENE SHOP |
| 316 | B & L BOUTIQUE |
| | DARCY, JOHN M |
| 320 | HOCHMUTH, REBECCA |
| 324 | SLOVAK EVANGELICAL LUTHERAN |
| 325 | DOLLAR GENERAL |
| 328 | ALLEN, G |
| | ATKINSON, RUSTY |
| | BUTLER, MARSHA |
| | CARRIER, ALLEN |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

## CLINTON ST 2005 (Cont'd)

| | |
|---|---|
| 328 | HARRISON, ANIYAH |
| | HOLMBERG, JENNY |
| | MCALLASTER, GEORGE |
| | MILK, A |
| | SPENCE, BELINDA S |
| | WEBB, LILLIAN |
| | WILLIAMS, TASHA |
| 330 | MELENDEZ, VALERIE |
| 331 | ROGERS, MICHAEL J |
| 332 | MANZER, HAROLD E |
| 334 | AHMEDKHAN, RASHID |
| | HADI, CASSANDRA L |
| | POPOLO, DINO |
| | SLOPKA, DAWN M |
| 335 | ESCALERA, HECTOR |
| 336 | CLARK, CORY |
| | GRIFFIN, GEORGETTE |
| | MADIA, CAROL |
| | YANG, WEI |
| 337 | DEGROAT, J |
| | DEJESUS, HECTOR |
| | MUELLER, JESSICA |
| | SALISBURY, KATHERINE |
| | TOWNER, ANDREW |
| 341 | GORGOL, FRANK C |
| 343 | CLINTWOOD APOTHECARY LLC |
| 344 | EXPRESS AUTO SALES & SERVICE |
| 346 | YEL HELP SECURITY LOCKSMITHS |
| 352 | RIVERSIDE SHOP |
| | WARNER, DAVID A |
| 358 | HOLY SPIRIT CENTER |
| 368 | SCOTTS TV INC |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# HUDSON ST 2005

| | |
|---|---|
| 34 | FURLOW, T |
| | JIMENEZ, RICHARD R |
| 36 | AGUILAR, RICK |
| | BURNS, JOHN |
| | GILBERT, ROXANNE |
| | KINNEY, A |
| 38 | LOCKWOOD, J |
| 42 | LYONS, RICHARD B |
| 44 | KNIGHT, LAURIA |
| 48 | ISLES, JERMAINE |
| | MALLAH, BARAAH |
| | ROSARIO, LAUREN |
| 52 | OCCUPANT UNKNOWN, |
| 56 | FOLEY, COPPER |
| 60 | BANKS, FLORENCE |
| | WHITE, TRACY A |
| 63 | DUDNOW, AMELIA H |
| 64 | ROGERS, STACIE |
| 66 | CANNON, BEVERLY |
| 67 | AGRON, JAMIE |
| 68 | GEORGE, MARK |
| 71 | OCCUPANT UNKNOWN, |
| 72 | BENNETT, RUFUS |
| 75 | CHAMBERLAIN, PAUL J |
| 76 | CARL, NEAL L |
| 131 | KRESOCK, ALLAN W |
| 139 | BEAM, CARL L |
| 143 | SENGSOUVANH, RATTANAPHO S |
| 144 | GRYCREK, M R |
| 149 | PANCHA, THIPHAVONG |
| 153 | FORTUNATO, CERRA |
| 163 | JOINER, ARLENE J |
| 175 | CHRIS EASTON BUILDING AMD REMODELING |
| | HEAD, JOSEPH |
| | JONES, ROBERT |
| | LUCIANO, DAISY |
| | PARKER, DRORANETTE |
| 176 | OCCUPANT UNKNOWN, |
| 179 | PATHOUMVANH, K |
| 180 | JONES, ERIK S |
| 184 | KENYON, HEIDI L |
| 187 | ADAMS, DERRECK |
| | FREEMAN, J S |
| | MCDONALD, A |
| | MORRIS, DALE |
| | NEWMAN, JEAN |
| | SMITH, BLAIN S |
| 188 | MATICH, ALEX S |
| 191 | COLLINS, LATOYA |
| | FERGUSON, MARY |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

## HUDSON ST 2005 (Cont'd)

| | |
|---|---|
| 191 | KLUGH, KARISSA |
| | ZEMBEK, HOLLY |
| 195 | DAVIS, QUALEAH |
| | KODMANI, HARESH |
| | MORRISON, H |
| | SALISBURY, RALPH |
| 196 | LORD, S |
| | MAJOR, FRANCIS J |
| | SMITH, VICKI |
| 199 | SCHRAUGER, DONNA E |
| 200 | SOPHIE, LOUIS |
| 203 | OCCUPANT UNKNOWN, |
| 204 | PEARCE, KALEB |
| | REITZ, KEITH |
| 205 | BOULET, ART C |
| | OCCUPANT UNKNOWN, |
| 207 | CHAIMANG, SOM |
| 208 | KUEHNER, JAMES P |
| | WEBB, ROBERT M |
| 209 | WILLIAMS, JUSTICE |
| 211 | OCCUPANT UNKNOWN, |
| 212 | LOOMIS, JUDITH E |
| 215 | OSBORN, LORI M |
| 216 | OCCUPANT UNKNOWN, |
| 219 | KIDD, DONALD |
| 220 | DRAGONRIDER ENTERPRISES |
| | FLEMING, THOMAS R |
| 223 | SPANGENBERG, JODY B |
| 224 | HYATT, ROBERT J |
| 227 | BARON, LILLIAN M |
| 228 | PATRICK, FRANK A |
| 231 | ONEIL, LEO P |
| 232 | TORKEL, DANIEL |
| 235 | KWON, ANDREW |
| 236 | FIGURA, JENNIFER C |
| 239 | HUTCHINGS, BRIAN |
| 240 | MILTON, YOLANDA |
| 241 | DAYNE, T |
| | HARRELL, VINCENT |
| | PACKER, MATTHEW |
| 243 | OCCUPANT UNKNOWN, |
| 244 | ACERS ENTERPRISES |
| | AKERS ENTERPRISE |
| | KENNEDY, MARTIN D |
| | MOTT, ERICC |
| 247 | MANEY, JUDITH A |
| 248 | OCCUPANT UNKNOWN, |
| 252 | HEALY, CHRISTINE |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# JARVIS ST 2005

| | |
|---|---|
| 4 | ALEXANIAN, EVA |
| 6 | OCCUPANT UNKNOWN, |
| 7 | WYAK INSURANCE AGENCY INC |
| 8 | WARD, GLENN |
| 10 | GIORGIO, ANDREA |
| 11 | VELEZ, BELEN Y |
| 13 | ALLAN, T |
| | DAVIS, TONYA |
| | ISLAR, C |
| | MCPHEE, THERESA |
| | ROBBINS, MICHAEL |
| | SHOEN, JAMES |
| | TELESFORD, MARCUS |
| | WALKER, THERESA A |
| | WILLIAMS, ERIN M |
| 15 | LISBON, TONI M |
| 17 | CE, HAL |
| | HE, HAI |
| | LEWIS, SAMANTHA R |
| | SAMANTHA, LEWIS R |
| 18 | HAL AUTO SALES |
| 20 | OCCUPANT UNKNOWN, |
| 34 | THEOBALD, THOMAS M |
| 38 | BINGHAMTON AUTO & BODY |
| 45 | ALBRECHTA, ROSEMARY C |
| | IM SPORT WHOLESALE AUTO |
| 47 | CARD, GENE |
| 49 | JASKIEWICZ, WILLIAM L |
| 51 | CHARSKY, MARY A |
| | NAPPI, CONSTANCE M |
| 55 | MOSHER, MICHAEL W |
| | SMITH, ELEANOR M |
| | UNDERWOOD, CAROL |
| 56 | MARKOVICH, SAMUEL |
| 57 | VARSIK, JOSEPH E |
| 58 | ABBADESSA, THOMAS J |
| 59 | BRUSIL, STEVEN T |
| 60 | BENNETT, MARY R |
| 61 | TROWBRIDGE, ROBERT H |
| 62 | MASSAR, BERNARD A |
| 63 | ONDRUSEK, KIM J |
| 64 | WHITELONIS, ANNA |
| 65 | EASTERLING, MORRELL J |
| 66 | REGULSKI, FRANK S |
| 67 | SHAUL, ROY F |
| 68 | BALCHIKONIS, BRIAN T |
| 69 | OCCUPANT UNKNOWN, |
| 70 | KURCIN, JOHN J |
| 71 | JACKOWSKI, DAVID C |
| 72 | DAHLSTROM, JOLENE A |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

## JARVIS ST 2005 (Cont'd)

| | |
|---|---|
| 72 | VOLEK, JOSEPHINE M |
| 73 | ZHENG, YONG |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# CHARLES ST 2000

| | |
|---|---|
| 2 | WALSH, EDWARD W |
| | WHITNEY, DENNIS E |
| 4 | CANNIFF, WILLIAM H |
| 15 | KANAZAWICH JOHN |
| | WOLFE COMMUNICATION SYSTEMS INCORPORATED |
| 37 | METERA, ANNE |
| 39 | SCHIFFER, ANNA |
| 41 | ATON, EVELYN A |
| 43 | WHITELONIS, JOHN J |
| 45 | KRAUSE, GERALD |
| 47 | WOLONSKY, MICHAEL |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 2000

| | |
|---|---|
| 2 | KUBISA, ROBERT |
| 16 | OCCUPANT UNKNOWN, |
| 20 | CLINTON HOTEL |
| | OCCUPANT UNKNOWN, |
| 23 | FELIX, LAURA |
| | TAMKINS, EDWARD |
| 24 | OCCUPANT UNKNOWN, |
| 25 | OCCUPANT UNKNOWN, |
| 26 | OCCUPANT UNKNOWN, |
| 28 | GAGE, G |
| 30 | OCCUPANT UNKNOWN, |
| 31 | CONTRO JOHN M & SONSPLMBNG & HEATING INCORPORATED |
| 32 | GARCIA, ALBERTO |
| | PECK, CAROL A |
| 34 | OCCUPANT UNKNOWN, |
| | ROTARY CLUB OF BINGHAMTON |
| 36 | BRADLEY, CHARLES |
| | MCLARNEY, HELEN M |
| 40 | CRESCENT CLEANERS |
| 44 | PATS HAIRSTYLING |
| 48 | CAMELOT JEWELERS |
| 52 | CLINTON ST CAFE |
| 54 | ANNYS |
| | GAFFNEY PLUMBING & HEATING |
| 56 | ZOLLBRECHTS COIN SHOP |
| 58 | BELCHER, G |
| 67 | TITCHENER E H & COMPANY |
| 81 | NEW BRONCO SALOON |
| 90 | PHILADELPHIA SALES COMPANY |
| | ROYAL JOBBERS |
| 93 | WILLIAMS & WILLIAMS HAIR CUTTERS & WIGSHOP |
| 95 | LEONARD, M |
| | LYKKE, A |
| | STOREKEEPER THE |
| 97 | CHINA CLOSET |
| 99 | CLINTON MILL ANTIQUE CENTER |
| | DRAPERY DECORS THOMAS RACE DESIGNER |
| 113 | MIDSTATE OUTDOOR ADVTNG |
| | PARK OUTDOOR ADVTNG |
| 114 | HAWK HAPPENING LINE |
| | OLUM FURNITURE CO REPAIR & SERVICE DEPARTMENT |
| | OLUM FURNITURE COMPANY |
| | TIME TEMPERATURE & WEATHER |
| 119 | ABDALLAH, BILQIS S |
| | BUELL, J P |
| | NEIGHBORHOOD HOME REPAIR |
| 126 | OLUMS OUTLET STORE |
| 128 | ALDEN, RICK A |
| | APALACHIN REMODELING |
| | BRUMER, SHERYL |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

## CLINTON ST 2000 (Cont'd)

| | |
|---|---|
| 128 | DUNN, CHARLES |
| | NGUYEN, HO |
| | SHEPLEY, JOHN D |
| 130 | SWEETCHEEKS THEATRICAL MAKEUP |
| 132 | GENERAL CLINTON JACKS REFINISHING & UPHOLSTERY |
| | UHS HOSPITALS UNITED HEALTH SERVICES |
| 139 | HAWLIK JOHN R TELEVSN RADIO SVCE |
| 141 | FRANKIE RUFFOS FLOWER SHOP |
| 142 | CLINTON STREET FAMILY CARE CENTER UNITED HEALTH SERVICES HO |
| | SODEN-SERJANEJ MARIANNE DO |
| | UNITED HEALTH SERVICES HOSPITALS FAMILY CARE CENTERS & |
| 144 | CATHOLIC SCHOOLS OF BROOME COUNTY AREA SUPERINTENDENTS OFFIC |
| 147 | STEFANELLI, GUST F |
| 148 | ST CYRIL & METHOD |
| 149 | OCCUPANT UNKNOWN, |
| 151 | DISCOUNT WALLCOVERING |
| | K M FABRIC CRAFT DRAPERY MANUFACTURERS |
| | OCCUPANT UNKNOWN, |
| | SWEET ADELINE CHORUS |
| 154 | PAPA G'S PIZZA & SUBS BROAD |
| | STEFANOS |
| 157 | JOOMWONG, NIKOM |
| 161 | SEDLOCK FUNERAL HOME INCORPORATED |
| 165 | FIRST WARD ACTION COUNCIL |
| 167 | NIMMONS, MICHAEL |
| | SHAMMA, H |
| 168 | HEIN, P |
| 170 | DOFTON, PETER P |
| 171 | STRIP SHOPPE THE |
| 174 | BRIDGETTS HAIR SALON |
| 176 | HORSE FEATHER ANTIQUES & COLLECTIBLES |
| 180 | BRASS RAIL GRILL |
| | MORGAN, DANIEL L |
| | NANNERY, ARLENE E |
| 184 | NANNERYS GROCERY STORE |
| 186 | FRANK, ROBERT E |
| | GALLAGHER, MARY |
| | HENNINGER, LORRI |
| | HOLLENBECK, D |
| | VACRI CONSTRUCTION CORP |
| 187 | MAPLE VAIL BOOK MANUFACTURING GROUP |
| | PLASTICS MANUFACTURING & RECYCLINGSYSTEMS |
| 188 | LE, ANH T |
| 190 | KINGSLEY, PHILIP C |
| 192 | REMZA, FRANK J |
| 196 | TERRYS TAVERN |
| 197 | BARNES, CARROL |
| | BLAKESLEE FOODSERVICE EQUIPMENT |
| | HAYDEN, HELEN |
| | RODRIGUEZ, C A |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

## CLINTON ST 2000 (Cont'd)

| | |
|---|---|
| 197 | SAKOVITCH, MICHAEL |
| 205 | BC DIVERS |
| | NEW YORK STATE DEPARTMENT OF TRANSPORATION |
| | SUNLIGHT CAKES |
| 206 | JOHNSON, M |
| | LAVIN, ED |
| | SAYLES, M |
| | WATSON, MONROE W |
| 208 | MOSHER, C E |
| 210 | A A ALCOHOLICS ANONYMOUS |
| | ABBEY BUSINESS FORMS |
| | ANSWERING SVCE TRI CITIES |
| | BROWN ALLEN GENL CONTRACTOR |
| | BRUCES APPLIANCE SERVICE |
| | CANTEEN CORPORATION |
| | CENTRAL N Y WOOD FLOORS |
| | CJR APPLIANCE SERVICE |
| | CONSISTENTLY CLEAN |
| | CUSTOM CARPET |
| | D S I SECURITY SYSTEMS |
| | FACILITY INNOVATIONS |
| | IVY MORTAGE |
| | JAFRI MOKARRAM DR |
| | LAMAN ROBERT CONSTRUCTION |
| | LEAGUE OF WOMEN VOTERS OF BROOME & TIOGA COUNTIES |
| | MARKS SEAL COATING |
| | NARCOTICS ANONYMOUS |
| | RIMBACH T J RECOVERY INCORPORATED |
| | TRI CITIES COMMUNICATIONS |
| | UNIVERSITY SINGLES INCORPORATED |
| 212 | DAVIS, AMY L |
| | MASON, ANNA |
| 214 | LEAHEY, C |
| | SANO, C M |
| 226 | BINGHAMTON CITY OF PARKS AND RECREATION SERVICES |
| | BROOME COUNTY GOVERNMENT AREA AGENCY ON AGING |
| | FIRST WARD SENIOR CITIZEN RESERVATION |
| 228 | JENNINGS, C |
| | RAHILLY, LAURI |
| 230 | BENYA, ANNA T |
| 232 | FELSHEIM, WAYNE |
| | JACKSON, C |
| 234 | AEGIS CREMATION SVCE |
| | TOMANCIK, JOSEPH |
| 236 | PARR, DORIS J |
| | YOUNG, JOHN |
| 238 | ALL LINES INS AGENCY |
| 245 | R T DISPOSAL SERVICES INCORPORATED |
| | ROGERS WAREHOUSE & DISTRIBUTION CENTER |
| | RSG-ROGERS SERVICE GROUP |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

## CLINTON ST 2000 (Cont'd)

| | |
|---|---|
| 245 | UNITED VAN LINES AGENT |
| 246 | UNION HOTEL PIZZA ORDERS |
| 250 | MATTHEWS, MICHAEL P |
| 256 | LYNN DEES FLOWER SHOWROOM |
| 262 | CLEVELAND PLANT & FLOWER COMPANY |
| 274 | ROBINSON, JAMES H |
| 276 | FAYETTE DSTRBTNG CORPORATION |
| | KOVARIK TRUE VALUE HARDWARE COMPANY |
| 280 | DUTKO, JAMES |
| | ST MICHAELS GREEK CATHOLIC CHURCH |
| 282 | HRISKO, FRANCES |
| 283 | OCCUPANT UNKNOWN, |
| 284 | MAD HATTER ANTIQUES |
| | SINCHAK, ANNA |
| | TANNER, SOPHIE S |
| 287 | J V LOGO LINE |
| 288 | ST MICHAELS GREEK CATHOLIC CHURCH |
| 295 | OCCUPANT UNKNOWN, |
| 298 | ARC MENS WELFARE CLUB |
| | ST MICHAELS GREEK CATHOLIC CHURCH |
| 300 | FROG ALLEY |
| 301 | DYES, JAMES |
| 303 | CHAKANOVSKY, JEAN |
| | DOBISH, THERESA |
| 304 | MY PLACE |
| | SILVER FOX ANTIQUES |
| 305 | BROOME MENTAL HEALTH CONSUMER ADVISORY BOARD RECIPIENT AFFA |
| | NEW YORK STATE MENTAL HEALTH OFFICE OF |
| 306 | PALENCAR, ROBERT J |
| 308 | DALCO SHOE SVCE |
| | DORFMAN, BERT |
| 309 | HOWARD & PENFIELD INCORPORATED |
| | MATSON, DAMIEN |
| 310 | K-9 DESIGN |
| 311 | HATFIELD, B |
| | REESE, JODIE |
| 315 | TRI CITIES OPERA |
| 324 | ASCENSION LUTHERAN CHURCH |
| 325 | TEAMWORLD INCORPORATED |
| 328 | MILK, A |
| | POWELL, GERALD |
| 330 | MOORE, S |
| 331 | HEMP WINE AMERICA INCORPORATED |
| | OCCUPANT UNKNOWN, |
| 332 | D & M EMBOSSING SVCE |
| | JENNIES BEAUTY SALON |
| 334 | HADI, C |
| | RAHIM, SHAH |
| | SLOPKA, DAWN |
| 336 | PUSEN, P |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

## CLINTON ST 2000 (Cont'd)

| | |
|---|---|
| 337 | BARVINCHAK, MICHAEL |
| | GAYLORD, WILMA |
| | VIMISLIK, S |
| 341 | GORGOL, FRANK |
| | HEROLD, JODI |
| | JIMMYS A & W RESTRNT |
| 343 | CLINTWOOD PHARMACY |
| 344 | BINGHAMTON TRANSMISSION AND AUTOMOTIVE ELECTRIC |
| | BINGHAMTON TRANSMISSION AND AUTOMOTIVE REPAIRS LIMITED |
| 346 | YEL HELP SECURITY |
| 348 | LADYLUCK BAR & GRILL |
| 352 | LEBINH, QUY |
| | REMEMBER WHEN |
| | RIVERSIDE SHOPP THE |
| 358 | HOLY SPIRIT CENTER |
| 360 | HOLY SPIRIT BYZANTNE CATHOLIC CHURCH |
| 368 | FOR YOUR LISTENING PLEASURE SCOTTS TV |
| | SCOTTS TV SVCE |
| 370 | FORT APACHE |
| | FORT APACHE DELI |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# HUDSON ST 2000

| | |
|---|---|
| 20 | OCCUPANT UNKNOWN, |
| 24 | OCCUPANT UNKNOWN, |
| 26 | OCCUPANT UNKNOWN, |
| 30 | OCCUPANT UNKNOWN, |
| 32 | OCCUPANT UNKNOWN, |
| 34 | MORRISON, M |
| | SHEPARD, FRED A |
| 36 | SWANSON, ANDREW |
| 40 | OCCUPANT UNKNOWN, |
| 42 | CEIRI, SHERI |
| 44 | COMPTON, LARRY A |
| 46 | BEEMAN, LINDA M |
| 48 | CHARLIER, ROBERT |
| 52 | JACKSON, SHAWN |
| 56 | OCCUPANT UNKNOWN, |
| 60 | OCCUPANT UNKNOWN, |
| 62 | POLLAK, DONNA M |
| 63 | OCCUPANT UNKNOWN, |
| 64 | OCCUPANT UNKNOWN, |
| 66 | NORTON, L D |
| 67 | OCCUPANT UNKNOWN, |
| 68 | OCCUPANT UNKNOWN, |
| 72 | TARO, NANCY |
| 75 | DAVIE, RICHARD S |
| 76 | CARL, NEAL I |
| 131 | KRESOCK, ALLAN |
| 139 | BEAM, CARL L |
| 143 | OCCUPANT UNKNOWN, |
| 144 | GRYCREK, M R |
| | REINHART, LANNY J |
| 147 | ROBINS, ELLEN G |
| 153 | SOUMTHONTHAKDY, INTA |
| 159 | OCCUPANT UNKNOWN, |
| 176 | DAVIS, SACHA L |
| 179 | OCCUPANT UNKNOWN, |
| 180 | JONES, ERIK |
| 184 | OCCUPANT UNKNOWN, |
| 187 | FORTUNE, PAUL L |
| 188 | MATICH, ALEX |
| 191 | LUEDECKE, EARL |
| 195 | CHOUTA, P |
| | FENNER, JOHN M |
| 196 | FRANCIS, J |
| | MAJOR, FRANCIS J |
| 199 | OCCUPANT UNKNOWN, |
| 200 | OCCUPANT UNKNOWN, |
| 201 | WANG, HUAN |
| 205 | GAYNES, LISA M |
| 207 | CHAIMANG, SOM |
| 208 | KUEHNER, JAMES |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

## HUDSON ST 2000 (Cont'd)

| | |
|---|---|
| 208 | WEBB, ROBERT M |
| 209 | OCCUPANT UNKNOWN, |
| 211 | STREET, WALTER D |
| 212 | OCCUPANT UNKNOWN, |
| 215 | OSBORN, LORI M |
| 216 | OCCUPANT UNKNOWN, |
| 219 | KIDD, DONALD |
| 220 | FLEMING, CAROL L |
| 223 | OCCUPANT UNKNOWN, |
| 224 | JASON, ERNST |
| 227 | JEWETT, RODNEY J |
| 228 | PATRICK, FRANK A |
| 231 | ONEIL, LEO P |
| 232 | OCCUPANT UNKNOWN, |
| 235 | MEADE, RAYMOND T |
| 236 | OCCUPANT UNKNOWN, |
| 240 | KNETCHEL, GREGORY J |
| 241 | SMITH, J |
| | WETMORE, STEVEN |
| 244 | PHILLIPS, G M |
| 247 | MANEY, DANIEL E |
| 248 | RALSTON, HARRY C |
| 252 | BOWIE, NICOLE |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# JARVIS ST 2000

| | |
|---|---|
| 4 | ALEXANIAN, EVA |
| 6 | OCCUPANT UNKNOWN, |
| 7 | AA-WYAK INSURANCE |
| | WYAK INSURANCE AGENCY |
| 8 | CHAPLIN, AMANDA |
| | GILLIGAN, THOMAS J |
| 10 | COAXUM, KELLY |
| 13 | PEEPLES, T |
| | RAINEY, C R |
| | RYAN, JOSEPH |
| | SEIDEL, JASON A |
| | TOWNSEND, BRYANT |
| | WALKER, THERESA |
| | WILLIAMS, ERIN |
| 15 | THOMPSON, VELERIA |
| 17 | CHANG, WON W |
| | MCDONNALD, SCOTT |
| | STARKEY, LEE |
| | YOUNG, HERMAN E |
| 34 | HAFELE, MATTHEW |
| 38 | BINGHAMTON AUTO & BODY |
| 40 | EASTERN COMPOSITION |
| | UPSTATE OFFICE LIQUIDATORS |
| | WELCH PROPERTY MANAGEMENT |
| 43 | SOGHANALIAN, MARITZA |
| 45 | ALBRECHTA, R |
| | BILLS, JOHN M |
| 47 | OCCUPANT UNKNOWN, |
| 49 | JASKIEWICZ, WILLIAM L |
| 51 | CRAMPTON, DANIEL |
| | NAPPI, RICHARD M |
| 55 | KLENOVIC, TRACI |
| | SMITH, ELEANOR M |
| | UNDERWOOD, C |
| 56 | MARKOVICH, SAMUEL |
| 57 | VARSIK, JOSEPH E |
| 58 | ABBADESSA, THOMAS |
| 59 | BRUSIL, STEVEN T |
| 60 | BENNETT, MARY R |
| 61 | TROWBRIDGE, ROBERT H |
| 62 | MASSAR, BERNARD |
| 63 | ONDRUSEK, PAMELA |
| 64 | WHITELONIS, ANNA |
| 65 | SODEUR, C |
| 66 | REGULSKI, FRANK S |
| 67 | SHAUL, ROY F |
| 68 | BALCHIKONIS, BRIAN T |
| 69 | JACKOWSKI, DAVID C |
| 70 | KURCIN, JOHN J |
| 71 | HARRIS, MAXINE S |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

## JARVIS ST 2000 (Cont'd)

| | |
|---|---|
| 71 | WILLIAMS, JACKIE |
| 72 | DAHLSTROM, JOLENE |
| | VOLEK, J M |
| 73 | SITAR, BARBARA F |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# CHARLES ST 1995

| | |
|---|---|
| 15 | RAI ELECTRONICS |
| | RAI MED SERVICES |
| | RESOURCE ASSOC INTERNATIONAL |
| | UPSTATE OFFICE FURNITURE |
| | UPSTATE OFFICE LIQUIDATORS |
| 22 | BINGHAMTON COGENERATION PLANT |
| | STONE & WEBSTER OPERATING CORP |
| 40 | ANITEC |
| | TWO RIVERS FEDERAL CREDIT UNION-BRANCH OFC |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 1995

| | |
|---|---|
| 20 | CLINTON HOTEL |
| 31 | CONTRO JOHN M & SONS PLMBNG & HTNG INC |
| 40 | CRESCENT CLEANERS |
| 44 | PAT'S HAIRSTYLING |
| 48 | CAMELOT JEWELERS |
| 54 | ANNY'S |
| | GAFFNEY PLUMBING & HEATING |
| 56 | SHY VIOLET |
| 58 | LYNCH'S TAVERN |
| 67 | TITCHENER E H & CO |
| 90 | PHILADELPHIA SALES CO-BINGHAMTON STORE |
| | ROYAL JOBBERS |
| 93 | WILLIAMS & WILLIAMS HAIR CUTTERS & WIG SHOP |
| 95 | STOREKEEPER THE |
| 97 | CHINA CLOSET |
| 99 | CLINTON MILL ANTIQUE CENTER |
| | DISCOUNT WALLCOVERING SHOP |
| | DRAPERY DECORS-THOMAS RACE DESIGNER |
| | K-M FABRIC CRAFT DRAPERY MFRS |
| | RACE, THOMAS |
| 113 | MIDSTATE OUTDOOR ADVTNG |
| | PARK OUTDOOR ADVTNG |
| 114 | OLUM FURN CO |
| 126 | OLUM'S OUTLET STORE |
| 128 | ALL AMERICAN TENT RENTALS |
| 130 | SWEETCHEEKS THEATRICAL MAKEUP |
| 132 | GENERAL CLINTON JACK'S REFINISHING & UPHOLSTERY |
| | JACK'S GENERAL CLINTON REFINISHING & UPHOLSTERY |
| 139 | HAWLIK JOHN R TELEVSN RADIO SVCE |
| 141 | FRANKIE RUFFO'S FLOWER SHOP |
| | RUFFO'S FRANKIE FLOWER SHOP |
| 154 | PAPA G'S PIZZA & SUBS |
| 161 | SEDLOCK FUNERAL HOME INC |
| | SEDLOCK, JOHN T, FUNRL DIRCTR |
| 165 | FIRST WARD ACTION COUNCIL |
| 166 | THE OTHER WOMAN |
| 171 | STRIP SHOPPE THE |
| 173 | BARAN'S ANTIQUE CENTER |
| 178 | ARLENE'S COUNTRY GARDEN GIFT SHOP |
| 180 | BRASS RAIL GRILL |
| 184 | NANNERY'S GROCERY STORE |
| 187 | MAPLE VAIL BOOK MFG GROUP |
| 190 | PHIL'S GOLD & SILVER |
| 196 | TERRY'S TAVERN |
| 197 | NEARLY NEW |
| 205 | SUNLIGHT CAKES |
| 210 | A A ALCOHOLICS ANONYMOUS |
| | ABBEY BUSINESS FORMS |
| | ANSWERING SVCE-TRI CITIES |
| | BINGHAMTON HARDWOOD CORP |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 1995 (Cont'd)

| | |
|---|---|
| 210 | BRUCE'S APPLIANCE SERVICE |
| | CANTEEN CORP |
| | CENTRAL NY WOOD FLOORS |
| | CLASSIC WINDOW CO |
| | CONSISTENTLY CLEAN |
| | CUSTOM CARPET |
| | D S I SECURITY SYSTEMS |
| | EATING DISORDERS PSYCHOTHERAPY ASSOCIATES |
| | FACILITY INNOVATIONS |
| | IHDE, LESLIE ANN, MSW |
| | JAFRI, MOKARRAM DR |
| | LEEDS, DEBRA K, MSW |
| | MARK'S SEAL COATING |
| | NARCOTICS ANONYMOUS |
| | OSBORN, WENDY, MSW |
| | RAPP, SUE E, MSW |
| | RIMBACH T J RECOVERY INC |
| | ROBERTS, JOSEPH |
| | SECURITY ROOFING |
| | SHUBA, PAUL |
| | TELEPHONE ANSWERING SVCE-TRI-CITIES |
| | TRI-CITIES COMMUNICATIONS |
| 220 | TOWN & COUNTRY FLOWERS |
| 226 | BINGHAMTON CITY OF-PARKS & RECREATION SERVICES-SENIOR CITIZE |
| | BROOME COUNTY GOVERNMENT OFC FOR AGING SENIOR CENTERS FIRST |
| | FIRST WARD SENIOR CITIZEN RESERVATION |
| 238 | ALL LINES INS AGCY |
| | TYNEWAY, FRED T, INS |
| 245 | R T DISPOSAL SERVICES INC |
| | ROGERS MOVING & STORAGE |
| | ROGERS TRUCKING CO INC |
| | ROGERS WAREHOUSE & DISTRIBUTION CENTER |
| | UNITED VAN LINES AGENT |
| 246 | UNION HOTEL, PIZZA ORDERS |
| 256 | LYNN DEE'S FLOWER SHOWROOM |
| 262 | CLEVELAND PLANT & FLOWER CO |
| 276 | FAYETTE DSTRBTNG CORP |
| | KOVARIK TRUE VALUE HARDWARE CO |
| 284 | MAD HATTER ANTIQUES |
| 287 | MANUFACTURING PROCESS TECHNOLOGIES INC |
| 298 | ARC MEN'S WELFARE CLUB |
| 299 | MACHLICA, FRANCIS J, PHOTO STUDIO |
| 300 | FROG ALLEY |
| 304 | SILVER FOX ANTIQUES |
| 305 | NEW YORK STATE-MENTAL HEALTH OFC OF-DAY CTRR |
| 308 | DALCO SHOE SVCE |
| 309 | HOWARD & PENFIELD INC |
| 310 | INTERIORS WITH CLAUDIA |
| 315 | TRI-CITIES OPERA-BUSINESS OFFICE |
| | TRI-CITIES OPERA-FAX LINE |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 1995 (Cont'd)

| | |
|---|---|
| 324 | ASCENSION LUTHERAN CHURCH |
| 325 | TEAMWORLD INC |
| 332 | D & M EMBOSSING SVCE |
| | DE MARCO, MARJORIE |
| | JENNIE'S BEAUTY SALON |
| 333 | VELMA'S BEAUTY SALON |
| 341 | JIMMY'S A & W RESTRNT |
| 343 | CLINTWOOD PHARMACY |
| | WESTERN UNION-TO PICK UP OR SEND MONEY TRANS-BINGHAMTON-CLIN |
| 344 | BINGHAMTON TRANSMISSION AND AUTOMOTIVE REPAIRS LTD |
| 346 | YEL-HELP SECURITY |
| 348 | AMPS |
| 352 | REMEMBER WHEN |
| | TWIN RIVERS ANTIQUES |
| 358 | HOLY SPIRIT CENTER |
| 360 | HOLY SPIRIT BYZANTINE CATHOLIC CHURCH |
| 368 | FOR YOUR LISTENING PLEASURE/SCOTT'S TV |
| | SCOTT'S RADIO AND TELEVISION COMPANY/FOR YOUR LISTENING PLEA |
| | SCOTT'S TV |
| | SCOTT'S TV SVCE |
| 370 | FORT APACHE |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# JARVIS ST 1995

| | |
|---|---|
| 7 | COLOR CORNER |
| 20 | EMPIRE LUMBER CO |
| | R L REALTY LUXURY APTS |
| | RIVERS EDGE LUXURY APTS |
| 38 | BINGHAMTON AUTO & BODY |
| 40 | BWA |
| | CREATIVE WOODWORKS |
| | EASTERN COMPOSITION |
| | FORTRESS PAINTBALL INC |
| | SERDULA, ANTHONY A |
| | SOLDIERS & SWORDS |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# CHARLES ST 1992

| | |
|---|---|
| 2 | WALSH, EDWARD W |
| | WHITNEY, DENNIS |
| 4 | PARLIMENT, S |
| 15 | STONE & WEBSTER ENGNRNG CORP |
| | UPSTATE OFFICE LIQUIDATORS |
| | WEST FRANK A CO INC, REPRODCTNS |
| 22 | STONE & WEBSTER OPERATING CORP |
| 37 | METERA, WM |
| 39 | PRATKO, LOUIS CHILLY |
| | SCHIFFER, ANNA |
| 40 | ANITEC IMAGE CORP |
| 41 | ATON, DOUGLAS |
| 45 | KRAUSE, GERALD, JR |
| 47 | FOLTINEK, HELEN |
| | WOLONSKY, MICHL |
| 49 | DONSON, GARY R |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 1992

| | |
|---|---|
| 16 | CLARK, THERESA M |
| 19 | BURDICK, LOU |
| 20 | CLINTON HOTEL |
| 26 | THEODORE, JAMES |
| 31 | CONTRO JOHN M & SONS PLMBNG & HTNG INC |
| 36 | MC LARNEY, J |
| | MC LARNEY, ROBT |
| 39 | RECYCLED TIRES |
| | WINANS, KEN, RECYCLED TIRES |
| 40 | CRESCENT CLEANERS |
| 44 | PAT'S HAIRSTYLING |
| 48 | CAMELOT JEWELERS |
| 50 | RITZ THEATRE |
| 54 | ANNY'S |
| | GAFFNEY PLUMBING & HEATING |
| 56 | DURKOT, MICHAEL T |
| | WARNER, GARY |
| 58 | LYNCH'S TAVERN |
| | PELLO, FRANK T |
| 67 | TITCHENER E H & CO |
| 81 | CLUB 81 |
| 89 | ROZELLE, V J |
| 90 | PHILADELPHIA SALES CO-BINGHAMTON STORE |
| | ROYAL JOBBERS |
| 91 | BELCHER, MARJORIE |
| | SIMONDS, NANCY E |
| 93 | EMMICK, M |
| | MARVIN, KENNETH E, JR |
| | RAPUNZEL'S ANTIQUES & GIFTS |
| | WILLIAMS & WILLIAMS HAIR CUTTERS & WIG SHOP |
| 95 | BONSELL, DAISY |
| | CALLAHAN, A |
| | LEONARD, MARJORIE |
| | STOREKEEPER THE |
| 97 | BELCHER, M |
| | CHINA CLOSET |
| 99 | A DISCOUNT WALLCOVERING SHOP |
| | CLINTON MILL END OF BINGHAMTON INC |
| | FABRIC CRAFT DRAPERY MFRS |
| 113 | MIDSTATE OUTDOOR ADVTNG |
| | PARK OUTDOOR ADVTNG |
| 114 | OLUM FURN CO |
| 119 | BUELL, J P |
| | REVELS, SHEILA |
| | RIVERA, MELINDA |
| | WESTBROOK, LEE |
| 126 | OLUM FURN CO OUTLET STORE |
| | OLUM'S OUTLET STORE |
| 128 | ALL AMERICAN TENT RENTALS |
| | BRUMER, SHERYL |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 1992 (Cont'd)

| | |
|---|---|
| 128 | MOMENTS TO REMEMBER ANTIQUES & COLLECTIBLES |
| | NGUYEN, HO |
| | NICKERSON, CHRIS |
| | SHEPLEY, JOHN D |
| 130 | SWEETCHEEKS THEATRICAL MAKEUP |
| 132 | CONTRO, CHARLES |
| | FROST, SYBIL |
| | GENERAL CLINTON THE |
| 137 | CORBIN, CHARLES |
| | HALSEY, GILBERT |
| 139 | HAWLIK JOHN R TELEVSN RADIO SVCE |
| 141 | FRANKIE RUFFO'S FLOWER SHOP |
| | RUFFO'S FRANKIE FLOWER SHOP |
| 147 | DOFTON, M |
| 148 | ST CYRIL & METHOD-RECTORY |
| | ST CYRIL & METHOD-RELIGIOUS EDUCATION |
| 149 | STEFANELLI, GUST F |
| 154 | PUDGIE'S PIZZA & SUB SHOPS INC |
| 157 | RASAPHONE, BOUNYOU |
| | SAENGLONGMA, KAHMDY |
| 161 | SEDLOCK FUNERAL HOME INC |
| | SEDLOCK, J |
| | SEDLOCK, JOHN T, FUNRL DIRCTR |
| 166 | TEVYAW, R & L |
| | THE OTHER WOMAN |
| 168 | APEX TILE CO |
| | NGUYEN, CUONG |
| | PHILLIPS, B P |
| 170 | DOFTON, PETER P |
| 171 | STRIP SHOPPE THE |
| 173 | BARAN'S ANTIQUE CENTER |
| 174 | RJ REYNOLDS CO |
| 178 | ARLENE'S COUNTRY GARDEN GIFT SHOP |
| 180 | BRASS RAIL GRILL |
| | LAYTON, GRACE |
| | MORGAN, LOUIS W |
| | VANEK, KATHY & MIKE |
| 181 | CHASE-CHASE ANSWER CENTER |
| 184 | NANNERY'S GROCERY STORE |
| 186 | NEWMAN, CARL |
| | ROUGHT, BOBBIE JO |
| | TOP HAT ANTIQUES |
| 187 | CRAIN INDUSTRIES INC |
| | MAPLE VAIL BOOK MFG GROUP |
| 188 | CHANECKA, R M |
| | PEWTERBAUGH, IVAN & LORI |
| 192 | MUTUAL OF OMAHA, INSURANCE |
| | REMZA, FRANK J |
| | SCHEERER, CHAS E |
| 194 | JABLONOWSKI, B |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

# CLINTON ST 1992 (Cont'd)

| | |
|---|---|
| 196 | TERRY'S TAVERN |
| 197 | COMBS, HEATHER |
| | NEARLY NEW SHOP |
| | PATRONESSES LADIES OF CHARITY |
| 205 | SUNLIGHT CAKES |
| 206 | ADOMAITIS, FRANCES |
| | JOHNSON, M |
| | KUBIK, NEIL |
| | ROBERTS, L |
| 208 | DAVIDSON, MICHAEL H |
| | SMITH, CHRIS |
| 210 | A A ALCOHOLICS ANONYMOUS |
| | A B C MESSAGE CENTER |
| | AAA UPSTATE APPLIANCE SVCE |
| | ABBEY BUSINESS FORMS |
| | AL-ANON FAMILY GROUP |
| | ALCOHOLICS ANONYMOUS |
| | ANSWERING SVCE-TRI CITIES |
| | BRUCE'S APPLIANCE SERVICE |
| | CANTEEN SVCE OF SOUTHERN N Y |
| | CENTRAL NY WOOD FLOORS |
| | CLASSIC WINDOW CO |
| | CUSTOM CARPET |
| | D S I SECURITY SYSTEMS |
| | NARCOTICS ANONYMOUS |
| | PSYCHOLOGICAL TAPE SERVICE |
| | RIMBACH, THOS J, PRIVATE INVSTGTR |
| | RIVER MANGMNT FINANCIAL SVCES |
| | SCHWAAB INC |
| | SECURITY ROOFING |
| | SHUBA, PAUL |
| | TELEPHONE ANSWERING SVCE-TRI-CITIES |
| | TRI-CITIES COMMUNICATIONS |
| 212 | GRESKO, ALICE |
| | STUMP, ANN E |
| 214 | BELENSKY, A & M |
| | CACALA, N P |
| 218 | STANEK, LESLIE |
| | STANEK, MILDRED |
| 220 | TOWN & COUNTRY FLOWERS |
| 222 | DICK MAYE AUTO SALES |
| 226 | BINGHAMTON CITY OF-BUREAU OF PARKS & RECREATION-SENIOR CITIZ |
| | BROOME COUNTY GOVERNMENT OFC FOR AGING SENIOR CENTERS FIRST |
| | FIRST WARD SENIOR CITIZEN RESERVATION |
| 228 | BROWN, WILLIAM |
| | KRENITSKY, AUDREY |
| 230 | BENYA, A |
| 232 | GONZALEZ, RONALD |
| | LOVE, DENNIS J |
| | PAVLIK, M H |

# CLINTON ST 1992 (Cont'd)

| | |
| --- | --- |
| 232 | SOKOLOWSKI, LINDA R |
| 234 | TOMANCIK, JOS |
| | WESTCOTT, COURTNEY |
| 236 | PARR, RICHARD |
| 238 | ALL LINES INS AGCY |
| | LASKY, JOHN K |
| | TYNEWAY, FRED T, INS |
| 245 | R T DISPOSAL SERVICES INC |
| | ROGERS TRUCKING CO INC |
| | ROGERS, FRANCIS |
| | UNITED VAN LINES INC |
| 246 | MONICO, NICK |
| | UNION HOTEL, PIZZA ORDERS |
| 254 | MORTENSON, SHIRLEY |
| 256 | LYNN DEE'S FLOWER SHOWROOM |
| 262 | CLEVELAND PLANT & FLOWER CO |
| 274 | KUNDRATA, JOS |
| 276 | FAYETTE DSTRBTNG CORP |
| | KOVARIK TRUE VALUE HARDWARE CO |
| | LA DUE, MERVIN RALPH, SR |
| | ROGALAVICH, J |
| | SCHRAUGER, EDWARD |
| 280 | DUTKO, STEPH |
| | ST MICHAEL'S GREEK CATHOLIC CHURCH-RECTORY |
| 282 | HRISKO, THOS J |
| 283 | CRUTY, STEPHEN, SR |
| 284 | DURELLA, M |
| | MAD HATTER ANTIQUES |
| | SINCHAK, ANNA |
| | TANNER, S S |
| 291 | GALLA, STEPHEN M, SR |
| 294 | BISAHA, SUSAN |
| 298 | ARC MEN'S WELFARE CLUB |
| | ST MICHAEL'S GREEK CATHOLIC CHURCH-CHURCH OFC |
| | ST MICHAEL'S GREEK CATHOLIC CHURCH-RECREATION CENTER |
| 299 | BROWN, JAS |
| | BROWN, LISA |
| | MACHLICA, FRANCIS J, PHOTO STUDIO |
| 300 | FROG ALLEY |
| | PIER, MILDRED |
| 301 | KASCHAK, MICHL A |
| 303 | CHAKANOVSKY, ADOLPH |
| | DOBISH, THERESA |
| 304 | SILVER FOX ANTIQUES |
| 305 | BINGHAMTON PSYCHIATRIC CTR-DAY CENTER |
| | NYS OFC OF MENTAL HEALTH-BINGHAMTON PSYCHIATRIC CENTER-DAY C |
| 306 | BENKOVSKY, WM |
| | ZAVIS, A H |
| 308 | DALCO SHOE SVCE |
| | RASI, ROSA |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

## CLINTON ST 1992 (Cont'd)

| | |
|---|---|
| 309 | BLUNK, CLIFF |
| | HOWARD & PENFIELD INC |
| 310 | FIRST WARD ACTION COUNCIL |
| 312 | CHESNUT, P |
| | UNDREJUNAS, JOS |
| 315 | TRI-CITIES OPERA-BUSINESS OFFICE |
| | TRI-CITIES OPERA-FAX LINE |
| 320 | HIRSCHFIELD, LENA E |
| 322 | HARRIS, IVON P |
| | HARRIS, NANCY CHARLES |
| | LUTHERAN CHURCH ASCENSION, PARSONAGE |
| 324 | ASCENSION LUTHERAN CHURCH |
| 325 | S & D SCREEN PRNTNG |
| | TEAMWORLD OF BINGHAMTON |
| 328 | SNYDER, WM CLARK |
| | YAMMINE, GHASSAN |
| 330 | MCKENDREE, JOI |
| | WHITE, S |
| 332 | DE MARCO, MARJORIE |
| | JENNIE'S BEAUTY SALON |
| 333 | VELMA'S BEAUTY SALON |
| 334 | CHANG, HUOJUNG |
| | GHOSH, NABANITA |
| 335 | COHEN, STUART |
| | PANDICH, GERALD J |
| 336 | AGUILERA, SALVADOR |
| | CHEN, KUO MIN |
| 337 | BARVINCHAK, MICHAEL |
| | VIMISLIK, STEPHEN |
| 339 | CURIO CUPBOARD |
| | TWIN RIVERS ANTIQUES |
| 341 | JIMMY'S A & W RESTRNT |
| 343 | CLINTWOOD PHARMACY |
| | WESTERN UNION-TO PICK UP OR SEND MONEY TRANS-BINGHAMTON-CLIN |
| 344 | BINGHAMTON TRANSMISSION AND AUTOMOTIVE REPAIRS LTD |
| 346 | BOYSICK, WILLIAM |
| | CROWN CLEANING SVCE |
| 348 | AMPS |
| 352 | BERTRAM, S J |
| | D & M EMBOSSING SVCE |
| | REMEMBER WHEN |
| | WRIGHT, F |
| 358 | HOLY SPIRIT CENTER |
| 360 | HOLY SPIRIT BYZANTINE CATHOLIC CHURCH |
| 368 | FOR YOUR LISTENING PLEASURE |
| | SCOTT'S RADIO & TELEVISION |
| | SCOTT'S RADIO AND TELEVISION COMPANY FOR YOUR LISTENING PLEA |
| | SCOTT'S TV |
| | SCOTT'S TV SVCE |
| 370 | FORT APACHE |

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Cole Information |

## CLINTON ST 1992 (Cont'd)

| | |
|---|---|
| 5212 | MURPHY, MARIE F |
| 30112 | DODGE, GREGORY P |
| 30412 | KULIK, J M |
| 33112 | BUTCHKO, JENNIFER |
| | JAHELKA, MARY |
| | NILSEN, KRISTIAN, JR |
| 33612 | SZCZEPANSKI, EDWARD J |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# HUDSON ST 1992

| | |
|---|---|
| 14 | MILLER, KEVIN |
| | TRAN, TI |
| 16 | MARTIN, BETTY J |
| | NGUYEN, THIENG |
| 20 | BECK, JOS L |
| 22 | HUBBARD, KATHLEEN |
| 24 | BROWN, DARRYL |
| 30 | GALATIS, CHRISTY |
| 32 | MURPHY, JEFFREY A & DEBRA |
| 36 | MOORE, RICHARD |
| | SCHENA, GARY |
| 38 | BARBER, JOHN M, III |
| | SANTOLI, M A |
| 40 | HALLETT, BRIAN |
| | KILMER, ELIZABETH |
| 46 | SIMMONS, BARRY D |
| 52 | LUDWIG, MATT & FAITH |
| 56 | KANE, PATRICK |
| 60 | RYALL, MURIEL |
| 62 | LESKO, K |
| 63 | DUDNOW, CHESTER L |
| 64 | BLATTER, WM E |
| 66 | HEWITT, WILLIAM |
| 67 | DECKER, H E |
| | DECKER, J L |
| 72 | FIELDS, RHEA M |
| 75 | CHAMBERLAIN, PAUL J |
| 76 | CARL, NEAL I & W |
| 131 | KRESOCK, ALLAN |
| 143 | SAVATXATH, RATTANAPHONE |
| 144 | GRYCREK, M R |
| | REINHART, LANNY J |
| 149 | SOUVANAKHILY, BOUNSENG |
| 151 | SITHIDETH, SAENG |
| 153 | LATSAMBATH, BOUAPHANH |
| | SENGSOUVANH, BAY |
| 179 | KRISSELL, JOHN |
| 180 | JONES, LON |
| 183 | MUELLER, DON |
| | RUDD, ALICIA |
| | STOCUM, ELIZABETH |
| | VEST, AIMEE |
| 184 | SYSENH, BOUVALAY |
| 188 | MATICH, ALEX & ANITA |
| 191 | LUEDECKE, EARL, SR |
| | PADDLEFORD, JASON |
| 195 | BALDWIN, JAS M |
| | COURTRIGHT, S |
| | SINGER, GLORIA |
| 196 | EDWARDS, IDA M |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

## HUDSON ST 1992 (Cont'd)

| | |
|---|---|
| 196 | MAJOR, FRANCIS J, JR |
| | MAJOR, JOHN |
| 199 | BARANYK, WM WASYL |
| 200 | MCGRAW, C |
| 201 | BARANYK, JAMES |
| 203 | MC CARTHY, EUGENE G |
| 204 | CURRY, HILDA |
| 205 | HAVERLY, CLEON |
| 207 | CHAIMANG, SOM & AMKHACHAM |
| 208 | FORD, BUDD W |
| | KUEHNER, JAMES |
| 209 | OUDOMVILAY, LADDAVANH |
| 211 | BAKER, WALTER D |
| 212 | FIELD, WALLACE G |
| | MILLER, I J |
| 216 | BRUCE, PATRICK |
| 219 | MURPHY, ELVIN S |
| 220 | FLEMING, THOMAS L |
| 223 | SOLTIS, ROBERT J |
| 224 | JASON, ERNST & ERNA |
| 227 | JEWETT, RODNEY J & JAYNE |
| 228 | PATRICK, FRANK A |
| 231 | O'NEIL, LEO P |
| 232 | NAMARK, PHENE |
| | THIPHAVONG, PANCHA |
| 235 | CLARKE, A F |
| 241 | HAYES, S |
| | PALMER, DONALD J |
| 244 | HORTON, RHEA F |
| 247 | CRONIN, S B |
| 248 | BURDASH, M A |
| | RALSTON, HARRY C |
| 252 | BRANSTON, CHERI L |
| | BREARLEY, ROBERT C, JR |
| | SUNG, JAE-YONG |
| 20512 | TARO, NICK, JR |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# JARVIS ST 1992

| | |
|---|---|
| 4 | ALEXANIAN, PAUL |
| | RIQUELME, JORGE G |
| 6 | BAYLOR, HAROLD A |
| 8 | ALLADIN, IRFAN |
| | FANOR, EVANS |
| | HUSAIN, SOAIL |
| | SADIQ, AAMIR |
| 10 | PRATT, G M |
| 11 | KARNAUCH, VLADIMIR |
| 13 | HANNER, STEPHANIE |
| | JARVIS, MARY ELLEN |
| | STARK, D |
| 15 | HAMMOND, E R |
| 18 | T H GREEN CONSTR CO |
| 20 | EMPIRE LUMBER CO |
| | R L REALTY LUXURY APTS |
| | RIVERS EDGE LUXURY APTS |
| 34 | GOLD, DARRYL |
| | HARON, TERRANCE |
| 38 | BINGHAMTON AUTO & BODY |
| 40 | CHARLES STREET SOUND RECORDING CO |
| | EASTERN GRAPHICS |
| 43 | KUTZ, JOHN H |
| 45 | BILLS, JOHN & TINA |
| | TAYLOR, TAMMY |
| 47 | CRAWFORD, R |
| 49 | JASKIEWICZ, WM L |
| 51 | BLAHA, CHRIS |
| | NAPPI, RICHARD M |
| | PAGE, THOMAS |
| 55 | BIXBY, LISA |
| | STAGNARO, DENNIS |
| 56 | MARKOVICH, SAMUEL |
| 57 | VARSIK, JOS E |
| 58 | ABBADESSA, THOMAS |
| 59 | BRUSIL, STEVEN T |
| 60 | BENNETT, MARY R |
| 61 | TROWBRIDGE, ROBT H |
| 62 | MASSAR, BERNARD |
| 63 | ONDRUSEK, JOS |
| 64 | WHITELONIS, CAROL A |
| | WHITELONIS, LOUIS |
| 65 | BROWN, C L |
| 66 | REGULSKI, FRANK S |
| 67 | SHAUL, ROY F |
| 68 | BRUTVAN, JOSEPH J |
| 69 | JACKOWSKI, DAVID C |
| 70 | GRIEDER, ANDREW |
| | KURCIN, JOHN J, JR |
| 71 | HARRIS, M S |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Cole Information |

# JARVIS ST 1992 (Cont'd)

| | |
|---|---|
| 71 | KOPECEK, JOHN |
| 72 | CHANECKA, M |
| | DAHLSTROM, J |
| | VOLEK, J M |
| 73 | SITAR, B F |
| 1312 | AMERIN, JODIE |
| | LAMBIASE, DAVID |

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

## CHARLES ST 1970

**CHARLES (west side)**

From 62 Thorp north to beyond Field. Wards 2 and 1.

**Clinton crosses**

33 General Aniline & Film Corp*

**Grace ends**

37 Metera Wm*
39 Danko C M
Schiffer Anna*
41 Kocik S C*
43 Kocik J T*
45 Danek J R*
47 Wolonsky Michl*
49 Zemanek Louis*

**CHARLES (east side)**

2 Petitte J B
4 Elston E M*
Gilligan Margt
6 Empire Lumber Co warehouse
40 General Aniline & Film Corp photographic supplies

**Erie-Lackawanna RR crosses**

**Clinton crosses**

**Murphy av begins**

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Calkin-Kelly Directory Co |

# CLINTON ST 1970

150 SS Cyril & Methodius Church*
**St Cyril av begins**
158-162 Homaid Brands Inc
Cacala J J
McNeil Christine E
Schwehm Anna
Proper Connie
Stermensky Elizth J
164 vacant
166 Hotel Lincoln
166½ Pecka John
Eastwood Ronald
168 Apex Tile Co
Brown's Bicycle Shop
Morris Betty
170 Smith W H*
174 Hrisko F J
Macey Anna ins
176 G & G Records
Durella A E
**West begins**
178 Rainbow Aquarium
180 Figura Margt
Brass Rail Grill
Hammitt John
Morgan L W
Salerno F J jr
184 Bing Tropical Fish
186 J & A Dry Cleaners
Cook Annie
Rodriguez Abdon
White Mary
Malecki C
Reardon M D
Mushock Geo
Nelson Jewelers Inc
Gilan Lorena
Maday S J
Vinarsky S L
Fleming H
rear Casey J F
Gilan John jr
188 Selonek John
Foster Amy
190 Egitto Santi barber
192 Karenovic Julia*
Scheerer C E*
Russin Alexis lwyr
Remza F J
194 Krutochvil Mary L
196 Eddie's Restaurant
198 Sedor Stephen gro
200 Wurster Celia rest
Sasinek Mary*
202 Lublic Margt
Dean J F
Mattrazzo's Liquor Store

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Calkin-Kelly Directory Co |

**CLINTON ST 1970**

149 Cacciola Felice*
Stefanelli Gustave*
153 Chomyszak Andrew gasoline

**Crandall ends**

155-157 Wood J E
Tite G C
159 Jurick John S
Dofton Peter
161 Sedlock Andrew
Greskovic-Sedlock Funeral Home
165 Parisi John
Halbert Rebecca
Pat & Mike's Grill
167 Beach W O
169 vacant
171-177 GAF*

**Hudson ends**

181 First-City Nat Bank

**Charles crosses**

187-195 Vail-Ballou Press*
197 Juriga Frank*
Spitalsky Stephen
Vranka Frank
Lucas Augustine
Guaranteed TV & Appliances
Poremba Chas
Prochaska Stephen

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

# JARVIS ST 1970

**JARVIS (west side)**
From 164 Main north to 15 Field. Wards 2 and 1

1 Bates Troy Laundry
5 Syracuse Bearing
7 Lehman Gladys E*
Regopoulos Constantine
9 Kudritz Steve
Egitto Santi
11 Malloy J F
Henningan Chas
13 Barker B E
Cook Kenneth
Kernaklian Victoria*
13½ Burachalk Adolph
Nugent Helen
Rueffer Brenton
15 Kofira Madeline*
17 Taboian Yeshasa*
Greene Margie
Kehaian Ohan*
DeHaven G W

**Charlotte begins**

21 Short Stop The rest

**Erie-Lackawanna RR crosses**

**Clinton crosses**

41 Gruber Stanley*
Brutvan J J
43 Vavra Angeline*
45 Avedisian Harry*
47 Pollak Johanna*
Duhigg Ceilia
49 Jaskiewicz Wm
Prostredny Alois*
51 Charsky Constantine*
Cupina Robt
Cleland Clara M
Pritchard Sharon
Prespare E J

**Grace crosses**

55 Bohner R J
Tanzini Stanley
57 Herney Mary
Otis C J*
59 Brusil S T*
61 Chatrnuch Frank*
63 Ondrusek Jos*
65 Panicek Martin*
67 Shaul R F*
69 Jackowski D C*
71 Brusil Elizth*
Kopecek John
73 Korchak Anna*

**JARVIS (east side)**

4 Alexanian Badzar*
Gerdus John jr
6 Baylor H A*
8 Monroe E B*
Armstrong W F
10 Kuzma Mary*
12 Whalen D C
Campbell F E

**Thorp ends**

14 Empire Lumber Co
Binghamton Homes Inc
16 Central Body Shop
18-20 Binghamton Homes Inc

**Erie-Lackawanna RR crosses**

24-32 Vail-Ballou Co*
34 Bussa Geo
New Senate Hotel

**Clinton crosses**

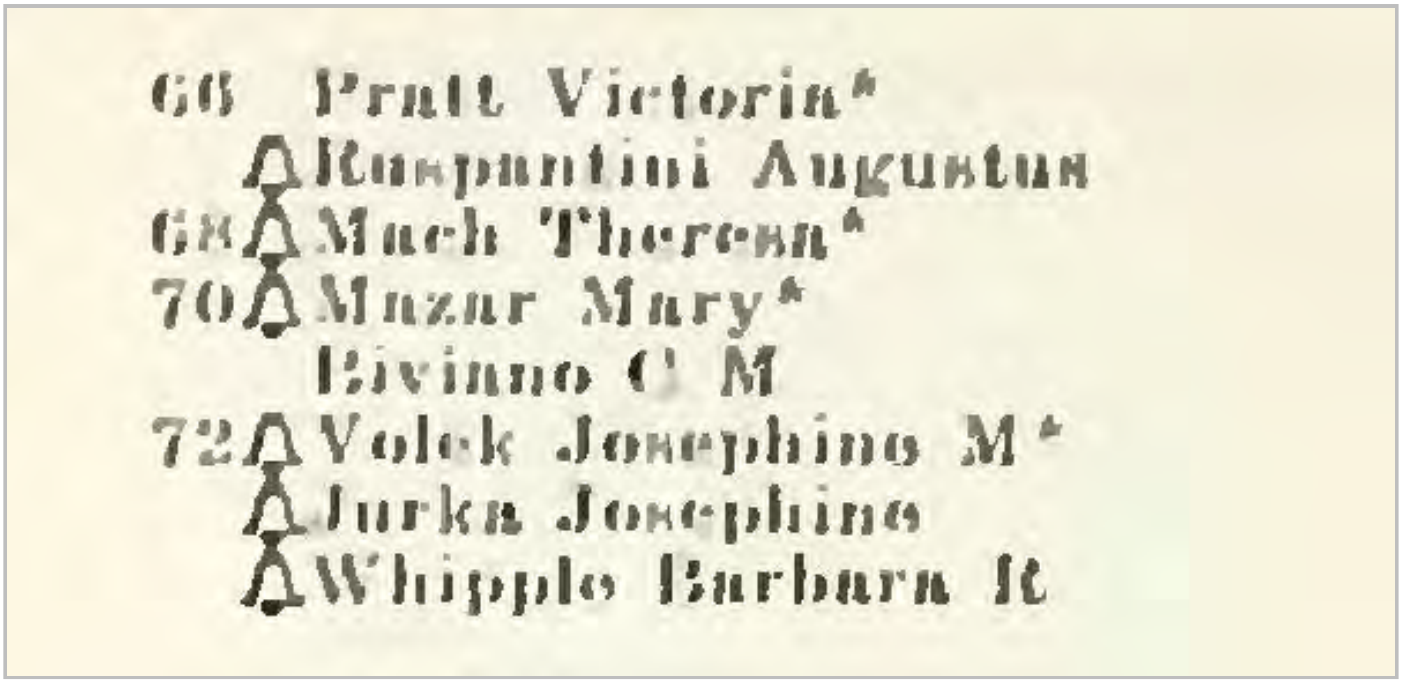
38 Warner Harold auto repr

**Grace crosses**

56 Pandich Gerald
Mamay Mary
58 Abbadessa S W*
60 Matalka Michl*
62 Massar B A*
64 Whitelonis L J*

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

## JARVIS ST 1970



| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

## CHARLES ST 1965

**CHARLES (west side)**
From 62 Thorp north to beyond Field. Wards 2 and 1.

**Clinton crosses**

33 Ansco Corp*

**Grace ends**

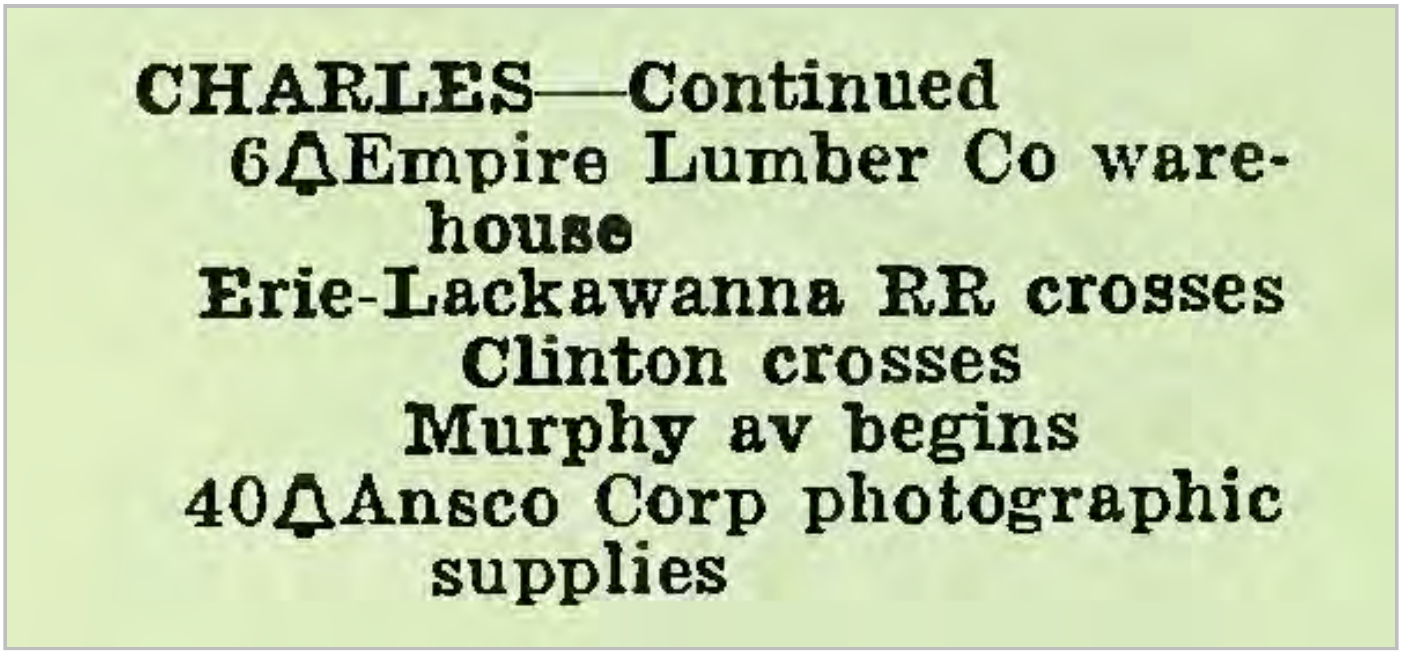
37 Metera Wm*
39 Sawchuk R N
Schiffer Anna*
41 Kocik S C*
43 Kocik J J*
45 Danek Cora O*
47 Wolonsky Michl*
49 Zemanek Louis*

**CHARLES (east side)**

2 Pettie J B
4 Elston E M*
aVnGorder Elizth S

| Target Street | Cross Street | Source |
| --- | --- | --- |
| - | ✓ | Calkin-Kelly Directory Co |

## CHARLES ST 1965



CHARLES—Continued
6 Empire Lumber Co warehouse
Erie-Lackawanna RR crosses
Clinton crosses
Murphy av begins
40 Ansco Corp photographic supplies

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Calkin-Kelly Directory Co |

## CLINTON ST 1965

155-157 Volunteers of America
159 Jurik Jno S
Dofton Peter
Pursel C I jr
161 Sedlock Andrew
Greskovic-Sedlock Funeral Home
165 Parisi Jno
Beloch M R
Pat & Mike's Grill
167 Beach W O
Lenga W M
169 vacant
171-177 Ansco*
179 Vail-Ballou

**Hudson ends**

187 First-City Nat Bank

**Charles crosses**

187-195 Vail-Ballou Press*
197 Juriga Frank*
Comparetta J T
Vranka Frank
Lucas Augustine
Guaranteed TV & Appliances
Spitalsky Steven
Poremba Chas
293 Bisaha Michl
205 Tri-County Upholstering
207 vacant
209 Kruty Mary T* rest

**Jarvis crosses**

235 Ansco Warehouse
243 Bolebruch W J hotel
245-263 Ansco
265 Wesley Theresa
Warner J A
265½ Guley Frank
Lipa Anna

**Ireland av begins**

267 Callahan Michl
Klaczany Roman
267½ Sagan A J*
269 Branick's Bedding & Furniture
Branick Andrew*

| Target Street | Cross Street | Source |
|---|---|---|
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## CLINTON ST 1965

180 Swanbery Mary
Brass Rail Grill
Minnow J E
Salerno F J
Morgan L W
Kit Steven
184 Bldg Trades Laborers Union
186 J & A Dry Cleaners
Nelson Jewelers Inc
Gilan J F
Rawley Ray
DuBrava John
Yavorski Helen
Meloni Jos
Vanags John
Gates Donald
Reardon John
Rodriguez Abdon
Vinarsky Stephen
rear Casey J F
Pierce L J
Rahl H D
188 Selonek John
Butler R E
190 Egitto Santi barber
192 Karenovic Julia
Scheerer C E*
Lord Beverly
Russin Alexis lwyr
194 Kratochvil Mary L
196 Eddie's Restaurant
198 Sedor Stephen gro
200 Wurster Celia rest
Sasinek Mary
202 Lublic Margt
Dean J F
Sasinek M J liquors
Libak Mary
Massar Rose H
Butterworth Mary
Charles crosses
204 Ansco Corp*

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

# JARVIS ST 1965

**JARVIS (west side)**
From 154 Main north to 15 Field. Wards 2 and 1
1 Bates-Troy Laundry
5 Syracuse Bearing
7 Lehman Gladys E*
9 Beam D E
11 Malloy J F
Helmer Clarence
13 McGough Peter
Cutting Legrand
Kernaklian Victoria*
13½ Burachalk Adolph
Nugent Helen
Rueffer Brenton
15 Kofira P P*
17 Taboian Yeshasa*
Hagelstein J A
Kehaian Ohan*
**Charlotte begins**
21 vacant
**Erie-Lackawanna RR crosses**
**Clinton crosses**
41 Gruber Stanley*
Brutvan J J
43 Vavra M J*
45 Avedisian Harry*
Walters Ernest
47 Pollak Jacob*
49 Jaskiewicz Wm
Prostredny Alois*
51 Charsky Constantine*
Kaufman Jack
Cleland Clara M
Pritchard Sharon
Prespare E J
**Grace crosses**
55 Mitsuti Jos*
Lauber August
57 Herney Mary
Otis C J*
59 Brusil S T*
61 Chatrnuch Frank*
63 Ondrusek Jos*
65 Panicek Martin*
67 Sedor J K*
69 Fessler B J*
Weiss Anna
71 Brusil Elizth*
Kopecek John
73 Korchak Anna*
Dimbro Mary

**JARVIS (east side)**
4 Alexanian Paul*
Place Robt
6 Baylor H A*
8 Monroe E B*
Young Wm
10 Kuzma Mary*
12 Barton Martha
Whalen D C
Semmler Martha
**Thorp ends**
14 Empire Lumber Co
Binghamton Homes Inc
16 Bing Auto Spring Co
18-20 Vail-Ballou (Warehouse)
**Erie-Lackawanna RR crosses**
24-32 Vail-Ballou Co*
34 Bussa Geo
New Senate Hotel
**Clinton crosses**

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

**JARVIS ST 1965**

**JARVIS—Continued**

38 Arsland Leasing Co

**Grace crosses**

56 Pandich Gerald

Mamay Mary

58 vacant

60 Matalka Michl*

62 Massar A J

Massar B A*

64 Whitelonis L J*

66 Pratt Victoria

68 Mach Theresa*

Ruspantini Augustus

70 Mazar Mary*

72 Volek Helen*

Jurka Josephine

Whipple Barbara R

Biviano C M

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

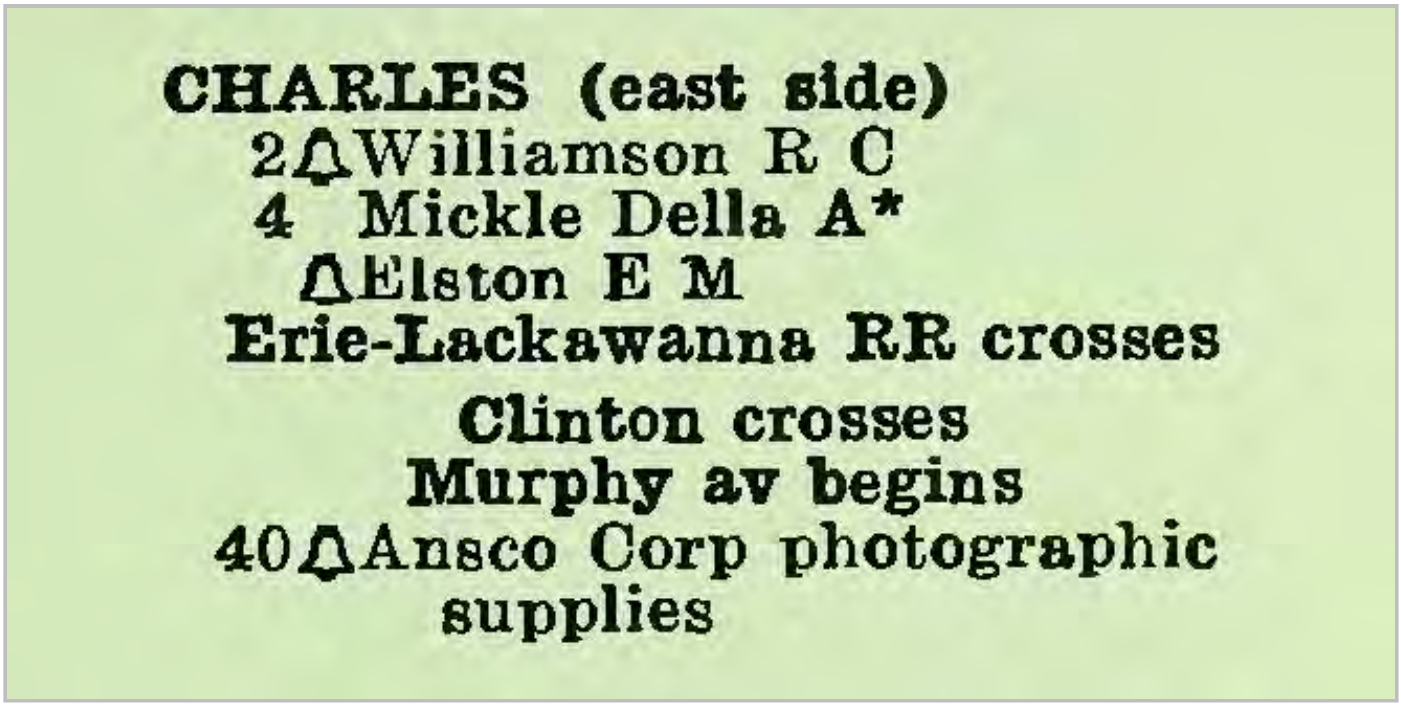
## CHARLES ST 1961

**CHARLES (west side)**
From 62 Thorp north to beyond Field, Wards 2 and 1
Clinton crosses

33 Ansco Corp*
Grace ends
37 Metera Wm*
39 Benzi J N
Schiffer Anna
41 Kocik S C*
43 Kocik J J*
45 Danek Cora O*
47 Wolonsky Michl*
Juriga R F
49 Zemanek Louis*

| Target Street | Cross Street | Source |
| --- | --- | --- |
| - | ✓ | Calkin-Kelly Directory Co |

## CHARLES ST 1961



| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Calkin-Kelly Directory Co |

# CLINTON ST 1961

155 Hodovanis Susan
Remus M A jr
157 StCyril's Men's Club
159 Jurik Jno S
Dofton Peter
161 Greskovic Jos*
Greskovic Funeral Home
165 Parisi Jno
Westcott V C
Pat & Mike's Grill
167 Beach W O
Babinski Sophia
169 Sayna Jno rest
171-177 Ansco*
179 Demchak Wm* gasoline
Hudson ends
181 First-City Nat Bank
Charles crosses
187-195 Vail-Ballou Press*
197 Juriga Frank*
Becsei Julius
Buchta Jno
Comparetta J T
Vranka Frank
Lucas Augustine
Viskocil Theresa J
Leventhol A & Sons Inc
dental supplies
Kert Wm
201 Uhrinec F J
Brister H C
Cisz J M
Buchel F L
203 Benkovic F E phys
205 vacant
207 Buchel & Son clnrs
Kruty Mary T rest
209 Kruty Mary T*
Jarvis crosses
235 Ansco Warehouse
237 Richardson Mitchel
Costantino Anthony
239 Litwin J M
243 Bolebruch W J hotel
245-263 Ansco
265 Korcak Jos*
Guley Frank
Wesley Theresa
265½ Klaczanyj Jos
Lipa Anna
Ireland av begins

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Calkin-Kelly Directory Co |

# CLINTON ST 1961

148 Baloga H C Rev
150 SS Cyril & Methodius Church*
St Cyril av begins
154 Clinton Market meats
Fedish Ann M
Mallette L W
156 Hojsik Mary
Wood G B rest
Vasko F S
158-162 Homaid Brands Inc
McNeil J J
Manzer Jas
Theodore Jas
Galla J A
Cacala J J
Kennedy F B
164 Sokol Jno barber
166 Hotel Lincoln
166½ Pecka Jno
Kutalek Myra M
168 International Chemical Workers Union
Derby Knitting Co
170 Smith W H*
174 Lamb B C & Son ice cream
Hrisko F J
Macey Anna ins
Ruffo Jas
174 Hrebeck Jos
176 Durella A E
Endicott-Johnson Corp shoes
Pandich Michl
178 Midway Restaurant
West begins
180 Swanbery Mary
Brass Rail Grill rest
Minnow J E
Salerno F J
Morgan L W
Brennan T F
Layton J D
184 Brigiotta Jos tlr
186 J & A Dry Cleaners
Bowen Robt
Herrick Stephen
Gilan J F
Zurenda J L
Miller Agnes
DuBrava John
Nelson Solomon jwlr
Ramley Ray
Muschock Geo
Schatz Nellie
rear Casey J F
Layton R L
Pierce Louis

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

# JARVIS ST 1961

5 Syracuse Bearing
7 Lehman Gladys E*
9 Bovee B G
Malloy Jno
11 Merrette J P jr*
Fichtl R W
13 Kernaklian Avedus*
Kernaklian Victoria*
Crowley J J
13½ Crandall D R
Nugent Helen
Rueffer Brenton
15 Kofira P P*
17 Taboian Bogos*
Klatz Geo
Greene R W
Kehaian Ohan*
Charlotte begins
21 vacant
Erie-Lackawanna RR crosses
Clinton crosses
41 Gruber Stanley*
Brutvan J J
43 Vavra M J*
45 Avedisian Harry*
Walter Ernest
47 Pollak Jacob*
49 Seaman Mary
Prostredny Alois*
51 Charsky Constantine*
Cleland Clara M
Downes Leonard
Grace crosses
55 Mitsuti Jos*
Lauber August
57 Herney Mary
Otis C J*
59 Habala Paul*
61 Chatrnuch Frank*
63 Hanzalik W A*
65 Panicek Martin*
67 Shipko M L*
69 Fessler B J*
Weiss Anna
71 Brusil Paul*
Kopecek Jno
73 Korchak Anna*
Dimbro Mary

JARVIS (east side)
4 Alexanian Boghos*
Mikulski W R
6 Baylor H A*
8 Monroe E B*
Karn Alice B
10 Kuzma Mary*
12 Robertson J W
Paradis E C
Thorp ends
14 Empire Lumber Co
16 Bing Auto Spring Co
18-20 Vail-Ballou (Warehouse)
Erie-Lackawanna RR crosses
24-32 Vail-Ballou Co*
34 Bussa Geo
New Senate Hotel
Clinton crosses
38 Dwyer Motor Clinic
Grace crosses
56 Bowien E K
Pandich Gerald
58 Fenson Mary*
60 Matalka Michl*
62 Massar A J
Massar B A*
64 Geuther D N*
Superior Crafts contrs
66 Pratt Victoria*
Ruspantini Augustus
68 Mach Theresa*
70 Mazar Mary*
Gouldsmith D W
72 Volek Helen*
Hrncirik Jno

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

## CHARLES ST 1958

**CHARLES (west side)**

From 62 Thorp north to beyond Field, Wards 2 and 1

Clinton crosses

33 Ansco Corp*

Grace ends

37 Metera Wm*

39 Benzi J N

Schiffer K F*

41 Aton Douglas

Kocik S O*

43 Kocik J J*

45 Danek Cora O*

47 Wolonsky Michl*

Ketchum A C

49 Zemanek Louis*

**CHARLES (east side)**

2 Foxluger Hattie W

Kriska M W

4 Mickle Della A*

Elston E M

DL&W RR crosses

Erie RR crosses

Clinton crosses

Murphy av begins

40 Ansco Corp*

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Calkin-Kelly Directory Co |

## CLINTON ST 1958

141 Bowman Flora M
Bowman H W
Ruffo F J
147 Kayser Camilla R
Slacik Mary*
149 Cacciola Felice
Halikias Angelo
Stefanelli Gustave*
153 Chomyszak Andrew
Crandall ends
155 Hodovanis Susan
Remus M A jr
157 vacant
159 Jurik Jno S
Dofton Peter
161 Greskovic Jos*
Greskovic Funeral Home Inc
165 Waffle E E
Talamo Jos
Pat & Mike's Grill
167 Chmiel Edwin
Lenga W M
169 Sayna Jno
171-177 Ansco*
179 Demchak Wm*
179 ½ Rowley Raymond
Degma M A

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Calkin-Kelly Directory Co |

## CLINTON ST 1958

Hudson ends
181 First-City Nat Bank
Charles crosses
187-195 Vail-Ballou Press*
197 Juriga Frank*
Becsei Julius
Buchta Jno
Comparetta J T
Vranka Frank
Lucas Augustine
Amer Furniture & Jewelry Store
Viskocil I S
Stepanik Leo
201 Capps D W
Buchel F L
Babinski Stanislaus
Klatz G J
203 Benkovic F E
205 vacant
207 Buchel & Son
Kruty Mary T
209 Kruty Mary T*
Jarvis crosses
235 Ansco Warehouse
237 Reich Josephine
239 Richardson Mitchell
Myer Nora
243 Bolebruch W J
245-263 Ansco
265 Korcak Jos*
Guley Josephine
Hrncirik Chas

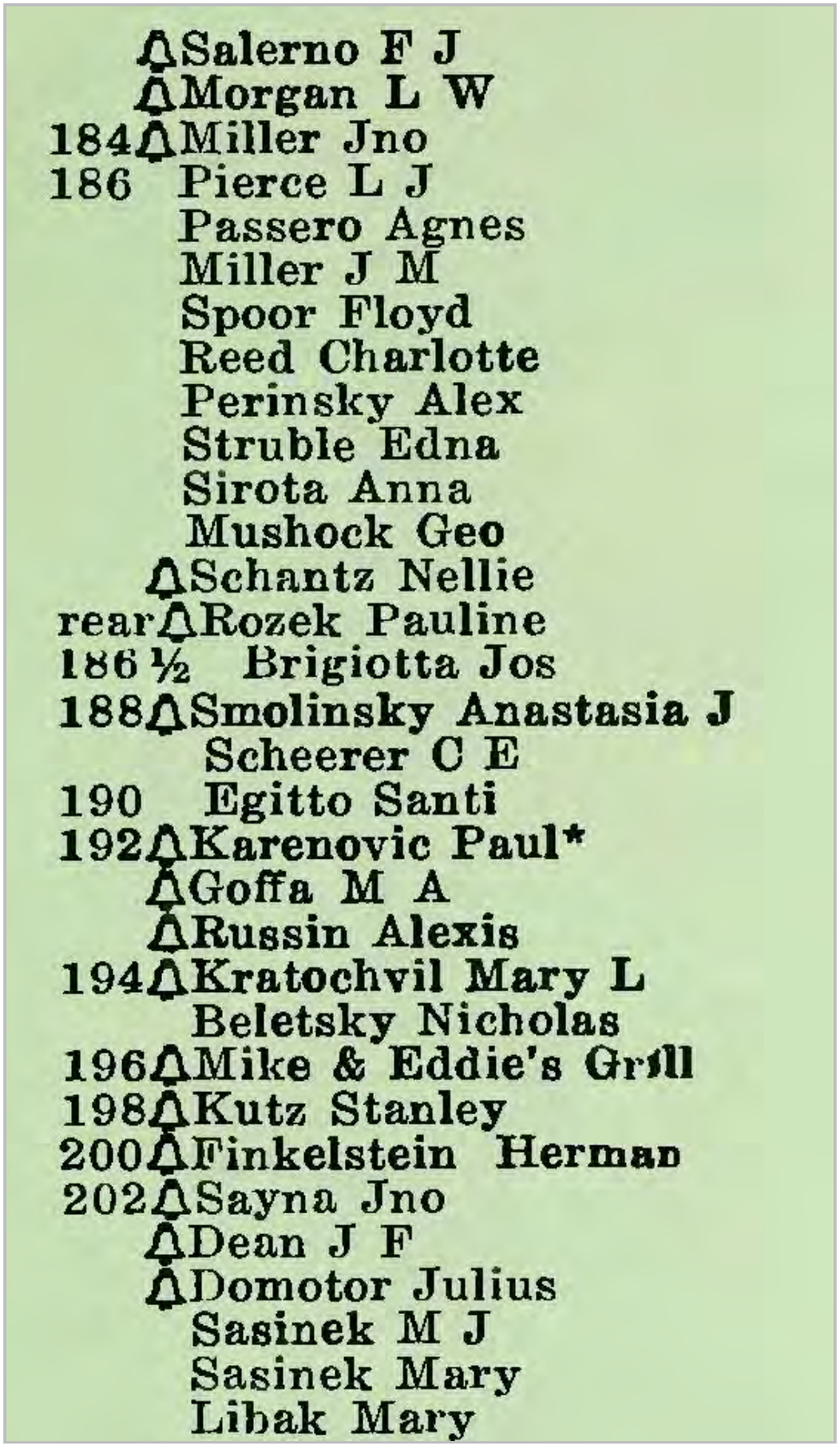
| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Calkin-Kelly Directory Co |

## CLINTON ST 1958

158-162 Homaid Brands Inc
Kumpon Elizth
McNeil J J
Ostrom Thelma I
Kovac R L
Skiba Jno
Bonker Lucy
164 Sokol Jno
166 Hotel Lincoln
Maxian Jno
166 ½ Pecka Jno
Arnold June
168 International Chemical
Workers Union
Derby Knitting Co
rear Clark D R
Plush Peter
170 Smith Fannie H*
174 Lamb B C & Son
Hrisko F J
Macey Anna
Ruffo Jas
176 Edwards F M
Durella A E
Kovarik F J jr
Endicott-Johnson Corp
Pandich Michl
178 Midway Restaurant
West begins
180 Swanbery Mary
Brass Rail Grill
Minnow J E

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Calkin-Kelly Directory Co |

## CLINTON ST 1958



Salerno F J
Morgan L W
184 Miller Jno
186 Pierce L J
Passero Agnes
Miller J M
Spoor Floyd
Reed Charlotte
Perinsky Alex
Struble Edna
Sirota Anna
Mushock Geo
Schantz Nellie
rear Rozek Pauline
186 ½ Brigiotta Jos
188 Smolinsky Anastasia J
Scheerer C E
190 Egitto Santi
192 Karenovic Paul*
Goffa M A
Russin Alexis
194 Kratochvil Mary L
Beletsky Nicholas
196 Mike & Eddie's Grill
198 Kutz Stanley
200 Finkelstein Herman
202 Sayna Jno
Dean J F
Domotor Julius
Sasinek M J
Sasinek Mary
Libak Mary

| Target Street | Cross Street | Source |
|---|---|---|
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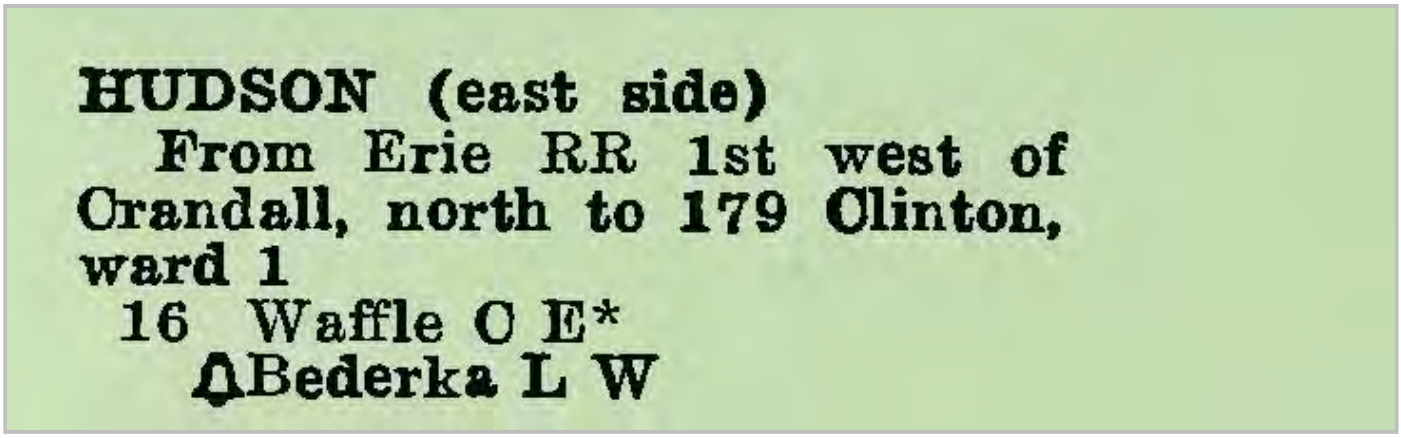
## HUDSON ST 1958



HUDSON (east side)
From Erie RR 1st west of
Crandall, north to 179 Clinton,
ward 1
16 Waffle O E*
Bederka L W

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

# JARVIS ST 1958

**JARVIS (west side)**
From 154 Main north to 15 Field. Wards 2 and 1

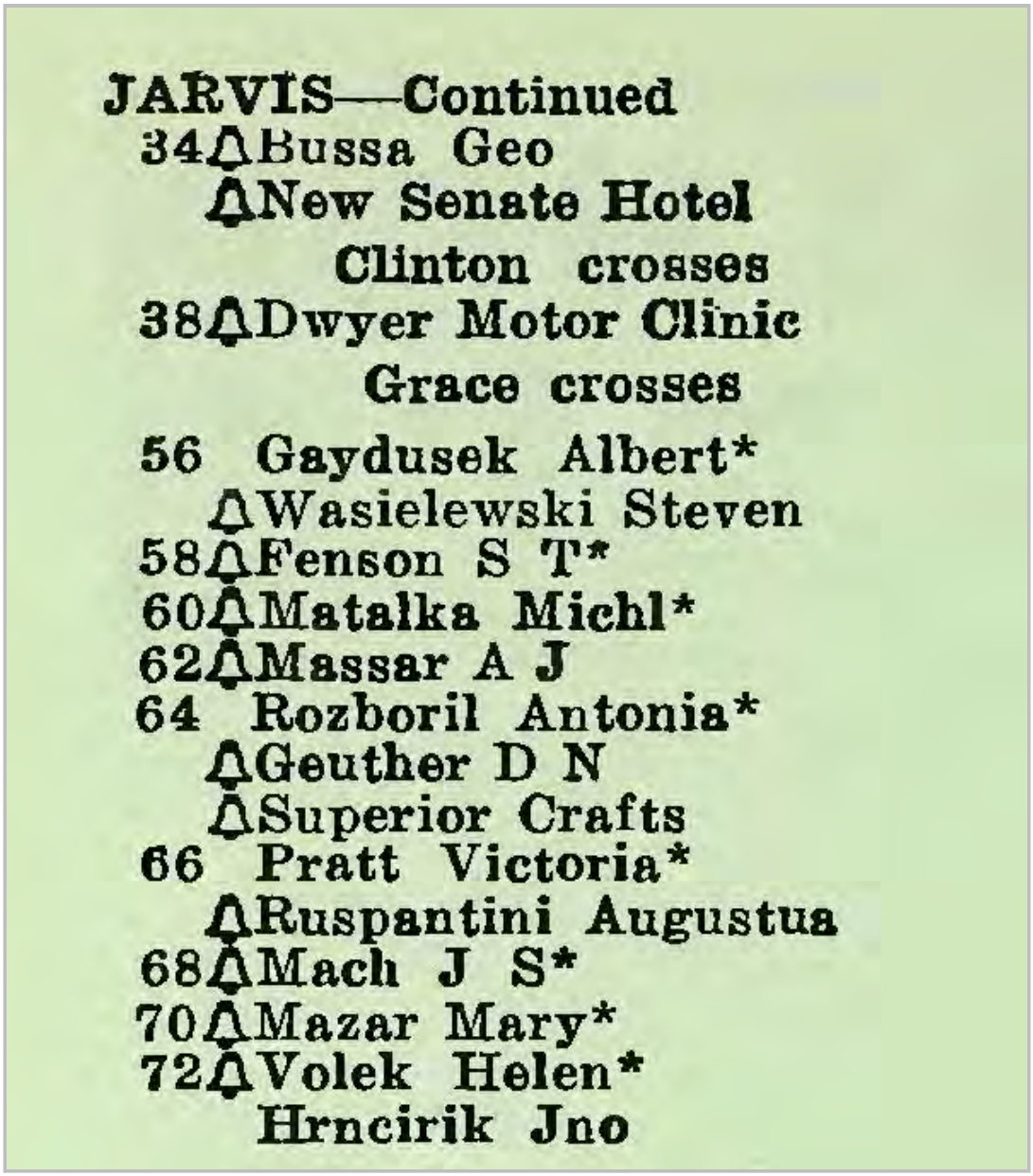
1 Cardinal Laundry
5 Syracuse Bearing
7 Lehman Gladys E*
9 Bovee B G
Jamieson Lyman
Taylor Goldie
11 Caciola Jas*
Renda Jas
13 Kernaklian Avedus*
Kernaklian Nicholas*
Moon Hannah
13½ Dutkowsky J T
Nugent Helen
Rincker W H
15 Kofira P P*
17 Taboian Bogos*
Briggs Wm
Greene R W
Kehaian Ohan*
**Charlotte begins**
21 Abbott E G
**D L & W RR crosses**
**Erie RR crosses**
**Clinton crosses**
41 Gruber Stanley*
Brutvan J J
43 Vavra M J*
45 Avedisian Harry*
47 Pollak Jacob*
49 Seaman Michl
Prostredny Alois
51 Charsky Constantine*
Hell Gisela
Cleland Clara M
Schneider C R
**Grace crosses**
55 Mitsuti Jos*
Lauber August
57 Herney Mary
Otis C J*
59 Habala Paul*
Brusil S C
61 Chatrnuch Frank*
63 Sheehan T F
65 Panicek Martin*
67 Shipko M L*
69 Weiss Anna*
71 Brusil Paul*
Kopecek Jno
73 Korchak Anna*
Dimbro Mary

**JARVIS (east side)**

4 Alexanian Boghos*
Mikulski W R
6 Baylor H A*
8 Monroe E B*
Karn Alice B
10 Kuzma Mary*
12 Griffin J T
Morgan E A
**Thorp ends**
14 Empire Lumber Co
16 Bing Auto Spring Co
18-20 Vail-Ballou (Warehouse)
**D L & W RR crosses**
**Erie RR crosses**
24-32 Vail-Ballou Co*

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

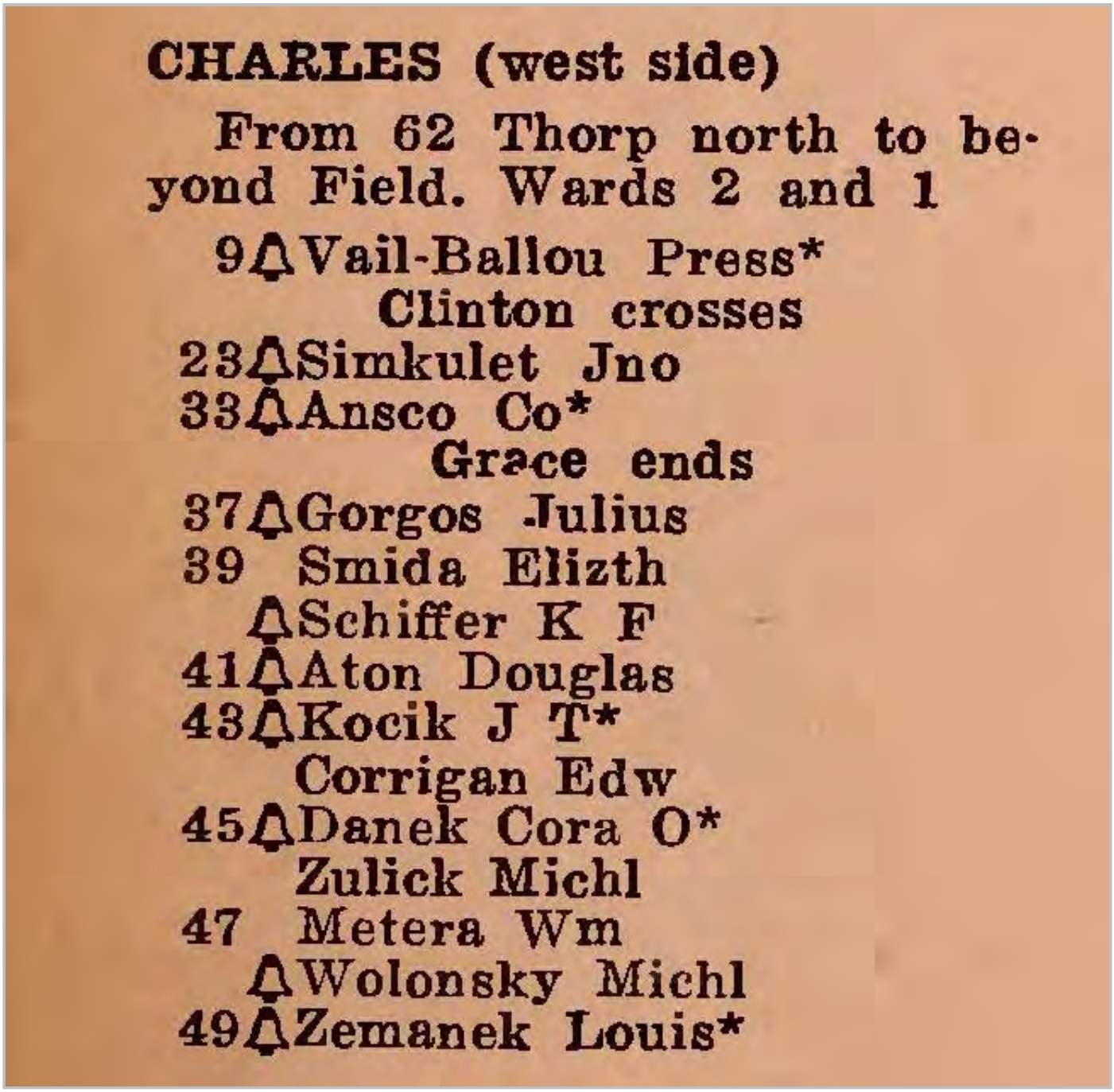
## JARVIS ST 1958



JARVIS—Continued
34 Bussa Geo
New Senate Hotel
Clinton crosses
38 Dwyer Motor Clinic
Grace crosses
56 Gaydusek Albert*
Wasielewski Steven
58 Fenson S T*
60 Matalka Michl*
62 Massar A J
64 Rozboril Antonia*
Geuther D N
Superior Crafts
66 Pratt Victoria*
Ruspantini Augustua
68 Mach J S*
70 Mazar Mary*
72 Volek Helen*
Hrncirik Jno

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

## CHARLES ST 1949



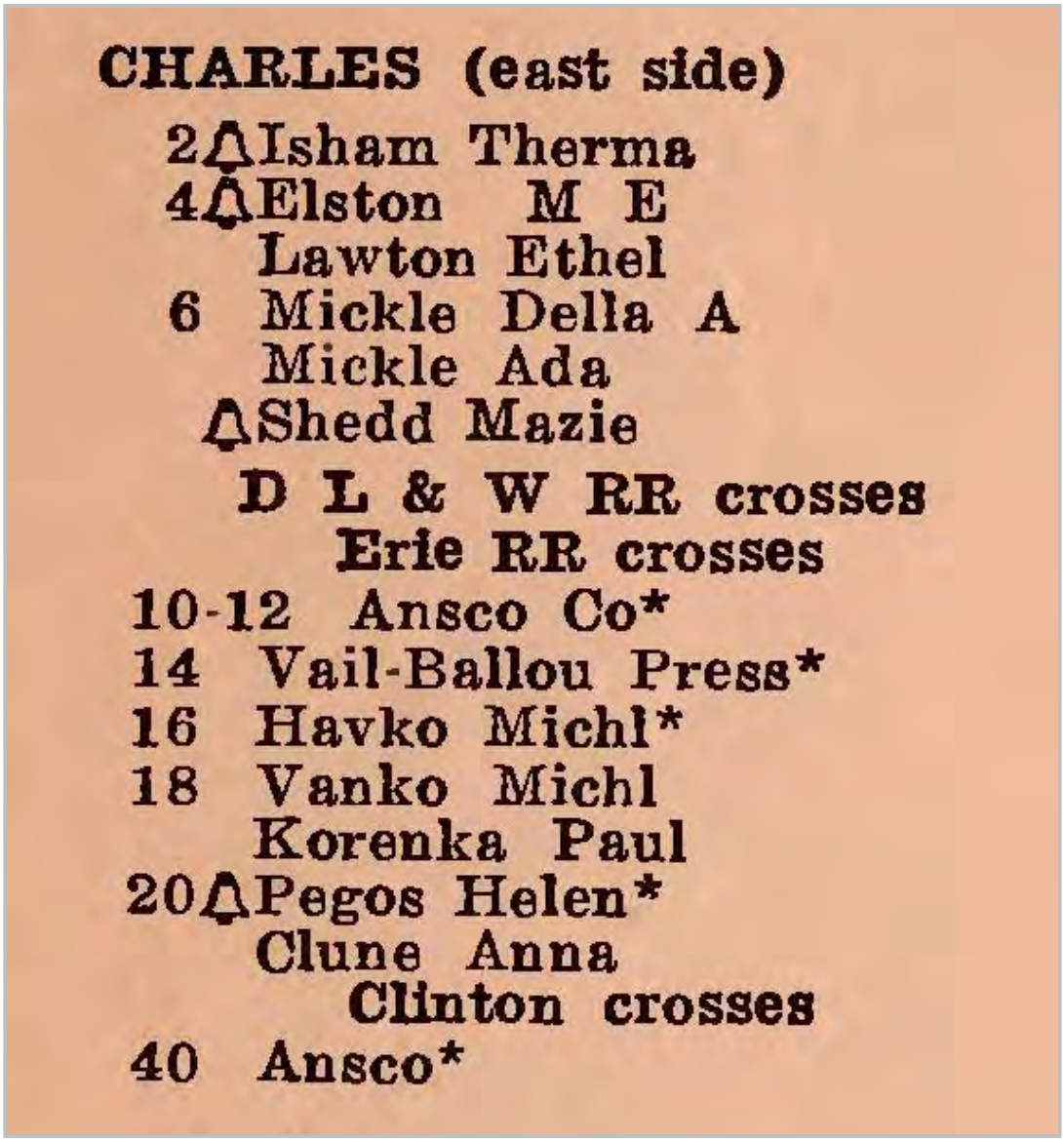
CHARLES (west side)

From 62 Thorp north to beyond Field. Wards 2 and 1

9 Vail-Ballou Press*
Clinton crosses
23 Simkulet Jno
33 Ansco Co*
Grace ends
37 Gorgos Julius
39 Smida Elizth
Schiffer K F
41 Aton Douglas
43 Kocik J T*
Corrigan Edw
45 Danek Cora O*
Zulick Michl
47 Metera Wm
Wolonsky Michl
49 Zemanek Louis*

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

## CHARLES ST 1949



CHARLES (east side)

2 Isham Therma
4 Elston M E
Lawton Ethel
6 Mickle Della A
Mickle Ada
Shedd Mazie
D L & W RR crosses
Erie RR crosses
10-12 Ansco Co*
14 Vail-Ballou Press*
16 Havko Michl*
18 Vanko Michl
Korenka Paul
20 Pegos Helen*
Clune Anna
Clinton crosses
40 Ansco*

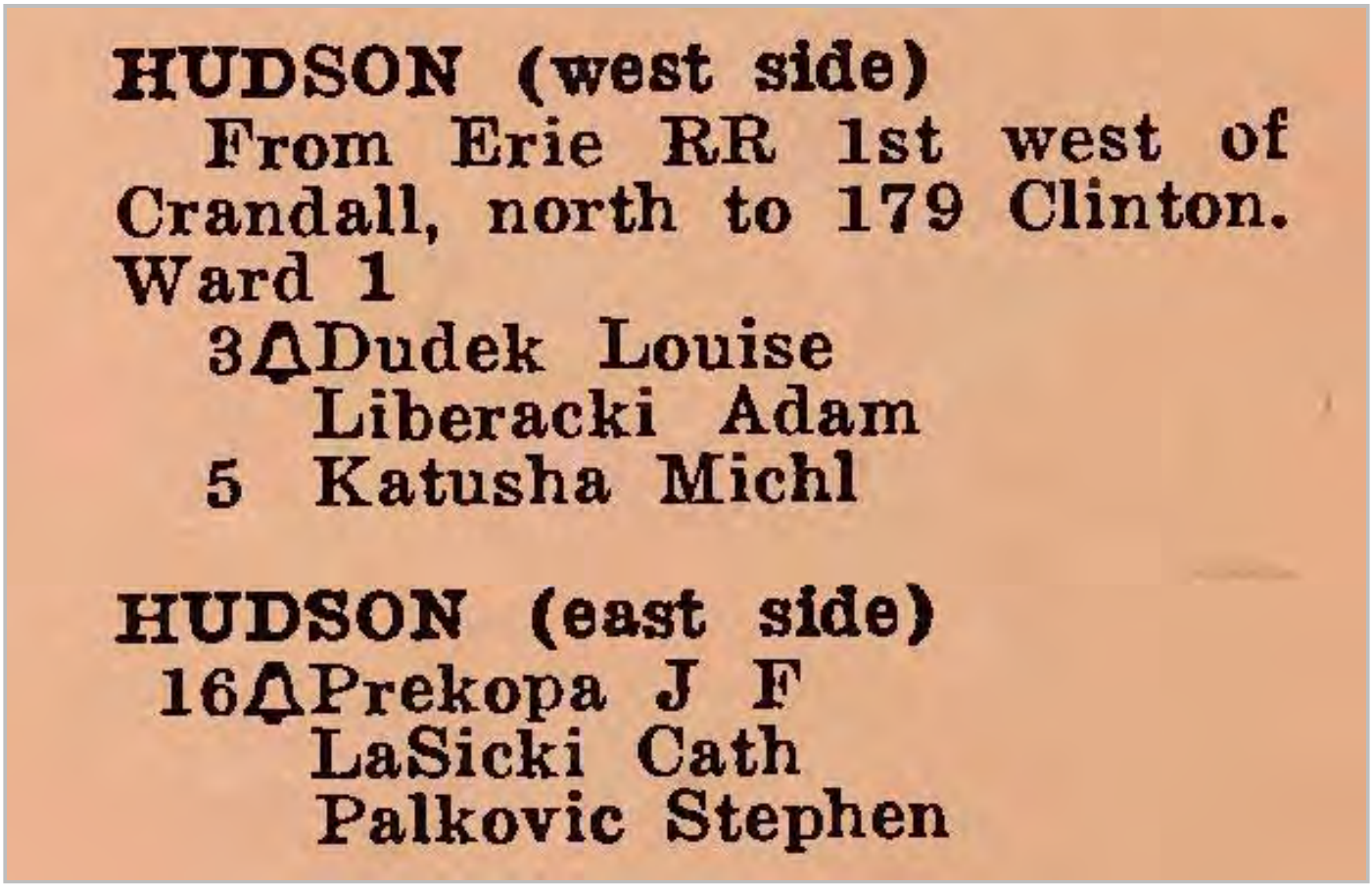
| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Calkin-Kelly Directory Co |

# CLINTON ST 1949

147 Hunt J J
149 Cacciola Felice
Steffenilla Augustus
151 McGlynn Kath T*
153 Sands W R
**Crandall ends**
155 Smack Martin
157 Ellis Jas
Hodovanis Chas
159 Sipko Julius
Dofton Peter
161 Greskovic Jos*
Carmen J J
165 Konecny Mary
Banovic A M
Daneks Grill
Vavra Martin
165½ Miller Theresa
167 D'Esti Henry*
Formanek Ann*
169 Nelson M K
171 Ansco Adv Dept
173 Ansco Ind Engr Dept
175 Ansco Purch Dept
177 Ansco Education Dept
179 Demchak Wm*
**Hudson ends**
181 First Nat Bank
187 Sayna Jno
Davidson W F
Basovsky Anthony
Simkule. W V
189 Ondrako Stephen
**Charles crosses**
193 Matson D R
Walker L H
Brown J E
McSain Stephen
Williams T E
195 NYS Employment Service
197 Juriga Frank*
Buchta Jno
Monico Francis
Jurik Jno
Krna P P
Lucas Augustine
Amer Furniture Co
Viskocil I S
201 Buchel Jos
Mares Stephen
Lawrence M G
Keithline K O
203 Wozniak J C
Benkovic F E

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

## HUDSON ST 1949



HUDSON (west side)
From Erie RR 1st west of Crandall, north to 179 Clinton.
Ward 1
3 Dudek Louise
Liberacki Adam
5 Katusha Michl

HUDSON (east side)
16 Prekopa J F
LaSicki Cath
Palkovic Stephen

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

# JARVIS ST 1949

**JARVIS (west side)**
From 154 Main north to 15 Field. Wards 2 and 1

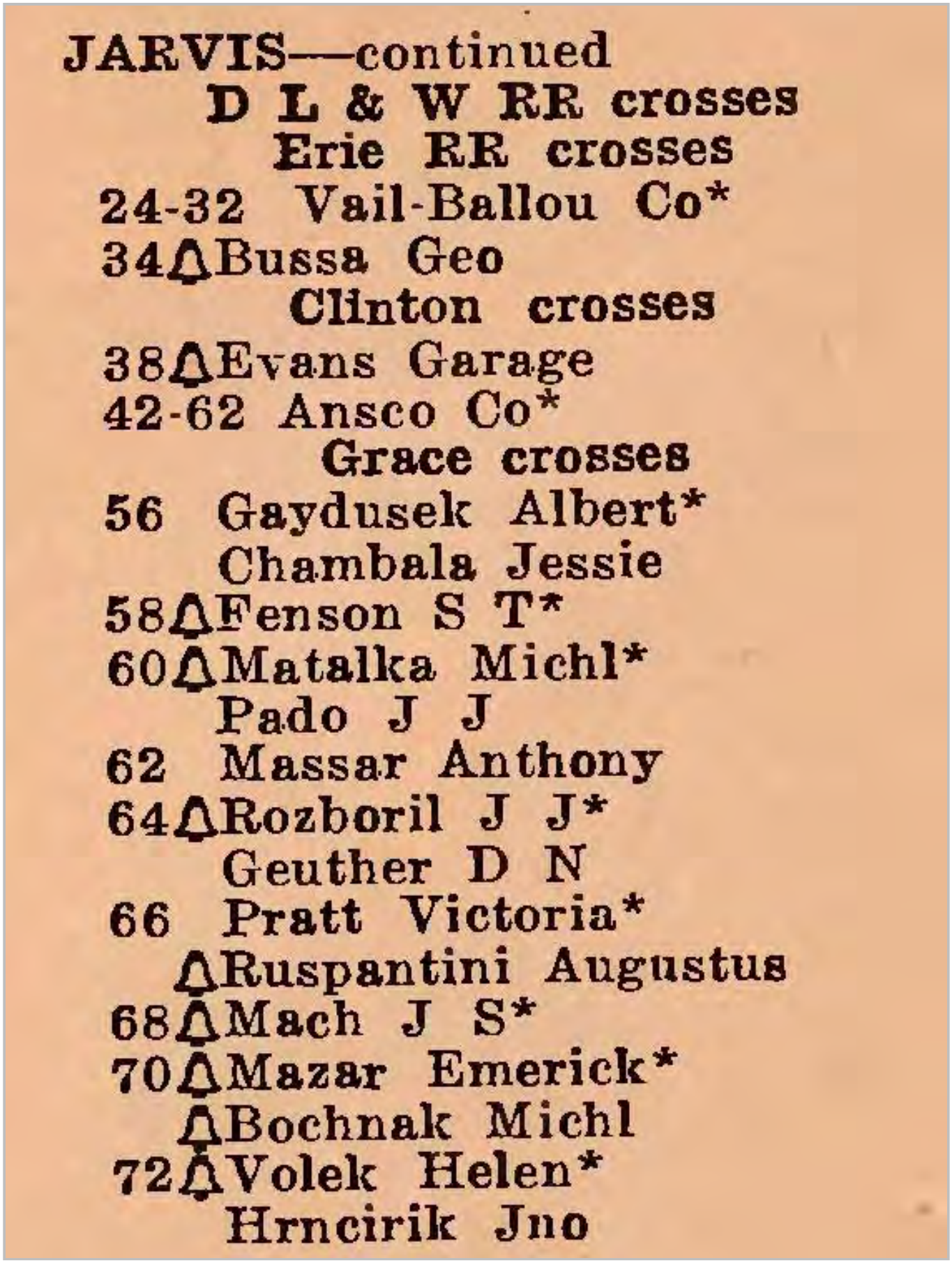
1-5 Cardinal Laundry Inc
7 Lehman J H*
9 Kratky M J*
11 Klepfer R O
Ferraro L C
13 Kernaklian Avedus*
Ellis C R
Kernaklian Nicholas*
13½ Cavanaugh Mildred A
Hill B C
Holic J R
15 Galvanek Paul*
17 Toboian Bogos*
Kehaian Ohan*
Makein Max
Getsy Geo
**Charlotte begins**
21 DL&W Fuel & Sup Co*
**D L & W RR crosses**
**Erie RR crosses**
**Clinton crosses**
39 Rozak Frank
41 Gruber Stanley*
Brutvan J J
43 Vavra M J*
45 Avedisian Harry*
47 Pollak Jacob*
49 Skrovanek Henry*
Seaman Michl
51 Charsky Constantine
Panik Jos
**Grace crosses**
55 Vanek Julius
Vanek Albert
Suchta Conrad*
57 Herney Mary*
Otis C J
59 Habala Paul*
Brusil S C
61 Chatrnuch Frank*
63 Maxian Rose*
Sheehan T F
65 Panicek Martin*
67 Shipko M L*
69 Weiss Anna*
71 Brusil Paul*
Kopecek Jno
73 Korchak Paul*
Dimbro Mary

**JARVIS (east side)**

4 Howland F A
Alexanian Boghos*
6 Levene Era*
8 Monroe E B*
Myers H E
10 Kuzma Mary*
12 Snyder R B*
**Thorp ends**
14 Empire Lumber Co
16 Bing Auto Spring Co
18-20 Vail-Ballou (Warehouse)

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

## JARVIS ST 1949



JARVIS—continued
D L & W RR crosses
Erie RR crosses
24-32 Vail-Ballou Co*
34 Bussa Geo
Clinton crosses
38 Evans Garage
42-62 Ansco Co*
Grace crosses
56 Gaydusek Albert*
Chambala Jessie
58 Fenson S T*
60 Matalka Michl*
Pado J J
62 Massar Anthony
64 Rozboril J J*
Geuther D N
66 Pratt Victoria*
Ruspantini Augustus
68 Mach J S*
70 Mazar Emerick*
Bochnak Michl
72 Volek Helen*
Hrncirik Jno

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

# CHARLES ST 1940

**CHARLES (west side)**

From 62 Thorp north to beyond Field, wards 2 and 1

9 Vail-Ballou Press*
**Clinton crosses**
23-33 Agfa-Ansco Co*
**Grace ends**
37 Gorgos Julius
39 Smida Jos
41 Kocik Stephen F*
43 Kocik Jno*
45 Danek Wm J*
47 Kratky L P*
Tomacek Gabriel
47 Kratky Leonard*
49 Zemanek Louis*

**CHARLES (east side)**

2 Ronan Mary*
4 Deyo Georgia*
Deyo Earle
Seprosky Anthony
6 Mickle Della A
Mickle G E
**D L & W RR crosses**
**Erie RR crosses**
10-12 Agfa-Ansco Co*
14 Vail-Ballou Press*
16 Havko Michl*
18 vacant
20 Pegos Nellie*
Brinsko Jacob
**Murphy av begins**
20½ Merz Henry
Koenig Lewis
**Clinton crosses**
22 Kazo Jno
24 Macko Geo*
26 Puskar Wm*

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Calkin-Kelly Directory Co |

## CLINTON ST 1940

175 Dubrava Furniture Store
179 Demchak Wm*
Hudak Martin

**Hudson ends**

183 First Nat Bank
185 Reid C B
187 Davidson W F
Davis L W
Dudek Jos
189 Ondrako Stephen

**Charles crosses**

193 Simek Paul
193½ Vosgerichain Nishan
195 Viskocil I S
195½ Latonick Jos
197 Juriga Frank*
Suchta Corand
Cintula Jno
Lucas Augustine
Skoyec Michl
Michalek Jos
Simek Edw
201 Kratky Michl*
Rozboril Camilla
Stoddard M H
203 Lesko Jos*
205 Halstead Leola
Spadaro Antonio
207 Buchel & Sons
209 Kruty Stephen*

**Jarvis crosses**

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Calkin-Kelly Directory Co |

## CLINTON ST 1940

162 Snyder E J
164 Sokol Jno
166 Torony Stephen*
rear Goobeck Kath
168 Foltyn Theresa
170 Smith Fannie H*
172 Smith W H
174 Evanek Chas
Macey J P
176 Kocak P M
Edwards F M
Krajcir Felix
Oswald Jos*
Endicott-Johnson Corp
**West begins**
178-80 Fenson S T*
Morette C M
180 Hodanick Anna
182 Morgan L W
184 Gruse S J
Clearwater R C
186 Ferranti Frank
186 Keyaian Michl*
186½ Mitchell Walter
Grohol J J
Thomas Albert
188 Krna Rudolph S
Grohol Jno
190 Sebesta Jno
192 Karenovic Paul*
rear Smolensky L W
Scheerer Chas
194 Kratochvil Antoinette
Beletsky Nicholas

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

**HUDSON ST 1940**

**HUDSON (west side)**

From Erie RR, west of Crandall, north to 179 Clinton, ward 1

3 Dudek Frank
Katuska Michl
5 Lia Albert
17 Kocak Jacob*
17½ Tutko Julius
McGovern D J
19 Hirner Jno
Pollak A J

**HUDSON (east side)**

16 Prekopa Kath*
Kumpan A M

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

# JARVIS ST 1940

**JARVIS (west side)**
From 156 Main north to 15 Field, wards 2 and 1

3 Turner Geo
5 Swan L W
7 Lehman J H*
9 Bosket Delsie*
11 DeCerchio Wm
McCabe F M
Billings Mary
13 Kerneklian Avdes*
Foucek Oldrich
Arnold Minnie
13½ Cavanaugh Mildred A
Hill B C
Sellers H C
15 Galuanik Paul*
17 Toboian Bogos
Keyaian Ohan
Green Harriett
**Charlotte begins**
21 DL&W Fuel & Sup Co*
**D L & W RR crosses**
**Erie RR crosses**
35 Pratt Lumber Co*
**Clinton crosses**
39 Rozek Frank
41 Gruber Stanley*
Brutvan Jos
43 Vavra M J*
45 Avedesian Harry*
Leyfert Harold
47 Pollak Jacob*
49 Skrovanek Anna
51 Simek Jos*
Slesinsky Victor
Formanek Jacob
Vavra Jos
**Grace crosses**
55 Vanek Julius*
57 Herney Mary*
59 Brusil T J*
61 Chatrnuch Frank
63 Maxian Rose*
65 Panicek Martin*
67 Shipko Michl*
69 Weiss Anna*
71 Brusil Paul*
73 Korchak Paul*

**JARVIS (east side)**

2 vacant
**Balcom av ends**
4 Howland F A
Alexian Boghos*
6 Levene Saml*
8 Monroe E B*
Meyers H E
10 Benedict A H
12 Heffernan J J
Snyder R B*
**Thorp ends**
16 Bing Auto Spring Co
18 Wholesale Service Supply Corp
**D L & W RR crosses**
**Erie RR crosses**
24-32 Vail-Ballou Co*
34 Singer F V
**Clinton crosses**
38 Moat & Searles
42-52 Agfa Ansco Co*
**Grace crosses**

| Target Street | Cross Street | Source |
| --- | --- | --- |
| - | ✓ | Calkin-Kelly Directory Co |

## JARVIS ST 1940

56 Gaydusek Albert*
Sochor Stephen
58 Fenson Stephen*
60 Matalka Michl*
62 Massar Anthony*
64 Rozboril J J*
66 Pratt V M*
68 Mach Jos*
70 Mazar Emerick*
72 Volek Helen*
Rickerson E F
Singer Fred
Hrncirik Jno

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

**CHARLES ST 1930**

**CHARLES** (west side)
From 62 Thorp north to beyond Field, wards 2 and 1

23-33 Agfa Ansco Co
**Grace ends**
37 Petrasek Rudolph
39 Schiffer Chas
41 Kocik Stephen F
43 Kocik Jno
45 Danek Wm J
47 Kratky Leonard
49 Zamanek Louis

**CHARLES** (east side)
2 Ronan Ellen
4 Devo Georgiana
6 Mickle Della A
Wheaton Chas
**D L & W RR crosses**
**Erie RR crosses**
10-12 Case W A & Son Co
14 Vail-Ballou Press
16 Havko Michl
18 Urban Peter
20 Pigos Helen
**Murphy av begins**
20½ Jankuch Jos
Rozboril Francis
**Clinton crosses**
22 Knapik Jos
24 Macko Geo
26 Puskar Wm

| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Calkin-Kelly Directory Co |

## CLINTON ST 1930

155 Friedlander S A
157 Pratt A J
Remus Martin
159 Kocak Paul
Toplar Thos
Mrlak Cath
161 Demchak Wm
Greskovic Jos
163 vacant
165 Formanek Wm
Melkonian Paul
Konecny Mary
165½ Pastirchak Andrew
167 Toumayan H Rev
169 Formanek Wm
171 G H P Cigar Co
Zverblis J K
173 Morgan J A
175 Hurevitch Hiram
177 Nelson M K
179 Dobos Helen
Hudson ends
181 Singer & Smolinsky
183 vacant
187 vacant
189 Demchak Wm
Charles crosses
193 McKillop F J
195 Zaicek Rudolph
Cornelius Robt
Quinn E M
Sanders Anna
VanBell F J
197 Juriga Frank
Bing Laboratories
Suchta Conrad
Kohut Jno
Benya Louis
Lucas Augustine
Skoyec Michl
201 Kratky Michl
Kohut Jos

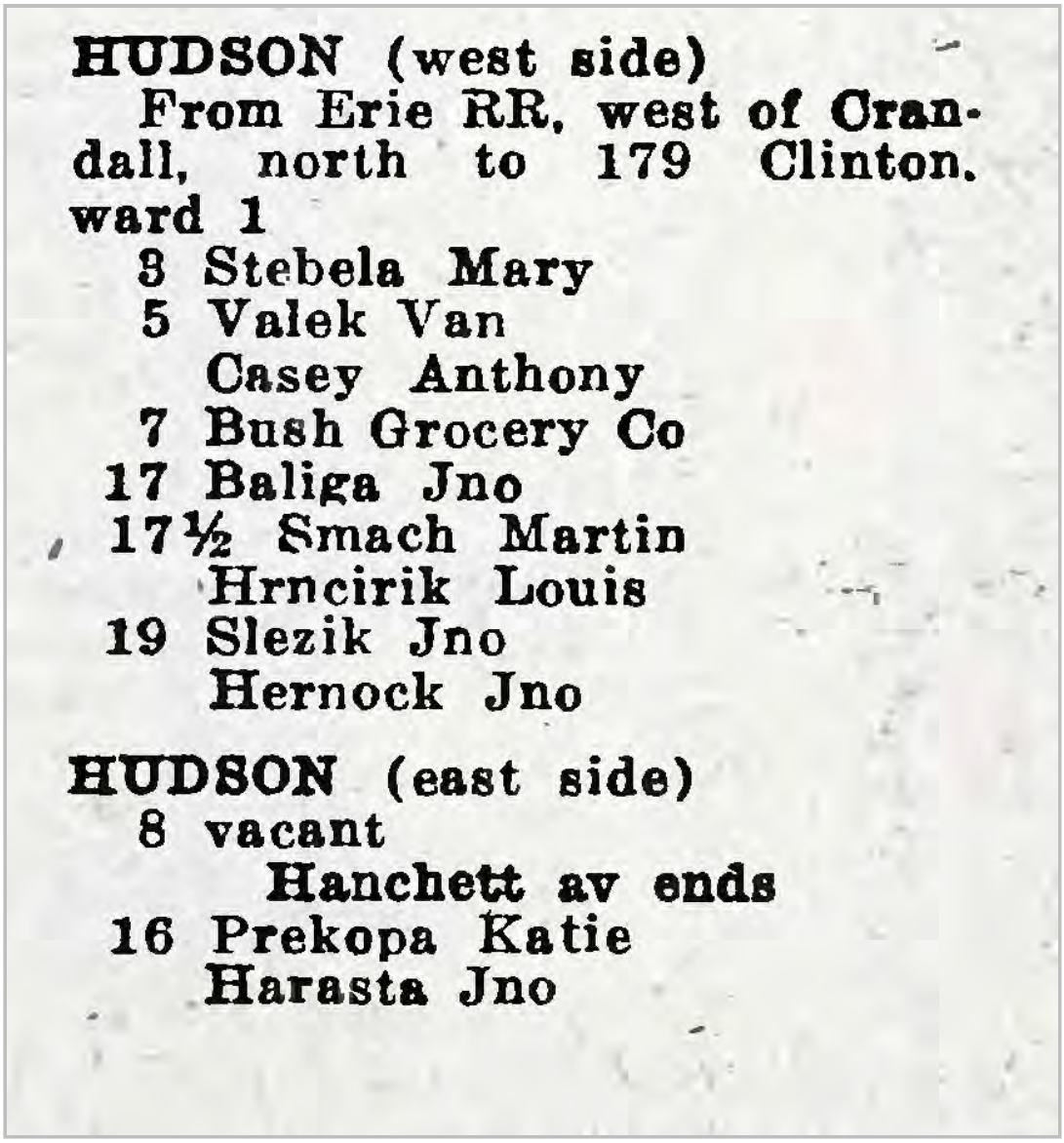
| Target Street | Cross Street | Source |
|---|---|---|
| ✓ | - | Calkin-Kelly Directory Co |

**CLINTON ST 1930**

Shipko Julius
180 Kocik Jno
Hopkins R R
182 Keefer & Dumont
Miskowicz J R
184 Burke M B
Gruse S J
186 Kehaian Michl
Bombara Michl
186½ Doinyo Frank
188 Krna Veronica
Grohol Jno
192 Karenovic Paul
194 Kratochvil Antoinette
196 Smack Martin
198 Petras Jno
200 Rozboril Frank
202 Sasinek Paul
Vavra Julius
Juriga Kliment
Charles crosses
204 Buchel Frank
206 Bartal Jos
Kubik Cornelius
208 Petras Jno
Korcak Louis
210 Kabat Jno
212 Buchel Kasper
214 Rozek Frank
216 Hait C E
Zubol Anna

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

**HUDSON ST 1930**



HUDSON (west side)
From Erie RR, west of Crandall, north to 179 Clinton.
ward 1
3 Stebela Mary
5 Valek Van
Casey Anthony
7 Bush Grocery Co
17 Baliga Jno
17½ Smach Martin
Hrncirik Louis
19 Slezik Jno
Hernock Jno

HUDSON (east side)
8 vacant
Hanchett av ends
16 Prekopa Katie
Harasta Jno

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

# JARVIS ST 1930

**JARVIS** (west side)
From 156 Main north to 15 Field, wards 2 and 1
1 Andrews J C
3 Miller G H
5 Zagarlick Bennett
7 Lehman J H
9 Gouthy J D
Bosket J L
11 Barth E F
13 Kerneklian Avdes
Steed F J
Preuss H G jr
13½ Kocik Jno
Najarian Geo
Noradian Andrew
15 Galuanik Paul
17 Kehaian Ohan
Taboian Bogos
Jenner J S
Berish Frank
**Charlotte begins**
21 DL&W Fuel & Sup Co
Gage W H
**D L & W RR crosses**
**Erie RR crosses**
35 Pratt Lumber Co
**Clinton crosses**
39 Charsky Isidore
41 Gruber Stanley
43 Vavra M J
45 Ovedesian Harry
Marderosian Michl
47 Pollak Jacob
49 Skrovanek Henry
51 Smida Jno
Simek Jos
Formanek Jacob
Kozak Jos
**Grace crosses**
55 Vanek Julius
57 Herney Mary
59 Brusil Thos
61 Lopata Andrew
63 Maxian Michl
65 Panicek Martin
67 Shipko Michl
69 Weiss Anna
71 Brusil Paul
Lunga Blazy
73 Korchak Paul

**JARVIS** (east side)
2 Pease H L
**Balcom av ends**
4 Howland F A
Hardy M G
6 Levene Saml
8 Monroe E B
Hull C A
10 Carbutt Hammond
12 Snyder R B
**Thorp ends**

| Target Street | Cross Street | Source |
|---|---|---|
| - | ✓ | Calkin-Kelly Directory Co |

**JARVIS ST 1930**

16 Lock-Tite Roofing Co
18-20 Stanford Seed Co
D L & W RR crosses
Erie RR crosses
24-32 Vail-Ballou Co
34 Breive Adam
Clinton crosses
38 Smith Jos
42-52 Agfa Ansco Co
54 School No 14
Grace crosses
56 Gaydusek Albert
Korinek Jno
58 Fenson Stephen
60 Matolka Michl
62 Massar Anthony
64 Rozboril J J
66 Pratt V M
68 Mach Jos
70 Mazar Emerick
72 Volek Van
Vosdovic Jno
Pecha Frank

# APPENDIX G

# Previous Environmental Reports

# PHASE I

# ENVIRONMENTAL SITE ASSESSMENT

## 187 Clinton Street

### Binghamton, New York

NPV No. 22037

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**Prepared by:**

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*environmental • land use • planning*

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Contact: Steven J. McGinn
o: 631.427.5665 | smcginn@nelsonpopevoorhis.com

## March 15, 2022

# Phase I

# Environmental Site Assessment

# 187 Clinton Street

**Binghamton, New York**

**THIS DOCUMENT CONTAINS 37 PAGES OF TEXT**

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One (1) copy retained in NP&V file


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*Prepared By:*

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NPV

# Phase I
# Environmental Site Assessment

## 187 Clinton Street

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# Phase I

# Environmental Site Assessment

# 187 Clinton Street

## 1.0 SUMMARY

The subject property has been inspected and reviewed independently by Nelson, Pope & Voorhis, LLC (NPV) in order to determine potential environmental or public health concerns. This report is intended to identify Recognized Environmental Conditions (as defined in Standard Practice for Environmental Site Assessment; ASTM E 1527-21 and United States Environmental Protection Agency (USEPA) Standards and Practices for All Appropriate Inquiries (AAI)) on the subject property based on four (4) components of a Phase I Environmental Site Assessment (ESA): records review, site reconnaissance, interviews and evaluation and reporting. **Appendix A** provides a statement of limiting conditions. **Appendix B** includes the resumes of key personnel.

The subject property is located at 187 Clinton Street in the City of Binghamton, County of Broome, New York. The subject property consists of an approximately 3.8± acre parcel of vacant land situated on the south side of Clinton Street, between Hudson Street to the east and Jarvis Street to the west. The property is more particularly described as City of Binghamton Tax Map # 160.22-1-2.

The subject property currently consists of vacant parcel and was mostly covered in snow during the site reconnaissance. As a result, complete observation of the property was limited. The only improvements observed during the site reconnaissance consisted of areas covered by degraded pavement and concrete slabs in former parking and building areas as well as at least three (3) manhole covers and a retaining wall along the western property boundary which was formerly part of a loading dock. In addition, soil piles were observed in the central and southeastern portions of the property. Portions of the subject property were formerly used as a right-of-way (Charles Street), a lumber yard, a sleigh and wagon manufacturer, residential dwellings, a warehouse, a hotel, a filling station and a book printing and binding company. The property appears to have been vacant since sometime beginning in the mid 1990's.

There was no evidence of discharge, staining, areas of stressed vegetation, residue of oils or other toxic substances, pools of discharge, petroleum or chemical odors, or other such indicators noted during the site reconnaissance.

Aerial photographs from 1948, 1957, 1960, 1967, 1974, 1982, 1984 1995, 1999, 2006, 2009, 2013 and 2017 were reviewed in order to determine if any prior uses occupied the subject property. The aerials from 1940 to 1995 depict the subject property as being occupied by

several buildings which were part of the Vail-Ballou Company printers and book manufacturers. The aerial from 1999 reveals that all of the buildings had been removed except for one (1) structure located in the southeastern portion of the property. The remaining aerials generally depict the subject property as it presently exists.

Sanborn Map coverage from 1887, 1891, 1898, 1918, 1950, 1952 and 1970 were available for the subject property and surrounding area. The map from 1887 identifies a roadway listed as Charles Street bisecting the central part of the property running from north to south. West of Charles Street the subject property is occupied by the W.S. Weed Company lumber yard and a dwelling. East of Charles Street the subject property is occupied by Kingman Sturtevant & Larrabee, a wagon and sleigh company as well as five (5) dwellings. The map from 1891 is similar to 1887 except that the dwelling west of Charles Street is no longer present and had been replaced by the West Side Hotel as well as an unidentified building. East of Charles Street the property is occupied by three (3) additional residences along Clinton Avenue. The map from 1898 is similar to the map from 1891 except that a new dwelling is depicted west of and along Charles Street. The map from 1918 also revealed that the lumber yard is no longer present and had been replaced by several buildings used by the Vail-Ballou Company printers and book manufacturers as well as a coal storage yard and Ansco Cos. Warehouse No. 17. East of Charles Street one (1) of the residences along Clinton Street had been replaced by a store and an accessory building. The maps from 1950 and 1952 depict the entire southern half of the property as being occupied by Vail-Ballou Company with Charles Street being cut-off from the southern half of the property. In the northern half of the property, west of Charles Street the dwelling is no longer present and the hotel had been converted into two (2) apartment dwellings and an office. East of Charles Street only three (3) dwellings are depicted and a filling station is depicted in the northeastern corner of the property along Clinton Street. Finally, the map from 1970 no longer depicts the dwelling/office, filling station and dwellings in the northern half of the property. These buildings had been replaced with parking lots on both sides of Charles Street.

USGS Quadrangle Maps dated 1904, 1935, 1942, 1947, 1961, 1968, 1976, 2013, 2016 and 2019 that cover the area of the subject property were reviewed. The map from 1904 depicts several buildings and Charles Street on the subject property. All of the remaining maps depict the subject property within a developed area; however, Charles Street was only depicted up to the 1961 map. The 2013 through 2016 maps typically do not depict site specific development other than schools, religious buildings or other public use structures.

A review of the EDR City Directory revealed that several individuals occupied the residents that were present on the property up until sometime around 1992. Vail-Ballou Press is listed as occupying the property from 1958 to 1970. Other occupants of the property include Maple-Vail Book Manufacturing Group (1992-2000), Crain Industries, Inc. (1992) and Plastic Manufacturing and Recycling Systems (2000). No other sources were utilized or available to assist with historic information regarding the subject property.

The subject property has been the subject of several environmental assessments/investigations since 1995.

A Phase I ESA and Direct Push Sampling Report was conducted by GeoLogic NY, Inc. in April 2008. This report reviewed and summarized three (3) prior site investigation reports which included an Environmental Site Assessment conducted by Enviro Testing in 1995, a Limited Phase II ESA conducted by GeoLogic NY, Inc. in 2000 and additional site investigation work conducted by GeoLogic in 2001. A summary of the findings of each of these reports is provided below in chronological order.

**Enviro Testing Environmental Site Assessment - February 3, 1995**

*"Site inspection indicated there was a partially vacant 196,000-square foot industrial building, currently used for storage of computer supplies and an auto repair business…numerous drums, containers, temporary mixing vats, etc. still exist on site and some are corroded and leaking unknown materials…Vail-Ballou listed as storing developing chemicals, diazo solutions, activators, stabilizers and fixers, most of which are used in photo processing…NYSEG indicated that the electrical transformers in the building may contain PCBs, and if so, they will be removed by NYSEG…evidence of possible Class V underground injection wells were identified inside the building and may be receiving waste (i.e. oils, gas, antifreeze) from the auto repair operation."*

**GeoLogic NY, Inc. Limited Phase II ESA - July 19, 2000**

*"As part of this assessment, three groundwater monitoring wells were installed and samples for lab analysis were collected. Three underground storage tanks (UST's) were removed and soil samples were collected.*

*Chloroform was reported in water from MW-2 (5.3 ug/L). The direction of groundwater flow, based on the May, 2000 data, was to the east.*

*The UST's removed included a 275-gallon fuel oil tank, a 1,000-gallon Naphtha tank, and a 1,000-gallon gasoline tank. The tanks had been located near the northwest portion of the site - adjacent to Jarvis Street. Soil samples from the tank excavation indicated that four volatile organic compounds were reported at concentrations below NYSDEC regulatory limits.*

*NYSDEC Spill No. 0065057 associated with the removal of the UST's was assigned closed status in August 2000."*

**GeoLogic NY, Inc. Additional Site Investigation Letter Report - May 25, 2001**

*"Additional work was completed based on the discovery of petroleum product in a manhole located on the southeast corner of the property.*

*Five borings were drilled (one near the former gasoline station, one along the southern property line, one in the central portion of the property and two at the southeast corner of the property.*

*Six test pits were excavated in the southeast corner of the property.*

*Samples were submitted for lab analysis.*

*Acetone at a concentration of 64 ug/l was reported in a water sample from boring B-3. Chloroform at a concentration of 11 ug/L was reported in a water sample from well MW-2.*

*Soil with petroleum odor and PID readings of 12-150 ppm was encountered in test pit TP-3 Manhole Test Pit. This test pit was located near the southeast corner of the property. Buried piping was encountered in the test pits along the eastern site (sic) of the property. The pipes were 'cut off' and sealed with hydraulic cement at the point that the (sic) entered the subject property. A fuel oil/tar-like substance was observed in the pipes. The piping that extended onto the subject property was excavated and removed from the property. Soil samples from the southeastern portion of the property had concentrations of petroleum compounds at levels exceeding the NYSDEC guidance values. (NOTE - This contaminated soil is likely still located on the subject property.)*

*(NOTE - This piping was likely connected to the four underground storage tanks that had been located on the EAST side of Hudson Street. These former tanks were reported to be buried railroad cars with a capacity of 10,300 gallons. These tanks provided fuel to the Vail-Ballou boiler room that had been located near the southeastern portion of the property.)"*

**GeoLogic NY, Inc. Phase I ESA and Direct Push Sampling Report - April 2008**

The findings of the Phase I ESA offered the following opinions and conclusions:

- *The subject property has been used for industrial purposes since at least 1887. Based on this as well as the findings of their 2000, 2001 and 2008 assessments it was concluded that this represents a historic recognized environmental condition.*

- *A gasoline station was formerly located on the northern portion of the property. No records were obtained relating to the removal of underground storage tanks or the presence of a drywell. As a result, it was concluded that this represents a recognized environmental condition even though petroleum contamination was not detected during their 2000, 2001 and 2008 assessments.*

- *At the time of the 2008 Phase I ESA nearby properties were used as gasoline stations and for industrial purposes. Based on this and their prior 2000, 2001 and 2008 assessments it was concluded that this represents a historic recognized environmental condition.*

- *In 1995 the last remaining building at the property was occupied by an automobile repair business and plastic recycling business. Observations at that time revealed the presence of a basement that contained drums, containers, temporary mixing vats, etc. A floor drain that reportedly was not connected to the municipal sewer system was also noted to be present. Following the destruction of the building in a fire in 1995 the status of the drums, containers, vats and floor drain were unknown. Based on these observations it was concluded that this represented a recognized environmental condition. However, it was also noted that sampling conducted downgradient of this area did not detect the presence of any volatile organic compounds in groundwater.*

- *During the 2001 assessment petroleum products were observed in a manhole on the southeast corner of the property. Investigation of this area indicated that petroleum impacted soil was present and that a volatile organic compound and semi-volatile organic compounds were detected in groundwater samples collected from this area of the property but at concentrations below NYSDEC groundwater standards. It was concluded that petroleum contamination in this area represents a recognized environmental condition. It was also recommended that if this area is excavated in the future petroleum contaminated soils may be present and should be addressed according the NYSDEC regulations.*

- *In an effort to evaluate the potential impact to soil and groundwater quality at the property samples were obtained from direct push sampling points and two (2) of the existing monitoring wells (MW-1 and MW-2). Well MW-3 could not be located. Three (3) direct push sampling points were installed downgradient of the property boundary to evaluate groundwater conditions. Three (3) direct push points were installed to provide special coverage to the property. Two (2) direct push points were located in the vicinity of the former gasoline station. One (1) direct push point was installed in the vicinity of the underground tanks removed in 2000 and one (1) direct push point was installed in the area of the former petroleum product pipelines in the northeastern corner of the property.*

  *Results of the groundwater sampling conducted at the property detected the presence of chloroform, tetrachloroethene, acetone, fluoranthene, phenanthrene and pyrene but at concentrations below their respective NYSDEC groundwater standards. No soils samples appear to have been submitted for laboratory analysis.*

An extensive government records search identified the subject property as a RCRA Generator and PBS facility as well as the subject of two (2) LUST incidents.

The subject property was listed as a RCRA Generator.

a. Vail-Ballou Press (Facility ID# NYD057770679). The generator type for this facility was not provided but it is listed as having produced a solid waste that exhibits the characteristic of ignitability (165 gallons, 1998), a solid waste that exhibits the characteristic of corrosivity (85 gallons, 1997) and spent halogenated solvents used in degreasing (770 gallons, 1988).

The subject property was listed as a PBS facility.

a. Vail-Ballou Press - Clinton Street (Facility ID# 7-182230). This facility is listed as having formerly utilized four (4), 10,300-gallon underground storage tanks that were closed in place on September 1, 2004. It should be noted that based on a review of the Phase I ESA prepared by GeoLogic in 2008, these tanks may have been located on a separate property owned by Vail-Ballou Press located to the north-northeast of the subject property.

The subject property was listed as having two (2) LUST incidents.

a. Former Vail-Ballou Press (Spill# 0065067). This incident was reported on July 6, 2000 during the removal of #2 fuel oil underground storage tanks from the property. Low level petroleum contamination was found in the soil at levels below STARS guidance values. The file for this incident was closed on August 16, 2000.

b. Vail-Ballou Press (Spill# 8906060). This spill was reported on September 19, 1989 following the failure of a 10,300-gallon underground tank used for the storage of #4 fuel oil. This tank was retested on November 20, 1989 and passed. The file for this incident was closed on November 30, 1989. It should be noted that based on a review of the Phase I ESA prepared by GeoLogic in 2008, this incident may have been located on a separate property owned by Vail-Ballou Press located to the north-northeast of the subject property.

In addition to the listings for the subject property, several Federal, State and County documented regulated sites were noted in the vicinity of the subject property. Specifically, five (5) Inactive Hazardous Waste Disposal Sites (IHWDS) within one (1.0) mile of the subject property. In addition, two (2) CERCLIS sites, two (2) Brownfield Site, one (1) RCRA Hazardous Waste Treatment and Storage and Disposal Sites, one (1) active and 125 closed spill incidents as well as no active and seven (7) closed Leaking Underground Storage Tank (LUST) incidents are located within one-half (0.5) mile of the subject property. Lastly, one (1) New York State Major Oil Facility, six (6) Petroleum Bulk Storage (PBS) facilities, ten (10) RCRA Generators, four (4) Chemical Bulk Storage (CBS) Sites, two (2) Toxic Release Inventory (TRI) Sites, two (2) Permit Compliance System Toxic Wastewater Dischargers, three (3) Air Discharge Sites and one (1) Civil & Administration Enforcement Docket Facility are located within one-quarter (0.25) mile of the subject property.

A Tier 1 Vapor Encroachment Condition (VEC) Assessment was conducted as part of this Phase I ESA, due to the proximity of several spill incidents. The assessment was conducted in accordance with the methods and procedures, outlined within ASTM E2600-15, Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions. A review of the regulatory agency database report provided for the subject property identified the subject property as being the subject of former LUST incidents and as a PBS facility. A review of the regulatory and use history of the property indicates that storage tanks may still be present and that the property was formerly used for industrial purposes. In addition, past investigations have revealed that soils and groundwater have been impacted with volatile organic compounds. Based on the information reviewed, it is concluded that a VEC cannot be ruled out.

Five (5) recognized environmental conditions were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

1. Past environmental sampling conducted at the subject property in 2000, 2001 and 2008 detected compounds in soil and groundwater that exceeded their respective regulatory standards.

2. The former industrial and commercial uses that occupied the subject property utilized underground storage tanks for chemical and petroleum products, the status of tanks is unknown.

3. Due to the historical site use and documented impacts to subsurface media, a vapor encroachment condition cannot be ruled out.

4. Numerous soil piles of unknown origin were observed in the central and southeastern portions of the subject property.

5. At least three (3) manhole covers which may overlie Underground Injection Control (UIC) wells were observed on the subject property.

No controlled recognized environmental conditions were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

No de minimus conditions was noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

Three (3) historic recognized environmental conditions were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

1. The subject property was listed as a RCRA Generator.

2. The subject property was listed as being the site of two (2) LUST incidents.

3. The subject property was listed as a PBS facility.

This report was completed in accordance with the standards set forth in the ASTM E 1527-21 and the USEPA AAI. ASTM protocols identify asbestos containing material (ACM) as non-scope issues. In the interest of serving the client, observations concerning ACM are included herein. This visual assessment should not be considered an asbestos survey which would be required for building demolition and/or identification of all possible sources of ACM, regardless of health danger. Based on observations made during the site reconnaissance, the following is noted:

1. No suspected ACM was noted during the reconnaissance of the subject property.

The observation noted above is not intended to eliminate any other possible sources which may or may not be present for this non-scope item.

NPV has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-21 and USEPA AAI for the 187 Clinton Street, Binghamton, New York. Any exceptions to, or deletions from, this practice are described in Section 11.0 of this report. In conclusion, this assessment has revealed evidence of five (5) recognized environmental conditions and three (3) historic environmental conditions in connection with the subject property, subject to the methodology and limitations of this report.

# 2.0 INTRODUCTION

## 2.1 PURPOSE

This report is intended to meet the format and requirements of the ASTM Standard Practice for Environmental Site Assessments, as published in ASTM E 1527-21 and USEPA AAI standards. Banks, insurance companies and prospective property purchasers require an understanding of existing and past property conditions and uses in order to assess the potential liabilities associated with a site. This assessment has been completed by a qualified environmental professional as defined in ASTM Standards. The objectives of this Environmental Site Assessment are stated as follows:

- Establish a basis of understanding of past and present use in order to determine potential environmental and/or public health risk.
- Establish a basis of understanding of surrounding uses, and area environmental resources in order to determine if the property is affected by such uses or resources.
- Identify, to the extent feasible, *recognized environmental conditions* (i.e., potential risk caused by the presence of Hazardous Substances or Petroleum Products) in connection with the site and adjoining properties.
- Identify any known or potential items in noncompliance with applicable Local, State or Federal laws and regulations.
- Specify how any items in noncompliance with applicable Local, State or Federal laws and regulations can be brought into compliance.
- Confirm the absence of environmental problems or quantify potential environmental liabilities. In the event such findings cannot be made, recommend further environmental sampling.

The final purpose of the report is to utilize the information gained to report "Recognized Environmental Conditions", a very important term defined and utilized in the ASTM Standards. Recognized Environmental Conditions are defined as follows:

> *The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimus conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not recognized environmental conditions.*

## 2.2 DETAILED SCOPE OF SERVICES

This ESA has been completed by NPV in accordance with ASTM standards. The following documentation is intended to provide the financing institution with the information related to the environmental and public health integrity of the subject property.

The report was completed utilizing a variety of techniques and sources of information. The following is a procedural account of the methodology for report preparation:

1. Field inspection of the site was conducted including indoor and outdoor facilities and interview of site personnel and property owners, to document facilities and operations, and to determine applicable Federal, State and Local laws and regulations.
2. Inspection of areas surrounding the site was conducted in order to document surrounding uses as related to the integrity of the subject site.
3. Federal government records were researched including the NPL site list, the CERCLIS site list, and RCRA Hazardous Waste TSD Facilities and Generator Lists, and ERNS lists to determine if the site or adjacent sites are included in listings.
4. State government records were researched including NYS Department of Environmental Conservation (NYSDEC) Inactive Hazardous Waste Disposal site lists, landfills and solid waste disposal facilities, registered underground storage tanks (USTs), wastewater disposal sites, air emission sources, and leaking USTs/materials spill lists, to determine if the site or adjacent sites are included in listings.
5. County government records were researched including tank and drum registration, violations/enforcement action files, and for sites in Suffolk County, the CLEARS remote sensing site inventory.
6. Local government records were researched including zoning, assessor's records, building permit and Certificate of Occupancy to determine site compliance and history.
7. Records involving Transfer of Property were reviewed as available to determine site ownership and history where possible.
8. Published literature concerning on-site soils, and groundwater resources were reviewed as related to environmental audits to establish environmental resource information.
9. Additional interviews of past owners and operators, surrounding property owners/users were conducted as necessary.
10. Conclusions regarding the site were formulated based upon the above tasks.
11. No sampling of suspected recognized environmental conditions was completed as part of this report.
12. Non-scope issues such as asbestos, radon, lead based paint, wetlands, lead in drinking water, cultural and historic resources, endangered species, indoor air quality, mold, etc. are addressed with certain limitations noted herein. If obvious signs of such issues were observed during the site reconnaissance, such observations are indicated in the report. However, this report should not be considered a full asbestos survey, lead based paint report, wetlands delineation survey, mold assessment, etc. The recommendations of this will indicate if a full survey or report should be undertaken to fully determine if such issues exist on the subject property.

## 2.3 LIMITATIONS AND EXCEPTIONS

This report is dated and is only valid for activities which occurred prior to the date of facility inspection. Activities, liabilities and alterations to environmental conditions documented in this report that may have occurred subsequent to the date of inspection are not included in this analysis.

There are several limitations of this study which should be understood. The study is intended to assess the potential for public health or environmental liabilities based upon examination of the subject property in accordance with the ASTM Standards. The ASTM Standards provide specific guidance with regard to radon, asbestos, lead in drinking water and lead based paint.

Analysis of the CERCLA implications with regard to the innocent purchaser defense under Superfund, finds that naturally occurring radon is not subject to CERCLA liability and is appropriately considered as a non-scope issue. Accordingly, this survey will not address radon gas, and will not involve or recommend air monitoring for radon gas. As a point of information for users of this report, radon is a colorless, odorless, inert gas which has become a common air contaminant of concern in certain geographic areas. Radon is a natural isotope, which is present most commonly in association with crystalline bedrock and at times other geologic deposits. Natural isotope decay can emit radiation which causes health concerns due to inhalation **(Sax and Lewis, 1987).** Radon levels generally increase in areas where bedrock is close to the land surface, and generally creates a health related problem only where underground basements are constructed which may allow radon gas to accumulate in a manner which would cause exposure. Geographically, radon may be of concern in some portions of western Long Island, New York City and nearby counties. Absent these conditions, radon gas presents less of a concern. Similarly, the ASTM Standards do not recognize liability with regard to asbestos that is part of the building materials of a structure, in accordance with CERCLA innocent purchaser defense under Superfund. If asbestos containing material is disposed of on a site however, such practice would be subject to Superfund response actions and should be identified. In the interest of serving the client, and addressing the needs of lending institutions, this report will identify observed asbestos containing material (ACM) on the site which may cause a health danger or is considered friable, as a non-scope issue. This report is not a full asbestos survey as would be required for building demolition, or identification of all possible sources of ACM, regardless of health danger.

Lead in drinking water and lead based paint are also issues which are considered to be non–scope under CERCLA innocent purchaser defense under Superfund. Lead based paint has been in use for many years, and it is likely that most older buildings will contain this paint. As a general rule, painted surfaces should be maintained and ingestion of paint products should be avoided. If disposal of these materials is involved, disclosure of this practice would be subject to the scope of this environmental audit. Lead in drinking water occurs generally as a result of

past use of high lead content solder. Water left stagnant in pipes overnight or longer, may leach lead from these joints and affect drinking water quality. As a general rule, water should be run for several minutes in the morning where such plumbing is present.

This report cannot identify all sources of PCB containing oils. Common sources of these materials include transformers and fluorescent lamp ballast. Electric service transformers may include ground level or pole mounted units. These transformers are owned and maintained by the Public Service Enterprise Group - Long Island (PSEG-LI), the entity responsible for their use and integrity. Transformers are inventoried and periodically inspected. PSEG-LI transformers were not manufactured to contain PCB contaminated oils. Aggressive and destructive testing which would be required for definitive identification of PCB's is beyond the scope of this study. The study will however identify observed potential sources, fluid leaks, hazardous materials and/or petroleum substance disposal and other environmental or health hazards appropriate the scope of the survey.

It must be noted that the accuracy of any Environmental Site Assessment is limited to the information available during the time of the site survey, and from the records, files and drawings provided by the owner and released by governmental agencies; and the accuracy and completeness of the information provided during interviews. **Appendix A** of this report contains a Supplemental Statement of Conditions for Phase I Environmental Audits. This list was established by the Environmental Assessment Association (EAA) in order to standardize procedures and understanding with regard to the scope of environmental audits. Steven J. McGinn is an active member of the EAA and is a Certified Environmental Inspector (CEI). NPV may be contacted if there are any questions regarding this analysis or the methods involved. The resumes of key personnel involved in the preparation of this report are included in **Appendix B**.

## 2.4 SPECIAL TERMS AND CONDITIONS

It is the responsibility of the user of this report (for example, the purchaser, potential tenant, owner lender or property manager) to provide certain segments of information utilized in the report. This would include reporting of any *environmental liens* (i.e., consideration against property for response action, cleanup or remediation of hazardous substances or petroleum product) encumbering the property or specialized knowledge or experience that would assist in identifying *recognized environmental conditions*.

It must be recognized that the level of inquiry is variable for each Phase I ESA, depending upon the availability of information and quality of information received. As per the ASTM Standards, it should also be noted that the "environmental professional is not required to verify independently the information provided but may rely on information provided unless he or she has actual knowledge that certain information is incorrect or unless it is obvious that certain information is incorrect based on other information obtained in the Phase I ESA or otherwise

actually known to the environmental professional." Personnel involved in report preparation will make judgments on the accuracy of information and conduct additional research as necessary in order to meet the requirement of identifying recognized environmental conditions on the site. ASTM Standards provide a number of standards sources of historic information, any one of which may be sufficient. NPV will seek to research as many sources of historic information as may be available as a means cross confirmation. Based on ASTM Standards, the Phase I ESA is not intended to include any sampling or testing of materials associated with the project site (i.e., soil, water, air or building materials). Accordingly, this report will conform with this intent and no testing will be conducted.

## 2.5 USER RELIANCE

NPV understands that our client (and their successors or assigns) are relying upon the contents of this Phase I ESA report for the above referenced property in making a loan secured by or affecting the property and/or acquiring the property as the case may be. The format of this Phase I ESA was predicated upon general guideline requirements established by individual lending institutions, American Society for Testing and Materials Standards (1527-21) and USEPA All Appropriate Inquiries (AAI) standards, various professional organizations, and our professional judgment.

The date of inspection, key personnel in the preparation of the report, and a list of persons interviewed is provided below in order to provide further insight into methodology:

| | |
|---|---|
| Project Commenced: | February 3, 2022 |
| Inspection Date: | February 17, 2022 |
| Report Date: | March 15, 2022 |
| Inspector/Preparer: | Steven J. McGinn, CEI |
| | Eric C. Arnesen, PG |
| Persons Interviewed | None, Vacant Land |

# 3.0 SITE DESCRIPTION & RECONAISSANCE

## 3.1 OBJECTIVES

The objective of the site reconnaissance is to obtain information indicating the likelihood of identifying recognized environmental conditions in connection with the subject property. The site reconnaissance typically involves observing all areas of the subject property in order to determine if any potential recognized environmental conditions are present.

## 3.2 METHODOLOGY

All areas of the subject property were observed. The subject property was examined for any potential pipes or structures which may indicate a potential recognized environmental condition that may be present. In addition, the subject property was walked in order to identify potential recognized environmental conditions associated with the specific use of the subject property and the uses surrounding the subject property.

## 3.3 LIMITATIONS

The subject property was covered with snow limiting a complete visual observation of the subject property. There were no other limitations encountered during the site reconnaissance of the subject property. All areas of the subject property were inspected without impediments.

## 3.4 LOCATION, SETTING AND LEGAL DESCRIPTION

The subject property is located at 187 Clinton Street in the City of Binghamton, County of Broome, New York. The subject property consists of an approximately 3.8± acre parcel of vacant land situated on the south side of Clinton Street, between Hudson Street to the east and Jarvis Street to the west. The property is more particularly described as City of Binghamton Tax Map # 160.22-1-2. **Figure 1** provides a location map depicting the subject property and the surrounding area. *All figures are located in a separate section immediately following the text of this report.*

## 3.5 EXISTING AND PAST SITE USES

The subject property currently consists of vacant lot which was formerly used as a right-of-way (Charles Street), a lumber yard, a sleigh and wagon manufacturer, residential dwellings, a warehouse, a hotel, a filling station and a book printing and binding company. The property appears to have been vacant since sometime beginning in the mid 1990's.

In terms of available records, historical use can be documented using a variety of standard records. The intent is to trace land use to a period prior to 1940. For the purpose of this Environmental Site Assessment, as many sources as are reasonably available have been consulted. The following are considered standard historical sources:

Aerial Photographs
Fire Insurance Maps (Sanborn Maps)
Property Tax Files
Recorded Land Title Records
USGS 7.5 Minute Topographic Maps
Local Street Directories (Cole Directories)
Building Department Records
Zoning/Land Use Records

### 3.5.1 Aerial Photography

Aerial photographs from 1948, 1957, 1960, 1967, 1974, 1982, 1984 1995, 1999, 2006, 2009, 2013 and 2017 were reviewed in order to determine if any prior uses occupied the subject property. The aerials from 1940 to 1995 depict the subject property as being occupied by several buildings which were part of the Vail-Ballou Company printers and book manufacturers. The aerial from 1999 revealed all of the buildings had been removed except for one (1) structure located in the southeastern portion of the property. The remaining aerials generally depict the subject property as it presently exists. Refer to **Appendix E** for a copy of the aerial photographs.

### 3.5.2 Sanborn Maps

Sanborn Map coverage from 1887, 1891, 1898, 1918, 1950, 1952 and 1970 were available for the subject property and surrounding area. The map from 1887 identifies a roadway listed as Charles Street bisecting the central part of the property running from north to south. West of Charles Street the subject property is occupied by the W.S. Weed Company lumber yard and a dwelling. East of Charles Street the subject property is occupied by Kingman Sturtevant & Larrabee, a wagon and sleigh company as well as five (5) dwellings. The map from 1891 is similar to 1887 except the dwelling west of Charles Street is no longer present and has been replaced by the West Side Hotel as well as an unidentified building. East of Charles Street the property is occupied by three (3) additional residences lined along Clinton Avenue. The map from 1898 is similar to the map from 1891 except a new dwelling is depicted west of and along Charles Street. The map from 1918 also reveals that the lumber yard is no longer present and has been replaced by several buildings used by the Vail-Ballou Company printers and book manufacturers as well as a coal storage yard and Ansco Cos. Warehouse No. 17. East of

Charles Street one (1) of the residences along Clinton Street had been replaced by a store and accessory building. The maps from 1950 and 1952 depict the entire southern half of the property as now being occupied by Vail-Ballou Company with Charles Street being cut-off from the southern half of the property. In the northern half of the property, west of Charles Street the dwelling is no longer present and the hotel had been converted into two (2) apartment dwellings and an office. East of Charles Street only three (3) dwellings are depicted and a filling station is depicted in the northeastern corner of the property along Clinton Street. Finally, the map from 1970 no longer depicts the dwelling/office, filling station and dwellings in the northern half of the property. These buildings havd been replaced with parking lots on both sides of Charles Street. Copies of the Sanborn maps are provided in **Appendix H**.

### 3.5.3 USGS Quadrangle Maps

USGS Quadrangle Maps dated 1904, 1935, 1942, 1947, 1961, 1968, 1976, 2013, 2016 and 2019 that cover the area of the subject property were reviewed. The map from 1904 depicts several buildings and Charles Street on the subject property. All of the remaining maps depict the subject property within a developed area and Charles Street is only depicted up to the 1961 map. The 2013 through 2016 maps typically do not depict site specific development other than schools, religious buildings or other public use structures. Refer to **Appendix F** for a copy of the topographic maps.

### 3.5.4 Other Sources

A review of the EDR City Directory revealed that several individuals occupied the residents that were present on the property up until sometime around 1992. Vail-Ballou Press is listed as occupying the property from 1958 to 1970. Other occupants of the property include Maple-Vail Book Manufacturing Group (1992-2000), Crain Industries, Inc. (1992) and Plastic Manufacturing and Recycling Systems (2000). No other sources were utilized or available to assist with historic information regarding the subject property. A copy of the directory is included in **Appendix I**.

### 3.5.5 Data Gaps

The aerial photographs received exceeded the five (5) year interval in several consecutive photographs in the series as noted above. The data gap has been evaluated and it is noted that the subject property has historically been used for a variety of purposes which have been noted above until sometime in the late 1990 when the buildings were razed and the property became vacant.

## 3.6 SITE AND VICINITY CHARACTERISTICS

The subject property currently consists of vacant parcel and was mostly covered in snow during the site reconnaissance. As a result, complete observation of the property was limited. The only improvements observed during the site reconnaissance consist of areas covered by degraded pavement and concrete slabs in former parking and building areas as well as at least three (3) manhole covers and a retaining wall along the western property boundary which was formerly part of a loading dock. In addition, soil piles were observed in the central and southeastern portions of the property. An aerial photograph depicting the existing conditions of the subject property is provided as **Figure 3**.

## 3.7 DESCRIPTION OF SITE IMPROVEMENTS & FACILITIES

The site conditions have been summarized above in Section 3.6. No buildings, structures, facilities (other than the observed manhole covers) or other utilities were noted during the reconnaissance of the subject property.

There was no evidence of discharge, staining, areas of stressed vegetation, residue of oils or other toxic substances, pools of discharge, petroleum or chemical odors, or other such indicators noted during the site reconnaissance.

## 3.8 ADJACENT LAND USE

Current land use at the subject property and surrounding area is described based on aerial photographs and visual observations. The area immediately surrounding the subject property consists of vacant land as well as commercial, railway and residential uses. An aerial photograph depicting the surrounding property uses is provided as **Figure 3**.

*North:* Clinton Street, beyond which lies commercial and residential properties.
*South*: A railroad corridor, beyond which lies commercial and residential properties.
*East:* Hudson Street, beyond which lies commercial and residential properties.
*West*: Jarvis Street, beyond which lies a gasoline station/convenience store.

Past uses in the vicinity of the subject property are described based on review of historic aerial photographs and the field reconnaissance. The area surrounding the subject property has historically been comprised of commercial and residential uses.

## 3.9 NATURAL SETTING

### 3.9.1 Soils and Topography

The surficial geology of a site can often provide insight into the past activities on a given parcel of land. The Soil Survey of Broome County, conducted by the U.S. Department of

Agriculture in 1971 is a useful source of soils information, which identifies soil types resulting from natural deposition and modification, as well as man-induced alterations associated with land use.

The subject property is comprised of soil types: Cv - Cut and fill lands, gravelly materials. The characteristics of this soil type are identified as follows **(Warner et al., 1975)**:

> *Cut and fill lands, gravelly materials (Cv) - This land type has come from fill that mostly from areas of Chenango and Howard soils or from leveled areas of these soils. Fill from these materials generally is excellent for highways and for building sites. Areas of fill near Binghamton commonly consist of five (5) to ten (10) feet of Chenango soil material over alluvial Tioga soil material.*

The nature of the surrounding area consists of commercial, railway and residential uses. The subject property has a relatively flat topography and neither soils nor topography appear to pose a constraint to the current use of the subject property. Bedrock in the vicinity of the subject property could not be ascertained. However, a review of logs for the soil borings installed at the property revealed that soil borings were advanced to a maximum depth of twenty-four (24) feet without bedrock being encountered. The soil types overlying the subject property are illustrated in **Figure 5**. The topography of the subject property is provided in **Figure 6**.

### 3.9.2 Groundwater Resources

Groundwater in the area of the subject property is entirely derived from precipitation. Precipitation entering the soils in the form of recharge, passes through the unsaturated zone to a level below which all strata are saturated, referred to as the water table. No groundwater flow maps were available for the area of the subject property. However, a review of soil boring logs related to the subject property revealed that groundwater was encountered at depths ranging from approximately 17 to 23 feet below ground surface (bgs). The elevation of the subject property is approximately 850 feet above mean sea level (msl). As a result, the elevation of groundwater beneath the property ranges from approximately 827 to 833 feet above msl. The previous environmental studies conducted at the subject property, estimated that the direction of groundwater flow is towards the east. The nearest surface water body is the Chenango River which lies approximately 0.70 mile to the east.

### 3.9.3 Wetlands

The subject property was inspected to identify the possible presence of any wetland vegetation and/or water surfaces that would sustain wetland vegetation. The site

reconnaissance did not reveal any wetland and/or wetland species on the subject property. A review of NYSDEC Freshwater Wetland maps and National Wetland Inventory maps did not designate any wetlands on or in the immediate vicinity of the subject property. The portion of the Freshwater Wetland and the National Wetland Maps that cover the subject property and surrounding area are provided as **Figure 9** and **10**, respectively.

### 3.9.4 Coastal Barrier Improvements/Flood Plains

The subject property is not located in the vicinity of a coastal area; therefore, no coastal barrier improvements exist or are required. The subject property is located in Flood Zone X, an area of minimal flooding. The portion of the Flood Insurance Rate Map that covers the subject property is provided in **Figure 11**.

### 3.9.5 Critical Habitat/Endangered Species

The NYSDEC Environmental Resource Mapper identified the subject property as not being located within an area with rare plants or animals or sensitive communities. No rare species were observed during the reconnaissance of the subject property. This report is not a substitute for an endangered species survey.

# 4.0 USER PROVIDED INFORMATION AND INTERVIEWS

The purpose of this section as defined in Section 6 of the ASTM E1527-21 is to describe tasks to be performed by the user (the individual or entity for which this document has been prepared) that will help identify the possibility of recognized environmental conditions in connection with the subject property. This information does not require the technical expertise of an environmental professional and is generally not performed by environmental professionals who prepare Phase I ESAs. The information provided in this section is the sole responsibility of the user and has been included in this report if provided by the user.

## 4.1 TITLE RECORDS

No Title Insurance Report was provided for review as part of this Phase I ESA.

## 4.2 ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATIONS

No environmental liens appear to have been imposed on the subject property. No other activity or use limitations have been imposed on the subject property to best of our knowledge.

## 4.3 SPECIALIZED KNOWLEDGE OBTAINED FROM INTERVIEWS

The subject property is vacant and no one was available to provide specialized knowledge regarding the subject property.

## 4.4 COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION

No additional information was available or provided regarding the subject property.

## 4.5 PROPERTY VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

The subject property has been the subject of several environmental assessments/investigations since 1995. A discussion of these investigations are provided below.

A Phase I ESA and Direct Push Sampling Report was conducted by GeoLogic NY, Inc. in April 2008 which reviewed and summarized three (3) other site investigation reports including an Environmental Site Assessment conducted by Enviro Testing in 1995, a Limited Phase II ESA conducted by GeoLogic NY, Inc. in 2000 and additional site investigation work conducted by GeoLogic in 2001. A summary of the findings of each of these reports will be provided below in chronological order.

**Enviro Testing Environmental Site Assessment – February 3, 1995**

*"Site inspection indicated there was a 'partially vacant 196,000-square foot industrial building, currently used for storage of computer supplies and an auto repair business…numerous drums, containers, temporary mixing vats, etc. still exist on site and some are corroded and leaking unknown materials…Vail-Ballou listed as storing developing chemicals, diazo solutions, activators, stabilizers and fixers, most of which are used in photo processing…NYSEG indicated that the electrical transformers in the building may contain PCBs, and if so, they will be removed by NYSEG…evidence of possible Class V underground injection wells were identified inside the building and may be receiving waste (i.e. oils, gas, antifreeze) from the auto repair operation."*

**GeoLogic NY, Inc. Limited Phase II ESA – July 19, 2000**

*"As part of this assessment, three groundwater monitoring wells were installed and samples for lab analysis were collected. Three underground storage tanks (UST's) were removed and soil samples were collected.*

*Chloroform was reported in water from MW-2 (5.3 ug/L). The direction of groundwater flow, based on the May, 2000 data, was to the east.*

*The UST's removed included a 275-gallon fuel oil tank, a 1,000-gallon Naphtha tank, and a 1.000-gallon gasoline tank. The tanks had been located near the northwest portion of the site – adjacent to Jarvis Street. Soil samples from the tank excavation indicated that four volatile organic compounds were reported at concentrations below NYSDEC regulatory limits.*

*NYSDEC Spill No. 0065057 associated with the removal of the UST's was assigned closed status in August 2000."*

**GeoLogic NY, Inc. Additional Site Investigation Letter Report May 25, 2001**

*"Additional work was completed based on the discovery of petroleum product in a manhole located on the southeast corner of the property. A copy of the May 2001 site plan showing the area addressed by this work is contained in Appendix B.*

*Five borings were drilled (one near the former gasoline station, one along the southern property line, one in the central portion of the property and two at the southeast corner of the property.*

*Six test pits were excavated in the southeast corner of the property.*

*Samples were submitted for lab analysis.*

*Acetone at a concentration of 64 ug/l was reported in a water sample from boring B-3. Chloroform at a concentration of 11 ug/L was reported in a water sample from well MW-2.*

*Soil with petroleum odor and PID readings of 12-150 ppm was encountered in test pit TP-3 Manhole Test Pit. This test pit was located near the southeast corner of the property. Buried piping was encountered in the test pits along the eastern site (sic) of the property. The pipes were 'cut off' and sealed with hydraulic cement at the point that the (sic) entered the subject property. A fuel oil/tar-like substance was observed in the pipes. The piping that extended onto the subject property was excavated and removed from the property. Soil samples from the southeastern portion of the property had concentrations of petroleum compounds at levels exceeding the NYSDEC guidance values. (NOTE – This contaminated soil is likely still located on the subject property.)*

*(NOTE – This piping was likely connected to the four underground storage tanks that had been located on the EAST side of Hudson Street. These former tanks were reported to be buried railroad cars with a capacity of 10,300 gallons. These tanks provided fuel to the Vail-Ballou boiler room that had been located near the southeastern portion of the property.)"*

**GeoLogic NY, Inc. Phase I ESA and Direct Push Sampling Report – April, 2008**

The findings of the Phase I ESA offered the following opinions and conclusions:

- *The subject property has been used for industrial purposes since at least 1887. Based on this as well as the findings of their 2000, 2001 and 2008 assessments it was concluded that this represents a historic recognized environmental condition.*

- *A gasoline station was formerly located on the northern portion of the property. No records were obtained relating to the removal of underground storage tanks or the presence of a drywell. As a result, it was concluded that this represents a recognized environmental condition even though petroleum contamination was not detected during their 2000, 2001 and 2008 assessments.*

- *At the time of the 2008 Phase I ESA nearby properties were used as gasoline stations and for industrial purposes. Based on this and their prior 2000, 2001 and 2008 assessments it was concluded that this represents a historic recognized environmental condition.*

- *In 1995 the last remaining building at the property was occupied by an automobile repair business and plastic recycling business. Observations at that time revealed the presence of a basement that contained drums, containers, temporary mixing vats, etc. A floor drain that reportedly was not connected to the municipal sewer system was also noted to be present. Following the destruction of the building in a fire in 1995 the status of the drums, containers, vats and floor drain were unknown. Based on these observations it was concluded that this represented a recognized environmental*

*condition. However, it was also noted that sampling conducted downgradient of this area did not detect the presence of any volatile organic compounds in groundwater.*

- *During the 2001 assessment petroleum products were observed in a manhole on the southeast corner of the property. Investigation of this area indicated that petroleum impacted soil was present and that a volatile organic compound and semi-volatile organic compounds were detected in groundwater samples collected from this area of the property but at concentrations below NYSDEC groundwater standards. It was concluded that petroleum contamination in this area represents a recognized environmental condition. It was also recommended that if this area is excavated in the future petroleum contaminated soils may be present and should be addressed according the NYSDEC regulations.*

- *In an effort to evaluate the potential impact to soil and groundwater quality at the property samples were obtained from direct push sampling points and two (2) of the existing monitoring wells (MW-1 and MW-2). Well MW-3 could not be located. Three (3) direct push sampling points were installed downgradient of the property boundary to evaluate groundwater conditions. Three (3) direct push points were installed to provide special coverage to the property. Two (2) direct push points were located in the vicinity of the former gasoline station. One (1) direct push point was installed in the vicinity of the underground tanks removed in 2000 and one (1) direct push point was installed in the area of the former petroleum product pipelines in the northeastern corner of the property.*

  *Results of the groundwater sampling conducted at the property detected the presence of chloroform, tetrachloroethene, acetone, fluoranthene, phenanthrene and pyrene but at concentrations below their respective NYSDEC groundwater standards. No soils samples appear to have been submitted for laboratory analysis.*

Based on the inspection of the property and review of available documentation, no reduction in the price of the land appears to be warranted due to the presence of past or existing hazardous or toxic materials, provided the recommendations in Section 6.0 are addressed.

### 4.6 OWNER, PROPERTY MANAGER AND OCCUPANT INFORMATION

The Broome County Tax Assessor records indicated that the owner of the subject property is the FRGK Realty, LLC.

### 4.7 REASON FOR PERFORMING PHASE I ESA

This Phase I ESA has been completed as part of the due diligence required for the subject property.

# 5.0 ENVIRONMENTAL RECORDS AND AGENCY DATA REVIEW

With the understanding of the facilities at the subject property, it is important to establish the environmental and regulatory conditions of the subject property and surrounding area, as related to public health and environmental issues. This section of the report includes a review of agency records, soils and groundwater resources and historical data review. The site inspection and the environmental and regulatory conditions form the basis for conclusions regarding the risks and liabilities associated with this site.

## 5.1 STANDARD ENVIRONMENTAL RECORD SOURCES

A search of Federal, State and Local databases was performed in order to provide a profile of the site and surrounding area with regard to published government agency records. The procedures employed adhere as closely as possible to ASTM standards.

Contact was made with the USEPA, the NYSDEC, SCDHS, and local government regarding environmental and/or public health concerns associated with the subject property.

### 5.1.1 United States Environmental Protection Agency

The USEPA records were reviewed in order to obtain information regarding the National Priorities List (NPL), and sites documented on the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS). The NPL defines all known hazardous material waste sites, which are described by the Federal Government as needing immediate cleanup action. All hazardous material waste sites considered for addition to the NPL are listed in the CERCLIS list.

A review of the NPL Site List (search distance 1.0 mile), and the CERCLIS) lists (search distance 0.5 miles) finds the following with respect to the subject property and surrounding area:

1. Subject property did not appear on the NPL, Delisted NPL or CERCLIS lists.
2. There were no sites appearing on the NPL list located within (1.0) mile of the subject property.
3. There were no sites appearing on the Delisted NPL list located within one half (0.5) mile of the subject property.
4. There were no sites appearing on the CERCLIS list located within one-eighth (0.125) mile of the subject property. Information regarding the one (1) site within one-half (0.5) mile of the subject property is provided in **Appendix C**.
5. There were no sites appearing on the CERCLIS NFRAP list located within one-eighth (0.125) mile of the subject property. Information regarding the one (1) site within one-half (0.5) mile of the subject property is provided in **Appendix C**.

The USEPA was also contacted in order to obtain information concerning RCRA TSD facilities (treatment, storage, and disposal of hazardous wastes, as defined and regulated by the Resource Conservation and Recovery Act, RCRA), and RCRA Generators (of hazardous wastes as defined and regulated by RCRA). RCRA TSD facilities are sites that treat, store or dispose of wastes that can be toxic, flammable, corrosive, explosive or otherwise hazardous; and RCRA Generators are sites that generate or transport wastes of the above noted characteristics. The search also included review of the Emergency Response Notifications System (ERNS) list, which is a list of reported releases or spills in quantities greater than reportable quantities, Federal Permit Compliance System Toxic Wastewater Discharges (PCSTWD) which permits toxic wastewater discharges and Federal Civil Enforcement Docket (CED) which lists judiciary cases filed on behalf of the EPA by the Department of Justice.

A review of the RCRA TSD Facilities List (search distance 1.0 mile), the PCSTWD and CED facilities (search distance 0.25 mile), the RCRA Generator List (search distance, subject property and adjoining properties), and the ERNS List (search distance, subject property only) finds the following with respect to the subject property and surrounding area:

1. The subject property did not appear on the RCRA TSD Facilities List, or the ERNS List.
2. The subject property was listed as a RCRA Generator.
    a. Vail-Ballou Press (Facility ID# NYD057770679). The generator type for this facility was not provided but is listed as having produced a solid waste that exhibits the characteristic of ignitability (165 gallons, 1998), a solid waste that exhibits the characteristic of corrosivity (85 gallons, 1997) and spent halogenated solvents used in degreasing (770 gallons, 1988).
3. The subject property was not listed as a Civil Enforcement Docket Facility.
4. The subject property was not listed for Permit Compliance System Toxic Wastewater Discharges.
5. The subject property was not identified on the ERNS list.
6. There were no sites listed as RCRA TSD facilities identified within one-eighth (0.125) mile of the subject property. Information regarding the one (1) site located one-half (0.5) mile of the subject property is provided in **Appendix C**.
7. There were three (3) RCRA Generators (not including the subject property) listed within one-eighth (0.125) mile of the subject property. Information regarding the seven (7) additional facilities located within one-half (0.5) mile of the subject property can be found in **Appendix C**.
    a. Anitec-Kodak Polychrome Graphics (Facility ID# NY0000059782), located 529 feet to the northwest at 215-255 Clinton Street. This facility has historically been listed as a small quantity and conditionally exempt small quantity generator that produced mercury (17 gallons and 190 pounds, 1998), other PCB wastes including contaminated soil, sludges, clothing, etc. (7,330 kilograms, 1997), petroleum oil or other liquid containing between 50 ppm and 500 ppm PCBs (323 kilograms, 1995) and solid waste that exhibits the characteristic of ignitability (1,025 pounds, 1994).

b. Upstate Office Liquidators, Inc. (Facility ID# NYR0000020206), located 579 feet to the north-northwest at 40 Jarvis Street. This facility has historically been listed as a conditionally exempt small quantity generator that produced spent non-halogenated solvents (880 gallons, 1998).
c. Binghamton CO Generation, LP (Facility ID# NYD987005675), located 645 feet to the north-northeast at 22 Charles Street. This facility has historically been listed as a large quantity generator that produced a solid waste that exhibits the characteristic of corrosivity (79 pounds, 2018 and 870 gallons, 1992), a mixed waste containing lead and benzene (200 pounds, 2015), a solid waste that exhibits the characteristic of ignitability (1,000 pounds, 2008 and 29 gallons, 1994), mercury (40 pounds, 1999), benzene (420 gallons, 1995) and spent non-halogenated solvents (300 gallons, 1994). No facility hazardous waste activity reported by New York State up to June 10, 2019.

8. There were no CED facilities located within one-eighth (0.125) mile of the subject property. Information regarding the one (1) site located within one-quarter (0.25) mile of the subject property is provided in **Appendix C**.
9. There was one (1) PCSTWD facilities located within one-eighth (0.125) mile of the subject property. Information regarding the one (1) site located within one-quarter (0.25) mile of the subject property is provided in **Appendix C**.
   a. Binghamton Cogen Plant (Facility ID# NY0232840), located 628 feet to the north-northeast at 22 Charles Street. This facility is listed as an active industrial electrical services provider which is a minor discharger.

The RCRA Generator program is intended to track the origin and destination of hazardous waste, and there is no indication that listing on this inventory constitutes an environmental threat. In addition, the Federal Facilities Index that includes resources conservation and Recovery Corrective Action Sites (CORRACTS) was reviewed. No CORRACTS sites were identified within one (1.0) mile of the subject property is provided in **Appendix C**.

### 5.1.2 New York State Department of Environmental Conservation

The NYSDEC is charged with the responsibility of registering inactive hazardous waste disposal sites and administering the investigation and cleanup of such sites. The NYSDEC inventory is contained in the publication, Inactive Hazardous Waste Disposal Sites in New York State. The inventory provides the location, extent of contamination and remediation status of each listed site in New York State. Accordingly, the registry of the NYSDEC was consulted for information on Inactive Hazardous Waste Disposal Sites (IHWDS). The NYSDEC provides information regarding Hazardous Substance Waste Disposal Sites (HSWDS) that are sites contaminated with toxic substances but are not eligible for state cleanup funding programs. The NYSDEC provides information regarding Brownfield cleanup site - these are sites that are abandoned, idled or under-used industrial and/or commercial sites where expansion or redevelopment is

complicated by real or perceived environmental contamination. Similarly, the NYSDEC is responsible for permitting Solid Waste Facilities (SWF) - these are facilities including landfills, incinerators, transfer stations and other solid waste management sites. The NYSDEC also registers Petroleum Bulk Storage (PBS) where the total storage capacity at the facility exceeds 1,100 gallons, Chemical Bulk Storage (CBS), Major Oil Storage Facilities (MOSF) and Toxic Release Inventory Sites (TRI). Finally, the NYSDEC regulates and monitors Air Discharges and NYS Toxic Spills which include Leaking Underground Storage Tanks (LUSTs).

A review of the IHWDS, Brownfield Sites and HSWDS Lists (search distance 1.0 mile), SWF, CBS and MOSF lists, and LUST Lists (search distance 0.5 miles), TRI and Air Discharge sites (search distance 0.25 miles) and the PBS List (search distance, subject property and adjoining properties) finds the following with respect to the subject property and surrounding area:

1. The subject property was not listed as an IHWDS Brownfields or HSWDS site.
2. The subject property was not listed on the SWF, CBS or MOSF Lists.
3. The subject property was listed as a PBS facility.
    a. Vail-Ballou Press - Clinton Street (Facility ID# 7-182230). This facility is listed as having formerly utilized four (4), 10,300-gallon underground tanks that were closed in place on September 1, 2004. It should be noted that based on a review of the Phase I ESA prepared by GeoLogic in 2008, these tanks may have been located on a separate property owned by Vail-Ballou Press located to the north-northeast of the subject property.
4. The subject property was not listed on the NYS Toxic Spill site list.
5. The subject property was not listed as a TRI Site.
6. The subject property was not listed on the NYS Air Discharge list.
7. The subject property was listed as having two (2) LUST incidents.
    a. Former Vail-Ballou Press (Spill# 0065067). This incident was reported on July 6, 2000 during the removal of #2 fuel oil underground storage tanks from the property. Low level petroleum contamination found in the soil at levels below STARS guidance values. The file for this incident was closed on August 16, 2000.
    b. Vail-Ballou Press (Spill# 8906060). This spill was reported on September 19, 1989 following the failure of a 10,300-gallon underground tank used for the storage of #4 fuel oil. This tank was retested on November 20, 1989 and passed. The file for this incident was closed on November 30, 1989. It should be noted that based on a review of the Phase I ESA prepared by GeoLogic in 2008 this incident may have been located on a separate property owned by Vail-Ballou Press located to the north-northeast of the subject property.
8. There was one (1) IHWDS listing located within one-eighth (0.125) mile of the subject property. No other IHWDS were identified within one (1.0) mile of the subject property.

a. Anitec Image Corporation (Facility ID# 704022), located 602 feet to the northwest at 40 Charles Street. The Anitec Image Corporation manufactures photographic film, specialty photo paper, film coatings and photographic chemicals. Manufacturing has occurred at this location since the early 1900s. This site has a history of past releases of photographic chemicals to both soils and groundwater. A Remedial Investigation/ Feasibility Study (RI/FS) was completed, and it identified six (6) operable units (OUs) on the property. They include the following: 1) Operable Unit 1 (OU 1) Building No. 8 Powerhouse: soil contamination by PCBs; this area has been remediated. 2) Operable Unit 2 (OU 2) 51 Mygatt Street: soil contamination by inorganics; remediation has been completed. 3) Operable Unit 3 (OU 3) Building 95 and 96: cadmium and silver contamination in site soils; remediation has been completed. 4) Operable Unit 4 (OU 4) Building 32 and the EHPK lot: soil contamination by volatile and semi-volatile organic contaminants (VOCs & SVOCs); no further action is needed here. 5) Operable Unit 5 (OU 5) addresses all groundwater contamination at the site, and remediation activities are complete. 6) Operable Unit 6 (OU 6) silver and cadmium contamination is present in the Chenango River. Remedial activities were all completed in late 1997. The Record of Decision (ROD) for OU 2 was signed in March 1995. The RODs for OUs 1, 3, 4 and 5 were signed in March of 1996. The ROD for OU 6 was signed on March of 1997. All remedial activities have been completed in accordance with the ROD, and the site is no longer a threat to health or environment. Accordingly, the site has been delisted from the Registry of Inactive Hazardous Waste Disposal Sites.

9. There were no HSWDS facilities located within one-half (0.5) mile of the subject property.
10. There were no Brownfields Sites located within one-eighth (0.125) mile of the subject property. Information regarding the two (2) sites located within one-half (0.5) mile of the subject property is provided in **Appendix C**.
11. There were no SWF listings identified within one-half (0.5) mile of the subject property.
12. There was one (1) PBS facility (not including the subject property) located within one-eighth (0.125) mile of the subject property. Information regarding the remaining five (5) facilities located within one-quarter (0.25) mile of the subject property can be found in **Appendix C.**
    a. Mirabito #84 (Facility ID# 7-600964), located 551 feet to the northwest on 215 Clinton Street. This facility is listed as utilizing one (1), 12,000 gallon and two (2) 4,000 gallon underground tanks used for the storage of gasoline and diesel fuel.
13. There were two (2) CBS sites located within one-eighth (0.125) mile of the subject property. No other CBS sites were identified within one-half mile of the subject property.
    a. Canal Emirates Power International (Facility ID# 7-000229), located 621 feet to the north-northeast at 22 Charles Street. This facility is listed as formerly utilizing forty-four (44) underground and fourteen (14) above ground tanks

ranging in capacity from 275 to 16,700 gallons for the storage of thiosulfuric acid, formaldehyde, methylene chloride, 2-propanone, methanol, sodium hydroxide, hydrochloric acid, 1-butanol, dimethyl phthalate, sulfuric acid and ethylene glycol. All of these tanks were either converted, removed or closed in place between 1991 and 2000. Currently, this facility is listed as utilizing nine (9) above ground tanks ranging in capacity from 400 to 15,000 gallons for the storage of potassium hydroxide, acetic acid, sodium hydroxide, sulfuric acid, ethylene glycol, cyclohexane and hydroquinone.

b. IPP Energy, LLC (Facility ID# 7-000243), located 621 feet to the north-northeast at 22 Charles Street. This facility is listed as utilizing two (2), 1,025 above ground tanks for the storage of sodium bisulfate and sodium hydroxide.

14. There was one (1) State Registered MOSF located within one-eighth (0.125) mile of the subject property. No other MOSF's were identified within one-half (0.5) mile of the subject property.
    a. Binghamton Co-Generation Plant (Facility ID# 7-2240), located 649 feet to the north-northeast at 22 Charles Street. This facility is listed as utilizing one (1), 570,000 gallon above ground tank for the storage of #1, #2 or #4 fuel oil.
15. There were no TRI sites located within one-eighth (0.125) mile of the subject property. Information regarding the two (2) TRI sites were located within one-half (0.5) mile of the subject property is provided in **Appendix C**.
16. There were no Air Dischargers located within one-eighth (0.125) mile of the subject property. Information regarding the three (3) Air Dischargers located within one-quarter (0.25) mile of the subject property is provided in **Appendix C**.
17. There was no active and seven (7) closed LUST incidents (not including the subject property) identified within one half (0.5) mile of the subject property. All of the closed LUST incidents were relatively minor, investigated and addressed to the satisfaction of the NYSDEC. Only one (1) of the incidents was upgradient and was reported to have not impacted groundwater. None of these incidents are expected to adversely impact the subject property. Information regarding these LUST incidents is contained in **Appendix C**.

The NYSDEC also responds to incidents involving hazardous waste spills. The Department maintains a logbook and files on all reported and actual incidents at the NYSDEC offices at Stony Brook. This file was reviewed in conjunction with the subject property. A review of the file revealed that one (1) active and 125 closed spill incidents were identified within one-half (0.5) mile of the subject property. Only nine (9) closed incidents were located upgradient of the subject property. All of these incidents were relatively minor and none were reported to have impacted groundwater. All were addressed to the satisfaction of the NYSDEC. All of the remaining closed incidents and active incident were either cross or down gradient of the subject property. None of the active or closed spill incidents are expected to adversely affect the subject property. Information regarding all of the reported incidents is contained in **Appendix C**.

### 5.1.3 Broome County Department of Health

The Broome County Health Department performs many important functions in environmental resource protection. Broome County Health Department records were received but there were no pertinent records in regard to the environmental quality of the property.

### 5.1.4 Local Agencies

Freedom of Information requests were submitted to the City of Binghamton. Records received from the City of Binghamton Fire Department confirmed information detailed in other sections of this report. No further records were provided prior to the completion of this report. Any pertinent records received will be provided as an addendum to this report. The Planning and Zoning Department indicated that the subject property is zoned Light & Medium Industrial. The zoning of the subject property and surrounding area is provided in **Figure 4**. The Broome County Tax Assessors records identified the subject property is owned by FRGK Realty, LLC. Refer to **Appendix G** for information all of the data received from FOIL requests.

# 6.0 DEVIATIONS & ADDITIONAL SERVICES

## 6.1 Deviations

This report was completed in accordance with the standards set forth in the ASTM E 1527-21 and the USEPA AAI. No deviations from these standards were undertaken during the completion of this report.

## 6.2 Additional Services

A Tier 1 Vapor Encroachment Condition (VEC) Assessment was conducted as part of this Phase I ESA, due to the proximity of several spill incidents. The assessment was conducted in accordance with the methods and procedures, outlined within ASTM E2600-15, Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions.

For this assessment, under conditions where the direction of groundwater flow can be ascertained, critical search distances are used to determine if a VEC exists. Specifically, the following distances are applied to the Tier I Assessment:

Upgradient Sources
1,760 feet for Chemical of Concern (COC)
520 feet for petroleum hydrocarbons

Cross-gradient Sources
365 feet for COC
165 feet for petroleum hydrocarbon LNAPL sources & 95 feet dissolved petroleum hydrocarbon sources with plume considerations

Down-gradient Sources
100 feet for COC/petroleum hydrocarbon LNAPL sources
30 feet dissolved petroleum hydrocarbon sources

A review of the regulatory agency database report provided for the subject property identified the subject property as being the subject of former LUST incidents and as a PBS facility. A review of the regulatory and use history of the property indicates that storage tanks may still be present and that the property was formerly used for industrial purposes. In addition, past investigations have revealed that soils and groundwater have been impacted with volatile organic compounds. Based on the information reviewed, it is concluded that a VEC cannot be ruled out.

No other additional services were included in this report.

## 7.0 FINDINGS

NPV has performed a Phase I ESA for 187 Clinton Street in Binghamton, New York. This environmental inspection report has been conducted in order to provide the prospective purchaser and/or lending institutions with accurate and complete information regarding the subject property, surrounding area, historic uses, agency records and regulations, and additional environmental considerations. Based upon this report, the limitations of this report and the methodology employed, the following statement is provided:

NPV has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-21 and USEPA AAI for 187 Clinton Street Binghamton, New York. Any exceptions to, or deletions from, this practice are described in Section 6.0 of this report.

This assessment has identified the following with respect to recognized environmental conditions, controlled recognized environmental conditions, historic recognized environmental conditions and de minimus conditions in connection with the subject property, subject to the methodology and limitations of this report.

Five (5) recognized environmental conditions were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

1. Past environmental sampling conducted at the subject property in 2000, 2001 and 2008 detected compounds in soil and groundwater that exceeded their respective regulatory standards.

2. The former industrial and commercial uses that occupied the subject property utilized underground storage tanks for chemical and petroleum products, the status of tanks is unknown.

3. Due to the historical site use and documented impacts to subsurface media, a vapor encroachment condition cannot be ruled out.

4. Numerous soil piles of unknown origin were observed in the central and southeastern portions of the subject property.

5. At least three (3) manhole covers which may overlie Underground Injection Control (UIC) wells were observed on the subject property.

No controlled recognized environmental conditions were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

No de minimus conditions was noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

Three (3) historic recognized environmental conditions were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

1. The subject property was listed as a RCRA Generator.

2. The subject property was listed as being the site of two (2) LUST incidents.

3. The subject property was listed as a PBS facility.

## 8.0 OPINIONS

It is the opinion of the environmental professional who completed this report that this assessment has revealed evidence of five (5) recognized environmental conditions and three (3) historic environmental conditions in connection with the subject property, subject to the methodology and limitations of this report. As a result, the following recommendations are offered:

1. Due to the history of the subject property and documented impacts to environmental media, further investigation of the property to supplement previous investigations should be conducted to fully assess the environmental condition of the subject property. This investigation should include the sampling of soil, groundwater and soil vapor in addition to a ground penetrating radar survey to locate any subsurface facilities or buried containment vessels that may remain from the prior property use.

## 9.0 CONCLUSIONS

This assessment was performed at the Client's request using the methods and procedures consistent with good commercial or customary practice designed to conform with acceptable industry standards.

This report is expressly and exclusively for the sole use and benefit of the Client identified on the first page of this report and is not for the use or benefit of, nor may it be relied upon by, any other person or entity without the advance written consent of NPV.

The independent conclusions represent NPV's best professional judgment based on information and data available to the consultant during the course of this assignment. NPV's evaluations, analyses and opinions are not representations regarding either the design integrity, structural soundness or actual value of the property. Factual information including operations, site conditions and available test data provided by the Client or their representative have been assumed to be correct and complete. The conclusions presented are based on the data provided, observations and conditions that existed on the date of the assessment.

## 10.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

***We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312, and***

***We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the "All Appropriate Inquiries" in conformance with the standards and practices set forth in 40 CFR Part 312.***

3/15/22
*Date*

*Steven J. McGinn, CEI*
*Partner/Division Manager*

3/15/22
*Date*

*Eric C. Arnesen, PG*
*Project Manager/Hydrogeologist*

## 11.0 REFERENCES

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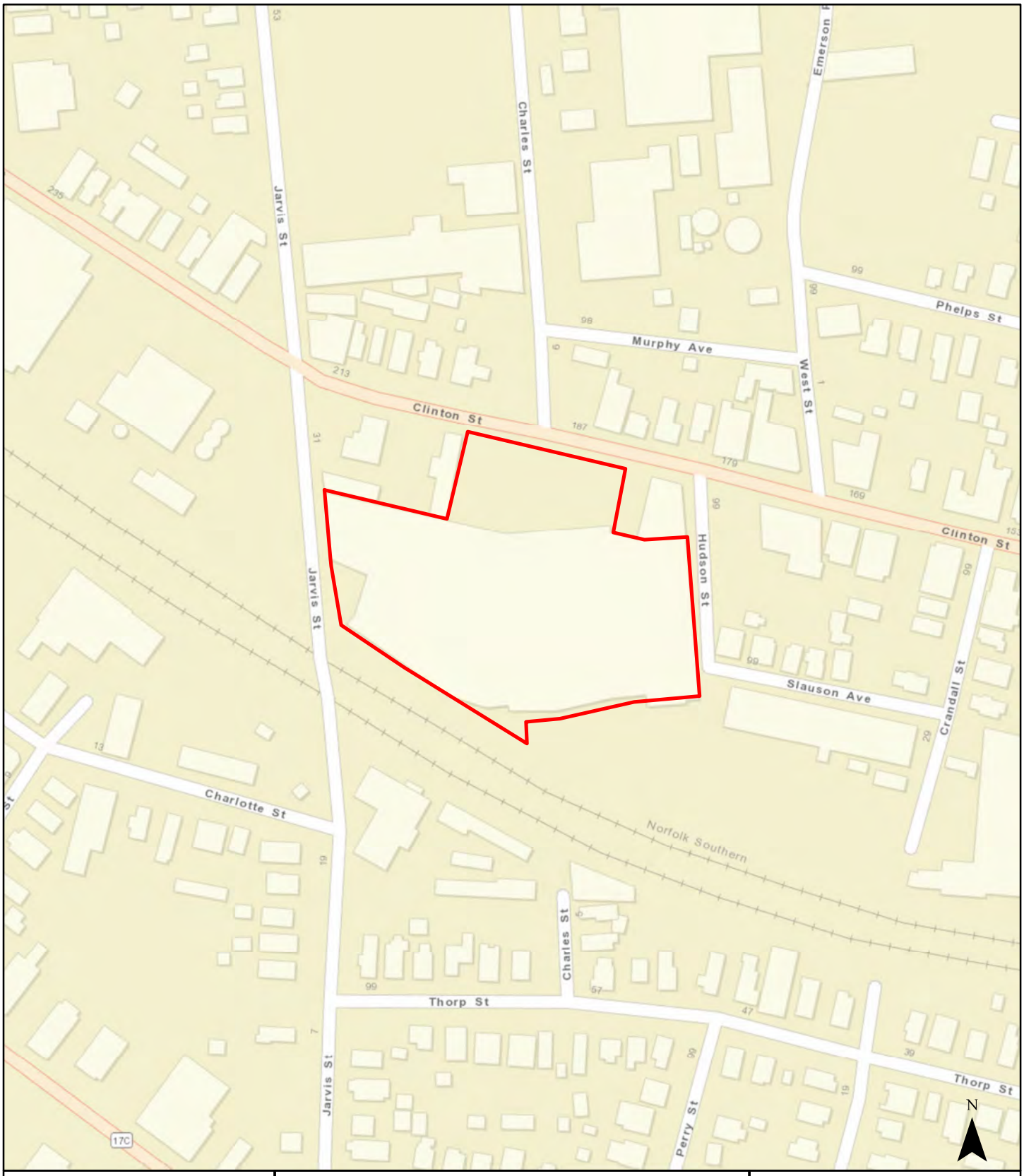
Olsson et al., 1981, Soil Survey of Orange County, New York, Washington, D.C.: U.S. Department of Agriculture, Soil Conservation Service, in cooperation with Cornell Agriculture Experiment Station, U.S. Government Printing Office.

# FIGURES




NPV

# FIGURE 1
# LOCATION MAP

Source: ESRI WMS; Broome County
Scale: 1 inch = 200 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**

NPV

# FIGURE 2
# AERIAL PHOTO MAP

Source: NYS Orthophotography, 2018
Scale: 1 inch = 100 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**

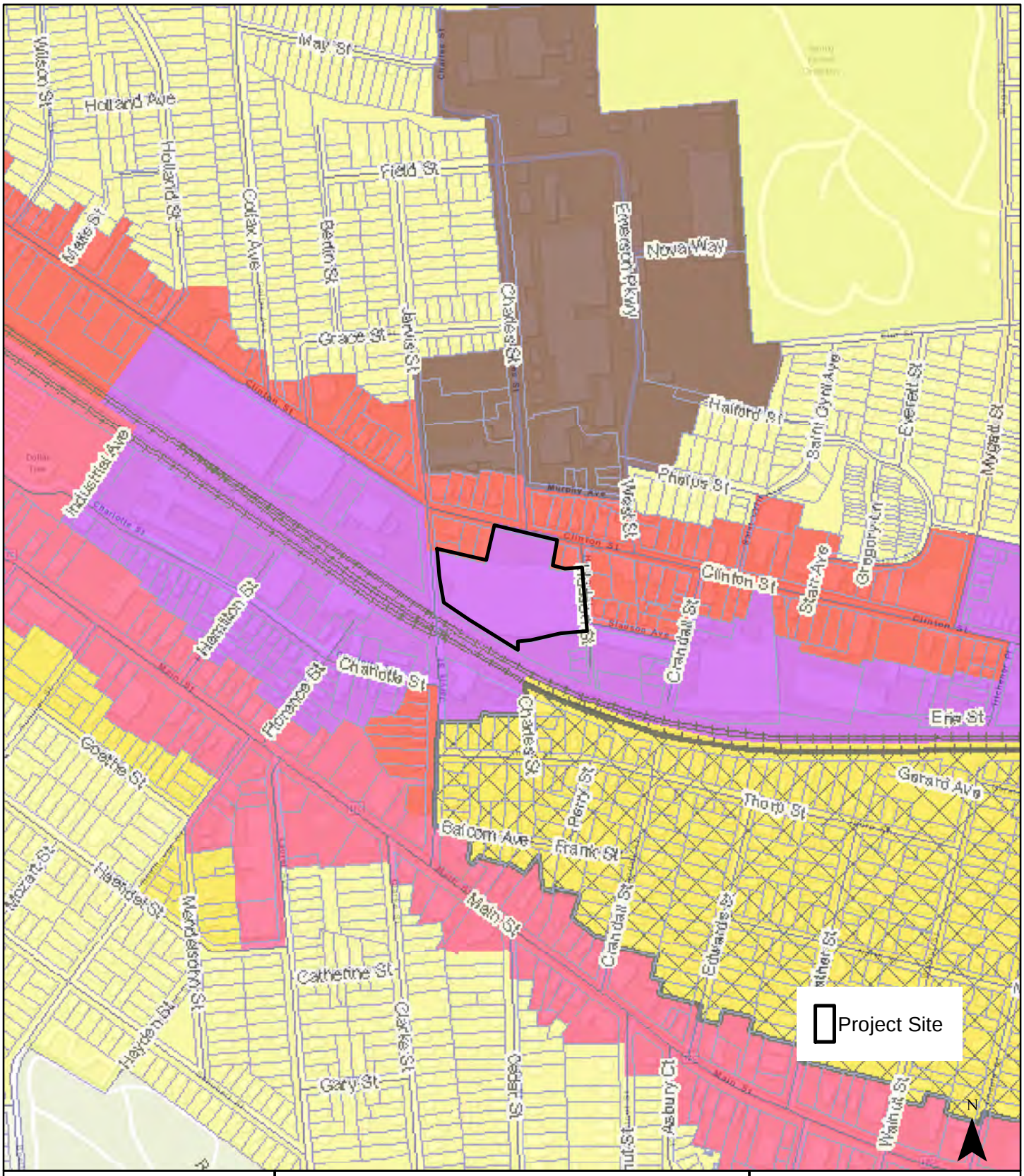
NPV

# FIGURE 3
# LAND USE MAP

Source: NYS Orthophotography, 2018
Scale: 1 inch = 300 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**




NPV

# FIGURE 4
# ZONING MAP

Source: ESRI WMS; Binghamton Zoning Map, 2006
Scale: 1 inch = 500 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**

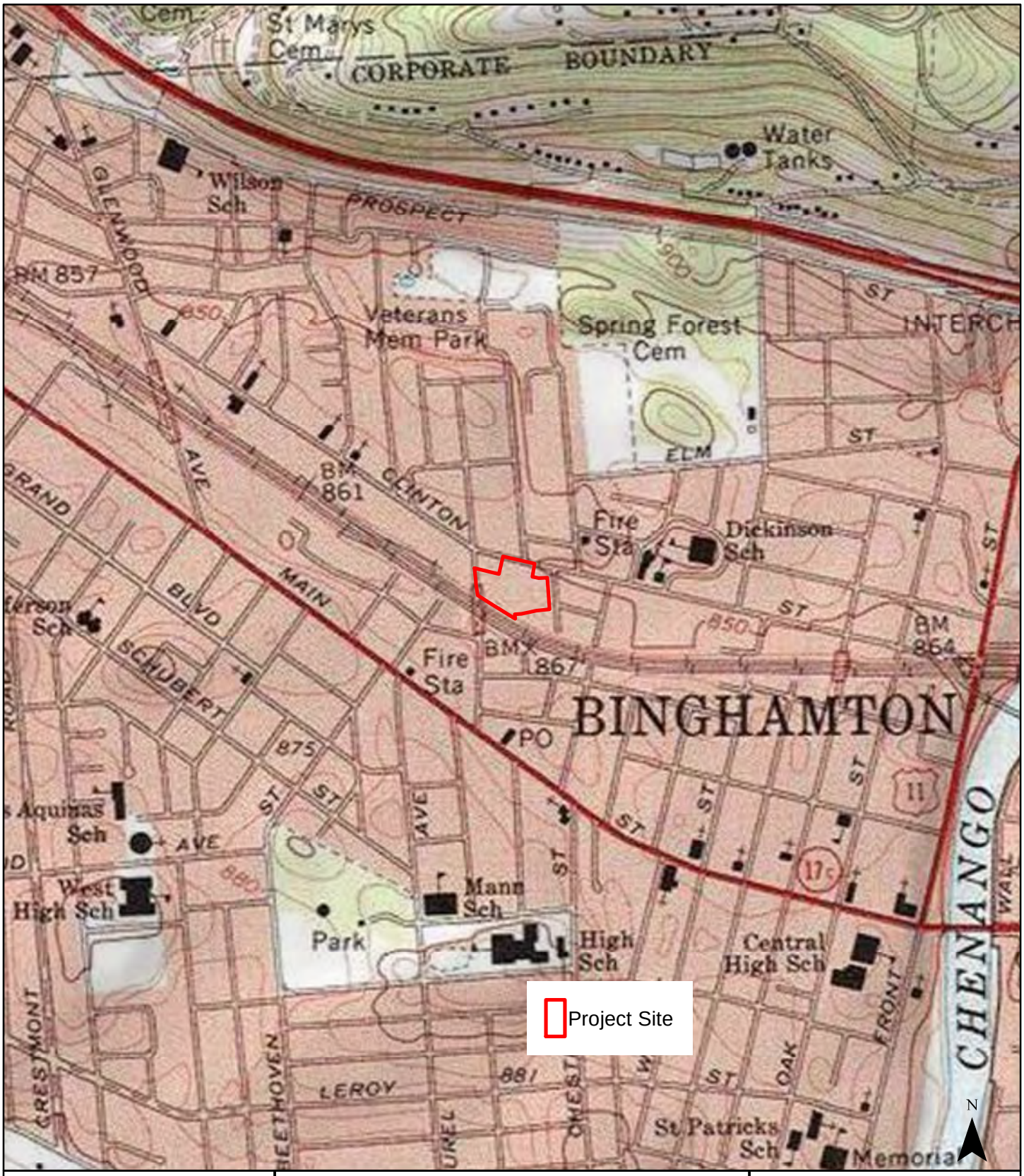
NPV

# FIGURE 5
# SOIL MAP

Source: ESRI WMS; NRCS
Scale: 1 inch = 200 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**



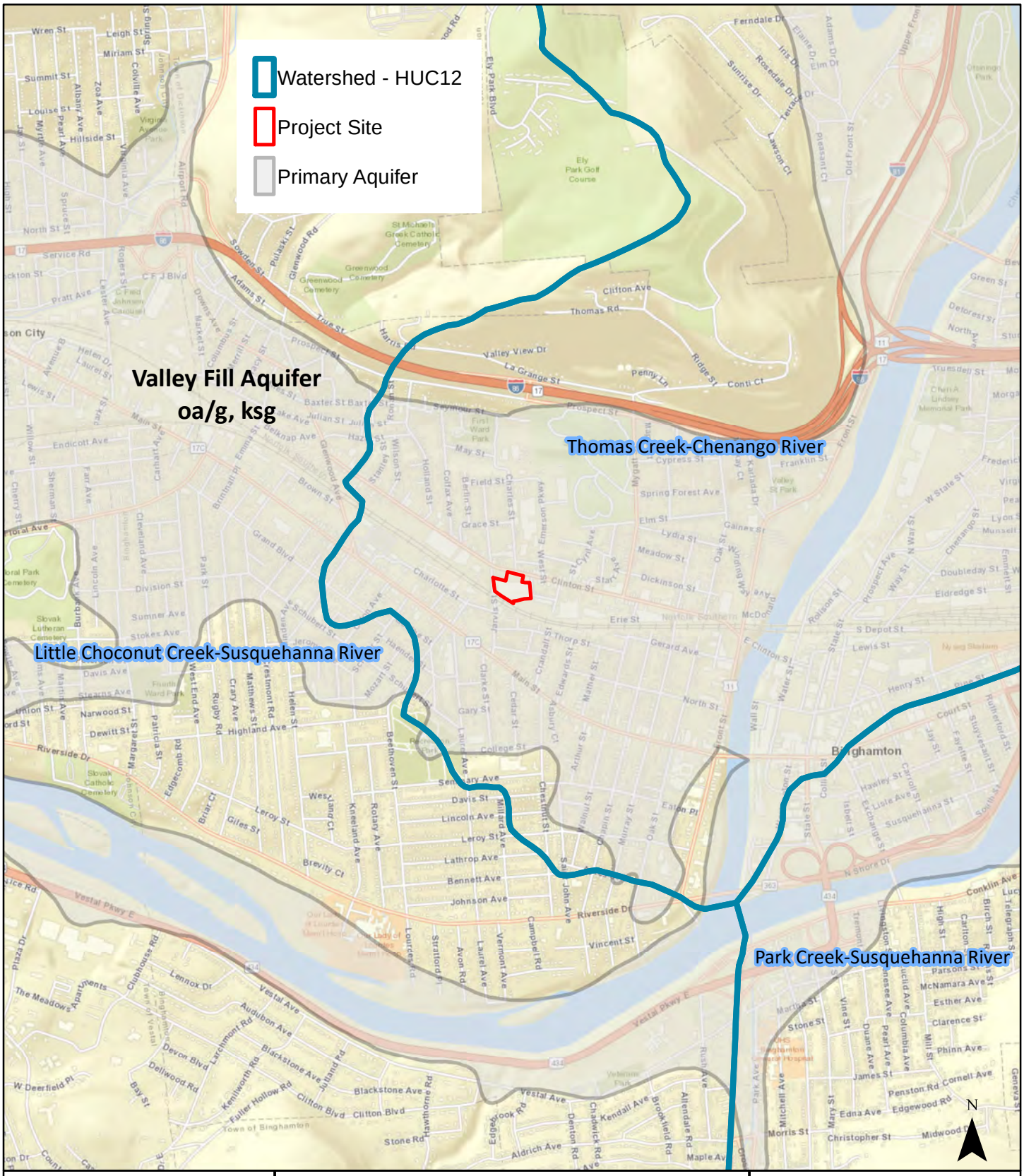

NPV

# FIGURE 6
# TOPOGRAPHY MAP

Source: USGS WMS
Scale: 1 inch = 1,000 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**



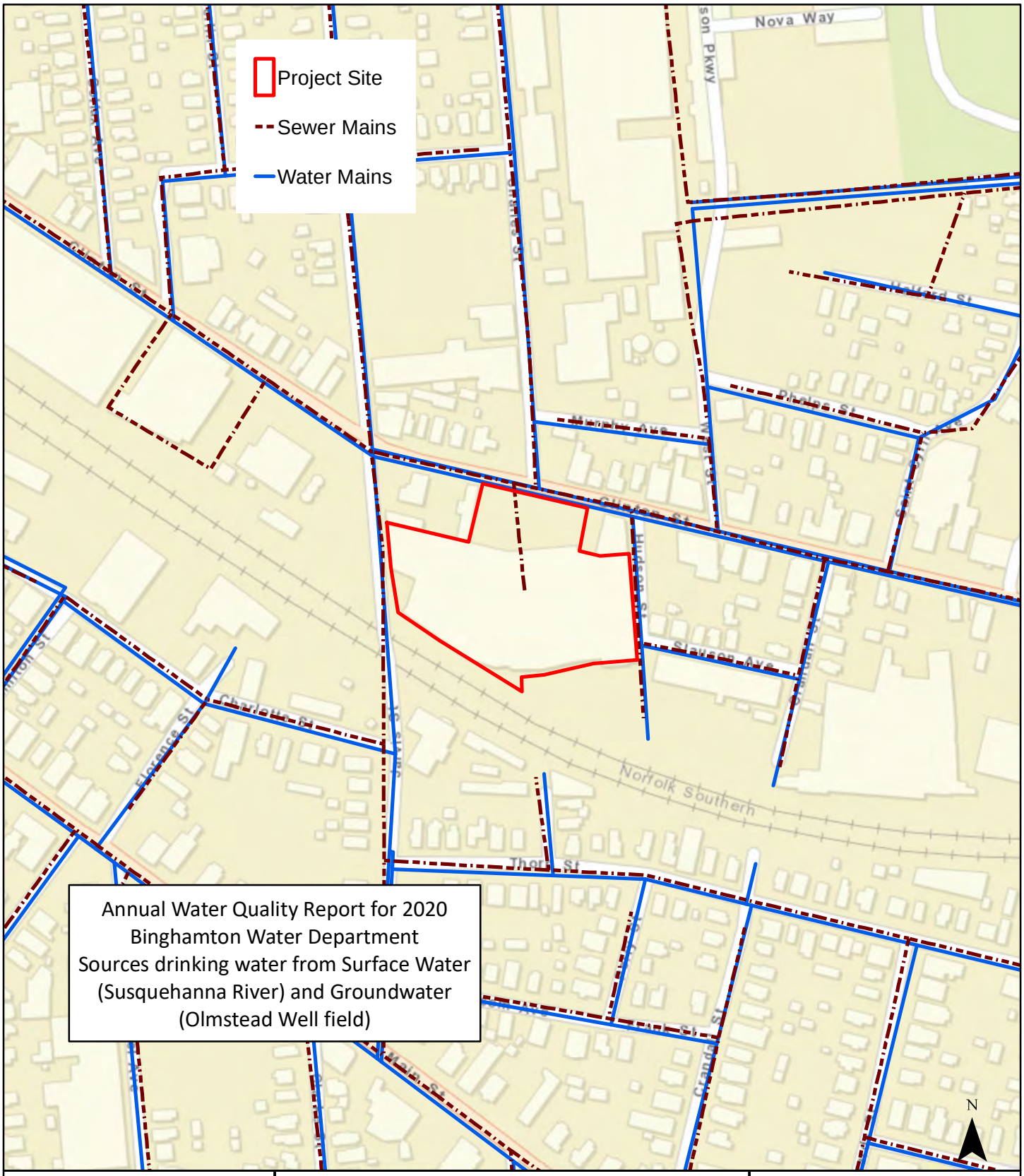

NPV

# FIGURE 7
# WATERSHED MAP

Source: ESRI WMS; USGS OFR 82-268
Scale: 1 inch = 2,000 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**



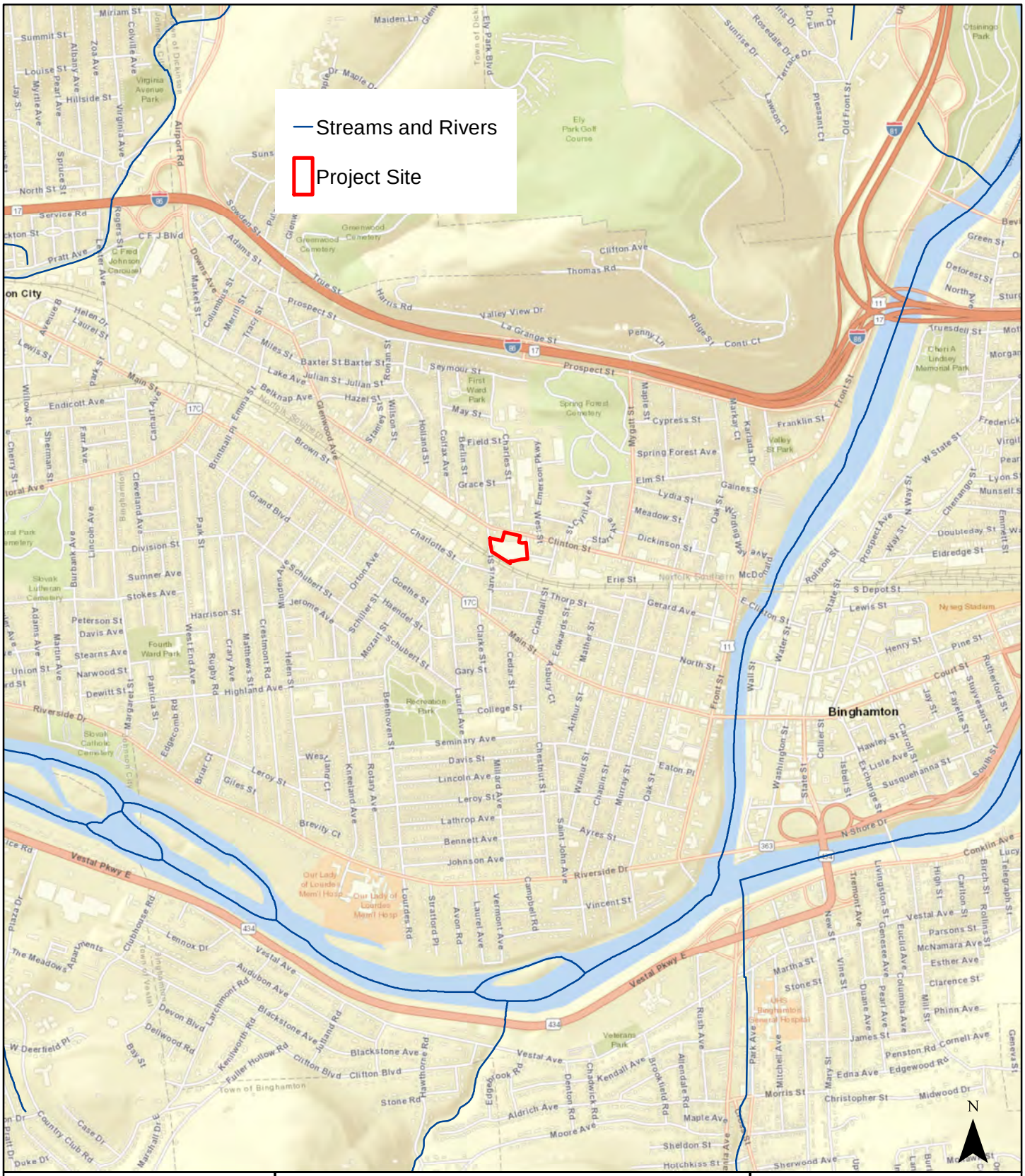

NPV

# FIGURE 8
# WATER SUPPLY MAP

Source: ESRI WMS; USGS OFR 82-268
Scale: 1 inch = 300 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**



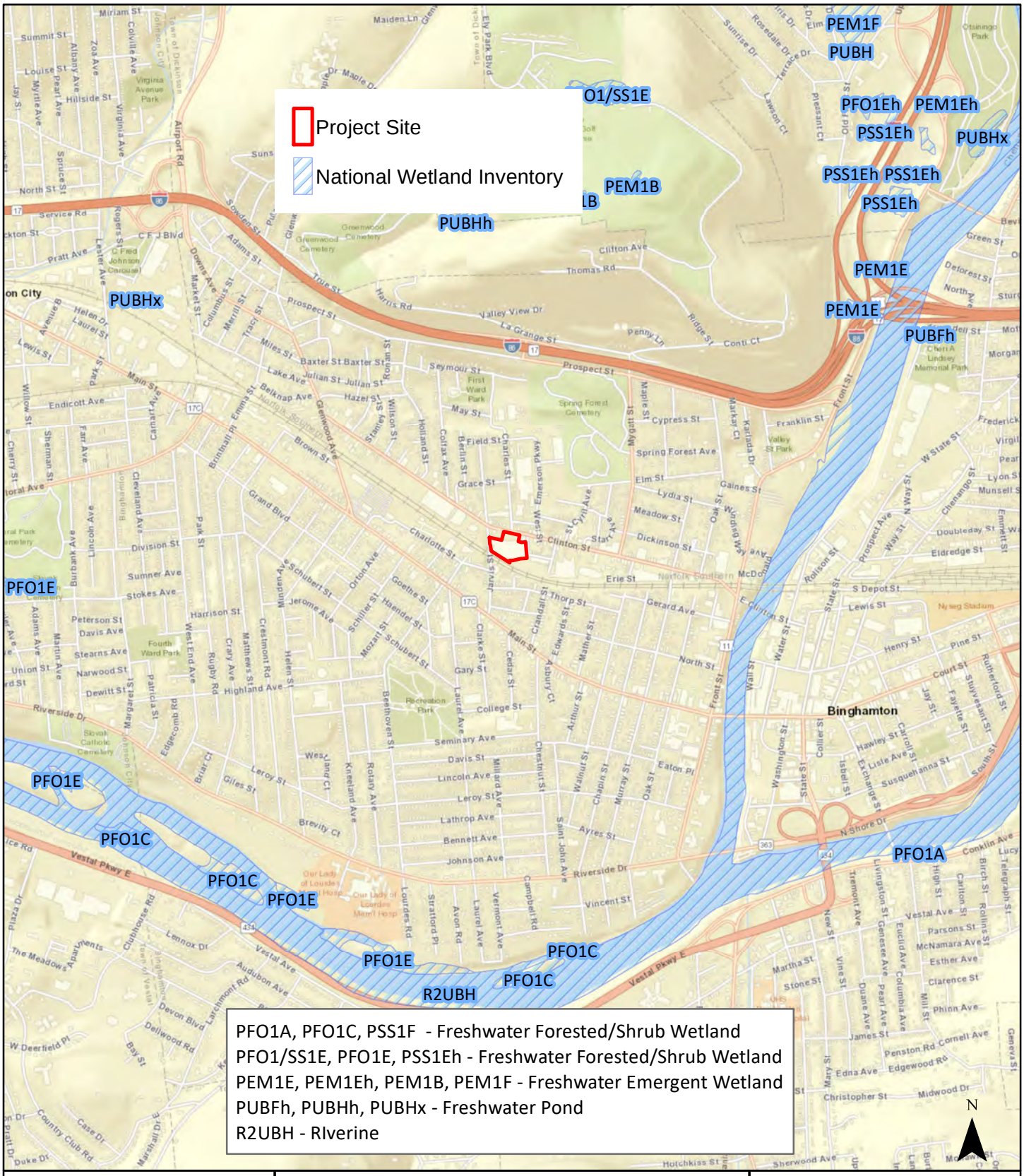

NPV

# FIGURE 9
# NYSDEC WETLANDS MAP

Source: ESRI WMS; NYSDEC, opdgig.dos.ny.gov
Scale: 1 inch = 2,000 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**



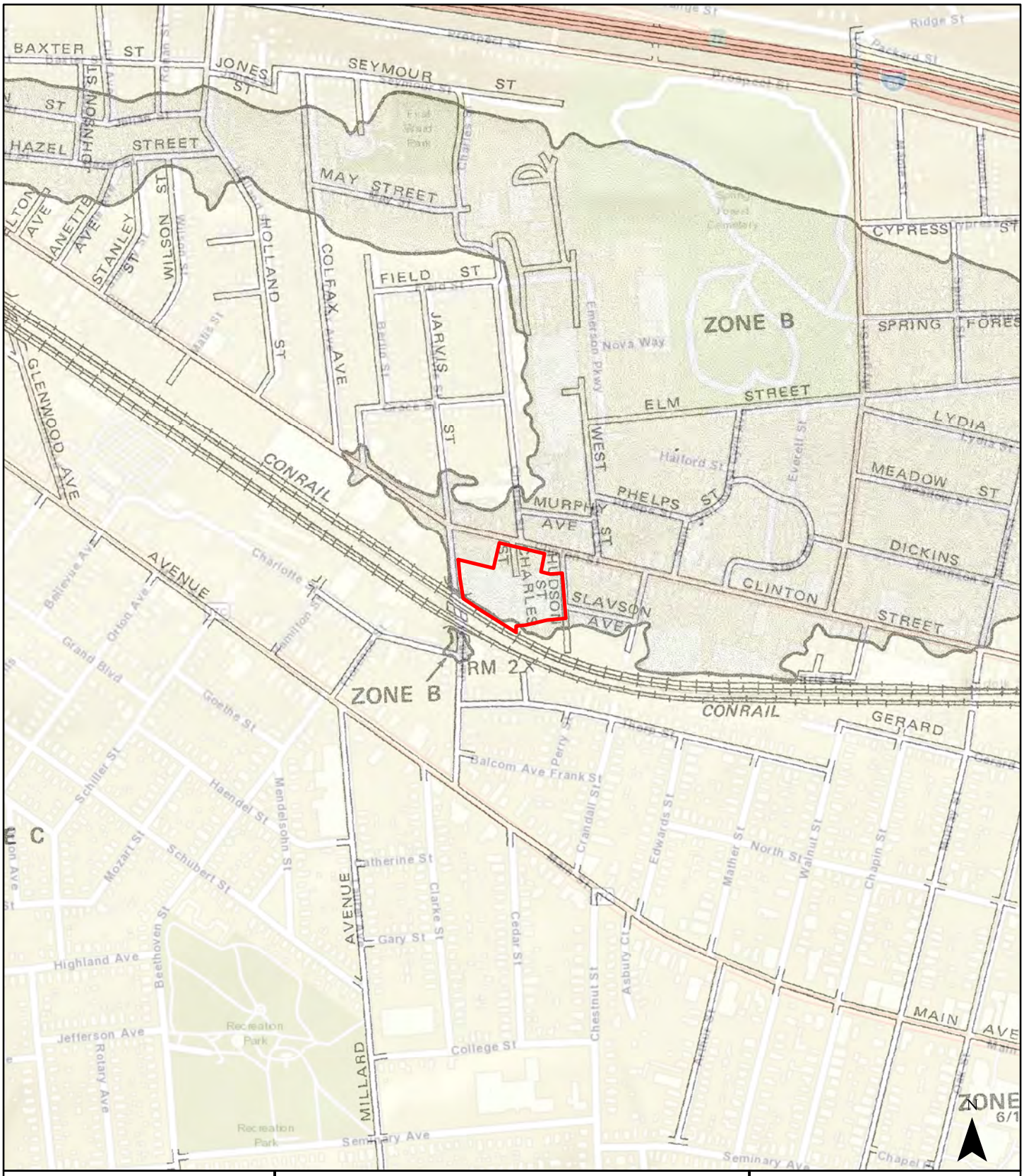

NPV

# FIGURE 10
# NATIONAL WETLANDS MAP

Source: ESRI WMS; US F&W NWI
Scale: 1 inch = 2,000 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**




NPV

**FIGURE 11**
**FEMA FLOOD HAZARD MAP**

Source: ESRI WMS; FEMA panel H&I-02
Scale: 1 inch = 700 feet

**187 Clinton St.**
**Binghamton**

**Phase I ESA**

# APPENDICES

# APPENDIX A
# SUPPLEMENTAL STATEMENT OF CONDITIONS ENVIRONMENTAL AUDITS

**SUPPLEMENTAL STATEMENT OF CONDITIONS**
**ENVIRONMENTAL AUDITS**

*Charles J. Voorhis is Certified as an Environmental Inspector (CEI) with the Environmental Assessment Association (EAA). The Association provides technical support and is acting to standardize the industry with regard to procedures and techniques for report preparation. The EAA has established an outline of responsibilities for the Environmental Inspector as well as a Statement of Limiting Conditions. This information is reproduced below in order for clients and loan agencies to understand responsibilities and limitations under this contract.*

Certification: The Environmental Inspector certifies to the Buyer, Seller and/or lender in a transaction as named in the inspection report "Principal Parties"; and the Inspector and the Principal Parties agree that:

1. The Environmental Inspector has no present or contemplated future (a) partnership with Principal Parties nor (b) an interest in the property inspected which could adversely affect the Inspector's ability to perform an objective inspection; and neither the employment of the inspector to conduct the inspection, nor the compensation for it, is contingent on the results of the inspection.

2. The Environmental Inspector has no personal interest in or bias with respect to the subject matter of the inspection report or any parties who may be part of a financial transaction involving the property. The conclusions and recommendations of the report are not based in whole or in part upon the race, color, creed, sex or national origin of any of the Principal Parties.

3. The Environmental Inspector has personally inspected the property, both inside and out and has made visual inspection of adjacent properties, to the extent possible by readily available access. The inspection does not include the removal of any soil, water or air samples, the moving of furniture or fixtures, or any type of inspection that would require extraordinary effort to access.

4. All contingent and limiting conditions are contained herein (imposed by the terms of the inspection assignment or by the undersigned affecting the conclusions and recommendations contained in the report).

5. This Environmental Inspection report has been made in conformity with and is subject to the requirements of the Code of Professional Ethics of the Environmental Assessment Association.

6. All opinions, conclusions and recommendations concerning the inspected property that are set forth in the inspection report were prepared by the Environmental Inspector whose signature appears on the report. No change of any item in the report shall be made by anyone other than the Inspector, and the Inspector shall have no responsibility for any such unauthorized change.

Contingent and Limiting Conditions: The certification of the Environmental Inspector appearing in the environmental inspection report is subject to the following conditions and to such other specific and limiting conditions as are set forth by the Inspector in the report.

1. The Inspector assumes no responsibility for matters of legal nature affecting the property inspected or the title thereto. The property is inspected assuming responsible ownership.

2. Any sketch appearing in or attached to the inspection report, or any statement of dimensions, capacities, quantities or distances, are approximate and are included to assist the reader in visualizing the property. The inspector has made no survey of the property.

3. The Inspector is not required to give testimony or appear in court because of having made the inspection with reference to the property in question, unless arrangements have been previously made therefor.

4. This report is not intended to have any direct effect on the value of the property inspected but simply to provide a visual Environmental Assessment solely for the benefit of the Principal Parties.

5. The Inspector assumes that there are no hidden, unapparent, or latent conditions or defects in or of the property, subsoil, or structures, other than those noted on the inspection report or any addendum to the report which the Inspector has included. The Inspector assumes no responsibility for such conditions, or for the inspection, engineering or repair which might be required to discover or correct such factors.

6. Information, estimates and opinions furnished to the Inspector, and contained in the report, were obtained from sources considered reliable and believed to be true and correct. However, the Inspector has made no independent investigation as to such matters and undertakes no responsibility for the accuracy of such items.

7. The Inspection and Inspection Report are made by the Inspector solely for the benefit and personal use of the Principal Parties. No disclosure may be made of the Inspection Report without the prior written consent of the Inspector and the Inspector undertakes no responsibility for harm or damages to any party other than the Principal Parties.

8. Neither the Inspection Report, any part thereof, nor any copy of the same (including conclusions or recommendations, the identity of the Inspector, professional designation, reference to any professional organization, or the firm with which the Inspector is connected), shall be used for any purposes by anyone but the Principal Parties. The report shall not be conveyed by anyone to the public through advertising, public relations, news, sales, or other media, without the prior written consent and approval of the Inspector.

# APPENDIX G
# FOIL INFORMATION

**187 Clinton Street, Binghamton**
187 Clinton Street
Binghamton, NY 13905

Inquiry Number: 6850276.6
February 08, 2022

# EDR Building Permit Report

## Target Property and Adjoining Properties

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

# TABLE OF CONTENTS

**SECTION**

**About This Report**

**Executive Summary**

**Findings**

**Glossary**

***Thank you for your business.***
Please contact EDR at 1-800-352-0050
with any questions or comments.

**Disclaimer - Copyright and Trademark Notice**

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction orforecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

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# EDR BUILDING PERMIT REPORT

## About This Report

The EDR Building Permit Report provides a practical and efficient method to search building department records for indications of environmental conditions. Generated via a search of municipal building permit records gathered from more than 1,600 cities nationwide, this report will assist you in meeting the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

Building permit data can be used to identify current and/or former operations and structures/features of environmental concern. The data can provide information on a target property and adjoining properties such as the presence of underground storage tanks, pump islands, sumps, drywells, etc., as well as information regarding water, sewer, natural gas, electrical connection dates, and current/former septic tanks.

## ASTM and EPA Requirements

ASTM E 1527-13 lists building department records as a "standard historical source," as detailed in § 8.3.4.7: "Building Department Records - The term building department records means those records of the local government in which the property is located indicating permission of the local government to construct, alter, or demolish improvements on the property." ASTM also states that "Uses in the area surrounding the property shall be identified in the report, but this task is required only to the extent that this information is revealed in the course of researching the property itself."

EPA's Standards and Practices for All Appropriate Inquires (AAI) states: "§312.24: Reviews of historical sources of information. (a) Historical documents and records must be reviewed for the purposes of achieving the objectives and performance factors of §312.20(e) and (f). Historical documents and records may include, but are not limited to, aerial photographs, fire insurance maps, building department records, chain of title documents, and land use records."

## Methodology

EDR has developed the EDR Building Permit Report through our partnership with BuildFax, the nation's largest repository of building department records. BuildFax collects, updates, and manages building department records from local municipal governments. The database now includes 30 million permits, on more than 10 million properties across 1,600 cities in the United States.

The EDR Building Permit Report comprises local municipal building permit records, gathered directly from local jurisdictions, including both target property and adjoining properties. Years of coverage vary by municipality. Data reported includes (where available): date of permit, permit type, permit number, status, valuation, contractor company, contractor name, and description.

Incoming permit data is checked at seven stages in a regimented quality control process, from initial data source interview, to data preparation, through final auditing. To ensure the building department is accurate, each of the seven quality control stages contains, on average, 15 additional quality checks, resulting in a process of approximately 105 quality control "touch points."

For more information about the EDR Building Permit Report, please contact your EDR Account Executive at (800) 352-0050.

EDR® Environmental Data Resources Inc

BUILD FAX PROPERTY HISTORY

# EXECUTIVE SUMMARY: SEARCH DOCUMENTATION

A search of building department records was conducted by Environmental Data Resources, Inc (EDR) on behalf of Nelson, Pope & Voorhis LLC on Feb 08, 2022.

**TARGET PROPERTY**

187 Clinton Street
Binghamton, NY 13905

**SEARCH METHODS**

EDR searches available lists for both the Target Property and Surrounding Properties.

**RESEARCH SUMMARY**

Building permits identified: **YES**

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

**Binghamton City**

| *Year* | *Source* | *TP* | *Adjoining* |
|---|---|---|---|
| 2016 | City of Binghamton | | X |
| 2015 | City of Binghamton | | X |
| 2014 | City of Binghamton | | X |
| 2013 | City of Binghamton | | X |
| 2012 | City of Binghamton | | X |
| 2011 | City of Binghamton | | X |
| 2010 | City of Binghamton | | |
| 2009 | City of Binghamton | | |
| 2008 | City of Binghamton | | |
| 2007 | City of Binghamton | | |
| 2006 | City of Binghamton | | |
| 2005 | City of Binghamton | | |
| 2004 | City of Binghamton | | |
| 2003 | City of Binghamton | | |
| 2002 | City of Binghamton | | |
| 2001 | City of Binghamton | | |
| 2000 | City of Binghamton | | |
| 1999 | City of Binghamton | | |
| 1998 | City of Binghamton | | |
| 1997 | City of Binghamton | | |
| 1996 | City of Binghamton | | |
| 1995 | City of Binghamton | | |
| 1994 | City of Binghamton | | |
| 1993 | City of Binghamton | | |
| 1992 | City of Binghamton | | |
| 1991 | City of Binghamton | | |
| 1990 | City of Binghamton | | |
| 1989 | City of Binghamton | | |

# EXECUTIVE SUMMARY: SEARCH DOCUMENTATION

| Year | Source | TP | Adjoining |
|---|---|---|---|
| 1988 | City of Binghamton | | |
| 1987 | City of Binghamton | | |
| 1986 | City of Binghamton | | |
| 1985 | City of Binghamton | | |
| 1984 | City of Binghamton | | |
| 1983 | City of Binghamton | | |
| 1982 | City of Binghamton | | |
| 1981 | City of Binghamton | | |
| 1980 | City of Binghamton | | |
| 1979 | City of Binghamton | | |
| 1978 | City of Binghamton | | |
| 1977 | City of Binghamton | | |
| 1976 | City of Binghamton | | |
| 1975 | City of Binghamton | | |
| 1974 | City of Binghamton | | |
| 1973 | City of Binghamton | | |
| 1972 | City of Binghamton | | |
| 1971 | City of Binghamton | | |
| 1970 | City of Binghamton | | |
| 1969 | City of Binghamton | | |
| 1968 | City of Binghamton | | |
| 1967 | City of Binghamton | | |
| 1966 | City of Binghamton | | |
| 1965 | City of Binghamton | | |
| 1964 | City of Binghamton | | |
| 1963 | City of Binghamton | | |
| 1962 | City of Binghamton | | |
| 1961 | City of Binghamton | | |
| 1960 | City of Binghamton | | |
| 1959 | City of Binghamton | | |
| 1958 | City of Binghamton | | |

Name: JurisdictionName
Years: Years
Source: Source
Phone: Phone

**BUILDING DEPARTMENT RECORDS SEARCHED**

Name: Binghamton City
Years: 1958-2016
Source: City of Binghamton, BINGHAMTON, NY
Phone: (607) 772-7004

Name: Binghamton town
Years: 1999-2010
Source: Town of Binghamton, Code Enforcement and Building Inspector, BINGHAMTON, NY
Phone: (607) 772-0357

# TARGET PROPERTY FINDINGS

**TARGET PROPERTY DETAIL**

**187 Clinton Street**
**Binghamton, NY 13905**

No Permits Found

## APPLICATION FOR PUBLIC ACCESS TO RECORDS

TO: **Aaron M. Martin, Records Access Officer**
Edwin L. Crawford County Office Building, Government Plaza
P.O. Box 1766, Binghamton, NY 13902
Telephone: (607) 778-2287 FAX: (607) 778-8869
Email: FOIL@co.broome.ny.us Website: http://www.gobroomecounty.com/FOIL.php

**I HEREBY REQUEST TO INSPECT RECORDS AT BROOME COUNTY'S DEPARTMENT/OFFICE OF** Env. Management Control & Health

I would like to (*Please check a box*): ☐ Review documents by appointment. (Not available for Sheriff's records)

☑ Have copies made at 25¢ per (regular-sized) page or at the set fee structure for other formats, and agree to pay for these copies.
*(Other Set Fees: $2.00 for CD's or DVD's, $2.00 for Polaroid photographs (if available), $.28 for digital full color picture (if available) printed on 8 ½" x 11" paper, $.50 for pictures printed on photographic paper. There is no charge if a request is under 4 pages or if it can be provided by email.)*

☑ I would like an estimate of the number of pages involved in the above request prior to any copies being made.

**Please describe the record you are requesting. Be specific – especially with dates and time periods:**

Looking to review any environmental files regarding storage tank information or hazardous materials for the subject property

Subject Property: 187 Clinton Street, Binghamton, NY 13905; Tax ID*:# 160.22-1-2 *Note: may also be listed as: 01-0014-017

Names: Vail-Ballou Press-Clinton Street; Vail Ballou Press Facility; Facility ID#s: NYD057770679, 7-182230; Spill #s: 0065067, 8906060

Name (*Please Print*): Eric Arnesen, PG c/o Ashley Marciszyn; Nelson Pope Vo Phone: (631) 427-5665 x215

Mailing Address 70 Maxess Road, Melville, New York 11747

Email (*Optional*) earnesen@nelsonpope.com; amarciszyn@nelsonpope.com

Signature Ashley L. Marciszyn / Eric C. A Date: 2/10/22

Please circle your preferred method of contact: ☐ **Phone** ☐ **Mailing Address** ☑ **Email**

***If we have reproduced records that you have not paid for, this new request will not be processed until the prior request is settled.***

## FOR AGENCY USE ONLY

Approved _____ Number of Copies Responsive to the Request

*Denied for Reason(s) checked below:*

☐ Confidential Disclosure
☐ Part of Investigatory Files
☐ Unwarranted Invasion of Personal Privacy
☐ Record is not Maintained by this Agency
☐ Record of Which this Agency is Legal Custodian Cannot be Found
☐ Record Does not Exist
☐ Exempted by Statute Other than the FOI Law
☐ Other (Specify) _____

_____
Signature Title Date

## APPEALS PROCESS

**NOTICE TO APPLICANT**: You have the right to appeal a denial of this request by application to the Records Access Officer. A decision will be made by the Appeals Officer, the Broome County Attorney's Office, 6th Floor Edwin L. Crawford County Office Building, in writing with a full explanation within 10 business days from receiving the appeal.

I, _____, hereby appeal my Denied FOIL Request dated: _____

SIGNATURE: _____ Date: _____

ADDRESS: _____

**From:** FOIL
**To:** Ashley Marciszyn
**Subject:** RE: New FOIL Request- 187 Clinton Street, Binghamton
**Date:** Thursday, February 17, 2022 11:45:20 AM
**Attachments:** image001.png

---

Dear Ashley:

I am hereby acknowledging your request dated February 10, 2022 to inspect records.

This office will make every effort to find the information you are seeking and provide it to you promptly. Some information is not releasable, and sometimes the information may not exist. In accordance with the Public Officers Law, we will advise you within the next five business days whether your request for information will be granted, denied, granted in part, or if we will need more time not to exceed 20 days to respond to your request. At that time, we will inform you as to whether the materials you have requested will be made available to you and when. Public Officers Law provides for the information to be made available, unless it is denied, within a reasonable time frame.

For paper copies more than four pages, there is a charge of $.25 per page. Information is not always available electronically at this point. However, if information is available electronically on disk the charge is $2.00. We will notify you of any amount due upon determination that the records are available.

If you have any questions regarding this matter, please do not hesitate to contact this office.

Sincerely,

Johnathon T. Scott
Second Deputy Clerk
Broome County Legislature
P.O. Box 1766
Binghamton, New York 13902
607-778-2131
Johnathon.Scott@broomecounty.us

---

**From:** Ashley Marciszyn <AMarciszyn@nelsonpope.com>
**Sent:** Thursday, February 10, 2022 8:52 AM
**To:** FOIL <foil.broome@broomecounty.us>
**Cc:** Eric Arnesen <EArnesen@nelsonpope.com>
**Subject:** New FOIL Request- 187 Clinton Street, Binghamton

Hello,

Please see the attached foil request. Please let us know if you need any additional information.

Thank you,

**Ashley Marciszyn**
**Administrative Assistant**

NELSON POPE VOORHIS
Long Island: 70 Maxess Road, Melville, NY 11747
Hudson Valley: 156 Route 59, Suite C6, Suffern, NY 10901
o: 631.427.5665 x215
amarciszyn@nelsonpopevoorhis.com
**nelsonpopevoorhis.com**

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⚠ **CAUTION**: This email originated from outside the organization. BE SUSPICIOUS of any links in the email. If this email is asking for something unusual, do not reply to the email. Contact the sender through another method, or contact Broome County IT for help.

Owes
$1.25

State of New York
County of Broome Government Offices

**Broome County Health Department · Environmental Health**
Jason T. Garnar, County Executive · Mary M. McFadden, Public Health Director
225 Front Street, Binghamton, NY 13905
Phone: (607)778-2847 · Fax (607) 778-3912 · www.gobroomecounty.com

RECEIVED
FEB 23 2022
BROOME COUNTY LEGISLATURE

# MEMORANDUM

**TO:** Aaron Martin, Records Access Officer
**FROM:** Mary M. McFadden, Public Health Director
**DATE:** February 18, 2022
**SUBJECT:** FOI Request from Eric Arnesen

John P Hyp
2/18/22

Broome County Health Department has searched its records for any current or historical environmental concerns at 187 Clinton Street in the City of Binghamton, NY. All records found for this property are attached.

cc: Joshua Phelps

RECEIVED
AM
MAR 0 9 2022
NELSON + POPE

## Hebdon, Creig A.

**From:** Phelps, Josh M.
**Sent:** Thursday, February 17, 2022 11:47 AM
**To:** Hebdon, Creig A.
**Subject:** FW: New FOIL Request- 187 Clinton Street, Binghamton
**Attachments:** Broome CHD Request-signed.pdf

**From:** FOIL <foil.broome@broomecounty.us>
**Sent:** Thursday, February 17, 2022 11:47 AM
**To:** Phelps, Josh M. <Josh.Phelps@BroomeCounty.US>
**Cc:** McFadden, Mary <Mary.McFadden@BroomeCounty.US>
**Subject:** FW: New FOIL Request- 187 Clinton Street, Binghamton

FREEDOM OF INFORMATION MEMORANDUM

To: Josh Phelps
CC: Mary McFadden
From: Johnathon T. Scott, Deputy Records Access Officer
Date: February 17, 2022
Subject: Attached request for information

Please provide the information requested on the below Freedom of Information request from Ashley Marciszyn to the Records Access Office.

A response to this request is due on February 24, 2022. Public Officers Law §89(3) states that within five (5) business days one of three options must be completed:
*Provision of Record(s).
*Denial with reason for exemption from access under FOI Law.
*Provision of an approximate date when the record(s) requested will be provided, available for review or denied.

If you have any concerns or reservations about this request, or if it will take longer than 5 business days to come back to this office, please notify this office in writing or by replying to this email.

Please mark the appropriate area on the form, and elaborate on denials when necessary.

Thank you.

c. file

**FOR AGENCY USE ONLY**

____Approved _____Number of Copies Responsive to the Request

____Denied for Reason(s) checked below:

____Confidential Disclosure
____Part of Investigatory Files
____Unwarranted Invasion of Personal Privacy

____Record is not maintained by this Agency
____Record of which this Agency is Legal Custodian Cannot be found
____Exempted by Statute Other than the FOI Law
____Insufficient information provided/more information necessary to complete
____Other (Specify): _____

_____

Signature Title Date

Johnathon T. Scott
Second Deputy Clerk
Broome County Legislature
P.O. Box 1766
Binghamton, New York 13902
607-778-2131
Johnathon.Scott@broomecounty.us

**From:** Ashley Marciszyn <AMarciszyn@nelsonpope.com>
**Sent:** Thursday, February 10, 2022 8:52 AM
**To:** FOIL <foil.broome@broomecounty.us>
**Cc:** Eric Arnesen <EArnesen@nelsonpope.com>
**Subject:** New FOIL Request- 187 Clinton Street, Binghamton

Hello,

Please see the attached foil request. Please let us know if you need any additional information.

Thank you,

**Ashley Marciszyn**
**Administrative Assistant**
NELSON POPE VOORHIS
Long Island: 70 Maxess Road, Melville, NY 11747
Hudson Valley: 156 Route 59, Suite C6, Suffern, NY 10901
o: 631.427.5665 x215
amarciszyn@nelsonpopevoorhis.com
**nelsonpopevoorhis.com**

*This communication and any attachments are intended only for the use of the individual or entity named as the addressee. It may contain information which is privileged and/or confidential under applicable law. If you are not the intended recipient or such recipient's employee or agent, you are hereby notified that any dissemination, copy or disclosure of this communication is strictly prohibited and to notify the sender immediately.*

⚠ **CAUTION**: This email originated from outside the organization. BE SUSPICIOUS of any links in the email. If this email is asking for something unusual, do not reply to the email. Contact the sender through another method, or contact Broome County IT for help.

## APPLICATION FOR PUBLIC ACCESS TO RECORDS

TO: **Aaron M. Martin, Records Access Officer**
Edwin L. Crawford County Office Building, Government Plaza
P.O. Box 1766, Binghamton, NY 13902
Telephone: (607) 778-2287 FAX: (607) 778-8869
Email: FOIL@co.broome.ny.us Website: http://www.gobroomecounty.com/FOIL.php

**I HEREBY REQUEST TO INSPECT RECORDS AT BROOME COUNTY'S DEPARTMENT/OFFICE OF** Env. Management Control & Health

I would like to (*Please check a box*): ☐ Review documents by appointment. (Not available for Sheriff's records)

☑ Have copies made at 25¢ per (regular-sized) page or at the set fee structure for other formats, and agree to pay for these copies.
*(Other Set Fees: $2.00 for CD's or DVD's, $2.00 for Polaroid photographs (if available), $.28 for digital full color picture (if available) printed on 8 ½" x 11" paper, $.50 for pictures printed on photographic paper. There is no charge if a request is under 4 pages or if it can be provided by email.)*

☑ I would like an estimate of the number of pages involved in the above request prior to any copies being made.

**Please describe the record you are requesting. Be specific – especially with dates and time periods:**

Looking to review any environmental files regarding storage tank information or hazardous materials for the subject property

Subject Property: 187 Clinton Street, Binghamton, NY 13905; Tax ID*:# 160.22-1-2 *Note: may also be listed as: 01-0014-017

Names: Vail-Ballou Press-Clinton Street; Vail Ballou Press Facility; Facility ID#s: NYD057770679, 7-182230; Spill #s: 0065067, 8906060

Name (*Please Print*): Eric Arnesen, PG c/o Ashley Marciszyn; Nelson Pope Vo Phone: (631) 427-5665 x215

Mailing Address 70 Maxess Road, Melville, New York 11747

Email (*Optional*) earnesen@nelsonpope.com; amarciszyn@nelsonpope.com

Signature Ashley M. Marciszyn / Eric C. A Date: 2/10/22

Please circle your preferred method of contact: ☐ **Phone** ☐ **Mailing Address** ☑ **Email**

***If we have reproduced records that you have not paid for, this new request will not be processed until the prior request is settled.***

## FOR AGENCY USE ONLY

Approved _____ Number of Copies Responsive to the Request

*Denied for Reason(s) checked below:*

☐ Confidential Disclosure
☐ Part of Investigatory Files
☐ Unwarranted Invasion of Personal Privacy
☐ Record is not Maintained by this Agency
☐ Record of Which this Agency is Legal Custodian Cannot be Found
☐ Record Does not Exist
☐ Exempted by Statute Other than the FOI Law
☐ Other (Specify) _____

Signature Title Date

## APPEALS PROCESS

**NOTICE TO APPLICANT**: You have the right to appeal a denial of this request by application to the Records Access Officer. A decision will be made by the Appeals Officer, the Broome County Attorney's Office, 6th Floor Edwin L. Crawford County Office Building, in writing with a full explanation within 10 business days from receiving the appeal.

I, _____, hereby appeal my Denied FOIL Request dated: _____

SIGNATURE: _____ Date: _____

ADDRESS: _____

# H A Z A R D O U S
# M A T E R I A L S
# I N V E N T O R Y

For the Counties of:

B R O O M E

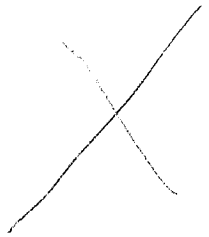
C H E N A N G O

D E L A W A R E

O T S E G O

T I O G A

Broome County Office of Emergency Services • ECC • Upper Front Street • Binghamton, N.Y. 13905 • (607) 772-2180



Hazardous Materials Location*

FIRM NAME Vail Baliou Press Inc.

STREET ADD. ONLY _____

BUS. ADD. 187 Clinton Street

BLDG. NAME OR NO. _____

CITY,STATE,ZIP Binghamton, N.Y. 13902

CITY,STATE,ZIP _____

TEL. NO. 607-723-7981

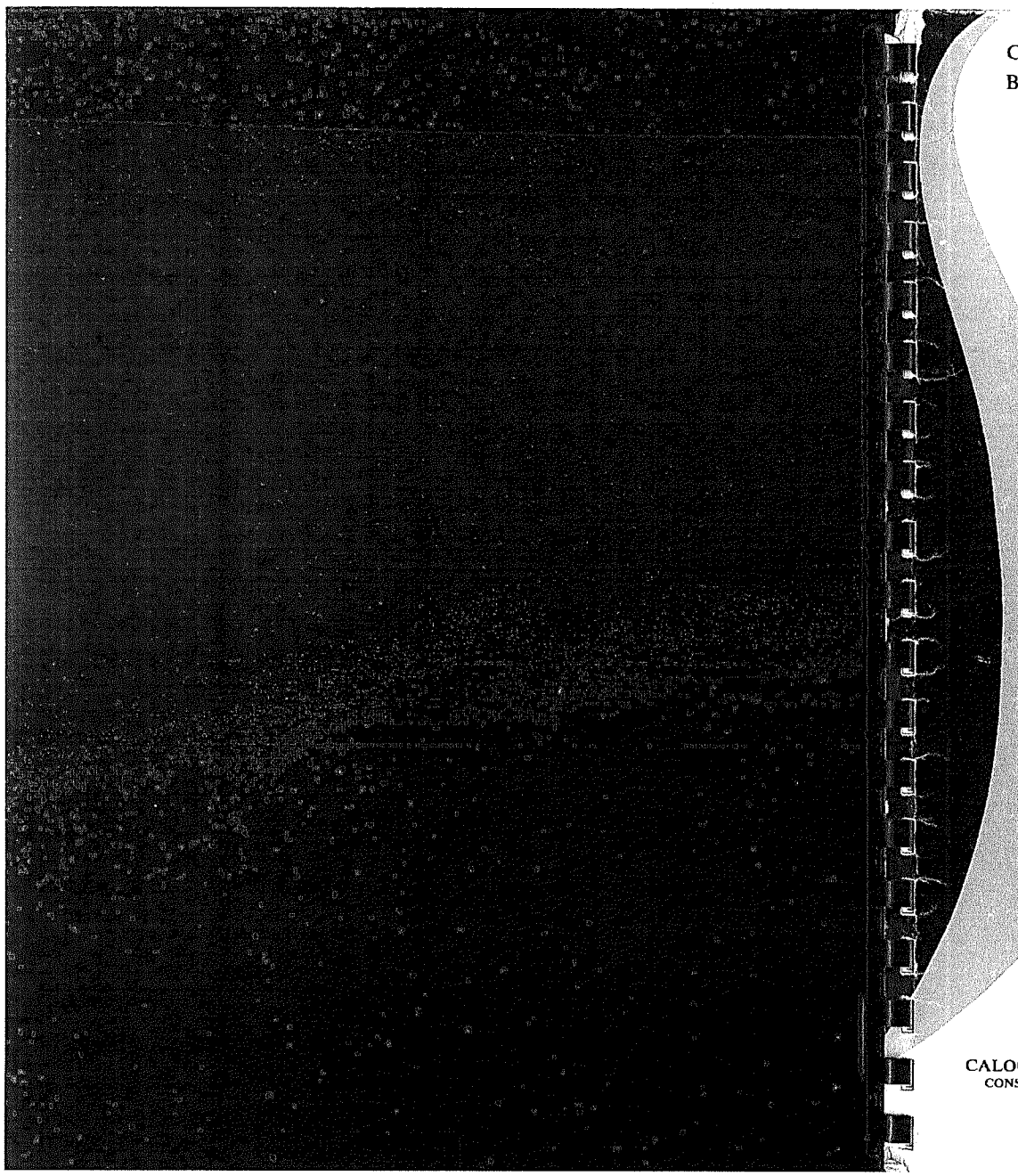
POLICY ANNIV. DATE _____

NAME OF
EMERGENCY CONTACT J. Broderick

BUS. TEL. 607-723-7981 HOME TEL. 607-625-2850

_____
(Signature and Title of Person Completing Form)

Isopropyl Alcohol
Propane



CITY OF BINGHAMTON
Broome County, New York

R. M. Austin

AUGUST 1976

# INDUSTRIAL WASTEWATER SURVEY

*For The*

## CITY OF BINGHAMTON SERVICE AREA

*Prepared by*


CALOCERINOS & SPINA
CONSULTING ENGINEERS

VERNON O. SHUMAKER
CONSULTING ENGINEERS

City of Binghamton, N.Y.

# INDUSTRIAL WASTEWATER SURVEY

INDUSTRY NAME: Vail Ballou Press, Plant #1 — INDUSTRY CODE: 130

ADDRESS: 187 Clinton Street, Binghamton, New York 13904 — SIC CODE: 2732

DESCRIPTION:

Vail Ballou Press, Plant #1, is primarily engaged in printing of books and pamphlets. Process includes developing, etching of plates, and binder preparation.

AREA OF CONCERN - PRE-TREATMENT

None at this time.

AREA OF CONCERN - SURCHARGE

BOD-261.0

WATER BALANCE:

| | |
|---|---|
| Consumption: | 15,277 gpd |
| Allowance: | None |
| Sanitary: | 9,900 gpd |
| Discharge: | 15,277 gpd (Note: Exceeds maximum limit) |

SPECIAL REQUIREMENTS RECOMMENDED:

None at this time.

RECOMMENDED MONITORING:

Quarterly.

REMARKS:

One 16 hour composite sample was collected on May 18, 1976 between 7:30 AM and 11:30 PM from a manhole as noted on Map.

City of Binghamton, N.Y.

# INDUSTRIAL WASTEWATER SURVEY

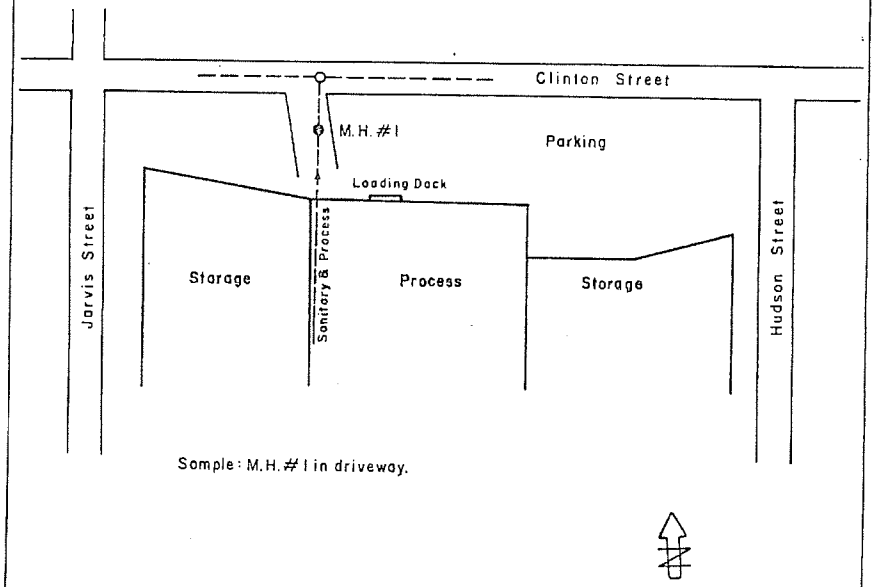
## SAMPLING LOCATION

Industry Name – Vail Ballou Press, Plant #1

Industry Code – 130

Address – 187 Clinton Street
Binghamton, New York 13904

SIC Code – 2732




Sample: M.H. # 1 in driveway.

JOINT VENTURE

CALOCERINOS & SPINA
CONSULTING ENGINEERS

VERNON O. SHUMAKER
CONSULTING ENGINEERS

AUGUST 1976

# FOIL Request Form

Thank you for your submission.

## Ashley Marciszyn

**From:** Ashley Marciszyn
**Sent:** Thursday, February 24, 2022 11:45 AM
**To:** foil@cityofbinghamton.com
**Cc:** Eric Arnesen (earnesen@nelsonpope.com); Steve Mcginn
**Subject:** Acknowledgment needed-FOIL Submitted through website on 2/9/22
**Attachments:** City Binghamton Request.pdf

Hello,

I submitted a foil request using the online system on 2/9/22, and I have not yet received an acknowledgment. After I hit submit, I just received the attached notification that said "Thank you for Your Submission".
The link I used to submit was this one: https://www.binghamton-ny.gov/government/departments/city-clerk/foil-request-form

It was for 187 Clinton Street, Binghamton. It was under Eric Arnesen c/o Ashley Marciszyn from Nelson, Pope & Voorhis, LLC. The departments we requested records from were Engineering, Fire Department, Planning, and Water and Sewer.

Can you please let me know if it was received, and if not, just let me know how to proceed?

Thank you,

**Ashley Marciszyn**
**Administrative Assistant**
NELSON POPE VOORHIS
Long Island: 70 Maxess Road, Melville, NY 11747
Hudson Valley: 156 Route 59, Suite C6, Suffern, NY 10901
o: 631.427.5665 x215
amarciszyn@nelsonpopevoorhis.com
nelsonpopevoorhis.com

*This communication and any attachments are intended only for the use of the individual or entity named as the addressee. It may contain information which is privileged and/or confidential under applicable law. If you are not the intended recipient or such recipient's employee or agent, you are hereby notified that any dissemination, copy or disclosure of this communication is strictly prohibited and to notify the sender immediately.*

# CITY OF BINGHAMTON
# APPLICATION FOR PUBLIC ACCESS TO RECORDS

Please complete this Freedom of Information Law (FOIL) Application for Public Access to Government Records, and submit to the appropriate department. The City of Binghamton will respond to your request within five (5) business days.

**POLICE RECORDS:**
Police Records
38 Hawley Street, 1st Floor
Binghamton, NY 13901
Phone: (607) 772-7094
Fax: (607) 723-7996

**FIRE RECORDS:**
Fire Bureau
38 Hawley Street, 3rd Floor
Binghamton, NY 13901
Phone: (607) 772-7016
Fax: (607) 772-7173

**ALL OTHER RECORDS:**
City Clerk
38 Hawley Street, 1st Floor
Binghamton, NY 13901
Phone: (607) 772-7005
Fax: (607) 772-7155
Email: foil@cityofbinghamton.com

I would like a copy of the record(s): ☑ I would like to review the record(s): ☐ Please see attached letter: ☐

Subject Property: 187 Clinton Street, Binghamton, NY 13905; Tax ID*:# 160.22-1-2 *Note: may also be listed as: 01-0014

Fire Bureau: Storage tank information, hazardous materials information (i.e. drum/chemical storage), spills info, violations

Clerk: CO's, site plans, surveys, permit & owner history, permits, storage tank info, cesspools/sanitary system locations

Date/Address of Incident (if applicable): _____

Applicant Name: Steven McGinn c/o Ashley Marciszyn

Address: Nelson, Pope & Voorhis, LLC

70 Maxess Road, Melville, NY 11747

Phone Number: (631) 427-5665 x215

Email Address: amarciszyn@nelsonpope.com

Photocopies of regular and legal sized documents are available at a cost of $0.25/page. CDs, DVDs, maps and certain other records are available for the actual cost of reproducing such records. If the records are stored electronically, the City may be able to respond with the requested material via email at no charge.

If this request is approved, I would prefer to receive notification by: Email: ☑ Letter: ☐

Signature: _____ Date: 3/10/2022

Please note that your application may be Approved, Approved with Deletions or Denied. The City of Binghamton may deny your request for the following reasons, in accordance with Public Officers Law, § 87(2): **(Item 1)** Exempt by State or Federal statute; **(Item 2)** Unwarranted invasion of personal privacy; **(Item 3)** Would impair present/imminent contract awards or collective bargaining negotiations; **(Item 4)** Records are trade secrets; **(Item 5)** Compiled for law enforcement purposes which would interfere with law enforcement negotiations; deprive a person of a right to a fair trial or impartial adjudication; identify a confidential source or disclose confidential information relative to a criminal investigation; or would reveal criminal investigative techniques/procedures; **(Item 6)** Would endanger the life or safety of any person; **(Item 7)** Are inter-agency or intra-agency communications; or **(Item 8)** Are examination questions or answers requested prior to final administration of such questions. You have a right to appeal a denial of this application to the Mayor of the City of Binghamton, 38 Hawley Street, 4th Floor, Binghamton, NY 13901. The City of Binghamton will explain the reasons for such denial in writing within ten (10) business days of an appeal.

**PLEASE NOTE:** If an applicant has requested to inspect records and does not respond to the City within two (2) weeks, the City will consider the request as having been withdrawn. If an applicant has requested copies of records and does not respond and pay for such items, any subsequent requests will not be considered until payment is received.

**OFFICE USE ONLY**

Approved: ☐ Approved with Deletions (Cite Item No.): ☐ Denied (Cite Item No.): ☐ Record Does Not Exist: ☐

Signature: _____ Date: _____

## Ashley Marciszyn

**From:** O'Neill, Timothy <tmoneill@cityofbinghamton.com>
**Sent:** Tuesday, March 15, 2022 3:44 PM
**To:** Ashley Marciszyn
**Subject:** 187 Clinton St, Binghamton, NY

Ashley,

I have researched the available records that we have in the Fire Department concerning the property at 187 Clinton St in the City of Binghamton
Parcel ID # 160.22-1-2.

This property has been a vacant lot since the manufacturing building, originally occupied by Vail-Ballou Printing Company and later by Crain Manufacturing and Contro Plumbing Contractors, was destroyed by fire more 20-25 years ago. The building was removed shortly after the fire but I'm not sure what kind of site clean-up may have been done at that time. We have records from 1965 that state there was an underground tank of Naptha and another containing Kerosene these were relatively small tanks, approx. 1000 gals. I have no records of those tanks during site cleanup but I would think they would have been removed.

Let me know if there is any other information I can help you with.

Timothy M. O'Neill
Fire Marshal
City of Binghamton
Bureau of Fire
tmoneill@cityofbinghamton.com
www.binghamton-ny.gov
(607)772-7123 Office (607) 772-7173 Fax

## Ashley Marciszyn

**From:** New York DEC Support <newyorkdec@mycusthelp.net>
**Sent:** Wednesday, February 09, 2022 5:09 PM
**To:** Ashley Marciszyn
**Subject:** FOIL Request :: W096102-020922

Dear Steven:

Thank you for your Freedom of Information Law (FOIL) request. Your request has been received and is being processed. Your request was received in this office on 2/9/2022 and given the reference number FOIL #W096102-020922 for tracking purposes. You may expect the Department's response to your request no later than **3/10/2022**.

Record Requested: **Looking to review any environmental files regarding spills, storage tank information or hazardous materials for the subject property and IDs listed below. This is for use in preparation of a Phase I Environmental Site Assessment. Subject Property: 187 Clinton Street, Binghamton, NY 13905 (City of Binghamton, Broome County, NY) Tax ID*:# 160.22-1-2 *Note: Tax Map # may also be listed as: 01-0014-017 Additional DEC ID#s & Names available: Facility ID#: NYD057770679; Name: Vail Ballou Press Facility ID#: 7-182230; Name: Vail-Ballou Press-Clinton Street Spill #: 0065067, Name: Former Vail-Ballou Press Spill #: 8906060, Name: Vail Ballou Press**

You can monitor the progress of your request at the link below and you'll receive an email when your request has been completed. Again, thank you for using the FOIL Center.

https://mycusthelp.com/NEWYORKDEC/_rs/RequestLogin.aspx

New York State Department of Environmental Conservation, Record Access Office

---

Track the issue status and respond at: https://newyorkdec.mycusthelp.com/webapp//_rs/RequestEdit.aspx?rid=96102

**From:** New York DEC Support
**To:** Ashley Marciszyn
**Subject:** Freedom of Information Law Request :: W096102-020922
**Date:** Tuesday, February 22, 2022 12:29:08 PM

---

--- Please respond above this line ---

Region 7 - Syracuse
P: 315-426-7404 | F: 315-426-7408
www.dec.ny.gov

RE: PUBLIC RECORDS REQUEST of 2/9/2022, Reference # W096102-020922

Date: 02/22/2022

Dear Steven,

I write in response to your Freedom of Information Law (FOIL) request seeking:

> *Looking to review any environmental files regarding spills, storage tank information or hazardous materials for the subject property and IDs listed below. This is for use in preparation of a Phase I Environmental Site Assessment.*
> *Subject Property: 187 Clinton Street, Binghamton, NY 13905 (City of Binghamton, Broome County, NY)*
> *Tax ID*:# 160.22-1-2*
> **Note: Tax Map # may also be listed as: 01-0014-017*
> *Additional DEC ID#s & Names available:*
> *Facility ID#: NYD057770679; Name: Vail Ballou Press*
> *Facility ID#: 7-182230; Name: Vail-Ballou Press-Clinton Street*
> *Spill #: 0065067, Name: Former Vail-Ballou Press*
> *Spill #: 8906060, Name: Vail Ballou Press*

Please be advised that records identified as responsive to your request have been uploaded to DEC's online FOIL request system. Please visit our customer portal by clicking here to log into your DEC FOIL account, where you can view and download the records.

If you believe you have been unlawfully denied access to responsive records, you have the right to appeal. Such an appeal must be submitted in writing, within thirty (30) days of the date of this email, and directed to:

> FOIL Appeals Officer
> Office of General Counsel
> New York State Department of Environmental Conservation
> 625 Broadway, 14th Floor
> Albany, New York 12233-1500

Your FOIL request is now closed. If I can be of further assistance, please contact me at 315-426-7404 and reference FOIL #W096102-020922 or simply reply to this email. Thank you.

Sincerely,
Sharon Toscano
Region 7 FOIL Coordinator

# NYSDEC SPILL REPORT FORM

**DEC REGION:** 7 **SPILL NUMBER:** 0065067

**SPILL NAME:** FORMER VAIL-BALLOU PRESS **DEC LEAD:** JEOKESSO

**CALLER NAME:** JOE NOSSAL **NOTIFIER'S NAME:** JOE NOSSAL

**CLR'S AGENCY:** GEOLOGIC OF NY **NOTIFIER'S AGENCY:** GEOLOGIC OF NY

**CALLER'S PHONE:** (607) 836-4400 **NOTIFIER'S PHONE:** (607) 836-4400

**SPILL DATE:** 07/06/2000 **SPILL TIME:** 12:00 pm **DISPATCHER:**

**CALL RECEIVED DATE:** 07/24/2000 **RECEIVED TIME:** 12:00 pm

## SPILL LOCATION

**PLACE:** FORMER VAIL-BALLOU PRESS **COUNTY:** Broome

**STREET:** 187 CLINTON STREET **TOWN/CITY:** Binghamton

**COMMUNITY:** BINGHAMTON

**CONTACT:** **CONTACT PHONE:**

**CONT. FACTOR:** Tank Failure **SPILL REPORTED BY:** Responsible Party

**FACILITY TYPE:** Commercial/Industrial **WATERBODY:**

**CALLER REMARKS:**

UST'S REMOVED FROM SITE. SOIL SAMPLE RESULTS FOUND LOW LEVAL PETROLEUM CONTAMINATION IN SOIL . BELOW STARS GUIDANCES VALUES.

| MATERIAL | CLASS | SPILLED | RECOVERED | RESOURCES AFFECTED |
|---|---|---|---|---|
| #2 fuel oil | Petroleum | 0.00 G | 0.00 G | Soil, |

## POTENTIAL SPILLERS

| COMPANY | ADDRESS | CONTACT |
|---|---|---|
| VAIL-BALLOU | ZZ - | |

| Tank No. | Tank Size | Material | Cause | Source | Test Method | Leak Rate | Gross Failure |
|---|---|---|---|---|---|---|---|

**DEC REMARKS:**

Prior to Sept, 2004 data translation this spill Lead_DEC Field was "JOS"
TANKS REMOVED. NO PID READINGS. RESULTS FOUND LOW LEVEL PETROLEUM CONTAMINATION BELOW STARS. NFA. JEO.

**PIN** **T & A** **COST CENTER**

**CLASS:** D3 **CLOSE DATE:** 08/16/2000 **MEETS STANDARDS:** True

# NYSDEC SPILL REPORT FORM

**DEC REGION:** 7 **SPILL NUMBER:** 8906060

**SPILL NAME:** VAIL BALLOU PRESS **DEC LEAD:** JEOKESSO

**CALLER NAME:** DAVID MORGAN **NOTIFIER'S NAME:**

**CLR'S AGENCY:** TRI-STATE TANK SERVICE **NOTIFIER'S AGENCY:**

**CALLER'S PHONE:** (914) 434-7805 **NOTIFIER'S PHONE:**

**SPILL DATE:** 09/19/1989 **SPILL TIME:** 5:00 pm **DISPATCHER:**

**CALL RECEIVED DATE:** 09/19/1989 **RECEIVED TIME:** 8:06 pm

## SPILL LOCATION

**PLACE:** VAIL BALLOU PRESS **COUNTY:** Broome

**STREET:** CLINTON AVE **TOWN/CITY:** Binghamton

**COMMUNITY:** BINGHAMTON

**CONTACT:** **CONTACT PHONE:**

**CONT. FACTOR:** Tank Test Failure **SPILL REPORTED BY:** Tank Tester

**FACILITY TYPE:** Commercial/Industrial **WATERBODY:**

**CALLER REMARKS:**

10.5 K TANK FAILED AT +.127 GPH. TO RETEST.

| MATERIAL | CLASS | SPILLED | RECOVERED | RESOURCES AFFECTED |
|---|---|---|---|---|
| #4 fuel oil | Petroleum | 0.00 G | 0.00 G | GW, |

## POTENTIAL SPILLERS

| COMPANY | ADDRESS | CONTACT |
|---|---|---|
| VAIL BALLOU PRESS | CLINTON AVE. BINGHAMTON NY | (607) 723-7981 |

| Tank No. | Tank Size | Material | Cause | Source | Test Method | Leak Rate | Gross Failure |
|---|---|---|---|---|---|---|---|
| | 0 | #4 fuel oil (on-site c | | | 00 | 0.00 | |

**DEC REMARKS:**

Prior to Sept, 2004 data translation this spill Lead_DEC Field was "JOA"
/ / : 10.3K TANK FAILED AT +.092 GPH. TANK # 1 TO BE RETESTED.

10/27/89: SPOKE W/ BOB KALKA. TANKS TO BE RETESTED OR ABANDONED IN PLACE. DEC TOLD KALKA THAT A TRENCH WOULD HAVE TO BE DUG ALONG TANKS IF ABANDONED. KALKA TO CALL DEC ON 10/31 OR 11/1.

11/22/89: TANKS TO BE RETESTED NOV. 20 - 22.

11/23/89: TANKS TO BE RETESTED NOV. 20 - 22. RETEST PASSED.

# NYSDEC SPILL REPORT FORM

**DEC REGION:** 7 **SPILL NUMBER:** 8906060

**SPILL NAME:** VAIL BALLOU PRESS **DEC LEAD:** JEOKESSO

**PIN** **T & A** **COST CENTER**

**CLASS:** **CLOSE DATE:** 11/30/1989 **MEETS STANDARDS:** True

93-09-001 (4/85)

REMINDER

1. Enclose registration fee.

| Facility Size | Fee |
|---|---|
| 1,101 – 4,999 gallons | $ 50/facility |
| 5,000 – 10,000 gallons | 150/facility |
| 10,001 – 399,999 gallons | 250/facility |

2. Make check or money order payable to "NYS Department of Environmental Conservation".
3. Please return all 4 copies of this application to the DEC Regional Office.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# PETROLEUM BULK STORAGE APPLICATION

**SECTION A—Instructions on Back**

APPLICATION NUMBER: 19823

TRANSACTION TYPE (Check one)
1 [X] Registration
2 [ ] Transfer
If Transfer, Existing PBS Number: _____
3 [ ] Substantial Facility Modification
4 [ ] Information Correction

PBS Number: 182230

OFFICIAL USE ONLY
Page 1 of 1
SWIS Code: 030205
Date Received: 12/24/87
Amount Received: 250.00
Received By: BK Hamilton

1. NAME OF FACILITY: VAIL BALLOU PRESS-CLINTON ST. DIV.
2. ADDRESS (Number and Street): 187-195 CLINTON ST.
3. CITY, TOWN, VILLAGE: BINGHAMTON | 4. STATE: N.Y. | 5. ZIP CODE+4: 13905
6. COUNTY: BROOME | 7. TELEPHONE: (607) 723-7981

1. NAME OF OWNER: MAPLE-VAIL BOOK MANUF. GROUP
2. ADDRESS (Number and Street): P.O. Box 2695 WILLOW SPRINGS LANE
3. CITY, TOWN, VILLAGE: YORK | 4. STATE: PA | 5. ZIP CODE+4: 17405
7. TELEPHONE: (717) 764-5911

1. NAME OF OPERATOR: FRANK KEFFER
2. ADDRESS (Number and Street): H.C. 78 Box 1021
3. CITY, TOWN, VILLAGE: CASTLE CREEK | 4. STATE: NY | 5. ZIP CODE+4: 13744
7. TELEPHONE: (607) 648-3115

1. NAME OF EMERGENCY CONTACT: ROBERT KALKA
2. ADDRESS (Number and Street): 154 MARIE ST.
3. CITY, TOWN, VILLAGE: JOHNSON CITY | 4. STATE: NY | 5. ZIP CODE+4: 13790
7. TELEPHONE: (607) 797-7090

I hereby affirm under penalty of perjury, that information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

8 NAME/TITLE OF REPRESENTATIVE: ROBERT KALKA - MAINTENANCE SUPERVISOR

9 SIGNATURE: Robert Kalka | DATE: 12/23/86

**SECTION B—Instructions on Back**

| Action | Tank Number | Location | Capacity | Tank Type | Product Stored | Status | Installation Date | Leak Detection | Secondary Containment | Product Gauge | Piping Type | Dispenser | Test Certificate Enclosed | Official Use Only |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 001 | 1 | 10300 | 1 | 3 | 2 | 0000 | 6 | 6 | 0 | 1 | 2 | | |
| 1 | 002 | 1 | 10300 | 1 | 3 | 1 | 0000 | 6 | 6 | 0 | 1 | 2 | | |
| 1 | 003 | 1 | 10300 | 1 | 3 | 1 | 0000 | 6 | 6 | 0 | 1 | 2 | | |
| 1 | 004 | 1 | 10300 | 1 | 3 | 2 | 0000 | 6 | 6 | 0 | 1 | 2 | | |

**KEY FOR SECTION B** (Instructions on back)

ACTION
1 Register existing tank
2 Add Tank
3 Close/Remove Tank
4 Modify Tank

LOCATION
1 Underground
2 Underground vaulted, with access
3 Underground vaulted, no access
4 Aboveground
5 Aboveground on crib, etc.
6 Aboveground—10% or more below ground

TANK TYPE
1 Bare steel or steel with black asphalt coating
2 Steel in vault
3 Steel with interior epoxy lining
4 Steel retrofitted with cathodic protection
5 Steel with cathodic protection
6 Fiberglass coated steel
7 Fiberglass reinforced plastic
8 Double walled

PRODUCT STORED
1 Leaded gasoline
2 Unleaded gasoline
3 Nos. 1, 2 or 4 fuel oil
4 Nos. 5 or 6 fuel oil
5 Kerosene
6 Diesel
7 Other

STATUS
1 In service
2 Temporarily out
3 Permanently out

INSTALLATION DATE
This location
Month/year (mm/yy)

LEAK DETECTION SYSTEM
1 Electronic
2 Vapor well
3 Sampling well
4 In-tank system
5 Other
6 None

SECONDARY CONTAINMENT
1 Diking
2 Vault
3 Double wall tank
4 Underground liner
5 Other
6 None

PRODUCT GAUGE
0 None
1 Gauge

PIPING TYPE
1 Steel/Iron
2 Galvanized Steel
3 Wrapped Steel
4 Fiberglass
5 Cathodically protected
6 Double walled
7 Unknown

DISPENSER METHOD
1 Submersible
2 Suction
3 Gravity
4 Loading rack

REGION

NYS ENVIRONMENTAL CONSERVATION
615 ERIE BLVD WEST
SYRACUSE, NY 13204
(315) 426-7519



93-12-001 (4/85)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# PETROLEUM BULK STORAGE NOTICE

Required Test Schedule for Underground Storage Tanks

**PETROLEUM BULK STORAGE NUMBER**
182230

Test Date(s) Method(s)

Tests must be completed by the last day of the month indicated.
Reporting requirements are indicated on the back of this form.

ACTUAL TANK TEST REPORTS MUST BE SUBMITTED WITH THIS FORM TO THE DEC OFFICE PRINTED ON THE TOP LEFT HAND CORNER. SEE BACK OF OWNER"S COPY FOR ADDITIONAL INSTRUCTIONS AND REQUIREMENTS. IF YOU HAVE ANY QUESTIONS, CALL OR WRITE TO THE DEC OFFICE PRINTED IN THE TOP LEFT CORNER OF THIS FORM.

AN ASTERISK (*) NEXT TO THE TANK # INDICATES OVERDUE STATUS
THE OWNER OF A TANK WHICH IS OVERDUE FOR TESTING IS IN VIOLATION OF SECTION 613.5(A) OF 6NYCRR, PETROLEUM BULK STORAGE REGULATIONS.

| TANK NUMBER | DUE DATE | TANK TYPE | CAPACITY | PRODUCT |
|---|---|---|---|---|
| * 001 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL |
| * 002 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL |
| * 003 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL |
| * 004 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL |

INDICATE TEST RESULTS
(P-pass; F-fail)

| Tank | | Piping | | Unable |
|---|---|---|---|---|
| P | F | P | F | To Test |

This notice and a copy of the underground test report should be returned to DEC with the following information:

Tester's Name_____

Tester's Address_____

NAME OF FACILITY

VAIL BALLOU PRESS CUNTON ST D
187-195 CLINTON ST
BINGHAMTON NY
13905

I affirm that:
1. I am trained in performance of the test and have an understanding of the variables which affect the test.
2. The test methods used meet the Department's criteria.

Tester's Signature_____

Owner's Signature_____

NAME OF OWNER

MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK PA
17405

DEC DISPOSITION:

**DEPARTMENT COPY**

NYS ENVIRONMENTAL CONSERVATION
7481 HENRY CLAY BLVD.
LIVERPOOL, NY 13088



(315) 428-4514

93-06-004 (4/85)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# PETROLEUM BULK STORAGE REGISTRATION CERTIFICATE

FEE PAID 250

| TANK NUMBER | TESTING DUE DATE | DATE LAST TESTED | TANK TYPE | CAPACITY | DATE INSTALLED |
|---|---|---|---|---|---|
| 001 | 12/87 | | BARE STEEL | 10,300 | UNKWN |
| 002 | 12/87 | | BARE STEEL | 10,300 | UNKWN |
| 003 | 12/87 | | BARE STEEL | 10,300 | UNKWN |
| 004 | 12/87 | | BARE STEEL | 10,300 | UNKWN |

* Aboveground tanks require monthly visual inspections and documented internal inspections every ten years as described in 6 NYCRR Part 613.

As authorized representative of the above named facility, I affirm under penalty of perjury that the information displayed on this form is correct to the best of my knowledge. Additionally, I recognize that I am responsible for assuring that this facility is in compliance with all sections of 6 NYCRR Parts 612, 613 and 614, not just those cited below:

- The facility must be reregistered if there is a transfer of ownership.
- The Department must be notified within 30 days prior to adding, replacing, reconditioning, or permanently closing a stationary tank.
- The facility must be operated in accordance with the Code for Storing Petroleum, 6 NYCRR Part 613.
- Any new facility or substantially modified facility must comply with the Code for New and Substantially Modified Facilities, 6 NYCRR Part 614.
- **This certificate must be displayed on the premises at all times.**

Signature of Representative/Owner — Date

ISSUED BY:
COMMISSIONER HENRY G. WILLIAMS

PETROLEUM BULK STORAGE ID NUMBER 182230

DATE ISSUED 06/30/87

EXPIRATION DATE 06/30/92

OPERATOR
FRANK KEFFER
H C 78 BOX 1021
CASTLECREEK NY
13744

FACILITY
VAIL BALLOU PRESS CUNTON ST D
187-195 CLINTON ST
BINGHAMTON NY
13905

OWNER
MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK PA
17405

EMERGENCY CONTACT
ROBERT KALKA
154 MARIE ST
JOHNSON CITY NY 13790
(607) 797-7090

**DEPARTMENT COPY**

NYS ENVIRONMENTAL CONSERVATION
7481 HENRY CLAY BLVD.
LIVERPOOL, NY 13088



(315) 428-4514

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# PETROLEUM BULK STORAGE NOTICE

Required Test Schedule for Underground Storage Tanks

93-12-001 (4/85)

PETROLEUM BULK STORAGE NUMBER

Test Date(s) Method(s)

182230

Tests must be completed by the last day of the month indicated.
Reporting requirements are indicated on the back of this form.

| TANK NUMBER | DUE DATE | TANK TYPE | CAPACITY | PRODUCT | INDICATE TEST RESULTS (P-pass; F-fail) Tank P | Tank F | Piping P | Piping F | Unable To Test |
|---|---|---|---|---|---|---|---|---|---|
| PLEASE DISREGARD THIS NOTICE FOR RESULTS ALREADY SENT TO DEC | | | | | | | | | |
| 001 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL | | | | | |
| 002 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL | | | | | |
| 003 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL | | | | | |
| 004 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL | | | | | |

This notice and a copy of the underground test report should be returned to DEC with the following information:

Tester's Name_____

Tester's Address_____

NAME OF FACILITY

VAIL BALLOU PRESS CUNTON ST D
187-195 CLINTON ST
BINGHAMTON NY 13905

I affirm that:

1. I am trained in performance of the test and have an understanding of the variables which affect the test.
2. The test methods used meet the Department's criteria.

Tester's Signature_____

Owner's Signature_____

NAME OF OWNER

MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK PA 17405

DEC DISPOSITION:

DEPARTMENT COPY

LIBER 1091 PAGE 471

3781

FORM 584X N. Y. DEED—WARRANTY with Lien Covenant (From a Corporation) 264 TUTBLANK REGISTERED U.S. PAT. OFFICE Tuttle Law Print Publishers, Rutland Vt.

# This Indenture,

BROOME COUNTY, ss
Recorded on the 20 day of May 1965 at 2 01 o'clock P M. in Liber 1091 of Deeds on page 471 and examined
Howard Davis Clerk

*Made the* 19th *day of* May

*Nineteen Hundred and* Sixty-five

**Between** VAIL-BALLOU PRESS, INC.,

*a corporation organized under the laws of* the State of New York, and having its office and principal place of business at 187 Clinton Street, Binghamton, N. Y.

*party of the first part, and*

NEW MILFORD DEVELOPMENT CORPORATION, a Pennsylvania corporation having an office at No. 28 Crandall St., Binghamton, New York

**Witnesseth** *that the party of the first part, in consideration of* *part y of the second part,*

- - - - - - ONE AND MORE - - - - - - - - - - - - *Dollars* ($1.00 and more) *lawful money of the United States, paid by the part y of the second part, does hereby grant and release unto the part y of the second part,* its successors *and assigns forever, all* THOSE CERTAIN TRACTS OR PARCELS OF LAND, situate in the City of Binghamton, County of Broome and State of New York, bounded and described as follows:

PARCEL 1: Lots Numbers one (1) and two (2) as the same are laid down on a map of Isaac Hanchett Location, recorded in Broome County Clerk's Office in Book of Maps No. 1 at Page 297. Said lots are on the west side of Crandall Street (formerly McLean Street) and on the southerly corner of said Crandall Street and Hanchett Avenue and are together sixty five feet (65') front and rear and eighty-eight feet and two inches (88' 2") on the north line and eighty-six feet (86') on the south line, as more particularly appears on said map.

Being the same premises conveyed to Vail-Ballou Press, Inc., by Agfa Ansco Corporation by deed dated November 19, 1930, and recorded in said Clerk's Office November 21, 1930 in Book of Deeds 410 at page 74.

PARCEL 2: Lot No. 3 as laid down on a map of Isaac Hanchett Property, recorded in Broome County Clerk's Office in Book of Maps No. 1 at page 297. Said Lot No. 3 is situated on the south side of Hanchett Avenue and has a frontage on said Avenue of forty-two feet (42') according to said map.

Being the same premises conveyed to Vail-Ballou Press, Inc., by Agfa Ansco Corporation by deed dated November 19, 1930, and recorded in said Clerk's Office November 21, 1930 in Book 410 of Deeds at page 75.

PARCEL 3: Lot No. 4 as laid down on a map of Isaac Hanchett Property, recorded in Broome County Clerk's Office in Book of Maps No. 1 at page 297. Said lot is situated on the south side of Hanchett Avenue being the same premises conveyed to party of the first part by Helen Metrus by Warranty Deed, dated June 11, 1928, and recorded in Broome County Clerk's Office in Book of Deeds No. 380 at page 76. Excepting and reserving from the foregoing described premises the following triangular strip of land in the southwesterly corner of said Lot No. 4 as laid down on a map of Isaac Hanchett Property; beginning at a point in the westerly line of said Lot No. 4, distant

southerly fifty-two and twenty-five hundredths feet (52.25') from the intersection of said westerly line of Lot No. 4 with the southerly line of Hanchett Avenue; thence southwardly a distance of twenty-seven and ten hundredths feet (27.10') measured along said westerly line of lot No. 4 to a point in the southwesterly corner thereof; thence eastwardly with an interior angle of ninety-five degrees (95°) fifty-two minutes (52'), a distance of thirty-six and twenty-five hundredths feet (36.25') measured along the southerly line of lot No. 4 to a point in the southeasterly corner of lot No. 4; thence northwestwardly on a curve with a radius of two hundred ninety-six and thirty-one hundredths feet (296.31') parallel to and eight and thirty-six hundredths (8.36') distant northwardly from the center line of a proposed side track laid out by Erie Railroad Company, a distance of forty-seven and forty-two hundredths (47.42') feet to the point of beginning.

Being the same premises conveyed to Vail-Ballou Press, Inc., by Agfa Ansco Corporation by deed dated November 19, 1930, recorded in said Clerk's Office November 21, 1930, in Book of Deeds 410 at page 76.

PARCEL 4: Beginning in the south line of Slauson Avenue, formerly Hanchett Avenue, at an iron in the northwest corner of Lot No. 7 as laid down on a map of the Isaac Hanchett Property recorded in Broome County Clerk's Office in Book of Maps No. 1 at page 297; thence south sixty-seven degrees twenty-three minutes (67° 23') east a distance of one hundred twenty-six and one-tenth feet (126.1') more or less along the south line of Slauson Avenue to an iron in the northwest corner of Lot No. 4 of the Isaac Hanchett Property; thence south eighteen degrees six minutes (18° 6') west a distance of fifty-two and twenty-four hundredths feet (52.24') more or less along the west line of said Lot No. 4 to an iron in such line; thence southeastwardly in a straight line a distance of forty-seven and forty-nine hundredths feet (47.49') more or less to an iron in the southeast corner of said lot No. 4; thence north sixty-six degrees twenty-eight minutes (66° 28') west a distance of one hundred forty-five and forty-five hundredths feet (145.45') more or less along the south line of lots Nos. 4,5,6, and 7 of the Isaac Hanchett Property to an iron in the southwest corner of said Lot No. 7; thence north five degrees fifty-nine minutes (5°59') east a distance of eighty-one feet (81') more or less along the west line of said lot No. 7 to the place of beginning.

The foregoing comprising Lots 5, 6 and 7 as shown on the aforesaid map of the Isaac Hanchett Property and a portion of Lot 4 as shown on said map.

Being the same premises conveyed to Vail-Ballou Press, Inc., by General Aniline & Film Corporation by deed dated February 19, 1947, and recorded in said Clerk's Office the same day in Book of Deeds 628 at page 100.

There is also hereby conveyed the right to use in common with General Aniline & Film Corporation, its successors and assigns, for the purpose of entering upon the premises above conveyed from Hudson Street and of egress from said premises to said Hudson Street, to pass, repass and travel over the strip of land fifteen (15) feet wide, or thereabouts, which lies immediately west of the premises above conveyed and immediately east of the easterly line of said Hudson Street, and which strip of land extends from the southwesterly corner of the premises above conveyed, northwardly to Slauson Avenue (formerly Hanchett Avenue), a distance of approximately eighty-one feet (81'), as more particularly described in the deed from General Aniline & Film Corporation referred to above.

Being the same premises conveyed by Agfa Ansco Corporation to General Aniline & Film Corporation by deed dated December 29, 1939, and recorded in said Clerk's Office on January 29, 1940 in Book of Deeds No. 498 at page 66, and described therein as parcels Nos. 1, 17 and 21. There is reserved to the grantor, its successors and assigns, the right to use, maintain, repair and replace the three westernmost oil storage tanks and the pump house located south of the quonset warehouse on the above property, together with the oil line, heat line and electrical line in or near the underground conduits running from said tanks and pump house to other lands of the grantor lying west of Hudson Street, together with rights of ingress and egress to and from said tanks, pump house and conduits for purposes of using, repairing, replacing and maintaining the same, any damage resulting therefrom to be the responsibility of the grantor.

Together *with the appurtenances and all the estate and rights of the party of the first part in and to said premises,*

To have and to hold *the premises herein granted unto the part y of the second part,* its successors and assigns *forever.*

And *the party of the first part covenants as follows:*
First, *That the part y of the second part shall quietly enjoy the said premises;*
Second, *That the party of the first part will forever* Warrant *the title to said premises.*

Third, *That, in Compliance with Sec. 13 of the Lien Law, the grantor will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.*

In Presence of

In Witness Whereof, *the party of the first part has caused its corporate seal to be hereunto affixed, and these presents to be signed by its duly authorized officer this* 19th *day of* May, *Nineteen Hundred and* Sixty-five

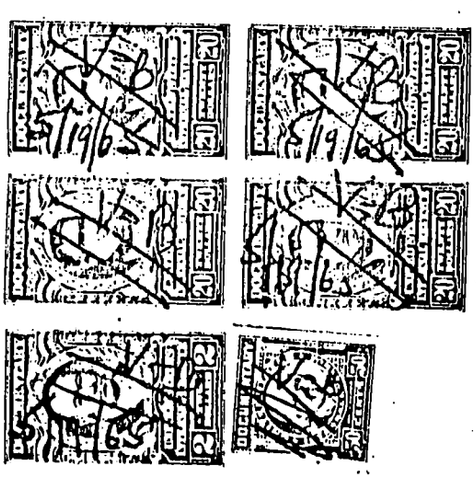
VAIL-BALLOU PRESS, INC.

By Samuel E. Vail
Sec'y-Treas.

State of New York
County of BROOME } ss. *On this* 19th *day of* May, *Nineteen Hundred and* Sixty-five *before me personally came* Samuel E. Vail

*to me personally known, who, being by me duly sworn, did depose and say that he resides in* Town of Binghamton, 7 East Hamton Rd. *that he is the* Secretary-Treasurer *of* Vail-Ballou Press, Inc. *the corporation described in, and which executed, the within Instrument; that he knows the seal of said corporation; that the seal affixed to said Instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation; and that he signed* his *name thereto by like order.*

Lowen W. Guy
Notary Public
My commission expires 1967



# This Indenture,

*Made the* 29th *day of* August *Nineteen Hundred and* eighty-eight

**Between**

VAIL-BALLOU PRESS, INC.

*a corporation organized under the laws of* Delaware, with an office located at 187 Clinton Street, Binghamton, New York 13905,

*party of the first part, and*

CHARLES CONTRO, residing at 21 Oak Street, Harbor Oaks, Florida 32019,

*party of the second part;*

**Witnesseth** *that the party of the first part, in consideration of* One and no/100 - - - - - - - - - - - - - - - - - - - - - - - - - *-Dollar* *($1.00----------) lawful money of the United States,* and such other good and valuable consideration *paid by the party of the second part, does hereby grant and release unto the party of the second part,* his heirs, executors *and assigns forever, all* -

See Schedule "A" attached hereto and made a part hereof.

## SCHEDULE "A"

Parcel 1

ALL THAT TRACT, PIECE OR PARCEL OF LAND, situate in the City of Binghamton, County of Broome, State of New York described as follows:

Beginning at a rebar (reinforcing rod) set at the intersection of the easterly boundary of Jarvis Street with the northerly line of Consolidated Rail Corporation;

Then S56-30-08E along said Consolidated Rail Corporation northerly line a distance of 111.10 feet to a point;

Then southeasterly on a curve to the left having a radius of 2268.01 feet a distance of 209.55 feet to a concrete monument found;

Then along the bounds of the property described in a deed to Rozen recorded in Book 1577 at page 188 the following four courses:

N05-29-29W a distance of 32.09 feet to a rebar found;

Then N84-24-25E a distance of 49.92 feet to a rebar found;

Then N78-42-28E a distance of 112.75 feet to a rebar found;

Then N84-30-42E a distance of 99.17 feet to a railroad spike found in the westerly boundary of Hudson Street;

Then N05-11-25W along said westerly street boundary a distance of 235.59 feet to a vertical division between two buildings (1988);

Then along the bounds of the property described in a deed to First City National Bank of Binghamton, N.Y. recorded in Book 1236 at page 823 and shown on a map entitled "Property of Hugh T. Beckwith Inc. and Matthew Zak et al", by Wakeman F. Sherwood, C.E. recorded in Book 4 of Maps at page 121 the following three courses:

S85-02-12W along the line between the two aforementioned buildings a distance of 63.75 feet to a point;

Then N76-53-48W a distance of 47.03 feet to a rebar set;

Then N10-04-31E a distance of 95.01 feet to a rebar set in the southerly boundary of Clinton Street;

Then N77-22-09W along said southerly street boundary a distance of 239.71 feet to a rebar set;

Then along the bounds of the property described in a deed to Moore recorded in Book 1237 at page 193 the following three courses:

S11-27-33W a distance of 131.68 feet to a rebar set;

Then N77-22-09W a distance of 50.00 feet to a point, said point being S11-27-33W a distance of 0.2 foot from an iron found;

Then N11-27-33E a distance of 131.68 feet to a pipe found in the aforementioned southerly boundary of Clinton Street;

Then N77-22-09W along said southerly street boundary a distance of 54.96 feet to a twist bar found;

Then S11-27-33W along the easterly lines of the property described in a deed to Rogers recorded in Book 1365 at page 381 and the property described in a deed to Barklow recorded in Book 1545 at page 7 a distance of 131.68 feet to a point, said point being S11-27-33W a distance of 0.5 foot from an iron found;

DEPT. OF ASSESSMENT
BINGHAMTON, NY

NOV 18 1988

E. F. SMITH, I.A.O.
ASSESSOR
J. M. VILLANTI
TAX AIDE

Then N77-22-09W along the southerly line of said Barklow property a distance of 80.71 feet to an iron found in the easterly boundary of Jarvis Street;

Then S05-45E along the easterly boundary of Jarvis Street a distance of 92.88 feet to a point;

Then S09-33-02E continuing along said easterly street boundary, a distance of 105.97 feet to the point of beginning.

This parcel contains 3.877 acres as shown on a survey map by Lynn Pullis, Licensed Surveyor, dated October 3, 1988 and revised October 7, 1988.

Parcel 2

ALSO, ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Binghamton, County of Broome and State of New York, briefly described as follows:

Beginning at a spike found at the intersection of the southerly boundary of Clinton Street with the easterly boundary of Hudson Street;

Then S77-22-09E along the southerly boundary of Clinton Street a distance of 93.88 feet to a brass pin found;

Then S04-37-27E along the westerly line of the property described in a deed to Crossley recorded in Book 1488 at page 17 a distance of 83.84 feet to a P.K. nail set;

Then along the bounds of the parcel excepted in the property described in a deed to Press Holding Co., Inc. recorded in Book 1165 at pages 377 and 378 the following three courses;

N78-37-24W a distance of 1.73 feet to a rebar (reinforcing rod) set;

Then S05-33-43E a distance of 35.42 feet to a P.K. nail set;

Then S78-05-17E a distance of 1.13 feet to a P.K. nail set;

Then S-04-37-27E along the westerly line of the aforementioned Crossley property a distance of 47.80 feet to the southerly edge of an old stone foundation wall, said point being 0.7 foot east of the southwesterly corner of said wall;

Then N79-04-11W along the northerly lines of the property described in a deed to Milodick recorded in Book 1243 at page 144 and the property described in a deed to Pekar recorded in Book 329 at page 81 a distance of 91.32 feet to an iron found in the easterly boundary of Hudson Street;

Then N05-11-25W along said easterly street boundary a distance of 170.26 feet to the point of beginning.

This parcel contains 0.342 acre as shown on a survey map by Lynn Pullis, Licensed Surveyor, dated October 3, 1988 and revised October 7, 1988.

Parcel 3

ALSO, ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Binghamton, County of Broome and State of New York, bounded and described as follows:

Beginning at a rebar (reinforcing rod) found in the westerly boundary of Hudson Street, said rebar being N05-11-25W a distance of 49.29 feet from a concrete monument found at the intersection of said westerly street boundary with the northerly line of Consolidated Rail Corporation;

Then along the bounds of the property described in a deed to Rozen recorded in Book 1577 at page 188 the following three courses:

N85-13-35W a distance of 64.64 feet to a rebar found;

Then N05-10-50W a distance of 69.04 feet to a railroad spike found;

Then N85-01-32E a distance of 63.65 feet to a rebar found in the westerly boundary of Hudson Street;

Then S05-11-25E along said westerly street boundary a distance of 79.98 feet to the point of beginning.

This parcel contains 0.109 acre as shown on a survey map by Lynn Pullis, Licensed Surveyor, dated October 3, 1988 and revised October 7, 1988.

Being the same premises conveyed to Press Holding Co., Inc., now known as Vail-Ballou Press, Inc. by deed from Vail-Ballou Press, Inc. dated November 20, 1970 and recorded in the Broome County Clerk's Office on November 23, 1970 in Book 1165 of Deeds at page 366.

Party of the first part hereby warrants that the property described in this conveyance does not constitute all or substantially all of the assets of the corporation.

**Together** *with the appurtenances and all the estate and rights of the party of the first part in and to said premises,*

**To have and to hold** *the premises herein granted unto the party of the second part,* his heirs, executors *and assigns forever.*

**And** *the party of the first part covenants that it has not done or suffered anything whereby the said premises have been incumbered in any way whatever.*

**And** *That, in Compliance with Sec. 13 of the Lien Law, the grantor will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.*

**In Presence of**

**In Witness Whereof,** *The party of the first part has caused its corporate seal to be hereunto affixed, and these presents to be signed by its duly authorized officer the day and year first above written.*

VAIL-BALLOU PRESS, INC.

By John W. Bowman V-P

PENNSYLVANIA

**State of New York**
**County of** YORK } **ss.**

**of**

*On this* 29th *day of* August *, Nineteen Hundred and* eighty-eight *before me personally came* John W. Bowman *to me personally known, who, being by me duly sworn, did depose and say that he resides in* York, Pennsylvania *that he is the* Vice President *of* VAIL-BALLOU PRESS, INC. *the corporation described in, and which executed, the above Instrument; that he knows the seal of said corporation; that the seal affixed to said Instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation; and that he signed his name thereto by like order.*

Sandra L. LoBianco
Notary Public

SANDRA L. LOBIANCO, Notary Public
[illegible] YORK COUNTY
[illegible]

Form
Covenant Against Grantor with Lien Covenant
(Corporation)

VAIL-BALLOU PRESS, INC.

**TO**

CHARLES CONTRO

Dated, August 29, 1988

1322 902

Please record and return to:
Alan M. Zalbowitz, Esq.
Netter, Zalbowitz & Gartell
66 Hawley Street
Binghamton, New York 13901

1733 202

BROOME COUNTY CLERK: SS
Records Office
Recording Page

Type of Instrument: Def-

Recording Charge: 23-

Cross Reference: _____

TOTAL 23-

EXMD. WJR.

Transfer Tax Stamps Attached

AMT. $ 1940-

DATE _____

T.T. # 2253

Recorded on the 17 day of Nov 1988
at 1:08 o'clock PM. in Liber 1733 of
Deeds on page 288, examined
and charged as follows:

Mortgage Amount: $ _____

Exempt: Yes ___ No ___

Received Tax on Above Mortgage:

Basic $_____

Additional $_____

Subtotal $_____

Special $_____

Total $_____

MT # _____

Richard A. Eldgan

(This page is a part of the instrument)

NYS ENVIRONMENTAL CONSERVATION
7481 HENRY CLAY BLVD.
LIVERPOOL, NY 13088



(315) 428-4514

93-12-001 (4/85)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# PETROLEUM BULK STORAGE NOTICE

Required Test Schedule for Underground Storage Tanks

PETROLEUM BULK STORAGE NUMBER: 7-622230

Tests must be completed by the last day of the month indicated.
Reporting requirements are indicated on the back of this form.

| Test Date(s) | Method(s) | TANK NUMBER | DUE DATE | TANK TYPE | CAPACITY | PRODUCT | INDICATE TEST RESULTS (P-pass; F-fail) Tank P | Tank F | Piping P | Piping F | Unable To Test |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PLEASE DISREGARD THIS NOTICE FOR RESULTS ALREADY SENT TO DEC | | | | | | | | | | | |
| 11-27-89 | Ainlay | 001 | 12/87 | BARE STEEL | 10,300 NOS | 1,2,4 FUEL | X | | | X | |
| 9-20-89 | Ainlay | 002 | 12/87 | BARE STEEL | 10,300 NOS | 1,2,4 FUEL | X | | X | | |
| 11-22-89 | Ainlay | 003 | 12/87 | BARE STEEL | 10,300 NOS | 1,2,4 FUEL | X | | | X | |
| 9-22-89 | Ainlay | 004 | 12/87 | BARE STEEL | 10,300 NOS | 1,2,4 FUEL | X | | X | | |

JAN 2 4

This notice and a copy of the underground test report should be returned to DEC with the following information:

Tester's Name: TRI-STATE TANK service / Luzon Oil Co.

Tester's Address: P.O. Box 19, Hurleyville N.Y. 12747

NAME OF FACILITY

VAIL BALLOU PRESS CUNTON ST D'
187-195 CLINTON ST
BINGHAMTON NY
13905

I affirm that:
1. I am trained in performance of the test and have an understanding of the variables which affect the test.
2. The test methods used meet the Department's criteria.

Tester's Signature

Owner's Signature

NAME OF OWNER

MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK PA
17405

DEC DISPOSITION:

DEPARTMENT COPY

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805


RECEIVED
OCT 16 1989

October 2, 1989

Vail Ballou Press
187 Clinton Street
Bighamton, New York 13902

Attention: Bob Kalka

Re: Underground tank testing, as per 6NYCRR 613.5(a).

The National Fire Protection Association's criteria for a tight tank system is a system with a rate of leak less than +/- .050 gal/hr. for tank systems 12,500 gallons or less. These are calculated, mathematical tolerances only and are not meant to indicate the permission of any leak.

Criteria for tightness test [6NYCRR 613.5(a)(6)] "A tightness test is a test acceptable to the department which will determine if a tank and piping system is tight or not tight. The test must be capable of detecting a tank or piping leak as small as five hundredths (.05) of a gallon in one hour accounting for variables such as vapor pockets, thermal expansion of product, temperature stratification, groundwater level, evaporation, pressure and end deflection."

During the ***Ainley Tank 'Tegrity Test*** propane gas bubbles are introduced one (1) inch below the product level through a 1/4" tube. The pressure required to introduce bubbles varies with changes in product level, and is related to volume changes. Pressure changes are measured by a manometer type coil (slope tube). A slight liquid level change in the tank is exaggerated approximately fifty (50) times when transmitted from bubble tube to slope tube.

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805


**Facility:** Vail Ballou Press
187 Clinton Street
Bighamton, N.Y.

**PBS #:** 182230

**Tank #s:** **#001** - 10,300 gallon **#003** - 10,300 gallon
**#002** - 10,300 gallon **#004** - 10,300 gallon

**Test Date: 9-19-89**

Tank system #003 showed a rate of leak of +.127 gallons per hour. Tank system failed the test.

**Test Date: 9-20-89**

Tank system #002 showed a rate of leak of -.025 gallons per hour. Tank system test tight.

**Test Date: 9-22-89**

Tank system #004 showed a rate of leak of +.046 gallons per hour. Tank system tested tight.

**Test Date: 9-25-89** **Test Method: Petro-Tite**

Tank system #001 showed a rate of leak of -.092 gallons per hour. Tank system failed the test.

**New York State Regulations require notification within 2 hours of tank test failure.**

**Spill Notification Number:** 8906060

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805


**A tank system test failure indicates the following:**

a) The tank may be leaking.
b) The attached piping and/or fittings may be leaking.
c) Both the tank and the associated piping may be leaking.

In some cases unstable air along the tank top may cause an erroneous volume reading. We recommend re-testing be performed with tank top excavated to allow isolation of tank from piping and tank top modifications permitting the evacuation of any entrapped air or product vapor.

Enclosed are two (2) copies of this report and the test data. One is for your records and the other is to be sent to New York State D.E.C.

Please be advised that you will need to re-test,abandon, repair or remove this leaking tank as directed by New York State DEC in order to clear your record of the spill.

If you have any questions or need additional information, please contact me.

Very truly yours,

Robert B. Halprin,
Luzon Oil Co., Inc.

/enclosures

RBH:amd

SOILTEST®

# AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

**1 TANK OPERATOR**

NAME / ADDRESS / PHONE

WM L BALLOU PRESS
187 CLINTON ST. BINGHAMTON N.Y.

**2 TANKS TO BE TESTED**

| IDENTIFICATION | CAPACITY—GALS. | MANUFACTURER | STEEL/FIBRGLS. | AGE—YRS. |
|---|---|---|---|---|
| TH 004 | 10,300 | ? | STEEL | ? |
| TH 001 | 10,300 | ? | STEEL | ? |

**3 WATER TABLE**

DISTANCE FROM GRADE TO WATER -135 INS.

**4 TANK FILL-UP**

TANK WILL BE FILLED 5TH (TIME) ON 9/20/89
EXTRA 5 GALS PRODUCT AVAILABLE FROM TRI-STATE TANK
FILL UP TO BE ARRANGED BY MR. TRI-STATE TANK PHONE ( )
CONTACT AT STORAGE TERMINAL IS MR. PHONE ( )

**5 OUTSIDE CONTRACTORS**

NAME / ADDRESS / PHONE

**6 OFFICIALS TO BE CONTACTED**

NAME / AUTHORITY / PHONE

P.E.C. 1-800-457-7362

**7 SPECIAL NOTES OR PRECAUTIONS**

PBS # 182230

SPILL #890660

**8 TEST RESULTS**

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

| TANK IDENT | TANK IS TIGHT | TANK IS NOT TIGHT | LEAK RATE G. P. H. | TEST DATE |
|---|---|---|---|---|
| TH-004 | X | | +.016 | 9-22-89 |
| TH 001 | | X | +.092 | 9-25-89 |

**9 CERTIFICATION**

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED [signature] CERTIFICATE NO. 1315
ISSUE DATE 10-13-89
FOR (TEST COMPANY) TRI-STATE TANK SERVICE
ADDRESS Luzon Oil Co. Inc.
P.O. Box 19
HURLEYVILLE, NEW YORK 12747 ZIP
(914) 434-7808

ST-8 (REV. 2/87)

# AINLAY TANK TIGHTNESS TEST No. [illegible]

**10 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 83 INS FILL PIPE LENGTH 40 INS

**11 WATER IN TANK**

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

**12 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,300 GALS (c) DEDUCT WATER IN TANK +0 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 10,327 GALS (d) TOTAL PRODUCT VOL. 10,327 GALS

**13 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = .831 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .031 = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**14 PRELIM TEST DATA**

(a) START TEMP CHECK 805 (AM)/PM
(b) END TEMP CHECK ____ AM/PM
(c) TIME SINCE LAST LIQ. ADDED 1 HRS
(d) A.P.I. GRAVITY 25.9 At 66 °F
(e) A.P.I. GRAVITY 25.6 At 60°F
(f) COEFF. OF EXPANSION .000428 10

**15 TEST DATA**

(a) START TEST 1005 (AM)/PM: END TEST 1105 (AM)/PM: TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1005 | 65.6975 | 65.7453 | 64.1140 | 65.3262 | | | | | |
| 1010 | 65.6875 | 65.7408 | 64.1052 | 65.3203 | | | | | |
| 1015 | 65.6542 | 65.7409 | 64.1049 | 65.3174 | | | | | |
| 1020 | 65.6659 | 65.7413 | 64.1103 | 65.3232 | | | | | |
| 1025 | 65.6612 | 65.7360 | 64.1085 | 65.3171 | | | | | |
| 1030 | 65.6704 | 65.7340 | 64.1101 | 65.3181 | | | | | |
| 1035 | 65.6730 | 65.7354 | 64.1144 | 65.3167 | | | | | |
| 1040 | 65.6685 | 65.7327 | 64.1142 | 65.3139 | | | | | |
| 1045 | 65.6695 | 65.7323 | 64.1132 | 65.3126 | | | | | |
| 1050 | 65.6701 | 65.7292 | 64.1067 | 65.3123 | | | | | |
| 1055 | 65.6725 | 65.7289 | 64.0983 | 65.3086 | | | | | |
| 1100 | 65.6636 | 65.7201 | 64.0838 | 65.2974 | | | | | |
| 1105 | 65.6667 | 65.7242 | 64.0924 | 65.3062 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. − AVG START TEMP.) = [illegible] = [illegible] = +.0200 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL. x TEMP. CHANGE x COEFF. EXP.

= 10,327 (15d) x [illegible] (15b) x [illegible] (15f) = +.0584 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = +1 GALS.

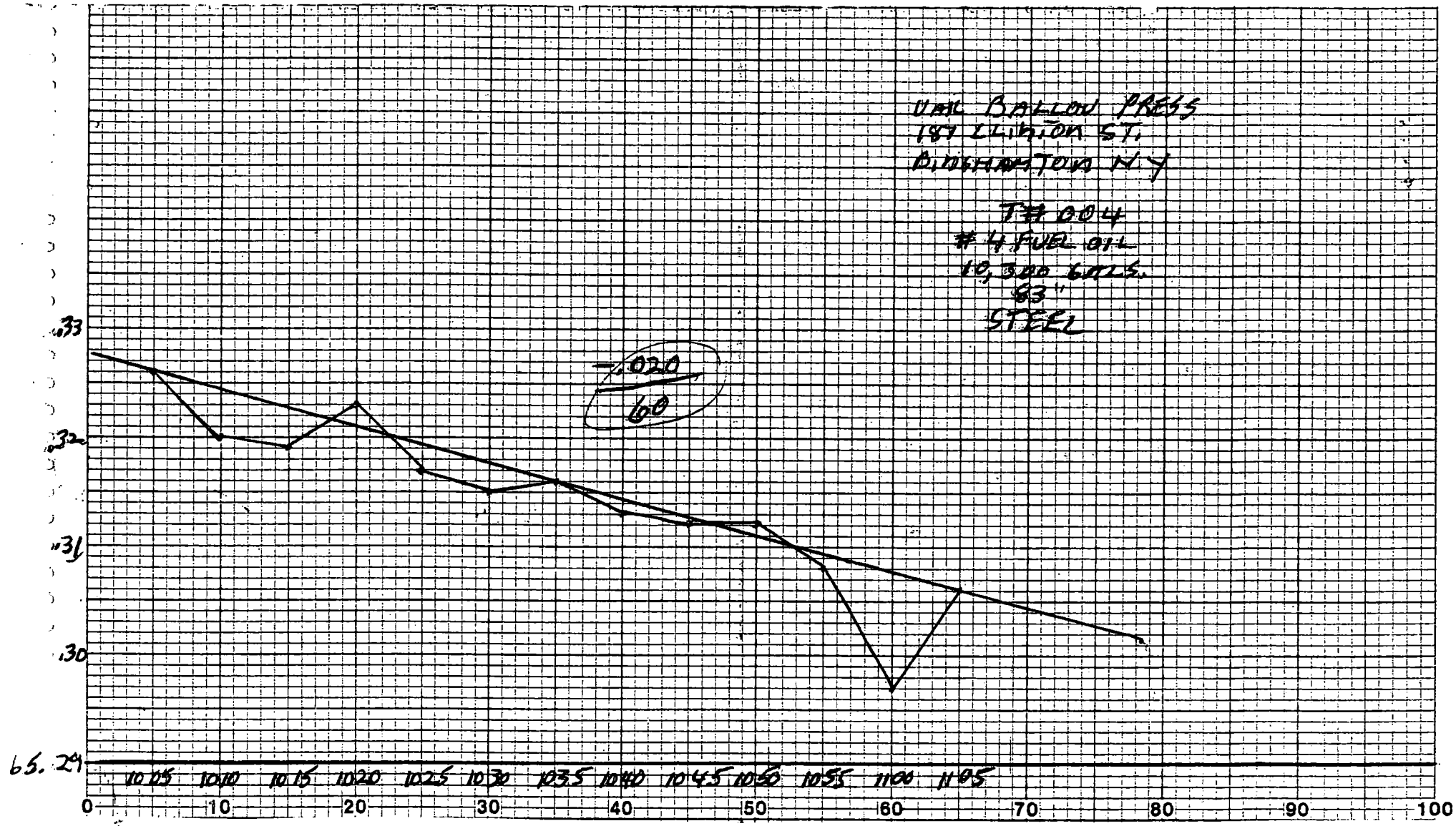
(e) VOL. CHANGE NOT DUE TO TEMP ((c) + (d)) ..... = .0584 + 1.130 = 1.0416 GALS.

(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = 1.0416 x 60 / 60 (15a) = 1.0416 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC.; BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☑ / THE TANK IS NOT TIGHT ☐

JOB ADDRESS ____ DATE 1/1/1 TESTER TEST COMPANY ____


VAIL BALLOW PRESS
187 LIBERTY ST.
BINGHAMTON N.Y.
T# 004
#4 FUEL OIL
10,000 GALS.
63"
STEEL
.020
60
.33
.32
.31
.30
65.29
10 05 10 10 10 15 10 20 10 25 10 30 10 35 10 40 10 45 10 50 10 55 11 00 11 05
0
10
20
30
40
50
60
70
80
90
100

| | | |
|---|---|---|
| TIME | 22:08:05 | |
| CH1 | 65.9211 | DEG F |
| CH2 | 65.8230 | DEG F |
| CH3 | 64.2644 | DEG F |
| AVG | 65.4586 | DEG F |
| TIME | 22:08:10 | |
| CH1 | 65.8448 | DEG F |
| CH2 | 65.7952 | DEG F |
| CH3 | 64.2290 | DEG F |
| AVG | 65.4174 | DEG F |
| TIME | 22:08:15 | |
| CH1 | 65.8044 | DEG F |
| CH2 | 65.7823 | DEG F |
| CH3 | 64.2211 | DEG F |
| AVG | 65.3986 | DEG F |
| TIME | 22:08:20 | |
| CH1 | 65.7756 | DEG F |
| CH2 | 65.7757 | DEG F |
| CH3 | 64.2188 | DEG F |
| AVG | 65.3860 | DEG F |
| TIME | 22:08:25 | |
| CH1 | 65.7663 | DEG F |
| CH2 | 65.7731 | DEG F |
| CH3 | 64.2134 | DEG F |
| AVG | 65.3816 | DEG F |
| TIME | 22:08:30 | |
| CH1 | 65.7583 | DEG F |
| CH2 | 65.7670 | DEG F |
| CH3 | 64.1997 | DEG F |
| AVG | 65.3761 | DEG F |
| TIME | 22:08:35 | |
| CH1 | 65.7520 | DEG F |
| CH2 | 65.7629 | DEG F |
| CH3 | 64.1864 | DEG F |
| AVG | 65.3669 | DEG F |
| TIME | 22:08:40 | |
| CH1 | 65.7482 | DEG F |
| CH2 | 65.7583 | DEG F |
| CH3 | 64.1785 | DEG F |
| AVG | 65.3628 | DEG F |
| TIME | 22:08:45 | |
| CH1 | 65.7544 | DEG F |
| CH2 | 65.7623 | DEG F |
| CH3 | 64.1832 | DEG F |
| AVG | 65.3678 | DEG F |
| TIME | 22:08:50 | |
| CH1 | 65.7460 | DEG F |
| CH2 | 65.7573 | DEG F |
| CH3 | 64.1742 | DEG F |
| AVG | 65.3603 | DEG F |
| TIME | 22:08:55 | |
| CH1 | 65.7490 | DEG F |
| CH2 | 65.7610 | DEG F |
| CH3 | 64.1706 | DEG F |
| AVG | 65.3628 | DEG F |
| TIME | 22:09:00 | |
| CH1 | 65.7470 | DEG F |
| CH2 | 65.7605 | DEG F |
| CH3 | 64.1672 | DEG F |
| AVG | 65.3596 | DEG F |
| TIME | 22:09:05 | |
| CH1 | 65.7411 | DEG F |
| CH2 | 65.7571 | DEG F |
| CH3 | 64.1646 | DEG F |
| AVG | 65.3568 | DEG F |
| TIME | 22:09:10 | |
| CH1 | 65.7300 | DEG F |
| CH2 | 65.7523 | DEG F |
| CH3 | 64.1637 | DEG F |
| AVG | 65.3518 | DEG F |
| TIME | 22:09:15 | |
| CH1 | 65.7230 | DEG F |
| CH2 | 65.7509 | DEG F |
| CH3 | 64.1694 | DEG F |
| AVG | 65.3497 | DEG F |
| TIME | 22:09:20 | |
| CH1 | 65.7217 | DEG F |
| CH2 | 65.7537 | DEG F |
| CH3 | 64.1657 | DEG F |
| AVG | 65.3501 | DEG F |
| TIME | 22:09:25 | |
| CH1 | 65.7175 | DEG F |
| CH2 | 65.7517 | DEG F |
| CH3 | 64.1512 | DEG F |
| AVG | 65.3421 | DEG F |
| TIME | 22:09:30 | |
| CH1 | 65.7191 | DEG F |
| CH2 | 65.7510 | DEG F |
| CH3 | 64.1441 | DEG F |
| AVG | 65.3423 | DEG F |
| TIME | 22:09:35 | |
| CH1 | 65.7193 | DEG F |
| CH2 | 65.7500 | DEG F |
| CH3 | 64.1440 | DEG F |
| AVG | 65.3425 | DEG F |
| TIME | 22:09:40 | |
| CH1 | 65.7196 | DEG F |
| CH2 | 65.7493 | DEG F |
| CH3 | 64.1441 | DEG F |
| AVG | 65.3414 | DEG F |
| TIME | 22:09:45 | |
| CH1 | 65.7181 | DEG F |
| CH2 | 65.7455 | DEG F |
| CH3 | 64.1412 | DEG F |
| AVG | 65.3391 | DEG F |
| TIME | 22:09:50 | |
| CH1 | 65.7201 | DEG F |
| CH2 | 65.7455 | DEG F |
| CH3 | 64.1413 | DEG F |
| AVG | 65.3394 | DEG F |
| TIME | 22:09:55 | |
| CH1 | 65.7225 | DEG F |
| CH2 | 65.7482 | DEG F |
| CH3 | 64.1353 | DEG F |
| AVG | 65.3409 | DEG F |
| TIME | 22:10:00 | |
| CH1 | 65.7041 | DEG F |
| CH2 | 65.7440 | DEG F |
| CH3 | 64.1192 | DEG F |
| AVG | 65.3297 | DEG F |
| TIME | 22:10:05 | |
| CH1 | 65.6975 | DEG F |
| CH2 | 65.7453 | DEG F |
| CH3 | 64.1140 | DEG F |
| AVG | 65.3262 | DEG F |
| TIME | 22:10:10 | |
| CH1 | 65.6875 | DEG F |
| CH2 | 65.7408 | DEG F |
| CH3 | 64.1052 | DEG F |
| AVG | 65.3203 | DEG F |
| TIME | 22:10:15 | |
| CH1 | 65.6842 | DEG F |
| CH2 | 65.7409 | DEG F |
| CH3 | 64.1049 | DEG F |
| AVG | 65.3194 | DEG F |
| TIME | 22:10:20 | |
| CH1 | 65.6889 | DEG F |
| CH2 | 65.7413 | DEG F |
| CH3 | 64.1103 | DEG F |
| AVG | 65.3232 | DEG F |
| TIME | 22:10:25 | |
| CH1 | 65.6812 | DEG F |
| CH2 | 65.7360 | DEG F |
| CH3 | 64.1085 | DEG F |
| AVG | 65.3171 | DEG F |
| TIME | 22:10:30 | |
| CH1 | 65.6761 | DEG F |
| CH2 | 65.7340 | DEG F |
| CH3 | 64.1101 | DEG F |
| AVG | 65.3150 | DEG F |
| TIME | 22:10:35 | |
| CH1 | 65.6730 | DEG F |
| CH2 | 65.7359 | DEG F |
| CH3 | 64.1144 | DEG F |
| AVG | 65.3167 | DEG F |
| TIME | 22:10:40 | |
| CH1 | 65.6689 | DEG F |
| CH2 | 65.7327 | DEG F |
| CH3 | 64.1142 | DEG F |
| AVG | 65.3139 | DEG F |
| TIME | 22:10:45 | |
| CH1 | 65.6695 | DEG F |
| CH2 | 65.7323 | DEG F |
| CH3 | 64.1132 | DEG F |
| AVG | 65.3126 | DEG F |
| TIME | 22:10:50 | |
| CH1 | 65.6701 | DEG F |
| CH2 | 65.7292 | DEG F |
| CH3 | 64.1067 | DEG F |
| AVG | 65.3123 | DEG F |
| TIME | 22:10:55 | |
| CH1 | 65.6725 | DEG F |
| CH2 | 65.7289 | DEG F |
| CH3 | 64.0983 | DEG F |
| AVG | 65.3086 | DEG F |
| TIME | 22:11:00 | |
| CH1 | 65.6636 | DEG F |
| CH2 | 65.7201 | DEG F |
| CH3 | 64.0838 | DEG F |
| AVG | 65.2974 | DEG F |
| TIME | 22:11:05 | |
| CH1 | 65.6667 | DEG F |
| CH2 | 65.7292 | DEG F |
| CH3 | 64.0924 | DEG F |
| AVG | 65.3062 | DEG F |

T#004

# AINLAY TANK TIGHTNESS TEST No.

TANK #1 #4 FUEL OIL

**16 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 83 INS — FILL PIPE LENGTH 37 INS

**17 WATER IN TANK**

(a) START WATER IN TANK 0 INS — (c) END WATER IN TANK 0 INS

(b) START WATER IN TANK 0 GALS — (d) END WATER IN TANK 0 GALS

**18 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,300 GALS — (c) DEDUCT WATER IN TANK +0 GALS (Top-off +5)

(b) ACTUAL CAPACITY (FROM TANK CHART) 10,322 GALS — (d) TOTAL PRODUCT VOL. 10,327 GALS

**19 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS

(b) DENSITY OF TANK PRODUCT = .0231 (w) LB/CU. IN. (FROM TABLES)

DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.

(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .0231 = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**20 PRELIM TEST DATA**

(a) START TEMP CHECK 10:30 AM/PM — (d) A.P.I. GRAVITY 25.3 AT 68 °F

(b) END TEMP CHECK ____ AM/PM — (e) A.P.I. GRAVITY 24.9 AT 60°F

(c) TIME SINCE LAST LIQ. ADDED 1/2 HRS — (f) COEFF. OF EXPANSION .00042562

**21 TEST DATA**

(a) START TEST ____ AM/PM END TEST ____ AM/PM: TEST TIME ____ MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1320 | 696237 | 712916 | 70.0218 | 70.5587 | | | | | |
| 1325 | 696180 | 712894 | 70.0133 | 705557 | | | | | |
| 1330 | 695976 | 712860 | 70.0027 | 705434 | | | | | |
| 1335 | 695942 | 712877 | 70.0030 | 705473 | | | | | |
| 1340 | 695882 | 712876 | 70.0025 | 705432 | | | | | |
| 1345 | 695845 | 712860 | 69.9937 | 705392 | | | | | |
| 1350 | 695814 | 712774 | 69.9955 | 705369 | | | | | |
| 1355 | 695853 | 712720 | 69.9946 | 705323 | | | | | |
| 1400 | 695801 | 712742 | 69.9955 | 705327 | | | | | |
| 1405 | 695755 | 712666 | 69.9950 | 705256 | | | | | |
| 1410 | 695669 | 712645 | 70.0013 | 705277 | | | | | |
| 1415 | 695721 | 712625 | 69.9927 | 705237 | | | | | |
| 1420 | 695736 | 712638 | 70.0010 | 705273 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = .5273 − .5587 = +14.0314 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.

= 10,327 (18d) × .0314 (21b) × .00042562 (20f) = +1,138 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = −1,230 GALS.

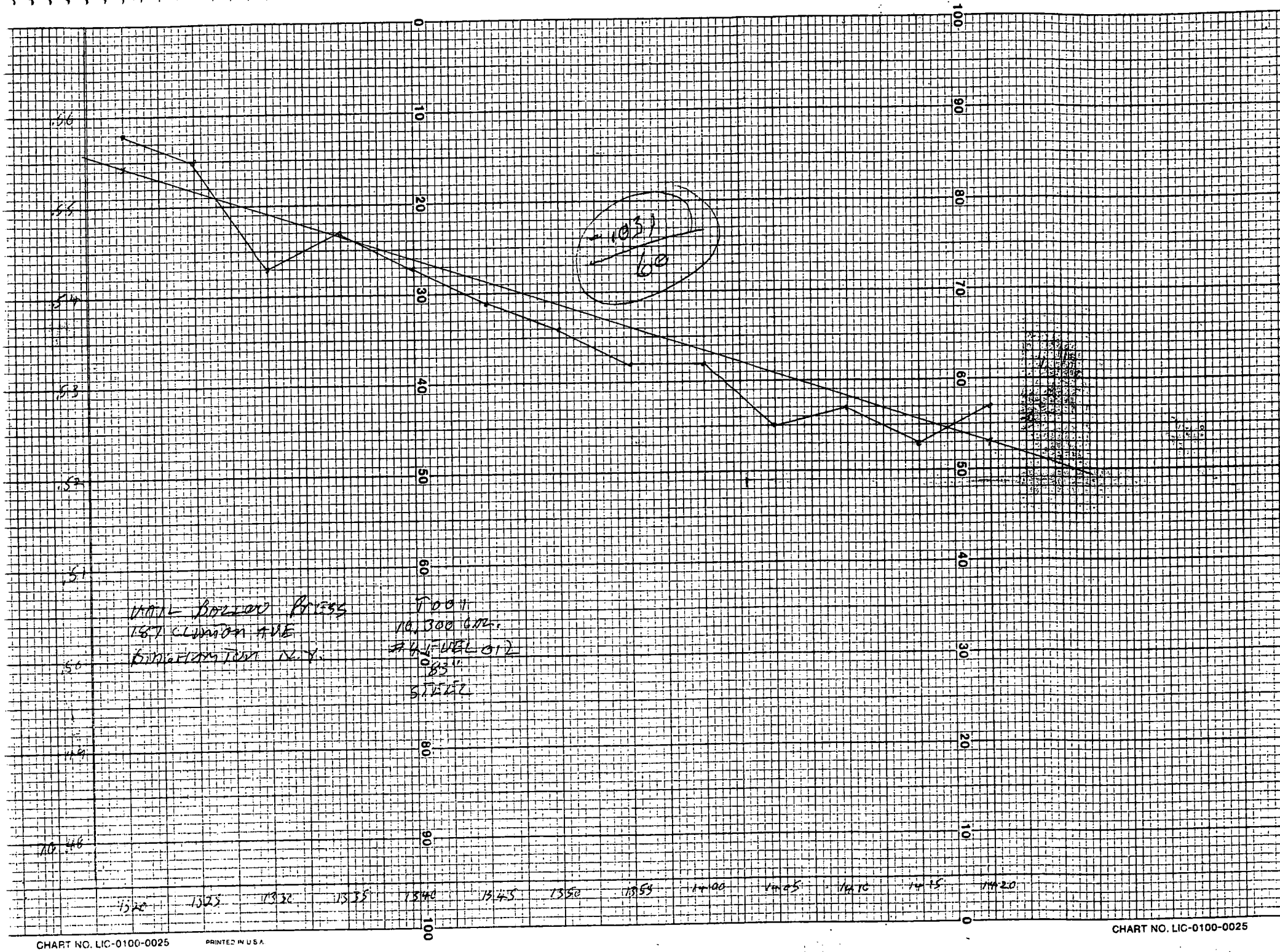
(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = +1,138 + −1,230 = −1,092 GALS.

(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = −1,092 x 60 / 60 (21a) = −1,092 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☐ / THE TANK IS NOT TIGHT ☒

JOB ____ ADDRESS ____ DATE 1 / 1 TESTER ____ TEST COMPANY ____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1355
1400
1405
1410
1415
1420
0
10
20
30
40
50
60
70
80
90
100
~1051
60
WALL BOILER PRESS
187 CLINTON AVE
BINGHAMTON N.Y.
TOOL
10,300 LBS.
#4 WELD 012
83"
STEEL
CHART NO. LIC-0100-0025
PRINTED IN U.S.A.
CHART NO. LIC-0100-0025

| TIME | 25:10:30 | |
|---|---|---|
| CH1 | 69.4853 | DEG F |
| CH2 | 71.0357 | DEG F |
| CH3 | 69.8335 | DEG F |
| AVG | 70.3479 | DEG F |

| TIME | 25:10:35 | |
|---|---|---|
| CH1 | 69.6503 | DEG F |
| CH2 | 71.2167 | DEG F |
| CH3 | 69.9848 | DEG F |
| AVG | 70.5181 | DEG F |

| TIME | 25:10:40 | |
|---|---|---|
| CH1 | 69.6883 | DEG F |
| CH2 | 71.2660 | DEG F |
| CH3 | 70.0142 | DEG F |
| AVG | 70.5607 | DEG F |

| TIME | 25:10:45 | |
|---|---|---|
| CH1 | 69.7183 | DEG F |
| CH2 | 71.2804 | DEG F |
| CH3 | 70.0223 | DEG F |
| AVG | 70.5825 | DEG F |

| TIME | 25:10:50 | |
|---|---|---|
| CH1 | 69.7291 | DEG F |
| CH2 | 71.3005 | DEG F |
| CH3 | 70.0210 | DEG F |
| AVG | 70.5878 | DEG F |

| TIME | 25:10:55 | |
|---|---|---|
| CH1 | 69.7234 | DEG F |
| CH2 | 71.3034 | DEG F |
| CH3 | 70.0189 | DEG F |
| AVG | 70.5901 | DEG F |

| TIME | 25:11:00 | |
|---|---|---|
| CH1 | 69.7362 | DEG F |
| CH2 | 71.3082 | DEG F |
| CH3 | 70.0197 | DEG F |
| AVG | 70.5941 | DEG F |

| TIME | 25:11:05 | |
|---|---|---|
| CH1 | 69.7147 | DEG F |
| CH2 | 71.3099 | DEG F |
| CH3 | 70.0192 | DEG F |
| AVG | 70.5910 | DEG F |

| TIME | 25:11:10 | |
|---|---|---|
| CH1 | 69.7183 | DEG F |
| CH2 | 71.3030 | DEG F |
| CH3 | 70.0148 | DEG F |
| AVG | 70.5850 | DEG F |

| TIME | 25:11:15 | |
|---|---|---|
| CH1 | 69.7094 | DEG F |
| CH2 | 71.2939 | DEG F |
| CH3 | 70.0112 | DEG F |
| AVG | 70.5796 | DEG F |

| TIME | 25:11:20 | |
|---|---|---|
| CH1 | 69.7232 | DEG F |
| CH2 | 71.2953 | DEG F |
| CH3 | 70.0147 | DEG F |
| AVG | 70.5843 | DEG F |

| TIME | 25:11:25 | |
|---|---|---|
| CH1 | 69.7163 | DEG F |
| CH2 | 71.2978 | DEG F |
| CH3 | 70.0163 | DEG F |
| AVG | 70.5835 | DEG F |

| TIME | 25:11:30 | |
|---|---|---|
| CH1 | 69.7072 | DEG F |
| CH2 | 71.2969 | DEG F |
| CH3 | 70.0141 | DEG F |
| AVG | 70.5791 | DEG F |

| TIME | 25:11:35 | |
|---|---|---|
| CH1 | 69.7073 | DEG F |
| CH2 | 71.2975 | DEG F |
| CH3 | 70.0160 | DEG F |
| AVG | 70.5802 | DEG F |

| TIME | 25:11:40 | |
|---|---|---|
| CH1 | 69.7047 | DEG F |
| CH2 | 71.3016 | DEG F |
| CH3 | 70.0220 | DEG F |
| AVG | 70.5832 | DEG F |

| TIME | 25:11:45 | |
|---|---|---|
| CH1 | 69.7041 | DEG F |
| CH2 | 71.3006 | DEG F |
| CH3 | 70.0278 | DEG F |
| AVG | 70.5848 | DEG F |

| TIME | 25:11:50 | |
|---|---|---|
| CH1 | 69.6924 | DEG F |
| CH2 | 71.3002 | DEG F |
| CH3 | 70.0345 | DEG F |
| AVG | 70.5823 | DEG F |

| TIME | 25:11:55 | |
|---|---|---|
| CH1 | 69.6838 | DEG F |
| CH2 | 71.2982 | DEG F |
| CH3 | 70.0346 | DEG F |
| AVG | 70.5807 | DEG F |

| TIME | 25:12:00 | |
|---|---|---|
| CH1 | 69.6880 | DEG F |
| CH2 | 71.3007 | DEG F |
| CH3 | 70.0364 | DEG F |
| AVG | 70.5821 | DEG F |

| TIME | 25:12:05 | |
|---|---|---|
| CH1 | 69.7023 | DEG F |
| CH2 | 71.3061 | DEG F |
| CH3 | 70.0393 | DEG F |
| AVG | 70.5887 | DEG F |

| TIME | 25:12:10 | |
|---|---|---|
| CH1 | 69.6907 | DEG F |
| CH2 | 71.3065 | DEG F |
| CH3 | 70.0391 | DEG F |
| AVG | 70.5844 | DEG F |

| TIME | 25:12:15 | |
|---|---|---|
| CH1 | 69.6703 | DEG F |
| CH2 | 71.3030 | DEG F |
| CH3 | 70.0345 | DEG F |
| AVG | 70.5784 | DEG F |

| TIME | 25:12:20 | |
|---|---|---|
| CH1 | 69.6855 | DEG F |
| CH2 | 71.3045 | DEG F |
| CH3 | 70.0357 | DEG F |
| AVG | 70.5838 | DEG F |

| TIME | 25:12:25 | |
|---|---|---|
| CH1 | 69.6874 | DEG F |
| CH2 | 71.3010 | DEG F |
| CH3 | 70.0338 | DEG F |
| AVG | 70.5813 | DEG F |

| TIME | 25:12:30 | |
|---|---|---|
| CH1 | 69.6871 | DEG F |
| CH2 | 71.3006 | DEG F |
| CH3 | 70.0338 | DEG F |
| AVG | 70.5821 | DEG F |

| TIME | 25:12:35 | |
|---|---|---|
| CH1 | 69.6585 | DEG F |
| CH2 | 71.2978 | DEG F |
| CH3 | 70.0346 | DEG F |
| AVG | 70.5732 | DEG F |

| TIME | 25:12:40 | |
|---|---|---|
| CH1 | 69.6582 | DEG F |
| CH2 | 71.3003 | DEG F |
| CH3 | 70.0335 | DEG F |
| AVG | 70.5743 | DEG F |

| TIME | 25:12:45 | |
|---|---|---|
| CH1 | 69.6421 | DEG F |
| CH2 | 71.2968 | DEG F |
| CH3 | 70.0332 | DEG F |
| AVG | 70.5691 | DEG F |

| TIME | 25:12:50 | |
|---|---|---|
| CH1 | 69.6478 | DEG F |
| CH2 | 71.2972 | DEG F |
| CH3 | 70.0335 | DEG F |
| AVG | 70.5699 | DEG F |

| TIME | 25:12:55 | |
|---|---|---|
| CH1 | 69.6538 | DEG F |
| CH2 | 71.2945 | DEG F |
| CH3 | 70.0329 | DEG F |
| AVG | 70.5714 | DEG F |

| TIME | 25:13:00 | |
|---|---|---|
| CH1 | 69.6505 | DEG F |
| CH2 | 71.2907 | DEG F |
| CH3 | 70.0284 | DEG F |
| AVG | 70.5659 | DEG F |

| TIME | 25:13:05 | |
|---|---|---|
| CH1 | 69.6235 | DEG F |
| CH2 | 71.2927 | DEG F |
| CH3 | 70.0297 | DEG F |
| AVG | 70.5610 | DEG F |

| TIME | 25:13:10 | |
|---|---|---|
| CH1 | 69.6305 | DEG F |
| CH2 | 71.2926 | DEG F |
| CH3 | 70.0269 | DEG F |
| AVG | 70.5642 | DEG F |

| TIME | 25:13:15 | |
|---|---|---|
| CH1 | 69.6389 | DEG F |
| CH2 | 71.2949 | DEG F |
| CH3 | 70.0267 | DEG F |
| AVG | 70.5652 | DEG F |

| TIME | 25:13:20 | |
|---|---|---|
| CH1 | 69.6237 | DEG F |
| CH2 | 71.2916 | DEG F |
| CH3 | 70.0218 | DEG F |
| AVG | 70.5587 | DEG F |

| TIME | 25:13:25 | |
|---|---|---|
| CH1 | 69.6180 | DEG F |
| CH2 | 71.2894 | DEG F |
| CH3 | 70.0132 | DEG F |
| AVG | 70.5557 | DEG F |

| TIME | 25:13:30 | |
|---|---|---|
| CH1 | 69.5976 | DEG F |
| CH2 | 71.2860 | DEG F |
| CH3 | 70.0027 | DEG F |
| AVG | 70.5439 | DEG F |

| TIME | 25:13:35 | |
|---|---|---|
| CH1 | 69.5942 | DEG F |
| CH2 | 71.2877 | DEG F |
| CH3 | 70.0030 | DEG F |
| AVG | 70.5473 | DEG F |

| TIME | 25:13:40 | |
|---|---|---|
| CH1 | 69.5882 | DEG F |
| CH2 | 71.2876 | DEG F |
| CH3 | 70.0023 | DEG F |
| AVG | 70.5432 | DEG F |

| TIME | 25:13:45 | |
|---|---|---|
| CH1 | 69.5905 | DEG F |
| CH2 | 71.2800 | DEG F |
| CH3 | 69.9937 | DEG F |
| AVG | 70.5392 | DEG F |

| TIME | 25:13:50 | |
|---|---|---|
| CH1 | 69.5919 | DEG F |
| CH2 | 71.2774 | DEG F |
| CH3 | 69.9955 | DEG F |
| AVG | 70.5369 | DEG F |

| TIME | 25:13:55 | |
|---|---|---|
| CH1 | 69.5853 | DEG F |
| CH2 | 71.2720 | DEG F |
| CH3 | 69.9946 | DEG F |
| AVG | 70.5323 | DEG F |

| TIME | 25:14:00 | |
|---|---|---|
| CH1 | 69.5801 | DEG F |
| CH2 | 71.2742 | DEG F |
| CH3 | 69.9955 | DEG F |
| AVG | 70.5327 | DEG F |

| TIME | 25:14:05 | |
|---|---|---|
| CH1 | 69.5755 | DEG F |
| CH2 | 71.2666 | DEG F |
| CH3 | 69.9950 | DEG F |
| AVG | 70.5256 | DEG F |

| TIME | 25:14:10 | |
|---|---|---|
| CH1 | 69.5668 | DEG F |
| CH2 | 71.2685 | DEG F |
| CH3 | 70.0019 | DEG F |
| AVG | 70.5277 | DEG F |

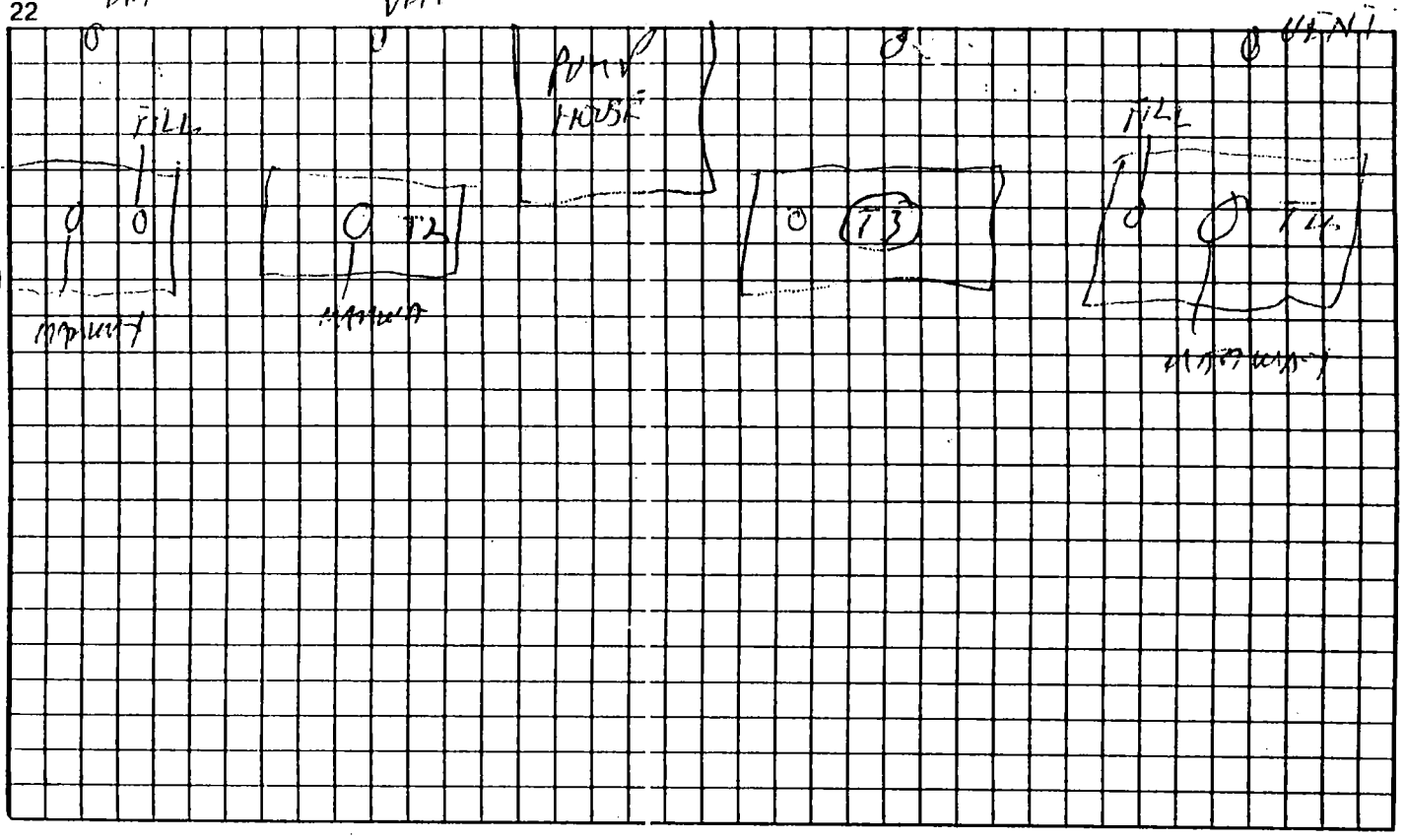
| TIME | 25:14:15 | |
|---|---|---|
| CH1 | 69.5721 | DEG F |
| CH2 | 71.2625 | DEG F |
| CH3 | 69.9977 | DEG F |
| AVG | 70.5237 | DEG F |

| TIME | 25:14:20 | |
|---|---|---|
| CH1 | 69.5736 | DEG F |
| CH2 | 71.2638 | DEG F |
| CH3 | 70.0010 | DEG F |
| AVG | 70.5273 | DEG F |

T#001

# TEST SITE LAYOUT

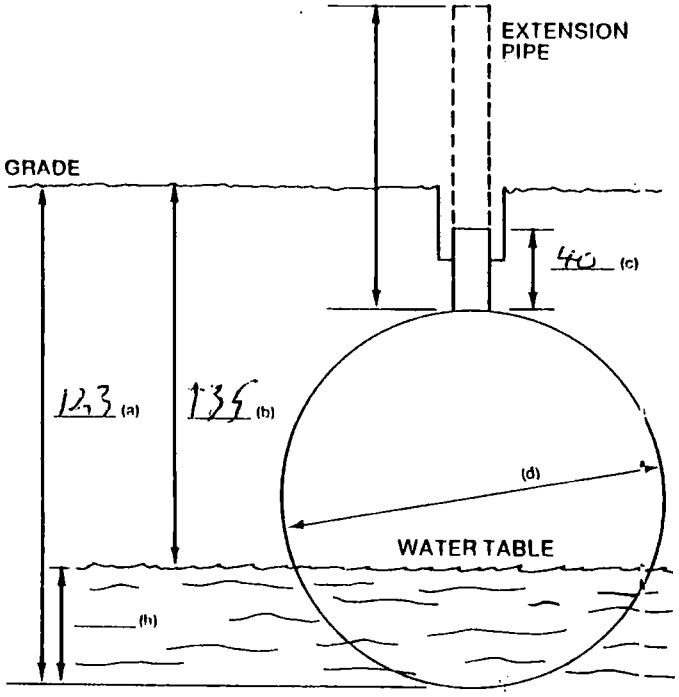
22




TESTER
TEST COMPANY

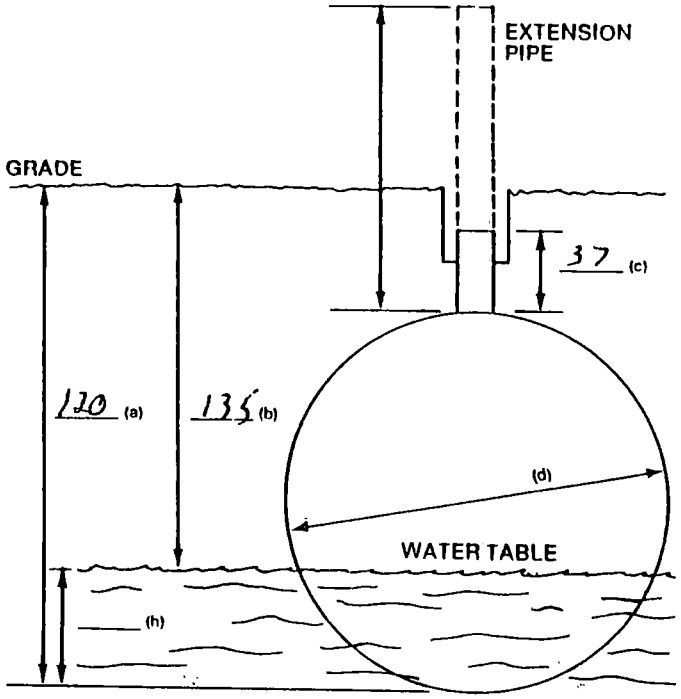
23

## TEST 1: TANK DIMENSIONS




TANK IDENT. TH 004

## TEST 2: TANK DIMENSIONS




TANK IDENT. TH001

DATE / /

JOB ADDRESS

SOILTEST®

# AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

**1 TANK OPERATOR**

NAME / ADDRESS / PHONE

VAIL BALLOU PRESS
187 CLINTON ST BINGHAMTON N.Y.

**2 TANKS TO BE TESTED**

| IDENTIFICATION | CAPACITY—GALS. | MANUFACTURER | STEEL/FIBRGLS. | AGE—YRS. |
|---|---|---|---|---|
| TT 003 | 10,300 | ? | STEEL | ? |
| TT 002 | 10,300 | ? | STEEL | ? |
| | | | | |
| | | | | |
| | | | | |

**3 WATER TABLE**

DISTANCE FROM GRADE TO WATER 135 INS.

**4 TANK FILL-UP**

TANK WILL BE FILLED 1 hour (TIME) ON 1 1 TA 2 Tue. 6a 4-19-88
EXTRA 5 GALS PRODUCT AVAILABLE FROM VAIL BALLOU
FILL UP TO BE ARRANGED BY MR. BOB KALKA PHONE (607) 723-2981
CONTACT AT STORAGE TERMINAL IS MR. _____ PHONE ( )

**5 OUTSIDE CONTRACTORS**

NAME / ADDRESS / PHONE

**6 OFFICIALS TO BE CONTACTED**

NAME / AUTHORITY / PHONE

D.E.C. 1-800-457-7362

**7 SPECIAL NOTES OR PRECAUTIONS**

PBS II 182.38

SPILL 800 6060

**8 TEST RESULTS**

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

| TANK IDENT | TANK IS TIGHT | TANK IS NOT TIGHT | LEAK RATE G. P. H. | TEST DATE |
|---|---|---|---|---|
| TT 003 | | X | .0127 | 4-19-88 |
| | | | | |
| TT 002 | X | | .025 | 4-20-88 |
| | | | | |

**9 CERTIFICATION**

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED _____ CERTIFICATE NO. 1315
ISSUE DATE 10-15-88
FOR (TEST COMPANY) _____
ADDRESS

TRI-STATE TANK SERVICE
Luzon Oil Co., Inc.
STAT BOX 19
HURLEYVILLE, NEW YORK 12747 ZIP
(914) 434-7805

ST-6 (REV. 287)

# AINLAY TANK TIGHTNESS TEST NO. 2

T11 002 #4 FUEL OIL

**10 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 87 INS FILL PIPE LENGTH 38 INS

**11 WATER IN TANK**

(a) START WATER IN TANK 3 INS (c) END WATER IN TANK 3 INS
(b) START WATER IN TANK 117 GALS (d) END WATER IN TANK 117 GALS

**12 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,300 GALS (c) DEDUCT WATER IN TANK - 117 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 10,322 GALS (d) TOTAL PRODUCT VOL. + 10,210 GALS

T5108-89-1

**13 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = 1031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .031 = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**14 PRELIM TEST DATA**

(a) START TEMP CHECK 9:00 (AM)/PM (d) A.P.I. GRAVITY 25.5 AT 73 °F
(b) END TEMP CHECK ____ AM/PM (e) A.P.I. GRAVITY 24.7 AT 60 °F
(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .000 425 27

**15 TEST DATA**

(a) START TEST 12:00 AM/PM: END TEST ____ AM/PM: TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 12:00 | 74.7525 | 74.9961 | 82.0801 | 76.7885 | | | | | |
| 12:05 | 74.7475 | 74.9907 | 82.0641 | 76.6495 | | | | | |
| 12:10 | 74.7455 | 75.0005 | 82.0475 | 76.7028 | | | | | |
| 12:15 | 74.7495 | 75.0037 | 82.0331 | 76.6973 | | | | | |
| 12:20 | 74.7469 | 75.003 | 82.0184 | 76.6945 | | | | | |
| 12:25 | 74.7461 | 75.0125 | 82.0050 | 76.6957 | | | | | |
| 12:30 | 74.7417 | 75.0131 | 81.9886 | 76.6908 | | | | | |
| 12:35 | 74.7435 | 75.0107 | 81.9751 | 76.6866 | | | | | |
| 12:40 | 74.7535 | 75.0037 | 81.9671 | 76.6842 | | | | | |
| 12:45 | 74.7464 | 75.9907 | 81.9593 | 76.6265 | | | | | |
| 12:50 | 74.7651 | 75.9922 | 81.9815 | 76.6255 | | | | | |
| 12:55 | 74.7605 | 75.9914 | 81.9[illegible] | 76.6676 | | | | | |
| 1:00 | 74.7623 | 75.9532 | 81.[illegible] | 76.6632 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. − AVG START TEMP.) = 76632 − 76547 = +0.085 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL x TEMP. CHANGE x COEFF. EXP.
= 10,210 (15d) x +0.085 (15b) x .000 425 27 (14f) = +0.1954 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST = 01-.170 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] = -.195 + -.170 = +0.025 GALS.

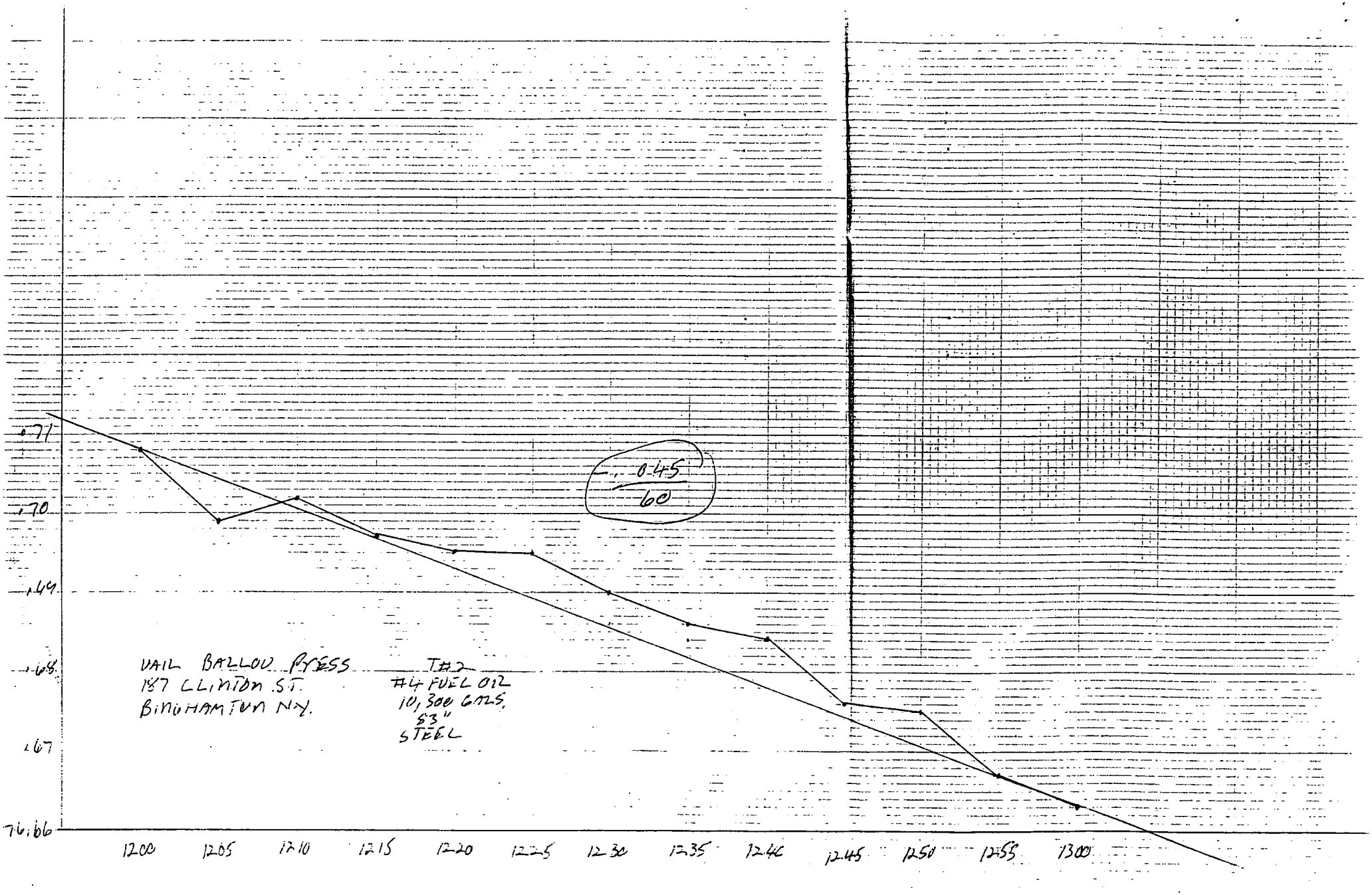
(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = .025 x 60 / 60 (15a) = .025 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC. BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

JOB ADDRESS

TEST COMPANY


.71
.70
.69
.68
.67
76.66
1200
1205
1210
1215
1220
1225
1230
1235
1240
1245
1250
1255
1300
0-45
60
VAIL BALLOU PRESS
187 CLINTON ST.
BINGHAMTON N.Y.
T#2
#4 FUEL OIL
10,300 GALS.
53"
STEEL

TIME 20:09:00
CH1 74.6597 DEG F
CH2 74.6951 DEG F
CH3 82.5716 DEG F
AVG 76.6585 DEG F

TIME 20:09:05
CH1 74.6548 DEG F
CH2 74.7512 DEG F
CH3 82.5799 DEG F
AVG 76.6887 DEG F

TIME 20:09:10
CH1 74.6853 DEG F
CH2 74.7876 DEG F
CH3 82.5969 DEG F
AVG 76.7167 DEG F

TIME 20:09:15
CH1 74.6971 DEG F
CH2 74.8014 DEG F
CH3 82.5970 DEG F
AVG 76.7231 DEG F

TIME 20:09:20
CH1 74.6996 DEG F
CH2 74.8187 DEG F
CH3 82.5669 DEG F
AVG 76.7285 DEG F

TIME 20:09:25
CH1 74.7014 DEG F
CH2 74.8332 DEG F
CH3 82.5570 DEG F
AVG 76.7340 DEG F

TIME 20:09:30
CH1 74.6926 DEG F
CH2 74.8465 DEG F
CH3 82.5475 DEG F
AVG 76.7354 DEG F

TIME 20:09:35
CH1 74.6901 DEG F
CH2 74.8560 DEG F
CH3 82.5337 DEG F
AVG 76.7344 DEG F

TIME 20:09:40
CH1 74.6821 DEG F
CH2 74.8516 DEG F
CH3 82.5090 DEG F
AVG 76.7251 DEG F

TIME 20:09:45
CH1 74.6302 DEG F
CH2 74.8456 DEG F
CH3 82.4871 DEG F
AVG 76.7141 DEG F

TIME 20:09:50
CH1 74.6816 DEG F
CH2 74.8436 DEG F
CH3 82.4733 DEG F
AVG 76.7094 DEG F

TIME 20:09:55
CH1 74.6823 DEG F
CH2 74.8398 DEG F
CH3 82.4557 DEG F
AVG 76.7069 DEG F

TIME 20:10:00
CH1 74.6874 DEG F
CH2 74.8250 DEG F
CH3 82.4438 DEG F
AVG 76.7023 DEG F

TIME 20:10:05
CH1 74.6775 DEG F
CH2 74.8294 DEG F
CH3 82.4272 DEG F
AVG 76.6925 DEG F

TIME 20:10:10
CH1 74.6726 DEG F
CH2 74.8304 DEG F
CH3 82.4148 DEG F
AVG 76.6885 DEG F

TIME 20:10:15
CH1 74.6788 DEG F
CH2 74.8394 DEG F
CH3 82.4029 DEG F
AVG 76.6904 DEG F

TIME 20:10:20
CH1 74.6893 DEG F
CH2 74.8628 DEG F
CH3 82.3915 DEG F
AVG 76.7021 DEG F

TIME 20:10:25
CH1 74.7026 DEG F
CH2 74.8921 DEG F
CH3 82.3804 DEG F
AVG 76.7185 DEG F

TIME 20:10:30
CH1 74.6988 DEG F
CH2 74.9051 DEG F
CH3 82.3631 DEG F
AVG 76.7200 DEG F

TIME 20:10:35
CH1 74.6898 DEG F
CH2 74.9155 DEG F
CH3 82.3417 DEG F
AVG 76.7163 DEG F

TIME 20:10:40
CH1 74.6814 DEG F
CH2 74.9260 DEG F
CH3 82.3233 DEG F
AVG 76.7147 DEG F

TIME 20:10:45
CH1 74.6784 DEG F
CH2 74.9410 DEG F
CH3 82.3026 DEG F
AVG 76.7165 DEG F

TIME 20:10:50
CH1 74.6734 DEG F
CH2 74.9493 DEG F
CH3 82.2828 DEG F
AVG 76.7151 DEG F

TIME 20:10:55
CH1 74.6777 DEG F
CH2 74.9578 DEG F
CH3 82.2706 DEG F
AVG 76.7179 DEG F

TIME 20:11:00
CH1 74.6798 DEG F
CH2 74.9644 DEG F
CH3 82.2515 DEG F
AVG 76.7174 DEG F

TIME 20:11:05
CH1 74.6805 DEG F
CH2 74.9715 DEG F
CH3 82.2363 DEG F
AVG 76.7164 DEG F

TIME 20:11:10
CH1 74.6836 DEG F
CH2 74.9762 DEG F
CH3 82.2238 DEG F
AVG 76.7174 DEG F

TIME 20:11:15
CH1 74.6967 DEG F
CH2 74.9777 DEG F
CH3 82.2134 DEG F
AVG 76.7171 DEG F

TIME 20:11:20
CH1 74.7019 DEG F
CH2 74.9706 DEG F
CH3 82.1978 DEG F
AVG 76.7113 DEG F

TIME 20:11:25
CH1 74.7117 DEG F
CH2 74.9736 DEG F
CH3 82.1835 DEG F
AVG 76.7112 DEG F

TIME 20:11:30
CH1 74.7105 DEG F
CH2 74.9876 DEG F
CH3 82.1580 DEG F
AVG 76.7125 DEG F

TIME 20:11:35
CH1 74.7236 DEG F
CH2 74.9771 DEG F
CH3 82.1464 DEG F
AVG 76.7071 DEG F

TIME 20:11:40
CH1 74.7310 DEG F
CH2 74.9679 DEG F
CH3 82.1266 DEG F
AVG 76.6994 DEG F

TIME 20:11:45
CH1 74.7362 DEG F
CH2 74.9708 DEG F
CH3 82.1049 DEG F
AVG 76.6969 DEG F

TIME 20:11:50
CH1 74.7440 DEG F
CH2 74.9926 DEG F
CH3 82.0917 DEG F
AVG 76.7077 DEG F

TIME 20:11:55
CH1 74.7502 DEG F
CH2 74.9997 DEG F
CH3 82.0837 DEG F
AVG 76.7100 DEG F

TIME 20:12:00
CH1 74.7525 DEG F
CH2 74.9961 DEG F
CH3 82.0801 DEG F
AVG 76.7085 DEG F

TIME 20:12:05
CH1 74.7475 DEG F
CH2 74.9907 DEG F
CH3 82.0641 DEG F
AVG 76.6995 DEG F

TIME 20:12:10
CH1 74.7485 DEG F
CH2 75.0005 DEG F
CH3 82.0475 DEG F
AVG 76.7028 DEG F

TIME 20:12:15
CH1 74.7495 DEG F
CH2 75.0037 DEG F
CH3 82.0331 DEG F
AVG 76.6973 DEG F

TIME 20:12:20
CH1 74.7469 DEG F
CH2 75.0037 DEG F
CH3 82.0184 DEG F
AVG 76.6951 DEG F

TIME 20:12:25
CH1 74.7461 DEG F
CH2 75.0125 DEG F
CH3 82.0050 DEG F
AVG 76.6957 DEG F

TIME 20:12:30
CH1 74.7417 DEG F
CH2 75.0131 DEG F
CH3 81.9886 DEG F
AVG 76.6908 DEG F

TIME 20:12:35
CH1 74.7435 DEG F
CH2 75.0107 DEG F
CH3 81.9751 DEG F
AVG 76.6866 DEG F

TIME 20:12:40
CH1 74.7535 DEG F
CH2 75.0039 DEG F
CH3 81.9671 DEG F
AVG 76.6842 DEG F

TIME 20:12:45
CH1 74.7664 DEG F
CH2 74.9907 DEG F
CH3 81.9583 DEG F
AVG 76.6765 DEG F

TIME 20:12:50
CH1 74.7651 DEG F
CH2 74.9922 DEG F
CH3 81.9415 DEG F
AVG 76.6755 DEG F

TIME 20:12:55
CH1 74.7605 DEG F
CH2 74.9914 DEG F
CH3 81.9255 DEG F
AVG 76.6676 DEG F

TIME 20:13:00
CH1 74.7623 DEG F
CH2 74.9832 DEG F
CH3 81.9179 DEG F
AVG 76.6632 DEG F

1

T#002

1

# AINLAY TANK TIGHTNESS TEST No. 1

TANK 3 #4 UNLEADED

**16 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 33 INS FILL PIPE LENGTH 37 INS

**17 WATER IN TANK**

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS

(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

**18 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,300 GALS (c) DEDUCT WATER IN TANK 10 GALS

(b) ACTUAL CAPACITY 10,322 GALS (d) TOTAL PRODUCT VOL. 10,327 GALS

(FROM TANK CHART)

**19 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS

(b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES)

DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.

(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)}$ = x 0.036 = _____ INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**20 PRELIM TEST DATA**

(a) START TEMP CHECK 1305 AM/PM (d) A.P.I. GRAVITY 25.8 AT 67 °F

(b) END TEMP CHECK 1700 AM/PM (e) A.P.I. GRAVITY 25.3 AT 60°F

(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .000427394

**21 TEST DATA**

(a) START TEST 16.00 AM/PM END TEST 17.00 AM/PM: TEST TIME = 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1600 | 65.8126 | 67.7404 | 68.1455 | 67.3760 | | | | | |
| 1605 | 65.8091 | 67.7409 | 68.1922 | 67.3701 | | | | | |
| 1610 | 65.9132 | 67.7427 | 68.1964 | 67.3746 | | | | | |
| 1615 | 65.8116 | 67.7396 | 68.1963 | 67.3725 | | | | | |
| 1620 | 65.8104 | 67.7386 | 68.1991 | 67.3726 | | | | | |
| 1625 | 65.8146 | 67.7430 | 68.2057 | 67.3773 | | | | | |
| 1630 | 65.8143 | 67.7418 | 68.2049 | 67.3772 | | | | | |
| 1635 | 65.8136 | 67.7407 | 68.2043 | 67.3767 | | | | | |
| 1641 | 65.8127 | 67.7403 | 68.2044 | 67.3726 | | | | | |
| 1645 | 65.8105 | 67.7382 | 68.2044 | 67.3750 | | | | | |
| 1650 | 65.8144 | 67.7424 | 68.2094 | 67.3789 | | | | | |
| 1655 | 65.8094 | 67.7366 | 68.2048 | 67.3726 | | | | | |
| 1700 | 65.8111 | 67.7345 | 68.2035 | 67.3730 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = 3730 − 13760 = +14.003 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.

= 10327 (18d) × 14.003 (21b) × .000427394 (20) = +10.0132 GALS.

(d) TOTAL LIQUID VOL (ADDED) SUBTRACTED AT END OF TEST ..... = 01-.140 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = +.013 + +.140 = 01-.127 GALS.

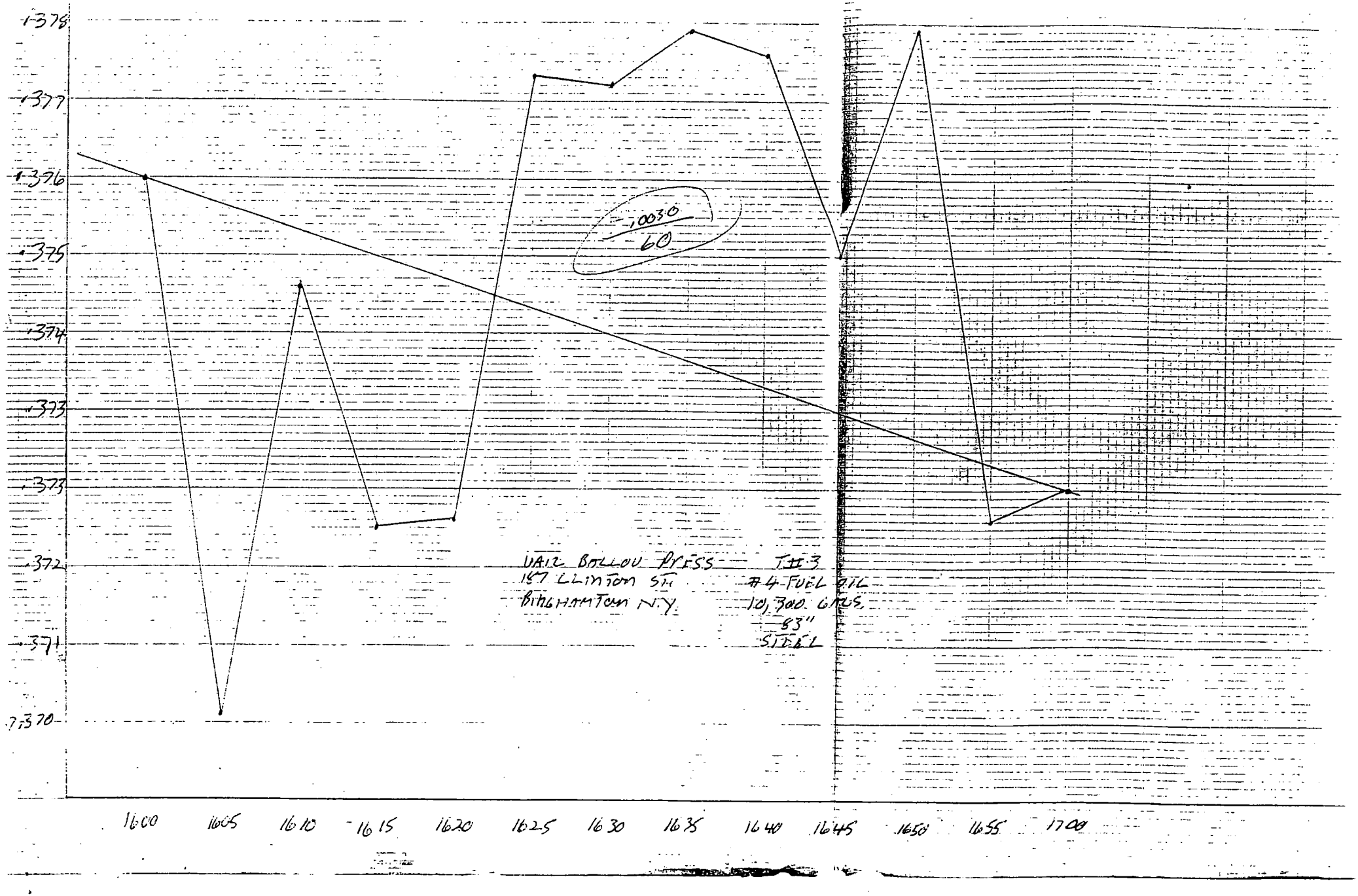
(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}}$ = $\frac{+.127 \times 60}{60}$ (21a) = +.127 G.P.H.

THIS LEAK RATE (DOES) / DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☐ / THE TANK IS NOT TIGHT ☒

TEST COMPANY _____

ADDRESS _____


1378
1377
1376
1375
1374
1373
1372
1371
1370
1600
1605
1610
1615
1620
1625
1630
1635
1640
1645
1650
1655
1700
10300
60
VAIL BALLOU PRESS
157 CLINTON ST.
BINGHAMTON N.Y.
III 3
#4 FUEL OIL
10,300 GALS.
83"
STEEL

TIME 19:13:05
CH1 65.7434 DEG F
CH2 67.6923 DEG F
CH3 68.0791 DEG F
AVG 67.3019 DEG F

TIME 19:13:10
CH1 65.7980 DEG F
CH2 67.7406 DEG F
CH3 68.1313 DEG F
AVG 67.3533 DEG F

TIME 19:13:15
CH1 65.8148 DEG F
CH2 67.7535 DEG F
CH3 68.1526 DEG F
AVG 67.3700 DEG F

TIME 19:13:20
CH1 65.8148 DEG F
CH2 67.7521 DEG F
CH3 68.1525 DEG F
AVG 67.3684 DEG F

TIME 19:13:25
CH1 65.8203 DEG F
CH2 67.7565 DEG F
CH3 68.1635 DEG F
AVG 67.3755 DEG F

TIME 19:13:30
CH1 65.8148 DEG F
CH2 67.7505 DEG F
CH3 68.1582 DEG F
AVG 67.3691 DEG F

TIME 19:13:35
CH1 65.8162 DEG F
CH2 67.7501 DEG F
CH3 68.1602 DEG F
AVG 67.3709 DEG F

TIME 19:13:40
CH1 65.8229 DEG F
CH2 67.7594 DEG F
CH3 68.1693 DEG F
AVG 67.3795 DEG F

TIME 19:13:45
CH1 65.8215 DEG F
CH2 67.7573 DEG F
CH3 68.1699 DEG F
AVG 67.3774 DEG F

TIME 19:14:35
CH1 65.8135 DEG F
CH2 67.7565 DEG F
CH3 68.1769 DEG F
AVG 67.3772 DEG F

TIME 19:14:40
CH1 65.8203 DEG F
CH2 67.7609 DEG F
CH3 68.1848 DEG F
AVG 67.3830 DEG F

TIME 19:14:45
CH1 65.8134 DEG F
CH2 67.7503 DEG F
CH3 68.1773 DEG F
AVG 67.3742 DEG F

TIME 19:14:50
CH1 65.8158 DEG F
CH2 67.7509 DEG F
CH3 68.1798 DEG F
AVG 67.3770 DEG F

TIME 19:14:55
CH1 65.8188 DEG F
CH2 67.7554 DEG F
CH3 68.1842 DEG F
AVG 67.3805 DEG F

TIME 19:15:00
CH1 65.8187 DEG F
CH2 67.7570 DEG F
CH3 68.1884 DEG F
AVG 67.3788 DEG F

TIME 19:15:05
CH1 65.8192 DEG F
CH2 67.7566 DEG F
CH3 68.1881 DEG F
AVG 67.3825 DEG F

TIME 19:15:10
CH1 65.8119 DEG F
CH2 67.7517 DEG F
CH3 68.1860 DEG F
AVG 67.3768 DEG F

TIME 19:15:15
CH1 65.8166 DEG F
CH2 67.7532 DEG F
CH3 68.1890 DEG F
AVG 67.3796 DEG F

TIME 19:15:20
CH1 65.8147 DEG F
CH2 67.7492 DEG F
CH3 68.1876 DEG F
AVG 67.3769 DEG F

TIME 19:15:25
CH1 65.8132 DEG F
CH2 67.7489 DEG F
CH3 68.1896 DEG F
AVG 67.3759 DEG F

TIME 19:15:30
CH1 65.8116 DEG F
CH2 67.7465 DEG F
CH3 68.1876 DEG F
AVG 67.3764 DEG F

TIME 19:15:35
CH1 65.8171 DEG F
CH2 67.7502 DEG F
CH3 68.1944 DEG F
AVG 67.3794 DEG F

TIME 19:15:40
CH1 65.8103 DEG F
CH2 67.7450 DEG F
CH3 68.1892 DEG F
AVG 67.3750 DEG F

TIME 19:15:45
CH1 65.8113 DEG F
CH2 67.7460 DEG F
CH3 68.1928 DEG F
AVG 67.3736 DEG F

TIME 19:15:50
CH1 65.8111 DEG F
CH2 67.7431 DEG F
CH3 68.1922 DEG F
AVG 67.3750 DEG F

TIME 19:15:55
CH1 65.8068 DEG F
CH2 67.7402 DEG F
CH3 68.1894 DEG F
AVG 67.3713 DEG F

TIME 19:16:00
CH1 65.8126 DEG F
CH2 67.7444 DEG F
CH3 68.1958 DEG F
AVG 67.3760 DEG F

TIME 19:16:05
CH1 65.8096 DEG F
CH2 67.7409 DEG F
CH3 68.1922 DEG F
AVG 67.3701 DEG F

TIME 19:16:10
CH1 65.8132 DEG F
CH2 67.7427 DEG F
CH3 68.1969 DEG F
AVG 67.3746 DEG F

TIME 19:16:15
CH1 65.8116 DEG F
CH2 67.7394 DEG F
CH3 68.1963 DEG F
AVG 67.3725 DEG F

TIME 19:16:20
CH1 65.8104 DEG F
CH2 67.7386 DEG F
CH3 68.1991 DEG F
AVG 67.3726 DEG F

TIME 19:16:25
CH1 65.8146 DEG F
CH2 67.7430 DEG F
CH3 68.2057 DEG F
AVG 67.3773 DEG F

TIME 19:16:30
CH1 65.8143 DEG F
CH2 67.7418 DEG F
CH3 68.2049 DEG F
AVG 67.3772 DEG F

TIME 19:16:35
CH1 65.8139 DEG F
CH2 67.7407 DEG F
CH3 68.2043 DEG F
AVG 67.3779 DEG F

TIME 19:16:40
CH1 65.8127 DEG F
CH2 67.7403 DEG F
CH3 68.2049 DEG F
AVG 67.3776 DEG F

TIME 19:16:45
CH1 65.8105 DEG F
CH2 67.7382 DEG F
CH3 68.2044 DEG F
AVG 67.3750 DEG F

TIME 19:13:50
CH1 65.8211 DEG F
CH2 67.7560 DEG F
CH3 68.1687 DEG F
AVG 67.3792 DEG F

TIME 19:13:55
CH1 65.8144 DEG F
CH2 67.7541 DEG F
CH3 68.1661 DEG F
AVG 67.3739 DEG F

TIME 19:14:00
CH1 65.8182 DEG F
CH2 67.7585 DEG F
CH3 68.1735 DEG F
AVG 67.3786 DEG F

TIME 19:14:05
CH1 65.8200 DEG F
CH2 67.7588 DEG F
CH3 68.1732 DEG F
AVG 67.3787 DEG F

TIME 19:14:10
CH1 65.8175 DEG F
CH2 67.7562 DEG F
CH3 68.1772 DEG F
AVG 67.3780 DEG F

TIME 19:14:15
CH1 65.8169 DEG F
CH2 67.7566 DEG F
CH3 68.1771 DEG F
AVG 67.3782 DEG F

TIME 19:14:20
CH1 65.8178 DEG F
CH2 67.7570 DEG F
CH3 68.1788 DEG F
AVG 67.3789 DEG F

TIME 19:14:25
CH1 65.8130 DEG F
CH2 67.7529 DEG F
CH3 68.1755 DEG F
AVG 67.3746 DEG F

TIME 19:14:30
CH1 65.8191 DEG F
CH2 67.7577 DEG F
CH3 68.1792 DEG F
AVG 67.3797 DEG F

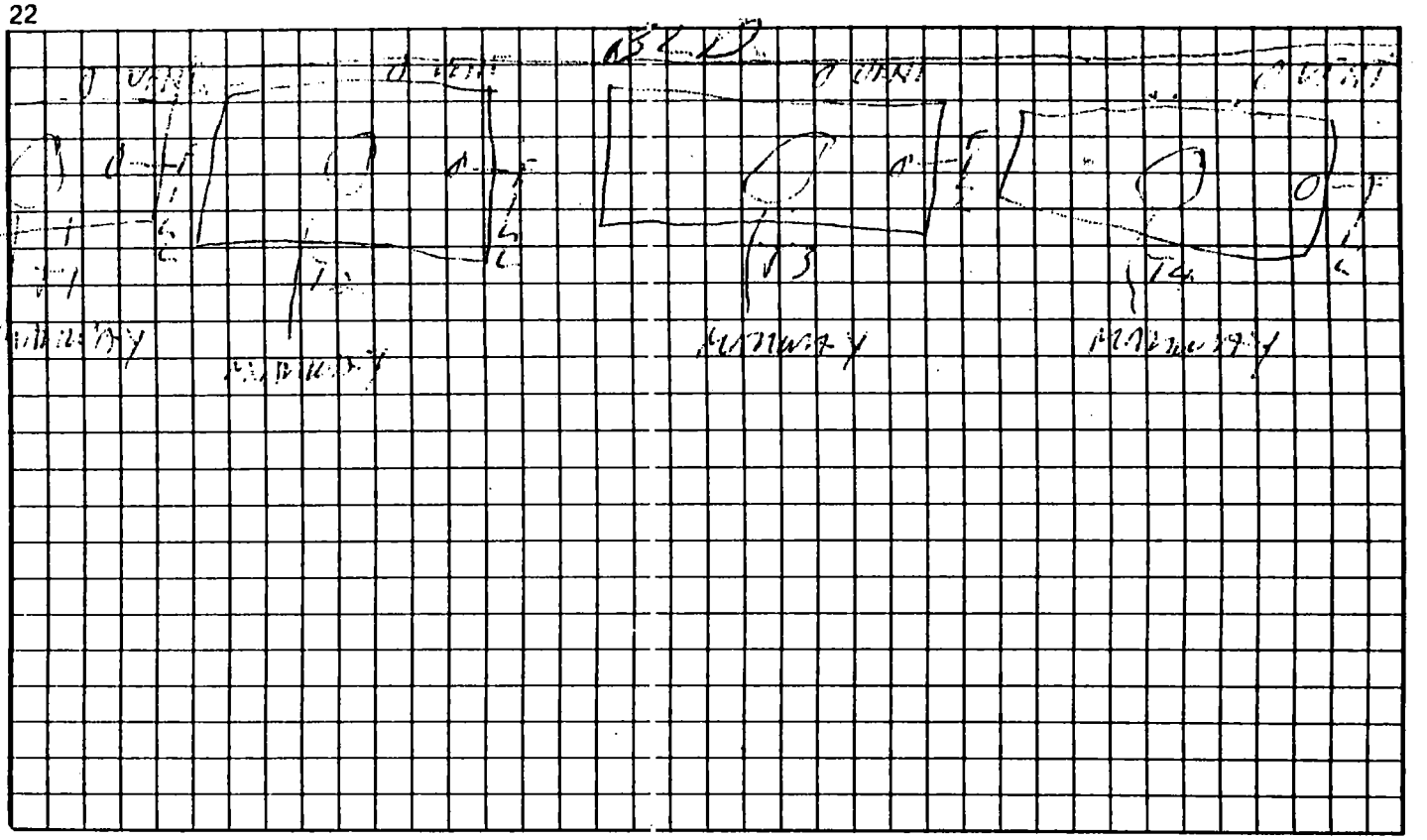
TIME 19:16:50
CH1 65.8149 DEG F
CH2 67.7424 DEG F
CH3 68.2094 DEG F
AVG 67.3779 DEG F

TIME 19:16:55
CH1 65.8099 DEG F
CH2 67.7366 DEG F
CH3 68.2048 DEG F
AVG 67.3726 DEG F

TIME 19:17:00
CH1 65.8111 DEG F
CH2 67.7345 DEG F
CH3 68.2038 DEG F
AVG 67.3730 DEG F

# TEST SITE LAYOUT

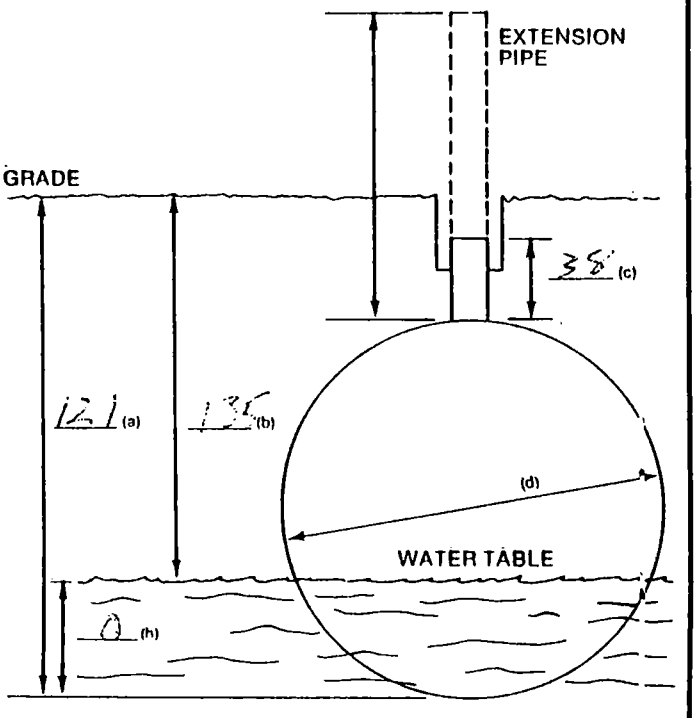
22



TEST COMPANY

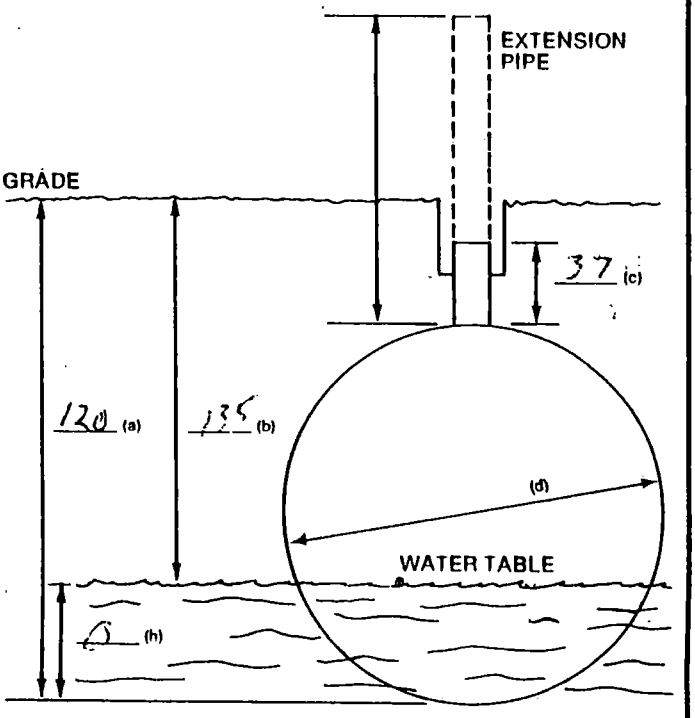
23

## TEST 1: TANK DIMENSIONS




TANK IDENT. T1 002

## TEST 2: TANK DIMENSIONS



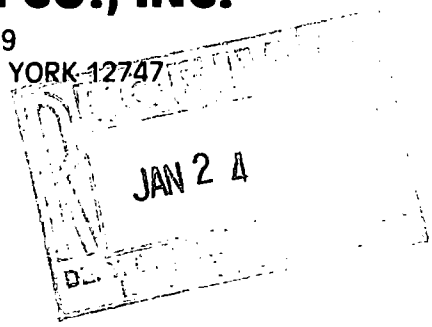

TANK IDENT. T1 003

ADDRESS

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805


October 2, 1989

Vail Ballou Press
187 Clinton Street
Bighamton, New York 13902

Attention: Bob Kalka

Re: Underground tank testing, as per 6NYCRR 613.5(a).

The National Fire Protection Association's criteria for a tight tank system is a system with a rate of leak less than +/- .050 gal/hr. for tank systems 12,500 gallons or less. These are calculated, mathematical tolerances only and are not meant to indicate the permission of any leak.

Criteria for tightness test [6NYCRR 613.5(a)(6)] "A tightness test is a test acceptable to the department which will determine if a tank and piping system is tight or not tight. The test must be capable of detecting a tank or piping leak as small as five hundredths (.05) of a gallon in one hour accounting for variables such as vapor pockets, thermal expansion of product, temperature stratification, groundwater level, evaporation, pressure and end deflection."

During the ***Ainley Tank 'Tegrity Test*** propane gas bubbles are introduced one (1) inch below the product level through a 1/4" tube. The pressure required to introduce bubbles varies with changes in product level, and is related to volume changes. Pressure changes are measured by a manometer type coil (slope tube). A slight liquid level change in the tank is exaggerated approximately fifty (50) times when transmitted from bubble tube to slope tube.

# TRI-STATE TANK SERVICE

# LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805


**Facility:** Vail Ballou Press
187 Clinton Street
Bighamton, N.Y.

**PBS #:** 182230

**Tank #s:** **#001** - 10,300 gallon **#003** - 10,300 gallon
**#002** - 10,300 gallon **#004** - 10,300 gallon

**Test Date: 9-19-89**

Tank system #003 showed a rate of leak of +.127 gallons per hour. Tank system failed the test.

**Test Date: 9-20-89**

Tank system #002 showed a rate of leak of -.025 gallons per hour. Tank system test tight.

**Test Date: 9-22-89**

Tank system #004 showed a rate of leak of +.046 gallons per hour. Tank system tested tight.

**Test Date: 9-25-89** **Test Method: Petro-Tite**

Tank system #001 showed a rate of leak of -.092 gallons per hour. Tank system failed the test.

**New York State Regulations require notification within 2 hours of tank test failure.**

**Spill Notification Number:** 8906060

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805


**A tank system test failure indicates the following:**

a) The tank may be leaking.
b) The attached piping and/or fittings may be leaking.
c) Both the tank and the associated piping may be leaking.

In some cases unstable air along the tank top may cause an erroneous volume reading. We recommend re-testing be performed with tank top excavated to allow isolation of tank from piping and tank top modifications permitting the evacuation of any entrapped air or product vapor.

Enclosed are two (2) copies of this report and the test data. One is for your records and the other is to be sent to New York State D.E.C.

Please be advised that you will need to re-test,abandon, repair or remove this leaking tank as directed by New York State DEC in order to clear your record of the spill.

If you have any questions or need additional information, please contact me.

Very truly yours,

Robert B. Halprin,
Luzon Oil Co., Inc.

/enclosures

RBH:amd

SOILTEST®

# AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

**1 TANK OPERATOR**

NAME / ADDRESS / PHONE

UNCLE BALLOU PRESS
187 CLINTON ST. BINGHAMTON N.Y.

**2 TANKS TO BE TESTED**

| IDENTIFICATION | CAPACITY—GALS. | MANUFACTURER | STEEL/FIBRGLS. | AGE—YRS. |
|---|---|---|---|---|
| TH 0004 | 10,300 | ? | STEEL | ? |
| TH 001 | 10,300 | ? | STEEL | ? |

**3 WATER TABLE**

DISTANCE FROM GRADE TO WATER -135 INS.

**4 TANK FILL-UP**

TANK WILL BE FILLED 5TH (TIME) ON 9/20/89
EXTRA 5 GALS PRODUCT AVAILABLE FROM TRI-STATE TANK
FILL UP TO BE ARRANGED BY MR. TRI-STATE TANK PHONE ( )
CONTACT AT STORAGE TERMINAL IS MR. PHONE ( )

**5 OUTSIDE CONTRACTORS**

NAME / ADDRESS / PHONE

**6 OFFICIALS TO BE CONTACTED**

NAME / AUTHORITY / PHONE

P.F.C. 1-800-457-7362

**7 SPECIAL NOTES OR PRECAUTIONS**

PBS # 182230

SPILL # 890660

**8 TEST RESULTS**

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

| TANK IDENT | TANK IS TIGHT | TANK IS NOT TIGHT | LEAK RATE G. P. H. | TEST DATE |
|---|---|---|---|---|
| TH 004 | X | | +.046 | 9-22-89 |
| TH 001 | | X | +.092 | 9-25-89 |

**9 CERTIFICATION**

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED [signature] CERTIFICATE NO. 1315
ISSUE DATE 10-13-89
FOR (TEST COMPANY) TRI-STATE TANK SERVICE
ADDRESS Lutch Oil Co., Inc.
P.O. Box 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7806
ZIP

ST-6 (REV. 2/87)

# AINLAY TANK TIGHTNESS TEST No. 1

**10 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 83 INS FILL PIPE LENGTH 40 INS

**11 WATER IN TANK**

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

**12 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,300 GALS (c) DEDUCT WATER IN TANK +0 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 10,327 GALS (d) TOTAL PRODUCT VOL. 10,327 GALS

10,327 + 5

**13 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)}$ = $\frac{0 \times 0.036}{.031}$ = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**14 PRELIM TEST DATA**

(a) START TEMP CHECK 805 AM/PM (d) A.P.I. GRAVITY 25.9 AT 66 °F
(b) END TEMP CHECK ____ AM/PM (e) A.P.I. GRAVITY 25.6 AT 60 °F
(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .000425 10

**15 TEST DATA**

(a) START TEST 1005 AM/PM: END TEST 1105 AM/PM: TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1005 | 65.6975 | 65.9453 | 64.1140 | 65.3262 | | | | | |
| 1010 | 65.6975 | 65.9408 | 64.1052 | 65.3213 | | | | | |
| 1015 | 65.6542 | 65.9369 | 64.1049 | 65.3144 | | | | | |
| 1020 | 65.6459 | 65.9413 | 64.1103 | 65.3232 | | | | | |
| 1025 | 65.6512 | 65.9360 | 64.1055 | 65.3171 | | | | | |
| 1030 | 65.6704 | 65.9340 | 64.1101 | 65.3158 | | | | | |
| 1035 | 65.6730 | 65.9354 | 64.1144 | 65.3167 | | | | | |
| 1040 | 65.6685 | 65.9327 | 64.1142 | 65.3139 | | | | | |
| 1045 | 65.6695 | 65.9323 | 64.1132 | 65.3126 | | | | | |
| 1050 | 65.6701 | 65.9292 | 64.1067 | 65.3123 | | | | | |
| 1055 | 65.6725 | 65.9289 | 64.0983 | 65.3080 | | | | | |
| 1100 | 65.6636 | 65.9201 | 64.0838 | 65.2974 | | | | | |
| 1105 | 65.6667 | 65.9242 | 64.0624 | 65.3062 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. − AVG START TEMP.) = 65.3262 − 65.3262 = ±0.0000 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.

= 10,327 (12d) × 0.0000 (15b) × .000425 10 (15f) = ±0.0000 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST = ±0 GALS.

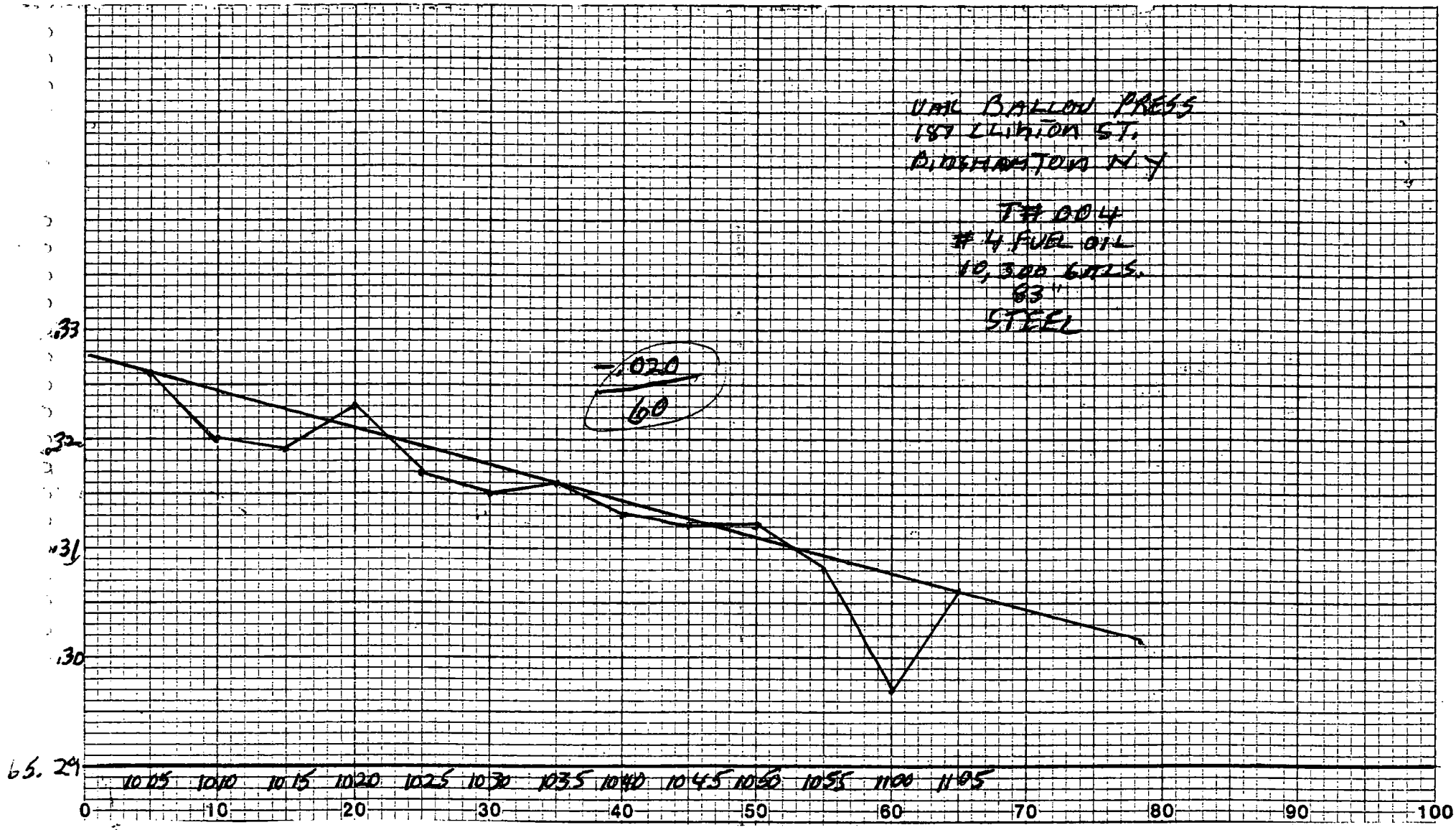
(e) VOL. CHANGE NOT DUE TO TEMP ((c) ± (d)) = 0.0000 ± 0 = ±0.0000 GALS.

(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}}$ = $\frac{0.0000 \times 60}{60}$ = 0.0000 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC.; BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

JOB ADDRESS ____ DATE 1/1 TESTER ____ TEST COMPANY ____


UMC BALLOW PRESS
187 LIBERTY ST.
BINGHAMTON N.Y.
T# 004
#4 FUEL OIL
10,300 GALS.
63'
STEEL
-.020
60
.33
.32
.31
.30
65.29
10 05 10 10 10 15 10 20 10 25 10 30 10 35 10 40 10 45 10 50 10 55 11 00 11 05
0 10 20 30 40 50 60 70 80 90 100

| | | |
|---|---|---|
| TIME | 22:08:05 | |
| CH1 | 65.9211 | DEG F |
| CH2 | 65.8230 | DEG F |
| CH3 | 64.2644 | DEG F |
| AVG | 65.4586 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:10 | |
| CH1 | 65.8448 | DEG F |
| CH2 | 65.7952 | DEG F |
| CH3 | 64.2290 | DEG F |
| AVG | 65.4174 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:15 | |
| CH1 | 65.8044 | DEG F |
| CH2 | 65.7823 | DEG F |
| CH3 | 64.2211 | DEG F |
| AVG | 65.3986 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:20 | |
| CH1 | 65.7756 | DEG F |
| CH2 | 65.7757 | DEG F |
| CH3 | 64.2188 | DEG F |
| AVG | 65.3860 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:25 | |
| CH1 | 65.7663 | DEG F |
| CH2 | 65.7731 | DEG F |
| CH3 | 64.2134 | DEG F |
| AVG | 65.3816 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:30 | |
| CH1 | 65.7583 | DEG F |
| CH2 | 65.7670 | DEG F |
| CH3 | 64.1997 | DEG F |
| AVG | 65.3761 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:35 | |
| CH1 | 65.7520 | DEG F |
| CH2 | 65.7629 | DEG F |
| CH3 | 64.1864 | DEG F |
| AVG | 65.3669 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:40 | |
| CH1 | 65.7482 | DEG F |
| CH2 | 65.7583 | DEG F |
| CH3 | 64.1785 | DEG F |
| AVG | 65.3628 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:45 | |
| CH1 | 65.7544 | DEG F |
| CH2 | 65.7623 | DEG F |
| CH3 | 64.1832 | DEG F |
| AVG | 65.3678 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:50 | |
| CH1 | 65.7460 | DEG F |
| CH2 | 65.7573 | DEG F |
| CH3 | 64.1742 | DEG F |
| AVG | 65.3603 | DEG F |

| | | |
|---|---|---|
| TIME | 22:08:55 | |
| CH1 | 65.7490 | DEG F |
| CH2 | 65.7610 | DEG F |
| CH3 | 64.1706 | DEG F |
| AVG | 65.3628 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:00 | |
| CH1 | 65.7470 | DEG F |
| CH2 | 65.7605 | DEG F |
| CH3 | 64.1672 | DEG F |
| AVG | 65.3596 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:05 | |
| CH1 | 65.7411 | DEG F |
| CH2 | 65.7571 | DEG F |
| CH3 | 64.1646 | DEG F |
| AVG | 65.3568 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:10 | |
| CH1 | 65.7300 | DEG F |
| CH2 | 65.7523 | DEG F |
| CH3 | 64.1637 | DEG F |
| AVG | 65.3518 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:15 | |
| CH1 | 65.7230 | DEG F |
| CH2 | 65.7509 | DEG F |
| CH3 | 64.1694 | DEG F |
| AVG | 65.3497 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:20 | |
| CH1 | 65.7217 | DEG F |
| CH2 | 65.7537 | DEG F |
| CH3 | 64.1657 | DEG F |
| AVG | 65.3501 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:25 | |
| CH1 | 65.7175 | DEG F |
| CH2 | 65.7517 | DEG F |
| CH3 | 64.1512 | DEG F |
| AVG | 65.3421 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:30 | |
| CH1 | 65.7191 | DEG F |
| CH2 | 65.7510 | DEG F |
| CH3 | 64.1441 | DEG F |
| AVG | 65.3423 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:35 | |
| CH1 | 65.7193 | DEG F |
| CH2 | 65.7500 | DEG F |
| CH3 | 64.1440 | DEG F |
| AVG | 65.3425 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:40 | |
| CH1 | 65.7196 | DEG F |
| CH2 | 65.7493 | DEG F |
| CH3 | 64.1441 | DEG F |
| AVG | 65.3414 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:45 | |
| CH1 | 65.7181 | DEG F |
| CH2 | 65.7455 | DEG F |
| CH3 | 64.1412 | DEG F |
| AVG | 65.3391 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:50 | |
| CH1 | 65.7201 | DEG F |
| CH2 | 65.7455 | DEG F |
| CH3 | 64.1413 | DEG F |
| AVG | 65.3394 | DEG F |

| | | |
|---|---|---|
| TIME | 22:09:55 | |
| CH1 | 65.7225 | DEG F |
| CH2 | 65.7482 | DEG F |
| CH3 | 64.1353 | DEG F |
| AVG | 65.3409 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:00 | |
| CH1 | 65.7041 | DEG F |
| CH2 | 65.7440 | DEG F |
| CH3 | 64.1192 | DEG F |
| AVG | 65.3297 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:05 | |
| CH1 | 65.6975 | DEG F |
| CH2 | 65.7453 | DEG F |
| CH3 | 64.1140 | DEG F |
| AVG | 65.3262 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:10 | |
| CH1 | 65.6875 | DEG F |
| CH2 | 65.7408 | DEG F |
| CH3 | 64.1052 | DEG F |
| AVG | 65.3203 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:15 | |
| CH1 | 65.6842 | DEG F |
| CH2 | 65.7409 | DEG F |
| CH3 | 64.1049 | DEG F |
| AVG | 65.3194 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:20 | |
| CH1 | 65.6889 | DEG F |
| CH2 | 65.7413 | DEG F |
| CH3 | 64.1103 | DEG F |
| AVG | 65.3232 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:25 | |
| CH1 | 65.6812 | DEG F |
| CH2 | 65.7360 | DEG F |
| CH3 | 64.1085 | DEG F |
| AVG | 65.3171 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:30 | |
| CH1 | 65.6761 | DEG F |
| CH2 | 65.7340 | DEG F |
| CH3 | 64.1101 | DEG F |
| AVG | 65.3150 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:35 | |
| CH1 | 65.6730 | DEG F |
| CH2 | 65.7359 | DEG F |
| CH3 | 64.1144 | DEG F |
| AVG | 65.3167 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:40 | |
| CH1 | 65.6689 | DEG F |
| CH2 | 65.7327 | DEG F |
| CH3 | 64.1142 | DEG F |
| AVG | 65.3139 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:45 | |
| CH1 | 65.6695 | DEG F |
| CH2 | 65.7323 | DEG F |
| CH3 | 64.1132 | DEG F |
| AVG | 65.3126 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:50 | |
| CH1 | 65.6701 | DEG F |
| CH2 | 65.7292 | DEG F |
| CH3 | 64.1067 | DEG F |
| AVG | 65.3123 | DEG F |

| | | |
|---|---|---|
| TIME | 22:10:55 | |
| CH1 | 65.6725 | DEG F |
| CH2 | 65.7289 | DEG F |
| CH3 | 64.0983 | DEG F |
| AVG | 65.3086 | DEG F |

| | | |
|---|---|---|
| TIME | 22:11:00 | |
| CH1 | 65.6636 | DEG F |
| CH2 | 65.7201 | DEG F |
| CH3 | 64.0838 | DEG F |
| AVG | 65.2974 | DEG F |

| | | |
|---|---|---|
| TIME | 22:11:05 | |
| CH1 | 65.6667 | DEG F |
| CH2 | 65.7292 | DEG F |
| CH3 | 64.0924 | DEG F |
| AVG | 65.3062 | DEG F |

T # 004

# AINLAY TANK TIGHTNESS TEST No.

#4 #1, #4 FUEL OIL

**16 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 83 INS FILL PIPE LENGTH 37 INS

**17 WATER IN TANK**

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

**18 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,300 GALS (c) DEDUCT WATER IN TANK TOP-OFF +5 +0 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 10,322 GALS (d) TOTAL PRODUCT VOL. 10,327 GALS

**19 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = .7031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .7031 = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**20 PRELIM TEST DATA**

(a) START TEMP CHECK 10:30 AM/PM (d) A.P.I. GRAVITY 25.3 AT 68 °F
(b) END TEMP CHECK ____ AM/PM (e) A.P.I. GRAVITY 24.9 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED ½ HRS (f) COEFF. OF EXPANSION .00042562 T

**21 TEST DATA**

(a) START TEST ____ AM/PM END TEST ____ AM/PM: TEST TIME ____ MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1320 | 69,237 | 71,2916 | 70.0218 | 70.5587 | | | | | |
| 1325 | 696150 | 712894 | 700132 | 705557 | | | | | |
| 1330 | 695976 | 712860 | 70.0027 | 705434 | | | | | |
| 1335 | 695942 | 712877 | 70.0030 | 705473 | | | | | |
| 1340 | 695852 | 712876 | 70.0025 | 705432 | | | | | |
| 1345 | 695845 | 712808 | 69.9937 | 705392 | | | | | |
| 1350 | 695914 | 712774 | 699955 | 705369 | | | | | |
| 1355 | 695853 | 712720 | 699946 | 705323 | | | | | |
| 1400 | 695801 | 712742 | 699955 | 705327 | | | | | |
| 1405 | 695755 | 712666 | 699950 | 705256 | | | | | |
| 1410 | 695669 | 712645 | 70.0013 | 705277 | | | | | |
| 1415 | 695621 | 712625 | 699927 | 705237 | | | | | |
| 1420 | 695736 | 712638 | 70.0010 | 705273 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = .5273 - .5587 = +14.0314 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.
= 10,327(18d) × .0314(21b) × .00042562 (20) = +138 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = -1,230 GALS.

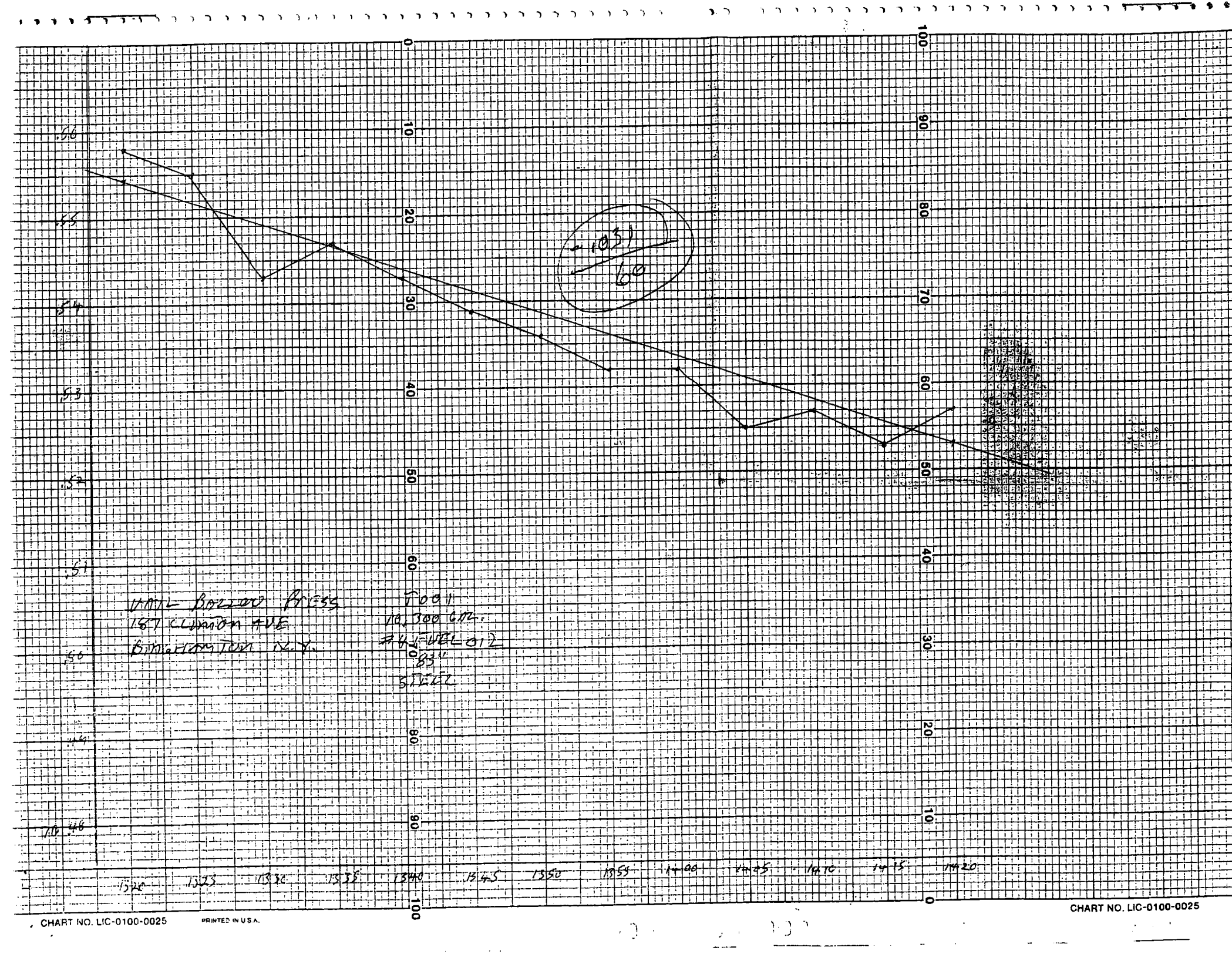
(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = +138 + +1,230 = -1,092 GALS.

(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = +1,092 x 60 / 60 (21a) = +1,092 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☐ / THE TANK IS NOT TIGHT ☒

JOB ____ ADDRESS ____ DATE 1 / 1 TESTER ____ TEST COMPANY ____

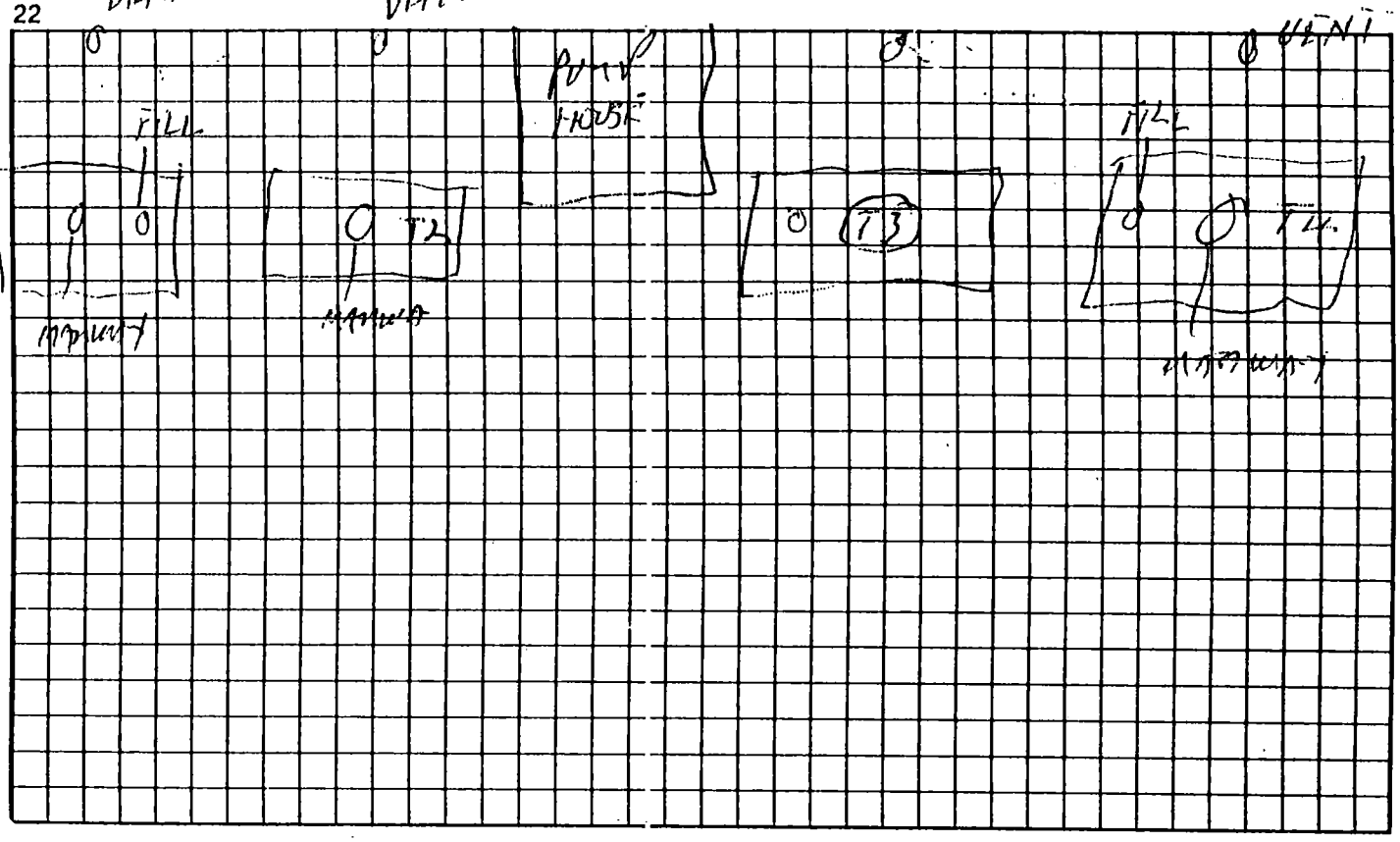

1051
60
MAIL BOILER PRESS
167 CLINTON AVE
BINGHAMTON N.Y.
TOOL
10,300 GAL.
#4-WELD
STEEL
CHART NO. LIC-0100-0025
PRINTED IN U.S.A.
CHART NO. LIC-0100-0025

| TIME | CH1 | CH2 | CH3 | AVG |
|---|---|---|---|---|
| 25:10:30 | 69.4853 DEG F | 71.0357 DEG F | 69.8335 DEG F | 70.3479 DEG F |
| 25:10:35 | 69.6503 DEG F | 71.2167 DEG F | 69.9848 DEG F | 70.5181 DEG F |
| 25:10:40 | 69.6883 DEG F | 71.2660 DEG F | 70.0142 DEG F | 70.5607 DEG F |
| 25:10:45 | 69.7183 DEG F | 71.2904 DEG F | 70.0223 DEG F | 70.5825 DEG F |
| 25:10:50 | 69.7291 DEG F | 71.3005 DEG F | 70.0210 DEG F | 70.5878 DEG F |
| 25:10:55 | 69.7234 DEG F | 71.3034 DEG F | 70.0189 DEG F | 70.5901 DEG F |
| 25:11:00 | 69.7362 DEG F | 71.3082 DEG F | 70.0197 DEG F | 70.5941 DEG F |
| 25:11:05 | 69.7147 DEG F | 71.3099 DEG F | 70.0192 DEG F | 70.5910 DEG F |
| 25:11:10 | 69.7183 DEG F | 71.3030 DEG F | 70.0148 DEG F | 70.5850 DEG F |
| 25:11:15 | 69.7094 DEG F | 71.2939 DEG F | 70.0112 DEG F | 70.5796 DEG F |
| 25:11:20 | 69.7232 DEG F | 71.2953 DEG F | 70.0147 DEG F | 70.5843 DEG F |
| 25:11:25 | 69.7163 DEG F | 71.2978 DEG F | 70.0163 DEG F | 70.5835 DEG F |
| 25:11:30 | 69.7072 DEG F | 71.2969 DEG F | 70.0141 DEG F | 70.5791 DEG F |
| 25:11:35 | 69.7073 DEG F | 71.2975 DEG F | 70.0160 DEG F | 70.5802 DEG F |
| 25:11:40 | 69.7047 DEG F | 71.3016 DEG F | 70.0220 DEG F | 70.5832 DEG F |
| 25:11:45 | 69.7041 DEG F | 71.3006 DEG F | 70.0278 DEG F | 70.5848 DEG F |
| 25:11:50 | 69.6924 DEG F | 71.3002 DEG F | 70.0345 DEG F | 70.5823 DEG F |
| 25:11:55 | 69.6838 DEG F | 71.2982 DEG F | 70.0346 DEG F | 70.5807 DEG F |
| 25:12:00 | 69.6880 DEG F | 71.3007 DEG F | 70.0364 DEG F | 70.5821 DEG F |
| 25:12:05 | 69.7023 DEG F | 71.3061 DEG F | 70.0393 DEG F | 70.5887 DEG F |
| 25:12:10 | 69.6907 DEG F | 71.3065 DEG F | 70.0391 DEG F | 70.5844 DEG F |
| 25:12:15 | 69.6703 DEG F | 71.3030 DEG F | 70.0345 DEG F | 70.5784 DEG F |
| 25:12:20 | 69.6855 DEG F | 71.3045 DEG F | 70.0357 DEG F | 70.5838 DEG F |
| 25:12:25 | 69.6874 DEG F | 71.3010 DEG F | 70.0338 DEG F | 70.5813 DEG F |
| 25:12:30 | 69.6871 DEG F | 71.3006 DEG F | 70.0338 DEG F | 70.5821 DEG F |
| 25:12:35 | 69.6585 DEG F | 71.2978 DEG F | 70.0346 DEG F | 70.5732 DEG F |
| 25:12:40 | 69.6582 DEG F | 71.3003 DEG F | 70.0335 DEG F | 70.5743 DEG F |
| 25:12:45 | 69.6421 DEG F | 71.2968 DEG F | 70.0332 DEG F | 70.5691 DEG F |
| 25:12:50 | 69.6478 DEG F | 71.2972 DEG F | 70.0335 DEG F | 70.5699 DEG F |
| 25:12:55 | 69.6538 DEG F | 71.2945 DEG F | 70.0329 DEG F | 70.5714 DEG F |
| 25:13:00 | 69.6505 DEG F | 71.2907 DEG F | 70.0284 DEG F | 70.5659 DEG F |
| 25:13:05 | 69.6235 DEG F | 71.2927 DEG F | 70.0297 DEG F | 70.5610 DEG F |
| 25:13:10 | 69.6305 DEG F | 71.2926 DEG F | 70.0269 DEG F | 70.5642 DEG F |
| 25:13:15 | 69.6389 DEG F | 71.2949 DEG F | 70.0267 DEG F | 70.5652 DEG F |
| 25:13:20 | 69.6237 DEG F | 71.2916 DEG F | 70.0218 DEG F | 70.5587 DEG F |
| 25:13:25 | 69.6180 DEG F | 71.2894 DEG F | 70.0132 DEG F | 70.5557 DEG F |
| 25:13:30 | 69.5976 DEG F | 71.2860 DEG F | 70.0027 DEG F | 70.5439 DEG F |
| 25:13:35 | 69.5942 DEG F | 71.2877 DEG F | 70.0030 DEG F | 70.5473 DEG F |
| 25:13:40 | 69.5882 DEG F | 71.2876 DEG F | 70.0023 DEG F | 70.5432 DEG F |
| 25:13:45 | 69.5905 DEG F | 71.2800 DEG F | 69.9937 DEG F | 70.5392 DEG F |
| 25:13:50 | 69.5919 DEG F | 71.2774 DEG F | 69.9955 DEG F | 70.5369 DEG F |
| 25:13:55 | 69.5853 DEG F | 71.2720 DEG F | 69.9946 DEG F | 70.5323 DEG F |
| 25:14:00 | 69.5801 DEG F | 71.2742 DEG F | 69.9955 DEG F | 70.5327 DEG F |
| 25:14:05 | 69.5755 DEG F | 71.2666 DEG F | 69.9950 DEG F | 70.5256 DEG F |
| 25:14:10 | 69.5668 DEG F | 71.2685 DEG F | 70.0019 DEG F | 70.5277 DEG F |
| 25:14:15 | 69.5721 DEG F | 71.2625 DEG F | 69.9977 DEG F | 70.5237 DEG F |
| 25:14:20 | 69.5736 DEG F | 71.2638 DEG F | 70.0010 DEG F | 70.5273 DEG F |

T#001

# TEST SITE LAYOUT

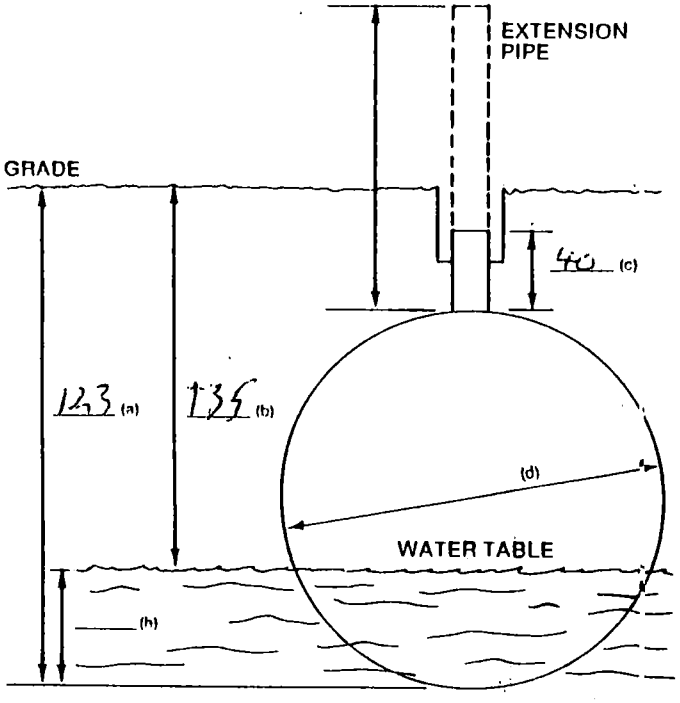
22




TESTER
TEST COMPANY

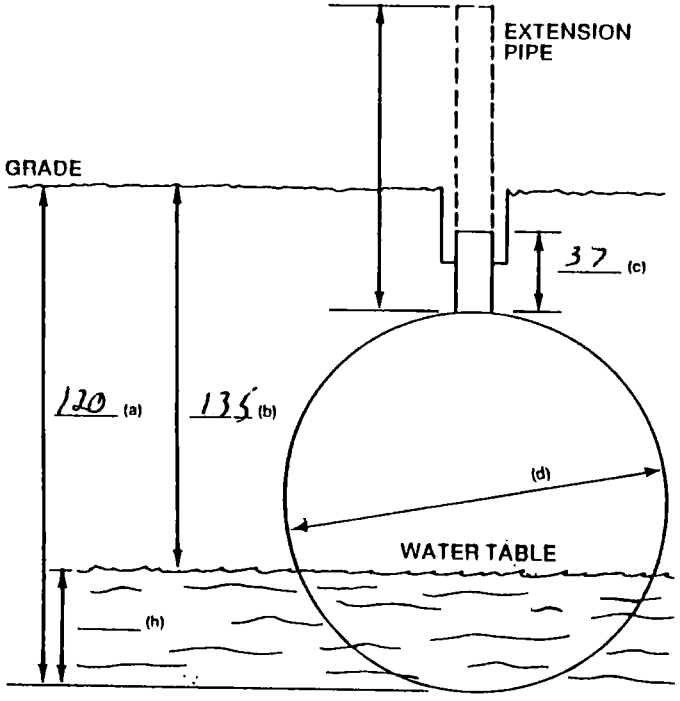
23

## TEST 1: TANK DIMENSIONS




TANK IDENT. T4 004

## TEST 2: TANK DIMENSIONS




TANK IDENT. T4 001

DATE / /

JOB ADDRESS

SOILTEST®

# AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

**1 TANK OPERATOR**

NAME / ADDRESS / PHONE

VAIL BALLOU PRESS
187 CLINTON ST BINGHAMTON N.Y.

**2 TANKS TO BE TESTED**

| IDENTIFICATION | CAPACITY—GALS. | MANUFACTURER | STEEL/FIBRGLS. | AGE—YRS. |
|---|---|---|---|---|
| 1T 003 | 10,300 | ? | STEEL | ? |
| 1T 002 | 10,300 | ? | STEEL | ? |
| | | | | |
| | | | | |
| | | | | |

**3 WATER TABLE**

DISTANCE FROM GRADE TO WATER 135 INS.

**4 TANK FILL-UP**

T3 TANK WILL BE FILLED 1 hour (TIME) ON 1 1 1T2 Fill to 90 4-19-89
EXTRA 5 GALS PRODUCT AVAILABLE FROM VAIL BALLOU
FILL UP TO BE ARRANGED BY MR. BOB KALKA PHONE (607) 723-2481
CONTACT AT STORAGE TERMINAL IS MR. _____ PHONE ( ).

**5 OUTSIDE CONTRACTORS**

NAME / ADDRESS / PHONE

**6 OFFICIALS TO BE CONTACTED**

NAME / AUTHORITY / PHONE

U.P.L.C. 1-800-457-7362

**7 SPECIAL NOTES OR PRECAUTIONS**

PO'S 1T 182230

SPILL 1T 890606O

**8 TEST RESULTS**

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

| TANK IDENT | TANK IS TIGHT | TANK IS NOT TIGHT | LEAK RATE G. P. H. | TEST DATE |
|---|---|---|---|---|
| 1T 003 | | X | +.127 | 4-19-89 |
| | | | | |
| 1T 002 | X | | -.025 | 4-20-89 |
| | | | | |

**9 CERTIFICATION**

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED _____ CERTIFICATE NO. 1315
ISSUE DATE 10-15-89

FOR (TEST COMPANY) _____
ADDRESS _____

TRI-STATE TANK SERVICE
Luzon Oil Co., Inc.
Star Box 19
HURLEYVILLE, NEW YORK 12747 ZIP
(914) 434-7805

ST-8 (REV. 2/87)

# AINLAY TANK TIGHTNESS TEST NO. [illegible]

T-1. 002 T-4 FUEL OIL

| | |
|---|---|
| 10 TANK I.D. | INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)<br>TANK DIAMETER 8'3" INS FILL PIPE LENGTH 38' INS |
| 11 WATER IN TANK | (a) START WATER IN TANK 3 INS (c) END WATER IN TANK 3 INS<br>(b) START WATER IN TANK 117 GALS (d) END WATER IN TANK 117 GALS |
| 12 PRODUCT VOLUME | T-1 10,000 GAL<br>T-2 10,000 GAL<br>T-3 10,000 GAL<br>T-4 10,000 GAL<br>(a) NOMINAL CAPACITY 10,300 GALS (c) DEDUCT WATER IN TANK -117 GALS<br>(b) ACTUAL CAPACITY 10,322 GALS (d) TOTAL PRODUCT VOL. +10,210 GALS<br>(FROM TANK CHART) |
| 13 FILL PIPE EXTENSION | (a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS<br>(b) DENSITY OF TANK PRODUCT = 1031 (w) LB/CU. IN. (FROM TABLES)<br>DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.<br>(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .031 = 0 INS<br>NOTE:<br>TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL. |
| 14 PRELIM TEST DATA | (a) START TEMP CHECK 9:00 AM/PM (d) A.P.I. GRAVITY 25.5 AT 73 °F<br>(b) END TEMP CHECK ____ AM/PM (e) A.P.I. GRAVITY 24.7 AT 60 °F<br>(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .000 425 27 |
| 15 TEST DATA | (a) START TEST 12:00 AM/PM: END TEST ____ AM/PM: TEST TIME 60 MINS. |

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 12:00 | 74.7525 | 74.9961 | 82.0801 | 76.7085 | | | | | |
| 12:05 | 74.7475 | 74.9907 | 82.0641 | 76.6995 | | | | | |
| 12:10 | 74.7455 | 75.0015 | 82.0475 | 76.7028 | | | | | |
| 12:15 | 74.7495 | 75.0037 | 82.0331 | 76.6973 | | | | | |
| 12:20 | 74.7469 | 75.0037 | 82.0184 | 76.6951 | | | | | |
| 12:25 | 74.7461 | 75.0125 | 82.0050 | 76.6957 | | | | | |
| 12:30 | 74.7417 | 75.0131 | 81.9886 | 76.6908 | | | | | |
| 12:35 | 74.7435 | 75.0107 | 81.9781 | 76.6866 | | | | | |
| 12:40 | 74.7435 | 75.0037 | 81.9671 | 76.6842 | | | | | |
| 12:45 | 74.7464 | 75.0007 | 81.9593 | 76.6865 | | | | | |
| 12:50 | 74.7651 | 75.0022 | 81.9715 | 76.6955 | | | | | |
| 12:55 | 74.7605 | 75.0014 | 81.9765 | 76.6926 | | | | | |
| 13:00 | 74.7623 | 75.0032 | 81.9749 | 76.6932 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. − AVG START TEMP.) = .6932 − .7085 = +15.045 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL x TEMP. CHANGE x COEFF. EXP.

= 10,210 (12d) x +15.045 (15b) x .000 425 27 (14f) = +10.1954 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = 81-.120 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP ((c) + (d)) ..... = 5.195 + 5.120 = +10.025 GALS.

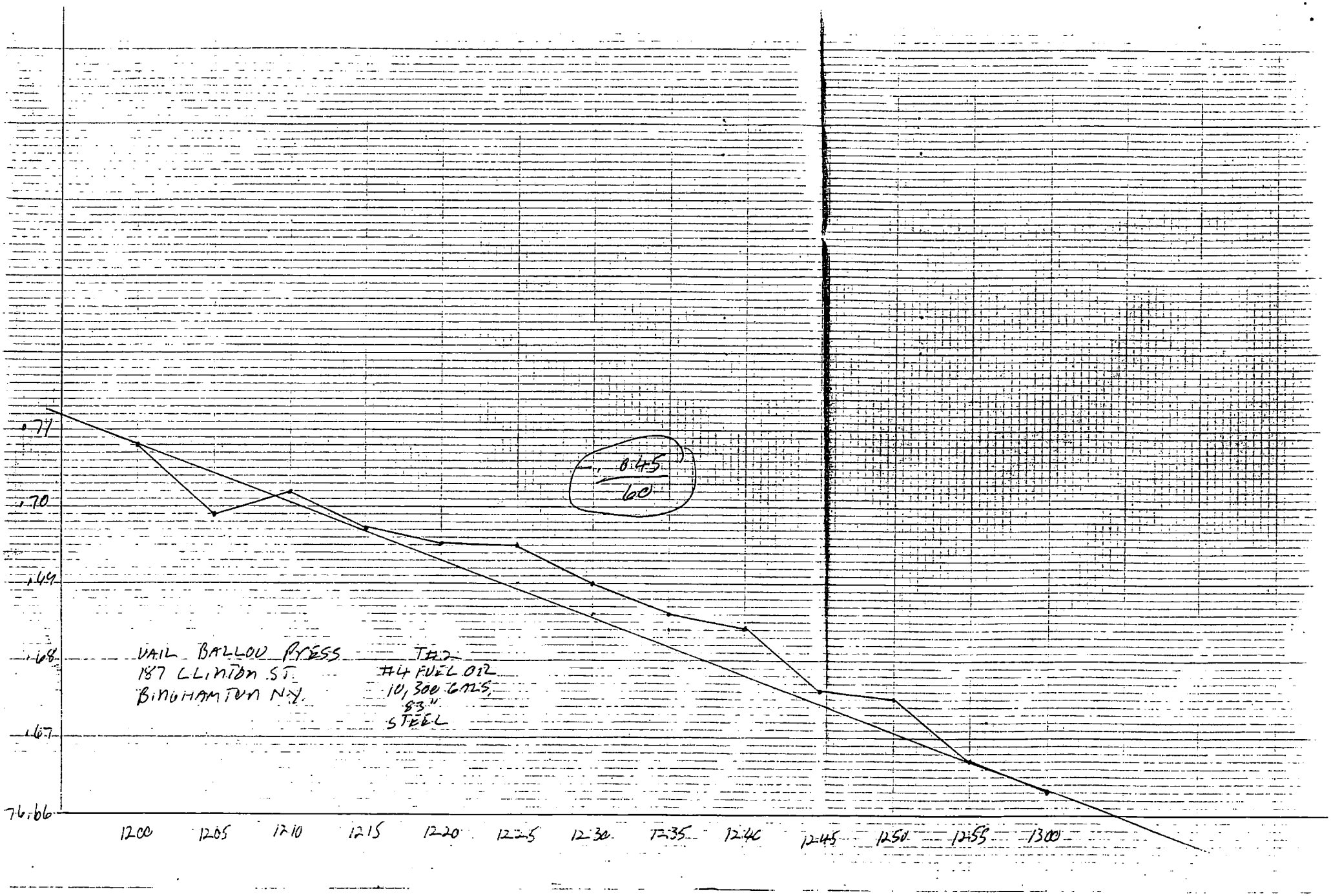
(f) LEAK RATE = (e) X 60 / TIME OF TEST (MINS) = 10.025 X 60 / 60 (15a) = 10.025 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC. BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

JOB ADDRESS

TEST CONTRACTOR


.74
.70
.69
.68
.67
76.66
8:45
60
VAIL BALLOU PRESS
187 CLINTON ST.
BINGHAMTON N.Y.
T#2
#4 FUEL OIL
10,300 GALS.
83"
STEEL
1200
1205
1210
1215
1220
1225
1230
1235
1240
1245
1250
1255
1300

| | | |
|---|---|---|
| TIME | 20:09:00 | |
| CH1 | 74.6597 | DEG F |
| CH2 | 74.6951 | DEG F |
| CH3 | 82.5716 | DEG F |
| AVG | 76.6585 | DEG F |
| TIME | 20:09:05 | |
| CH1 | 74.6648 | DEG F |
| CH2 | 74.7512 | DEG F |
| CH3 | 82.5799 | DEG F |
| AVG | 76.6887 | DEG F |
| TIME | 20:09:10 | |
| CH1 | 74.6853 | DEG F |
| CH2 | 74.7876 | DEG F |
| CH3 | 82.5969 | DEG F |
| AVG | 76.7167 | DEG F |
| TIME | 20:09:15 | |
| CH1 | 74.6971 | DEG F |
| CH2 | 74.8014 | DEG F |
| CH3 | 82.5870 | DEG F |
| AVG | 76.7231 | DEG F |
| TIME | 20:09:20 | |
| CH1 | 74.6996 | DEG F |
| CH2 | 74.8187 | DEG F |
| CH3 | 82.5669 | DEG F |
| AVG | 76.7285 | DEG F |
| TIME | 20:09:25 | |
| CH1 | 74.7014 | DEG F |
| CH2 | 74.8332 | DEG F |
| CH3 | 82.5570 | DEG F |
| AVG | 76.7340 | DEG F |
| TIME | 20:09:30 | |
| CH1 | 74.6926 | DEG F |
| CH2 | 74.8465 | DEG F |
| CH3 | 82.5475 | DEG F |
| AVG | 76.7354 | DEG F |
| TIME | 20:09:35 | |
| CH1 | 74.6901 | DEG F |
| CH2 | 74.8560 | DEG F |
| CH3 | 82.5337 | DEG F |
| AVG | 76.7344 | DEG F |
| TIME | 20:09:40 | |
| CH1 | 74.6821 | DEG F |
| CH2 | 74.8516 | DEG F |
| CH3 | 82.5090 | DEG F |
| AVG | 76.7251 | DEG F |

| | | |
|---|---|---|
| TIME | 20:09:45 | |
| CH1 | 74.6302 | DEG F |
| CH2 | 74.8456 | DEG F |
| CH3 | 82.4871 | DEG F |
| AVG | 76.7141 | DEG F |
| TIME | 20:09:50 | |
| CH1 | 74.6816 | DEG F |
| CH2 | 74.8436 | DEG F |
| CH3 | 82.4733 | DEG F |
| AVG | 76.7094 | DEG F |
| TIME | 20:09:55 | |
| CH1 | 74.6823 | DEG F |
| CH2 | 74.8398 | DEG F |
| CH3 | 82.4557 | DEG F |
| AVG | 76.7069 | DEG F |
| TIME | 20:10:00 | |
| CH1 | 74.6874 | DEG F |
| CH2 | 74.8850 | DEG F |
| CH3 | 82.4438 | DEG F |
| AVG | 76.7023 | DEG F |
| TIME | 20:10:05 | |
| CH1 | 74.6775 | DEG F |
| CH2 | 74.8294 | DEG F |
| CH3 | 82.4272 | DEG F |
| AVG | 76.6925 | DEG F |
| TIME | 20:10:10 | |
| CH1 | 74.6726 | DEG F |
| CH2 | 74.8304 | DEG F |
| CH3 | 82.4148 | DEG F |
| AVG | 76.6885 | DEG F |
| TIME | 20:10:15 | |
| CH1 | 74.6788 | DEG F |
| CH2 | 74.8394 | DEG F |
| CH3 | 82.4029 | DEG F |
| AVG | 76.6904 | DEG F |
| TIME | 20:10:20 | |
| CH1 | 74.6893 | DEG F |
| CH2 | 74.8628 | DEG F |
| CH3 | 82.3915 | DEG F |
| AVG | 76.7021 | DEG F |
| TIME | 20:10:25 | |
| CH1 | 74.7026 | DEG F |
| CH2 | 74.8921 | DEG F |
| CH3 | 82.3804 | DEG F |
| AVG | 76.7185 | DEG F |

| | | |
|---|---|---|
| TIME | 20:10:30 | |
| CH1 | 74.6988 | DEG F |
| CH2 | 74.9051 | DEG F |
| CH3 | 82.3631 | DEG F |
| AVG | 76.7200 | DEG F |
| TIME | 20:10:35 | |
| CH1 | 74.6898 | DEG F |
| CH2 | 74.9155 | DEG F |
| CH3 | 82.3417 | DEG F |
| AVG | 76.7163 | DEG F |
| TIME | 20:10:40 | |
| CH1 | 74.6814 | DEG F |
| CH2 | 74.9260 | DEG F |
| CH3 | 82.3233 | DEG F |
| AVG | 76.7147 | DEG F |
| TIME | 20:10:45 | |
| CH1 | 74.6784 | DEG F |
| CH2 | 74.9410 | DEG F |
| CH3 | 82.3026 | DEG F |
| AVG | 76.7165 | DEG F |
| TIME | 20:10:50 | |
| CH1 | 74.6734 | DEG F |
| CH2 | 74.9493 | DEG F |
| CH3 | 82.2828 | DEG F |
| AVG | 76.7151 | DEG F |
| TIME | 20:10:55 | |
| CH1 | 74.6777 | DEG F |
| CH2 | 74.9578 | DEG F |
| CH3 | 82.2706 | DEG F |
| AVG | 76.7179 | DEG F |
| TIME | 20:11:00 | |
| CH1 | 74.6798 | DEG F |
| CH2 | 74.9644 | DEG F |
| CH3 | 82.2515 | DEG F |
| AVG | 76.7174 | DEG F |
| TIME | 20:11:05 | |
| CH1 | 74.6805 | DEG F |
| CH2 | 74.9715 | DEG F |
| CH3 | 82.2363 | DEG F |
| AVG | 76.7164 | DEG F |
| TIME | 20:11:10 | |
| CH1 | 74.6836 | DEG F |
| CH2 | 74.9762 | DEG F |
| CH3 | 82.2238 | DEG F |
| AVG | 76.7174 | DEG F |

| | | |
|---|---|---|
| TIME | 20:11:15 | |
| CH1 | 74.6967 | DEG F |
| CH2 | 74.9777 | DEG F |
| CH3 | 82.2134 | DEG F |
| AVG | 76.7171 | DEG F |
| TIME | 20:11:20 | |
| CH1 | 74.7019 | DEG F |
| CH2 | 74.9706 | DEG F |
| CH3 | 82.1978 | DEG F |
| AVG | 76.7113 | DEG F |
| TIME | 20:11:25 | |
| CH1 | 74.7117 | DEG F |
| CH2 | 74.9736 | DEG F |
| CH3 | 82.1835 | DEG F |
| AVG | 76.7112 | DEG F |
| TIME | 20:11:30 | |
| CH1 | 74.7105 | DEG F |
| CH2 | 74.9876 | DEG F |
| CH3 | 82.1580 | DEG F |
| AVG | 76.7125 | DEG F |
| TIME | 20:11:35 | |
| CH1 | 74.7236 | DEG F |
| CH2 | 74.9771 | DEG F |
| CH3 | 82.1464 | DEG F |
| AVG | 76.7071 | DEG F |
| TIME | 20:11:40 | |
| CH1 | 74.7310 | DEG F |
| CH2 | 74.9679 | DEG F |
| CH3 | 82.1266 | DEG F |
| AVG | 76.6994 | DEG F |
| TIME | 20:11:45 | |
| CH1 | 74.7362 | DEG F |
| CH2 | 74.9708 | DEG F |
| CH3 | 82.1049 | DEG F |
| AVG | 76.6969 | DEG F |
| TIME | 20:11:50 | |
| CH1 | 74.7440 | DEG F |
| CH2 | 74.9926 | DEG F |
| CH3 | 82.0917 | DEG F |
| AVG | 76.7077 | DEG F |
| TIME | 20:11:55 | |
| CH1 | 74.7502 | DEG F |
| CH2 | 74.9997 | DEG F |
| CH3 | 82.0837 | DEG F |
| AVG | 76.7100 | DEG F |

| | | |
|---|---|---|
| TIME | 20:12:00 | |
| CH1 | 74.7525 | DEG F |
| CH2 | 74.9961 | DEG F |
| CH3 | 82.0801 | DEG F |
| AVG | 76.7085 | DEG F |
| TIME | 20:12:05 | |
| CH1 | 74.7475 | DEG F |
| CH2 | 74.9907 | DEG F |
| CH3 | 82.0641 | DEG F |
| AVG | 76.6995 | DEG F |
| TIME | 20:12:10 | |
| CH1 | 74.7485 | DEG F |
| CH2 | 75.0005 | DEG F |
| CH3 | 82.0475 | DEG F |
| AVG | 76.7028 | DEG F |
| TIME | 20:12:15 | |
| CH1 | 74.7495 | DEG F |
| CH2 | 75.0037 | DEG F |
| CH3 | 82.0331 | DEG F |
| AVG | 76.6973 | DEG F |
| TIME | 20:12:20 | |
| CH1 | 74.7469 | DEG F |
| CH2 | 75.0037 | DEG F |
| CH3 | 82.0184 | DEG F |
| AVG | 76.6951 | DEG F |
| TIME | 20:12:25 | |
| CH1 | 74.7461 | DEG F |
| CH2 | 75.0125 | DEG F |
| CH3 | 82.0050 | DEG F |
| AVG | 76.6957 | DEG F |
| TIME | 20:12:30 | |
| CH1 | 74.7417 | DEG F |
| CH2 | 75.0131 | DEG F |
| CH3 | 81.9886 | DEG F |
| AVG | 76.6908 | DEG F |
| TIME | 20:12:35 | |
| CH1 | 74.7435 | DEG F |
| CH2 | 75.0107 | DEG F |
| CH3 | 81.9751 | DEG F |
| AVG | 76.6866 | DEG F |
| TIME | 20:12:40 | |
| CH1 | 74.7535 | DEG F |
| CH2 | 75.0039 | DEG F |
| CH3 | 81.9671 | DEG F |
| AVG | 76.6842 | DEG F |

| | | |
|---|---|---|
| TIME | 20:12:45 | |
| CH1 | 74.7664 | DEG F |
| CH2 | 74.9907 | DEG F |
| CH3 | 81.9583 | DEG F |
| AVG | 76.6765 | DEG F |
| TIME | 20:12:50 | |
| CH1 | 74.7651 | DEG F |
| CH2 | 74.9922 | DEG F |
| CH3 | 81.9415 | DEG F |
| AVG | 76.6755 | DEG F |
| TIME | 20:12:55 | |
| CH1 | 74.7605 | DEG F |
| CH2 | 74.9914 | DEG F |
| CH3 | 81.9255 | DEG F |
| AVG | 76.6676 | DEG F |
| TIME | 20:13:00 | |
| CH1 | 74.7623 | DEG F |
| CH2 | 74.9832 | DEG F |
| CH3 | 81.9179 | DEG F |
| AVG | 76.6632 | DEG F |

T#002

# AINLAY TANK TIGHTNESS TEST No. 1

TANK 3 #4 PREM. DSL

**16 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 95 INS FILL PIPE LENGTH 37 INS

**17 WATER IN TANK**

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

**18 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,320 GALS (c) DEDUCT WATER IN TANK 0 GALS
(b) ACTUAL CAPACITY 10,322 GALS (d) TOTAL PRODUCT VOL. 10,322 GALS
(FROM TANK CHART)

**19 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)}$ = $\frac{\times 0.036}{}$ = _____ INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**20 PRELIM TEST DATA**

(a) START TEMP CHECK 1305 AM/PM (d) A.P.I. GRAVITY 25.8 AT 67 °F
(b) END TEMP CHECK 1700 AM/PM (e) A.P.I. GRAVITY 25.3 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .000427394

**21 TEST DATA**

(a) START TEST 16.00 AM/PM END TEST 17.00 AM/PM: TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1600 | 65812 | 677404 | 681955 | 673760 | | | | | |
| 1605 | 658094 | 677409 | 681922 | 673701 | | | | | |
| 1610 | 658132 | 677423 | 681964 | 673746 | | | | | |
| 1615 | 658116 | 677396 | 681963 | 673725 | | | | | |
| 1620 | 658104 | 677386 | 681991 | 673727 | | | | | |
| 1625 | 658146 | 677430 | 682057 | 673773 | | | | | |
| 1630 | 658143 | 677418 | 682045 | 673772 | | | | | |
| 1635 | 658136 | 677417 | 682043 | 673777 | | | | | |
| 1640 | 658127 | 677403 | 682043 | 673726 | | | | | |
| 1645 | 658105 | 677387 | 682046 | 673750 | | | | | |
| 1650 | 658149 | 677424 | 682046 | 673773 | | | | | |
| 1655 | 658094 | 677366 | 682045 | 673726 | | | | | |
| 1700 | 658111 | 677345 | 682033 | 673730 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = 3730 − 3760 = +10.005 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.
= 10,322 (18d) × .005 (21b) × .000427394 (20f) = +10.0132 GALS.

(d) TOTAL LIQUID VOL (ADDED) SUBTRACTED AT END OF TEST ..... = 01-.140 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = .013 + .140 = 01-.127 GALS.

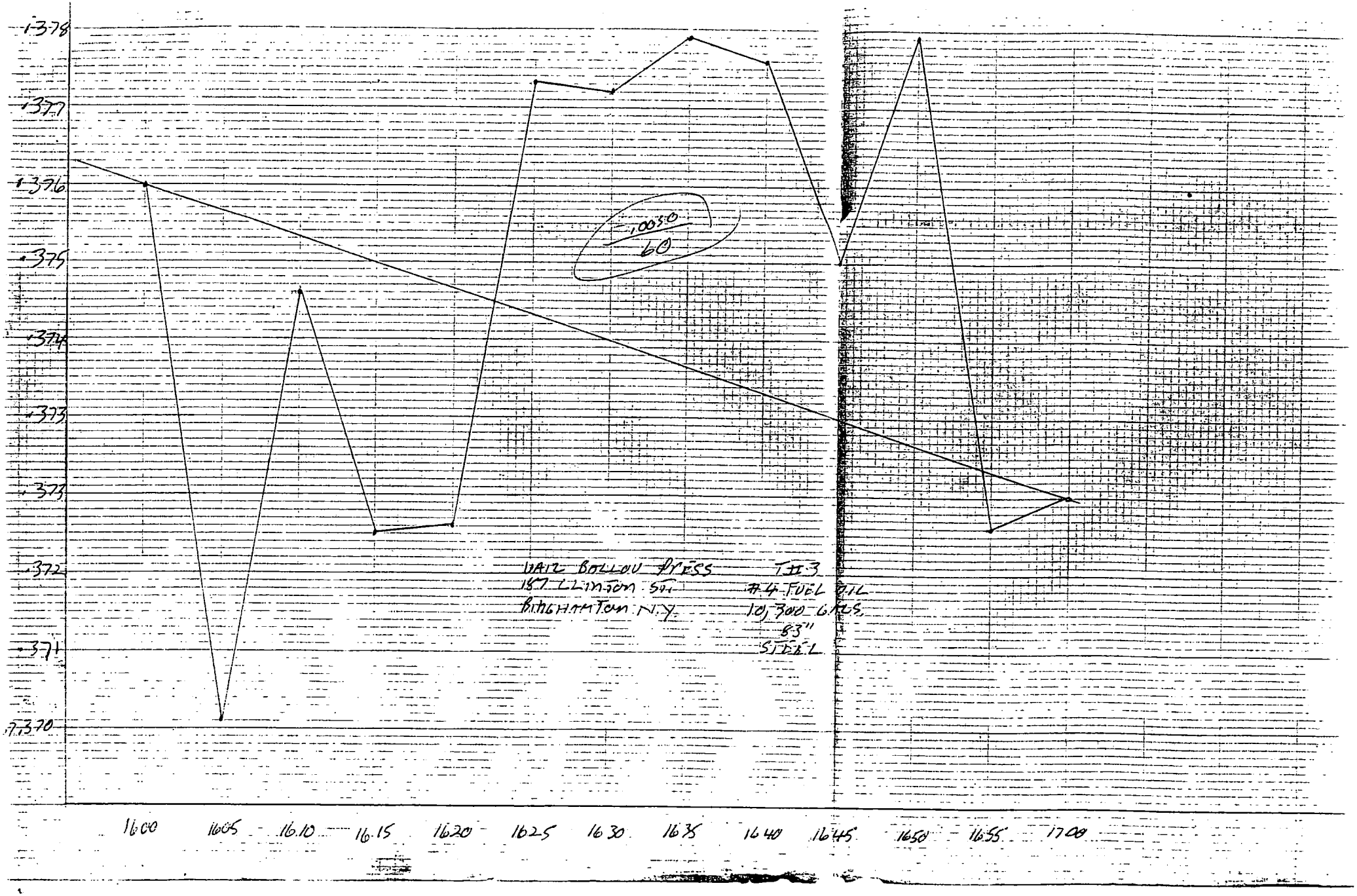
(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}}$ = $\frac{+.127 \times 60}{60}$ (21a) = .127 G.P.H.

THIS LEAK RATE (DOES) / DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☐ / THE TANK IS NOT TIGHT ☒

TEST COMPANY

ADDRESS


1378
1377
1376
1375
1374
1373
1372
1371
1370
1600
1605
16.10
16.15
1620
1625
1630
1635
1640
1645
1650
1655
1700
1003.0
60
DAIL BOILOU PRESS
187 CLINTON ST.
BINGHAMTON N.Y.
III 3
#4 FUEL OIL
10,300 GALS.
83"
STEEL

TIME 19:13:05
CH1 65.7434 DEG F
CH2 67.6923 DEG F
CH3 68.0791 DEG F
AVG 67.3019 DEG F

TIME 19:13:10
CH1 65.7980 DEG F
CH2 67.7406 DEG F
CH3 68.1313 DEG F
AVG 67.3533 DEG F

TIME 19:13:15
CH1 65.8148 DEG F
CH2 67.7535 DEG F
CH3 68.1526 DEG F
AVG 67.3700 DEG F

TIME 19:13:20
CH1 65.8148 DEG F
CH2 67.7521 DEG F
CH3 68.1525 DEG F
AVG 67.3684 DEG F

TIME 19:13:25
CH1 65.8203 DEG F
CH2 67.7565 DEG F
CH3 68.1635 DEG F
AVG 67.3755 DEG F

TIME 19:13:30
CH1 65.8148 DEG F
CH2 67.7505 DEG F
CH3 68.1582 DEG F
AVG 67.3691 DEG F

TIME 19:13:35
CH1 65.8162 DEG F
CH2 67.7501 DEG F
CH3 68.1602 DEG F
AVG 67.3709 DEG F

TIME 19:13:40
CH1 65.8229 DEG F
CH2 67.7594 DEG F
CH3 68.1693 DEG F
AVG 67.3795 DEG F

TIME 19:13:45
CH1 65.8215 DEG F
CH2 67.7573 DEG F
CH3 68.1699 DEG F
AVG 67.3774 DEG F

TIME 19:14:35
CH1 65.8135 DEG F
CH2 67.7565 DEG F
CH3 68.1769 DEG F
AVG 67.3772 DEG F

TIME 19:14:40
CH1 65.8203 DEG F
CH2 67.7609 DEG F
CH3 68.1848 DEG F
AVG 67.3830 DEG F

TIME 19:14:45
CH1 65.8134 DEG F
CH2 67.7503 DEG F
CH3 68.1773 DEG F
AVG 67.3742 DEG F

TIME 19:14:50
CH1 65.8158 DEG F
CH2 67.7509 DEG F
CH3 68.1798 DEG F
AVG 67.3770 DEG F

TIME 19:14:55
CH1 65.8188 DEG F
CH2 67.7554 DEG F
CH3 68.1842 DEG F
AVG 67.3805 DEG F

TIME 19:15:00
CH1 65.8187 DEG F
CH2 67.7570 DEG F
CH3 68.1884 DEG F
AVG 67.3788 DEG F

TIME 19:15:05
CH1 65.8192 DEG F
CH2 67.7566 DEG F
CH3 68.1881 DEG F
AVG 67.3825 DEG F

TIME 19:15:10
CH1 65.8119 DEG F
CH2 67.7517 DEG F
CH3 68.1860 DEG F
AVG 67.3768 DEG F

TIME 19:15:15
CH1 65.8166 DEG F
CH2 67.7532 DEG F
CH3 68.1890 DEG F
AVG 67.3796 DEG F

TIME 19:15:20
CH1 65.8147 DEG F
CH2 67.7492 DEG F
CH3 68.1876 DEG F
AVG 67.3769 DEG F

TIME 19:15:25
CH1 65.8132 DEG F
CH2 67.7489 DEG F
CH3 68.1896 DEG F
AVG 67.3759 DEG F

TIME 19:15:30
CH1 65.8116 DEG F
CH2 67.7465 DEG F
CH3 68.1876 DEG F
AVG 67.3764 DEG F

TIME 19:15:35
CH1 65.8171 DEG F
CH2 67.7502 DEG F
CH3 68.1944 DEG F
AVG 67.3794 DEG F

TIME 19:15:40
CH1 65.8103 DEG F
CH2 67.7450 DEG F
CH3 68.1892 DEG F
AVG 67.3750 DEG F

TIME 19:15:45
CH1 65.8113 DEG F
CH2 67.7460 DEG F
CH3 68.1928 DEG F
AVG 67.3736 DEG F

TIME 19:15:50
CH1 65.8111 DEG F
CH2 67.7431 DEG F
CH3 68.1922 DEG F
AVG 67.3750 DEG F

TIME 19:15:55
CH1 65.8068 DEG F
CH2 67.7402 DEG F
CH3 68.1894 DEG F
AVG 67.3713 DEG F

TIME 19:16:00
CH1 65.8126 DEG F
CH2 67.7444 DEG F
CH3 68.1958 DEG F
AVG 67.3760 DEG F

TIME 19:16:05
CH1 65.8096 DEG F
CH2 67.7409 DEG F
CH3 68.1922 DEG F
AVG 67.3701 DEG F

TIME 19:16:10
CH1 65.8132 DEG F
CH2 67.7427 DEG F
CH3 68.1969 DEG F
AVG 67.3746 DEG F

TIME 19:16:15
CH1 65.8116 DEG F
CH2 67.7394 DEG F
CH3 68.1963 DEG F
AVG 67.3725 DEG F

TIME 19:16:20
CH1 65.8104 DEG F
CH2 67.7386 DEG F
CH3 68.1991 DEG F
AVG 67.3726 DEG F

TIME 19:16:25
CH1 65.8146 DEG F
CH2 67.7430 DEG F
CH3 68.2057 DEG F
AVG 67.3773 DEG F

TIME 19:16:30
CH1 65.8143 DEG F
CH2 67.7418 DEG F
CH3 68.2049 DEG F
AVG 67.3772 DEG F

TIME 19:16:35
CH1 65.8139 DEG F
CH2 67.7407 DEG F
CH3 68.2043 DEG F
AVG 67.3779 DEG F

TIME 19:16:40
CH1 65.8127 DEG F
CH2 67.7403 DEG F
CH3 68.2049 DEG F
AVG 67.3776 DEG F

TIME 19:16:45
CH1 65.8105 DEG F
CH2 67.7382 DEG F
CH3 68.2044 DEG F
AVG 67.3750 DEG F

TIME 19:13:50
CH1 65.8211 DEG F
CH2 67.7560 DEG F
CH3 68.1687 DEG F
AVG 67.3792 DEG F

TIME 19:13:55
CH1 65.8144 DEG F
CH2 67.7541 DEG F
CH3 68.1661 DEG F
AVG 67.3739 DEG F

TIME 19:14:00
CH1 65.8182 DEG F
CH2 67.7585 DEG F
CH3 68.1735 DEG F
AVG 67.3786 DEG F

TIME 19:14:05
CH1 65.8200 DEG F
CH2 67.7588 DEG F
CH3 68.1732 DEG F
AVG 67.3780 DEG F

TIME 19:14:10
CH1 65.8175 DEG F
CH2 67.7562 DEG F
CH3 68.1772 DEG F
AVG 67.3780 DEG F

TIME 19:14:15
CH1 65.8169 DEG F
CH2 67.7566 DEG F
CH3 68.1771 DEG F
AVG 67.3782 DEG F

TIME 19:14:20
CH1 65.8178 DEG F
CH2 67.7570 DEG F
CH3 68.1788 DEG F
AVG 67.3789 DEG F

TIME 19:14:25
CH1 65.8130 DEG F
CH2 67.7529 DEG F
CH3 68.1755 DEG F
AVG 67.3746 DEG F

TIME 19:14:30
CH1 65.8191 DEG F
CH2 67.7577 DEG F
CH3 68.1798 DEG F
AVG 67.3797 DEG F

TIME 19:16:50
CH1 65.8149 DEG F
CH2 67.7424 DEG F
CH3 68.2094 DEG F
AVG 67.3779 DEG F

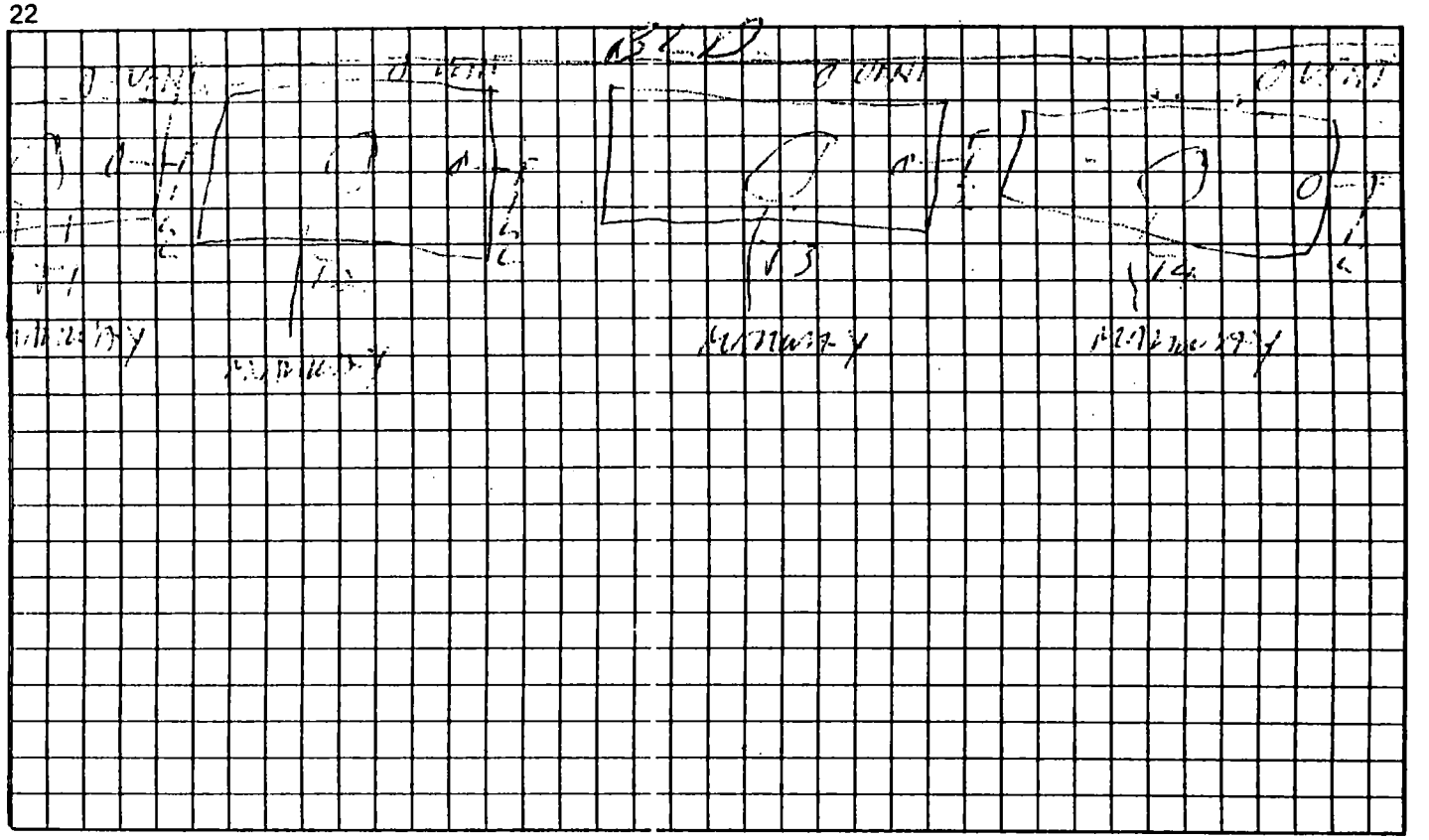
TIME 19:16:55
CH1 65.8099 DEG F
CH2 67.7366 DEG F
CH3 68.2048 DEG F
AVG 67.3726 DEG F

TIME 19:17:00
CH1 65.8111 DEG F
CH2 67.7345 DEG F
CH3 68.2038 DEG F
AVG 67.3730 DEG F

T#003

# TEST SITE LAYOUT

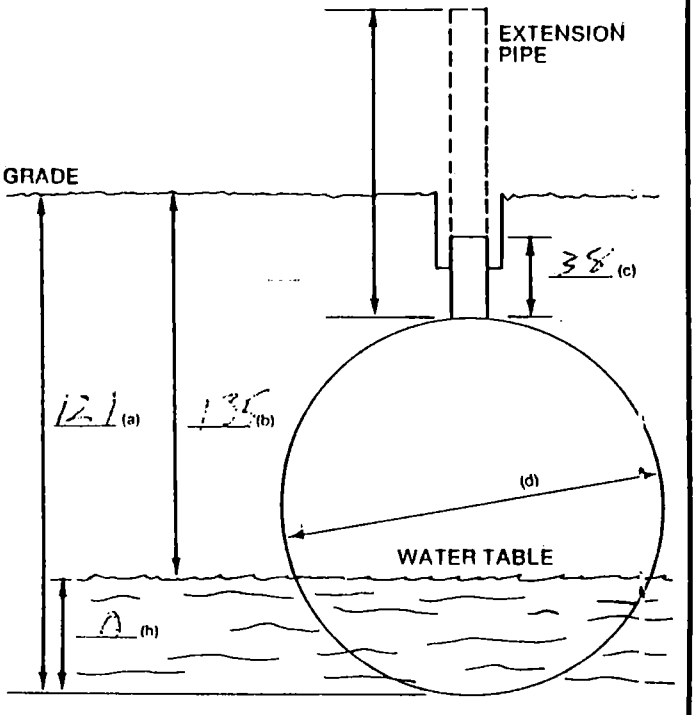
22



TEST COMPANY

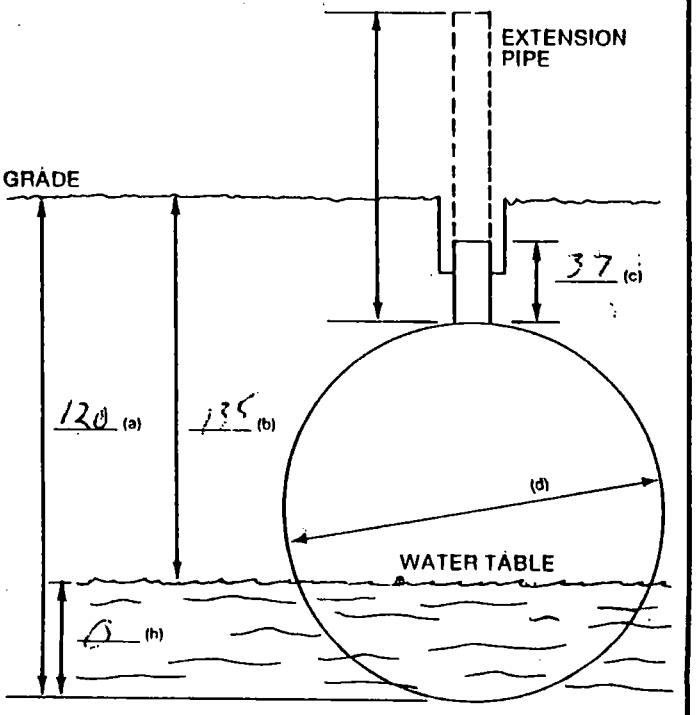
23

## TEST 1: TANK DIMENSIONS




TANK IDENT. T1 T1 002

## TEST 2: TANK DIMENSIONS



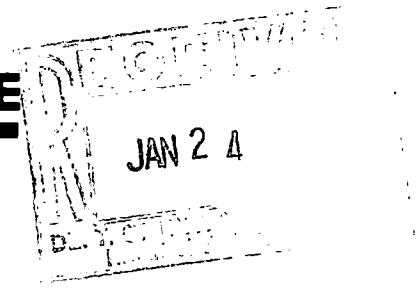

TANK IDENT. T1 T1 003

JOB ADDRESS

**TRI-STATE TANK SERVICE**

**LUZON OIL CO., INC.**

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805




Novmeber 29, 1989

Vail Ballou Press
187 Clinton Street
Bighamton, New York 13902

Attention: Bob Kalka

Re: Underground tank testing, as per 6NYCRR 613.5(a).

The National Fire Protection Association's criteria for a tight tank system is a system with a rate of leak less than +/- .050 gal/hr. for tank systems 12,500 gallons or less. These are calculated, mathematical tolerances only and are not meant to indicate the permission of any leak.

Criteria for tightness test [6NYCRR 613.5(a)(6)] "A tightness test is a test acceptable to the department which will determine if a tank and piping system is tight or not tight. The test must be capable of detecting a tank or piping leak as small as five hundredths (.05) of a gallon in one hour accounting for variables such as vapor pockets, thermal expansion of product, temperature stratification, groundwater level, evaporation, pressure and end deflection."

During the ***Ainley Tank 'Tegrity Test*** propane gas bubbles are introduced one (1) inch below the product level through a 1/4" tube. The pressure required to introduce bubbles varies with changes in product level, and is related to volume changes. Pressure changes are measured by a manometer type coil (slope tube). A slight liquid level change in the tank is exaggerated approximately fifty (50) times when transmitted from bubble tube to slope tube.

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805

**Facility:** Vail Ballou Press
187 Clinton Street
Bighamton, N.Y.

**OLD PBS #:** 182230

**Tank #s:** **#001** - 10,300 gallon **#003** - 10,300 gallon

Boths tank isolated prior to testing.

**Re-Test Date: 11-22-89**

Tank system #003 showed a rate of leak of +.043 gallons per hour. Tank system tested tight.

**Re-Test Date: 11-27-89**

Tank system #001 showed a rate of leak of -.037 gallons per hour. Tank system tested tight.

Enclosed are two (2) copies of this report and the test data. One is for your records and the other is to be sent to New York State D.E.C.

If you have any questions or need additional information, please contact me.

Very truly yours,
Robert B. Halprin
Robert B. Halprin, @
Luzon Oil Co., Inc.

/enclosures

RBH:amd
A:VAILBAL2.WPS

SOILTEST®

# AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

**1 TANK OPERATOR**

NAME / ADDRESS / PHONE

UAIL BALLOU PRESS
CLINTON ST. BINGHAMTON N.Y.

**2 TANKS TO BE TESTED**

| IDENTIFICATION | CAPACITY—GALS. | MANUFACTURER | STEEL/FIBRGLS. | AGE—YRS. |
|---|---|---|---|---|
| TK 3 | 10,000 | — | STEEL | ? |
| TK 1 | 10,000 | — | STEEL | ? |

**3 WATER TABLE**

DISTANCE FROM GRADE TO WATER 125 INS.

**4 TANK FILL-UP**

TANK WILL BE FILLED 2 PM (TIME) ON 11/21/89
EXTRA 5 GALS PRODUCT AVAILABLE FROM TRI-STATE OIL
FILL UP TO BE ARRANGED BY MR. UAIL BALLOU PRESS PHONE ( )
CONTACT AT STORAGE TERMINAL IS MR. PHONE ( )
TK 1 FILLED 11-22-89 4PM

**5 OUTSIDE CONTRACTORS**

NAME / ADDRESS / PHONE

**6 OFFICIALS TO BE CONTACTED**

NAME / AUTHORITY / PHONE

**7 SPECIAL NOTES OR PRECAUTIONS**

RE-TEST ISOLATED BOTH TANKS.

**8 TEST RESULTS**

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

| TANK IDENT | TANK IS TIGHT | TANK IS NOT TIGHT | LEAK RATE G. P. H. | TEST DATE |
|---|---|---|---|---|
| TK 3 | X | | .043 | 11-22-89 |
| TK 1 | X | | .037 | 11-27-89 |

**9 CERTIFICATION**

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED [signature] CERTIFICATE NO. 1315
ISSUE DATE 12-13-89

FOR (TEST COMPANY)
ADDRESS
STATE ZIP

ST-6 (REV. 2/87)

# AINLAY TANK TIGHTNESS TEST No. 771

JOB Ainlay Miss Clinton St Expansion Proj DATE 11/27/95
ADDRESS Clinton St Evanston, IL TESTER David Morgan
TEST COMPANY Tri-State Tank Tester, Inc

**16 TANK I.D.**
INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)
TANK DIAMETER 83 INS FILL PIPE LENGTH 34 INS

**17 WATER IN TANK**
(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

**18 PRODUCT VOLUME**
(a) NOMINAL CAPACITY 10,000 GALS (c) DEDUCT WATER IN TANK +0 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 10,322 GALS (d) TOTAL PRODUCT VOL. 10,327 GALS

Top-off 5 Gals

**19 FILL PIPE EXTENSION**
(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .031 = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**20 PRELIM TEST DATA**
(a) START TEMP CHECK 9:35 AM/PM (d) A.P.I. GRAVITY 25.5 AT 47 °F
(b) END TEMP CHECK 13:00 AM/PM (e) A.P.I. GRAVITY 26.4 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED 1½ HRS (f) COEFF. OF EXPANSION .0004 3129

**21 TEST DATA**
(a) START TEST _____ AM/PM: END TEST _____ AM/PM: TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1200 | 47.2703 | 47.126 | 47.0223 | 47.1427 | | | | | |
| 1205 | 47.2493 | 47.1305 | 47.0251 | 47.1457 | | | | | |
| 1210 | 47.3394 | 47.1315 | 47.0275 | 47.1548 | | | | | |
| 1215 | 47.3165 | 47.1322 | 47.0214 | 47.1516 | | | | | |
| 1220 | 47.3201 | 47.1323 | 47.0289 | 47.1542 | | | | | |
| 1225 | 47.3335 | 47.1344 | 47.0307 | 47.1607 | | | | | |
| 1230 | 47.3367 | 47.1341 | 47.0271 | 47.1604 | | | | | |
| 1235 | 47.3475 | 47.1396 | 47.0306 | 47.1650 | | | | | |
| 1240 | 47.3561 | 47.1395 | 47.0248 | 47.1685 | | | | | |
| 1245 | 47.3546 | 47.1389 | 47.0319 | 47.1703 | | | | | |
| 1250 | 47.3727 | 47.1423 | 47.0338 | 47.1741 | | | | | |
| 1255 | 47.3799 | 47.1406 | 47.0513 | 47.1754 | | | | | |
| 1300 | 47.3685 | 47.1460 | 47.0328 | 47.1773 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG. END TEMP. − AVG. START TEMP.) = 1773 − 1427 = 01-.0344 °F.
(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL. x TEMP. CHANGE x COEFF. EXP.
= 10,327 (18d) x .0344 (21b) x .0004 3129 (20f) = 01-.153 GALS.
(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = +10.190 GALS.
(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = +.153 + -.190 = +10.037 GALS.
(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = -.037 x 60 / 60 (21a) = -.037 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC. BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

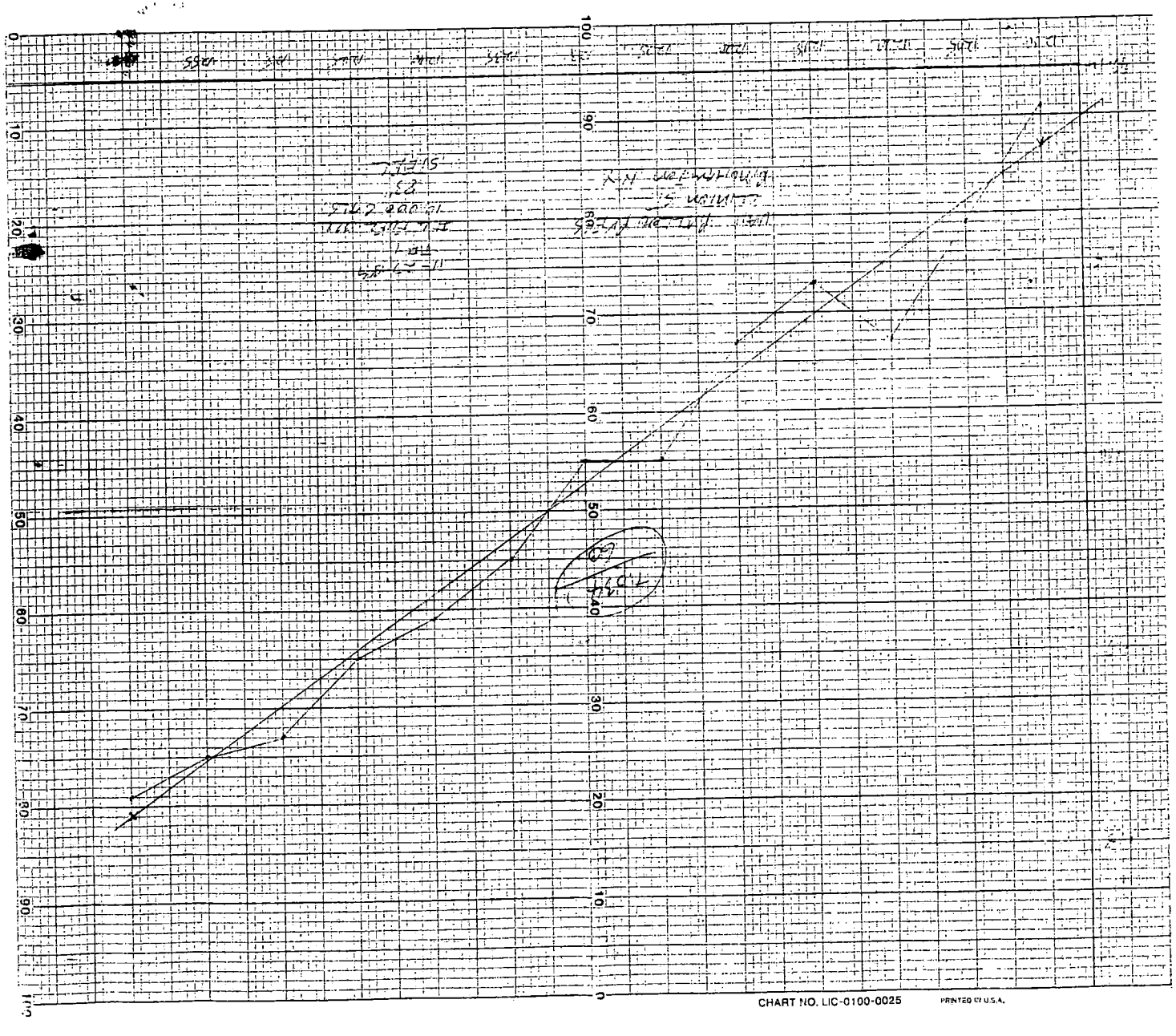


CHART NO. LIC-0100-0025 PRINTED IN U.S.A.

```
TIME 27:09:35
CH1   47.2317 DE; F
CH2   47.2801 DE; F
CH3   47.0092 DE; F
AVG   47.2023 DE; F

TIME 27:09:40
CH1   47.1788 DE; F
CH2   47.1621 DE; F
CH3   46.9878 DE; F
AVG   47.1231 DE; F

TIME 27:09:45
CH1   47.1732 DE; F
CH2   47.1519 DE; F
CH3   46.9847 DE; F
AVG   47.1176 DE; F

TIME 27:09:50
CH1   47.1863 DE; F
CH2   47.1641 DE; F
CH3   46.9998 DE; F
AVG   47.1298 DE; F

TIME 27:09:55
CH1   47.1982 DE; F
CH2   47.1730 DE; F
CH3   47.0136 DE; F
AVG   47.1408 DE; F

TIME 27:10:00
CH1   47.1717 DE; F
CH2   47.1207 DE; F
CH3   46.9733 DE; F
AVG   47.0976 DE; F

TIME 27:10:05
CH1   47.1686 DE; F
CH2   47.1167 DE; F
CH3   46.9686 DE; F
AVG   47.0944 DE; F

TIME 27:10:10
CH1   47.1700 DE; F
CH2   47.1188 DE; F
CH3   46.9703 DE; F
AVG   47.0969 DE; F

TIME 27:10:15
CH1   47.1700 DE; F
CH2   47.1204 DE; F
CH3   46.9736 DE; F
AVG   47.0993 DE; F

TIME 27:10:20
CH1   47.1695 DE; F
CH2   47.1226 DE; F
CH3   46.9763 DE; F
AVG   47.1007 DE; F

TIME 27:10:25
CH1   47.1714 DE; F
CH2   47.1291 DE; F
CH3   46.9841 DE; F
AVG   47.1054 DE; F

TIME 27:10:30
CH1   47.1709 DE; F
CH2   47.1296 DE; F
CH3   46.9853 DE; F
AVG   47.1062 DE; F

TIME 27:10:35
CH1   47.1658 DE; F
CH2   47.1189 DE; F
CH3   46.9807 DE; F
AVG   47.0980 DE; F

TIME 27:10:40
CH1   47.1730 DE; F
CH2   47.1280 DE; F
CH3   46.9924 DE; F
AVG   47.1068 DE; F

TIME 27:10:45
CH1   47.1727 DE; F
CH2   47.1259 DE; F
CH3   46.9917 DE; F
AVG   47.1070 DE; F

TIME 27:10:50
CH1   47.1769 DE; F
CH2   47.1274 DE; F
CH3   46.9980 DE; F
AVG   47.1084 DE; F

TIME 27:10:55
CH1   47.1790 DE; F
CH2   47.1244 DE; F
CH3   46.9970 DE; F
AVG   47.1074 DE; F

TIME 27:11:00
CH1   47.1819 DE; F
CH2   47.1235 DE; F
CH3   47.0000 DE; F
AVG   47.1081 DE; F

TIME 27:11:05
CH1   47.1937 DE; F
CH2   47.1271 DE; F
CH3   47.0056 DE; F
AVG   47.1155 DE; F

TIME 27:11:10
CH1   47.2003 DE; F
CH2   47.1262 DE; F
CH3   47.0084 DE; F
AVG   47.1160 DE; F

TIME 27:11:15
CH1   47.2105 DE; F
CH2   47.1261 DE; F
CH3   47.0094 DE; F
AVG   47.1191 DE; F

TIME 27:11:20
CH1   47.2185 DE; F
CH2   47.1251 DE; F
CH3   47.0068 DE; F
AVG   47.1193 DE; F

TIME 27:11:25
CH1   47.2282 DE; F
CH2   47.1242 DE; F
CH3   47.0086 DE; F
AVG   47.1234 DE; F

TIME 27:11:30
CH1   47.2338 DE; F
CH2   47.1250 DE; F
CH3   47.0079 DE; F
AVG   47.1248 DE; F

TIME 27:11:35
CH1   47.2466 DE; F
CH2   47.1295 DE; F
CH3   47.0137 DE; F
AVG   47.1312 DE; F

TIME 27:11:40
CH1   47.2532 DE; F
CH2   47.1240 DE; F
CH3   47.0154 DE; F
AVG   47.1303 DE; F

TIME 27:11:45
CH1   47.2617 DE; F
CH2   47.1242 DE; F
CH3   47.0141 DE; F
AVG   47.1320 DE; F

TIME 27:11:50
CH1   47.2726 DE; F
CH2   47.1259 DE; F
CH3   47.0178 DE; F
AVG   47.1372 DE; F

TIME 27:11:55
CH1   47.2753 DE; F
CH2   47.1226 DE; F
CH3   47.0193 DE; F
AVG   47.1355 DE; F

TIME 27:12:00
CH1   47.2908 DE; F
CH2   47.1266 DE; F
CH3   47.0223 DE; F
AVG   47.1429 DE; F

TIME 27:12:05
CH1   47.2983 DE; F
CH2   47.1305 DE; F
CH3   47.0251 DE; F
AVG   47.1489 DE; F

TIME 27:12:10
CH1   47.3094 DE; F
CH2   47.1368 DE; F
CH3   47.0285 DE; F
AVG   47.1548 DE; F

TIME 27:12:15
CH1   47.3105 DE; F
CH2   47.1322 DE; F
CH3   47.0214 DE; F
AVG   47.1516 DE; F

TIME 27:12:20
CH1   47.3201 DE; F
CH2   47.1323 DE; F
CH3   47.0289 DE; F
AVG   47.1542 DE; F

TIME 27:12:25
CH1   47.3335 DE; F
CH2   47.1344 DE; F
CH3   47.0307 DE; F
AVG   47.1607 DE; F

TIME 27:12:30
CH1   47.3367 DE; F
CH2   47.1346 DE; F
CH3   47.0271 DE; F
AVG   47.1604 DE; F

TIME 27:12:35
CH1   47.3475 DE; F
CH2   47.1396 DE; F
CH3   47.0306 DE; F
AVG   47.1650 DE; F

TIME 27:12:40
CH1   47.3561 DE; F
CH2   47.1395 DE; F
CH3   47.0298 DE; F
AVG   47.1688 DE; F

TIME 27:12:45
CH1   47.3646 DE; F
CH2   47.1389 DE; F
CH3   47.0319 DE; F
AVG   47.1703 DE; F

TIME 27:12:50
CH1   47.3727 DE; F
CH2   47.1423 DE; F
CH3   47.0338 DE; F
AVG   47.1741 DE; F

TIME 27:12:55
CH1   47.3799 DE; F
CH2   47.1400 DE; F
CH3   47.0313 DE; F
AVG   47.1754 DE; F

TIME 27:13:00
CH1   47.3885 DE; F
CH2   47.1400 DE; F
CH3   47.0328 DE; F
AVG   47.1773 DE; F*
```

# AINLAY TANK TIGHTNESS TEST No. 17-3

**10 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 63 INS FILL PIPE LENGTH 33 INS

**11 WATER IN TANK**

(a) START WATER IN TANK 1 INS (c) END WATER IN TANK 1 INS
(b) START WATER IN TANK 23 GALS (d) END WATER IN TANK 23 GALS

**12 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10800 GALS (c) DEDUCT WATER IN TANK -23 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 10,322 GALS (d) TOTAL PRODUCT VOL. 10,304 GALS

TOP-OFF = + 5 GALS.

**13 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)} = \frac{0 \times 0.036}{.031} =$ 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**14 PRELIM TEST DATA**

(a) START TEMP CHECK 11:30 AM/PM (d) A.P.I. GRAVITY 25.1 AT 49 °F
(b) END TEMP CHECK 15:00 AM/PM (e) A.P.I. GRAVITY 25.6 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .000 42846

**15 TEST DATA**

(a) START TEST 14:00 AM/PM END TEST 15:00 AM/PM TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1400 | 504743 | 504407 | 503360 | 504246 | | | | | |
| 1405 | 504241 | 504224 | 503338 | 504236 | | | | | |
| 1410 | 504202 | 504407 | 503252 | 504206 | | | | | |
| 1415 | 504234 | 504442 | 503451 | 504307 | | | | | |
| 1420 | 504331 | 504414 | 503393 | 504258 | | | | | |
| 1425 | 504345 | 504456 | 503415 | 504246 | | | | | |
| 1430 | 504414 | 504414 | 503456 | 504325 | | | | | |
| 1435 | 504252 | 504467 | 503459 | 504302 | | | | | |
| 1441 | 504397 | 504473 | 503454 | 504322 | | | | | |
| 1445 | 504407 | 504465 | 503457 | 504321 | | | | | |
| 1450 | 504356 | 504516 | 503507 | 504353 | | | | | |
| 1455 | 504362 | 504517 | 503553 | 504361 | | | | | |
| 1500 | 504363 | 504452 | 503486 | 504339 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. − AVG START TEMP.) = 14339 − 14246 = -.0093 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.
= 10,304 (12d) × -.0093 (15b) × .000 42846 (14f) = -.041 GALS.

(d) TOTAL LIQUID VOL ADDED/SUBTRACTED AT END OF TEST = -.002 GALS.

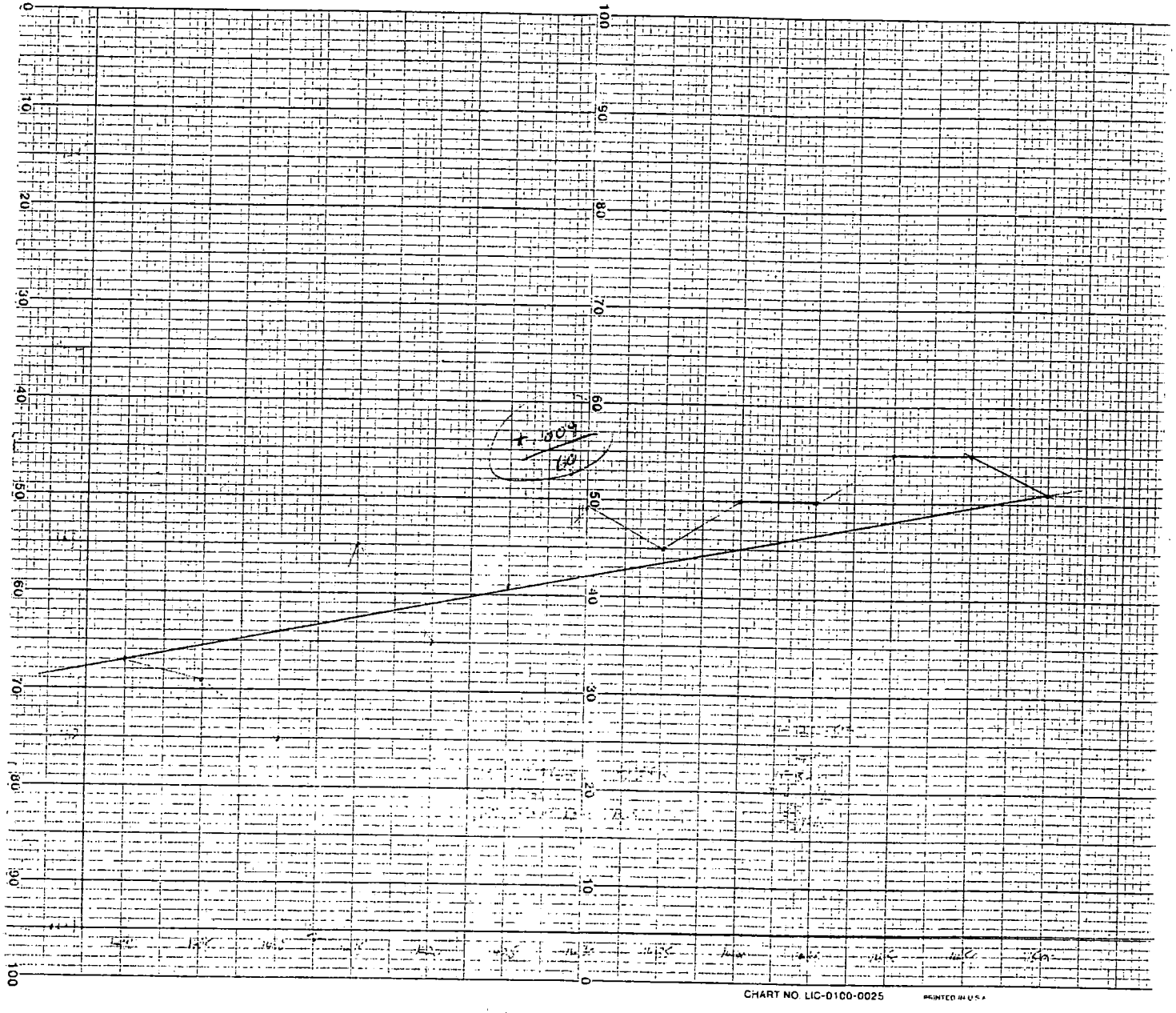
(e) VOL. CHANGE NOT DUE TO TEMP ((c) + (d)) = -.041 + -.002 = -.043 GALS.

(f) LEAK RATE = $\frac{\text{(e)} \times 60}{\text{TIME OF TEST (MINS)}} = \frac{-.043 \times 60}{60} =$ -.043 G.P.H. (15a)

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

JOB Ainlay Station DATE 11/22/94
ADDRESS Ainlay Station Rd. N.W.
TESTER Steve Hoover
TEST COMPANY Tanknology NDE Int'l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20
30
40
50
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20
10
0
CHART NO. LIC-0100-0025
PRINTED IN U.S.A.

TIME 22:11:30
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CH2 50.4422 DE; F
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AVG 50.4374 DE; F

TIME 22:11:35
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AVG 50.4302 DE; F

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AVG 50.4322 DE; F*

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AVG 50.4351 DE; F

TIME 22:15:00
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TIME 22:15:00
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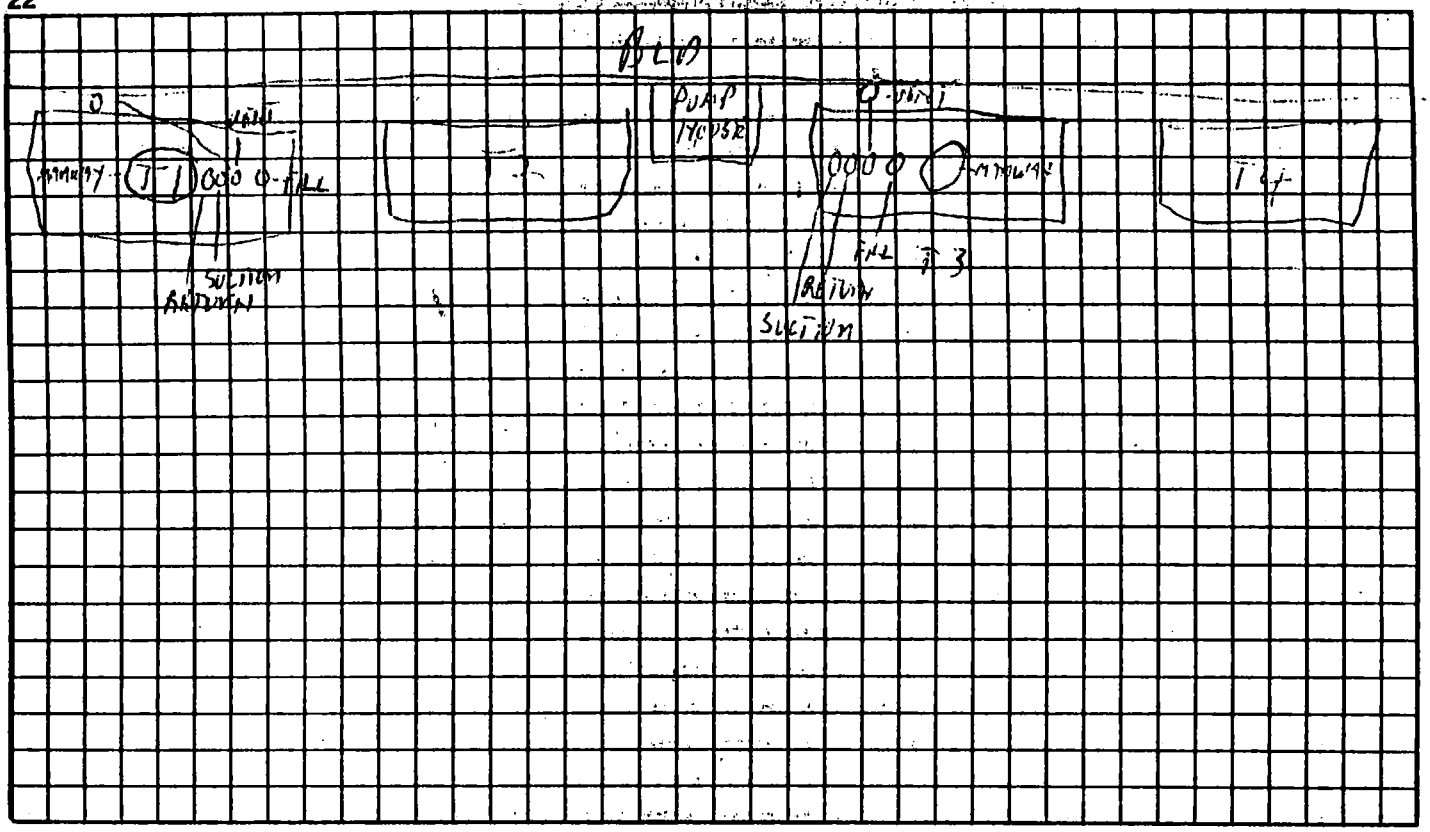
# TEST SITE LAYOUT

22

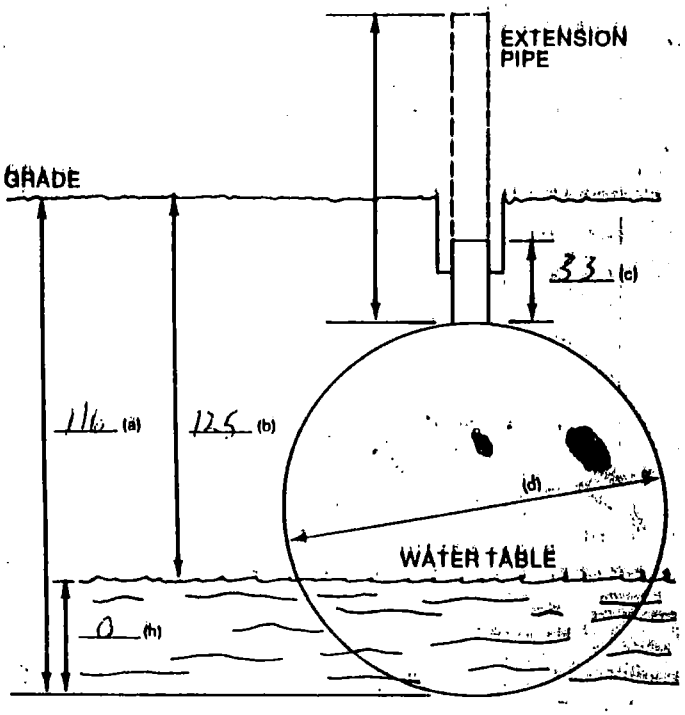
TESTER
TEST COMPANY




23

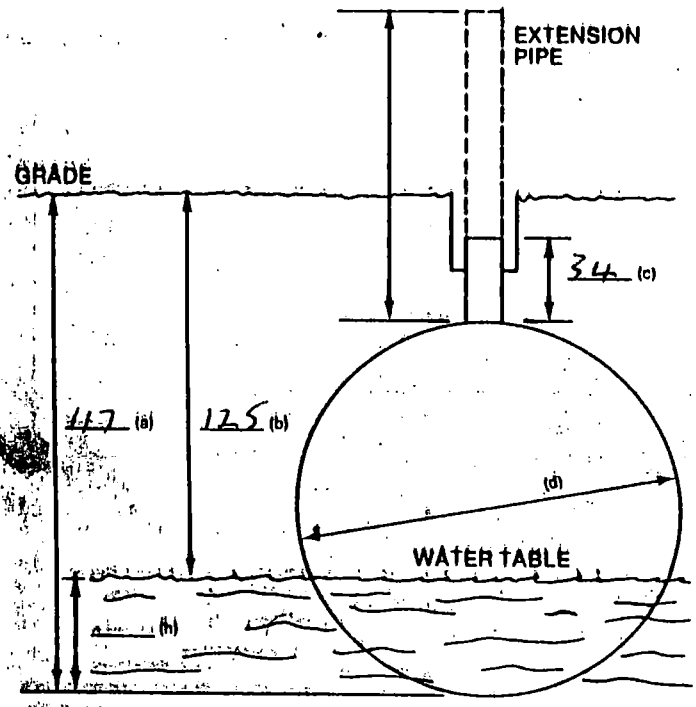
JOB
ADDRESS
DATE

## TEST 1: TANK DIMENSIONS




TANK IDENT. T-1 3

## TEST 2: TANK DIMENSIONS




TANK IDENT. T-4 1

00-17-1 (3/76)
Formerly GA-4

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# TRANSMITTAL SLIP

TO Chris White

FROM [illegible]

DATE 12/6/89

RE: Spill #89-06060 - Retest Passed (NFA) - Spill Closed
PBS# ~~[illegible]~~ 182230

* FOR YOUR RECORDS.

FOR ACTION AS INDICATED:

- [x] Please Handle
- [ ] Prepare Reply
- [ ] Prepare Reply for _____ Signature
- [ ] Information
- [ ] Approval
- [ ] Prepare final/draft in _____ Copies
- [ ] Comments
- [ ] Signature
- [ ] File
- [ ] Return to me
- [ ] _____
- [ ] _____

DEC - 8 [illegible]

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805



RECEIVED

DEC 05 1989

Dept. of Environmental Conservation
Region 7 Binghamton Sub. Office


Novmeber 29, 1989

Vail Ballou Press
187 Clinton Street
Bighamton, New York 13902

Attention: Bob Kalka

Re: Underground tank testing, as per 6NYCRR 613.5(a).

The National Fire Protection Association's criteria for a tight tank system is a system with a rate of leak less than +/- .050 gal/hr. for tank systems 12,500 gallons or less. These are calculated, mathematical tolerances only and are not meant to indicate the permission of any leak.

Criteria for tightness test [6NYCRR 613.5(a)(6)] "A tightness test is a test acceptable to the department which will determine if a tank and piping system is tight or not tight. The test must be capable of detecting a tank or piping leak as small as five hundredths (.05) of a gallon in one hour accounting for variables such as vapor pockets, thermal expansion of product, temperature stratification, groundwater level, evaporation, pressure and end deflection."

During the ***Ainley Tank 'Tegrity Test*** propane gas bubbles are introduced one (1) inch below the product level through a 1/4" tube. The pressure required to introduce bubbles varies with changes in product level, and is related to volume changes. Pressure changes are measured by a manometer type coil (slope tube). A slight liquid level change in the tank is exaggerated approximately fifty (50) times when transmitted from bubble tube to slope tube.

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805


**Facility:** Vail Ballou Press
187 Clinton Street
Bighamton, N.Y.

**OLD PBS #:** 182230

**Tank #s:** **#001** - 10,300 gallon **#003** - 10,300 gallon

Boths tank isolated prior to testing.

**Re-Test Date: 11-22-89**

Tank system #003 showed a rate of leak of +.043 gallons per hour. Tank system tested tight.

**Re-Test Date: 11-27-89**

Tank system #001 showed a rate of leak of -.037 gallons per hour. Tank system tested tight.

Enclosed are two (2) copies of this report and the test data. One is for your records and the other is to be sent to New York State D.E.C.

If you have any questions or need additional information, please contact me.

Very truly yours,

Robert B. Halprin,
Luzon Oil Co., Inc.

/enclosures

RBH:amd
A:VAILBAL2.WPS

SOILTEST®

# AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

**1 TANK OPERATOR**

NAME / ADDRESS / PHONE

VAIL BALLOU PRESS
CLINTON ST. BINGHAMTON N.Y.

**2 TANKS TO BE TESTED**

| IDENTIFICATION | CAPACITY—GALS. | MANUFACTURER | STEEL/FIBRGLS. | AGE—YRS. |
|---|---|---|---|---|
| TA 3 | 10,000 | — | STEEL | ? |
| TA 1 | 10,000 | — | STEEL | ? |

**3 WATER TABLE**

DISTANCE FROM GRADE TO WATER 125 INS.

**4 TANK FILL-UP**

TANK WILL BE FILLED 2PM (TIME) ON 11/21/89
EXTRA 5 GALS PRODUCT AVAILABLE FROM TRI-STATE TANK
FILL UP TO BE ARRANGED BY MR. VAIL BALLOU PRESS PHONE ( )
CONTACT AT STORAGE TERMINAL IS MR. PHONE ( )
TA 1 FILLED 11-22-89 4PM

**5 OUTSIDE CONTRACTORS**

NAME / ADDRESS / PHONE

**6 OFFICIALS TO BE CONTACTED**

NAME / AUTHORITY / PHONE

**7 SPECIAL NOTES OR PRECAUTIONS**

RE-TEST ISOLATED BOTH TANKS.

**8 TEST RESULTS**

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

| TANK IDENT | TANK IS TIGHT | TANK IS NOT TIGHT | LEAK RATE G. P. H. | TEST DATE |
|---|---|---|---|---|
| TA 3 | X | | .043 | 11-22-89 |
| TA 1 | X | | .037 | 11-27-89 |

**9 CERTIFICATION**

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED [signature] CERTIFICATE NO. 1315
ISSUE DATE 10-13-89

FOR (TEST COMPANY)
ADDRESS
STATE ZIP

ST-8 (REV. 2/87)

# AINLAY TANK TIGHTNESS TEST No. 7 #1

| | |
|---|---|
| **16 TANK I.D.** | INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)<br>TANK DIAMETER 83 INS FILL PIPE LENGTH 34 INS |
| **17 WATER IN TANK** | (a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS<br>(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS |
| **18 PRODUCT VOLUME** | (a) NOMINAL CAPACITY 10,000 GALS (c) DEDUCT WATER IN TANK +0 GALS<br>(b) ACTUAL CAPACITY 10,322 GALS (d) TOTAL PRODUCT VOL. 10,327 GALS<br>(FROM TANK CHART) Top-Art T5C125 |
| **19 FILL PIPE EXTENSION** | (a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS<br>(b) DENSITY OF TANK PRODUCT = .831 (w) LB/CU. IN. (FROM TABLES)<br>DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.<br>(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .831 = 0 INS<br>NOTE:<br>TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL. |
| **20 PRELIM TEST DATA** | (a) START TEMP CHECK 9:35 AM/PM (d) A.P.I. GRAVITY 25.5 AT 47 °F<br>(b) END TEMP CHECK 13:00 AM/PM (e) A.P.I. GRAVITY 26.4 AT 60°F<br>(c) TIME SINCE LAST LIQ. ADDED 3½ HRS (f) COEFF. OF EXPANSION .000 43129 |
| **21 TEST DATA** | (a) START TEST _____ AM/PM: END TEST _____ AM/PM: TEST TIME 60 MINS. |

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1200 | 47.2705 | 47.1266 | 47.0223 | 47.1425 | | | | | |
| 1205 | 47.2993 | 47.1305 | 47.0251 | 47.1457 | | | | | |
| 1210 | 47.3194 | 47.1365 | 47.0255 | 47.1548 | | | | | |
| 1215 | 47.3105 | 47.1322 | 47.0214 | 47.1516 | | | | | |
| 1220 | 47.3201 | 47.1323 | 47.0259 | 47.1542 | | | | | |
| 1225 | 47.3335 | 47.1344 | 47.0307 | 47.1607 | | | | | |
| 1230 | 47.3367 | 47.1342 | 47.0271 | 47.1604 | | | | | |
| 1235 | 47.3475 | 47.1390 | 47.0306 | 47.1650 | | | | | |
| 1240 | 47.3561 | 47.1395 | 47.0295 | 47.1685 | | | | | |
| 1245 | 47.3546 | 47.1389 | 47.0315 | 47.1703 | | | | | |
| 1250 | 47.3727 | 47.1423 | 47.0335 | 47.1741 | | | | | |
| 1255 | 47.3749 | 47.1400 | 47.0513 | 47.1754 | | | | | |
| 1300 | 47.3685 | 47.1400 | 47.0324 | 47.1773 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG. END TEMP. – AVG. START TEMP.) = 1773 – 1425 = -.0344 °F.

(c) VOL. CHANGE DUE TO TEMP. = PRODUCT VOL. x TEMP. CHANGE x COEFF. EXP.

= 10,327 (16d) x -.0344 (21b) x .000 43129 (20f) = -.153 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = +10.140 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP. (c) + (d) ..... = -.153 + -.140 = +10.037 GALS.

(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = -.037 x 60 / 60 (21a) = -.037 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC. BULLETIN N.F.P.A. 329.

**THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐**

TESTER David Morgan TEST COMPANY Tri-State Tank Testing

JOB UNLISTED Mass ADDRESS Clinton St Binghamton NY DATE 11/27/95

CHART NO. LIC-0100-0025
PRINTED IN U.S.A.

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TIME 27:09:35
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CH2   47.2801 DEG F
CH3   47.0092 DEG F
AVG   47.2023 DEG F

TIME 27:09:40
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CH2   47.1621 DEG F
CH3   46.9878 DEG F
AVG   47.1231 DEG F

TIME 27:09:45
CH1   47.1732 DEG F
CH2   47.1519 DEG F
CH3   46.9847 DEG F
AVG   47.1176 DEG F

TIME 27:09:50
CH1   47.1863 DEG F
CH2   47.1641 DEG F
CH3   46.9998 DEG F
AVG   47.1298 DEG F

TIME 27:09:55
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CH2   47.1730 DEG F
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AVG   47.1408 DEG F

TIME 27:10:00
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AVG   47.0976 DEG F

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AVG   47.0944 DEG F

TIME 27:10:10
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AVG   47.0969 DEG F

TIME 27:10:15
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TIME 27:10:20
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AVG   47.1007 DEG F

TIME 27:10:25
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CH2   47.1291 DEG F
CH3   46.9841 DEG F
AVG   47.1054 DEG F

TIME 27:10:30
CH1   47.1709 DEG F
CH2   47.1296 DEG F
CH3   46.9853 DEG F
AVG   47.1062 DEG F

TIME 27:10:35
CH1   47.1658 DEG F
CH2   47.1189 DEG F
CH3   46.9807 DEG F
AVG   47.0980 DEG F

TIME 27:10:40
CH1   47.1730 DEG F
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CH3   46.9924 DEG F
AVG   47.1068 DEG F

TIME 27:10:45
CH1   47.1727 DEG F
CH2   47.1259 DEG F
CH3   46.9917 DEG F
AVG   47.1070 DEG F

TIME 27:10:50
CH1   47.1769 DEG F
CH2   47.1274 DEG F
CH3   46.9980 DEG F
AVG   47.1084 DEG F

TIME 27:10:55
CH1   47.1790 DEG F
CH2   47.1244 DEG F
CH3   46.9970 DEG F
AVG   47.1074 DEG F

TIME 27:11:00
CH1   47.1819 DEG F
CH2   47.1235 DEG F
CH3   47.0000 DEG F
AVG   47.1081 DEG F

TIME 27:11:05
CH1   47.1937 DEG F
CH2   47.1271 DEG F
CH3   47.0056 DEG F
AVG   47.1155 DEG F

TIME 27:11:10
CH1   47.2003 DEG F
CH2   47.1262 DEG F
CH3   47.0084 DEG F
AVG   47.1160 DEG F

TIME 27:11:15
CH1   47.2105 DEG F
CH2   47.1261 DEG F
CH3   47.0094 DEG F
AVG   47.1191 DEG F

TIME 27:11:20
CH1   47.2185 DEG F
CH2   47.1251 DEG F
CH3   47.0068 DEG F
AVG   47.1193 DEG F

TIME 27:11:25
CH1   47.2282 DEG F
CH2   47.1242 DEG F
CH3   47.0086 DEG F
AVG   47.1234 DEG F

TIME 27:11:30
CH1   47.2338 DEG F
CH2   47.1250 DEG F
CH3   47.0079 DEG F
AVG   47.1248 DEG F

TIME 27:11:35
CH1   47.2466 DEG F
CH2   47.1295 DEG F
CH3   47.0137 DEG F
AVG   47.1312 DEG F

TIME 27:11:40
CH1   47.2532 DEG F
CH2   47.1240 DEG F
CH3   47.0154 DEG F
AVG   47.1303 DEG F

TIME 27:11:45
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CH2   47.1242 DEG F
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AVG   47.1320 DEG F

TIME 27:11:50
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CH2   47.1259 DEG F
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CH1   47.2753 DEG F
CH2   47.1226 DEG F
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CH1   47.2908 DEG F
CH2   47.1266 DEG F
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AVG   47.1429 DEG F

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CH3   47.0251 DEG F
AVG   47.1489 DEG F

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AVG   47.1548 DEG F

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CH3   47.0214 DEG F
AVG   47.1516 DEG F

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CH2   47.1323 DEG F
CH3   47.0289 DEG F
AVG   47.1542 DEG F

TIME 27:12:25
CH1   47.3335 DEG F
CH2   47.1344 DEG F
CH3   47.0307 DEG F
AVG   47.1607 DEG F

TIME 27:12:30
CH1   47.3367 DEG F
CH2   47.1346 DEG F
CH3   47.0271 DEG F
AVG   47.1604 DEG F

TIME 27:12:35
CH1   47.3475 DEG F
CH2   47.1396 DEG F
CH3   47.0306 DEG F
AVG   47.1650 DEG F

TIME 27:12:40
CH1   47.3561 DEG F
CH2   47.1395 DEG F
CH3   47.0298 DEG F
AVG   47.1688 DEG F

TIME 27:12:45
CH1   47.3646 DEG F
CH2   47.1389 DEG F
CH3   47.0319 DEG F
AVG   47.1703 DEG F

TIME 27:12:50
CH1   47.3727 DEG F
CH2   47.1423 DEG F
CH3   47.0338 DEG F
AVG   47.1741 DEG F

TIME 27:12:55
CH1   47.3799 DEG F
CH2   47.1400 DEG F
CH3   47.0313 DEG F
AVG   47.1754 DEG F

TIME 27:13:00
CH1   47.3885 DEG F
CH2   47.1400 DEG F
CH3   47.0328 DEG F
AVG   47.1773 DEG F*
```

# AINLAY TANK TIGHTNESS TEST No. 17-3

**10 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 63 INS FILL PIPE LENGTH 33 INS

**11 WATER IN TANK**

(a) START WATER IN TANK 1 INS (c) END WATER IN TANK 1 INS
(b) START WATER IN TANK 23 GALS (d) END WATER IN TANK 23 GALS

**12 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10000 GALS (c) DEDUCT WATER IN TANK -23 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 16,322 GALS (d) TOTAL PRODUCT VOL. 16,304 GALS

TOP-OFF = +5 GALS.

**13 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)} = \frac{0 \times 0.036}{.031} = 0$ INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**14 PRELIM TEST DATA**

(a) START TEMP CHECK 11:30 (AM)/PM (d) A.P.I. GRAVITY 25.1 AT 49 °F
(b) END TEMP CHECK 15:00 AM/(PM) (e) A.P.I. GRAVITY 25.6 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .000 42846

**15 TEST DATA**

(a) START TEST 14 00 AM/(PM) END TEST 15 00 AM/(PM) TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1400 | .04343 | .04407 | .03360 | .04246 | | | | | |
| 1405 | .04241 | .04425 | .03339 | .04236 | | | | | |
| 1410 | .04264 | .04437 | .03382 | .04206 | | | | | |
| 1415 | .04276 | .04442 | .03451 | .04307 | | | | | |
| 1420 | .04331 | .04454 | .03343 | .04258 | | | | | |
| 1425 | .04365 | .04456 | .03448 | .04286 | | | | | |
| 1430 | .04419 | .04464 | .03456 | .04325 | | | | | |
| 1435 | .04382 | .04467 | .03439 | .04302 | | | | | |
| 1441 | .04377 | .04473 | .03454 | .04322 | | | | | |
| 1445 | .04407 | .04465 | .03457 | .04321 | | | | | |
| 1450 | .04435 | .04516 | .03507 | .04353 | | | | | |
| 1455 | .04462 | .04517 | .03533 | .04381 | | | | | |
| 1500 | .04463 | .04452 | .03486 | .04339 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = .4339 − .4246 = .0093 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.
= 16,304 (12d) × .0093 (16b) × .000 42846 (14f) = .041 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST = .002 GALS.

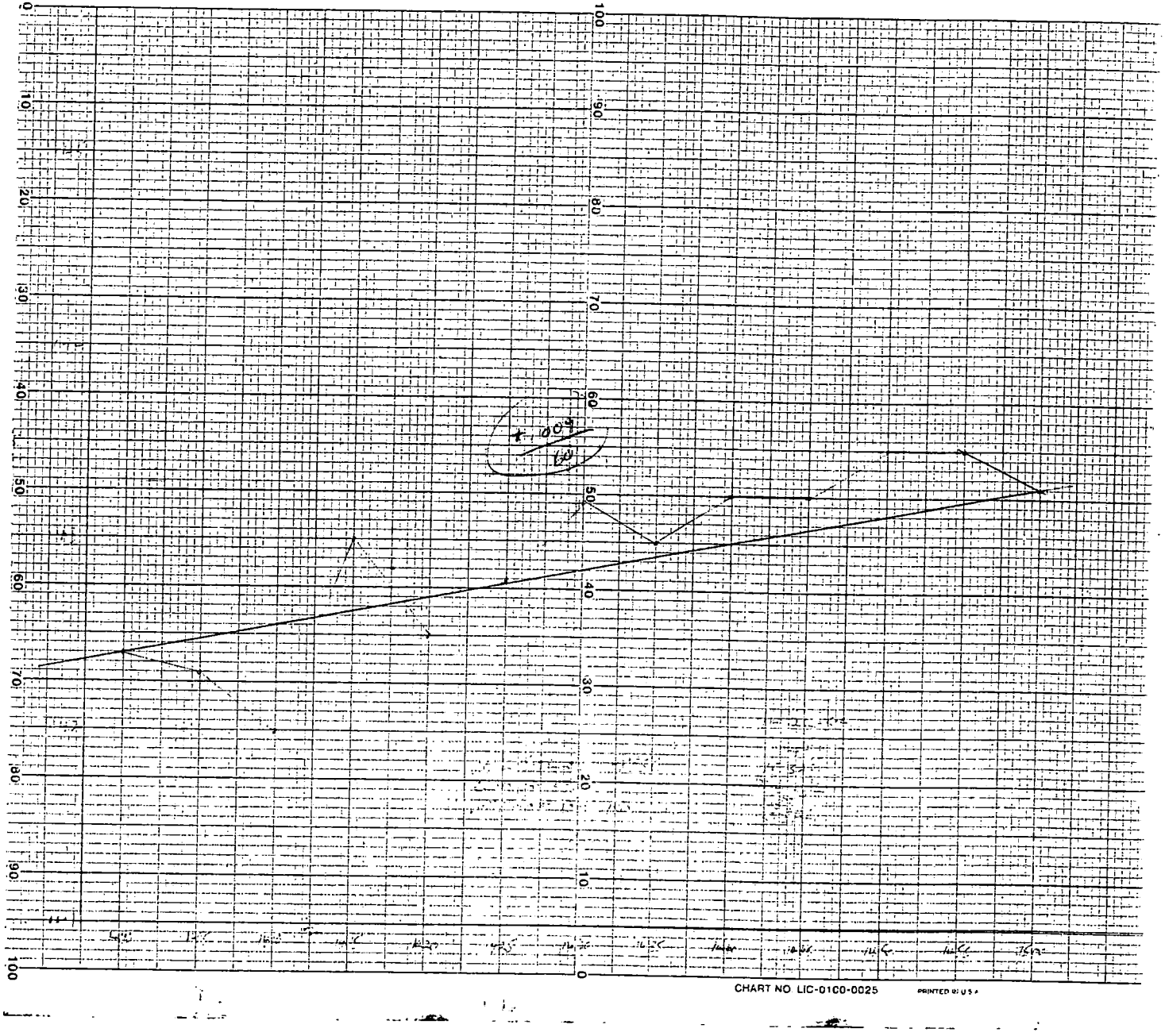
(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] = +.041 + +.002 = .043 GALS.

(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}} = \frac{+.043 \times 60}{60} = +.043$ G.P.H. (15a)

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

JOB Ainlay Petroleum DATE 11/22/89
ADDRESS Lakeview Station N.Y. TESTER Ralph Mercier
TEST COMPANY Tanknology/NDE 1 1/2 gal GAL


0
10
20
30
40
50
60
70
80
90
100
CHART NO. LIC-0100-0025

TIME 22:11:30
CH1 50.4801 DE; F
CH2 50.4422 DE; F
CH3 50.3781 DE; F
AVG 50.4374 DE; F

TIME 22:11:35
CH1 50.5459 DE; F
CH2 50.5182 DE; F
CH3 50.3723 DE; F
AVG 50.4903 DE; F

TIME 22:11:40
CH1 50.5321 DE; F
CH2 50.4933 DE; F
CH3 50.3527 DE; F
AVG 50.4693 DE; F

TIME 22:11:45
CH1 50.4800 DE; F
CH2 50.4420 DE; F
CH3 50.3033 DE; F
AVG 50.4196 DE; F

TIME 22:11:50
CH1 50.4371 DE; F
CH2 50.4370 DE; F
CH3 50.3017 DE; F
AVG 50.4155 DE; F

TIME 22:11:55
CH1 50.4747 DE; F
CH2 50.4317 DE; F
CH3 50.2994 DE; F
AVG 50.4106 DE; F

TIME 22:12:00
CH1 50.4633 DE; F
CH2 50.4243 DE; F
CH3 50.2946 DE; F
AVG 50.4019 DE; F

TIME 22:12:05
CH1 50.4593 DE; F
CH2 50.4241 DE; F
CH3 50.2929 DE; F
AVG 50.4034 DE; F

TIME 22:12:10
CH1 50.4683 DE; F
CH2 50.4330 DE; F
CH3 50.3026 DE; F
AVG 50.4107 DE; F

TIME 22:12:15
CH1 50.4647 DE; F
CH2 50.4350 DE; F
CH3 50.3038 DE; F
AVG 50.4091 DE; F

TIME 22:12:20
CH1 50.4615 DE; F
CH2 50.4335 DE; F
CH3 50.3013 DE; F
AVG 50.4080 DE; F

TIME 22:12:25
CH1 50.4687 DE; F
CH2 50.4365 DE; F
CH3 50.3069 DE; F
AVG 50.4150 DE; F

TIME 22:12:30
CH1 50.4739 DE; F
CH2 50.4423 DE; F
CH3 50.3143 DE; F
AVG 50.4193 DE; F

TIME 22:12:35
CH1 50.4657 DE; F
CH2 50.4319 DE; F
CH3 50.3076 DE; F
AVG 50.4112 DE; F

TIME 22:12:40
CH1 50.4667 DE; F
CH2 50.4319 DE; F
CH3 50.3085 DE; F
AVG 50.4116 DE; F

TIME 22:12:45
CH1 50.4730 DE; F
CH2 50.4410 DE; F
CH3 50.3142 DE; F
AVG 50.4182 DE; F

TIME 22:12:50
CH1 50.4656 DE; F
CH2 50.4336 DE; F
CH3 50.3095 DE; F
AVG 50.4114 DE; F

TIME 22:12:55
CH1 50.4734 DE; F
CH2 50.4385 DE; F
CH3 50.3194 DE; F
AVG 50.4194 DE; F

TIME 22:13:00
CH1 50.4649 DE; F
CH2 50.4334 DE; F
CH3 50.3110 DE; F
AVG 50.4123 DE; F

TIME 22:13:05
CH1 50.4700 DE; F
CH2 50.4388 DE; F
CH3 50.3190 DE; F
AVG 50.4191 DE; F

TIME 22:13:10
CH1 50.4678 DE; F
CH2 50.4368 DE; F
CH3 50.3185 DE; F
AVG 50.4163 DE; F

TIME 22:13:15
CH1 50.4708 DE; F
CH2 50.4403 DE; F
CH3 50.3246 DE; F
AVG 50.4212 DE; F

TIME 22:13:20
CH1 50.4703 DE; F
CH2 50.4374 DE; F
CH3 50.3220 DE; F
AVG 50.4176 DE; F

TIME 22:13:25
CH1 50.4700 DE; F
CH2 50.4380 DE; F
CH3 50.3191 DE; F
AVG 50.4176 DE; F

TIME 22:13:30
CH1 50.4703 DE; F
CH2 50.4361 DE; F
CH3 50.3212 DE; F
AVG 50.4177 DE; F

TIME 22:13:35
CH1 50.4719 DE; F
CH2 50.4385 DE; F
CH3 50.3255 DE; F
AVG 50.4218 DE; F

TIME 22:13:40
CH1 50.4649 DE; F
CH2 50.4358 DE; F
CH3 50.3248 DE; F
AVG 50.4176 DE; F

TIME 22:13:45
CH1 50.4687 DE; F
CH2 50.4357 DE; F
CH3 50.3263 DE; F
AVG 50.4181 DE; F

TIME 22:13:50
CH1 50.4730 DE; F
CH2 50.4426 DE; F
CH3 50.3344 DE; F
AVG 50.4238 DE; F

TIME 22:13:55
CH1 50.4743 DE; F
CH2 50.4393 DE; F
CH3 50.3316 DE; F
AVG 50.4221 DE; F

TIME 22:14:00
CH1 50.4743 DE; F
CH2 50.4407 DE; F
CH3 50.3360 DE; F
AVG 50.4262 DE; F

TIME 22:14:05
CH1 50.4741 DE; F
CH2 50.4428 DE; F
CH3 50.3338 DE; F
AVG 50.4236 DE; F

TIME 22:14:10
CH1 50.4704 DE; F
CH2 50.4402 DE; F
CH3 50.3282 DE; F
AVG 50.4206 DE; F

TIME 22:14:15
CH1 50.4774 DE; F
CH2 50.4442 DE; F
CH3 50.3451 DE; F
AVG 50.4307 DE; F

TIME 22:14:20
CH1 50.4736 DE; F
CH2 50.4414 DE; F
CH3 50.3393 DE; F
AVG 50.4258 DE; F

TIME 22:14:25
CH1 50.4788 DE; F
CH2 50.4456 DE; F
CH3 50.3408 DE; F
AVG 50.4236 DE; F

TIME 22:14:30
CH1 50.4819 DE; F
CH2 50.4464 DE; F
CH3 50.3450 DE; F
AVG 50.4328 DE; F

TIME 22:14:35
CH1 50.4782 DE; F
CH2 50.4467 DE; F
CH3 50.3439 DE; F
AVG 50.4302 DE; F

TIME 22:14:41
CH1 50.4797 DE; F
CH2 50.4473 DE; F
CH3 50.3454 DE; F
AVG 50.4322 DE; F*

TIME 22:14:45
CH1 50.4807 DE; F
CH2 50.4488 DE; F
CH3 50.3459 DE; F
AVG 50.4321 DE; F

TIME 22:14:50
CH1 50.4838 DE; F
CH2 50.4516 DE; F
CH3 50.3507 DE; F
AVG 50.4353 DE; F

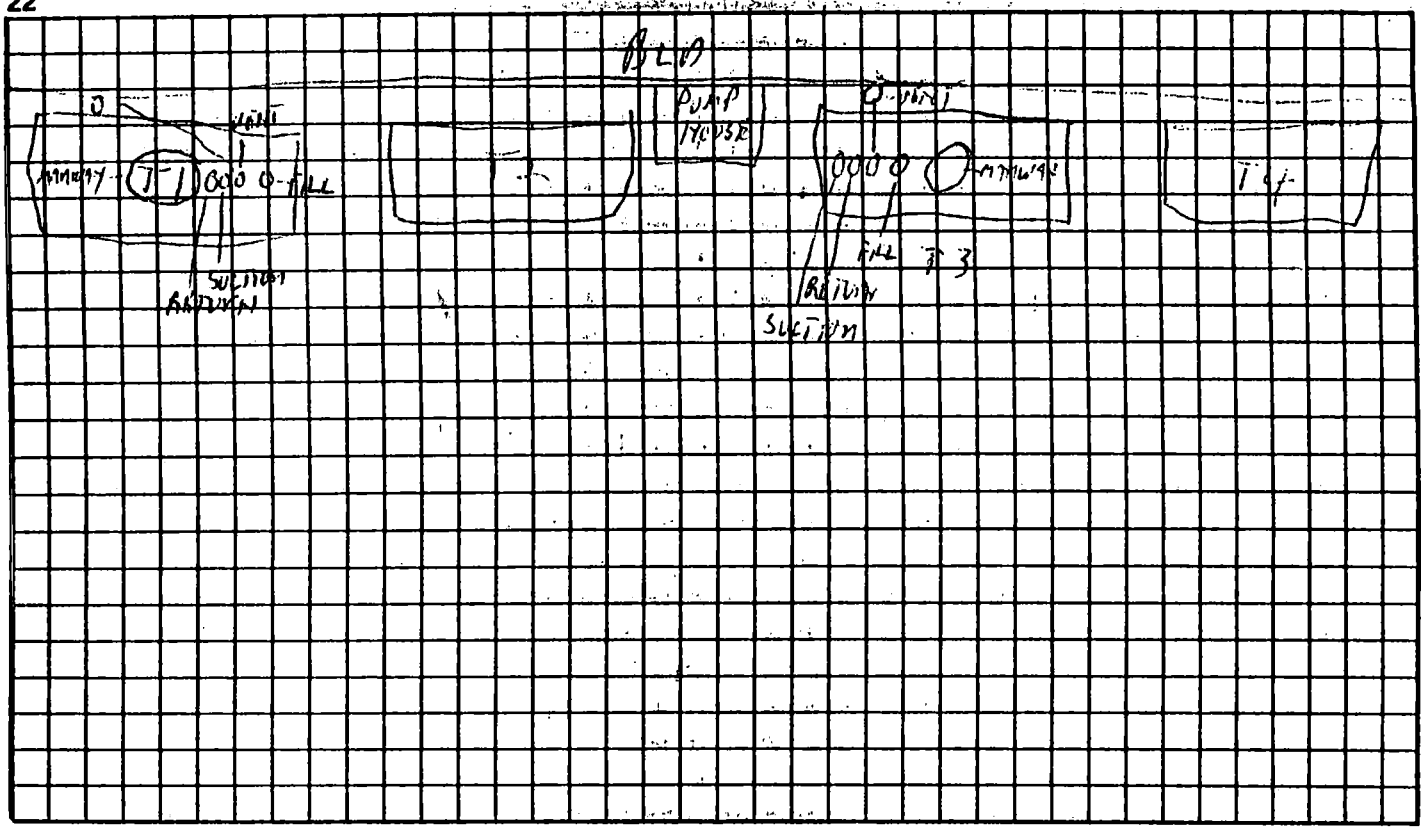
TIME 22:14:55
CH1 50.4862 DE; F
CH2 50.4517 DE; F
CH3 50.3533 DE; F
AVG 50.4351 DE; F

TIME 22:15:00
CH1 50.4853 DE; F
CH2 50.4432 DE; F
CH3 50.3486 DE; F
AVG 50.4339 DE; F*

TIME 22:15:00
CH1 50.4859 DE; F
CH2 50.4479 DE; F
CH3 50.3480 DE; F
AVG 50.4331 DE; F*

# TEST SITE LAYOUT

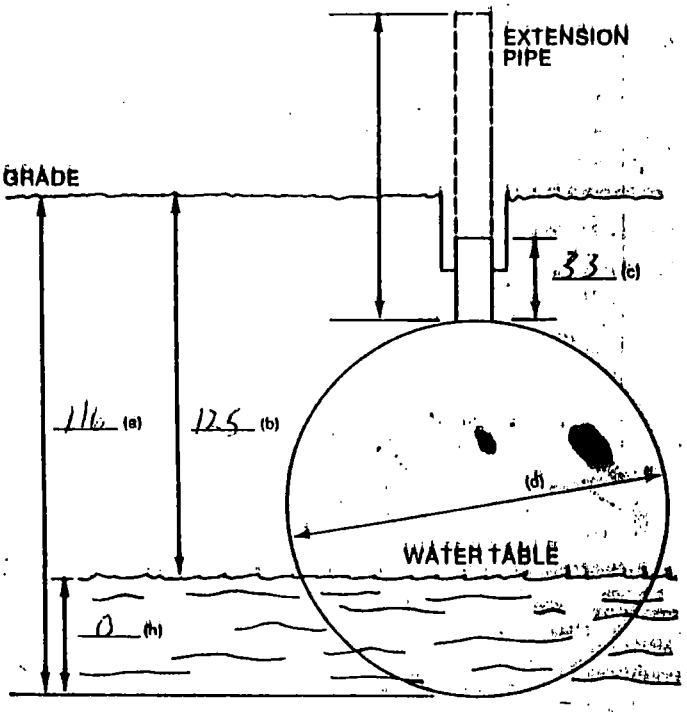
22




TESTER [illegible]
TEST COMPANY [illegible]

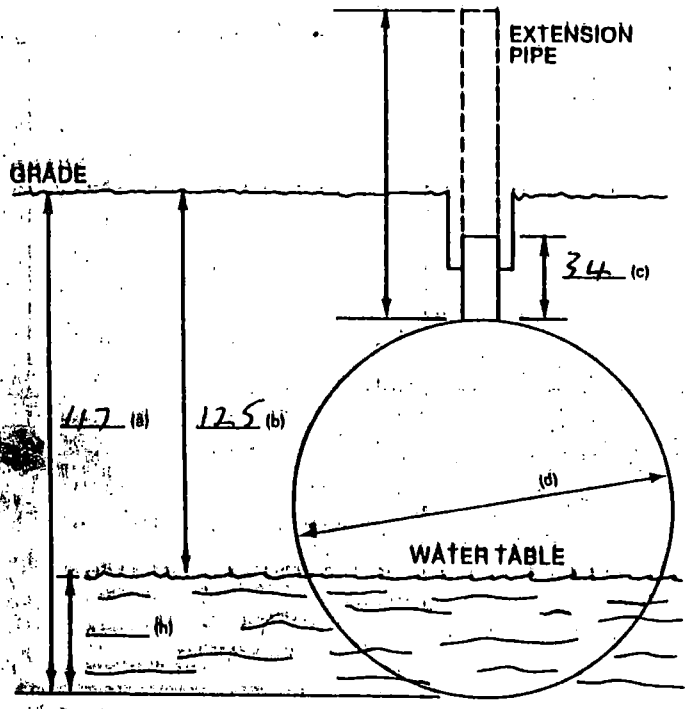
23

## TEST 1: TANK DIMENSIONS




TANK IDENT. T-1 3

## TEST 2: TANK DIMENSIONS



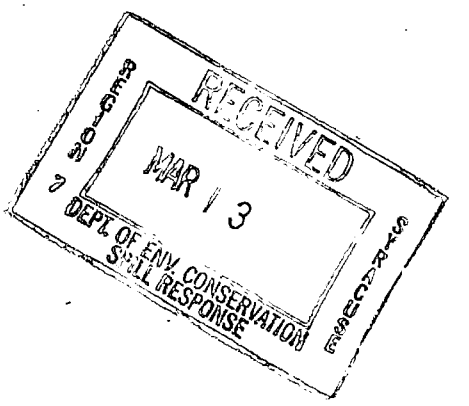

TANK IDENT: T-1

JOB [illegible]
ADDRESS [illegible]
DATE 11-22-85 & 11-27-85

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805




Facility: Vail Ballou Press
187 Clinton Street
Binghamton, N.Y.

PBS #: 182230

Tank #s: #001 - 10,300 gallon
#002 - 10,300 gallon
#003 - 10,300 gallon
#004 - 10,300 gallon

Test Date: 9-19-89

Tank system #003 showed a rate of leak of +.127 gallons per hour. Tank system failed the test.

Test Date: 9-20-89

Tank system #002 showed a rate of leak of -.025 gallons per hour. Tank system test tight.

Test Date: 9-22-89

Tank system #004 showed a rate of leak of +.046 gallons per hour. Tank system tested tight.

Test Date: 9-25-89 Test Method: Petro-Tite

Tank system #001 showed a rate of leak of -.092 gallons per hour. Tank system failed the test.

New York State Regulations require notification within 2 hours of tank test failure.

Spill Notification Number: 8906060

**TRI-STATE TANK SERVICE**

**LUZON OIL CO., INC.**

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805

A tank system test failure indicates the following:

a) The tank may be leaking.
b) The attached piping and/or fittings may be leaking.
c) Both the tank and the associated piping may be leaking.

In some cases unstable air along the tank top may cause an erroneous volume reading. We recommend re-testing be performed with tank top excavated to allow isolation of tank from piping and tank top modifications permitting the evacuation of any entrapped air or product vapor.

Enclosed are two (2) copies of this report and the test data. One is for your records and the other is to be sent to New York State D.E.C.

Please be advised that you will need to re-test, abandon, repair or remove this leaking tank as directed by New York State DEC in order to clear your record of the spill.

If you have any questions or need additional information, please contact me.

Very truly yours,

Robert B. Halprin,
Luzon Oil Co., Inc.

/enclosures

RBH:amd

SOILTEST

# AINLAY TANK TEGRITY TESTER™ FIELD TEST DATA

**1 TANK OPERATOR**

NAME: HALL BALLOU PRESS — ADDRESS: 157 CLINTON ST. BINGHAMTON N.Y. — PHONE:

**2 TANKS TO BE TESTED**

| IDENTIFICATION | CAPACITY—GALS. | MANUFACTURER | STEEL/FIBRGLS. | AGE—YRS. |
|---|---|---|---|---|
| TH004 | 10,000 | ? | STEEL | ? |
| TH001 | 10,000 | ? | STEEL | ? |

**3 WATER TABLE**

DISTANCE FROM GRADE TO WATER = 135 INS.

**4 TANK FILL-UP**

TANK WILL BE FILLED 5TH (TIME) ON 9/20/89

EXTRA 5 GALS PRODUCT AVAILABLE FROM TRI-STATE TANK

FILL UP TO BE ARRANGED BY MR. TRI-STATE TANK PHONE ( )

CONTACT AT STORAGE TERMINAL IS MR. PHONE ( )

**5 OUTSIDE CONTRACTORS**

NAME — ADDRESS — PHONE

**6 OFFICIALS TO BE CONTACTED**

NAME — AUTHORITY: P.E.C. — PHONE: 1-800-457-7362

**7 SPECIAL NOTES OR PRECAUTIONS**

FIRE ID 182230

SPILL #8-906060

**8 TEST RESULTS**

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN, N.F.P.A. 329.

| TANK IDENT | TANK IS TIGHT | TANK IS NOT TIGHT | LEAK RATE G. P. H. | TEST DATE |
|---|---|---|---|---|
| TH004 | X | | +.046 | 9-22-89 |
| TH001 | | X | +.092 | 9-25-89 |

**9 CERTIFICATION**

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED [signature] CERTIFICATE NO. 1315

ISSUE DATE 10-13-89

FOR (TEST COMPANY) TRI-STATE TANK SERVICE

ADDRESS Lucon Oil Co., Inc. P.O. Box 19 [illegible] NEW YORK 13747

ST-8 (REV. 2/87)

# AINLAY TANK TIGHTNESS TEST No. [redacted]

**10 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 93 INS FILL PIPE LENGTH 40 INS

**11 WATER IN TANK**

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

**12 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,300 GALS (c) DEDUCT WATER IN TANK +0 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 10,327 GALS (d) TOTAL PRODUCT VOL. 10,327 GALS

**13 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (H) INS
(b) DENSITY OF TANK PRODUCT = .1031 (W) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = (H) x 0.036 / (W) = 0 x 0.036 / .031 = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**14 PRELIM TEST DATA**

(a) START TEMP CHECK 805 (AM)/PM (d) A.P.I. GRAVITY 25.9 AT 66 °F
(b) END TEMP CHECK ____ AM/PM (e) A.P.I. GRAVITY 25.5 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .0004250

**15 TEST DATA**

(a) START TEST 1005 (AM)/PM: END TEST 1105 (AM)/PM: TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1005 | 65.6975 | 65.7453 | 64.1140 | 65.3262 | | | | | |
| 1010 | 65.6975 | 65.7408 | 64.1052 | 65.[redacted]3 | | | | | |
| 1015 | 65.6945 | 65.7409 | 64.1049 | 65.3149 | | | | | |
| 1020 | 65.6659 | 65.7413 | 64.1103 | 65.3232 | | | | | |
| 1025 | 65.6812 | 65.7360 | 64.1055 | 65.3171 | | | | | |
| 1030 | 65.6704 | 65.7340 | 64.1101 | 65.3185 | | | | | |
| 1035 | 65.6734 | 65.7359 | 64.1144 | 65.3167 | | | | | |
| 1040 | 65.6659 | 65.7327 | 64.1142 | 65.3139 | | | | | |
| 1045 | 65.6695 | 65.7323 | 64.1132 | 65.3126 | | | | | |
| 1050 | 65.6701 | 65.7292 | 64.1017 | 65.3123 | | | | | |
| 1055 | 65.6725 | 65.7289 | 64.0983 | 65.3096 | | | | | |
| 1100 | 65.6636 | 65.7201 | 64.0838 | 65.3070 | | | | | |
| 1105 | 65.6667 | 65.7242 | 64.0920 | 65.3162 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. − AVG START TEMP.) = [redacted] = .3262 = +0.0260 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL. x TEMP. CHANGE x COEFF. EXP.
= 10,327 [redacted] = +0.5584 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = +/− ____ GALS.

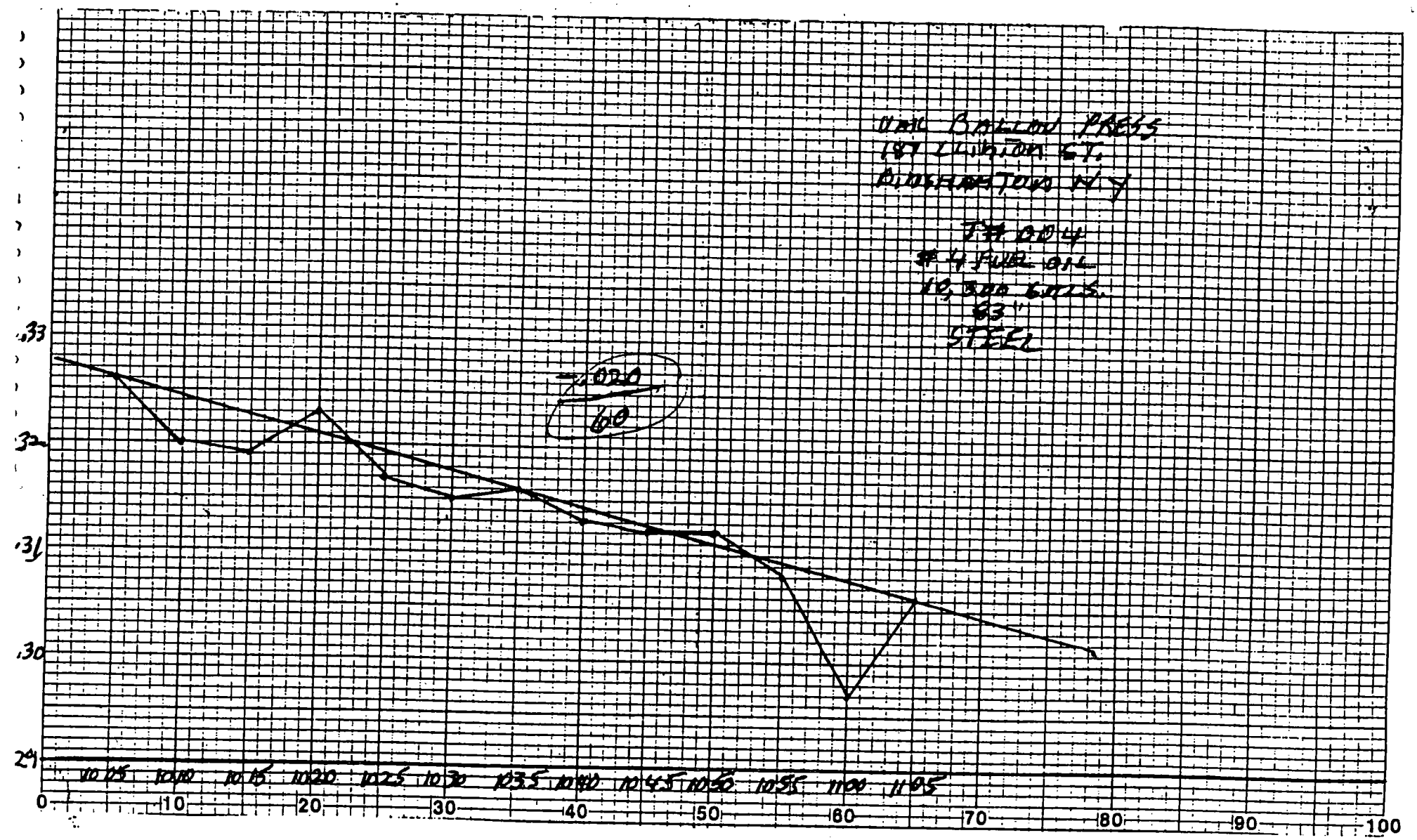
(e) VOL. CHANGE NOT DUE TO TEMP (c) + (d) ..... = [redacted] = +1.30 = 1.044 GALS.

(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = [redacted] G.P.H.

THIS LEAK RATE DOES / DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC. BULLETIN N.F.P.A. [redacted]

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

JOB ADDRESS ____ DATE ____ / ____ / ____ TESTER ____ TEST COMPANY ____


Oak Bellows Press
187 Lexington St.
Binghamton, N.Y.
T# 004
#4 Fuel oil
10,300 Gals.
63'
STEEL
=.020
60
.33
.32
.31
.30
.29
10 05 10 10 10 15 10 20 10 25 10 30 10 35 10 40 10 45 10 50 10 55 11 00 11 05
0
10
20
30
40
50
60
70
80
90
100

```
IE 22:08:05
   65.9211 DEG F
   65.8230 DEG F
   64.2644 DEG F
   65.4586 DEG F

IE 22:08:10
   65.8448 DEG F
   65.7952 DEG F
   64.2290 DEG F
   65.4174 DEG F

E 22:08:15
   65.8044 DEG F
   65.7823 DEG F
   64.2211 DEG F
   65.3986 DEG F

E 22:08:20
   65.7256 DEG F
   65.7757 DEG F
   64.2188 DEG F
   65.3860 DEG F

E 22:08:25
   65.7663 DEG F
   65.7731 DEG F
   64.2134 DEG F
   65.3816 DEG F

 22:08:30
   65.7583 DEG F
   65.7670 DEG F
   64.1997 DEG F
   65.3761 DEG F

 22:08:35
   65.7520 DEG F
   65.7629 DEG F
   64.1864 DEG F
   65.3669 DEG F

 22:08:40
   65.7432 DEG F
   65.7583 DEG F
   64.1785 DEG F
   65.3628 DEG F

 22:08:45
   65.7544 DEG F
   65.7623 DEG F
   64.1832 DEG F
   65.3678 DEG F

TIME 22:08:50
CH1    65.7460 DEG F
CH2    65.7573 DEG F
CH3    64.1742 DEG F
AVG    65.3603 DEG F

TIME 22:08:55
CH1    65.7490 DEG F
CH2    65.7610 DEG F
CH3    64.1706 DEG F
AVG    65.3628 DEG F

TIME 22:09:00
CH1    65.7470 DEG F
CH2    65.7605 DEG F
CH3    64.1672 DEG F
AVG    65.3596 DEG F

TIME 22:09:05
CH1    65.7411 DEG F
CH2    65.7571 DEG F
CH3    64.1646 DEG F
AVG    65.3568 DEG F

TIME 22:09:10
CH1    65.7300 DEG F
CH2    65.7523 DEG F
CH3    64.1637 DEG F
AVG    65.3518 DEG F

TIME 22:09:15
CH1    65.7230 DEG F
CH2    65.7509 DEG F
CH3    64.1694 DEG F
AVG    65.3497 DEG F

TIME 22:09:20
CH1    65.7217 DEG F
CH2    65.7537 DEG F
CH3    64.1657 DEG F
AVG    65.3501 DEG F

TIME 22:09:25
CH1    65.7175 DEG F
CH2    65.7517 DEG F
CH3    64.1512 DEG F
AVG    65.3421 DEG F

TIME 22:09:30
CH1    65.7191 DEG F
CH2    65.7510 DEG F
CH3    64.1441 DEG F
AVG    65.3423 DEG F

TIME 22:09:35
CH1    65.7193 DEG F
CH2    65.7500 DEG F
CH3    64.1440 DEG F
AVG    65.3425 DEG F

TIME 22:09:40
CH1    65.7196 DEG F
CH2    65.7493 DEG F
CH3    64.1441 DEG F
AVG    65.3414 DEG F

TIME 22:09:45
CH1    65.7181 DEG F
CH2    65.7455 DEG F
CH3    64.1412 DEG F
AVG    65.3391 DEG F

TIME 22:09:50
CH1    65.7201 DEG F
CH2    65.7455 DEG F
CH3    64.1413 DEG F
AVG    65.3394 DEG F

TIME 22:09:55
CH1    65.7225 DEG F
CH2    65.7482 DEG F
CH3    64.1353 DEG F
AVG    65.3409 DEG F

TIME 22:10:00
CH1    65.7041 DEG F
CH2    65.7440 DEG F
CH3    64.1192 DEG F
AVG    65.3297 DEG F

TIME 22:10:05
CH1    65.6975 DEG F
CH2    65.7453 DEG F
CH3    64.1140 DEG F
AVG    65.3262 DEG F

TIME 22:10:10
CH1    65.6875 DEG F
CH2    65.7408 DEG F
CH3    64.1052 DEG F
AVG    65.3203 DEG F

TIME 22:10:15
CH1    65.6842 DEG F
CH2    65.7409 DEG F
CH3    64.1049 DEG F
AVG    65.3194 DEG F

TIME 22:10:20
CH1    65.6889 DEG F
CH2    65.7413 DEG F
CH3    64.1103 DEG F
AVG    65.3232 DEG F

TIME 22:10:25
CH1    65.6812 DEG F
CH2    65.7360 DEG F
CH3    64.1085 DEG F
AVG    65.3171 DEG F

TIME 22:10:30
CH1    65.6761 DEG F
CH2    65.7340 DEG F
CH3    64.1101 DEG F
AVG    65.3150 DEG F

TIME 22:10:35
CH1    65.6730 DEG F
CH2    65.7359 DEG F
CH3    64.1144 DEG F
AVG    65.3167 DEG F

TIME 22:10:40
CH1    65.6689 DEG F
CH2    65.7327 DEG F
CH3    64.1142 DEG F
AVG    65.3139 DEG F

TIME 22:10:45
CH1    65.6695 DEG F
CH2    65.7323 DEG F
CH3    64.1132 DEG F
AVG    65.3126 DEG F

TIME 22:10:50
CH1    65.6701 DEG F
CH2    65.7292 DEG F
CH3    64.1067 DEG F
AVG    65.3123 DEG F

TIME 22:10:55
CH1    65.6725 DEG F
CH2    65.7289 DEG F
CH3    64.0983 DEG F
AVG    65.3086 DEG F

TIME 22:11:00
CH1    65.6636 DEG F
CH2    65.7201 DEG F
CH3    64.0838 DEG F
AVG    65.2974 DEG F

TIME 22:11:05
CH1    65.6667 DEG F
CH2    65.7292 DEG F
CH3    64.0924 DEG F
AVG    65.3062 DEG F
```

T#04

# AINLAY TANK TIGHTNESS TEST No.

TANK I.D. #1 & #4 FUEL OIL

**16 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 93 INS FILL PIPE LENGTH 31 INS

**17 WATER IN TANK**

(a) START WATER IN TANK 3 INS (c) END WATER IN TANK 0 INS

(b) START WATER IN TANK 3 GALS (d) END WATER IN TANK 0 GALS

**18 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,300 GALS (c) DEDUCT WATER IN TANK +0 GALS

(b) ACTUAL CAPACITY (FROM TANK CHART) 10,322 GALS (d) TOTAL PRODUCT VOL. 10,327 GALS

Top off +5

**19 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS

(b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES)

DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.

(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .031 = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**20 PRELIM TEST DATA**

(a) START TEMP CHECK 10:50 AM/PM (d) A.P.I. GRAVITY 25.3 AT 68 °F

(b) END TEMP CHECK ____ AM/PM (e) A.P.I. GRAVITY 24.4 AT 60°F

(c) TIME SINCE LAST LIQ. ADDED ½ HRS (f) COEFF. OF EXPANSION .000425 62 / 9

**21 TEST DATA**

(a) START TEST ____ AM/PM END TEST ____ AM/PM: TEST TIME ____ MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| [illegible] | 69237 | 71.2716 | 70.0218 | 70.5587 | | | | | |
| [illegible] | 69153 | 71.2834 | 70.0133 | 70.5557 | | | | | |
| [illegible] | 69276 | 71.2852 | 70.0027 | 70.5639 | | | | | |
| 1335 | 69342 | 71.2877 | 70.0030 | 70.5473 | | | | | |
| 1340 | 69382 | 71.2876 | 70.0025 | 70.5432 | | | | | |
| 1345 | 69[illegible] | 71.2862 | 69.9937 | 70.5392 | | | | | |
| 1350 | 69514 | 71.2774 | 69.9955 | 70.5369 | | | | | |
| 1355 | 69553 | 71.2770 | 69.9946 | 70.5323 | | | | | |
| 1400 | 69581 | 71.2743 | 69.9955 | 70.5327 | | | | | |
| 1405 | 69555 | 71.2662 | 69.9950 | 70.5256 | | | | | |
| 1410 | 69519 | 71.2645 | 70.0013 | 70.5277 | | | | | |
| 1415 | 69521 | 71.2625 | 69.9927 | 70.5237 | | | | | |
| 1420 | 69536 | 71.2638 | 70.0010 | 70.5273 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = 5273 − 5592 = +14.0314 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.

= 10,327 (18d) × .0314 (21b) × .000425 62 (20) = +11.134 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = @1- .232 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = −1134 + 1,230 = @1- .1092 GALS.

(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = 1,092 x 60 / 60 (21a) = 1,092 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☐ / THE TANK IS NOT TIGHT ☐

TESTER ____ TEST COMPANY ____

DATE ____ / ____ / ____

JOB ADDRESS ____

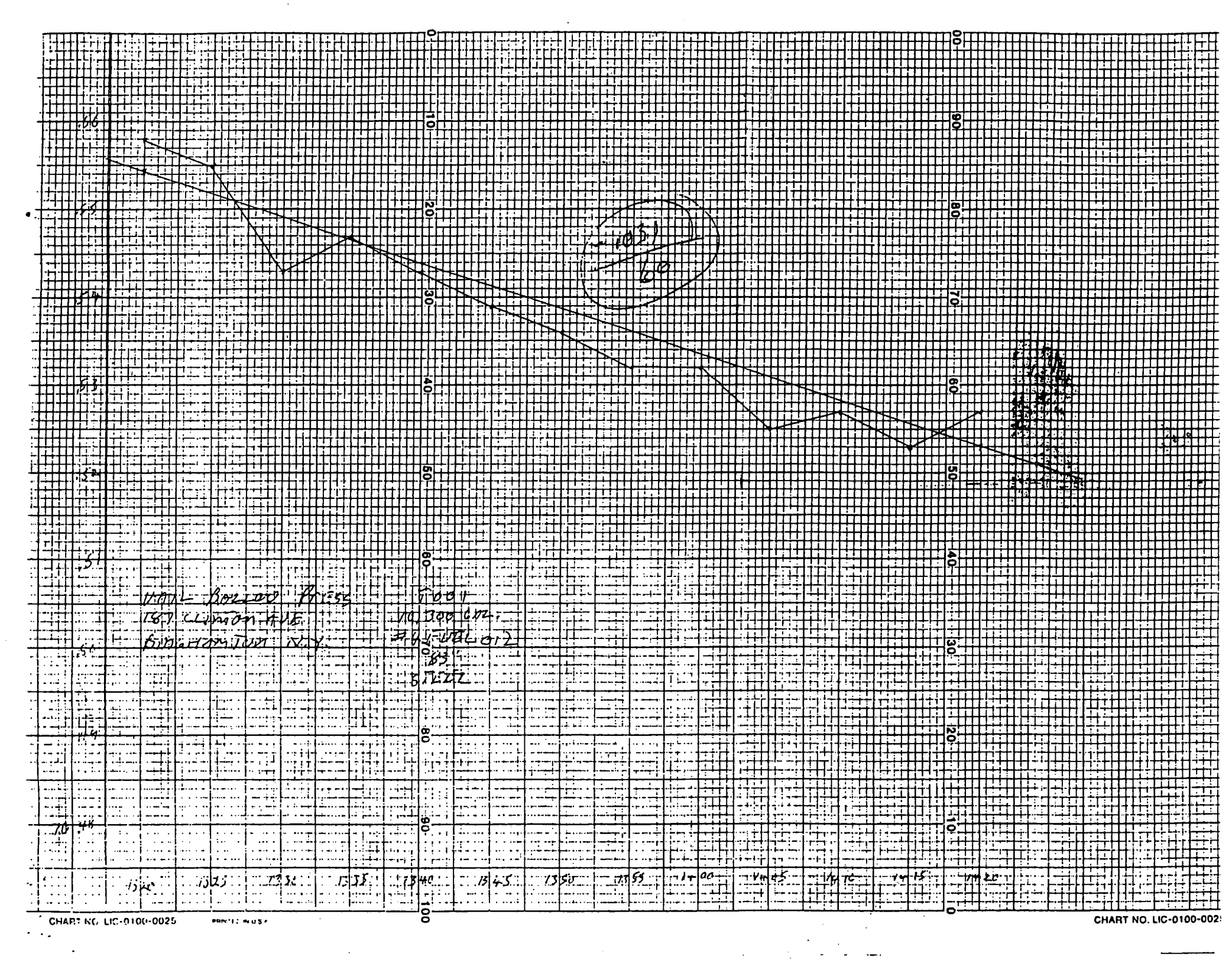


CHART NO. LIC-0100-0025
CHART NO. LIC-0100-0025

ME 25:10:30
1 69.4853 DEG F
2 71.0357 DEG F
3 69.8335 DEG F
G 70.3479 DEG F

ME 25:10:35
1 69.6503 DEG F
2 71.2167 DEG F
3 69.9848 DEG F
G 70.5181 DEG F

ME 25:10:40
1 69.6383 DEG F
2 71.2660 DEG F
3 70.0142 DEG F
G 70.5607 DEG F

ME 25:10:45
69.7183 DEG F
71.2304 DEG F
70.0223 DEG F
70.5825 DEG F

E 25:10:50
69.7291 DEG F
71.3005 DEG F
70.0210 DEG F
70.5878 DEG F

E 25:10:55
69.7234 DEG F
71.3034 DEG F
70.0189 DEG F
70.5901 DEG F

E 25:11:00
69.7362 DEG F
71.3092 DEG F
70.0197 DEG F
70.5941 DEG F

25:11:05
69.7147 DEG F
71.3099 DEG F
70.0192 DEG F
70.5910 DEG F

25:11:10
69.7183 DEG F
71.3030 DEG F
70.0148 DEG F
70.5850 DEG F

TIME 25:11:15
CH1 69.7094 DEG F
CH2 71.2939 DEG F
CH3 70.0112 DEG F
AVG 70.5796 DEG F

TIME 25:11:20
CH1 69.7232 DEG F
CH2 71.2953 DEG F
CH3 70.0147 DEG F
AVG 70.5843 DEG F

TIME 25:11:25
CH1 69.7163 DEG F
CH2 71.2978 DEG F
CH3 70.0163 DEG F
AVG 70.5835 DEG F

TIME 25:11:30
CH1 69.7072 DEG F
CH2 71.2969 DEG F
CH3 70.0141 DEG F
AVG 70.5791 DEG F

TIME 25:11:35
CH1 69.7073 DEG F
CH2 71.2975 DEG F
CH3 70.0160 DEG F
AVG 70.5802 DEG F

TIME 25:11:40
CH1 69.7047 DEG F
CH2 71.3016 DEG F
CH3 70.0220 DEG F
AVG 70.5832 DEG F

TIME 25:11:45
CH1 69.7041 DEG F
CH2 71.3006 DEG F
CH3 70.0278 DEG F
AVG 70.5848 DEG F

TIME 25:11:50
CH1 69.6924 DEG F
CH2 71.3002 DEG F
CH3 70.0345 DEG F
AVG 70.5823 DEG F

TIME 25:11:55
CH1 69.6838 DEG F
CH2 71.2982 DEG F
CH3 70.0346 DEG F
AVG 70.5807 DEG F

TIME 25:12:00
CH1 69.6880 DEG F
CH2 71.3007 DEG F
CH3 70.0364 DEG F
AVG 70.5821 DEG F

TIME 25:12:05
CH1 69.7023 DEG F
CH2 71.3061 DEG F
CH3 70.0393 DEG F
AVG 70.5887 DEG F

TIME 25:12:10
CH1 69.6907 DEG F
CH2 71.3065 DEG F
CH3 70.0391 DEG F
AVG 70.5844 DEG F

TIME 25:12:15
CH1 69.6703 DEG F
CH2 71.3030 DEG F
CH3 70.0345 DEG F
AVG 70.5784 DEG F

TIME 25:12:20
CH1 69.6855 DEG F
CH2 71.3045 DEG F
CH3 70.0357 DEG F
AVG 70.5838 DEG F

TIME 25:12:25
CH1 69.6874 DEG F
CH2 71.3010 DEG F
CH3 70.0338 DEG F
AVG 70.5813 DEG F

TIME 25:12:30
CH1 69.6871 DEG F
CH2 71.3006 DEG F
CH3 70.0338 DEG F
AVG 70.5821 DEG F

TIME 25:12:35
CH1 69.6585 DEG F
CH2 71.2978 DEG F
CH3 70.0346 DEG F
AVG 70.5732 DEG F

TIME 25:12:40
CH1 69.6582 DEG F
CH2 71.3003 DEG F
CH3 70.0335 DEG F
AVG 70.5743 DEG F

TIME 25:12:45
CH1 69.6421 DEG F
CH2 71.2968 DEG F
CH3 70.0332 DEG F
AVG 70.5691 DEG F

TIME 25:12:50
CH1 69.6478 DEG F
CH2 71.2972 DEG F
CH3 70.0335 DEG F
AVG 70.5699 DEG F

TIME 25:12:55
CH1 69.6538 DEG F
CH2 71.2945 DEG F
CH3 70.0329 DEG F
AVG 70.5714 DEG F

TIME 25:13:00
CH1 69.6505 DEG F
CH2 71.2907 DEG F
CH3 70.0284 DEG F
AVG 70.5659 DEG F

TIME 25:13:05
CH1 69.6235 DEG F
CH2 71.2927 DEG F
CH3 70.0297 DEG F
AVG 70.5610 DEG F

TIME 25:13:10
CH1 69.6305 DEG F
CH2 71.2926 DEG F
CH3 70.0269 DEG F
AVG 70.5642 DEG F

TIME 25:13:15
CH1 69.6389 DEG F
CH2 71.2949 DEG F
CH3 70.0267 DEG F
AVG 70.5652 DEG F

TIME 25:13:20
CH1 69.6237 DEG F
CH2 71.2916 DEG F
CH3 70.0218 DEG F
AVG 70.5587 DEG F

TIME 25:13:25
CH1 69.6180 DEG F
CH2 71.2894 DEG F
CH3 70.0132 DEG F
AVG 70.5557 DEG F

TIME 25:13:30
CH1 69.5976 DEG F
CH2 71.2860 DEG F
CH3 70.0027 DEG F
AVG 70.5439 DEG F

TIME 25:13:35
CH1 69.5942 DEG F
CH2 71.2877 DEG F
CH3 70.0030 DEG F
AVG 70.5473 DEG F

TIME 25:13:40
CH1 69.5882 DEG F
CH2 71.2876 DEG F
CH3 70.0023 DEG F
AVG 70.5432 DEG F

TIME 25:13:45
CH1 69.5905 DEG F
CH2 71.2800 DEG F
CH3 69.9937 DEG F
AVG 70.5392 DEG F

TIME 25:13:50
CH1 69.5919 DEG F
CH2 71.2774 DEG F
CH3 69.9955 DEG F
AVG 70.5369 DEG F

TIME 25:13:55
CH1 69.5853 DEG F
CH2 71.2720 DEG F
CH3 69.9946 DEG F
AVG 70.5323 DEG F

TIME 25:14:00
CH1 69.5801 DEG F
CH2 71.2742 DEG F
CH3 69.9955 DEG F
AVG 70.5327 DEG F

TIME 25:14:05
CH1 69.5755 DEG F
CH2 71.2666 DEG F
CH3 69.9950 DEG F
AVG 70.5256 DEG F

TIME 25:14:10
CH1 69.5668 DEG F
CH2 71.2685 DEG F
CH3 70.0019 DEG F
AVG 70.5277 DEG F

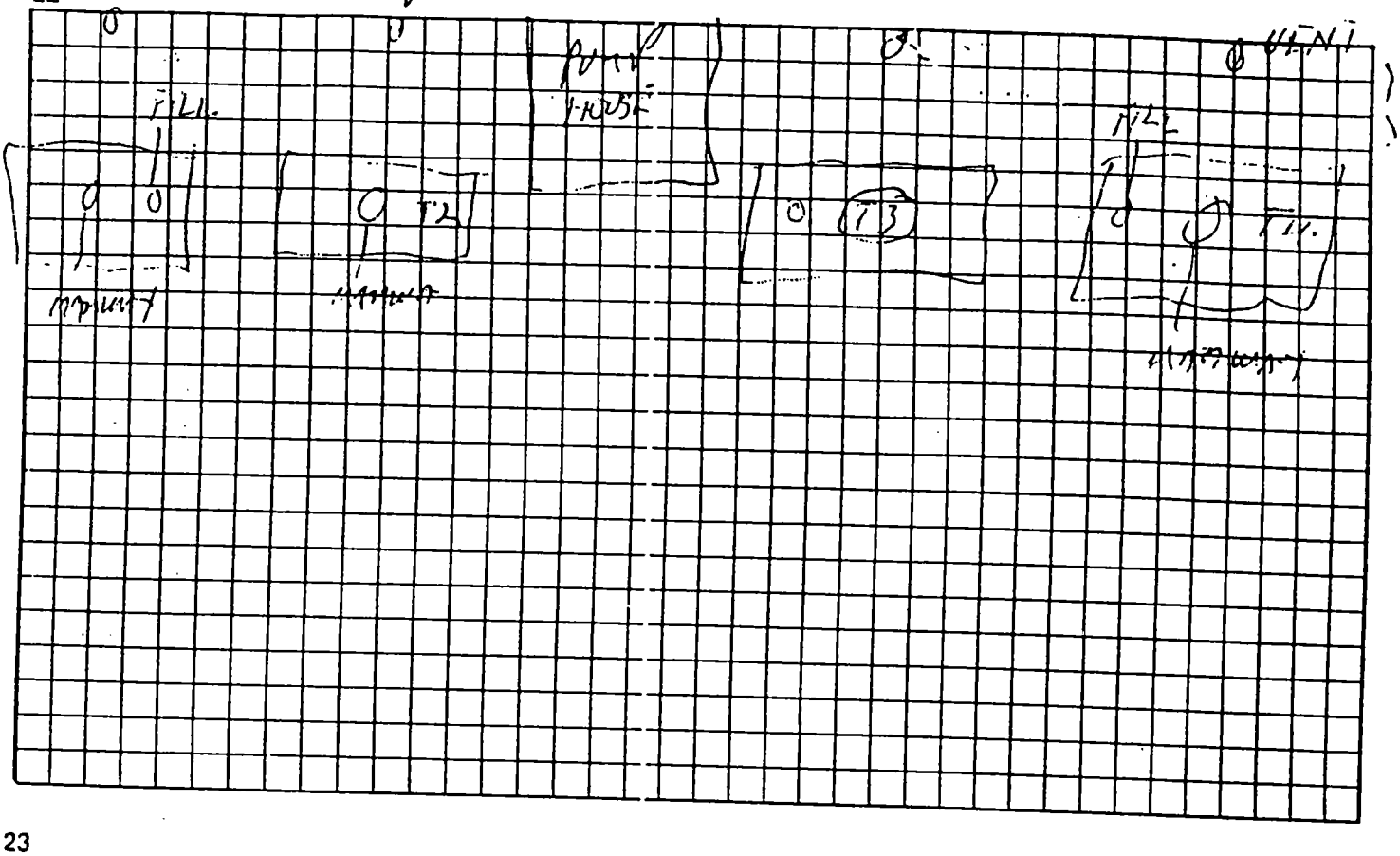
TIME 25:14:15
CH1 69.5721 DEG F
CH2 71.2625 DEG F
CH3 69.9977 DEG F
AVG 70.5237 DEG F

TIME 25:14:20
CH1 69.5736 DEG F
CH2 71.2638 DEG F
CH3 70.0010 DEG F
AVG 70.5273 DEG F

T #001

22

# TEST SITE LAYOUT

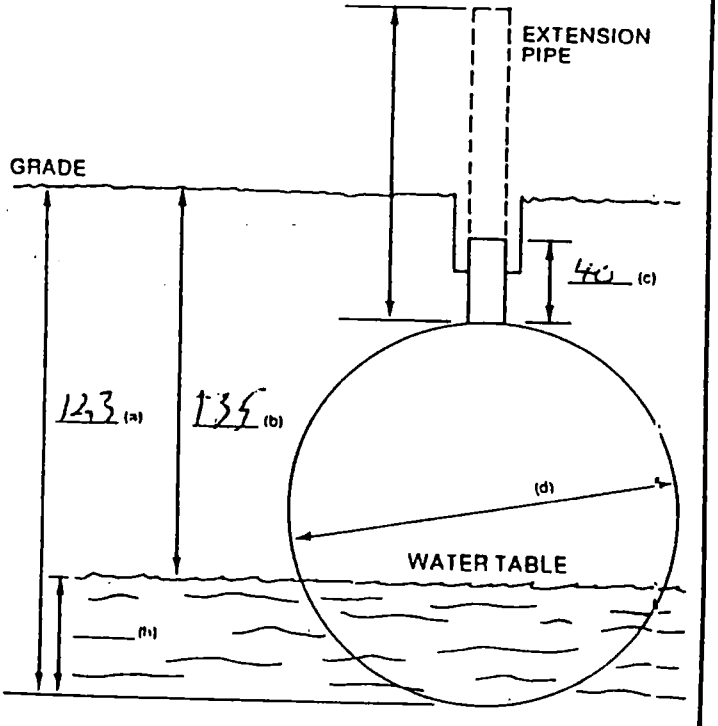



TESTER

TEST COMPANY

23

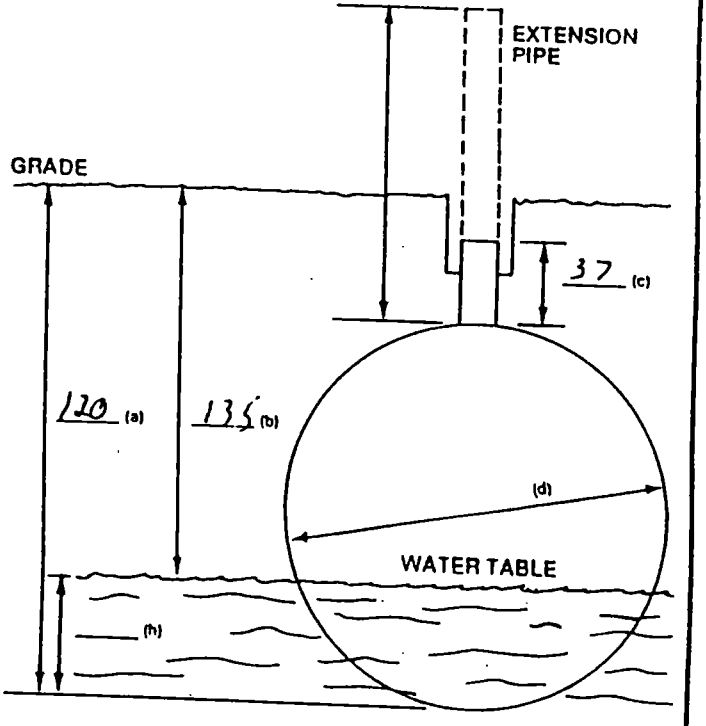
## TEST 1: TANK DIMENSIONS




DATE

TANK IDENT. TH 004

## TEST 2: TANK DIMENSIONS




TANK IDENT. TH 001

JOB

ADDRESS

SOILTEST

# AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

**1 TANK OPERATOR**

NAME: VAIL BALLOU PRESS — ADDRESS: 187 CLINTON ST BINGHAMTON N.Y. — PHONE:

**2 TANKS TO BE TESTED**

| IDENTIFICATION | CAPACITY—GALS. | MANUFACTURER | STEEL/FIBRGLS. | AGE—YRS. |
|---|---|---|---|---|
| 17-003 | 10,300 | ? | STEEL | ? |
| 17-002 | 10,300 | ? | STEEL | ? |
| | | | | |
| | | | | |
| | | | | |

**3 WATER TABLE**

DISTANCE FROM GRADE TO WATER 135 INS.

**4 TANK FILL-UP**

TANK WILL BE FILLED 1 hour (TIME) ON 1 1 Tu. Tent. to 4-19-55

EXTRA 5 GALS PRODUCT AVAILABLE FROM VAIL BALLOU

FILL UP TO BE ARRANGED BY MR. BOB KALKA PHONE (607) 723-2981

CONTACT AT STORAGE TERMINAL IS MR. PHONE ( ).

**5 OUTSIDE CONTRACTORS**

NAME — ADDRESS — PHONE

**6 OFFICIALS TO BE CONTACTED**

NAME — AUTHORITY O.F.C. — PHONE 1-800-457-7362

**7 SPECIAL NOTES OR PRECAUTIONS**

PSI-H 182.238

SPILL H 8'9 0'6060

**8 TEST RESULTS**

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

| TANK IDENT | TANK IS TIGHT | TANK IS NOT TIGHT | LEAK RATE G. P. H. | TEST DATE |
|---|---|---|---|---|
| 17 003 | | X | .1127 | 4-19-55 |
| 17 002 | X | | .1025 | 4-20-55 |
| | | | | |

**9 CERTIFICATION**

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED [signature] CERTIFICATE NO. 1315

ISSUE DATE 10-15-55

FOR (TEST COMPANY) TRI-STATE TANK SERVICE

ADDRESS Luzon Oil Co., Inc.

ST-6 (REV. 2/87)

# AINLAY TANK TIGHTNESS TEST No: [redacted]

1-77002 FT 4 FUEL OIL

**10 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK: (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 96 INS FILL PIPE LENGTH 36 INS

**11 WATER IN TANK**

(a) START WATER IN TANK 3 INS (c) END WATER IN TANK 3 INS
(b) START WATER IN TANK 117 GALS (d) END WATER IN TANK 117 GALS

**12 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,500 GALS (c) DEDUCT WATER IN TANK -117 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 10,322 GALS (d) TOTAL PRODUCT VOL. +10,210 GALS

73105-27-1

**13 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = 1031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .031 = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**14 PRELIM TEST DATA**

(a) START TEMP CHECK 9:00 (AM)/PM (d) A.P.I. GRAVITY 25.5 At 73 °F
(b) END TEMP CHECK ____ AM/PM (e) A.P.I. GRAVITY 24.7 At 60°F
(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .000 425 27

**15 TEST DATA**

(a) START TEST 12:00 AM/PM: END TEST ____ AM/PM: TEST TIME = 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1200 | 74.7525 | 74.9961 | 82.0801 | 76.3565 | | | | | |
| 1205 | 74.7475 | 74.9907 | 82.0641 | 76.6455 | | | | | |
| 1210 | 74.7455 | 75.0005 | 82.0475 | 76.7028 | | | | | |
| 1215 | 74.7495 | 75.0037 | 82.0331 | 76.6973 | | | | | |
| 1220 | 74.7464 | 75.0057 | 82.0184 | 76.6951 | | | | | |
| 1225 | 74.7461 | 75.0125 | 82.0050 | 76.6957 | | | | | |
| 1230 | 74.7417 | 75.0131 | 81.9956 | 76.6908 | | | | | |
| 1235 | 74.7435 | 75.0107 | 81.9751 | 76.6866 | | | | | |
| 1240 | 74.7535 | 75.0037 | 81.9671 | 76.6942 | | | | | |
| 1245 | 74.7614 | 75.9907 | 81.9593 | 76.6965 | | | | | |
| 1250 | 74.7651 | 75.9922 | 81.9415 | 76.6955 | | | | | |
| 1255 | 74.7605 | 75.9414 | 81.9[redacted]5 | 76.6676 | | | | | |
| 1300 | 74.7623 | 75.9532 | 81.9[redacted]9 | 76.6637 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. − AVG START TEMP.) = 76.6637 − 76.3565 = +0.3072 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL x TEMP. CHANGE x COEFF. EXP.
= 10,210 (12d) x 0.3072 (11b) x .000 425 27 (11f) = +0.1954 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = 81-, 120 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP ((c) + (d)) ..... = -0.125 + 16.120 = +15.925 GALS.

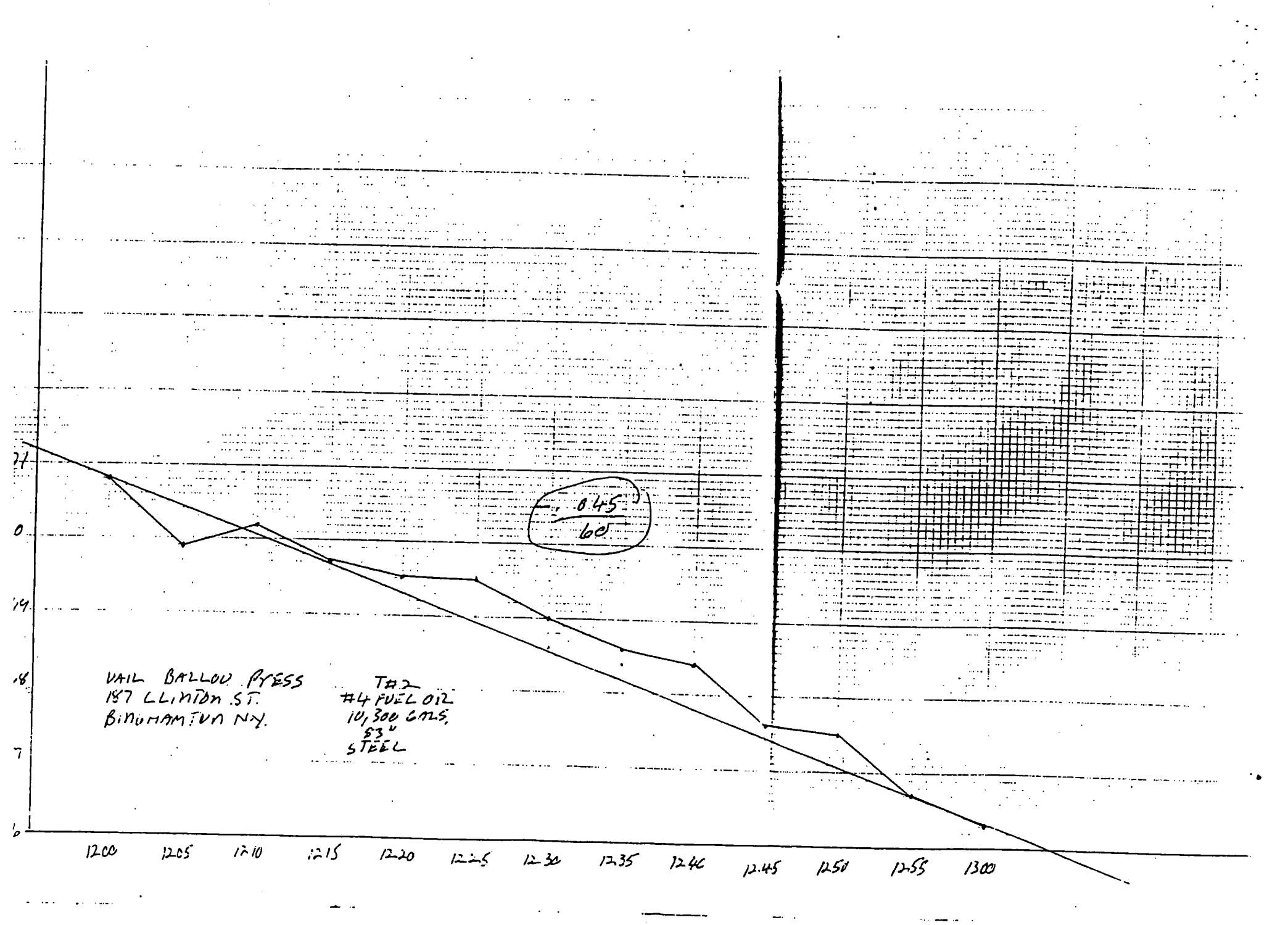
(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = 15.925 x 60 / 60 (15a) = 15.925 G.P.H.

THIS LEAK RATE DOES / DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC. BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

ADDRESS

TEST COMPANY


0.45
60
VAIL BALLOU PRESS
187 CLINTON ST.
BINGHAMTON N.Y.
T#2
#4 FUEL OIL
10,300 GALS.
53"
STEEL
1200
1205
1210
1215
1220
1225
1230
1235
1240
12.45
1250
12.55
1300

```
ME 20:09:30
H1   74.6597 DEG F
H2   74.6951 DEG F
H3   82.5716 DEG F
AVG  76.6585 DEG F

ME 20:09:05
H1   74.6548 DEG F
H2   74.7512 DEG F
H3   82.5799 DEG F
AVG  76.6887 DEG F

ME 20:09:10
H1   74.6853 DEG F
H2   74.7876 DEG F
H3   82.5969 DEG F
AVG  76.7167 DEG F

ME 20:09:15
1    74.6971 DEG F
2    74.8014 DEG F
3    82.5370 DEG F
G    76.7231 DEG F

ME 20:09:20
1    74.6996 DEG F
2    74.8187 DEG F
3    82.5569 DEG F
     76.7285 DEG F

ME 20:09:25
     74.7014 DEG F
     74.8332 DEG F
     82.5570 DEG F
     76.7340 DEG F

ME 20:09:30
     74.6926 DEG F
     74.8465 DEG F
     82.5475 DEG F
     76.7354 DEG F

E 20:09:35
    74.6901 DEG F
    74.8560 DEG F
    82.5337 DEG F
    76.7344 DEG F

E 20:09:40
    74.6821 DEG F
    74.8516 DEG F
    82.5090 DEG F
    76.7251 DEG F
```

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TIME 20:09:45
CH1   74.6302 DEG F
CH2   74.8456 DEG F
CH3   82.4371 DEG F
AVG   76.7141 DEG F

TIME 20:09:50
CH1   74.6816 DEG F
CH2   74.8436 DEG F
CH3   82.4733 DEG F
AVG   76.7094 DEG F

TIME 20:09:55
CH1   74.6823 DEG F
CH2   74.8398 DEG F
CH3   82.4557 DEG F
AVG   76.7069 DEG F

TIME 20:10:00
CH1   74.6824 DEG F
CH2   74.8250 DEG F
CH3   82.4438 DEG F
AVG   76.7023 DEG F

TIME 20:10:05
CH1   74.6775 DEG F
CH2   74.8294 DEG F
CH3   82.4272 DEG F
AVG   76.6925 DEG F

TIME 20:10:10
CH1   74.6726 DEG F
CH2   74.8304 DEG F
CH3   82.4148 DEG F
AVG   76.6885 DEG F

TIME 20:10:15
CH1   74.6788 DEG F
CH2   74.8394 DEG F
CH3   82.4029 DEG F
AVG   76.6904 DEG F

TIME 20:10:20
CH1   74.6893 DEG F
CH2   74.8628 DEG F
CH3   82.3915 DEG F
AVG   76.7021 DEG F

TIME 20:10:25
CH1   74.7026 DEG F
CH2   74.8921 DEG F
CH3   82.3804 DEG F
AVG   76.7185 DEG F
```

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TIME 20:10:30
CH1   74.6988 DEG F
CH2   74.9051 DEG F
CH3   82.3631 DEG F
AVG   76.7200 DEG F

TIME 20:10:35
CH1   74.6898 DEG F
CH2   74.9155 DEG F
CH3   82.3417 DEG F
AVG   76.7163 DEG F

TIME 20:10:40
CH1   74.6814 DEG F
CH2   74.9260 DEG F
CH3   82.3233 DEG F
AVG   76.7147 DEG F

TIME 20:10:45
CH1   74.6784 DEG F
CH2   74.9410 DEG F
CH3   82.3026 DEG F
AVG   76.7165 DEG F

TIME 20:10:50
CH1   74.6734 DEG F
CH2   74.9493 DEG F
CH3   82.2828 DEG F
AVG   76.7151 DEG F

TIME 20:10:55
CH1   74.6777 DEG F
CH2   74.9578 DEG F
CH3   82.2706 DEG F
AVG   76.7179 DEG F

TIME 20:11:00
CH1   74.6798 DEG F
CH2   74.9644 DEG F
CH3   82.2515 DEG F
AVG   76.7174 DEG F

TIME 20:11:05
CH1   74.6305 DEG F
CH2   74.9715 DEG F
CH3   82.2363 DEG F
AVG   76.7164 DEG F

TIME 20:11:10
CH1   74.6836 DEG F
CH2   74.9762 DEG F
CH3   82.2238 DEG F
AVG   76.7174 DEG F
```

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TIME 20:11:15
CH1   74.6967 DEG F
CH2   74.9777 DEG F
CH3   82.2134 DEG F
AVG   76.7171 DEG F

TIME 20:11:20
CH1   74.7019 DEG F
CH2   74.9706 DEG F
CH3   82.1978 DEG F
AVG   76.7113 DEG F

TIME 20:11:25
CH1   74.7117 DEG F
CH2   74.9736 DEG F
CH3   82.1835 DEG F
AVG   76.7112 DEG F

TIME 20:11:30
CH1   74.7105 DEG F
CH2   74.9876 DEG F
CH3   82.1580 DEG F
AVG   76.7125 DEG F

TIME 20:11:35
CH1   74.7236 DEG F
CH2   74.9771 DEG F
CH3   82.1464 DEG F
AVG   76.7071 DEG F

TIME 20:11:40
CH1   74.7310 DEG F
CH2   74.9679 DEG F
CH3   82.1266 DEG F
AVG   76.6994 DEG F

TIME 20:11:45
CH1   74.7362 DEG F
CH2   74.9708 DEG F
CH3   82.1049 DEG F
AVG   76.6969 DEG F

TIME 20:11:50
CH1   74.7440 DEG F
CH2   74.9926 DEG F
CH3   82.0917 DEG F
AVG   76.7077 DEG F

TIME 20:11:55
CH1   74.7502 DEG F
CH2   74.9997 DEG F
CH3   82.0837 DEG F
AVG   76.7100 DEG F
```

```
TIME 20:12:00
CH1   74.7525 DEG F
CH2   74.9961 DEG F
CH3   82.0801 DEG F
AVG   76.7085 DEG F

TIME 20:12:05
CH1   74.7475 DEG F
CH2   74.9907 DEG F
CH3   82.0641 DEG F
AVG   76.6995 DEG F

TIME 20:12:10
CH1   74.7485 DEG F
CH2   75.0005 DEG F
CH3   82.0475 DEG F
AVG   76.7028 DEG F

TIME 20:12:15
CH1   74.7495 DEG F
CH2   75.0037 DEG F
CH3   82.0331 DEG F
AVG   76.6973 DEG F

TIME 20:12:20
CH1   74.7469 DEG F
CH2   75.0037 DEG F
CH3   82.0184 DEG F
AVG   76.6951 DEG F

TIME 20:12:25
CH1   74.7461 DEG F
CH2   75.0125 DEG F
CH3   82.0050 DEG F
AVG   76.6957 DEG F

TIME 20:12:30
CH1   74.7417 DEG F
CH2   75.0131 DEG F
CH3   81.9886 DEG F
AVG   76.6908 DEG F

TIME 20:12:35
CH1   74.7435 DEG F
CH2   75.0107 DEG F
CH3   81.9751 DEG F
AVG   76.6866 DEG F

TIME 20:12:40
CH1   74.7535 DEG F
CH2   75.0039 DEG F
CH3   81.9671 DEG F
AVG   76.6842 DEG F
```

```
TIME 20:12:45
CH1   74.7664 DEG F
CH2   74.9907 DEG F
CH3   81.9583 DEG F
AVG   76.6765 DEG F

TIME 20:12:50
CH1   74.7651 DEG F
CH2   74.9922 DEG F
CH3   81.9415 DEG F
AVG   76.6755 DEG F

TIME 20:12:55
CH1   74.7605 DEG F
CH2   74.9914 DEG F
CH3   81.9255 DEG F
AVG   76.6676 DEG F

TIME 20:13:00
CH1   74.7628 DEG F
CH2   74.9832 DEG F
CH3   81.9179 DEG F
AVG   76.6632 DEG F
```

# AINLAY TANK TIGHTNESS TEST No. 1

TEST COMPANY _____ ADDRESS _____

**16 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 7 3 INS FILL PIPE LENGTH 3 7 INS

**17 WATER IN TANK**

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS

(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

**18 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,000 GALS (c) DEDUCT WATER IN TANK 10 GALS

(b) ACTUAL CAPACITY (FROM TANK CHART) 10,322 GALS (d) TOTAL PRODUCT VOL. 10,327 GALS

**19 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS

(b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES)

DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.

(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)}$ = $\frac{\times 0.036}{}$ = _____ INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**20 PRELIM TEST DATA**

(a) START TEMP CHECK 1305 AM/PM. (d) A.P.I. GRAVITY 25.8 AT 67 °F

(b) END TEMP CHECK 1700 AM/PM (e) A.P.I. GRAVITY 25.3 AT 60°F

(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .000427 39

**21 TEST DATA**

(a) START TEST 16.00 AM/PM END TEST 17.00 AM/PM: TEST TIME = 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1600 | 65.4121 | 67.7444 | 68.1455 | 67.3760 | | | | | |
| 1605 | 65.5031 | 67.7409 | 68.1422 | 67.3701 | | | | | |
| 1610 | 65.5132 | 67.7423 | 68.1464 | 67.3746 | | | | | |
| 1615 | 65.5011 | 67.7344 | 68.1463 | 67.3725 | | | | | |
| 1620 | 65.4104 | 67.7382 | 68.1491 | 67.3721 | | | | | |
| 1625 | 65.4146 | 67.7403 | 68.2057 | 67.3773 | | | | | |
| 1630 | 65.4143 | 67.7418 | 68.2044 | 67.3777 | | | | | |
| 1635 | 65.4134 | 67.7407 | 68.2043 | 67.3774 | | | | | |
| 1640 | 65.4127 | 67.7403 | 68.2044 | 67.3776 | | | | | |
| 1645 | 65.4105 | 67.7352 | 68.2044 | 67.3750 | | | | | |
| 1650 | 65.4149 | 67.7424 | 68.2042 | 67.3787 | | | | | |
| 1655 | 65.4094 | 67.7366 | 68.2045 | 67.3726 | | | | | |
| 1700 | 65.4111 | 67.7345 | 68.2033 | 67.3730 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = 3730 − 13760 = +10.005 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.

= 10,327 (18d) × .005 (21b) × .000427 39 (20) = +10.0132 GALS.

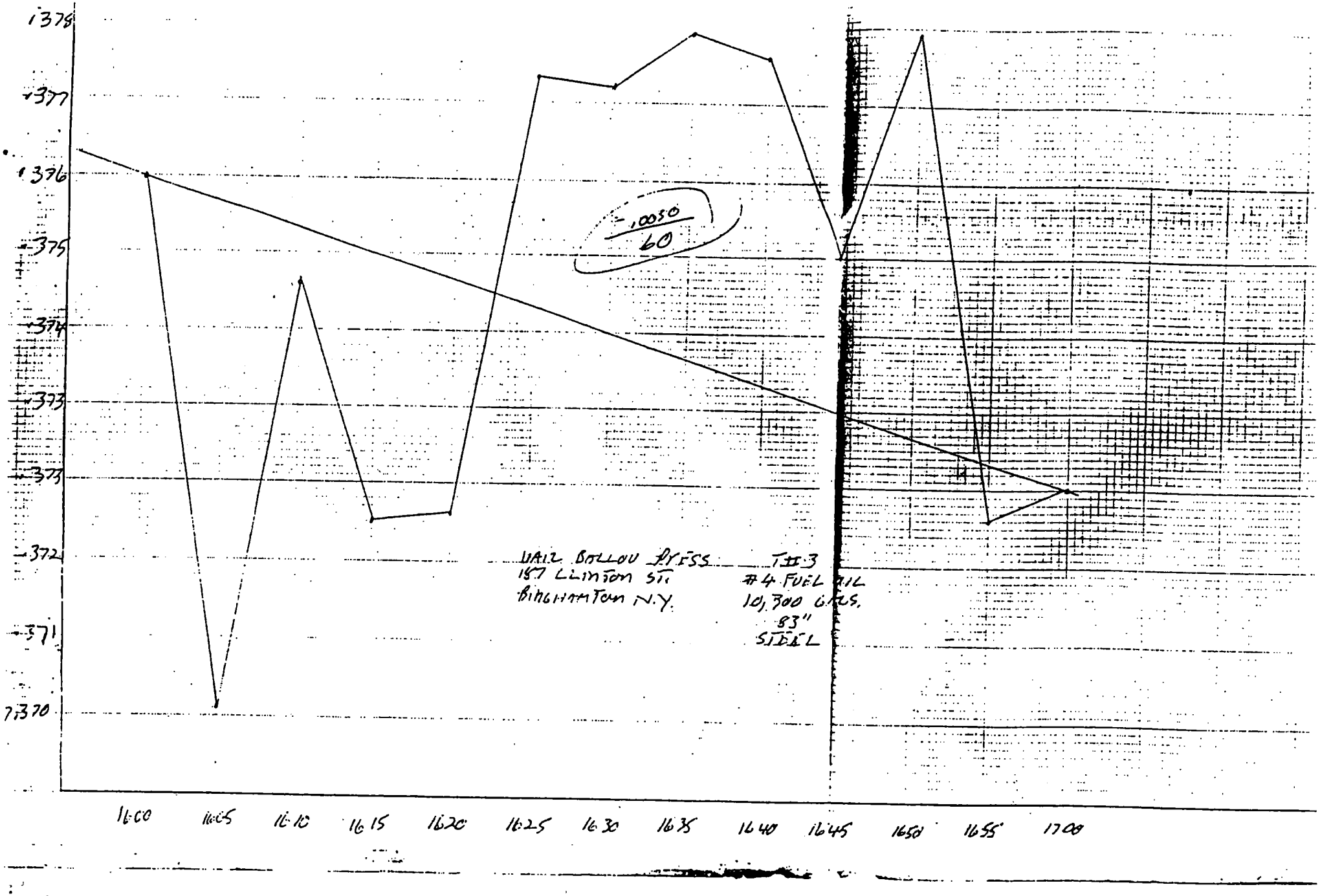
(d) TOTAL LIQUID VOL (ADDED) SUBTRACTED AT END OF TEST ..... = 31-.140 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = .013 + .140 = 41-.127 GALS.

(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}}$ = $\frac{.127 \times 60}{60}$ (21a) = .127 G.P.H.

THIS LEAK RATE, DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☐ / THE TANK IS NOT TIGHT ☒


1378
377
1376
375
374
373
372
371
1370
1050
60
VAIL BALLOU PRESS
157 CLINTON ST.
BINGHAMTON N.Y.
T-113
#4 FUEL OIL
10,300 GALS.
83"
STEEL
16:00
16:05
16:10
16:15
16:20
16:25
16:30
16:35
16:40
16:45
16:50
16:55
17:00

IME 19:13:05
H1 65.7434 DEG F
H2 67.6923 DEG F
H3 68.0791 DEG F
VG 67.3019 DEG F

IME 19:13:10
H1 65.7980 DEG F
H2 67.7406 DEG F
H3 68.1313 DEG F
VG 67.3538 DEG F

IME 19:13:15
H1 65.8148 DEG F
H2 67.7535 DEG F
H3 68.1526 DEG F
VG 67.3700 DEG F

ME 19:13:20
H1 65.8148 DEG F
H2 67.7521 DEG F
H3 68.1525 DEG F
VG 67.3684 DEG F

ME 19:13:25
H1 65.8208 DEG F
H2 67.7565 DEG F
H3 68.1638 DEG F
VG 67.3755 DEG F

ME 19:13:30
1 65.8148 DEG F
2 67.7505 DEG F
3 68.1582 DEG F
G 67.3691 DEG F

ME 19:13:35
1 65.8162 DEG F
2 67.7501 DEG F
3 68.1602 DEG F
G 67.3709 DEG F

ME 19:13:40
1 65.8229 DEG F
2 67.7594 DEG F
3 68.1693 DEG F
G 67.3795 DEG F

ME 19:13:45
1 65.8215 DEG F
2 67.7573 DEG F
3 68.1699 DEG F
G 67.3774 DEG F

TIME 19:14:35
CH1 65.8135 DEG F
CH2 67.7565 DEG F
CH3 68.1769 DEG F
AVG 67.3772 DEG F

TIME 19:14:40
CH1 65.8203 DEG F
CH2 67.7609 DEG F
CH3 68.1848 DEG F
AVG 67.3830 DEG F

TIME 19:14:45
CH1 65.8134 DEG F
CH2 67.7503 DEG F
CH3 68.1773 DEG F
AVG 67.3742 DEG F

TIME 19:14:50
CH1 65.8158 DEG F
CH2 67.7509 DEG F
CH3 68.1798 DEG F
AVG 67.3770 DEG F

TIME 19:14:55
CH1 65.8188 DEG F
CH2 67.7554 DEG F
CH3 68.1842 DEG F
AVG 67.3805 DEG F

TIME 19:15:00
CH1 65.8187 DEG F
CH2 67.7570 DEG F
CH3 68.1884 DEG F
AVG 67.3788 DEG F

TIME 19:15:05
CH1 65.8192 DEG F
CH2 67.7566 DEG F
CH3 68.1881 DEG F
AVG 67.3825 DEG F

TIME 19:15:10
CH1 65.8119 DEG F
CH2 67.7517 DEG F
CH3 68.1860 DEG F
AVG 67.3768 DEG F

TIME 19:15:15
CH1 65.8166 DEG F
CH2 67.7532 DEG F
CH3 68.1890 DEG F
AVG 67.3796 DEG F

TIME 19:15:20
CH1 65.8147 DEG F
CH2 67.7492 DEG F
CH3 68.1876 DEG F
AVG 67.3769 DEG F

TIME 19:15:25
CH1 65.8132 DEG F
CH2 67.7489 DEG F
CH3 68.1896 DEG F
AVG 67.3759 DEG F

TIME 19:15:30
CH1 65.8116 DEG F
CH2 67.7465 DEG F
CH3 68.1876 DEG F
AVG 67.3764 DEG F

TIME 19:15:35
CH1 65.8171 DEG F
CH2 67.7502 DEG F
CH3 68.1944 DEG F
AVG 67.3794 DEG F

TIME 19:15:40
CH1 65.8103 DEG F
CH2 67.7450 DEG F
CH3 68.1898 DEG F
AVG 67.3750 DEG F

TIME 19:15:45
CH1 65.8113 DEG F
CH2 67.7460 DEG F
CH3 68.1928 DEG F
AVG 67.3736 DEG F

TIME 19:15:50
CH1 65.8111 DEG F
CH2 67.7431 DEG F
CH3 68.1922 DEG F
AVG 67.3750 DEG F

TIME 19:15:55
CH1 65.8068 DEG F
CH2 67.7402 DEG F
CH3 68.1894 DEG F
AVG 67.3713 DEG F

TIME 19:16:00
CH1 65.8126 DEG F
CH2 67.7444 DEG F
CH3 68.1958 DEG F
AVG 67.3760 DEG F

TIME 19:16:05
CH1 65.8096 DEG F
CH2 67.7409 DEG F
CH3 68.1922 DEG F
AVG 67.3701 DEG F

TIME 19:16:10
CH1 65.8132 DEG F
CH2 67.7427 DEG F
CH3 68.1969 DEG F
AVG 67.3746 DEG F

TIME 19:16:15
CH1 65.8116 DEG F
CH2 67.7394 DEG F
CH3 68.1963 DEG F
AVG 67.3725 DEG F

TIME 19:16:20
CH1 65.8104 DEG F
CH2 67.7386 DEG F
CH3 68.1991 DEG F
AVG 67.3726 DEG F

TIME 19:16:25
CH1 65.8146 DEG F
CH2 67.7430 DEG F
CH3 68.2057 DEG F
AVG 67.3773 DEG F

TIME 19:16:30
CH1 65.8143 DEG F
CH2 67.7418 DEG F
CH3 68.2049 DEG F
AVG 67.3772 DEG F

TIME 19:16:35
CH1 65.8139 DEG F
CH2 67.7407 DEG F
CH3 68.2043 DEG F
AVG 67.3779 DEG F

TIME 19:16:40
CH1 65.8127 DEG F
CH2 67.7403 DEG F
CH3 68.2049 DEG F
AVG 67.3776 DEG F

TIME 19:16:45
CH1 65.8105 DEG F
CH2 67.7382 DEG F
CH3 68.2044 DEG F
AVG 67.3750 DEG F

TIME 19:13:50
CH1 65.8211 DEG F
CH2 67.7560 DEG F
CH3 68.1687 DEG F
AVG 67.3792 DEG F

TIME 19:13:55
CH1 65.8144 DEG F
CH2 67.7541 DEG F
CH3 68.1661 DEG F
AVG 67.3739 DEG F

TIME 19:14:00
CH1 65.8182 DEG F
CH2 67.7585 DEG F
CH3 68.1725 DEG F
AVG 67.3786 DEG F

TIME 19:14:05
CH1 65.8205 DEG F
CH2 67.7562 DEG F
CH3 68.1772 DEG F
AVG 67.3780 DEG F

TIME 19:14:15
CH1 65.8169 DEG F
CH2 67.7566 DEG F
CH3 68.1771 DEG F
AVG 67.3782 DEG F

TIME 19:14:20
CH1 65.8178 DEG F
CH2 67.7570 DEG F
CH3 68.1788 DEG F
AVG 67.3789 DEG F

TIME 19:14:25
CH1 65.8130 DEG F
CH2 67.7529 DEG F
CH3 68.1755 DEG F
AVG 67.3746 DEG F

TIME 19:14:30
CH1 65.8191 DEG F
CH2 67.7577 DEG F
CH3 68.1792 DEG F
AVG 67.3797 DEG F

TIME 19:16:50
CH1 65.8149 DEG F
CH2 67.7424 DEG F
CH3 68.2094 DEG F
AVG 67.3779 DEG F

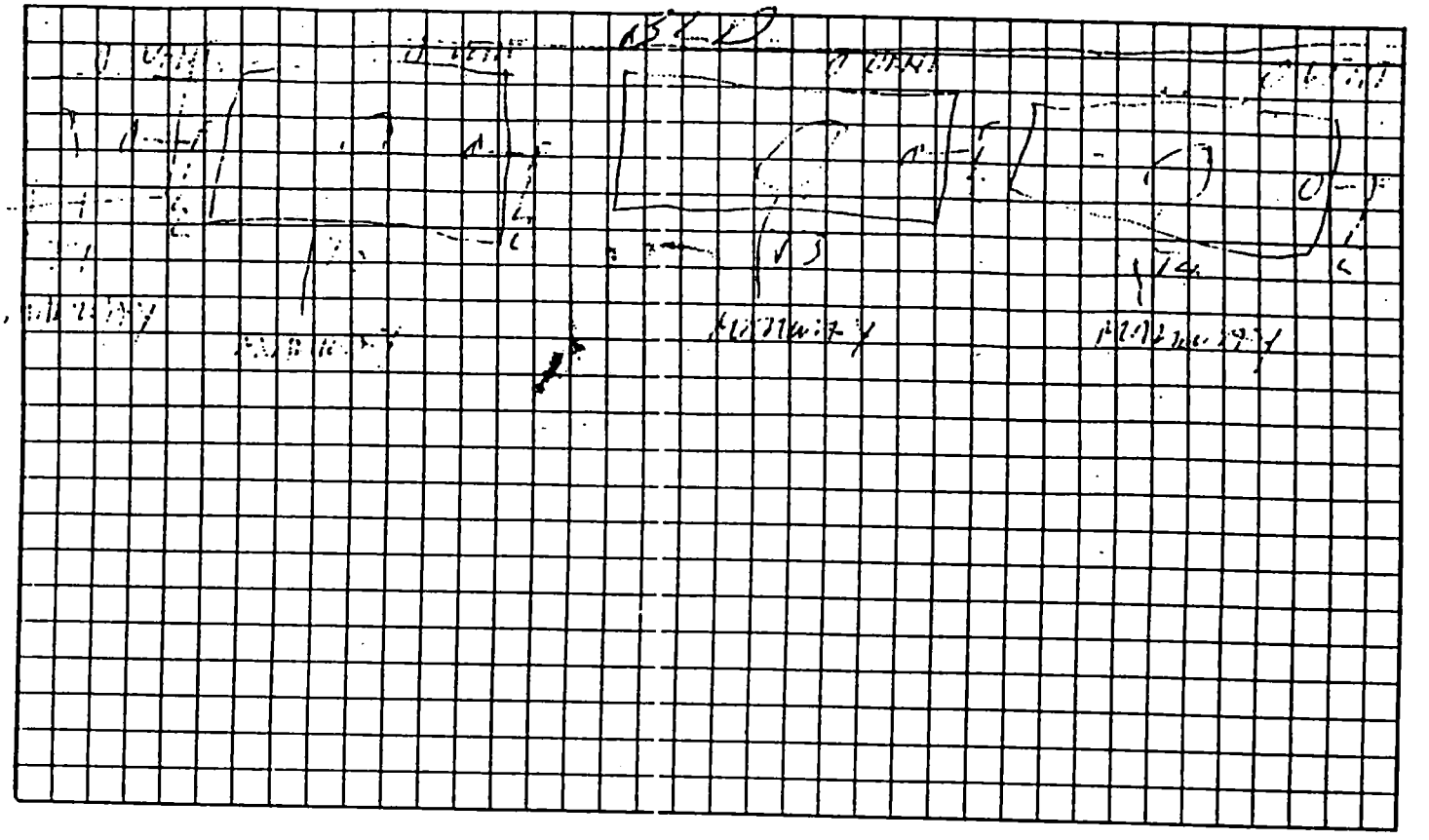
TIME 19:16:55
CH1 65.8099 DEG F
CH2 67.7366 DEG F
CH3 68.2048 DEG F
AVG 67.3726 DEG F

TIME 19:17:00
CH1 65.8111 DEG F
CH2 67.7345 DEG F
CH3 68.2038 DEG F
AVG 67.3730 DEG F

Tape 3

# TEST SITE LAYOUT

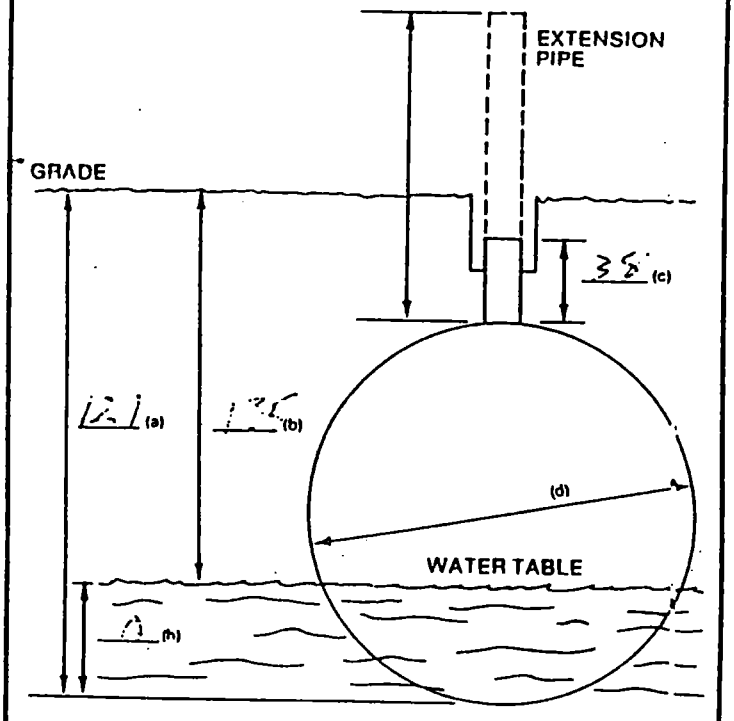
22



TEST COMPANY

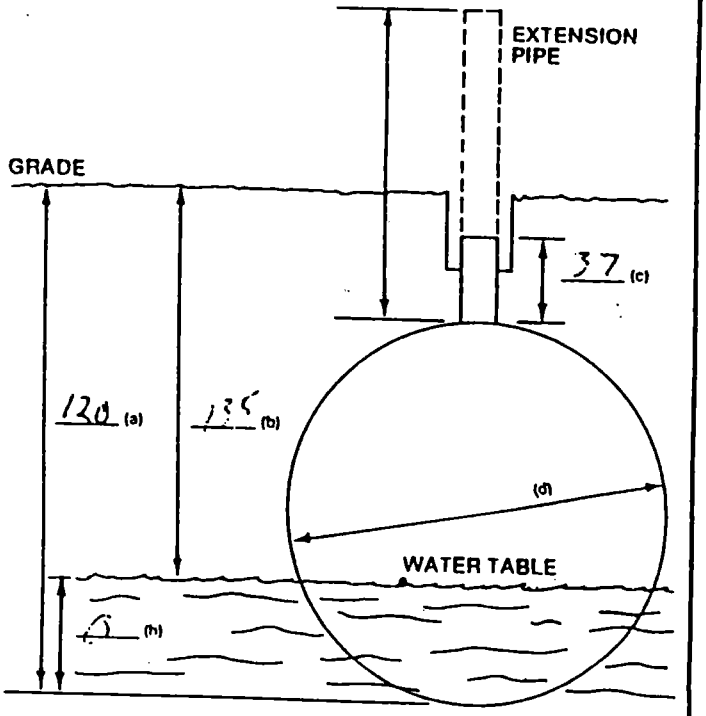
23

## TEST 1: TANK DIMENSIONS




TANK IDENT. T1T002

## TEST 2: TANK DIMENSIONS



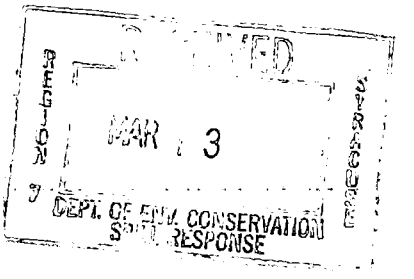

TANK IDENT. T1T003

ADDRESS

**TRI-STATE TANK SERVICE**

**LUZON OIL CO., INC.**

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805




Novmeber 29, 1989

Vail Ballou Press
187 Clinton Street
Bighamton, New York 13902

Attention: Bob Kalka

Re: Underground tank testing, as per 6NYCRR 613.5(a).

The National Fire Protection Association's criteria for a tight tank system is a system with a rate of leak less than +/- .050 gal/hr. for tank systems 12,500 gallons or less. These are calculated, mathematical tolerances only and are not meant to indicate the permission of any leak.

Criteria for tightness test [6NYCRR 613.5(a)(6)] "A tightness test is a test acceptable to the department which will determine if a tank and piping system is tight or not tight. The test must be capable of detecting a tank or piping leak as small as five hundredths (.05) of a gallon in one hour accounting for variables such as vapor pockets, thermal expansion of product, temperature stratification, groundwater level, evaporation, pressure and end deflection."

During the ***Ainley Tank 'Tegrity Test*** propane gas bubbles are introduced one (1) inch below the product level through a 1/4" tube. The pressure required to introduce bubbles varies with changes in product level, and is related to volume changes. Pressure changes are measured by a manometer type coil (slope tube). A slight liquid level change in the tank is exaggerated approximately fifty (50) times when transmitted from bubble tube to slope tube.

# TRI-STATE TANK SERVICE

## LUZON OIL CO., INC.

POST OFFICE BOX 19
HURLEYVILLE, NEW YORK 12747
(914) 434-7805


Facility: Vail Ballou Press
187 Clinton Street
Bighamton, N.Y.

OLD PBS #: 182230

Tank #s: #001 - 10,300 gallon #003 - 10,300 gallon

Boths tank isolated prior to testing.

Re-Test Date: 11-22-89

Tank system #003 showed a rate of leak of +.043 gallons per hour. Tank system tested tight.

Re-Test Date: 11-27-89

Tank system #001 showed a rate of leak of -.037 gallons per hour. Tank system tested tight.

Enclosed are two (2) copies of this report and the test data. One is for your records and the other is to be sent to New York State D.E.C.

If you have any questions or need additional information, please contact me.

Very truly yours,

Robert B. Halprin

Robert B. Halprin,
Luzon Oil Co., Inc.

/enclosures

RBH:amd
A:VAILBAL2.WPS

SOILTEST

# AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

**1 TANK OPERATOR**

NAME: Vail Ballou Press ADDRESS: Clinton St. Binghamton N.Y. PHONE:

**2 TANKS TO BE TESTED**

| IDENTIFICATION | CAPACITY—GALS. | MANUFACTURER | STEEL/FIBRGLS. | AGE—YRS. |
|---|---|---|---|---|
| TA 3 | 10000 | — | STEEL | ? |
| TA 1 | 10000 | — | STEEL | ? |

**3 WATER TABLE**

DISTANCE FROM GRADE TO WATER 125 INS.

**4 TANK FILL-UP**

TANK WILL BE FILLED 2PM (TIME) ON 11/21/59
EXTRA 5 GALS PRODUCT AVAILABLE FROM Tri-State Tank
FILL UP TO BE ARRANGED BY MR. Vail Ballou Press PHONE ( )
CONTACT AT STORAGE TERMINAL IS MR. PHONE ( )
TA 1 Filled 11-22-59 am

**5 OUTSIDE CONTRACTORS**

NAME ADDRESS PHONE

**6 OFFICIALS TO BE CONTACTED**

NAME AUTHORITY PHONE

**7 SPECIAL NOTES OR PRECAUTIONS**

RE-TEST ISOLATED BOTH TANKS.

**8 TEST RESULTS**

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

| TANK IDENT | TANK IS TIGHT | TANK IS NOT TIGHT | LEAK RATE G. P. H. | TEST DATE |
|---|---|---|---|---|
| TA 3 | X | | .043 | 11-22-59 |
| TA 1 | X | | .037 | 11-27-59 |

**9 CERTIFICATION**

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED [signature] CERTIFICATE NO. 1315
ISSUE DATE 12-13-59
FOR (TEST COMPANY)
ADDRESS
STATE

ST-4 (REV. 2/57)

# AINLAY TANK TIGHTNESS TEST No. 7711

JOB Unleaded Mass DATE 11/27/89
ADDRESS Lexington St Burlington MA
TESTER David Morgan TEST COMPANY Tri-State Tank Tightness

**16 TANK I.D.** — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 83 INS FILL PIPE LENGTH 34 INS

**17 WATER IN TANK**

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

**18 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10,000 GALS (c) DEDUCT WATER IN TANK +0 GALS
(b) ACTUAL CAPACITY 10,322 GALS (d) TOTAL PRODUCT VOL. 10,322 GALS
(FROM TANK CHART)

13P-ART T5C723

**19 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = .831 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .831 = 0

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**20 PRELIM TEST DATA**

(a) START TEMP CHECK 9:35 AM/PM (d) A.P.I. GRAVITY 25.5 AT 47 °F
(b) END TEMP CHECK 13:00 AM/PM (e) A.P.I. GRAVITY 26.4 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED ½ HRS (f) COEFF. OF EXPANSION .00043129

**21 TEST DATA**

(a) START TEST _____ AM/PM: END TEST _____ AM/PM: TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 1200 | 472705 | 471266 | 470223 | 471427 | | | | | |
| 1205 | 472495 | 471305 | 470251 | 471457 | | | | | |
| 1210 | 472594 | 471315 | 470255 | 471545 | | | | | |
| 1215 | 473105 | 471322 | 470214 | 471516 | | | | | |
| 1220 | 473207 | 471323 | 470249 | 471542 | | | | | |
| 1225 | 473335 | 471344 | 470307 | 471607 | | | | | |
| 1230 | 473367 | 471341 | 470271 | 471604 | | | | | |
| 1235 | 473475 | 471346 | 470306 | 471650 | | | | | |
| 1240 | 473561 | 471395 | 470344 | 471685 | | | | | |
| 1245 | 473546 | 471398 | 470319 | 471703 | | | | | |
| 1250 | 473727 | 471423 | 470339 | 471741 | | | | | |
| 1255 | 473749 | 471466 | 470513 | 471754 | | | | | |
| 1300 | 473685 | 471460 | 470324 | 471773 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG. TEMP. _____ - START TEMP.) = 1273 - 1427 = (1) -.0344 °F

(c) VOL. CHANGE DUE TO TEMP. = PRODUCT VOL. x TEMP. CHANGE x COEFF. EXP.
= 10,322 (18d) x -.0344 (21b) x .00043129 (20f) = (1) -.153 GALS

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = +10.190 GALS

(e) VOL. CHANGE NOT DUE TO TEMP (c) + (d) ..... = +.153 + -.190 = +10.037 GALS

(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = -.037 x 60 / 60 (21a) = -.037 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC. BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

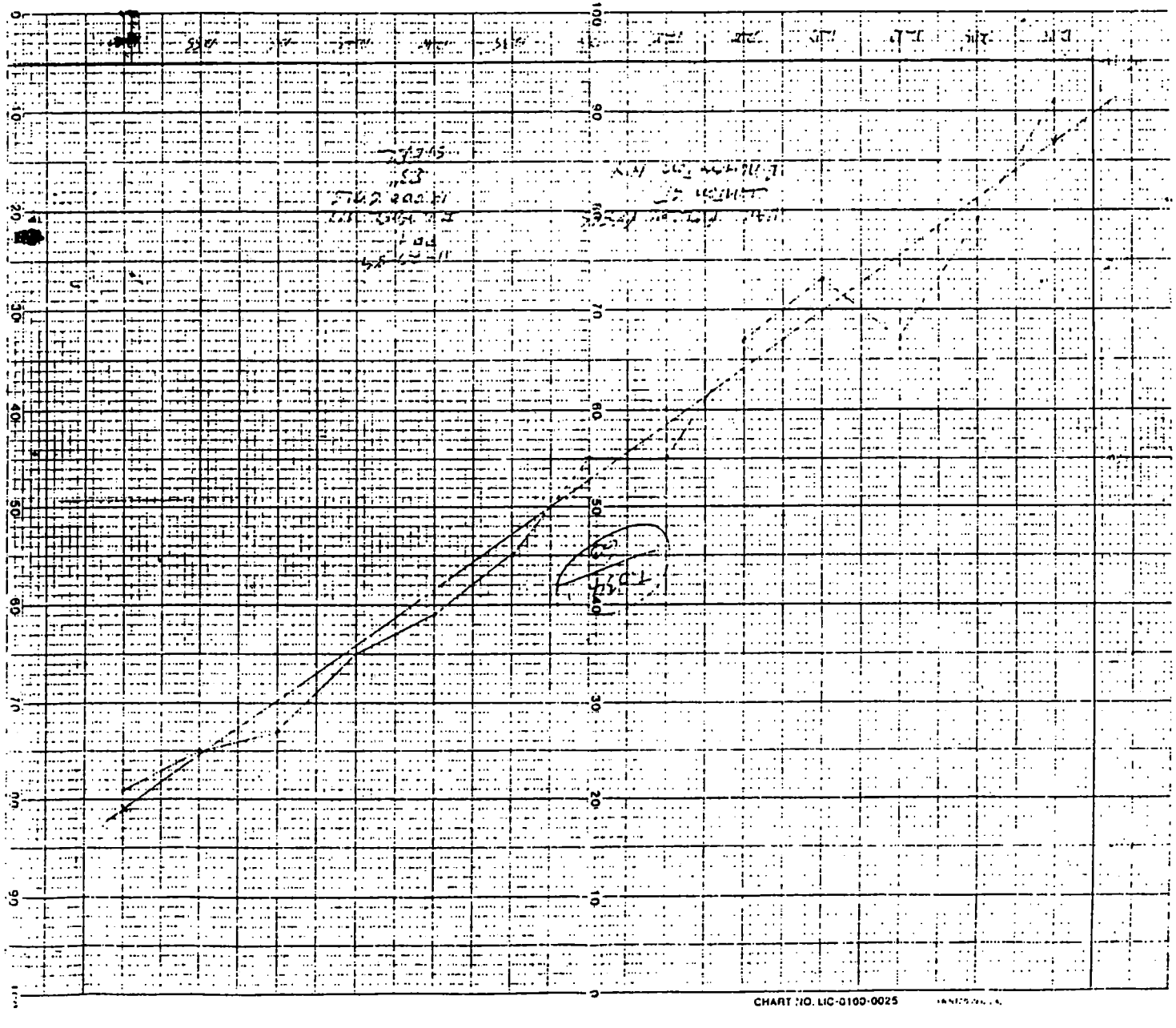


CHART NO. LIC-0100-0025

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TIME 27:09:35
CH1   47.2317 DE; F
CH2   47.2801 DE; F
CH3   47.0092 DE; F
AVG   47.2023 DE; F

TIME 27:09:40
CH1   47.1788 DE; F
CH2   47.1621 DE; F
CH3   46.9878 DE; F
AVG   47.1231 DE; F

TIME 27:09:45
CH1   47.1732 DE; F
CH2   47.1519 DE; F
CH3   46.9847 DE; F
AVG   47.1176 DE; F

TIME 27:09:50
CH1   47.1863 DE; F
CH2   47.1641 DE; F
CH3   46.9998 DE; F
AVG   47.1298 DE; F

TIME 27:09:55
CH1   47.1982 DE; F
CH2   47.1730 DE; F
CH3   47.0136 DE; F
AVG   47.1408 DE; F

TIME 27:10:00
CH1   47.1717 DE; F
CH2   47.1207 DE; F
CH3   46.9733 DE; F
AVG   47.0976 DE; F

TIME 27:10:05
CH1   47.1686 DE; F
CH2   47.1167 DE; F
CH3   46.9636 DE; F
AVG   47.0944 DE; F

TIME 27:10:10
CH1   47.1700 DE; F
CH2   47.1188 DE; F
CH3   46.9703 DE; F
AVG   47.0969 DE; F

TIME 27:10:15
CH1   47.1700 DE; F
CH2   47.1204 DE; F
CH3   46.9736 DE; F
AVG   47.0993 DE; F

TIME 27:10:20
CH1   47.1695 DE; F
CH2   47.1226 DE; F
CH3   46.9763 DE; F
AVG   47.1007 DE; F

TIME 27:10:25
CH1   47.1714 DE; F
CH2   47.1291 DE; F
CH3   46.9841 DE; F
AVG   47.1054 DE; F

TIME 27:10:30
CH1   47.1709 DE; F
CH2   47.1296 DE; F
CH3   46.9853 DE; F
AVG   47.1062 DE; F

TIME 27:10:35
CH1   47.1658 DE; F
CH2   47.1189 DE; F
CH3   46.9807 DE; F
AVG   47.0980 DE; F

TIME 27:10:40
CH1   47.1730 DE; F
CH2   47.1280 DE; F
CH3   46.9924 DE; F
AVG   47.1068 DE; F

TIME 27:10:45
CH1   47.1727 DE; F
CH2   47.1359 DE; F
CH3   46.9917 DE; F
AVG   47.1070 DE; F

TIME 27:10:50
CH1   47.1769 DE; F
CH2   47.1274 DE; F
CH3   46.9980 DE; F
AVG   47.1084 DE; F

TIME 27:10:55
CH1   47.1790 DE; F
CH2   47.1244 DE; F
CH3   46.9970 DE; F
AVG   47.1074 DE; F

TIME 27:11:00
CH1   47.1819 DE; F
CH2   47.1235 DE; F
CH3   47.0000 DE; F
AVG   47.1081 DE; F

TIME 27:11:05
CH1   47.1937 DE; F
CH2   47.1271 DE; F
CH3   47.0056 DE; F
AVG   47.1155 DE; F

TIME 27:11:10
CH1   47.2003 DE; F
CH2   47.1262 DE; F
CH3   47.0084 DE; F
AVG   47.1160 DE; F

TIME 27:11:15
CH1   47.2105 DE; F
CH2   47.1261 DE; F
CH3   47.0094 DE; F
AVG   47.1191 DE; F

TIME 27:11:20
CH1   47.2185 DE; F
CH2   47.1251 DE; F
CH3   47.0068 DE; F
AVG   47.1193 DE; F

TIME 27:11:25
CH1   47.2282 DE; F
CH2   47.1242 DE; F
CH3   47.0086 DE; F
AVG   47.1234 DE; F

TIME 27:11:30
CH1   47.2338 DE; F
CH2   47.1250 DE; F
CH3   47.0079 DE; F
AVG   47.1248 DE; F

TIME 27:11:35
CH1   47.2466 DE; F
CH2   47.1295 DE; F
CH3   47.0137 DE; F
AVG   47.1312 DE; F

TIME 27:11:40
CH1   47.2532 DE; F
CH2   47.1240 DE; F
CH3   47.0154 DE; F
AVG   47.1303 DE; F

TIME 27:11:45
CH1   47.2617 DE; F
CH2   47.1242 DE; F
CH3   47.0141 DE; F
AVG   47.1320 DE; F

TIME 27:11:50
CH1   47.2726 DE; F
CH2   47.1259 DE; F
CH3   47.0178 DE; F
AVG   47.1372 DE; F

TIME 27:11:55
CH1   47.2753 DE; F
CH2   47.1226 DE; F
CH3   47.0193 DE; F
AVG   47.1355 DE; F

TIME 27:12:00
CH1   47.2908 DE; F
CH2   47.1266 DE; F
CH3   47.0223 DE; F
AVG   47.1429 DE; F

TIME 27:12:05
CH1   47.2983 DE; F
CH2   47.1305 DE; F
CH3   47.0251 DE; F
AVG   47.1489 DE; F

TIME 27:12:10
CH1   47.3094 DE; F
CH2   47.1368 DE; F
CH3   47.0285 DE; F
AVG   47.1548 DE; F

TIME 27:12:15
CH1   47.3105 DE; F
CH2   47.1322 DE; F
CH3   47.0214 DE; F
AVG   47.1516 DE; F

TIME 27:12:20
CH1   47.3201 DE; F
CH2   47.1323 DE; F
CH3   47.0289 DE; F
AVG   47.1542 DE; F

TIME 27:12:25
CH1   47.3335 DE; F
CH2   47.1344 DE; F
CH3   47.0307 DE; F
AVG   47.1607 DE; F

TIME 27:12:30
CH1   47.3367 DE; F
CH2   47.1346 DE; F
CH3   47.0271 DE; F
AVG   47.1604 DE; F

TIME 27:12:35
CH1   47.3475 DE; F
CH2   47.1396 DE; F
CH3   47.0306 DE; F
AVG   47.1650 DE; F

TIME 27:12:40
CH1   47.3561 DE; F
CH2   47.1395 DE; F
CH3   47.0298 DE; F
AVG   47.1688 DE; F

TIME 27:12:45
CH1   47.3646 DE; F
CH2   47.1389 DE; F
CH3   47.0319 DE; F
AVG   47.1703 DE; F

TIME 27:12:50
CH1   47.3727 DE; F
CH2   47.1423 DE; F
CH3   47.0338 DE; F
AVG   47.1741 DE; F

TIME 27:12:55
CH1   47.3799 DE; F
CH2   47.1400 DE; F
CH3   47.0313 DE; F
AVG   47.1754 DE; F

TIME 27:13:00
CH1   47.3885 DE; F
CH2   47.1400 DE; F
CH3   47.0328 DE; F
AVG   47.1773 DE; F
```

# AINLAY TANK TIGHTNESS TEST No. 17-3

**10 TANK I.D.**

INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 63 INS FILL PIPE LENGTH 33 INS

**11 WATER IN TANK**

(a) START WATER IN TANK 1 INS (c) END WATER IN TANK 1 INS
(b) START WATER IN TANK 2.3 GALS (d) END WATER IN TANK 2.3 GALS

**12 PRODUCT VOLUME**

(a) NOMINAL CAPACITY 10000 GALS (c) DEDUCT WATER IN TANK -2.3 GALS
(b) ACTUAL CAPACITY (FROM TANK CHART) 16,322 GALS (d) TOTAL PRODUCT VOL. 16,319.7 GALS

TOP-OFF +3 GALS

**13 FILL PIPE EXTENSION**

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = 0 x 0.036 / .031 = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

**14 PRELIM TEST DATA**

(a) START TEMP CHECK 11:30 (AM)/PM (d) A.P.I. GRAVITY 25.1 AT 49 °F
(b) END TEMP CHECK 15:00 AM/(PM) (e) A.P.I. GRAVITY 25.1 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED 1 HRS (f) COEFF. OF EXPANSION .0004284

**15 TEST DATA**

(a) START TEST 14 00 AM/(PM) END TEST 15 00 AM/(PM) TEST TIME 60 MINS.

| TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. | TIME | TEMP 1 | TEMP 2 | TEMP 3 | WTD. AVG. |
|---|---|---|---|---|---|---|---|---|---|
| 14 00 | 54243 | 54247 | 54336 | 54246 | | | | | |
| 14 05 | 54241 | 54245 | 54338 | 54236 | | | | | |
| 14 10 | 54242 | 54247 | 54342 | 54246 | | | | | |
| 14 15 | 54244 | 54242 | 54341 | 54240 | | | | | |
| 14 20 | 54241 | 54244 | 54343 | 54258 | | | | | |
| 14 25 | 54245 | 54246 | 54345 | 54256 | | | | | |
| 14 30 | 54241 | 54241 | 54345 | 54235 | | | | | |
| 14 35 | 54252 | 54247 | 54339 | 54252 | | | | | |
| 14 41 | 54243 | 54243 | 54354 | 54322 | | | | | |
| 14 45 | 54247 | 54245 | 54347 | 54321 | | | | | |
| 14 50 | 54236 | 54246 | 54347 | 54253 | | | | | |
| 14 55 | 54252 | 54252 | 54355 | 54251 | | | | | |
| 15 00 | 54243 | 54242 | 54346 | 54239 | | | | | |

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = 14339 − 14246 = 01-.093°F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL. x TEMP. CHANGE x COEFF. EXP.
= 16,319.7 (12d) x .093 (15b) x .0004284 (14f) = 01-.041 GALS.

(d) TOTAL LIQUID VOL ADDED/SUBTRACTED AT END OF TEST ..... = 01-.002 GALS.

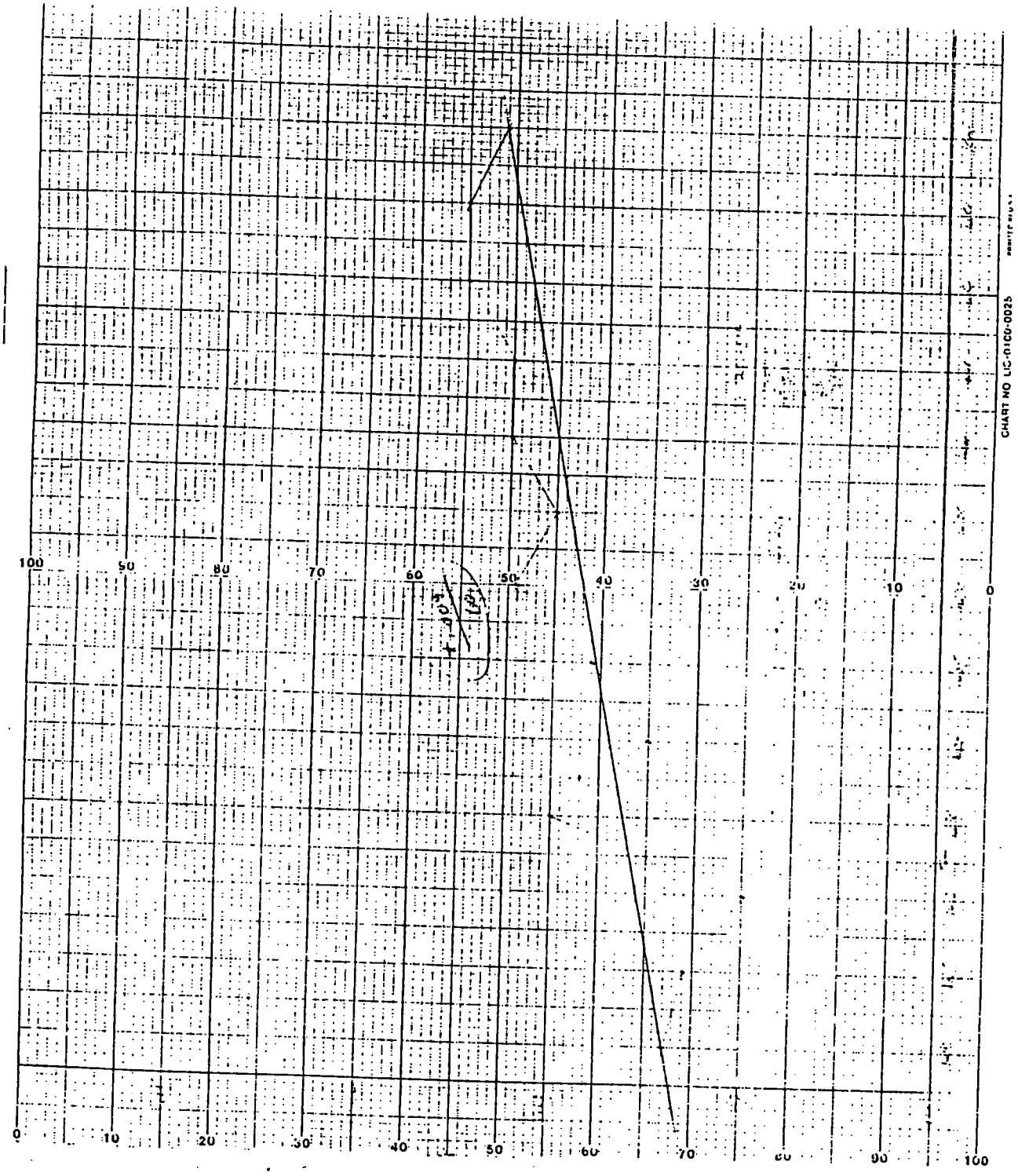
(e) VOL. CHANGE NOT DUE TO TEMP ((c) + (d)) ..... = +.041 + .002 = 01-.043 GALS.

(f) LEAK RATE = (e) x 60 / TIME OF TEST (MINS) = +.043 x 60 / 60 (15a) = +.043 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

JOB [illegible] DATE 11/22/93
ADDRESS [illegible] TESTER [illegible]
TEST COMPANY [illegible]

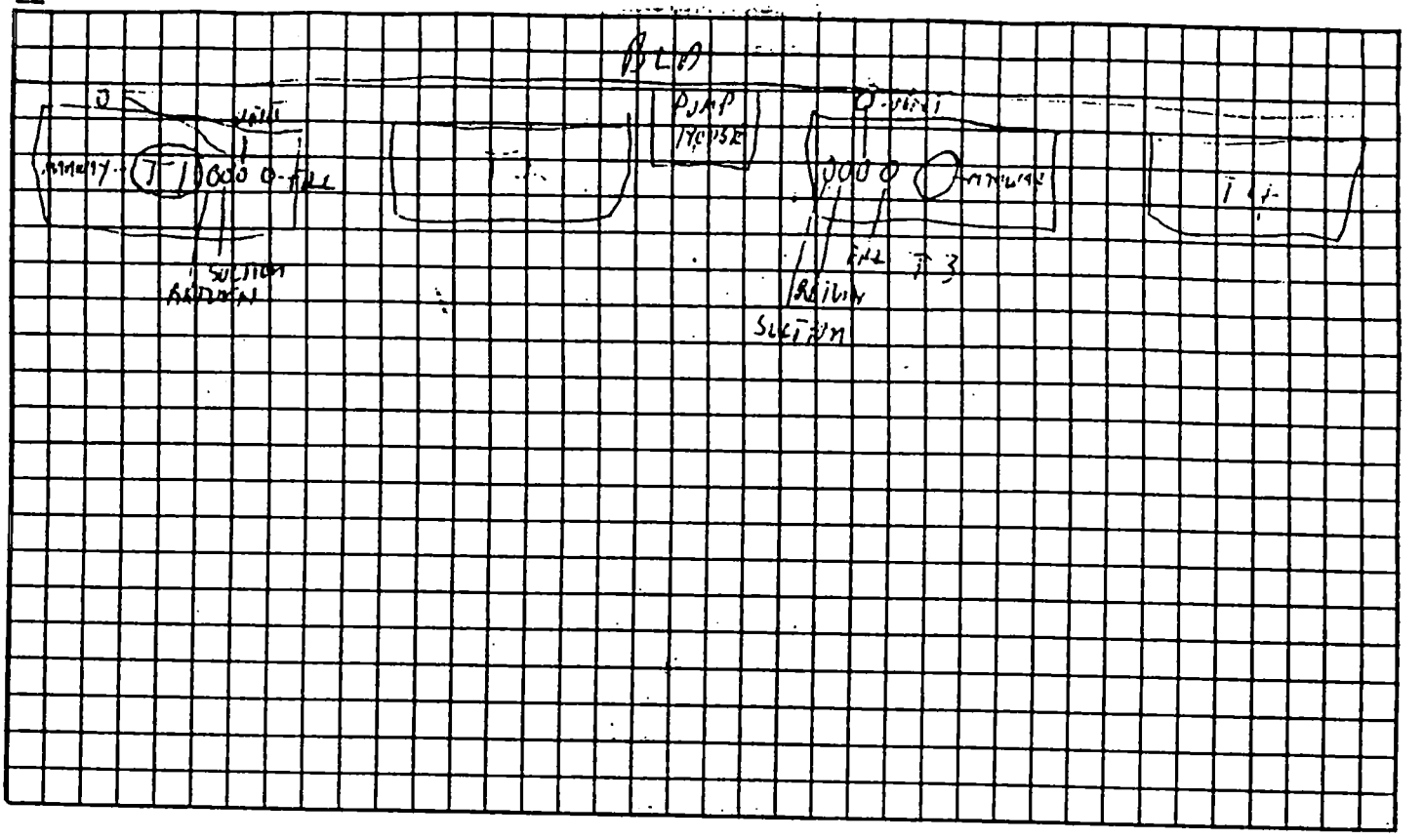

100
90
80
70
60
50
40
30
20
10
0
0
10
20
30
40
50
60
70
80
90
100
CHART NO LIC-0100-0025

```
TIME 22:11:30
CH1    50.4301 DE; F
CH2    50.4422 DE; F
CH3    50.3781 DE; F
AVG    50.4374 DE; F

TIME 22:11:35
CH1    50.5459 DE; F
CH2    50.5182 DE; F
CH3    50.3723 DE; F
AVG    50.4903 DE; F

TIME 22:11:40
CH1    50.5381 DE; F
CH2    50.4933 DE; F
CH3    50.3527 DE; F
AVG    50.4693 DE; F

TIME 22:11:45
CH1    50.4300 DE; F
CH2    50.4420 DE; F
CH3    50.3033 DE; F
AVG    50.4196 DE; F

TIME 22:11:50
CH1    50.4271 DE; F
CH2    50.4370 DE; F
CH3    50.3017 DE; F
AVG    50.4155 DE; F

TIME 22:11:55
CH1    50.4747 DE; F
CH2    50.4317 DE; F
CH3    50.2994 DE; F
AVG    50.4106 DE; F

TIME 22:12:00
CH1    50.4633 DE; F
CH2    50.4243 DE; F
CH3    50.2946 DE; F
AVG    50.4319 DE; F

TIME 22:12:05
CH1    50.4593 DE; F
CH2    50.4241 DE; F
CH3    50.2929 DE; F
AVG    50.4034 DE; F

TIME 22:12:10
CH1    50.4683 DE; F
CH2    50.4330 DE; F
CH3    50.3026 DE; F
AVG    50.4100 DE; F

TIME 22:12:15
CH1    50.4647 DE; F
CH2    50.4350 DE; F
CH3    50.3038 DE; F
AVG    50.4091 DE; F

TIME 22:12:20
CH1    50.4615 DE; F
CH2    50.4335 DE; F
CH3    50.3013 DE; F
AVG    50.4030 DE; F

TIME 22:12:25
CH1    50.4682 DE; F
CH2    50.4365 DE; F
CH3    50.3069 DE; F
AVG    50.4150 DE; F

TIME 22:12:30
CH1    50.4739 DE; F
CH2    50.4423 DE; F
CH3    50.3143 DE; F
AVG    50.4193 DE; F

TIME 22:12:35
CH1    50.4657 DE; F
CH2    50.4319 DE; F
CH3    50.3076 DE; F
AVG    50.4112 DE; F

TIME 22:12:40
CH1    50.4667 DE; F
CH2    50.4319 DE; F
CH3    50.3085 DE; F
AVG    50.4116 DE; F

TIME 22:12:45
CH1    50.4730 DE; F
CH2    50.4410 DE; F
CH3    50.3142 DE; F
AVG    50.4132 DE; F

TIME 22:12:50
CH1    50.4656 DE; F
CH2    50.4336 DE; F
CH3    50.3095 DE; F
AVG    50.4114 DE; F

TIME 22:12:55
CH1    50.4734 DE; F
CH2    50.4335 DE; F
CH3    50.3194 DE; F
AVG    50.4194 DE; F

TIME 22:13:00
CH1    50.4649 DE; F
CH2    50.4334 DE; F
CH3    50.3110 DE; F
AVG    50.4123 DE; F

TIME 22:13:05
CH1    50.4700 DE; F
CH2    50.4388 DE; F
CH3    50.3190 DE; F
AVG    50.4191 DE; F

TIME 22:13:10
CH1    50.4678 DE; F
CH2    50.4368 DE; F
CH3    50.3185 DE; F
AVG    50.4163 DE; F

TIME 22:13:15
CH1    50.4708 DE; F
CH2    50.4403 DE; F
CH3    50.3246 DE; F
AVG    50.4212 DE; F

TIME 22:13:20
CH1    50.4703 DE; F
CH2    50.4374 DE; F
CH3    50.3220 DE; F
AVG    50.4176 DE; F

TIME 22:13:25
CH1    50.4700 DE; F
CH2    50.4380 DE; F
CH3    50.3191 DE; F
AVG    50.4176 DE; F

TIME 22:13:30
CH1    50.4703 DE; F
CH2    50.4361 DE; F
CH3    50.3212 DE; F
AVG    50.4177 DE; F

TIME 22:13:35
CH1    50.4719 DE; F
CH2    50.4385 DE; F
CH3    50.3255 DE; F
AVG    50.4218 DE; F

TIME 22:13:40
CH1    50.4649 DE; F
CH2    50.4358 DE; F
CH3    50.3248 DE; F
AVG    50.4176 DE; F

TIME 22:13:45
CH1    50.4687 DE; F
CH2    50.4357 DE; F
CH3    50.3263 DE; F
AVG    50.4181 DE; F

TIME 22:13:50
CH1    50.4730 DE; F
CH2    50.4426 DE; F
CH3    50.3344 DE; F
AVG    50.4238 DE; F

TIME 22:13:55
CH1    50.4743 DE; F
CH2    50.4393 DE; F
CH3    50.3316 DE; F
AVG    50.4221 DE; F

TIME 22:14:00
CH1    50.4743 DE; F
CH2    50.4407 DE; F
CH3    50.3360 DE; F
AVG    50.4262 DE; F

TIME 22:14:05
CH1    50.4741 DE; F
CH2    50.4428 DE; F
CH3    50.3338 DE; F
AVG    50.4236 DE; F

TIME 22:14:10
CH1    50.4704 DE; F
CH2    50.4402 DE; F
CH3    50.3282 DE; F
AVG    50.4206 DE; F

TIME 22:14:15
CH1    50.4774 DE; F
CH2    50.4442 DE; F
CH3    50.3451 DE; F
AVG    50.4307 DE; F

TIME 22:14:20
CH1    50.4736 DE; F
CH2    50.4414 DE; F
CH3    50.3393 DE; F
AVG    50.4258 DE; F

TIME 22:14:25
CH1    50.4788 DE; F
CH2    50.4456 DE; F
CH3    50.3408 DE; F
AVG    50.4236 DE; F

TIME 22:14:30
CH1    50.4819 DE; F
CH2    50.4464 DE; F
CH3    50.3450 DE; F
AVG    50.4328 DE; F

TIME 22:14:35
CH1    50.4782 DE; F
CH2    50.4467 DE; F
CH3    50.3439 DE; F
AVG    50.4302 DE; F

TIME 22:14:41
CH1    50.4797 DE; F
CH2    50.4473 DE; F
CH3    50.3454 DE; F
AVG    50.4322 DE; F*

TIME 22:14:45
CH1    50.4807 DE; F
CH2    50.4488 DE; F
CH3    50.3459 DE; F
AVG    50.4321 DE; F

TIME 22:14:50
CH1    50.4838 DE; F
CH2    50.4516 DE; F
CH3    50.3507 DE; F
AVG    50.4353 DE; F

TIME 22:14:55
CH1    50.4852 DE; F
CH2    50.4517 DE; F
CH3    50.3533 DE; F
AVG    50.4351 DE; F

TIME 22:15:00
CH1    50.4853 DE; F
CH2    50.4432 DE; F
CH3    50.3436 DE; F
AVG    50.4339 DE; F*

TIME 22:15:00
CH1    50.4859 DE; F
CH2    50.4479 DE; F
CH3    50.3480 DE; F
AVG    50.4331 DE; F*
```

# TEST SITE LAYOUT

22

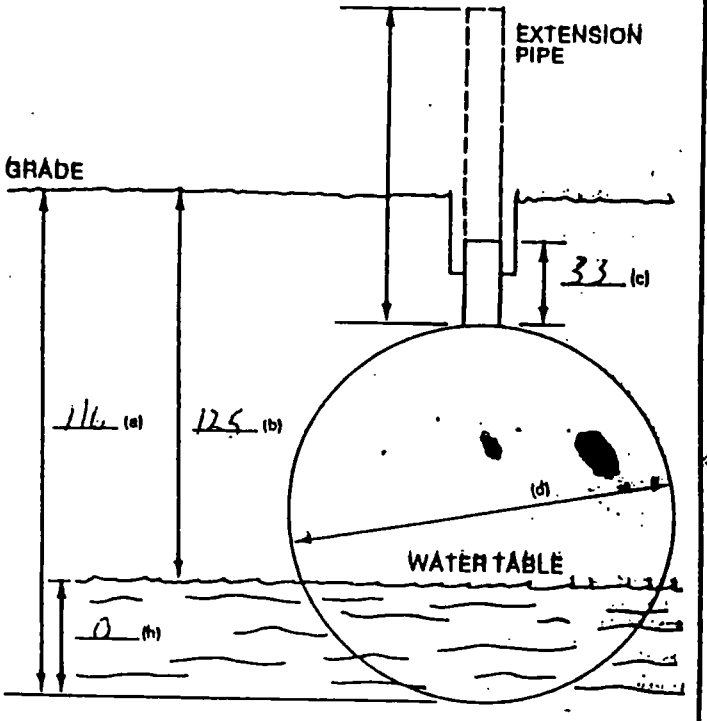
TESTER
TEST COMPANY




23

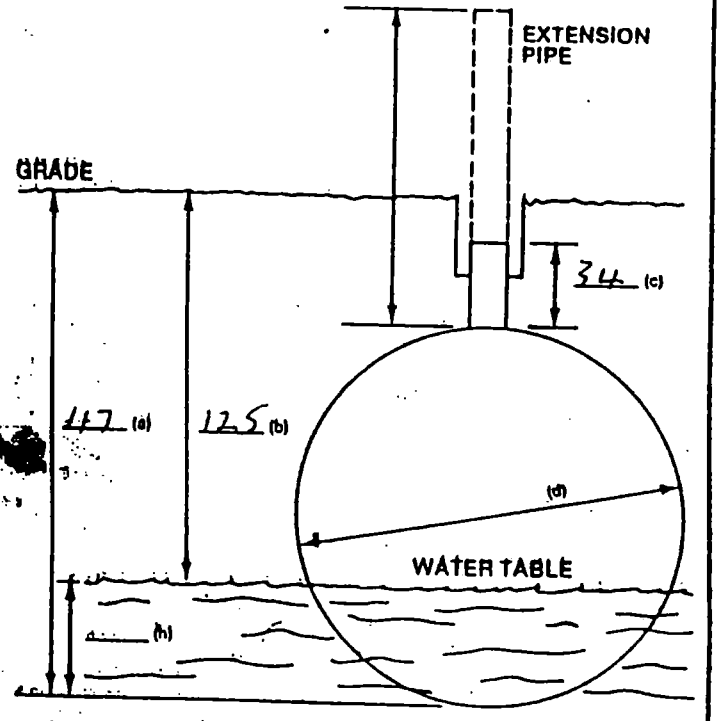
JOB
ADDRESS
DATE

## TEST 1: TANK DIMENSIONS




TANK IDENT. TK 3

## TEST 2: TANK DIMENSIONS

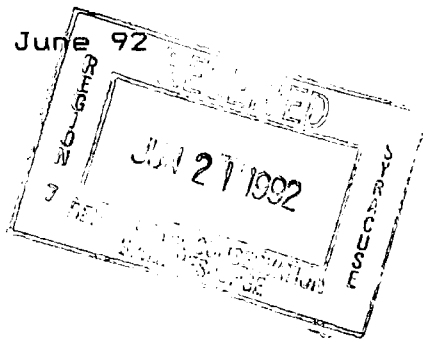



TANK IDENT. TK 1

# THE MAPLE-VAIL BOOK MANUFACTURING GROUP

Vail-Ballou Press, Inc.
Pine Camp Drive
P.O. Box 1005
Binghamton, New York 13902-1005
607-723-7981

19 June 92




N.Y.S.Department of Environmental Conservation
615 Erie Blvd. W
Syracuse, NY 13204

This facility is no longer owned by Maple-Vail Book Manufacturing Group. The new owner is:

Apex Building Products
Grossett Drive
Kirkwood, NY 13795

Charlie Hugunine
Maintenance Superintendent

afr

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Petroleum Bulk Storage Program
Facility Information Report

Printed : 09/04/92

PBS # : 7-182230

Site : VAIL BALLOU PRESS CUNTON ST D
187-195 CLINTON ST
BINGHAMTON, NY 13905

County : BROOME Town : BINGHAMTON (C)
Latitude : N Longitude : W
SPDES# : CBS# :
Site Type : Info Not Given.

Operator : FRANK KEFFER (607) 723-7981
Emergency : ROBERT KALKA (607) 797-7090

Site status : Active
Total Active Tanks : 4
Active Capacity : 41,200 gals.

Reg Expires : 06/30/92
Last Inspection : / /
Cert Printed : 06/30/87

Site Errors : Minor Data Missing
Owner Error : Minor Data Missing
Tank Errors : Minor Data Missing

Owner : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Phone : (717) 764-5911
Owner Type : Corporate/Commercial

Mail : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Att : (717) 764-5911

| TankNo | TankLoc | Stat | DateIn | Capac (g) | Product | TankType | TankInt | TankExt | PipeLoc | PipeType | PipeInt | PipeExt | SecCont | Leak | OverFil | Disp | LastTest | NextTest | TStat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 002 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |
| 003 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 004 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |

APEX BLDG. SUPPLY
187 CLINTON ST.
BINGHAMTON, N.Y. 13905

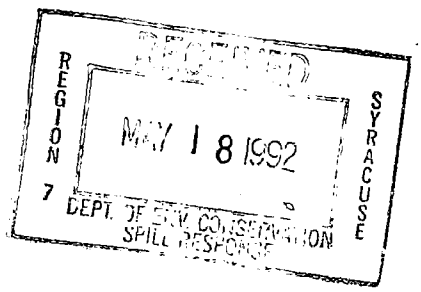
# APEX

(717) 288-3683

P.O. BOX 1347
KINGSTON, PENNSYLVANIA 18704

WHOLESALE ONLY

May 13, 1992




NYS DEC - REGION 7
615 Erie Blvd W.
Syracuse, NY 13204

Re: STORAGE TANKS
PBS #7-182230

To Whom It May Concern:

It is our understanding that the storage tanks in question were disconnected by Vail Ballou Press. While located on our property these tanks are in fact under control of Vail Ballou by virtue of an easement granted by the previous owners of this property. The easement granted Vail Ballou the right to keep and maintain underground tanks on this property and to have access to them and the pipeline under Hudson Street from our property to the Vail Ballou building. A copy of the deed conveying these rights to Vail Ballou Press is attached here. Apex has never had any control or influence over the tanks in question. As point of fact, in about 1987 Vail Ballou did send a crew in to dig up, examine and empty the tanks in question. This was done without our authorization and in fact Vail's crew damaged our fence and did not repair it when they went in.

At this point we at Apex are in a quandry as to what to do about these tanks. Should we make arrangements with your agency to have these tanks checked and then filled with either sand or water? It would appear that Vail Ballou is responsible for these tanks but since they do not own the property that was serviced by these tanks any more perhaps whoever bought this property from them is now responsible since the deed says "Vail Ballou Press, Inc. its successors and assigns". In any case Apex would like to see these tanks put out of service permanently but is unsure of how to proceed since Apex does not feel it controls these tanks.

Please advise us.

Sincerely,

APEX BUILDING PRODUCTS CO.

Dennis M. McCartney

Dennis M. McCartney

DMM:rc

Enc.

This Indenture, Made the day of October Nineteen Hundred and Eighty-Four

Between HARRY R. McCARTNEY and GLORIA M. McCARTNEY, his wife, residing at Kingston, Pennsylvania (Post Office Address: P. O. Box 1347, Kingston, Pennsylvania 18704),

parties of the first part, and BROOME COUNTY INDUSTRIAL DEVELOPMENT AGENCY, a public benefit corporation of the State of New York, having its principal office at 349 Chenango Street, Binghamton, New York 13902,

parties of the second part,

Witnesseth that the parties of the first part, in consideration of

---------- O N E ---------- Dollar ($1.00 )

lawful money of the United States, and other good and valuable consideration, paid by the party of the second part, do hereby grant and release unto the party of the second part, their assigns and to the ~~and assigns of such~~ survivor of them, their distributees and assigns forever,

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Binghamton, County of Broome and State of New York, bounded and described as follows: COMMENCING at a point in the southerly line of Slauson Avenue, 15 feet, measured along said street line from the intersection of the same with the easterly line of Hudson Street; THENCE eastwardly and along the southerly line of Slauson Avenue 298.26 feet to the intersection of said street line with the westerly line of Crandall Street; THENCE southwardly at an interior angle of 88° 28' and along said street line 65 feet to a point therein; THENCE westwardly at an interior angle of 91° 32' and along the southerly line of the Isaac Hanchett location subdivision shown on a map filed in the Broome County Clerk's Office in Book 1 of Maps at page 297, 108 feet to an angle in said subdivision; THENCE southwardly along an easterly line of said subdivision 15.31 feet to a point; THENCE westwardly and along the southerline of said subdivision 165.45 feet to a point which is 16.3 feet from the easterly line of Hudson Street, measured along an extension of the last course; THENCE northwardly at an interior angle of 107° 33' along the westerly line of Lot 7 as shown on said subdivision 81 feet more or less, to the point or place of beginning, making an interior angle of 75° 22' with the first course.

There is also hereby conveyed the right to use in common with General Aniline & Film Corporation, its successors and assigns, for the purpose of entering upon the premises above conveyed from Hudson Street and of egress from said premises to said Hudson Street, to pass, repass and travel over the strip of land fifteen feet wide, or thereabouts, which lies immediately west of the premises above conveyed and immediately east of the easterly line of said Hudson Street, and which strip of land extends from the southwesterly corner of the premises above conveyed, northwardly to Slauson Avenue (formerly Hanchett Avenue), a distance of approximately 81 feet as more particularly described in the deed from General Aniline & Film Corporation to Vail-Ballou Press, Inc., dated February 19, 1947 and recorded in said Clerk's Office on the same day in Book 628, at page 100.

This conveyance is subject to a reservation by Vail Ballou Press, Inc., its successors and assigns, to use, maintain, repair and replace the three westermost oil storage tanks and the pump house location south of the quonset warehouse on the above property, together with the oil line, heat line and electrical line in or near the underground conduits running from said tanks and pump house to other lands of said Vail Ballou Press, Inc. lying west of Hudson Street, together with rights of ingress and egress to and from said tanks, pump house and conduits for purposes of using, repairing, replacing and maintaining the same, any damage resulting therefrom to be the responsibility of said Vail Ballou Press, Inc.

Being the same premises conveyed to the parties of the first part by Sandra K. Perkins by warranty deed dated July 30, 1984 and recorded July 30, 1984 in the Broome County Clerk's Office in Liber 1412 of deeds at page 300.

DECKER, DECKER & DUDICK
ATTORNEYS AT LAW

ROBERT G. DECKER
JANNELL L. DECKER
CHESTER F. DUDICK, JR.

1043 WYOMING AVENUE
FORTY FORT, PA. 18704
(717) 283-1371

December 29, 1988

Mr. H.R. McCartney
Apex Building Products Company
Post Office Box 1347
Kingston, Pennsylvania 18704

607-797-2345

Dear "Mac":

Enclosed herewith is a photocopy of your and Gloria's deed unto the Broome County Industrial Development Agency. I have circled in red the reservation concerning the three underground tanks and have underlined that part of the reservation which makes Vail Ballou Press, Inc. liable for any damage resulting from the tanks.

The reservation does not state who owns the tanks, so that question is really not resolved by the reservation. Generally, a reservation in Pennsylvania passes ownership to the successors in title. I do not know how a reservation operates in New York. With Vail Ballou Press, Inc. out of existence, I really cannot say where ownership of the tanks lies, i.e., in you or Vail Ballou Press, Inc.'s successor.

My suggestion is that you just pass the deed unto the realtor, show him the provision in question, and let me take it from there with any prospective purchasers he may have. done 12/29

I believe that covers the matter at this time, Mac. We will have to wait to see what happens with a prospective purchaser.

Sincerely yours,

Robert G. Decker

RGD:d
enc:

# THE MAPLE-VAIL BOOK MANUFACTURING GROUP

Vail-Ballou Press, Inc.
Pine Camp Drive
P.O. Box 1005
Binghamton, New York 13902-1005
607-723-7981

30 Apr 92

N.Y.S.Department of Environmental Conservation
615 Erie Blvd. W
Syracuse, NY 13204

This facility is no longer owned by Maple-Vail Book Manufacturing Group. The new owner is:

TO

Apex Building Products
Grossett Drive
Kirkwood, NY 13795

Charlie Hugunine
Maintenance Superintendent

afr

DEPT. OF ENV. CONSERVATION
SPILL RESPONSE
REGION 7
SYRACUSE
RECEIVED
MAY 1 - 1992

93-19-1 (12/90)—26c

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF WATER • BUREAU OF SPILL PREVENTION AND RESPONSE

# PETROLEUM BULK STORAGE APPLICATION

**Pursuant to the Petroleum Bulk Storage Law, Article 17, Title 10 of ECL; and 6 NYCRR 612-614.**

(Continued on Reverse Side—Please Be Sure to Complete Section B)

RETURN COMPLETED FORM & FEE TO:

NYS DEC - REGION 7
615 ERIE BLVD. W.
SYRACUSE, NY 13204
(315) 426-7519

Please Type or Print Clearly and Complete All Items

## SECTION A—See Instructions on Cover Sheet

PBS NUMBER: 7-182230

Indicate Other Existing DEC Numbers, If any, for this Facility:

CBS Number: _____

SPDES Number: _____

TRANSACTION TYPE (Check all that apply)
**NOTE:** Transaction Types 1, 2 and 5 require a fee.

1. ☐ Initial/ New Facility
2. ☐ Change of Ownership
3. ☐ Substantial Tank Modification
4. ☐ Information Correction
5. ☒ Renewal

Geographical Locator for this Facility: (If known)

LATITUDE: ____ ____ ____ DEG MIN SEC

LONGITUDE: ____ ____ ____ DEG MIN SEC

### FACILITY

NAME: VAIL BALLOU PRESS CUNTON ST D

LOCATION (Not P.O. Boxes): 187-195 CLINTON ST

LOCATION (Continued):

CITY/TOWN/VILLAGE: BINGHAMTON | STATE: NY | ZIP CODE: 13905

COUNTY: BROOME | TOWNSHIP OR CITY: BINGHAMTON (C)

NAME OF OPERATOR AT FACILITY: FRANK KEFFER | FACILITY TELEPHONE NUMBER: ( 607 ) 723-7981

EMERGENCY CONTACT NAME: ROBERT KALKA | EMERGENCY CONTACT PHONE NO.: ( 607 ) 797-7090

### OWNER

NAME: MAPLE-VAIL BOOK MANUF GROUP

ADDRESS (Street and/or P.O. Box): P O BOX 2695 WILLOW SPRINGS LN

CITY: YORK | STATE: PA | ZIP CODE: 17405

FEDERAL TAX ID NO.: | OWNER TELEPHONE NUMBER: ( 717 ) 764-5911

TYPE OF OWNER (Check only one)

1 ☐ Private Resident 2 ☐ State Government 3 ☐ Local Government
4 ☐ Federal Government 5 ☐ Corporate/Commercial

### TYPE OF PETROLEUM FACILITY:

(Check all that apply)

A. ☐ Storage Terminal/Petroleum Distributor
B. ☐ Retail Gasoline Sales
C. ☐ Other Retail Sales
D. ☐ Manufacturing
E. ☐ Utility
F. ☐ Trucking/Transportation
G. ☐ Apartment Building
H. ☐ School
I. ☐ Farm
J. ☐ Private Residence
K. ☐ Airline (Air Taxi)
L. ☐ Other (Specify)

RECEIVED
NOV 1 - 1992
DEPT. OF ENV. CONSERVATION
SPILL RESPONSE

I hereby certify under penalty of perjury that the information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

NAME OF OWNER OR AUTHORIZED REPRESENTATIVE: | AMOUNT ENCLOSED: $

TITLE:

SIGNATURE: | DATE:

### MAILING CORRESPONDENCE

ATTENTION:

NAME OF COMPANY: MAPLE-VAIL BOOK MANUF GROUP

ADDRESS: P O BOX 2695 WILLOW SPRINGS LN

ADDRESS:

CITY/STATE/ZIP CODE: YORK, PA 17405

TELEPHONE NUMBER: ( 717 ) 764-5911

### OFFICIAL USE ONLY

Page _____ of _____

Date Received: ____/____/____

Date Processed: ____/____/____

Amount Received $ _____

Reviewed By: _____

PBS NUMBER: 7-182230

# Tank Information for Petroleum Bulk Storage Facility

**SECTION B—See Instructions on Cover Sheet**

EXPIRATION DATE: 06/30/92



| Action | Tank Number | Tank Location | Status | Installation or Permanent Closure Date (MO) | | (YR) | | Capacity (Gallons) | Product Stored | Tank Type | Tank Internal Prot. | Tank External Protection | | Piping Location | Piping Type | Piping Internal Prot. | Piping External Protection | | Secondary Containment | | Leak Detection | | Spill/ Overfill Prevention | | Dispenser | Last Test Date (underground Tanks) (MO) | | (YR) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 001 | 4 | 2 | 0 | 0 | 0 | 0 | 10,300 | 3 | 1 | | | | | 1 | | | | 0 | | 0 | | | | 2 | 1 | 1 | 8 | 9 |
| 1 | 002 | 4 | 1 | 0 | 0 | 0 | 0 | 10,300 | 3 | 1 | | | | | 1 | | | | 0 | | 0 | | | | 2 | 0 | 9 | 8 | 9 |
| 1 | 003 | 4 | 1 | 0 | 0 | 0 | 0 | 10,300 | 3 | 1 | | | | | 1 | | | | 0 | | 0 | | | | 2 | 1 | 1 | 8 | 9 |
| 1 | 004 | 4 | 2 | 0 | 0 | 0 | 0 | 10,300 | 3 | 1 | | | | | 1 | | | | 0 | | 0 | | | | 2 | 0 | 9 | 8 | 9 |

**KEY FOR SECTION B**

**ACTION**
1 Initial Listing
2 Add Tank
3 Close/Remove Tank
4 Information Correction
5 Recondition/Repair/ Reline Tank

**TANK LOCATION**
1 Aboveground
2 Aboveground on saddles legs, stilts, rack, or cradle
3 Aboveground: 10% or more below ground
4 Underground
5 Underground, vaulted, with access

**STATUS**
1 In-service
2 Temporarily out-of-service
3 Closed—Removed
4 Closed—In Place
5 Tank Converted to Non-Regulated Use

**PRODUCT STORED**
0 Empty
1 Leaded Gasoline
2 Unleaded Gasoline
3 Nos. 1, 2, or 4 Fuel Oil
4 Nos. 5 or 6 Fuel Oil
5 Kerosene
6 Diesel
A Lube Oil
9 Other*

**TANK TYPE**
1 Steel/Carbon Steel
2 Stainless Steel Alloy
3 Concrete
4 Fiberglass Coated Steel
5 Fiberglass Reinforced Plastic (FRP)
6 Equivalent Technology
9 Other*

**PIPING TYPE**
0 None
1 Steel/Iron
2 Galvanized Steel
3 Fiberglass (FRP)
4 Copper
9 Other*

**INTERNAL PROTECTION: Tank/Piping**
0 None
1 Epoxy Liner
2 Rubber Liner
3 Fiberglass Liner (FRP)
4 Glass Liner
9 Other*

**EXTERNAL PROTECTION: Tank/Piping**
0 None
1 Painted/Asphalt Coating
2 Sacrificial Anode
3 Impressed Current
4 Fiberglass
5 Jacketed
6 Wrapped (Piping)
9 Other*

**PIPING LOCATION**
0 None
1 Aboveground
2 Underground
3 Aboveground/Underground Combination

**SECONDARY CONTAINMENT**
0 None
1 Vault
2 Double-Walled Tank
3 Excavation Liner
4 Cut-off Walls
5 Impervious Underlayment
6 Earthen Dike
7 Prefabicated Steel Dike
8 Concrete Dike
A Synthetic Liner
B Natural Liner
9 Other*

**LEAK DETECTION**
0 None
1 Interstitial Monitoring
2 Vapor Well
3 Groundwater Well
4 In-tank System
5 Concrete Pad w/channels
6 Double Bottom
9 Other*

**SPILL/OVERFILL PREVENTION**
0 None
1 Float Vent Valve
2 High Level Alarm
3 Automatic Shut-off
4 Product Level Gauge
5 Catch Basin
6 Vent Whistle
9 Other*

**DISPENSER**
1 Submersible
2 Suction
3 Gravity

* If Other, please list on separate sheet including the Tank Number

NYS DEC, REGION 7
**PBS & SPILL UPDATE FORM**

NAME: _____ PBS NO. _____

DATE 1/11 SPILL NO. _____

DEC REP. _____

Val Ballou Pres
sold property to Cantro in 1989
property where tanks are actually on Hudson

607 723-7981 ext 323
Charlie Hugunin

1/13 Les Platt

c:spilupda.frm

AIRPORT RD.
TO RIGHT (⇨ B'T).

DOWNES
⇒ GLENWOOD
⇐ CLINTON

PIPES OVER RD (ANGLED)

CL BANK ON RT

⇒ CRANDALL (PIZZA)

TOWARD RR

CROSS SCS / QUANSET HUT

~~BET~~
~~SLAUSON~~
HUDSON

TRUCK DOOR

~9:00

7-182230

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# Important Message

For J.P.

Date 3/31 | Time 11:00 AM PM

## While You Were Away

Name Les Platt

Of OVER FOR DIRECTIONS

Phone No. 607 722-4962

- [x] Telephoned You
- [ ] Visited You
- [ ] Wants To See You
- [ ] Urgent
- [x] Please Phone Him/Her
- [ ] Will Phone Again
- [ ] Will Visit Again
- [ ] _____

Message: VAIL BALLOU → CONCRO
4 10K's
ON R.O.W. REMOVE TANKS
LEAK

00-12-60 Signed _____

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Petroleum Bulk Storage Program
Facility Information Report

Printed : 04/26/93

PBS # : 7-182230

Site : VAIL BALLOU PRESS CUNTON ST D
187-195 CLINTON ST
BINGHAMTON, NY 13905

County : BROOME Town : BINGHAMTON (C)
Latitude : N Longitude : W
SPDES# : CBS# :
Site Type : Info Not Given.

Operator : FRANK KEFFER (607) 723-7981
Emergency : ROBERT KALKA (607) 797-7090

Site status : Active
Total Active Tanks : 4
Active Capacity : 41,200 gals.

Reg Expires : 06/30/92
Last Inspection : / /
Cert Printed : 06/30/87

Site Errors : Minor Data Missing
Owner Error : Minor Data Missing
Tank Errors : Minor Data Missing

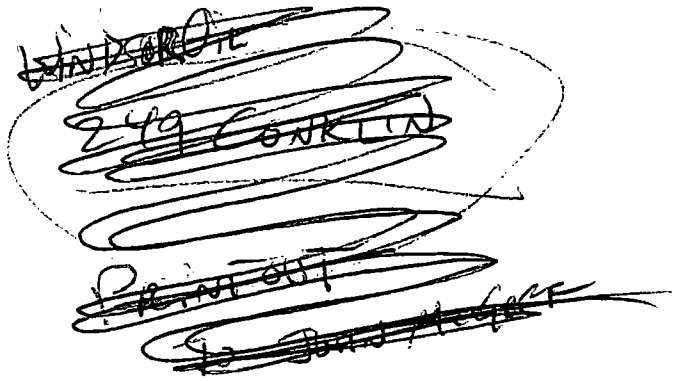
Owner : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Phone : (717) 764-5911
Owner Type : Corporate/Commercial

Mail : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Att : (717) 764-5911

| TankNo | TankLoc | Stat | DateIn | Capac (g) | Product | TankType | TankInt | TankExt | PipeLoc | PipeType | PipeInt | PipeExt | SecCont | Leak | OverFil | Disp | LastTest | NextTest | TStat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 002 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |
| 003 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 004 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |




OWNER OF RECORD
BROOME CO.
IDA (INDUSTRIAL DEVELOPMENT AGENCY)

CHRIS GAVRY

(607) 797 2345 (?)

OWNER OF FACT
APEX BLDG. PRODUCTS

OWNER/PRES.
DENNIS MCCARTNEY

(717) 288 3683

COMPTROLLER
BILL GREYTOCH
CHARLIE (KIRKWOOD FACILITY)
(607) 775-5427

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Petroleum Bulk Storage Program

Facility Information Report

Printed : 04/26/93

PBS # : 7-422207

Site : VAIL-BALLOU PRESS INC.
PINE CAMP DRIVE
KIRKWOOD INDUSTRIAL PARK
KIRKWOOD, NY 13795
County : BROOME Town : KIRKWOOD
Latitude : N Longitude : W
SPDES# : CBS# :
Site Type : Manufacturing

Operator : CHARLES HUGUNINE (607) 723-7981
Emergency : CHARLES HUGUNINE (607) 669-4655

Site status : Active
Total Active Tanks : 2
Active Capacity : 20,000 gals.

Reg Expires : 08/17/97
Last Inspection : / /
Cert Printed : 10/02/92

Site Errors : Complete
Owner Error : Complete
Tank Errors : Complete

Owner : VAIL-BALLOU PRESS INC.
P.O. BOX 1005
BINGHAMTON, NY 13902

Phone : (607) 723-7981
Owner Type : Corporate/Commercial

Mail : VAIL-BALLOU PRESS INC.
PINE CAMP DRIVE
P.O. BOX 1005
BINGHAMTON, NY 13902
Att : CHARLES HUGUNINE (607) 723-7981

| TankNo | TankLoc | Stat | DateIn | Capac (g) | Product | TankType | TankInt | TankExt | PipeLoc | PipeType | PipeInt | PipeExt | SecCont | Leak | OverFil | Disp | LastTest | NextTest | TStat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | 1 | 05/91 | 10,000 | 3 | 1 | 0 | 25 | 2 | 1 | 0 | 35 | 02 | 24 | 34 | 2 | | | 1 |
| 2 | 4 | 1 | 05/91 | 10,000 | 3 | 1 | 0 | 25 | 2 | 1 | 0 | 35 | 02 | 24 | 34 | 2 | | | 1 |
| 001 | 4 | 3 | 09/65 | 20,000 | 3 | 1 | | | | 1 | | | 1 | 0 | 4 | 2 | | REMOVED : | 05/91 |

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Petroleum Bulk Storage Program
Facility Information Report

Printed : 12/02/93

PBS # : 7-182230

Site : VAIL BALLOU PRESS CUNTON ST D
187-~~189~~ CLINTON ST
BINGHAMTON, NY 13905

County : BROOME Town : BINGHAMTON (C)
Latitude : N Longitude : W
SPDES# : CBS# :
Site Type : Info Not Given.

Operator : FRANK KEFFER (607) 723-7981
Emergency : ROBERT KALKA (607) 797-7090

Site status : Active
Total Active Tanks : 4
Active Capacity : 41,200 gals.

Reg Expires : 06/30/92
Last Inspection : / /
Cert Printed : 06/30/87

Site Errors : Minor Data Missing
Owner Error : Minor Data Missing
Tank Errors : Minor Data Missing

Owner : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Phone : (717) 764-5911
Owner Type : Corporate/Commercial

Mail : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Att : (717) 764-5911

| TankNo | TankLoc | Stat | DateIn | Capac (g) | Product | TankType | TankInt | TankExt | PipeLoc | PipeType | PipeInt | PipeExt | SecCont | Leak | OverFil | Disp | LastTest | NextTest | TStat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 002 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |
| 003 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 004 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |

1/11 left msg for Charles Costa

Charles Costa
132 Clinton St.
Binghamton NY 13905
~~607 723-8718~~
904 788-1427

Al Terzella from Vail Ballou

New York State Department of Environmental Conservation
615 Erie Blvd. W., Syracuse, NY 13204-2400
Region 7
Division of Spills Management
(315) 426-7519

Thomas C. Jorling
Commissioner

DATE: Dec 10, 1993

TO: Charles Contra
132 Clinton St.
Binghamton NY 13905

RE: SITE: Vail Ballou Press
187 Clinton St.
Binghamton NY 13905
PBS 7-182230

Gentlemen:

This letter is to advise you of your responsibility associated with the ownership of petroleum storage tanks under New York State DEC Regulations 6NYCRR 612, 6NYCRR 613, and 6NYCRR 614. Enclosed you will find a copy of these regulations and an application for registration.

If you are the owner of a petroleum storage facility having a capacity of over eleven hundred (1,100) gallons you must register with the Department. This shall include any out of service facility which has not been permanently closed under section 613.9(a) (b) (c) of 6NYCRR 613. Should you decide to close your facility, please contact this office 30 days prior to closure. A copy of closure requirements will be sent to you at that time.

If you have any further questions, please contact me at (315) 426-7519.

Sincerely,

John D'Aoust

John D'Aoust
Environmental Engineering Tech I
Petroleum Bulk Storage
c:pbsnotif.ltr

OFFICE OF FIRE ADMINISTRATION • CITY OF BINGHAMTON

Richard Bucci, Mayor
MARTIN J. TILLAPAUGH, FIRE CHIEF

January 6, 1994

RECEIVED
REGION 7
JAN 10 1994
DEPT OF ENV CONSERVATION
SPILL RESPONSE
SYRACUSE

John Piston
D.E.C.
615 Erie Blvd. West
Syracuse, NY 13204-2400

Dear John,

I am sorry about the delay in responding to your request for our State Regs concerning tank removal as it completely slipped my mind. As per our agreement you will forward your regs concerning this same issue.

Due to recent action concerning the tanks at 8 Slauson Avenue, Binghamton, NY, I would like to know the present status of this issue as it pertains to your office.

Sincerely,

Lt. John W. McGoff
Fire Inspector/Investigator

JM/smr

PBS# 182230

1164.5 ABANDONMENT OR REMOVAL OF ANY CLASS I, II AND III LIQUID STORAGE TANK.

1164.5(a) Storage tanks rendered temporarily out of service for a period of 30 days to one year shall be made safe by capping the fill line, gauge opening, and pump suction and securing against tampering.

1164.5(b) Storage tanks not placed back in service within one year must be removed or abandoned in place with proper safeguarding.

1164.5(c) All storage tanks abandoned in place shall be made safe by removing flammable or combustible liquids from the tank and connecting lines, disconnecting the suction, inlet, gauge, and vent lines, filling the tanks completely with an inert, solid material, and capping the remaining piping.

1164.5(d) All storage tanks removed from their location shall be made safe by removing flammable or combustible liquids from the tank and connecting lines, disconnecting the suction, inlet, gauge, and vent lines, removing sections of connecting lines not to be used further, and capping or plugging inlets, outlets, and leaks, if any.

1164.5(e) The Code Enforcement Official shall be notified by the owner of the storage tanks whenever tanks are rendered temporarily out of service, abandoned in place, or removed.

1164.5(f) All storage tanks disposed of as junk shall be rendered free of hazardous vapors.

1164.5(g) Above ground tanks which have been removed shall not be reinstalled until the tank has been appropriately cleaned, repaired if necessary, tested and made corrosion resistant. These tanks shall not be used for underground storage.

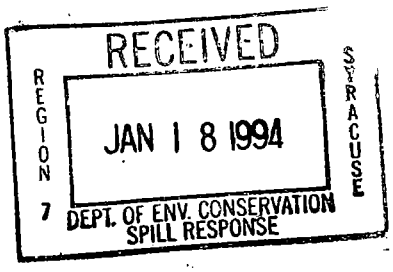
1164.5(h) Underground tanks which have been removed from the ground shall not be used for the storage of any Class I, II or III liquid or any other hazardous chemical unless approved by the Code Enforcement Official and reinstalled according to generally accepted standards.

1164.5(i) In cases where tanks are either rendered "temporarily out of service" or permanently abandoned, records shall be supplied to the Code Enforcement Official of tank size, location, date of abandonment, and method used for placing the abandoned tank in a safe condition.

Redemption Fundraiser

P.O. Box 555 ▪ Binghamton, N.Y. 13902 (607) 722-4962

January 12, 1994




Councilman Anthony F. Fiala
Binghamton City Council Chambers
38 Hawley Street
Binghamton, NY 13903

Councilman Fiala:

I have been trying for a week to get in touch with you. I am sorry, but I must talk to you and Binghamton City Council.

The fire marshall has been very patient with my project as has the city code enforcement people. An escalator clause in my lease has now kicked in and I must soon purchase the 9 Slauson Avenue property or abandon the project for a more suitable location.

You led the opposition to my project in city council and appeared satisfied when the city's environmental committee recommended conditional approval, only to change your position when it was discovered that my landlord had not paid back taxes.

I am not responsible for the back taxes on 9 Slauson Avenue or 4 Hudson Street, but I do hold a possible solution to that problem. If I was to purchase the property, the back taxes could be withheld from the purchase price, as could the cost of removing the oil tanks; plus the cost of any other environmental problem that may be discovered. All this, of course, is contingent on my being able to receive economic development help. My cost for space in 1994 will be $36,800. The purchase of the 9 Slauson/4 Hudson properties is $160,000. It will cost $20,000 to electrify the property, $10,000 for a parking lot required by the city, $28,000 for a machine I need, and $10,000 for extraneous expenses.

My neighbors have found me to be compatible and would like to see my project move ahead.

I have plans for the Vail Ballou property next door. (See Attachment)

I need the city's help to bring together an economic/development package and encourage the Department of Environmental Conservation to enforce the regulations with regard to the oil tanks.

I would appreciate an opportunity to discuss this with you and city council.

Kindest regards,

Les Platt

Les Platt (607) 722-4962

CC: City Council Members
Binghamton Fire Marshall
Binghamton Code Enforcement
Binghamton Economic Development
Binghamton Corporate Council
Southern Tier East Regional Planning
Department of Environmental Conservation

Courtesy Copy: Governor Cuomo
Commissioner Jorling
Mayor Rich Bucci
Frank Shaw, Attorney

Redemption Fundraiser

P.O. Box 555 ▪ Binghamton, N.Y. 13902 (607) 722-4962

# Overview of Redemption Fundraiser Activities

There are thousands of successful recycling projects throughout the United States and the world. For the most part, successful recycling projects fall into four basic categories; community collection systems; intermediate processing facilities; finishing industries; and primary manufacturing facilities. The Redemption Fundraiser is focused on the final three; intermediate processing, finishing and manufacturing.

The Fundraiser is located in a double Quonset hut on Slauson Avenue in Binghamton's First Ward. Recently we leased three thousand feet of space in the old Vail Ballou building owned by Charles Contro and adjacent to the Slauson property.

The Redemption Fundraiser has a proven track record extending back to the mid seventies. Since June of 1990 we have been working with IBM Endicott to handle and market difficult to recycle materials.

Throughout the summer of 1990 we worked with a pickup truck in an open field. The winter of 90/91 we operated from a deteriorating warehouse on Whitney Avenue in Binghamton. The summer of 91 through 92 we moved to and operated from a trucking terminal on Karlada Drive in Binghamton, storing excess materials in tractor trailer bodies parked behind the building.

Throughout the early phases of our project, goals were to identify materials, learn how to handle them, find markets, validate markets, train core people and form reliable relationships. A combination of good luck, hard work and loyal friends has seen us through these very difficult times to a point where we can confidently point the way to a secure project based on proven technology and profitable operations.

We need now to bring our project up to speed. Here is what we know. Most of the materials we handle are recyclable in their current form. We need only to segregate them into categories L.D.P.E. foam; L.D.P.E.; H.D.P.E.; A.B.S.; H.I.P.S.; G.P.S.; E.P.S.; PC's; P.E.T.; PU foams; PVC; pallets; drill board; miscellaneous items, and residuals. The miscellaneous items and residuals may have to be landfilled, however we have a plan to grind them and use them as paving materials or aggregate for roof coatings. In any case they represent less than 10% of our total.

If we recycle our materials in their current form, we will receive minimal value for them. In some cases minimal value translates into negative value. In some cases we lack sufficient quantity to justify shipping current materials.

If however, we process our materials into higher value, they all become profitable with the exception of miscellaneous materials and residual material which will change from negative value, to cost effective, if we find a beneficial use for them (paving or roof aggregate).

We do not have sufficient quantities of any material to cost justify technology for processing them to higher value. For that reason, we have been exploring sources of material other than I.B.M. to cost justify processing technology. We have also put in place a study group project using students from SUNY Binghamton. We expect our study group project to bring to light more efficient technologies and possible products we could manufacture. The study group also serves to familiarize students with the problems of recycling and encourages then to search for solutions.

There are many profitable courses of action. One example is to pelletize L.D.P.E. foam, changing it from a material worth 5 cents per pound as scrap which is not cost effective to ship; to a very profitable 15 cents for mixed colors and 30 cents for natural, which is cost effective to ship. We hope eventually to get to the point where we can pelletize L.D.P.E. foams and films. For now the technology is prohibitivly expensive. We can however set up a very profitable toll grinding program; grinding materials for other people like our selves or for industries who want to recycle their materials but lack quantities to cost justify the technology.

A toll grinding program is our next logical step. Not only will we be able to profit from grinding other peoples' materials but we will be able to cost justify grinding our own material. A toll grinding program will move us forward to a point where we will inevitably gain a wider understanding of available markets and validate those who keep their commitments.

A toll grinding program is not expensive to set up, $25,000 for new equipment which will process 1500 pounds per hour. Toll grinding commands 5 to 10 cents per pound depending on the material and required preparation. $75 to $150 dollars per hour, more than enough to cover overhead, purchase equipment, install it, hook up needed electric, and start preparing us for our next step. With a toll grinding program, our inhouse A.B.S. styrene and PC's will increase in value from 15 to 20 cents per pound.

In the meantime we continue to explore profitable side ventures. We are currently manufacturing an innovative target printed on a coated paper we receive which is not recyclable in its current form. We also occasionally broker materials from other sources, and are working on a collection program for photo resist materials with circuit board manufacturers throughout the northeastern United States.

With a little assist from public structure in the form of clearing red tape and low interest loans, we can move forward more securely.

Les Platt
(607) 722-4962

Is your RETURN ADDRESS completed on the reverse side?

**SENDER:**

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

ATTN DENNIS MCCARTNEY
APEX BUILDING PRODUCTS
P O BOX 1347
KINGSTON PA 18704

4a. Article Number
Z 795 204 310

4b. Service Type
☐ Registered ☐ Insured
☐ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery

5. Signature (Addressee)

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

Thank you for using Return Receipt Service.

PS Form **3811**, December 1991 ☆U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

UNITED STATES POSTAL SERVICE

Official Business

PENALTY FOR PRIVATE
USE TO AVOID PAYMENT
OF POSTAGE, $300

U.S.MAIL

Print your name, address and ZIP Code here

NYSDEC, JOHN DAOUST
615 ERIE BLVD WEST
SYRACUSE NY 13204

**New York State Department of Environmental Conservation**
**615 Erie Blvd. W., Syracuse, NY 13204-2400**

Region 7
Division of Spills Management
(315) 426-7519

**Thomas C. Jorling**
**Commissioner**

DATE: Feb 21 1994

TO: Apex Building Products Company
P.O. Box 1347
Kingston, Pennsylvania 18704
Att: Dennis McCartney

RE: SITE: 4 Hudson St.
Binghamton, NY 13905

Gentlemen:

This letter is to advise you of your responsibility associated with the ownership of petroleum storage tanks under New York State DEC Regulations 6NYCRR 612, 6NYCRR 613, and 6NYCRR 614. Enclosed you will find a copy of these regulations and an application for registration.

If you are the owner of a petroleum storage facility having a capacity of over eleven hundred (1,100) gallons you must register with the Department. This shall include any out of service facility which has not been permanently closed under section 613.9(a) (b) (c) of 6NYCRR 613. Should you decide to close your facility, please contact this office 30 days prior to closure. A copy of closure requirements will be sent to you at that time.

If you have any further questions, please contact me at (315) 426-7519.

Sincerely,

John D'Aoust

John D'Aoust
Environmental Engineering Tech I
Petroleum Bulk Storage
c:pbsnotif.ltr

printed on recycled paper

APEX
BUILDING PRODUCTS CO., INC.
(717) 288-3683
P.O. BOX 1347
KINGSTON, PENNSYLVANIA 18704

WHOLESALE ONLY

RECEIVED
REGION 7
MAR 21 1994
DEPT. OF ENV. CONSERVATION
SPILL RESPONSE
SYRACUSE

March 17, 1994

Mr. John D'Aoust
NY STATE DEPARTMENT OF
ENVIROMENT CONSERVATION
615 Erie Blvd. W.
Syracuse, NY 13204-2400

Re: 2-21-94 Letter

Dear Mr. D'Aoust:

Received your letter about registering a tank which may be at 4 Hudson Street in Binghamton. As you can see from the copies of correspondence from 1992 the tank in question is on our property but not under our control. I would suggest you contact Vail Ballou Press, Inc. on its "successors and assigns" regarding the status of this tank.

Sincerely,

APEX BUILDING PRODUCTS CO.

Dennis M. McCartney

DMM:rc

Enc.

APEX
BUILDING PRODUCTS CO., INC.
(717) 288-3683
P.O. BOX 1347
KINGSTON, PENNSYLVANIA 18704
WHOLESALE ONLY

May 13, 1992

NYS DEC - REGION 7
615 Erie Blvd W.
Syracuse, NY 13204

Re: STORAGE TANKS
PBS #7-182230

To Whom It May Concern:

It is our understanding that the storage tanks in question were disconnected by Vail Ballou Press. While located on our property these tanks are in fact under control of Vail Ballou by virtue of an easement granted by the previous owners of this property. The easement granted Vail Ballou the right to keep and maintain underground tanks on this property and to have access to them and the pipeline under Hudson Street from our property to the Vail Ballou building. A copy of the deed conveying these rights to Vail Ballou Press is attached here. Apex has never had any control or influence over the tanks in question. As point of fact, in about 1987 Vail Ballou did send a crew in to dig up, examine and empty the tanks in question. This was done without our authorization and in fact Vail's crew damaged our fence and did not repair it when they went in.

At this point we at Apex are in a quandry as to what to do about these tanks. Should we make arrangements with your agency to have these tanks checked and then filled with either sand or water? It would appear that Vail Ballou is responsible for these tanks but since they do not own the property that was serviced by these tanks any more perhaps whoever bought this property from them is now responsible since the deed says "Vail Ballou Press, Inc. its successors and assigns". In any case Apex would like to see these tanks put out of service permanently but is unsure of how to proceed since Apex does not feel it controls these tanks.

Please advise us.

Sincerely,

APEX BUILDING PRODUCTS CO.

Dennis M. McCartney

Dennis M. McCartney

DMM:rc

Enc.

**This Indenture,** *Made the* *day of*
October *Nineteen Hundred and* Eighty-Four

**Between** HARRY R. McCARTNEY and GLORIA M. McCARTNEY, his wife, residing at Kingston, Pennsylvania (Post Office Address: P. O. Box 1347, Kingston, Pennsylvania 18704),

*part ies* *of the first part, and*
BROOME COUNTY INDUSTRIAL DEVELOPMENT AGENCY, a public benefit corporation of the State of New York, having its principal office at 349 Chenango Street, Binghamton, New York 13902,

*part y* *of the second part,*
**Witnesseth** *that the part ies* *of the first part, in consideration of* ----------

----------O N E----------*Dollar* ($1.00 )
*lawful money of the United States,* and other good and valuable consideration, *paid by the party* *of the second part, do* *hereby grant and release unto the party* *of the second part,* their assigns and to the ~~and assigns of such~~ survivor of them, their distributees and assigns forever,

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Binghamton, County of Broome and State of New York, bounded and described as follows: COMMENCING at a point in the southerly line of Slauson Avenue, 15 feet, measured along said street line from the intersection of the same with the easterly line of Hudson Street; THENCE eastwardly and along the southerly line of Slauson Avenue 298.26 feet to the intersection of said street line with the westerly line of Crandall Street; THENCE southwardly at an interior angle of 88° 28' and along said street line 65 feet to a point therein; THENCE westwardly at an interior angle of 91° 32' and along the southerly line of the Isaac Hanchett location subdivision shown on a map filed in the Broome County Clerk's Office in Book 1 of Maps at page 297, 108 feet to an angle in said subdivision; THENCE southwardly along an easterly line of said subdivision 15.31 feet to a point; THENCE westwardly and along the southerline of said subdivision 165.45 feet to a point which is 16.3 feet from the easterly line of Hudson Street, measured along an extension of the last course; THENCE northwardly at an interior angle of 107° 33' along the westerly line of Lot 7 as shown on said subdivision 81 feet more or less, to the point or place of beginning, making an interior angle of 75° 22' with the first course.

There is also hereby conveyed the right to use in common with General Aniline & Film Corporation, its successors and assigns, for the purpose of entering upon the premises above conveyed from Hudson Street and of egress from said premises to said Hudson Street, to pass, repass and travel over the strip of land fifteen feet wide, or thereabouts, which lies immediately west of the premises above conveyed and immediately east of the easterly line of said Hudson Street, and which strip of land extends from the southwesterly corner of the premises above conveyed, northwardly to Slauson Avenue (formerly Hanchett Avenue), a distance of approximately 81 feet as more particularly described in the deed from General Aniline & Film Corporation to Vail-Ballou Press, Inc., dated February 19, 1947 and recorded in said Clerk's Office on the same day in Book 628, at page 100.

This conveyance is subject to a reservation by Vail Ballou Press, Inc., its successors and assigns, to use, maintain, repair and replace the three westermost oil storage tanks and the pump house location south of the quonset warehouse on the above property, together with the oil line, heat line and electrical line in or near the underground conduits running from said tanks and pump house to other lands of said Vail Ballou Press, Inc. lying west of Hudson Street, together with rights of ingress and egress to and from said tanks, pump house and conduits for purposes of using, repairing, replacing and maintaining the same, any damage resulting therefrom to be the responsibility of said Vail Ballou Press, Inc.

Being the same premises conveyed to the parties of the first part by Sandra K. Perkins by warranty deed dated July 30, 1984 and recorded July 30, 1984 in the Broome County Clerk's Office in liber 1412 of deeds at page 300.

APEX
BUILDING PRODUCTS CO., INC.
(717) 288-3683
P.O. BOX 1347
KINGSTON, PENNSYLVANIA 18704

WHOLESALE ONLY

RECEIVED
REGION 7
MAR 21 1994
DEPT. OF ENV. CONSERVATION
SPILL RESPONSE
SYRACUSE

March 17, 1994

Mr. John D'Aoust
NY STATE DEPARTMENT OF
ENVIROMENT CONSERVATION
615 Erie Blvd. W.
Syracuse, NY 13204-2400

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APEX BUILDING PRODUCTS CO.

Dennis M. McCartney

DMM:rc

Enc.

APEX

(717) 288-3683

BUILDING PRODUCTS CO., INC.

P.O. BOX 1347

KINGSTON, PENNSYLVANIA 18704

WHOLESALE ONLY

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DMM:rc

Enc.

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*part ies* *of the first part, and*
BROOME COUNTY INDUSTRIAL DEVELOPMENT AGENCY, a public benefit corporation of the State of New York, having its principal office at 349 Chenango Street, Binghamton, New York 13902,

*Witnesseth that the part ies* *part y* *of the second part,*
*of the first part, in consideration of* ----------

----------O N E----------*Dollar* ($1.00 )
*lawful money of the United States,* and other good and valuable consideration, *paid by the party* *of the second part, do* *hereby grant and release unto the party* *of the second part,* their assigns and to the ~~and assigns of such~~ survivor of them, their distributees and assigns forever,

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March 30, 1995

From : Howard T. McLaughlin

Note To File :

RE: Vail Ballou
PBS # 7182230
187-195 Clinton street
Binghamton, N.Y. 13095

Gary peterson contacted me this morning and requested information about the Vail Ballou site.
He was responding to a request from a State Senator's office and was told that NYSDEC was insisting that the present owner register the facility before it could be sold.

This is a problem facility one that John D'Aoust has been working to rectify for some time.
NYSDEC has had to track the owners because no one admits to owning this property and persons who have contacted us by telephone representing themselves as prospective buyers turned out to be listed as possible owners of this facility.

One such person was Mr. Platt who was reportedly the next door property owner but may actually own a part of the facility which was at one time spread out over several sites.

The original complex involved right of ways that ran through adjacent properties for the purpose of pipe runs to larger storage tanks.

Site history that we have tracked indicates that this site was split up some time ago and the persons who own the property with piping and or tanks that were not removed are now not willing to acknowledge that they must take responsibility for their situation.
We have tried to work with the reputed owners but apparently the schedules requested for testing , registration and closure have been ignored.

This office has made it clear that we do not get involved with real estate deals between owners and prospective purchasers nor will we go into a site do an environmental review for someone looking at the property for the purpose of purchasing it.
Furthermore we will not clean up a site so it can be sold or purchased which seems to be the repeated theme of the requests we get about this site.

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Gary has a spill number for the site SPILL NUMBER 89 06060 which was generated after two tanks failed testingthe records show that those tanks were later tested and passed, see TRI-STATE TANK SERVICE letter of 11-29-89.

All four tanks on site are presently overdue for testing .
Inventory records are also reportedly missing.
There is no leak detection or corrosion protection listed.
The dates the tanks were installed is not listed.
Two tanks are listed as active #002 & #003 .
Two Tanks are listed as temporarily closed # 001 & #004.
Registration at this site expired 06/30/92 .

CC: Tom Male
John D'Aoust

March 30, 1995

From : Howard T. McLaughlin

Note To File :

RE: Vail Ballou
PBS # 7182230
187-195 Clinton street
Binghamton, N.Y. 13095

Gary peterson contacted me this morning and requested information about the Vail Ballou site.
He was responding to a request from a State Senator's office and was told that NYSDEC was insisting that the present owner register the facility before it could be sold.

This is a problem facility one that John D'Aoust has been working to rectify for some time.
NYSDEC has had to track the owners because no one admits to owning this property and persons who have contacted us by telephone representing themselves as prospective buyers turned out to be listed as possible owners of this facility.

One such person was Mr. Platt who was reportedly the next door property owner but may actually own a part of the facility which was at one time spread out over several sites.

The original complex involved right of ways that ran through adjacent properties for the purpose of pipe runs to larger storage tanks.

Site history that we have tracked indicates that this site was split up some time ago and the persons who own the property with piping and or tanks that were not removed are now not willing to acknowledge that they must take responsibility for their situation.
We have tried to work with the reputed owners but apparently the schedules requested for testing , registration and closure have been ignored.

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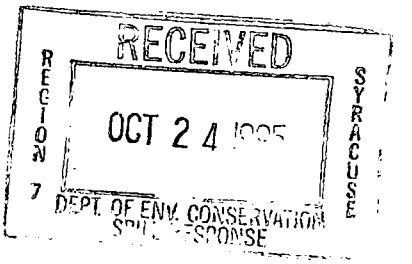
Broome County
**HEALTH DEPARTMENT**
One Wall Street / Binghamton, New York 13901 / (607) 778-8885

Richard A. Parsells, M.P.A., M.B.A. Public Health Director
*Fax (607) 778-2838*

Timothy M. Grippen, County Executive

October 20, 1995




Howard McLaughlin
Bulk Petroleum Storage Program
NYS Department of Environmental
Conservation - Region Seven
615 Erie Blvd. West
Syracuse, NY 13204

Re: Subsurface Oil Storage Tanks, Former Apex Warehouse

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Because of the questionable construction of these tanks and the probable lack of maintenance devoted to them in recent years, the Broome County Health Department is concerned about leakage of fuel oil into underlying soils and groundwater. Two houses are present immediately to the east of the former warehouse site; both have basements that could trap volatile organics if a leak was to occur.

It is hereby requested that your office determine the status of the above-referenced tanks and seek to have them decommissioned if they are found to pose a threat to human health or the environment. Please contact Mr. Ronald Brink of my staff at (607) 778-2887 if you have questions concerning this matter, or if assistance is needed in locating the warehouse owner.

Very Truly Yours,

Robert W. Denz, P.E.
Director Environmental Health
Services

enc.

cc: Keith Heron -
City of Binghamton Code Enforcement
Gary Robinson - NYSDOH SRO

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OCT 24 1995
ENV. CONSERVATION
RESPONSE
SYRACUSE

SUNDAY PRESS
7/9/95

# Not much alarm in DEC response to warehouse fire

GUEST VIEWPOINT
BY BETTY K. WOOD

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Their recommendation is that "if people notice some effect from the smoke, like an odor in the house or something like that, perhaps washing would be an appropriate course of action."

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The Department of Environmental Conservation (DEC) in Binghamton and in Syracuse both have large files on this building, and at least one, if not both, have a fairly complete inventory of the contents.

The Binghamton DEC disavowed any knowledge of the building. The Syracuse DEC is familiar with the building, but after citing it two or three years ago, now indicates it has no more interest or responsibility for it. The Health Department apparently still doesn't have a complete inventory for its assessment.

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The First Ward neighborhood where the fire took place is a low-income, densely populated residential area, an area with lots of backyard gardens of much pride. Closely placed homes line the street on two sides of the block, less than 10 yards from where the building stood. it's a neighborhood with people of all ages.

The site has no signs warning of the toxics. So far there has been nothing from the health department that would let people know what to do to take precautions, or even the need for precautions.

*Wood of Blodgett Mills is a member of the Green Party.*

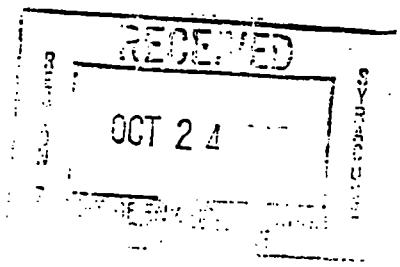
TO: GARY PETERSON

Broome County
**HEALTH DEPARTMENT**
One Wall Street / Binghamton, New York 13901 / (607) 778-8885

Richard A. Parsells, M.P.A., M.B.A. Public Health Director
*Fax (607) 778-2838*

Timothy M. Grippen, County Executive

October 20, 1995




Howard McLaughlin
Bulk Petroleum Storage Program
NYS Department of Environmental
Conservation - Region Seven
615 Erie Blvd. West
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Very Truly Yours,

Robert W. Denz, P.E.
Director Environmental Health
Services

enc.

cc: Keith Heron -
City of Binghamton Code Enforcement
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24 [illegible]

SUNDAY PRESS
7/9/95

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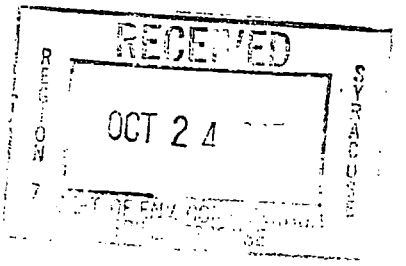


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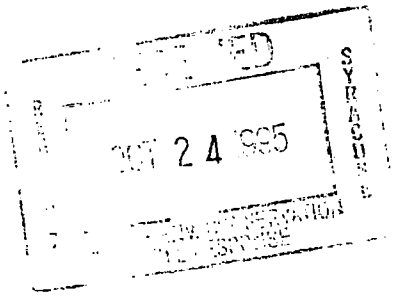

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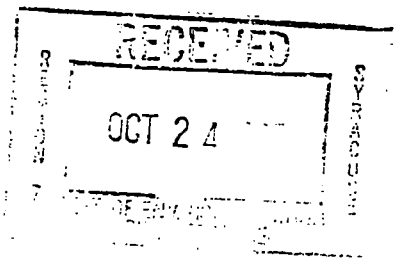
October 20, 1995

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Robert W. Denz, P.E.
Director Environmental Health
Services

enc.

cc: Keith Heron -
City of Binghamton Code Enforcement
Gary Robinson - NYSDOH SRO

24 995

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November 9, 1995

RE: APEX SITE, BINGHAMTON

Does anyone know anything about this facility or have a file on it? If so, please contact Gary Robinson , NYS Dept. Health 426-7627 or Howard McLaughlin.

CC: Richard Brazell
CC: Hazardous Waste
CC: Pollution Prevention
CC: Solid and Hazardous Materials
CC: Water
CC: Regulatory Services

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0 1995

Broome County
**HEALTH DEPARTMENT**
One Wall Street / Binghamton, New York 13901 / (607) 778-8885

Richard A. Parsells, M.P.A., M.B.A. Public Health Director
*Fax (607) 778-2838*

Timothy M. Grippen, County Executive

October 20, 1995

OCT 24

Howard McLaughlin
Bulk Petroleum Storage Program
NYS Department of Environmental
Conservation - Region Seven
615 Erie Blvd. West
Syracuse, NY 13204

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Robert W. Denz, P.E.
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Services

enc.

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Mailed to me on 27th

Broome County
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One Wall Street / Binghamton, New York 13901 / (607) 778-8885

Richard A. Parsells, M.P.A., M.B.A. Public Health Director
*Fax (607) 778-2838*

Timothy M. Grippen, County Executive

RECEIVED
NOV 28
REGION 7 DEPT. OF ENV. CONSERVATION SPILL RESPONSE SYRACUSE

November 22, 1995

Robert Murphy, Esq.
City of Binghamton Corporation Counsel
City Hall
Binghamton, New York 13901-3776

Re: Buried Oil Storage Tanks, 9 Slauson Avenue

Dear Mr. Murphy:

This letter is intended to inform your office about a potential safety hazard at the former Apex Building at the above-referenced address. A total of four underground oil storage tanks were found at the Apex site during recent inspections by the New York State Departments of Health and Environmental Conservation. Three of the four tanks have access holes that are closed by unattached blocks of concrete lying loosely on the surface of the ground. The fourth tank has a steel lid that is bolted in place. All four tanks are situated along the south end of the former Apex Building foundation. The three partially closed tanks are about seven feet in diameter; all were found to contain oil and oil sludge in varying amounts. Access ports were about 18 inches in diameter.

Safety concerns include the possibility that children may enter the tanks and become trapped, and the possibility of a fire or explosion should a spark or lighted match find its way into one of the partly closed tanks.

The New York State DEC is attempting to determine who owns the tanks and the proper methods that should be used to permanently close them. In the meantime, it is recommended that the property owner take measures to limit access to the three partly closed tanks; the simplest action would be to replace the current concrete lids with much heavier versions that would be more difficult to remove.

Feel free to contact Mr. Ronald Brink of my staff at 778-2887 if there are any questions concerning this matter.

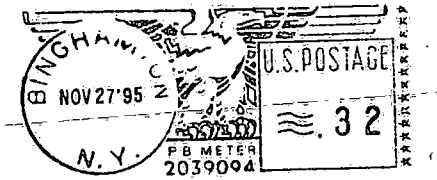
Very truly yours,

Robert W. Denz, P.E.
Director
Environmental Health Services

RWD/js

cc: Gary Robinson - N.Y.S.D.O.H.-Syracuse Regional Office
Howard McLaughlin - N.Y.S.D.E.C.-Syracuse

Broome County
**HEALTH DEPARTMENT**
One Wall Street
Binghamton, New York 13901




HOWARD MCLAUGHLIN
NEW YORK STTE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
REGION 7
615 ERIE BLVD W
SYRACUSE NY 13204-2400

RECEIVED
NOV 2 1 19
DEPT OF ENV CONSERVATION
SPILL RESPONSE
SYRACUSE

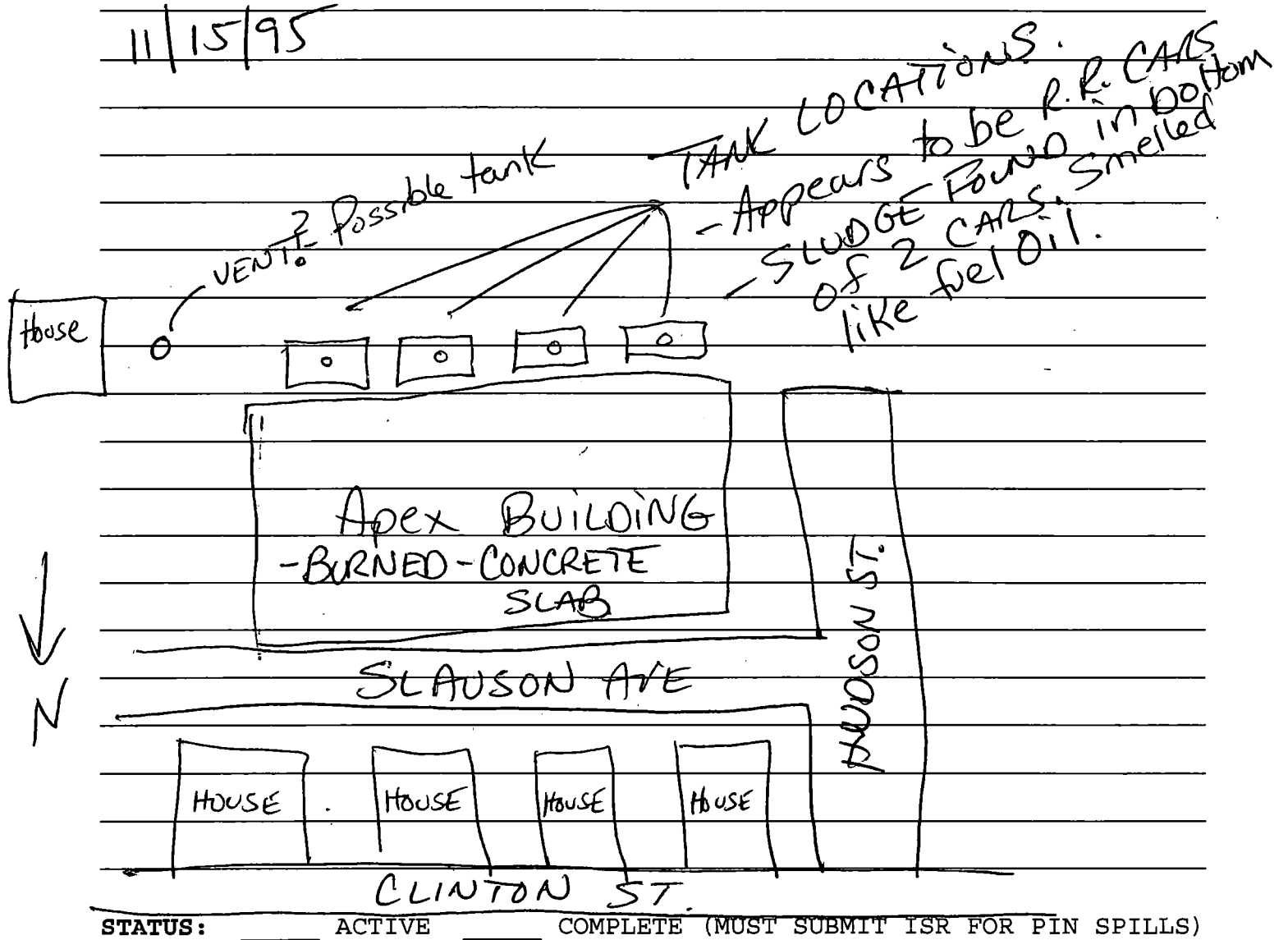
NYSDEC REGION 7 - KIRKWOOD
SPILL REPORT UPDATE FORM

SPILL NAME Apex Building SPILL# PBS Inspection

SITE ACTIVITY: 11/15/95 - Visited site w/ G. Robinson (DOH). located ~~4~~ 4, possible 5 TANKS.

RR. TRACKS

11/15/95



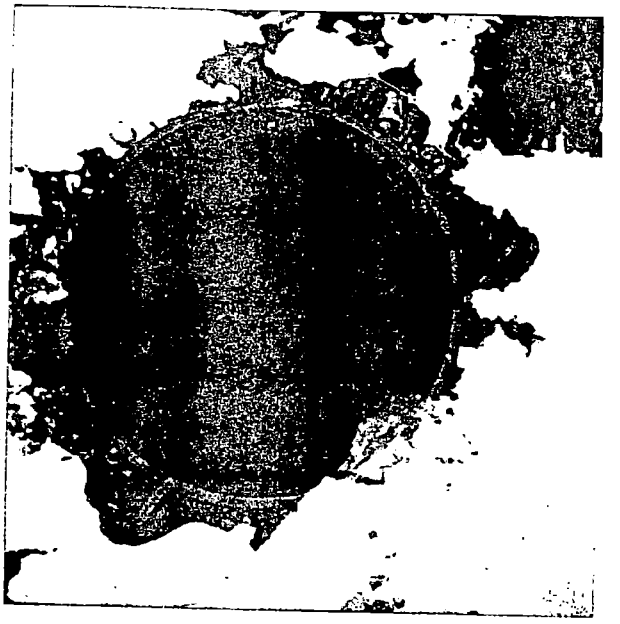

STATUS: _____ ACTIVE _____ COMPLETE (MUST SUBMIT ISR FOR PIN SPILLS)

_____ ENVIRONMENTALLY COMPLETE DATE

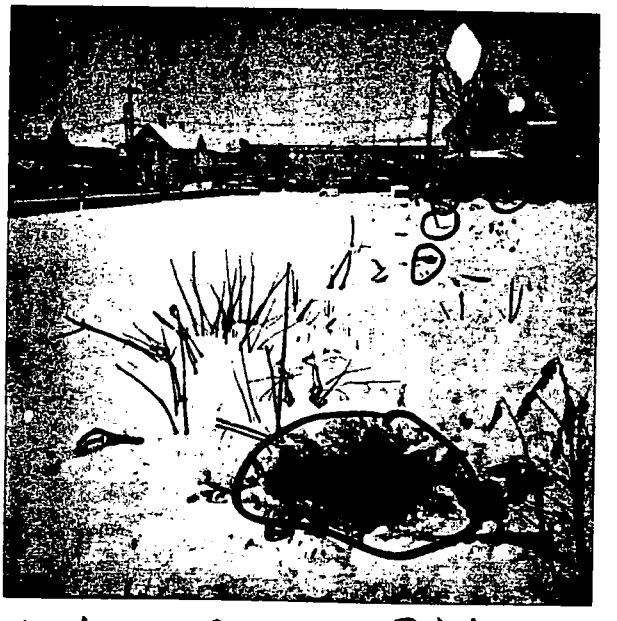
_____ ISR DATE

DEC INSPECTOR _____ INSPECTION DATE _____

11/15/95 - Apex Building VENT w/ CONCRETE GS



11/15/95 Apex Building Manway to TANK. GS



11/15/95 Apex Site Building SLAB. Circle are tank locations. GS

Broome County
**HEALTH DEPARTMENT**
One Wall Street / Binghamton, New York 13901 / (607) 778-8885

Richard A. Parsells, M.P.A., M.B.A. Public Health Director
*Fax (607) 778-2833*

Timothy M. Grippen, County Executive

**DATE/TIME:** 11/27/95 2:30PM

**TO:** Gary Robinson

**FROM:** Ron Brink

**TOTAL NUMBER OF PAGES INCLUDING COVER LETTER:** 11

**IF ALL PAGES ARE NOT RECEIVED, PLEASE CALL (607) 778-8885.**

**NOTES:** _____

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Page 1

BROOME COUNTY CLERK
COUNTY CLERK'S RECORDING PAGE

Return To:

THOMAS COLLISON & PLACE
PO BOX 329
1201 MONROE STREET
ENDICOTT NY 13760

Index BOOK OF DEEDS
Book 01850 Page 0466
No. Pages 0005
Instrument DEED
Control # 199504240011

OPMENT AGENCY
BROOME COUNTY INDUSTRIAL DEVEL

APEX BUILDING PRODUCTS COMPANY

| | | |
|---|---|---|
| Recording | | 25.00 |
| | | .00 |
| | | .00 |
| | | .00 |
| trans tax | | .00 |
| | | .00 |
| | | .00 |
| | | .00 |
| | | .00 |
| Total: | $ | 25.00 |

MORTGAGE TAX

| | | |
|---|---|---|
| Serial # | | |
| City/Town | $ | .00 |
| S.M.A. | $ | .00 |
| Trans. Auth. | $ | .00 |
| Total | $ | .00 |

STATE OF NEW YORK
BROOME COUNTY CLERK

Recorded on 4/24/1995 at 9:38:01
Book 01850 Page 0466 of BOOK OF DEEDS

RICHARD HOGAN

TRANSFER TAX

| | | |
|---|---|---|
| Transfer Tax | $ | .00 |
| Amount | $ | .00 |
| Transfer Tax # | | TT1995003522 |

THIS PAGE IS A PART OF THE INSTRUMENT

Comp
Ver.
Bk.

RICHARD A. HOGAN
Broome County Clerk

A 291

Standard N.Y.B.T.U. Form 8002
Bargain & sale deed, with covenant against grantor's acts Ind. or Corp.

15

JULIUS BLUMBERG, INC., LAW BLANK PUBLISHERS

Page

CONSULT YOUR LAWYER BEFORE SIGNING THIS INSTRUMENT – THIS INSTRUMENT SHOULD BE USED BY LAWYERS ONLY

**THIS INDENTURE,** made the 14th day of April , nineteen hundred and Ninety-Five

**BETWEEN** BROOME COUNTY INDUSTRIAL DEVELOPMENT AGENCY, a public-benefit corporation of the State of New York with an office for the transaction of business located at 109 Main Street, Johnson City, New York 13790

party of the first part, and

APEX BUILDING PRODUCTS COMPANY, a corporation of the State of Pennsylvania with an office for the transaction of business located at Main and Page Streets, Post Office Box 1347, Kingston, Pennsylvania 18704

party of the second part,

**WITNESSETH,** that the party of the first part, in consideration of ----------

----------ONE----------dollars,

lawful money of the United States, and other good and valuable consideration paid

by the party of the second part, does hereby grant and release unto the party of the second part, the heirs or

successors and assigns of the party of the second part forever,

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Binghamton, County of Broome and State of New York, bounded and described as follows: COMMENCING at a point in the southerly line of Slauson Avenue, 15 feet, measured along said street line from the intersection of the same with the easterly line of Hudson Street; THENCE eastwardly and along the southerly line of Slauson Avenue 298.26 feet to the intersection of said street line with the westerly line of Crandall Street; THENCE southwardly at an interior angle of 88 degrees 28 minutes and along said street line 65 feet to a point therein; THENCE westwardly at an interior angle of 91 degrees 32 minutes and along the southerly line of the Isaac Hanchett location subdivision shown on a map filed in the Broome County Clerk's Office in Book 1 of Maps at page 297, 108 feet to an angle in said subdivision; THENCE southwardly along an easterly line of said subdivision 15.31 feet to a point; THENCE westwardly and along the southerly line of said subdivision 165.45 feet to a point which is 16.3 feet from the easterly line of Hudson Street, measured along an extension of the last course; THENCE northwardly at an interior angle of 107 degrees 33 minutes along the westerly line of Lot 7 as shown on said subdivision 81 feet more or less, to the point or place of beginning, making an interior angle of 75 degrees 22 minutes with the first course.

APEX BUILDING PRODUCTS COMPANY, a corporation of the State of Pennsylvania with an office for the transaction of business located at Main and Page Streets, Post Office Box 1347, Kingston, Pennsylvania 18704

Page 2 (cont.)

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WITNESSETH, that the party of the first part, in consideration of ----------

----------ONE----------dollars,

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[redacted]

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There is also hereby conveyed the right to use in common with General Aniline & Film Corporation, its successors and assigns, for the purpose of entering upon the premises above conveyed from Hudson Street and of egress from said premises to said Hudson Street, to pass, repass and travel over the strip of land fifteen feet wide, or thereabouts, which lies immediately west of the premises above conveyed and immediately east of the easterly line of said Hudson Street, and which strip of land extends from the southwesterly corner of the premises above conveyed, northwardly to Slauson Avenue (formerly Hanchett Avenue), a distance of

approximately 81 feet as more particularly described in the deed from General Aniline & Film Corporation to Vail-Ballou Press, Inc., dated February 19, 1947 and recorded in said Clerk's Office on the same day in Book 628, at page 100.

This conveyance is subject to a reservation by Vail Ballou Press, Inc., its successors and assigns, to use, maintain, repair and replace the three westernmost oil storage tanks and the pump house location south of the gonset warehouse on the above property, together with the oil line, heat line and electrical line in or near the underground conduits running from said tanks and pump house to other lands of said Vail Ballou Press, Inc. lying west of Hudson Street, together with rights of ingress and egress to and from said tanks, pump house and conduits for purposes of using, repairing, replacing and maintaining the same, any damage resulting therefrom to be the responsibility of said Vail Ballou Press, Inc.

BEING the same premises conveyed to the Broome County Industrial Development Agency by Warranty Deed of Harry R. McCartney and Gloria M. McCartney dated October 25, 1984 and recorded in the Broome County Clerk's Office on October 26, 1984 in Book 1421 of Deeds at Page 110.

**TOGETHER** with all right, title and interest, if any, of the party of the first part in and to any streets and roads abutting the above described premises to the center lines thereof,

**TOGETHER** with the appurtenances and all the estate and rights of the party of the first part in and to said premises,

**TO HAVE AND TO HOLD** the premises herein granted unto the party of the second part, the heirs or successors and assigns of the party of the second part forever.

**AND** the party of the first part covenants that the party of the first part has not done or suffered anything whereby the said premises have been incumbered in any way whatever, except as aforesaid.

**AND** the party of the first part, in compliance with Section 13 of the Lien Law, covenants that the party of the first part will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.

The word "party" shall be construed as if it read "parties" whenever the sense of this indenture so requires.

**IN WITNESS WHEREOF,** the party of the first part has duly executed this deed the day and year first above written.

In presence of:

**AND** the party of the first part covenants that the party of the first part has not done or suffered anything whereby the said premises have been incumbered in any way whatever, except as aforesaid.

**AND** the party of the first part, in compliance with Section 13 of the Lien Law, covenants that the party of the first part will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.

The word "party" shall be construed as if it read "parties" whenever the sense of this indenture so requires.

**IN WITNESS WHEREOF,** the party of the first part has duly executed this deed the day and year first above written.

IN PRESENCE OF:

BROOME COUNTY INDUSTRIAL DEVELOPMENT AGENCY

By: Lynn L. Sweetland

Lynn L. Sweetland
Vice Chairman

STATE OF NEW YORK, COUNTY OF ss:

On the day of 19 , before me personally came

to me known to be the individual described in and who executed the foregoing instrument, and acknowledged that executed the same.

STATE OF NEW YORK, COUNTY OF ss:

On the day of 19 , before me personally came

to me known to be the individual described in and who executed the foregoing instrument, and acknowledged that executed the same.

STATE OF NEW YORK, COUNTY OF BROOME ss:

On the 14th day of April 1995 , before me personally came LYNN L. SWEETLAND to me known, who, being by me duly sworn, did depose and say that he resides at No. Endwell, New York

that he is the Vice Chairman of Broome County Industrial Development Agency, the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the board of directors of said corporation, and that he signed his name thereto by like order.

Notary Public

JOSEPH B. MEAGHER
Notary Public, State of New York
Broome County 4974837
Commission Expires Nov. 26, 19

STATE OF NEW YORK, COUNTY OF ss:

On the day of 19 , before me personally came

the subscribing witness to the foregoing instrument, with whom I am personally acquainted, who, being by me duly sworn, did depose and say that he resides at No.

that he knows

to be the individual described in and who executed the foregoing instrument; that he, said subscribing witness, was present and saw execute the same; and that he, said witness, at the same time subscribed h name as witness thereto.

## Bargain and Sale Deed
With Covenant Against Grantor's Acts

Title No.

BROOME COUNTY INDUSTRIAL DEVELOPMENT AGENCY

TO

APEX BUILDING PRODUCTS COMPANY

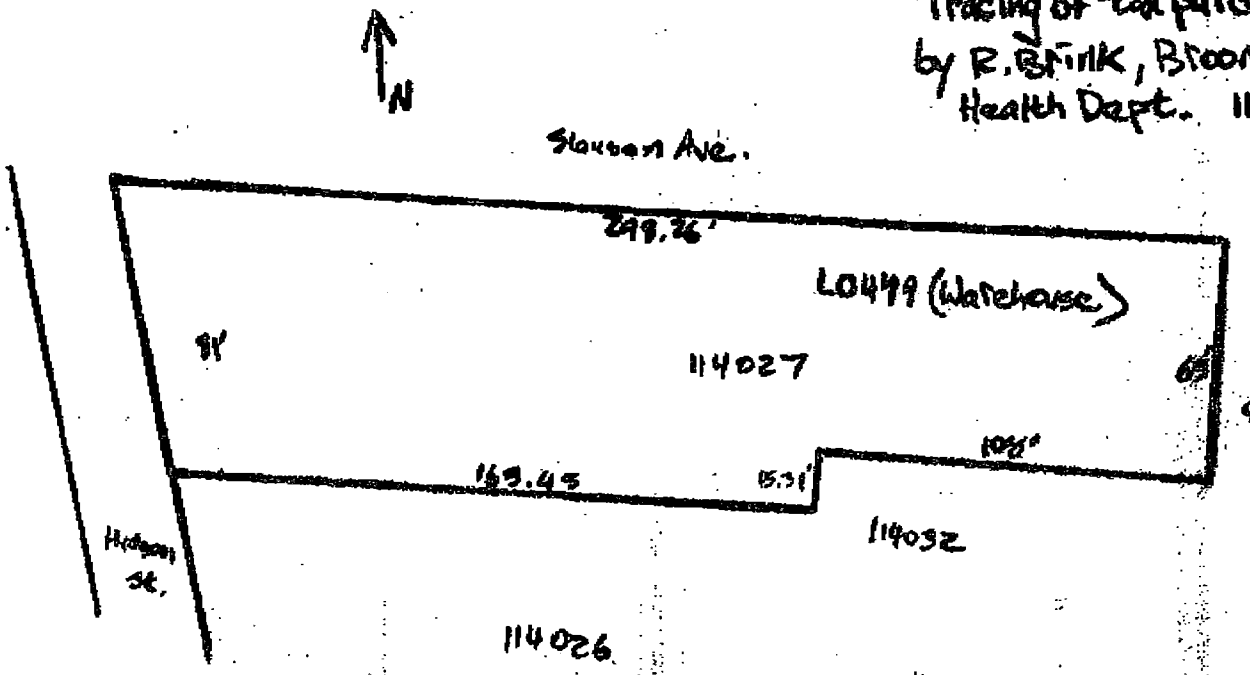
SECTION
BLOCK
LOT
COUNTY OR TOWN

RETURN BY MAIL TO:

Zip No.

Rec.

Tracing of tax parcel MAP
by R. Brink, Broome County
Health Dept. 11/27/95




Vital data; tax #-09-0014-027
owner- Apex Building Products Co.
P.O. Box 1347
Kingston, PA 18704

deed book#- 1850
Page#- PG 466

Broome County
**HEALTH DEPARTMENT**
One Wall Street / Binghamton, New York 13901 / (607) 778-8885

Richard A. Parsells, M.P.A., M.B.A. Public Health Director
*Fax (607) 778-2836*

Timothy M. Grippen, County Executive

November 22, 1995

Robert Murphy, Esq.
City of Binghamton Corporation Counsel
City Hall
Binghamton, New York 13901-3776

Re: Buried Oil Storage Tanks, 9 Slauson Avenue

Dear Mr. Murphy:

This letter is intended to inform your office about a potential safety hazard at the former Apex Building at the above-referenced address. A total of four underground oil storage tanks were found at the Apex site during recent inspections by the New York State Departments of Health and Environmental Conservation. Three of the four tanks have access holes that are closed by unattached blocks of concrete lying loosely on the surface of the ground. The fourth tank has a steel lid that is bolted in place. All four tanks are situated along the south end of the former Apex Building foundation. The three partially closed tanks are about seven feet in diameter; all were found to contain oil and oil sludge in varying amounts. Access ports were about 18 inches in diameter.

Safety concerns include the possibility that children may enter the tanks and become trapped, and the possibility of a fire or explosion should a spark or lighted match find its way into one of the partly closed tanks.

The New York State DEC is attempting to determine who owns the tanks and the proper methods that should be used to permanently close them. In the meantime, it is recommended that the property owner take measures to limit access to the three partly closed tanks; the simplest action would be to replace the current concrete lids with much heavier versions that would be more difficult to remove.

Feel free to contact Mr. Ronald Brink of my staff at 778-2887 if there are any questions concerning this matter.

Very truly yours,

Robert W. Denz, P.E.
Director
Environmental Health Services

RWD/js

cc: Gary Robinson - N.Y.S.D.O.H.-Syracuse Regional Office
Howard McLaughlin - N.Y.S.D.E.C.-Syracuse

FILE UPDATE

November 28, 1995

City of Binghamton---607-772-7000
Contact Mr. Bob Murphy Corporation Council
Information to date: Site belongs to APEX.
Mr.Murphy's staff will try to furnish this information, He was not in today.

NEED :

* Name of Owner
* Contact Person
* Address
* Possible Telephone #

Contacted Gary Peterson NYSDEC, 11-28-95. No records of a spill on Hudson street.

DEC records in Syracuse do not have a listing for APEX in Binghamton.

Broome County Health Department---607-778-2887
Contact Mr. Ron Brinks- NOT in the office.
Health Department reportedly has a record indicating a 6K spill occurred on Hudson Street in Binghamton.

Gary Robinson stopped at the office yesterday and we discussed the site inspection of 11-15-95.
Gary stated that three of the tank man-ways were exposed and do not have latches on them making the tanks accessible to anyone. The fourth tank has a bolted latch.
Gary stated that the recent site remediation work may have exposed the tank tops; however, he has not confirmed this.
During his inspection some product and sludge was found to exist in the three tanks that were open. He did not attempt to open the fourth tank.
Gary stated that there may be some contaminated soil still present between the tanks and a concrete slab where the building used to be. That material, if any, would be residue from the fire.

From what Gary told me the tanks are Rail Road Cars and they appear to have baffle plates still intact. If this is the case the removal of sludge and cleaning may be a problem, including filling all voids if the owners select that closure method.

11-28-95 (Continued)

I am trying to locate the Vall-Ballou file which may show the existence of pipe lines from the APEX property. PBS 7-182230, Vall Ballou is no longer located near the APEX property, but they do run a plant in Broome county for more information see PBS # 7-422207 and correspondence between John Piston and the plant's operator.
(Located most of the file but not the large prints, one small map was still with the file)

STREETS:

HUDSON STREET ( ON THE WEST )
SLAUSON AVE. ( NORTH )
CRANDALL ST. ( EAST )
LACKAWANA RAILROAD (Boarders the south line of this property)

File Now includes :
* FAX from Ron Brink to Gary Robinson and a letter from the Broome County Health Department to the Broome County Corporate Counsel, City Hall. That letter puts the City of Binghamton on notice.( Dated 11-22-95)

* Photographs of the tank man-ways taken on 11-15-95 during Gary Robinson's visit with John Okesson.

* See spill # 8906060 Tank Test Failure
TRI-STATE PETRO-TITE # 003 failed, re-tested found okay.

#4 FUEL ?

November 29, 1995 Wednesday

Tom Suozzo , DEC Kirkwood, contacted me this morning to review the site history of APEX.
After a brief discussion we found the tanks may not be regulated under 40 CFR 280 because it is believed that the petroleum stored was used for heating. Furthermore the site is under 40,200 gallons which is the volume regulated under 40 CFR 112, again only if near a navigable waterway. (SPCC)
Tom stated that he will try to establish who the land owners are and forward that information to me.

Tentative plan : Request that the owners close the tanks as per DEC 6 NYCRR Part 613.9. Option for in place closure

11-29-95 (Continued)

RON BRINKS BROOME COUNTY HEALTH DEPT. contacted me this morning +/-9:45 and stated that the APEX Corp. purchased the property back from Broome County in April of this year. Gary Robinson, NYS Health Dept., dropped off a copy of the deed; however it contains a conveyance similar to the 1984 deed.

Brinks further stated that :

* Roland Austin of the County Health Department recorded a 1000 gallon per day leak in 1971 . The leak was reported on 10-13-71 and an estimated 6,000 gallons of fuel was lost.

* There is no record of recovery when the line was repaired.

* The line was a 2" high pressure fuel line at 30 lbs. psq"

* Petroleum use was for heat/ steam.

Tom Suozzo contacted me after Ron Brinks got off the telephone and stated that he had just spoken to the Corporate Council's office and found that the deal may not have gone through.

* The papers were signed by the County but I see no signatures by the APEX Corp.
* Tom has spoken to Mr. Frank Evangelisti who stated that he will contact me to confirm ownership.

SIDE NOTE : THE TANK CARS ARE VERY HEAVY AND THE VALUE OF THE SCRAP IRON MAY COVER A LOT OF THE CLOSURE COSTS.

November 30, 1995 Thursday

Mr. Evangelisti of the Broome County Council's Office contacted me at 9:30 AM conveyed the following:

* The County never took the property!
* A tax map will be faxed to me, that map should list the property owner.
* He is going to request that Ms. Tracy Corbitt of the Broome County Planning Dept. contact me and provide additional information.
Her telephone number is 607-772-7063.

December 6, 1995

Ms. Tracy Corbitt contacted me this morning. She stated that the property belongs to APEX !
Her office sent a letter to APEX informing them that the County considers APEX to be responsible for the tanks and directed APEX to take corrective action to satisfy the NY State DEC regulations.

Ms.Corbitt requested that I contact her to keep Broome County updated. We also discussed the condition of the man-ways and I told her that Mr. Gary Robinson considers them to be a problem which should be addressed. She told me she will send the Fire Department to the site to investigate for a hazard.

FILE UPDATE

November 28, 1995

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11-28-95 (Continued)

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Her telephone number is 607-772-7063.

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Her office sent a letter to APEX informing them that the County considers APEX to be responsible for the tanks and directed APEX to take corrective action to satisfy the NY State DEC regulations.

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Tests indicate failure and a spill number 89-06060
The information on file shows that the PBS CERTIFICATE would list all tanks due for testing in 1994. See PBS # 7-182230

FILE UPDATE

November 28, 1995

City of Binghamton---607-772-7000
Contact Mr. Bob Murphy Corporation Council
Information to date: Site belongs to APEX.
Mr.Murphy's staff will try to furnish this information, He was not in today.

NEED :

* Name of Owner
* Contact Person
* Address
* Possible Telephone #

Contacted Gary Peterson NYSDEC, 11-28-95. No records of a spill on Hudson street.

DEC records in Syracuse do not have a listing for APEX in Binghamton.

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Contact Mr. Ron Brinks- NOT in the office.
Health Department reportedly has a record indicating a 6K spill occurred on Hudson Street in Binghamton.

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Gary stated that three of the tank man-ways were exposed and do not have latches on them making the tanks accessible to anyone. The fourth tank has a bolted latch.
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11-28-95 (Continued)

I am trying to locate the Vall-Ballou file which may show the existence of pipe lines from the APEX property. PBS 7-182230, Vall Ballou is no longer located near the APEX property, but they do run a plant in Broome county for more information see PBS # 7-422207 and correspondence between John Piston and the plant's operator.
(Located most of the file but not the large prints, one small map was still with the file)

STREETS:

HUDSON STREET ( ON THE WEST )
SLAUSON AVE. ( NORTH )
CRANDALL ST. ( EAST )
LACKAWANA RAILROAD (Boarders the south line of this property)

File Now includes :
* FAX from Ron Brink to Gary Robinson and a letter from the Broome County Health Department to the Broome County Corporate Counsel, City Hall. That letter puts the City of Binghamton on notice.( Dated 11-22-95)

* Photographs of the tank man-ways taken on 11-15-95 during Gary Robinson's visit with John Okesson.

* See spill # 8906060 Tank Test Failure
TRI-STATE PETRO-TITE # 003 failed, re-tested found okay.

#4 FUEL ?

November 29, 1995 Wednesday

Tom Suozzo , DEC Kirkwood, contacted me this morning to review the site history of APEX.
After a brief discussion we found the tanks may not be regulated under 40 CFR 280 because it is believed that the petroleum stored was used for heating. Furthermore the site is under 40,200 gallons which is the volume regulated under 40 CFR 112, again only if near a navigable waterway. (SPCC)
Tom stated that he will try to establish who the land owners are and forward that information to me.

Tentative plan : Request that the owners close the tanks as per DEC 6 NYCRR Part 613.9. Option for in place closure

11-29-95 (Continued)

RON BRINKS BROOME COUNTY HEALTH DEPT. contacted me this morning +/-9:45 and stated that the APEX Corp. purchased the property back from Broome County in April of this year. Gary Robinson, NYS Health Dept., dropped off a copy of the deed; however it contains a conveyance similar to the 1984 deed.

Brinks further stated that :

* Roland Austin of the County Health Department recorded a 1000 gallon per day leak in 1971 . The leak was reported on 10-13-71 and an estimated 6,000 gallons of fuel was lost.

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Her telephone number is 607-772-7063.

November 30, 1995

Howard McLaughlin
fax (315) 426-2653

Dear Mr. McLaughlin;

As requested, please find attached the tax parcel map and a site plan that was submitted for a special use permit review for 9 Slauson Avenue. The following is a list of properties owners for adjacent properties to 9 Slauson Avenue:

| TAX MAP # | ADDRESS | PROPERTY OWNER |
|---|---|---|
| 114025 | 2 Hudson Street | Milton Rozen<br>2120 East Hamton Rd.<br>Binghamton, New York 13903 |
| 114026 | 4 Hudson Street | Apex Building Products<br>Main & Page Street<br>Kingston, PA 18704 |
| 114027 | 9 Slauson Avenue | Broome County IDA<br>% Apex Building Products<br>PO Box 206<br>Kirkwood, NY 13795 |
| 114035 | 21 Crandall Street | Eagle Properties Corp.<br>Box 681<br>Binghamton, NY 13902-0222 |
| 114034 | 25 Crandall Street | Eagle Properties Corp.<br>Same as above |
| 114033 | 27 Crandall Street | John Pratko<br>27 Crandall Street<br>Binghamton, NY 13905 |
| 114032 | 27 1/2 Crandall St. | Micheal Curyto<br>27 1/2 Crandall St.<br>Binghamton, NY 13905 |

If you have any further questions regarding this matter, please do not hesitate to call me at (607) 772-7063.

Sincerely,

Tracey S. Corbitt, Senior Planner

enc.
cc: chron; I:\HOME\TRACEY\LET_9sl.DOC

City of Binghamton

# FAX CORRESPONDENCE

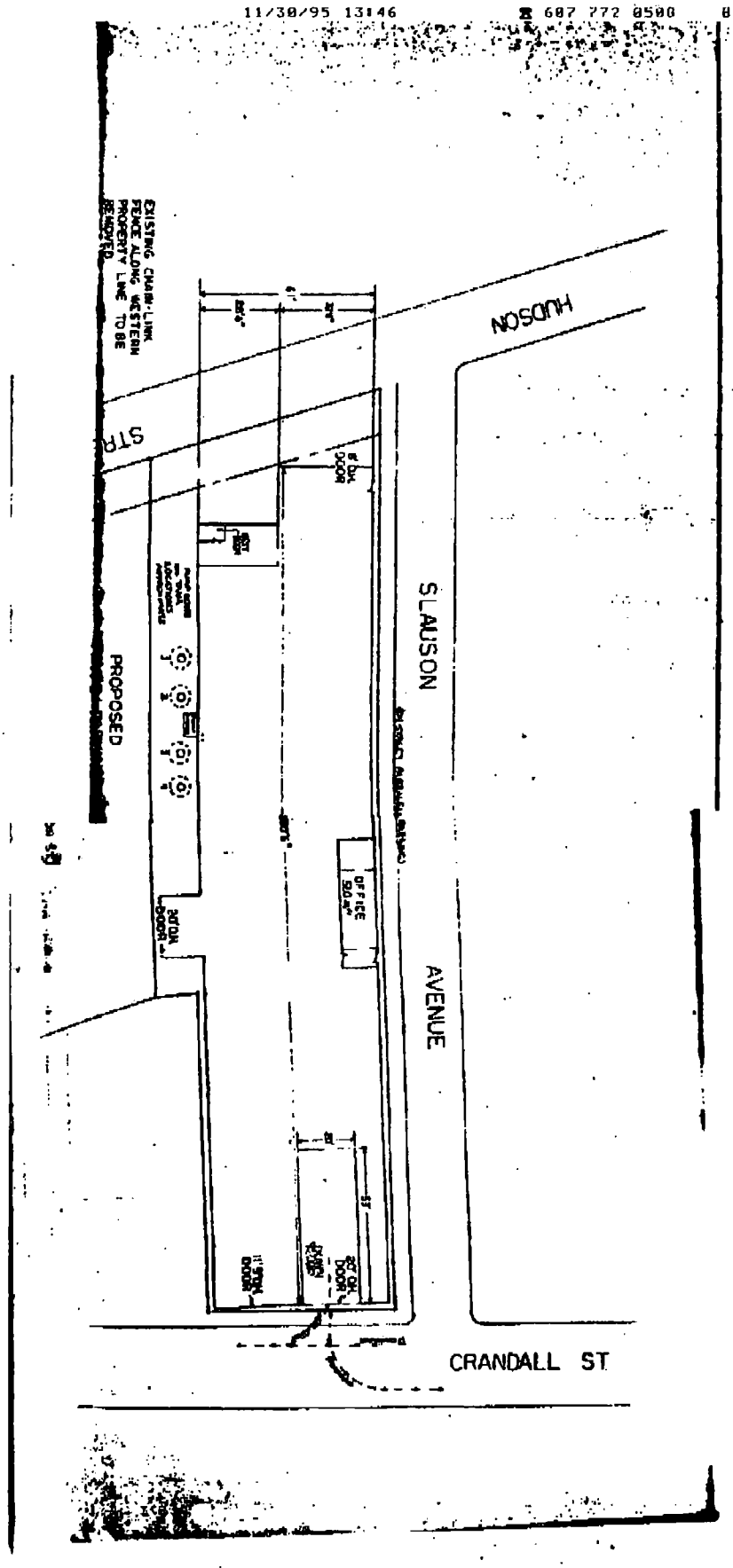
City of Binghamton
Government Plaza
38 Hawley Street
Binghamton, N.Y. 13901-3776
Fax (607) 772-0508

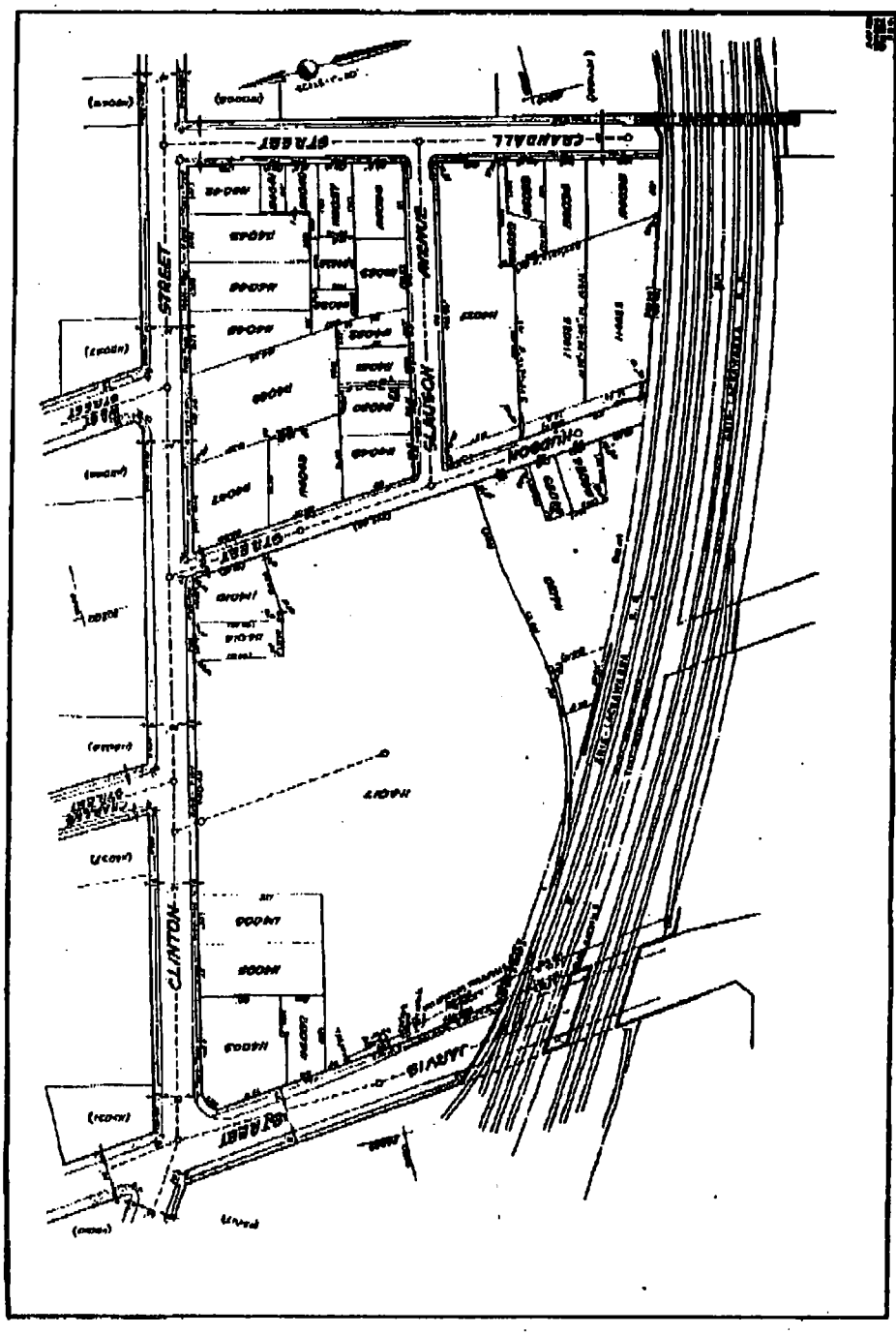
Date: 11/30/95
Time: 11:40
Number of Pages: 4
(including cover)

To: Howard McLaughlin
Company: NYSDEC
Fax #: 315-426-2653
From: Tracy S. Corbitt, Senior Planner
City Hall Department: Planning, Housing & Com. Dev.
Phone number: 772-7063 (607)

Message:

PHCD: 6/95


EXISTING CHAIN-LINK FENCE ALONG WESTERN PROPERTY LINE TO BE REMOVED
HUDSON
STR
PROPOSED
SLAUSON
AVENUE
OFFICE
CRANDALL ST




CITY OF BINGHAMTON N. Y. PLATE 114

112

MEMO TO APEX/VAIL BALLOU (BINGHAMTON SPILL/TANK CLOSURE)

DATE: DECEMBER 6, 1995

I met with Howard McLaughlin and he informed me of the history of the case and gave me the file for review. We determined that both Apex, as owner, and Vail Ballou, pursuant to deed reservation would be responsible parties.

Howard later spoke with Apex which informed him that they were checking w/ their attorney regarding closure responsibility and at least go out and secure the tank openings.

12/7/95

I received a phone call from Jim Cahill, attorney for Apex (Binghamton 607-748-7481). He informed me that his client would be pumping the tanks and filling them with sand. He also stated that have or would secure the tanks for the time being. He has been conducting the search as to the other responsible parties--i.e. Vail Ballou and its successors. He suspected there may be one or more viable entities which would be responsible for the tanks. He asked for a week or two to attempt to locate these people.

I informed him that any closure plan would have to be cleared with Howard first and that the important immediate action would be to secure the tank tops. I also asked him to let me know if he attained any info. regarding other responsible parties since it would enable the department to seek action elsewhere.

I need to:

-review procedures for spills/closure
-review short form stip. and discuss the possiblity w/ Howard of sending these out to Apex and other resp. parties.

HOWARD –

614 / 40 CFR ~~580~~

4 RAILROAD CARS – BURIED

~~4 TANKS~~

RESPONSIBLE PARTY –

APEX / Vallow Blvd

Sludge

① Secure Tank
② Closing 6 NYCRR 612-614
40 CFR 280 – Testing

[HEARING SOURCE EXEMPTION] ?

B.C.I.D.A

RECENT SITE REMEDIATION ?
OWNERSHIP ?

OTHER SUBSTANCES IN FILE – ? – Hoo Hlth Dept Testing –
1987 Gary Robinson

Spoke Apex (Jack 1989)
they are speaking w/ Atty
Securing tanks

- Short form Petroleum STIP. to
Both Parties -
OK on Content of Short Form Petrol.
STIP.

December 6, 1995

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The letter was sent by Mr. James Cahill Attorney at Law.
Tests indicate failure and a spill number 89-06060
The information on file shows that the PBS CERTIFICATE would list all tanks due for testing in 1994. See PBS # 7-182230

January 3, 1996

RE: APEX SITE

UPDATE

I spoke to Mr. Dennis McCartney of APEX INC. this morning.
He stated that APEX has received a bid from Environmental Products and Services to clean the tanks, sample the soil, and fill the vessels in place.

The weather is presenting a problem therefore work will not begin until April of 1996. I requested that he send me a schedule no latter than March 1996.

Mr. McCartney can be reached at 717-288-3683
See PBS # 7-422207 and 7-182230 for reference!

HTM

RECEIVED
JAN 11 1996
N.Y.S.D.E.C. - Legal Affairs
Region VII - Syracuse

CAHILL & BEEHM
ATTORNEYS AT LAW
145 WASHINGTON AVENUE
POST OFFICE BOX 119
ENDICOTT, NEW YORK 13761-0119

JAMES N. CAHILL *
ROBERT S. BEEHM

TELEPHONE
(607) 748-7481

* ALSO ADMITTED IN PENNSYLVANIA

January 10, 1996

COPY

Vail Ballou Press, Inc.
Pine Camp Drive
Kirkwood, NY 13904

Maple Vail Book Manufacturing Group
187 Clinton Street
Binghamton, NY 13905

Attention: Real Estate Department

Ladies and Gentlemen:

I represent Apex Building Products Company which is the present owner of premises on Slauson Street which were previously conveyed by you to New Milford Development Corporation. A copy of that deed of conveyance is enclosed herewith. I have highlighted that portion of the second page of that deed which is the subject matter of this letter.

The DEC has advised Apex that the tanks which are referred to in the enclosed deed must be rendered harmless. The DEC obviously came to Apex because the tanks are located on Apex's property.

However, the enclosed deed makes it clear, we believe, that the responsibility for those tanks is yours.

We believe, by the way, that the cost of meeting DEC's requirement is not hugely onerous.

CAHILL & BEEHM
ATTORNEYS AT LAW
145 WASHINGTON AVENUE
POST OFFICE BOX 119
ENDICOTT, NEW YORK 13761-0119

JAMES N. CAHILL *
ROBERT S. BEEHM

* ALSO ADMITTED IN PENNSYLVANIA

TELEPHONE
(607) 748-7481

RECEIVED
JAN 22 1996
N.Y.S.D.E.C. - Legal Affairs
Region VII - Syracuse

January 19, 1996

Alan M. Zalbowitz, Esq.
32 Riverside Drive
Binghamton, NY 13905

Re: Contro - Clinton Street Property

Dear Alan:

I represent Apex Building Products Company, owner of property at 9 Slauson Avenue in Binghamton.

I understand that you represented Charles Contro in connection with the purchase of a building on Clinton Street from Vail-Ballou Press, Inc. in 1988.

I am enclosing a copy of a 1965 deed from Vail-Ballou to New Milford Development Corporation in which Vail-Ballou, its successors and assigns, reserved the right to use storage tanks located on Slauson Avenue.

The DEC has informed my client that the tanks must be rendered harmless. I notified Vail-Ballou by letter January 10, 1996 (copy enclosed) that the responsibility for the tanks rests with them. This morning I received a letter from Robert Smith (copy enclosed) indicating that your "Contro from Vail-Ballou" file contains documents relating to the tanks. Please forward copies of those documents and any other information you may have in connection with the measures taken to abandoned the tanks.

Thank you for your attention to this matter.

Very truly yours,

James N. Cahill

JNC:elc
Encs.

cc: Dennis McCartney
Kenneth Lynch, Esq.

COUGHLIN & GERHART, L.L.P.
ATTORNEYS AND COUNSELLORS
ONE MARINE MIDLAND PLAZA
P. O. BOX 2039
BINGHAMTON, NEW YORK
13902-2039
(607) 723-9511
FAX (607) 772-6093

LOREN W. GUY
RICHARD B. LONG
ROBERT J. SMITH *
HENRY J. RODE II
PETER H. BOUMAN *
GORDON E. THOMPSON
FRANK W. MILLER
MARK S. GORGOS
JAMES P. O'BRIEN
RICHARD W. MERTENS *
CARL A. KIEPER
JEFFREY A. BROWN
DAVID H. GUY
BETH E. WESTFALL

GARY B. KLINE
SUSAN L. ENGLISH *
TODD D. KILPATRICK
ROBERT R. JONES
PAUL J. SWEENEY
SUSAN A. INNEO *

GEORGE G. COUGHLIN
(1900-1986)

DONALD G. SWEENEY
(1942-1988)

EUGENE C. GERHART
EDWARD S. DERMODY
GEORGE L. INGALLS
CARL R. GITLITZ
WILLIAM L. GIBSON, JR.
OF COUNSEL

ROBERT D. W. LANDON, II, P.A.
OF COUNSEL IN FLORIDA ONLY

190 MAIN ST., P. O. BOX 462
AFTON, NY 13730
(607) 639-2222

257 MAIN ST.
JOHNSON CITY, NY 13790
(607) 770-0894
FAX (607) 770-1978

MAIN ST., P. O. BOX 429
UNADILLA, NY 13849
(607) 369-3811
FAX (607) 369-3315

* ALSO ADMITTED IN PENNSYLVANIA

January 18, 1996

James N. Cahill, Esq.
Cahill & Beehm
145 Washington Avenue
P.O. Box 119
Endicott, New York 13760

RE: Vail-Ballou Press, Inc.

Dear Jim:

We represent Vail-Ballou Press, Inc. and your letter of January 10, 1996 has been referred to me for a reply.

Prior to the sale of our Clinton Street building to Contro, the tanks in question were pressure tested, pumped out and abandoned by Vail-Ballou. It is my recollection that the DEC was notified of this at the time. Alan Zalbowitz represented Contro when he purchased the Clinton Street property and I believe he has copies of documents related to these tanks.

Very truly yours,

Robert J. Smith

RJS:dco

cc: Mr. Francis X. Keffer

ENV. R. PRODUCTS - INVESTIGATING / CLOSURE / REMEDIATION

40 CFR 280 SOIL SAMPLING -

OVR REGS - NOTHING THAT SAYS SOIL SAMPLING REQUIRED

OLD SPILL PER HEALTH DEPT (BROOME CTY)

└ SUPPLY LINE ↳ GARY ROBINSON NYSDEPT HEALTH

NO WAY TO ISOLATE LINES → TANK TEST SUSPECT

TANK TESTING MUST BE BY DEC APP'D LTR.

TANKS NEVER LEGAL - 619

HOLD FOR NOW

CAHILL & BEEHM
ATTORNEYS AT LAW
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POST OFFICE BOX 119
ENDICOTT, NEW YORK 13761-0119

JAMES N. CAHILL *,
ROBERT S. BEEHM

* ALSO ADMITTED IN PENNSYLVANIA

TELEPHONE
(607) 748-7481

RECEIVED
FEB _ 8 1996
N.Y.S.D.E.C. - Legal Affairs
Region VII - Syracuse

February 6, 1996

Kenneth Lynch, Esq.
NYS Dept. of Environmental Conservation
615 Erie Boulevard West
Syracuse, NY 13204-2400

Re: Apex Building Products Company
Underground tank at 9 Slauson Avenue, Binghamton, NY

Dear Mr. Lynch:

Enclosed please find copies of correspondence I received today from attorney Alan Zalbowitz in connection with the underground tanks located at 9 Slauson Avenue in Binghamton. I will forward attorney Smith's response as soon as it is received.

Very truly yours,

James N. Cahill

JNC:elc
Encs.

cc: Dennis McCartney

RECEIVED
2-6-96

CHARLES W. YETTER
ALAN M. ZALBOWITZ*
EDWARD M. GARTELL

KELLY A. MOONEY

GEORGE H. ELWOOD*
OF COUNSEL

*ALSO ADMITTED IN PENNSYLVANIA

YETTER, ZALBOWITZ & GARTELL
ATTORNEYS & COUNSELLORS AT LAW
32 RIVERSIDE DRIVE
BINGHAMTON, NEW YORK 13905

(607) 723-9551
FAX (607) 723-2523

151 FRONT STREET
DEPOSIT, NEW YORK 13754
(607) 467-3322

8 MAIN STREET
WINDSOR, NEW YORK 13865
(607) 655-2050

R.R. 6, BOX 6022C
(RT. 706 ON THE LAKE)
MONTROSE, PA 18801
(717) 278-4711

10 W. MAIN STREET
HANCOCK, NEW YORK 13783
(607) 637-4791
FAX NO. (607) 637-4701

February 5, 1996

Robert J. Smith, Esq.
Coughlin & Gerhart
One Marine Midland Plaza
Binghamton, NY 13902-2039

FOR YOUR INFORMATION

RE: Contro - Clinton Street Property

Dear Bob:

I received a letter from Jim Cahill a few weeks ago inquiring as to the status of some tanks which were apparently utilized by Vail Ballou and transferred to New Milford Development Corporation. He also sent me a copy of your letter of January 18 in which you advised we represent Contro and that you thought we had copies of the documents related to these tanks. I am sending you a copy of your letter of December 4, 1989 which referred to the underground tanks and indicated that once the certifications had been issued, you were going to try to get a copy to send to us for our file. I am not certain whether those are the same tanks as the tanks involving Slauson Avenue, but in reviewing my file after your letter of December 1989, I do not find that we ever received any certifications from DEC.

Very truly yours,

YETTER, ZALBOWITZ & GARTELL

Alan M. Zalbowitz

Alan M. Zalbowitz

AMZ/mn
cc: James N. Cahill, Esq.
Charles Contro
Peter Contro

COUGHLIN & GERHART
ATTORNEYS AND COUNSELLORS
ONE MARINE MIDLAND PLAZA
P. O. BOX 2039
BINGHAMTON, NEW YORK
13902-2039
(607) 723-9511
TELEX: 221500 ASAS COHART
FAX: (607) 772-6093

CHENANGO COUNTY OFFICE
190 MAIN STREET
P. O. BOX 462
AFTON, NEW YORK 13730
(607) 639-2222

LOREN W. GUY
RICHARD B. LONG
G GORDON COUGHLIN, JR.
ROBERT J. SMITH *
HENRY J. RODE II
PETER H. BOUMAN *
GORDON E. THOMPSON
FRANK W. MILLER
MARK S. GORGOS
JAMES P. O'BRIEN
RICHARD W. MERTENS

CARL A. KIEPER
JEFFREY A. BROWN
DAVID H. GUY
BETH E. SECAUR
ROBERT C. MURPHY
CHRISTOPHER T. CAFARO
GARY B. KLINE

* ALSO ADMITTED IN PENNSYLVANIA

GEORGE G. COUGHLIN
(1900-1986)

DONALD G. SWEENEY
(1942-1988)

EUGENE C. GERHART
EDWARD S. DERMODY
GEORGE L. INGALLS
OF COUNSEL

ROBERT D. W. LANDON, II, P.A.
OF COUNSEL IN FLORIDA ONLY

December 4, 1989

Alan M. Zalbowitz, Esq.
Yetter, Zalbowitz, Hester & Gartell
66 Hawley Street
Binghamton, New York 13901

FOR YOUR INFORMATION

RE: Vail-Ballou Press, Inc./
Charles Contro

Dear Alan:

We are enclosing herewith the agreement covering the lease extension between Charles Contro and Vail-Ballou Press, Inc. As I related in our telephone conversation, I have taken the liberty of revising paragraph 8.

As a matter of information, it is my understanding that the underground tanks have in fact now been certified by the DEC. Once the certifications have in fact been issued, I will try and get a copy to send for your file.

Sincerely,

Robert J. Smith

RJS:dcp

Enclosure

NYS ENVIRONMENTAL CONSERVATION
7481 HENRY CLAY BLVD.
LIVERPOOL, NY 13088



(315) 428-4514

93-12-001 (4/85)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# PETROLEUM BULK STORAGE NOTICE

Required Test Schedule for Underground Storage Tanks

PETROLEUM BULK STORAGE NUMBER: 182230

Tests must be completed by the last day of the month indicated.
Reporting requirements are indicated on the back of this form.

| Test Date(s) | Method(s) | TANK NUMBER | DUE DATE | TANK TYPE | CAPACITY | PRODUCT | INDICATE TEST RESULTS (P-pass; F-fail) Tank P | Tank F | Piping P | Piping F | Unable To Test |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PLEASE DISREGARD THIS NOTICE FOR RESULTS ALREADY SENT TO DEC | | | | | | | | | | | |
| 11-27-89 | Ainlay | 001 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL | X | | | X | |
| 9-20-89 | Ainlay | 002 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL | X | | X | | |
| 11-22-89 | Ainlay | 003 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL | X | | | X | |
| 9-22-89 | Ainlay | 004 | 12/87 | BARE STEEL | 10,300 | NOS 1,2,4 FUEL | X | | X | | |

RECEIVED
MAR 13
DEC

This notice and a copy of the underground test report should be returned to DEC with the following information:

Tester's Name: TRI-STATE TANK service / Luzon oil co.

Tester's Address: P.O. Box 19, Harleyville N.Y. 12747

NAME OF FACILITY

VAIL BALLOU PRESS CUNTON ST D'
187-195 CLINTON ST
BINGHAMTON NY 13905

I affirm that:
1. I am trained in performance of the test and have an understanding of the variables which affect the test.
2. The test methods used meet the Department's criteria.

Tester's Signature

Owner's Signature

NAME OF OWNER

MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK PA 17405

DEC DISPOSITION:

DEPARTMENT COPY

CAHILL & BEEHM
ATTORNEYS AT LAW
145 WASHINGTON AVENUE
POST OFFICE BOX 119
ENDICOTT, NEW YORK 13761-0119

JAMES N. CAHILL *
ROBERT S. BEEHM

* ALSO ADMITTED IN PENNSYLVANIA

TELEPHONE
(607) 748-7481

March 12, 1996

Howard McLaughlin, Esq.
NYS Dept. of Environmental Conservation
615 Erie Boulevard North
Syracuse, NY 13204-2400

Re: Apex Building Products
Underground tanks at 9 Slauson Avenue, Binghamton

Dear Mr. McLaughlin:

Does the information we enclose now enable us to obtain satisfaction in full of DEC's concerns regarding the above referenced tanks. Please advise.

Very truly yours,

James N. Cahill

JNC:elc
Encs.

cc: Dennis McCartney

**New York State Department of Environmental Conservation**
**Region 7 Division of Spills Management**
**615 Erie Boulevard West**
**Syracuse, New York 13204-2400**
**(315) 426-7519**

**Michael D. Zagata**
**Commissioner**

March 13, 1996

Mr. James N. Cahill Esq.
Cahill & Beehm
145 Washington Avenue
P.O.Box 119
Endicott, New York 13761-0119

**FILE COPY**

Re: PBS # 7-182230
APEX-Binghamton, N.Y.

Dear Mr. Cahill:

I have reviewed your letter of March 12, 1996 and find that it contains information already listed which doesn't satisfy the rules and regulations as listed in 6NYCRR Parts 612, 613 & 614. A copy of that publication is enclosed for your review.

The problem remains that all four tanks are overdue for testing. See page 26, 613.9 (a) which requires that tanks temporarily out of service are still subject to testing requirements. Our records also indicate that two of the tanks are still in service.

If the tanks listed under PBS # 7-182230 were tested after the due date of 1994 please forward a copy of the test results to this office care of my attention.

612.2 (2) Re-registration : Registrations must be renewed every five years until the department receives written notification that the facility has been permanently closed or the ownership of the facility has been transferred.

My records indicate that the registration for this facility expired in 1992. Enclosed is an application for your use to re-register this site. You may also use the same form to closure the facility as per 613.9 (b).

Please return the application to my attention along with a check in the amount of $250 made out to New York State D.E.C. ( see page 11 for the fee schedule).

I am also requesting a closure schedule, the name of the contractor and lab your client will use.

If you have any questions please contact me at (315) 426-7519 or Mr. Kenneth Lynch, Regional Attorney R-7 at (315) 426-7405.

Sincerely,

Howard T. McLaughlin
Construction Inspector 11
Petroleum Bulk Storage
Division Spills Management

CC: Kenneth Lynch
CC: Richard Brazell

FILE COPY

April 18, 1996

Reference numbers:

PBS 7-422207
PBS 7-182230

Site: APEX

Status Report:

* Tanks are still listed as overdue for testing since 1994.

* The site is not registered

* Tanks have not been closed correctly as per 6NYCRR Parts 613.9 (a) and (b).
Item (v) calls for removal or filling of these tanks.

* The site history indicates that there was a release in the vicinity of the tanks. The volume was reported as 1000 gallons a day and there is no record of recovery. (Health Department Broome County)

* A site visit on 11-15-95 found that the tanks were not secures and one fill port was open.

* Spill # 89-06060 Tank # 003 failed a tank test. The tank was re-tested at a later date and it passed. There is no record of a recovery.

* New york State Health Department has reason to believe that the tanks once contained chemicals therefore they are also interested in a sampling event taking place.

* It is believed that these tanks could also fall under the rules and regulations of 40 CFR 280 because of the duel use pattern. In short if these tanks were supplying a separate source such as power generation they would be covered under 40 CFR.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Petroleum Bulk Storage Program

Facility Information Report

Printed : 03/21/97

PBS # : 7-182230

Site : VAIL-BALLOU PRESS-CLINTON ST.
187-195 CLINTON ST
BINGHAMTON, NY 13905

County : BROOME Town : BINGHAMTON (C)
Latitude : N Longitude : W
SPDES# : CBS# :
Site Type : Info Not Given.

Operator : FRANK KEFFER (607) 723-7981
Emergency : ROBERT KALKA (607) 797-7090

Site status : Active
Total Active Tanks : 4
Active Capacity : 41,200 gals.

Reg Expires : 06/30/92
Last Inspection : / /
Cert Printed : 06/30/87

Site Errors : Minor Data Missing
Owner Error : Minor Data Missing
Tank Errors : Minor Data Missing

Owner : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Phone : (717) 764-5911
Owner Type : Corporate/Commercial

Mail : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Att : (717) 764-5911

| TankNo | TankLoc | Stat | DateIn | Capac (g) | Product | TankType | TankInt | TankExt | PipeLoc | PipeType | PipeInt | PipeExt | SecCont | Leak | OverFil | Disp | LastTest | NextTest | TStat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 002 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |
| 003 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 004 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |

May 28, 1996

UPDATE

RE: APEX

Mr. McCartney contacted me this morning and stated that the first phase of testing will begin on site this Thursday 5-30-96.

He asked if that was acceptable? I stated yes.
He agreed to fax me a copy of the soil analyses as soon as he got it.
Phase 11 will depend upon the analytical results, but tentatively it is scheduled for full closure in June.

**From:** Lucille Schreiner
**To:** htmclaug
**Date:** 8/31/98 2:00pm
**Caller:** John Bowman
**Company:** Vail Ballou Press
**Phone:** 717-764-5911

| | |
|---|---|
| [ ] Telephoned | [*] Please call |
| [ ] Will call again | [ ] Returned your call |
| [ ] Wants to see you | [ ] Came to see you |
| [ ] Urgent | |

RE: PBS 7-182230

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Petroleum Bulk Storage Program
Facility Information Report

Printed : 08/31/98

PBS # : 7-182230

Site : VAIL-BALLOU PRESS-CLINTON ST.
187-195 CLINTON ST
BINGHAMTON, NY 13905

County : BROOME Town : BINGHAMTON (C)
Latitude : N Longitude : W
SPDES# : CBS# :
Site Type : Info Not Given.

Operator : FRANK KEFFER (607) 723-7981
Emergency : ROBERT KALKA (607) 797-7090

Site status : Active
Total Active Tanks : 4
Active Capacity : 41,200 gals.

Reg Expires : 06/30/92
Last Inspection : / /
Cert Printed : 06/30/87

Site Errors : Minor Data Missing
Owner Error : Minor Data Missing
Tank Errors : Minor Data Missing

Owner : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Phone : (717) 764-5911
Owner Type : Corporate/Commercial

Mail : MAPLE-VAIL BOOK MANUF GROUP
P O BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Att : (717) 764-5911

| TankNo | TankLoc | Stat | DateIn | Capac (g) | Product | TankType | TankInt | TankExt | PipeLoc | PipeType | PipeInt | PipeExt | SecCont | Leak | OverFil | Disp | LastTest | NextTest | TStat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 002 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |
| 003 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 004 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |

Bob Smith → ATTORNEY

JOHN BOARMAN claims they do NOT own TANKS - they SOLD property.

CATCH 22 - did they SELL TANKS with property?

NOTE: This form purports to show only the change of ownership from Vail-Ballou Press, Inc. to Charles Contro, which occured on November 18, 1988. There has been at least one (1) additional change of ownership.

93-19-1 (1/97)—q

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION

# PETROLEUM BULK STORAGE APPLICATION

**Pursuant to the Petroleum Bulk Storage Law, Article 17, Title 10 of ECL; 6 NYCRR 612-614 and 6 NYCRR, Subpart 360-14**
**(Continued on the Reverse Side—Please Be Sure to Complete Section B)**

Please Type or Print Clearly and Complete All Items

## SECTION A—See Instructions on Cover Sheet

SEP-14-1998 15:22 SPILL RESPONSE REG 7 SYR. 315 426 2653 P.03/06

**PBS NUMBER** 7-182230

Indicate other existing DEC Numbers, if any, for this facility:

CBS Number

SPDES Number

TRANSACTION TYPE (Check all that apply) NOTE: Transaction Types 1, 2 and 5 may require a fee.

1 ☐ Initial/New Facility
2 ☒ Change of Ownership
3 ☐ Substantial Tank Modification
4 ☒ Information Correction
5 ☐ Renewal

Geographical Locator for this Facility: (If known)

LATITUDE: DEG MIN SEC

LONGITUDE: DEG MIN SEC

### FACILITY

FACILITY NAME: Vail-Ballou Press - Clinton Street

LOCATION (Not P.O. Boxes): 187-195 Clinton Street

LOCATION (Continued):

CITY/TOWN/VILLAGE: Binghamton | STATE: NY | ZIP CODE: 13905

COUNTY: Broome | TOWNSHIP OR CITY: Binghamton

NAME OF OPERATOR AT FACILITY | FACILITY TELEPHONE NUMBER ( )

EMERGENCY CONTACT NAME | EMERGENCY TELEPHONE NO. ( )

### TYPE OF PETROLEUM FACILITY: (Check all that apply)

A. ☐ Storage Terminal/Petroleum Distributor
B. ☐ Retail Gasoline Sales
C. ☐ Other Retail Sales
D. ☒ Manufacturing (Prior to fire)
E. ☐ Utility
F. ☐ Trucking/Transportation
G. ☐ Apartment Building
H. ☐ School
I. ☐ Farm
J. ☐ Private Residence
K. ☐ Airline (Air Taxi)
L. ☒ Other (Specify Below) Vacant land due to fire loss

### OWNER

OWNER NAME: Charles Contro

ADDRESS (Street and/or PO Box): 21 Oak Street

CITY: Harbor Oaks | STATE: Fl | ZIP CODE: 32019

FEDERAL TAX ID NUMBER | OWNER TELEPHONE NUMBER ( )

TYPE OF OWNER (Check only one)
1 ☒ Private Resident 2 ☐ State Government 3 ☐ Local Government
4 ☐ Federal Government 5 ☐ Corporate/Commercial
See Note above

I hereby certify under penalty of perjury that the information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

NAME OF OWNER OR AUTHORIZED REPRESENTATIVE: Robert J. Smith | AMOUNT ENCLOSED: $

TITLE: Attorney for Vail-Ballou Press, Inc.

SIGNATURE: Robert J. Smith | DATE: 9/15/98

### CORRESPONDENCE

ATTENTION: John Bowman

NAME OF COMPANY: Maple-Vail Book Manufacturing Group

ADDRESS: PO Box 2695

ADDRESS: Willow Springs Lane

CITY/STATE/ZIP CODE: York PA 17405

TELEPHONE NUMBER: (717) 764-5911

**OFFICIAL USE ONLY**

Page ____ of ____
Date Received: 9/14/98
Date Processed: 9/17/98
Amount Received $ ____
Reviewed By: ____

93-06-004 (12/94)—26c

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# PETROLEUM BULK STORAGE REGISTRATION CERTIFICATE

NYS DEC - REGION 7
615 ERIE BLVD. W.
SYRACUSE, NY 13204
(315) 426-7519



| TANK NUMBER | DATE INSTALLED | TANK TYPE | CAPACITY (GALLONS) | DATE LAST TESTED | TESTING DUE DATE |
|---|---|---|---|---|---|
| 001 | 00/00 | Steel/Carbon Steel | 10,300 | 11/89 | 11/94 |
| 002 | 00/00 | Steel/Carbon Steel | 10,300 | 09/89 | 09/94 |
| 003 | 00/00 | Steel/Carbon Steel | 10,300 | 11/89 | 11/94 |
| 004 | 00/00 | Steel/Carbon Steel | 10,300 | 09/89 | 09/94 |

FILE COPY

OWNER
CHARLES CONTRO
21 OAK ST.
HARBOR OAKS, FL 32019

SITE
VAIL-BALLOU PRESS-CLINTON ST.
187-195 CLINTON ST
BINGHAMTON, NY 13905

OPERATOR (Name and Telephone Number)
FRANK KEFFER
(607) 723-7981

EMERGENCY CONTACT (Name and Telephone Number)
ROBERT KALKA
(607) 797-7090

As an authorized representative of the above named facility, I affirm under penalty of perjury that the information displayed on this form is correct to the best of my knowledge. Additionally, I recognize that I am responsible for assuring that this facility is in compliance with all sections of 6 NYCRR Parts 612, 613 and 614, and applicable sections of 6 NYCRR Subpart 360-14 (used oil tanks only), not just those cited below:

- The facility must be re-registered if there is a transfer of ownership.
- The Department must be notified within 30 days prior to adding, replacing, reconditioning, or permanently closing a stationary tank.
- The facility must be operated in accordance with the code for storing petroleum, 6 NYCRR Part 613.
- Any new facility or substantially modified facility must comply with 6 NYCRR Part 614.
- **This certificate must be posted on the premises at all times.** Posting must be at the tank, at the entrance of the facility, or the main office where the storage tanks are located.
- Any person with knowledge of a spill, leak or discharge must report the incident to DEC within two hours **(1-800-457-7362).**

Signature of Authorized Representative/Owner Date

Name of Authorized Representative/Owner (Please Print)

Title

ISSUED BY:
Commissioner John P.Cahill

PETROLEUM BULK STORAGE ID NUMBER
7-182230

DATE ISSUED
09/21/98

EXPIRATION DATE
06/30/92

FEE PAID
$ 250

MAILING CORRESPONDENCE
JOHN BOWMAN
MAPLE-VAIL BOOK MANUFACTURING
P.O. BOX 2695 WILLOW SPRINGS L
YORK, PA 17405

**THIS REGISTRATION CERTIFICATE IS NON-TRANSFERABLE**

NOTE: This form purports to show only the change of ownership from Vail-Ballou Press, Inc. to Charles Contro, which occured on November 18, 1988. There has been at least one (1) additional change of ownership.

93-19-1 (1/97)—q

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION

# PETROLEUM BULK STORAGE APPLICATION

**Pursuant to the Petroleum Bulk Storage Law, Article 17, Title 10 of ECL; 6 NYCRR 612-614 and 6 NYCRR, Subpart 360-14**
**(Continued on the Reverse Side—Please Be Sure to Complete Section B)**

Please Type or Print Clearly and Complete All Items

## SECTION A—See Instructions on Cover Sheet

**PBS NUMBER** 7-182230

Indicate other existing DEC Numbers, if any, for this facility:

CBS Number

SPDES Number

**TRANSACTION TYPE** (Check all that apply)
NOTE: Transaction Types 1, 2 and 5 may require a fee.

1 ☐ Initial/New Facility
2 ☒ Change of Ownership
3 ☐ Substantial Tank Modification
4 ☒ Information Correction
5 ☐ Renewal

Geographical Locator for this Facility: (If known)

LATITUDE: DEG MIN SEC

LONGITUDE: DEG MIN SEC

**FACILITY**

FACILITY NAME: Vail-Ballou Press - Clinton Street
LOCATION (Not P.O. Boxes): 187-195 Clinton Street
LOCATION (Continued):
CITY/TOWN/VILLAGE: Binghamton | STATE: NY | ZIP CODE: 13905
COUNTY: Broome | TOWNSHIP OR CITY: Binghamton
NAME OF OPERATOR AT FACILITY: | FACILITY TELEPHONE NUMBER: ( )
EMERGENCY CONTACT NAME: | EMERGENCY TELEPHONE NO.: ( )

**OWNER**

OWNER NAME: Charles Contro
ADDRESS (Street and/or PO Box): 21 Oak Street
CITY: Harbor Oaks | STATE: Fl | ZIP CODE: 32019
FEDERAL TAX ID NUMBER: | OWNER TELEPHONE NUMBER: ( )
TYPE OF OWNER (Check only one)
1 ☒ Private Resident 2 ☐ State Government 3 ☐ Local Government
4 ☐ Federal Government 5 ☐ Corporate/Commercial
See Note above

**TYPE OF PETROLEUM FACILITY:** (Check all that apply)

A. ☐ Storage Terminal/Petroleum Distributor
B. ☐ Retail Gasoline Sales
C. ☐ Other Retail Sales
D. ☒ Manufacturing (Prior to fire)
E. ☐ Utility
F. ☐ Trucking/Transportation
G. ☐ Apartment Building
H. ☐ School
I. ☐ Farm
J. ☐ Private Residence
K. ☐ Airline (Air Taxi)
L. ☒ Other (Specify Below) Vacant land due to fire loss

I hereby certify under penalty of perjury that the information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

NAME OF OWNER OR AUTHORIZED REPRESENTATIVE: Robert J. Smith | AMOUNT ENCLOSED: $
TITLE: Attorney for Vail-Ballou Press, Inc.
SIGNATURE: Robert J. Smith | DATE: 9/15/98

**CORRESPONDENCE**

ATTENTION: John Bowman
NAME OF COMPANY: Maple-Vail Book Manufacturing Group
ADDRESS: PO Box 2695
ADDRESS: Willow Springs Lane
CITY/STATE/ZIP CODE: York PA 17405
TELEPHONE NUMBER: (717) 764-5911

**OFFICIAL USE ONLY**

Page ____ of ____
Date Received: __/__/__
Date Processed: __/__/__
Amount Received $ ____
Reviewed By: ____

SEP-14-1998 15:22 P.03/06 315 426 2653 SPILL RESPONSE REG 7 SYR.

COUGHLIN & GERHART, L.L.P.
ATTORNEYS AND COUNSELLORS
ONE MARINE MIDLAND PLAZA
P. O. BOX 2039
BINGHAMTON, NEW YORK
13902-2039
(607) 723-9511
FAX (607) 723-1530

100 YEAR ANNIVERSARY

190 MAIN ST., P.O. BOX 462
AFTON, NY 13730
(607) 639-2222
FAX (607) 639-2227

FRONT ST., P. O. BOX 42
DEPOSIT, NY 13754
(607) 467-4010
FAX (607) 467-4700

32-34 LAKE ST., P. O. BOX 188
OWEGO, NY 13827
(607) 687-1831
FAX (607) 687-1858

MAIN ST., P.O. BOX 429
UNADILLA, NY 13849
(607) 369-3811
FAX (607) 369-3315

RICHARD B. LONG
ROBERT J. SMITH
HENRY J. RODE II
PETER H. BOUMAN *
GORDON E. THOMPSON
MARK S. GORGOS
JAMES P. O'BRIEN
RICHARD W. MERTENS *
CARL A. KIEPER
JEFFREY A. BROWN
DAVID H. GUY
BETH E. WESTFALL
GARY B. KLINE
SUSAN L. ENGLISH *
TODD D. KILPATRICK
ROBERT R. JONES
PAUL J. SWEENEY

*ALSO ADMITTED IN PENNSYLVANIA

EUGENE C. GERHART
EDWARD S. DERMODY
GEORGE L. INGALLS
LOREN W. GUY
CARL R. GITLITZ
OF COUNSEL

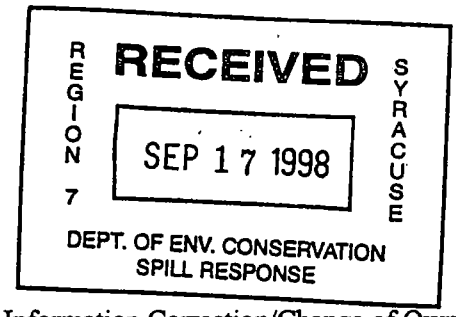
BRIAN C. MADIGAN
SPECIAL COUNSEL

ROBERT D.W. LANDON, II, P.A.
OF COUNSEL IN FLORIDA ONLY

SUSAN A. INNEO *
STEPHEN M. SEDOR
KEITH A. O'HARA
ANN M. SHARPE
OLIVER N. BLAISE III

September 16, 1998

Mr. Howard T. McLaughlin
NYS Department of Environmental Conservation
Region 7 - Petroleum Bulk Storage
615 Erie Blvd. West
Syracuse, NY 13204




**RE: PBS#7-182230**
**VAIL-BALLOU PRESS**

Dear Mr. McLaughlin:

Enclosed is the completed application for Information Correction/Change of Ownership which you had faxed to me earlier. As back-up for the change of ownership which occurred in 1988, we enclose a copy of the recorded deed from Vail-Ballou Press, Inc. to Charles Contro.

It is our understanding that Mr. Contro sold this property to Greenpeace Environmental Consulting Services, Inc. This transaction occurred on or about June 27, 1996. To the best of our knowledge, the property is still owned by this company. However, the buildings were destroyed by fire and have been removed, leaving a vacant lot.

It is further our understanding that the tanks in question are actually located on the real estate owned by Apex Building Products Company, Slauson Avenue, Binghamton, New York. This property is contiguous to the Clinton Street property.

Please contact me if you need any additional information.

Sincerely,

Robert J. Smith

RJS:llp
Enclosure
cc: John W. Bowman (w/o encl)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Petroleum Bulk Storage Program
Facility Information Report

Printed : 09/14/1999

607
Atty Bob Smith 723-9511

PBS # : 7-182230

Site : VAIL-BALLOU PRESS-CLINTON ST.
187-195 CLINTON ST
BINGHAMTON, NY 13905

County : BROOME Town : BINGHAMTON (C)
Latitude : N Longitude : W
SPDES# : CBS# :
Site Type : Info Not Given.

Operator : FRANK KEFFER (607) 723-7981
Emergency : ROBERT KALKA (607) 797-7090

Site status : Active
Total Active Tanks : 4
Active Capacity : 41,200 gals.

Reg Expires : 06/30/1992
Last Inspection : / /
Cert Printed : 09/21/1998

Site Errors : Minor Data Missing
Owner Error : Minor Data Missing
Tank Errors : Minor Data Missing

Owner : CHARLES CONTRO
21 OAK ST.
HARBOR OAKS, FL 32019

Phone : (000) 000-0000
Owner Type : Corporate/Commercial

Mail : MAPLE-VAIL BOOK MANUFACTURING GROUP
P.O. BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Att : JOHN BOWMAN (717) 764-5911

| TankNo | TankLoc | Stat | DateIn | Capac (g) | Product | TankType | TankInt | TankExt | PipeLoc | PipeType | PipeInt | PipeExt | SecCont | Leak | OverFil | Disp | LastTest | NextTest | TStat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 002 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |
| 003 | 4 | 1 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/89 | 11/94 | 2 |
| 004 | 4 | 2 | 00/00 | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/89 | 09/94 | 2 |

January 3, 1996

RE: APEX SITE

UPDATE

APEX
240 Grosset Dr.
Kirkwood
607-775-5427
Branch office

I spoke to Mr. Dennis McCartney of APEX INC. this morning. He stated that APEX has received a bid from Environmental Products and Services to clean the tanks, sample the soil, and fill the vessels in place.

The weather is presenting a problem therefore work will not begin until April of 1996. I requested that he send me a schedule no latter than March 1996.

Mr. McCartney can be reached at ~~717~~ 570-288-3683
See PBS # 7-422207 and 7-182230 for reference!

HTM

187 Clinton

772-7027

Bing. Assesor 607 772 7002

James Cahill 607 748 7481
Atty for APEX

12,433.52
Nov 98 TAX > not paid
MAR 99 TAX

Owner of record
Greenpeace Env. Consulting Services
685 N. Queens Ave
Lindenhurst NY. 11757
516 888 2222

asper
APEX does not own. BCIDA bought, leased to APEX. BCIDA - X-fered to APex w/out Apex permission. Richard Place (Atty B.C.). APEX never paid taxes. APEX did not handle Petroleum.

**From:** Richard Coriale
**To:** htmclaug
**Date:** 9/13/99 11:57am
**Subject:** Missing Owner

Charles Contro
PBS # 7-182230

The packet came back as no forwarding address.

I mailed the packet to Maple Vail, however, they claimed to have sold the property to Mr. Contro several years ago. Maple Vail should be taken off of the PBS file. Did you receive information about the transfer of ownership? The company attorney claims that someone here received a package containing the information.

Do you have any information on Mr. Contro's whereabouts?

COUGHLIN & GERHART, L.L.P.
ATTORNEYS AND COUNSELLORS
ONE MARINE MIDLAND PLAZA
P. O. BOX 2039
BINGHAMTON, NEW YORK
13902-2039
(607) 723-9511
FAX (607) 723-1530
100 YEAR ANNIVERSARY

190 MAIN ST., P.O. BOX 462
AFTON, NY 13730
(607) 639-2222
FAX (607) 639-2227

FRONT ST., P. O. BOX 42
DEPOSIT, NY 13754
(607) 467-4010
FAX (607) 467-4700

32-34 LAKE ST., P. O. BOX 188
OWEGO, NY 13827
(607) 687-1831
FAX (607) 687-1858

MAIN ST., P.O. BOX 429
UNADILLA, NY 13849
(607) 369-3811
FAX (607) 369-3315

RICHARD B. LONG
ROBERT J. SMITH
HENRY J. RODE II
PETER H. BOUMAN *
GORDON E. THOMPSON
MARK S. GORGOS
JAMES P. O'BRIEN
RICHARD W. MERTENS *
CARL A. KIEPER
JEFFREY A. BROWN
DAVID H. GUY
BETH E. WESTFALL
GARY B. KLINE
SUSAN L. ENGLISH *
TODD D. KILPATRICK
ROBERT R. JONES
PAUL J. SWEENEY

*ALSO ADMITTED IN PENNSYLVANIA

EUGENE C. GERHART
EDWARD S. DERMODY
GEORGE L. INGALLS
LOREN W. GUY
CARL R. GITLITZ
OF COUNSEL

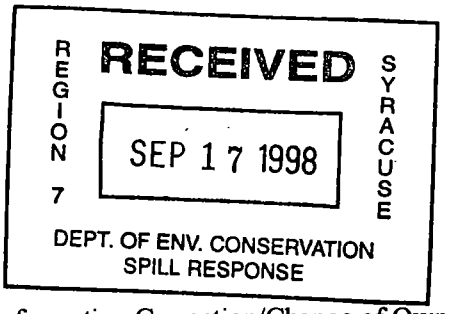
BRIAN C. MADIGAN
SPECIAL COUNSEL

ROBERT D.W. LANDON, II, P.A.
OF COUNSEL IN FLORIDA ONLY

SUSAN A. INNEO *
STEPHEN M. SEDOR
KEITH A. O'HARA
ANN M. SHARPE
OLIVER N. BLAISE III

September 16, 1998

Mr. Howard T. McLaughlin
NYS Department of Environmental Conservation
Region 7 - Petroleum Bulk Storage
615 Erie Blvd. West
Syracuse, NY 13204




**RE: PBS#7-182230**
**VAIL-BALLOU PRESS**

Dear Mr. McLaughlin:

Enclosed is the completed application for Information Correction/Change of Ownership which you had faxed to me earlier. As back-up for the change of ownership which occurred in 1988, we enclose a copy of the recorded deed from Vail-Ballou Press, Inc. to Charles Contro.

It is our understanding that Mr. Contro sold this property to Greenpeace Environmental Consulting Services, Inc. This transaction occurred on or about June 27, 1996. To the best of our knowledge, the property is still owned by this company. However, the buildings were destroyed by fire and have been removed, leaving a vacant lot.

It is further our understanding that the tanks in question are actually located on the real estate owned by Apex Building Products Company, Slauson Avenue, Binghamton, New York. This property is contiguous to the Clinton Street property.

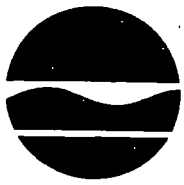
Please contact me if you need any additional information.

Sincerely,

Robert J. Smith

RJS:llp
Enclosure
cc: John W. Bowman (w/o encl)

**New York State Department of Environmental Conservation**
**Regional Enforcement Coordinator, Region 7**
615 Erie Boulevard West, Syracuse, New York 13204-2400
Phone: (315) 426-7403 FAX: (315) 426-0371



John P. Cahill
Commissioner

August 30, 1999

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**
Charles Contro
21 Oak Street
Harbor Oaks, Florida 32019

Re: Order on Consent: PBS Number: 7-182230
Vail-Ballou Press-Clinton Street
187-195 Clinton Street
Binghamton, New York

Dear Mr. Contro:

The New York State Department of Environmental Conservation (the Department) previously issued a Notice of Violation advising you that your Petroleum Bulk Storage (PBS) facility was in violation of New York State's PBS regulations. The Notice of Violation (NOV) required that you submit evidence of compliance within 60 days of receipt of the NOV. The NOV advised you that failure to comply voluntarily within such 60 day period would result in the Department undertaking formal enforcement measures to seek compliance and penalties.

The Department's records indicate that you have failed to submit the required evidence of compliance within 60 days of your receipt of the NOV. Due to such failure, you now are liable for civil penalties for your violation(s) of New York State's PBS regulations.

Attached is an Order on Consent to settle your civil liability for the PBS violation. If you fail to sign and return the Order on Consent within 30 days of you receipt hereof, the Department will commence a formal enforcement action against you by issuing a Notice of Hearing and Complaint. Such action will result in an administrative hearing in which the Department will seek the **maximum appropriate penalties**, registration fees, and a schedule of compliance.

If you wish to avoid such formal enforcement action and settle this matter, you must sign and return the Order on Consent within 30 days of you receipt hereof, along with payment for the penalty imposed, to the above address.

Sincerely,

Richard R. Coriale

Richard R. Coriale

Attachment

cc: Richard Brazell, Regional Spill Engineer

**From:** Howard McLaughlin
**To:** Peterson, Gary
**Subject:** Vail -Ballou PBS # 7-182230

I received a notice from Okessen about the permanent closure of three small USTs at this site , but nothing about the four ten K tanks buried at this site.

Were they ever pulled or permanently closed in place ? Is there a new owner ?

**CC:** Brazell, Richard; Coriale, Richard; Powell, Jennifer

FILE COPY

00-00-103 (6/78)

**New York State Department of Environmental Conservation**
**MEMORANDUM**

RECEIVED
REGION 7 SYRACUSE
JUL 27 2000
DEPT. OF ENV. CONSERVATION
SPILL RESPONSE

TO: Howard McLoughlin.
FROM: John O.
SUBJECT: TANK Removal
DATE: 7/25/00

- Three tanks removed a 181 Clinton ST.
I told GeoLogic to have owner contact you concerning registering tanks.

NYS-DEC REGION 7-KIRKWOOD
TANK REMOVAL/CLOSURE INSPECTION FORM

NAME: FORMER Vail Ballou SPILL# None

LOCATION: 187 Clinton ST.
BINGHAMTON, N.Y.

COUNTY: BROOME TEL#

OWNER: ? PBS#

ADDRESS:

TEL# CONTACT:

NOTES: 7/6/00 - 3 UST's Removed by Gary Dyer + Geologic
1-275, 1-1K-Naptha, 1-1K Gas. NO pet. Noted
in bottom of ~~Excavation~~. Area backfilled. Soil
Samples taken. JFC

TANK LOCATION:

RECEIVED
REGION 7 SYRACUSE
JUL 27 2000
DEPT. OF ENV. CONSERVATION
SPILL RESPONSE

GeoLogic

GeoLogic NY, Inc. P.O. Box 5080 • Cortland, NY 13045 • 607.836.4400 • Fax: 607.836.4403

RECEIVED
NYSDEC-REGION-7
KIRKWOOD SUB-OFFICE
JUL 24 2000

July 19, 2000

Mr. Brian Kradjian
Kradjian Properties
84 Court Street, Suite 600
Binghamton, NY 13901-3316

Reference: Former Vail-Ballou Press, Inc.
187 Clinton Street
Binghamton, New York

Dear Mr. Kradjian:

This letter report presents the results of the Limited Phase II Environmental Site Assessment conducted at the above referenced site. The work was conducted to permit the formulation of an opinion as to adverse impact(s) to the subject site from prior uses and surrounding land use. The purpose of conducting the ESA work is to reduce, not eliminate, the risk of Kradjian Properties, purchasing a site that is contaminated with hazardous materials or petroleum products as defined by the State of New York. The opinions expressed by GeoLogic, NY, Inc. (GeoLogic) regarding the conditions of the site will be based solely on the observations made and the data collected during the study. Kradjian Properties is hereby advised that conditions observed by GeoLogic are subject to change. Certain indicators of the presence of hazardous materials or petroleum products may not have been evident at the time the site work was completed and may subsequently become observable. Not finding such indicators does not mean that hazardous materials or petroleum products do not exist at the site.

The opinions regarding the environmental integrity of the site do not represent a warranty that all areas within the study area are of the same quality. GeoLogic is not able to represent that the site is free of hazardous materials or petroleum products beyond that detected by GeoLogic during the study.

Problems have arisen in the past because people and organizations have assumed, improperly, that they could rely on an ESA report developed for another party. So there is no confusion in this respect, recognize that Kradjian Properties is the only intended beneficiary of this work. With the consent of Kradjian Properties, GeoLogic will be available to contract with other parties to develop findings and opinions related to such other parties' unique risk management concerns.

## BACKGROUND

The site had been used for industrial purposes dating back to at least 1898.

Sanborn fire insurance maps indicate that the site has been used for industrial purposes dating back at least to 1898. The site may have been adversely impacted by the prior industrial processes at the site.

Quality Standards and Guidance Values for groundwater for the volatile and semi-volatile organics. Copies of the laboratory results are attached.

NYSDEC Ambient Water Quality Standards and Guidance Values for groundwater were exceeded for one or more of the RCRA Metals in monitoring wells MW-1, MW-2 and MW-3 (see attached Table). We believe that this was due to the short time period the monitoring wells had to stabilize before being sampled. Therefore, monitoring wells MW-1, MW-2 and MW-3 were scheduled to be re-sampled on May 30, 2000.

On May 30, 2000, groundwater samples were obtained from monitoring wells (MW-1, MW-2, and MW-3) and submitted for analysis of RCRA Metals.

The analytical results for the groundwater samples obtained from MW-1, MW-2 and MW-3 on May 30, 2000, were below laboratory detection limits and/or NYSDEC Ambient Water Quality Standards and Guidance Values for groundwater for the RCRA Metals (Table No. 1). Copies of the laboratory results are attached.

Water table elevations measured in the monitoring wells on May 30, 2000 are shown on Drawing No. 1. The depth to water ranged from 12.47 feet in MW-2 to 18.52 feet in MW-3. Based on these groundwater elevations, the groundwater flow appears to be eastward.

**Underground Storage Tank Removal:**

The three UST's were removed from the site on July 6, 2000 (Drawing No. 1). Mr. John Okesson, NYSDEC, was on site to observe the removal of the three UST's. After the UST's were removed and soils samples were obtained and scanned with a PID the NYSDEC agreed to place the excavated soil from around the UST's back onto the excavation.

Composite soil samples were obtained from the bottom and sidewall of the fuel oil / naphtha UST test pit excavation and the gasoline UST test pit excavation. The composite soil samples were analyzed for volatile organics by EPA Method 8021 for NYSDEC STARS parameters, and/or semi-volatile organics by EPA Method 8270 for NYSDEC STARS parameters.

The analytical results for the composite soil samples obtained from the fuel oil / naphtha UST test pit and the composite soil sample obtained from the gasoline UST test pit on July 6, 2000, were below laboratory detection limits and/or NYSDEC STARS Guidance Values. See the attached tank pull report for more detail.

According to the NYSDEC records, the three UST's referenced in this report had not been registered as required by the NYSDEC. Therefore, the UST's need to be registered with the NYSDEC, and then officially closed out.

If you have any questions concerning this Limited Subsurface Evaluation Report, please do not hesitate to call us at (607) 836-4400.

Sincerely,

GeoLogic NY, Inc.

Joseph L. Nossal/pd

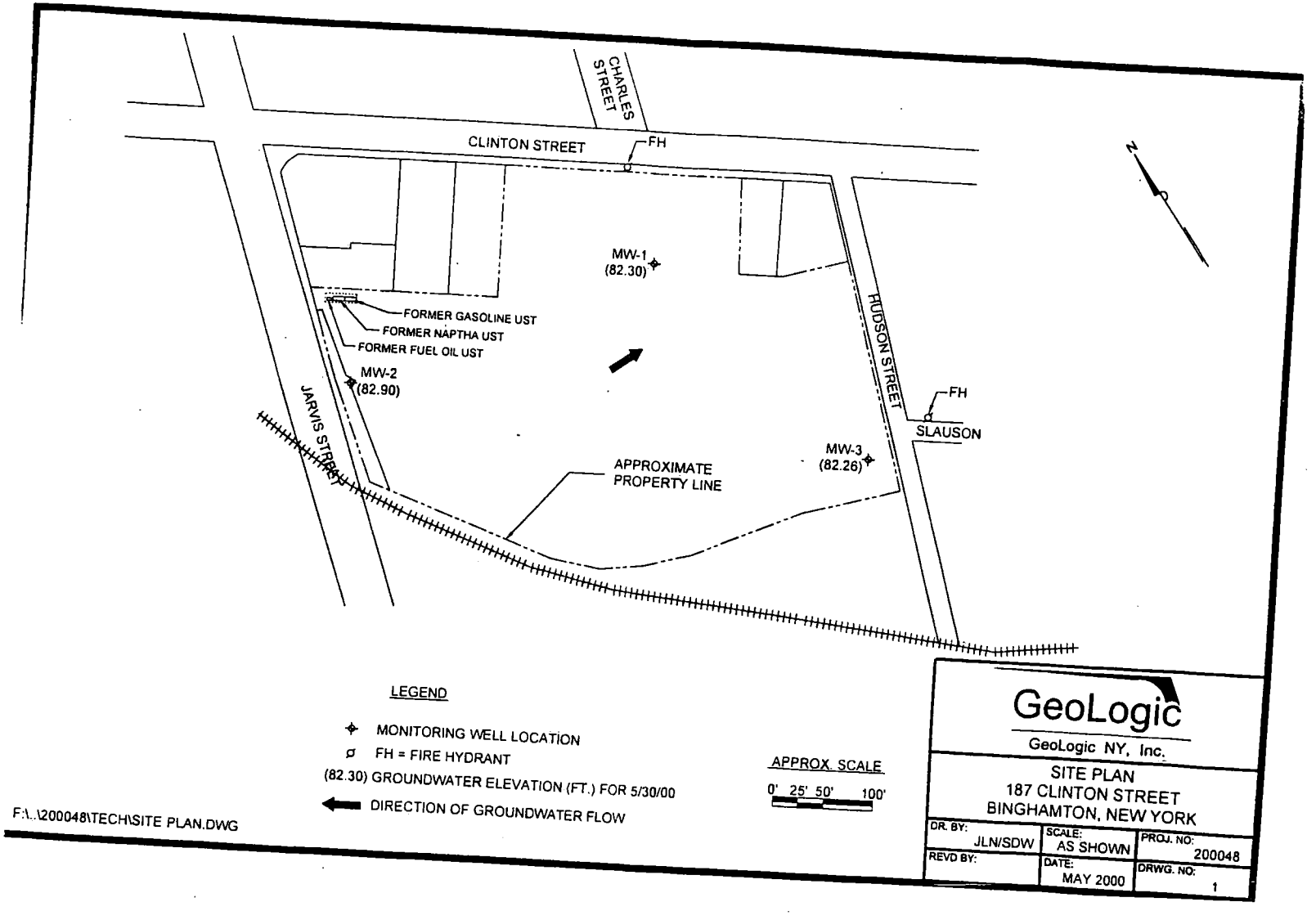
Joseph L. Nossal
Hydrogeologist

Forrest C. Earl

Forrest C. Earl
Vice President/Principal Hydrogeologist

Enc: Site Map, Metals Analytical Table, Analytical Results, Subsurface Logs (with Key), Methodologies and Tank Pull Report

cc: John Okesson, NYSDEC
Thomas Suozzo, NYSDEC
File: ..200048/report/Limited Phase II Evaluation


CHARLES STREET
CLINTON STREET
FH
MW-1
(82.30)
FORMER GASOLINE UST
FORMER NAPTHA UST
FORMER FUEL OIL UST
MW-2
(82.90)
JARVIS STREET
HUDSON STREET
FH
SLAUSON
MW-3
(82.26)
APPROXIMATE
PROPERTY LINE
N
LEGEND
MONITORING WELL LOCATION
FH = FIRE HYDRANT
(82.30) GROUNDWATER ELEVATION (FT.) FOR 5/30/00
DIRECTION OF GROUNDWATER FLOW
APPROX. SCALE
0' 25' 50' 100'
F:\..\200048\TECH\SITE PLAN.DWG
GeoLogic
GeoLogic NY, Inc.
SITE PLAN
187 CLINTON STREET
BINGHAMTON, NEW YORK
DR. BY: JLN/SDW
SCALE: AS SHOWN
PROJ. NO: 200048
REVD BY:
DATE: MAY 2000
DRWG. NO: 1

**From:** John Okesson
**To:** McLaughlin, Howard
**Date:** 1/24/01 3:57PM
**Subject:** Vail Ballou - Clinton St.

FILE COPY

7-422207

7-182230

Howard: FYI

I was out on site today with GeoLogic to determine the location of piping on the Vail Ballou building from the former Apex property of Slauson St. . We found oil in a man way for the water line to the property . GeoLogic is performing a limited investigation for the possible purchase of the building.
Also, for your information a Wayne Rosen stopped by to ask if there was work ongoing on the neighboring property (former Apex). We said no, but he indicated that he just purchased the property from the City of Binghamton. We had a discussion regarding the 4 UST's at the site. However, he was not aware that there were tanks and indicated that the City had taken the property because Apex had not paid the taxes. He also said that the City was not aware of any environmental problems with the site. Mr. Rosen said that he was going to contact he attorney because they had not closed on the property with the City. Therefore, it appears that he will not be taking ownership and the City of Binghamton owns the property with the tanks .

New York State Department of Environmental Conservation
Region 7 Headquarters
Division of Remediation
615 Erie Blvd. W.
Syracuse, New York 13204-2400

January 24, 2001

FAX # Kirkwood

Number of sheets faxed (9 )

To: John Okesson
Kirkwood

From : Howard T. Mclaughlin
Division of Remediation

RE: PBS 7-182230 APEX - Vail- Ballou

John :

This is what we have in the way of drawings. Rich Coriale has some blue prints for a site that may have been connected to these four tanks.

If you have any questions please contact me at (315) 426-7516, Thank You.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Petroleum Bulk Storage Program

Facility Information Report

Printed : 01/24/2001

PBS # : 7-182230

Site : VAIL-BALLOU PRESS-CLINTON ST.
187-195 CLINTON ST
BINGHAMTON, NY 13905

County : BROOME Town : BINGHAMTON (C)
Latitude : N Longitude : W
SPDES# : CBS# :
Site Type : Info Not Given.

Operator : FRANK KEFFER (607) 723-7981
Emergency : ROBERT KALKA (607) 797-7090

Site status : Active
Total Active Tanks : 4
Active Capacity : 41,200 gals.

Reg Expires : 06/30/1992
Last Inspection : / /
Cert Printed : 09/21/1998

Site Errors : Minor Data Missing
Owner Error : Minor Data Missing
Tank Errors : Minor Data Missing

Owner : CHARLES CONTRO
21 OAK ST.
HARBOR OAKS, FL 32019

Phone : (000) 000-0000
Owner Type : Corporate/Commercial

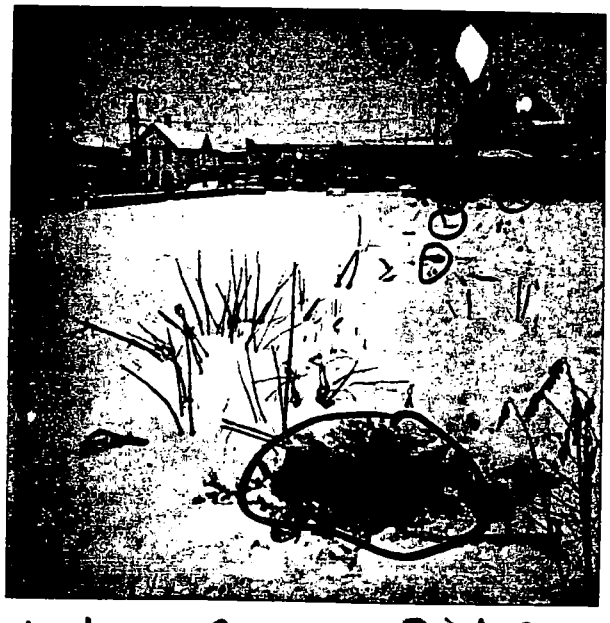
Mail : MAPLE-VAIL BOOK MANUFACTURING GROUP
P.O. BOX 2695 WILLOW SPRINGS LN
YORK, PA 17405

Att : JOHN BOWMAN (717) 764-5911

| TankNo | TankLoc | Stat | DateIn | Capac (g) | Product | TankType | TankInt | TankExt | PipeLoc | PipeType | PipeInt | PipeExt | SecCont | Leak | OverFil | Disp | LastTest | NextTest | TStat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | 4 | 2 | / / | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/01/1989 | 11/01/1994 | 2 |
| 002 | 4 | 1 | / / | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/01/1989 | 09/01/1994 | 2 |
| 003 | 4 | 1 | / / | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 11/01/1989 | 11/01/1994 | 2 |
| 004 | 4 | 2 | / / | 10,300 | 3 | 1 | | | | 1 | | | 0 | 0 | | 2 | 09/01/1989 | 09/01/1994 | 2 |

11/15/95 - Apex Building VENT w/ CONCRETE GB

11/15/95 Apex Building MANWAY to TANK. GB



11/15/95 Apex Site Building SLAB. CIRCLE are tank locations. GB

RECEIVED
NOV 21
DEPT OF ENV CONSERVATION
SPILL RESPONSE
SYRACUSE

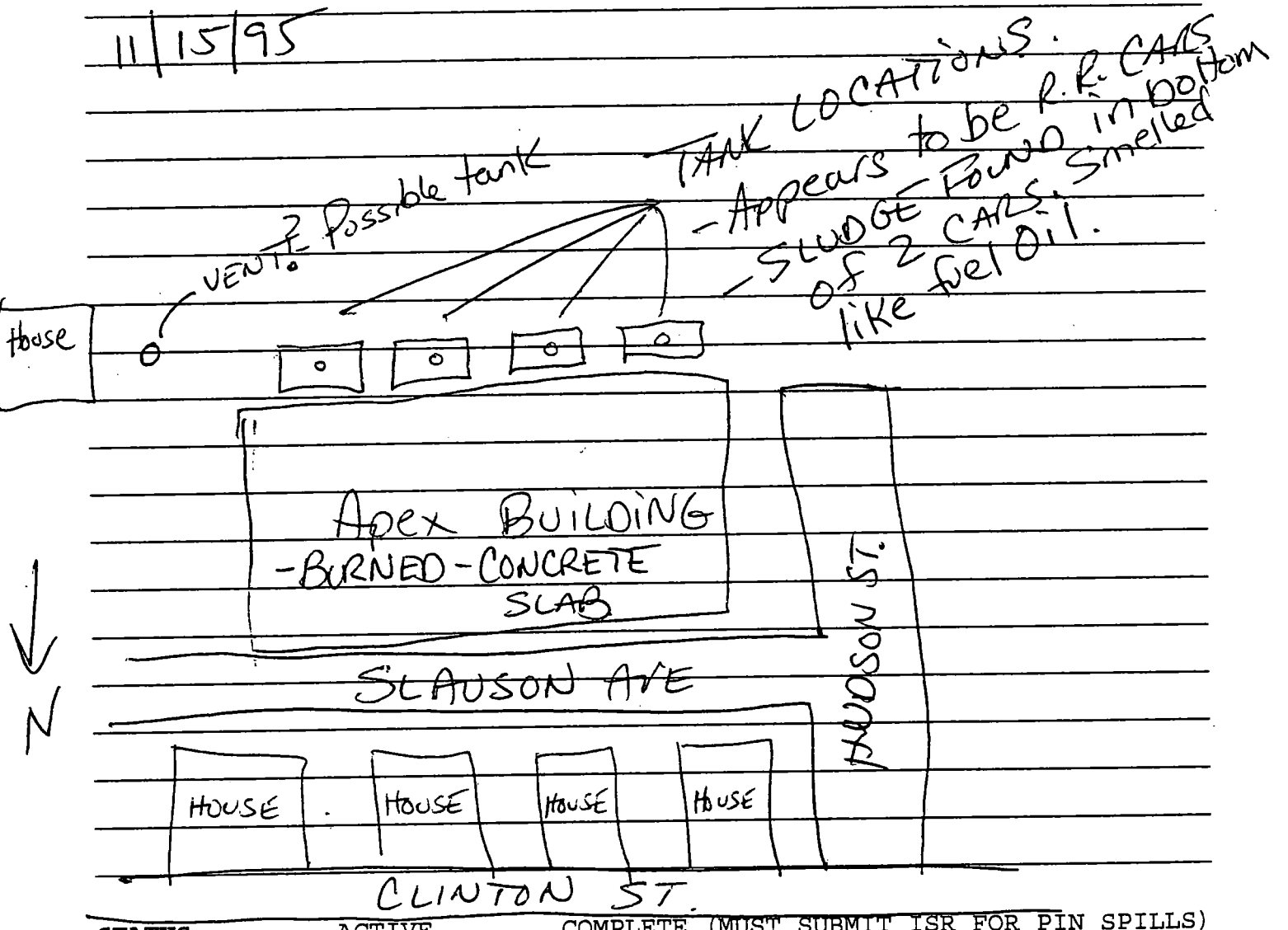
NYSDEC REGION 7 - KIRKWOOD
SPILL REPORT UPDATE FORM

SPILL NAME Apex Building SPILL# PBS Inspection

SITE ACTIVITY: 11/15/95 - Visited site w/ G. Robinson (DOH). located ⊗ 4, possible 5 TANKS.

RR. TRACKS

11/15/95




STATUS: _____ ACTIVE _____ COMPLETE (MUST SUBMIT ISR FOR PIN SPILLS)

_____ ENVIRONMENTALLY COMPLETE DATE

_____ ISR DATE

DEC INSPECTOR _____ INSPECTION DATE _____

November 30, 1995

Howard McLaughlin
fax (315) 426-2653

Dear Mr. McLaughlin;

As requested, please find attached the tax parcel map and a site plan that was submitted for a special use permit review for 9 Slauson Avenue. The following is a list of properties owners for adjacent properties to 9 Slauson Avenue:

| TAX MAP # | ADDRESS | PROPERTY OWNER |
|---|---|---|
| 114025 | 2 Hudson Street | Milton Rozen<br>2120 East Hamton Rd.<br>Binghamton, New York 13903 |
| 114026 | 4 Hudson Street | Apex Building Products<br>Main & Page Street<br>Kingston, PA 18704 |
| 114027 | 9 Slauson Avenue | Broome County IDA<br>% Apex Building Products<br>PO Box 206<br>Kirkwood, NY 13795 |
| 114035 | 21 Crandall Street | Eagle Properties Corp.<br>Box 681<br>Binghamton, NY 13902-0222 |
| 114034 | 25 Crandall Street | Eagle Properties Corp.<br>Same as above |
| 114033 | 27 Crandall Street | John Pratko<br>27 Crandall Street<br>Binghamton, NY 13905 |
| 114032 | 27 1/2 Crandall St. | Micheal Curyto<br>27 1/2 Crandall St.<br>Binghamton, NY 13905 |

If you have any further questions regarding this matter, please do not hesitate to call me at (607) 772-7063.

Sincerely,

Tracey S. Corbitt, Senior Planner

enc.
cc: chron; I:\HOME\TRACEY\LET_9sl.DOC

City of Binghamton

# FAX CORRESPONDENCE

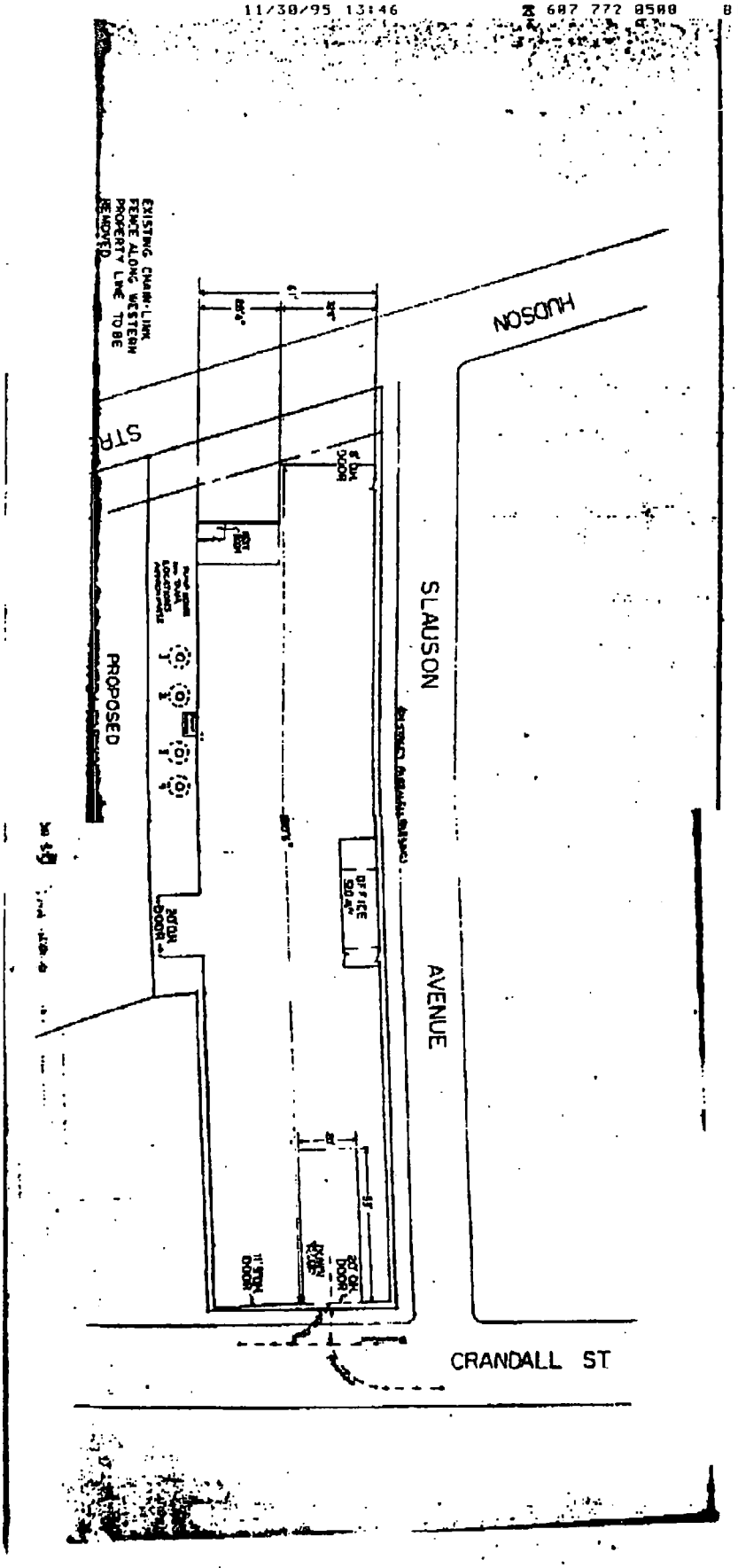
City of Binghamton
Government Plaza
38 Hawley Street
Binghamton, N.Y. 13901-3776
Fax (607) 772-0508

Date: 11/30/95
Time: 1140
Number of Pages: 4
(including cover)

To: Howard McLaughlin
Company: NYSDEC
Fax #: 315-426-2653
From: Tracy S. Corbitt, Senior Planner
City Hall Department: Planning, Housing & Com. Dev.
Phone number: 772-7063 (607)

Message:

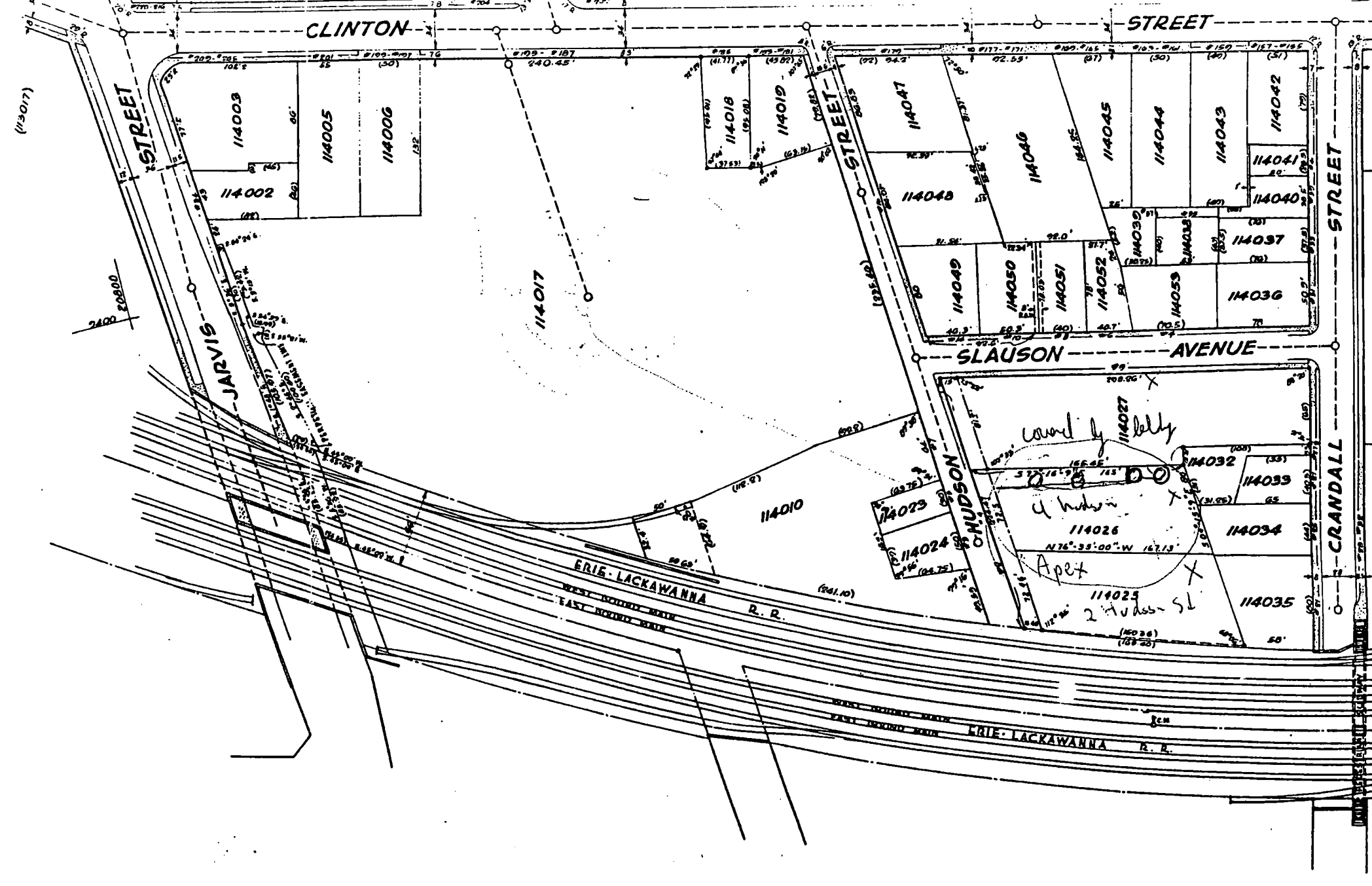
PHCD: 6/95


EXISTING CHAIN-LINK FENCE ALONG WESTERN PROPERTY LINE TO BE REMOVED
HUDSON
STR
PROPOSED
SLAUSON
AVENUE
OFFICE
CRANDALL ST

112

CITY OF BINGHAMTON N. Y. PLATE 114

11/30/95 13:42 ☎ 607 772 0500 BINGHAMTON MAYOR 03




# CITY OF BINGHAMTON N. Y.

PLA

MODE = MEMORY TRANSMISSION START=JAN-24 16:12 END=JAN-24 16:13

FILE NO.= 134

| STN NO. | COM | ABBR NO. | STATION NAME/TEL.NO. | PAGES | DURATION |
|---|---|---|---|---|---|
| 001 | OK | <01> | KIRKWOOD | 009/009 | 00:01'19" |

-SPILL RESPONSE REG 7 SYR.-

********** -315 426 2653 - ***** - 315 426 2653- **********

New York State Department of Environmental Conservation
Region 7 Headquarters
Division of Remediation
615 Erie Blvd. W.
Syracuse, New York 13204-2400

January 24, 2001

FAX # Kirkwood

Number of sheets faxed (9 )

To: John Okesson
Kirkwood

From : Howard T. Mclaughlin
Division of Remediation

RE: PBS 7-182230 APEX - Vail- Ballou

John :

This is what we have in the way of drawings. Rich Coriale has some blue prints for a site that may have been connected to these four tanks.

If you have any questions please contact me at (315) 426-7516, Thank You.

January 26, 2001

To : John Okesson
From : Howard McLaughlin

I am sending you a copy of the tank test records for Vail- Ballou - APEX . I did not find a sketch of the piping, but I do recall that there was one . The file has been around for a while ...someone may have needed that sketch more than we did or so they thought. I will keep looking.

I enclosed a copy of the deeds and other related material.

What about the county records ? How about the Health Dept or City records ?

**From:** Jennifer Powell
**To:** Okesson, John; Peterson, Gary
**Date:** 5/6/02 10:15AM
**Subject:** Vail-Bailou - - PBS no 7-182230

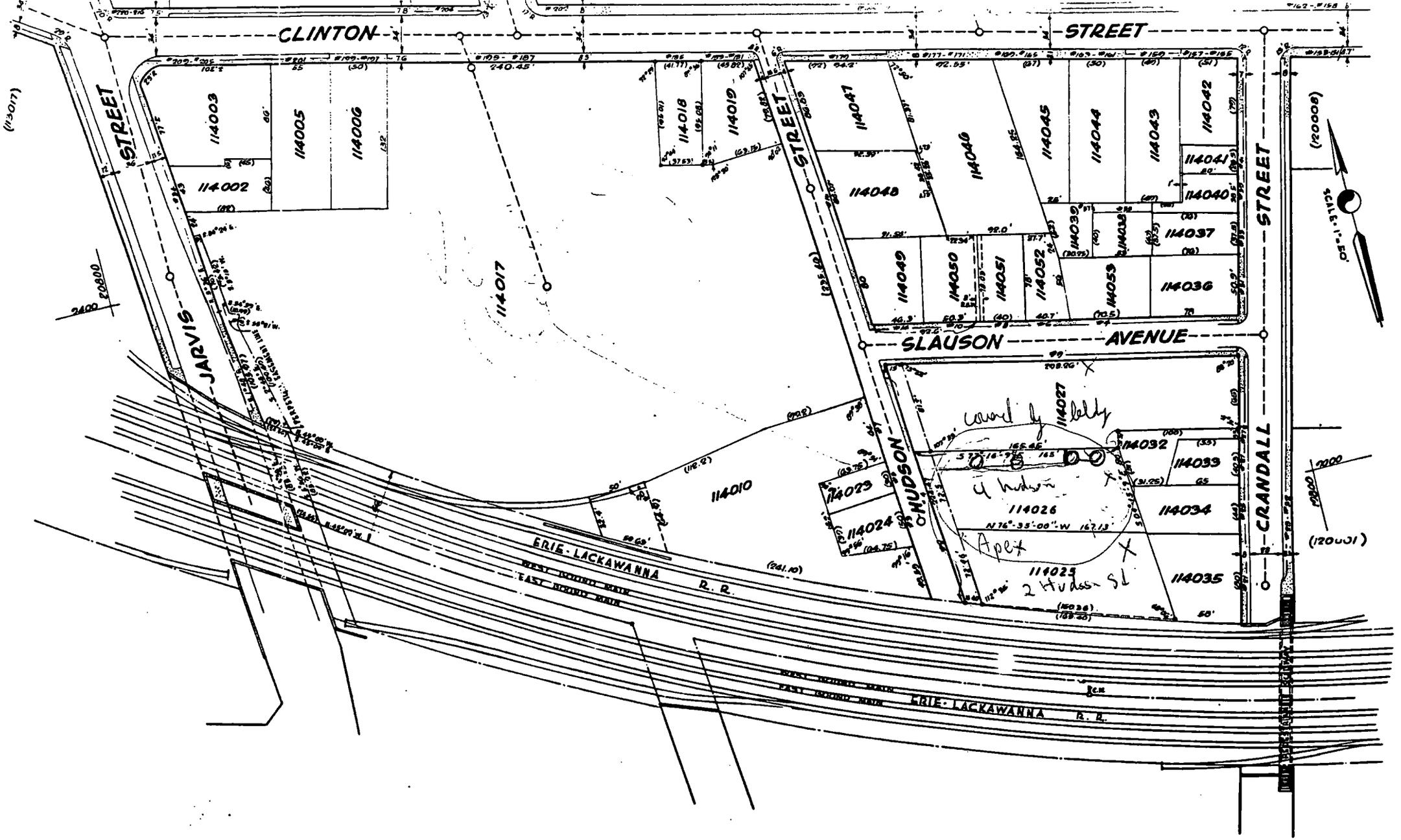
Hi guys - - I got a call from Gary Holmes from the City of Binghamton, in response to an NOV/consent order we sent for this site, 187-195 Clinton Street. He's saying the City doesn't own that site, but he's going to call you guys to try to figure it out for sure. He's not sure where the tanks themselves are, in relation to the property the city owns.

If you do work it out that the city doesn't own them, will you please sweet-talk him into finding out for us for sure who DOES own them? This is turning into a real pain in the you know what.

Thanks, and have a great day! Jen.

Jennifer L. Powell
Assistant Regional Attorney
NYSDEC Region 7
615 Erie Blvd West, Syracuse NY 13204
Phone 315-426-7405 Fax 315-426-7408

**CC:** McLaughlin, Howard




# CITY OF BINGHAMTON N. Y.

PLATE 4

**New York State Department of Environmental Conservation**
**Division of Legal Affairs, Region 7**
615 Erie Boulevard West, Syracuse, New York 13204-2400
**Phone:** (315) 426-7405 • **FAX:** (315) 426-7408
**Website:** www.dec.state.ny.us

Erin M. Crotty
Commissioner

January 29, 2003

City of Binghamton
Attn.: Mayor Richard A. Bucci
38 Hawley Street
Binghamton, New York 13901

**Re: PBS Number: 7-182230**
**9 Slauson Avenue, City of Binghamton**

Dear Mayor Bucci:

In response to Gary Holmes's letter of August 28, 2002 to John Okesson, the Department has thoroughly researched the deed history of 9 Slauson Avenue. Beginning with the deed dated in 1965 until the City of Binghamton's acquisition of the property, there are references to oil storage tanks located at 9 Slauson Avenue. Whether or not the Department's database listed this address as a PBS facility, it is clear that the City was or should have been on notice from the property deeds that oil storage tanks existed at 9 Slauson Avenue when it acquired the property.

In light of this, we have no basis to withdraw the consent order first sent to you on April 26, 2002. For your convenience, an updated order is enclosed, reflecting the change in calendar year and the correct address of the facility. To settle this matter, please have the enclosed order signed by the appropriate City official before a notary public and return it to my attention by February 14, 2003.

Thank you for your anticipated cooperation in this matter.

Sincerely,

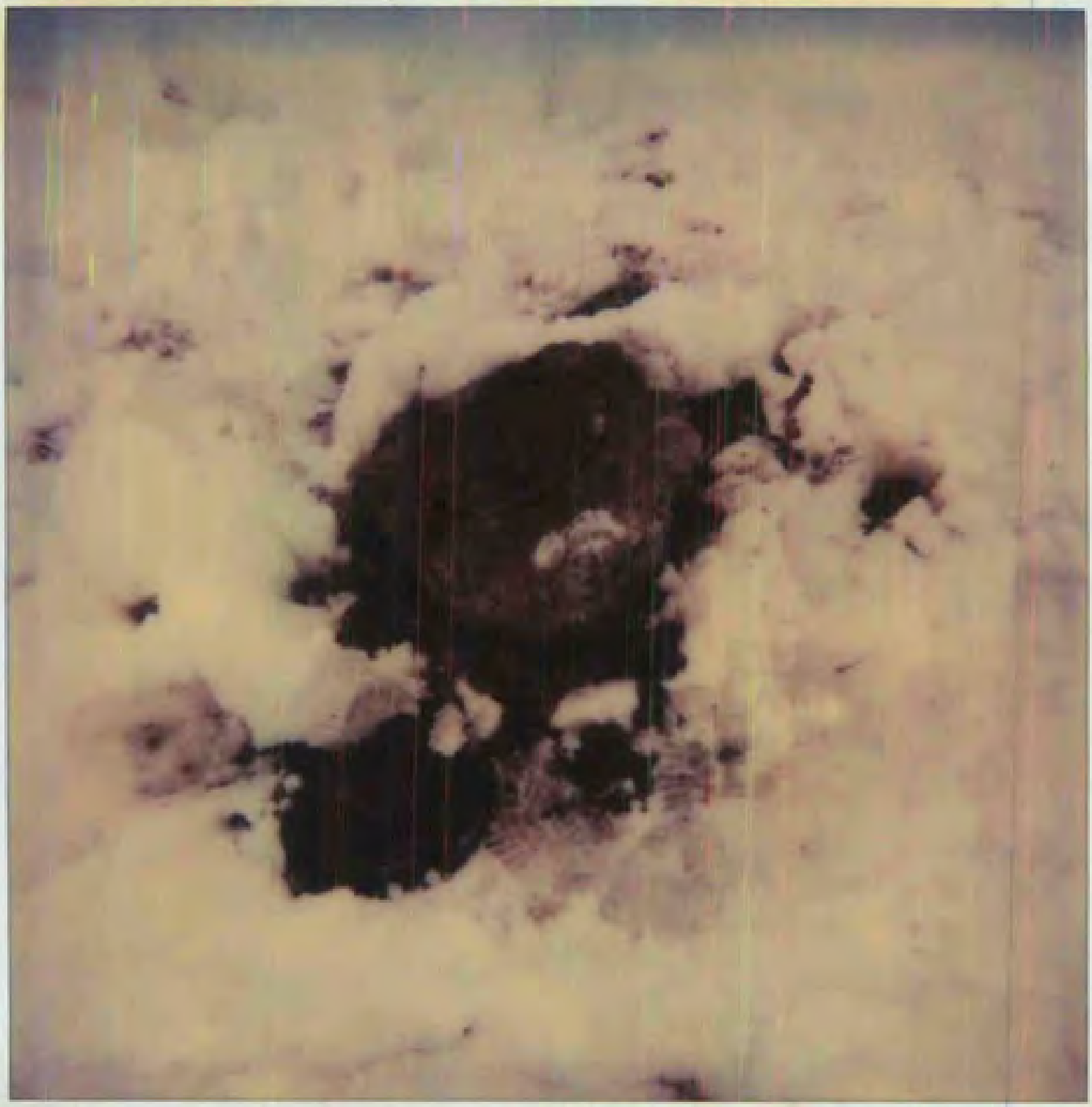
Amanda C. Hess

Amanda C. Hess
Legal Intern

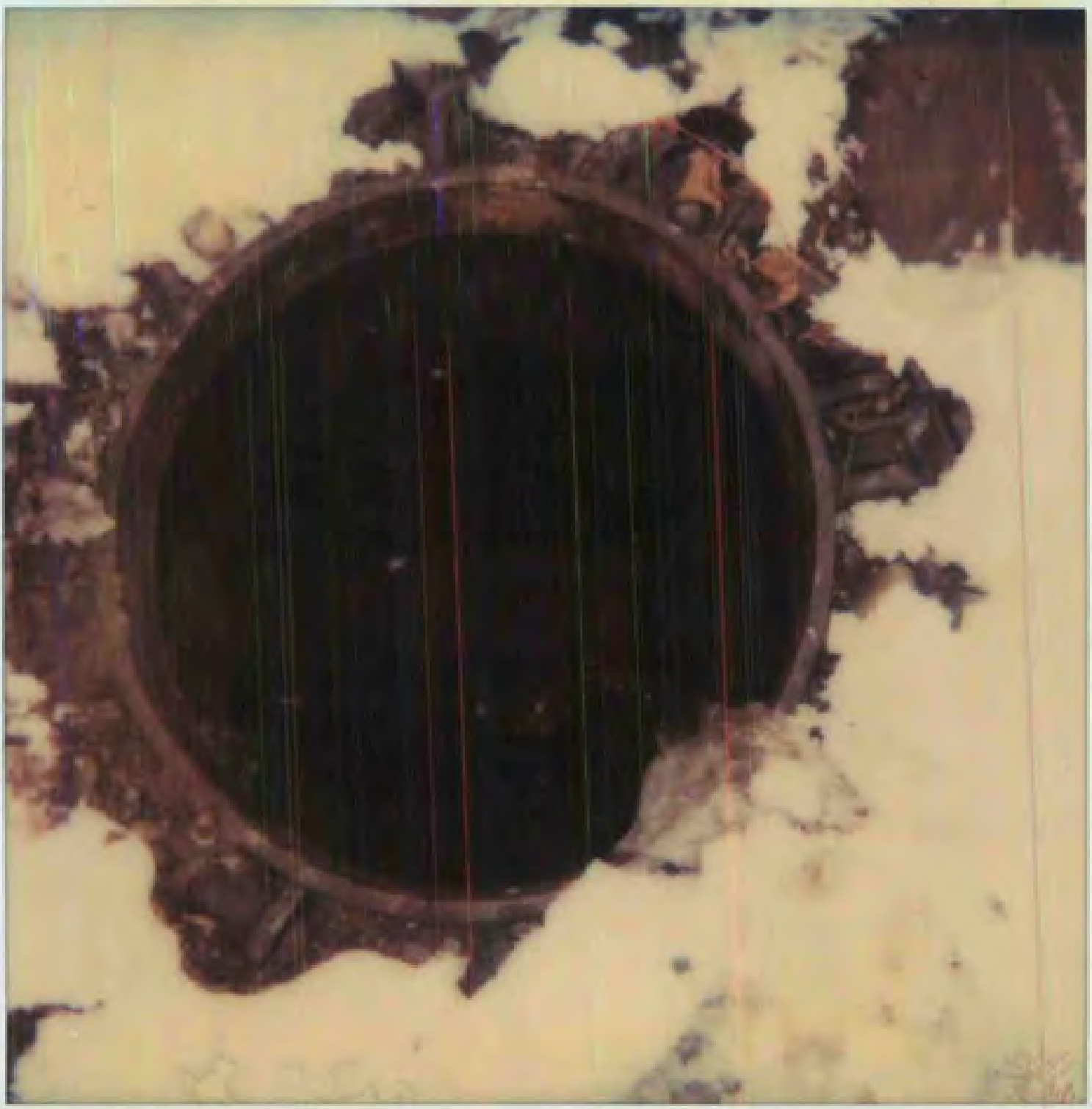
ACH:dld

cc: H. McLaughlin
J. Powell
J. Okesson

11/15/95 Apex Site Building SLAB. Circle are tank locations. SE



11/15/95 - Apex Building
VENT w/ Concrete



11/15/95 Apex Buildings
Manway to TANK 9ED

DRAWING NO 45980-E REV

| BLDG. # | DESCRIPTION |
|---|---|
| 4 | ENGINEERING STORAGE |
| 6 | CHEMICAL MANUFACTURING |
| 8 | ENERGIES POWER PLANT |
| 9 | REFRIGERATION PLANT |
| 10 | EQUIPMENT STORAGE |
| 11 | T.V. GUARD HOUSE |
| 12 | AREA MAINTENANCE SHOP, RECREATION AREA |
| 14 | DOPE MAKING, SUBBING 7 STILLS |
| 16 | FINISHED GOODS WAREHOUSE, SHIPPING |
| 22 | GELATIN STORAGE & BLENDING |
| 24 | LACQUER STORAGE & PREPARATION |
| 25 | FILM EMULSION & COATING PCM#1, #2 & RAW MATERIAL WAREHOUSE |
| 26 | FILM FINISHING LABORATORIES AND RAW MATERIAL WAREHOUSE |
| 27 | FILM CASTING |
| 28 | ENERGIES |
| 29 | FILM CASTING FACILITIES & ROLL STORAGE |
| 30 | FILM RECOVERY |
| 31 | INERT GAS |
| 32 | SOLVENT STORAGE CENTER |
| 35 | FILM COATING PCM#4 AND RAW MATERIAL WAREHOUSE |
| 36 | RAW MATERIAL WAREHOUSE, STAGING AREA AND OFFICES |
| 37 | PAPER & FILM FINISHING, ANALYTICAL TESTING, DATA |
| 38 | TANK FARM, CHEMICAL PACKING |
| 42 | RESEARCH LABS, PLANT ADMINISTRATION, MAIL ROOM, TECHNICAL SERVICES, ORDER ENTRY |
| 43 | ENGINEERING SERVICES, SHOPS AND ACCOUNTING |
| 44 | RESEARCH & DEVELOPMENT, PERSONNEL, CREDIT UNION, MANAGEMENT INFORMATION SERVICES |
| 46 | PROCESS DEVELOPMENT, ENGINEERING DEVELOPMENT |
| 47 | ENGINEERING STORAGE |
| 48 | SOLVENT PUMP STATION & CONTROL HOUSE |
| 52 | CHEMICAL PREPARATION LAB |
| 53 | SOLVENT DRUM STORAGE |
| 54 | HYDROGENERATOR BUILDING |
| 63 | PIPE TUNNELS |
| 70 | BRIDGE TO POWER HOUSE |
| 71 | WELL HOUSE |
| 77 | WEST STREET GUARD OFFICE |
| 80 | STORAGE SHEDS |
| 84 | SOLVENT PUMP STATION - R.R. |
| 86 | SILVER RECOVERY STORAGE |
| 91 | FILM SORTING |
| 92 | MAINTENANCE BUILDING |
| 95 | AMMONIA STRIPPING BUILDING |
| 96 | METAL REMOVAL BUILDING |
| 102 | FILM COATING AND CASTING FACILITY |
| 103 | RESERVOIR & WATER COOLING TOWER |
| 104 | DOPE MIXING |
| 105 | PAPER PLANT, COATING PCM#4 AND RAW MATERIAL WAREHOUSE |
| 105 1/2 | MAINTENANCE & STORAGE |
| 106 | ENERGIES - PAPER PLANT |
| 110 | SUB STATION #1A & #9 |

MAY ST
HOLLAND ST
COLFAX AVE
CLINTON ST
FIELD ST
RESIDENTIAL
BERLIN ST
GRACE ST
JARVIS ST
CHARLES ST
ELM ST
SPRING
FOREST
CEMETERY
WELL #11
WELL #5
WELL #4
WELL #9
WELL #3
WELL #1
TANK 922-1000 GALLON DIESEL
TANK 921-1000 GALLON REG. GASOLINE
ERIE LACKAWANNA RAILROAD
TANK 8-1 10000 GALLON #2 FUEL OIL
COMMERCIAL
INDUSTRIAL
WEST ST
MURPHY ST
PHELPS ST
CYRIL AVE
HALFORD ST
CLINTON ST
HUDSON ST
SLAUSON AVE
CRANDALL ST
ELM ST
WELL #8
KARLADA DRIVE
RIGHT OF WAY
FRONT ST
WELL #7
COMMON RIGHT OF WAY
WELL #9
ELM ST
SPRUCE ST
WELL #6
ELM ST
WELL #10
MYGATT ST
LYDIA ST

ANITEC IMAGE CORPORATION

BINGHAMTON PHOTO PLANT

BINGHAMTON, NEW YORK

SCALE: 1" = 100'

LEGEND

PROPERTY LINE

BUILDING

PREVAILING WINDS
W NW 10.5 MPH AVG.

This drawing is the property of Anitec Image Corporation, Binghamton, New York, and contains information of a proprietary nature. It is to be used only for the express purpose for which it is issued and is not to be copied nor used for any other purpose nor in any manner directly or indirectly detrimental to the interests of the corporation. This drawing should be returned promptly upon completion of the work for which it was loaned.

| DWG. NO. | REFERENCE DRAWINGS | SYM. | DWG. NO. | REFERENCE DRAWINGS | SYM. |
|---|---|---|---|---|---|
| | | | | | |

| REVISIONS | DATE | BY | APP. |
|---|---|---|---|
| | | | |

| REVISIONS | DATE | BY | APP. |
|---|---|---|---|
| 3 SOLD | 1-29-85 | GH | |
| 2 SOLD PLOT TO ROGERS | 6/13/83 | B.G. | |
| 1 SOLD TWO PLOTS | 1/14/83 | D.W. | |

| SHOP ORDER NO. | DATE | BY |
|---|---|---|
| | | |

ASS'Y DWG. NO. _____
B/M NO. _____
DESIGNED NAME _____ DATE _____
DRAWN D. Wolfe 6/14/82
CHECKED [illegible] 8-10-82
APPROVED [illegible] GEO 8-82
TOLERANCE UNLESS OTHERWISE SPECIFIED
DEC. ____ FRACT. ____ ANGLE ____
SCALE 1" = 100'
AFE/CC

Anitec Image Corporation
P.O. BOX 4444
BINGHAMTON, N.Y.

BUILDING, PROPERTY PLAN
ANITEC IMAGE CORPORATION

GROUP NO. 90-B-1
DRAWING NO. 45980-E 3

FORM 12204 (2/82)

GeoLogic

GeoLogic NY, Inc. P.O. Box 5080 • Cortland, NY 13045 • 607.836.4400 • Fax: 607.836.4403

RECEIVED
NYSDEC-REGION-7
KIRKWOOD SUB-OFFICE
JUL 24 2000

July 19, 2000

Mr. Brian Kradjian
Kradjian Properties
84 Court Street, Suite 600
Binghamton, NY 13901-3316

Reference: Former Vail-Ballou Press, Inc.
187 Clinton Street
Binghamton, New York

Dear Mr. Kradjian:

This letter report presents the results of the Limited Phase II Environmental Site Assessment conducted at the above referenced site. The work was conducted to permit the formulation of an opinion as to adverse impact(s) to the subject site from prior uses and surrounding land use. The purpose of conducting the ESA work is to reduce, not eliminate, the risk of Kradjian Properties, purchasing a site that is contaminated with hazardous materials or petroleum products as defined by the State of New York. The opinions expressed by GeoLogic, NY, Inc. (GeoLogic) regarding the conditions of the site will be based solely on the observations made and the data collected during the study. Kradjian Properties is hereby advised that conditions observed by GeoLogic are subject to change. Certain indicators of the presence of hazardous materials or petroleum products may not have been evident at the time the site work was completed and may subsequently become observable. Not finding such indicators does not mean that hazardous materials or petroleum products do not exist at the site.

The opinions regarding the environmental integrity of the site do not represent a warranty that all areas within the study area are of the same quality. GeoLogic is not able to represent that the site is free of hazardous materials or petroleum products beyond that detected by GeoLogic during the study.

Problems have arisen in the past because people and organizations have assumed, improperly, that they could rely on an ESA report developed for another party. So there is no confusion in this respect, recognize that Kradjian Properties is the only intended beneficiary of this work. With the consent of Kradjian Properties, GeoLogic will be available to contract with other parties to develop findings and opinions related to such other parties' unique risk management concerns.

## BACKGROUND

The site had been used for industrial purposes dating back to at least 1898.

Sanborn fire insurance maps indicate that the site has been used for industrial purposes dating back at least to 1898. The site may have been adversely impacted by the prior industrial processes at the site.

The site may have been occupied by a gasoline station (Clinton Street area).

Sanborn fire insurance maps indicate that a former gas station was located on Clinton Street, immediately north of the site. Petroleum contamination from this former gas station could also have or had an adverse impact on the site.

Leaking drums and barrels of materials were noted by Broome County Health Department personnel in the basement of the former Vail-Ballou building.

A February 1995 Environmental Site Assessment report for the site was reviewed (prepared by Enviro-Testing). The building was being used for storage of computer supplies and an automobile repair business. The report pointed out that "numerous drums, containers, temporary mixing vats, etc...still on site, some corroded and leaking unknown materials". The New York State Industrial Chemical Survey listed the following materials used by Vail-Ballou at the site: developing chemicals, diazo solutions, activators, stabilizers and fixers as part of photo processing.

A portion of the site was used as an automobile repair business. Possible injection wells were noted in the area of the repair business.

A February 1995 Environmental Site Assessment report for the site was reviewed (prepared by Enviro-Testing). The report identified possible Class V injection wells. Some of the injection wells were identified in an area being used to repair automobiles and a concern of oil, gas or antifreeze entering the wells was discussed.

Possible PCB-containing transformers were noted at the facility (as described in the Environmental Site Assessment prepared by Enviro Testing in February 1995).

The February 1995 Environmental Site Assessment report for the site was reviewed (prepared by Enviro-Testing). The report discussed the presence of possible PCB-containing transformers.

Fill ports for underground storage tanks were noted at the northwest corner of the former building (as described in the Environmental Site Assessment prepared by Enviro Testing in February 1995).

The February 1995 Environmental Site Assessment report for the site was reviewed (prepared by Enviro-Testing). The report mentions the presence of three underground storage tank fill ports at the northwest corner of the former building. The location and status of these tanks was not discussed further in the report. The observations reported by Enviro-Testing could have an adverse impact on the site.

A petroleum spill was reported beneath Hudson Street (adjacent to site) and there was a former chemical off-loading rack adjacent to the site. Soil gas samples obtained by others west of the site had reportable concentrations of methylene chloride.

Information in a Broome County Health Department (BCHD) file indicates that petroleum product lines located beneath Hudson Street were leaking oil in 1971. Oil was reportedly entering a manhole and observed on the ground surface. These lines apparently brought product from a property located immediately west of Hudson Street to the site. The product was stored in four buried railroad cars. Limited tank closure activities for the railroad cars were conducted in May 1996 and free product was observed in the soil adjacent to these tanks. Mr. John Okesson of the New York State Department of Environmental Conservation (NYSDEC) has indicated that these railroad car petroleum storage tanks were not closed out properly. Mr. Okesson also indicated that the NYSDEC is pursuing enforcement action to force the investigation and/or clean up of petroleum from these railroad cars. Mr. Okesson stated there is some mention in the Deed of Vail-Ballou being responsible for these railroad cars.

## SCOPE OF SERVICES

The scope of services conducted at the site, based on the above background information, was as follows:

Utilized a drill rig to obtain soil samples and install 2-inch PVC monitoring wells. The borings were located around the perimeter of the former building foundation. MW-1 is located on the northern portion of the site, approximately 100 feet south of the intersection of Clinton and Charles Streets; MW-2 is located on the western portion of the site, near the railroad trestle along Jarvis Street and MW-3 is located on the southeastern portion of the site near the intersection of Hudson Street and Slauson Avenue;

Obtained soil samples, at five-(5) foot intervals, from each boring and screened the samples in the field for volatiles with a photo-ionization detector (PID);

Obtained depth to water measurements and a groundwater sample from each well;

Submitted the groundwater samples for analysis for one or more of the following: volatile organics by EPA Method 8260, semi-volatile organics by EPA Method 8270 for NYSDEC STARS parameters and RCRA Metals;

Established the location and elevations of the monitoring wells relative to the existing site features;

Observed the removal of three underground storage tanks (UST's) from the property;

Observed the UST's being removed from the ground;

Obtained soil samples from the tank pit excavations and screened the samples in the field for volatile organic compounds with a photo-ionization detector (PID). Soil samples were submitted for laboratory analysis of volatiles (STARS 8021 parameters) and/or semi-volatiles (STARS 8270 parameters);

Backfilled the excavation with the excavated soil from around the UST's;

Prepared this report summarizing the findings of the work, including the subsurface and well construction details, and analytical results.

## FINDINGS

### Soil Borings and Monitoring Well Installation:

The monitoring wells (MW-1, MW-2 and MW-3) were installed on May 8, 2000 and May 9, 2000. Groundwater samples were obtained on May 9, 2000 and May 30, 2000. Mr. John Okesson, NYSDEC, was on site and approved the monitoring well locations. The monitoring well locations are shown on Drawing No. 1 – Site Plan.

For the purposes of evaluating the subsurface soils at the site, soil samples were obtained at 5-foot intervals in borings MW-1, MW-2 and MW-3 from the ground surface to their terminus. PID readings ranged from 0 to 4 ppm in the soil samples obtained from the borings. Two-inch PVC monitoring wells were installed in each of the borings. The drilling and monitoring well installation methodologies are attached.

The soils at the site generally consisted of fill (sand and gravel with brick, ash and cinders), underlain by sand and gravel with little to trace silt. The Subsurface Logs are attached.

### Groundwater Sampling:

Groundwater samples were obtained from monitoring wells MW-1, MW-2 and MW-3 at two sampling events. The first sampling event occurred on May 9, 2000; the second event occurred on May 30, 2000.

On May 9, 2000, groundwater samples were obtained from the newly installed monitoring wells (MW-1, MW-2, and MW-3). The groundwater samples were submitted for analysis of volatile organics by EPA Method 8260, semi-volatile organics by EPA Method 8270 for NYSDEC STARS parameters and RCRA Metals. The groundwater sampling methodologies are attached.

The analytical results for the groundwater samples obtained from MW-1, MW-2 and MW-3 on May 9, 2000, were below laboratory detection limits and/or NYSDEC Ambient Water

Quality Standards and Guidance Values for groundwater for the volatile and semi-volatile organics. Copies of the laboratory results are attached.

NYSDEC Ambient Water Quality Standards and Guidance Values for groundwater were exceeded for one or more of the RCRA Metals in monitoring wells MW-1, MW-2 and MW-3 (see attached Table). We believe that this was due to the short time period the monitoring wells had to stabilize before being sampled. Therefore, monitoring wells MW-1, MW-2 and MW-3 were scheduled to be re-sampled on May 30, 2000.

On May 30, 2000, groundwater samples were obtained from monitoring wells (MW-1, MW-2, and MW-3) and submitted for analysis of RCRA Metals.

The analytical results for the groundwater samples obtained from MW-1, MW-2 and MW-3 on May 30, 2000, were below laboratory detection limits and/or NYSDEC Ambient Water Quality Standards and Guidance Values for groundwater for the RCRA Metals (Table No. 1). Copies of the laboratory results are attached.

Water table elevations measured in the monitoring wells on May 30, 2000 are shown on Drawing No. 1. The depth to water ranged from 12.47 feet in MW-2 to 18.52 feet in MW-3. Based on these groundwater elevations, the groundwater flow appears to be eastward.

**Underground Storage Tank Removal:**

The three UST's were removed from the site on July 6, 2000 (Drawing No. 1). Mr. John Okesson, NYSDEC, was on site to observe the removal of the three UST's. After the UST's were removed and soils samples were obtained and scanned with a PID the NYSDEC agreed to place the excavated soil from around the UST's back onto the excavation.

Composite soil samples were obtained from the bottom and sidewall of the fuel oil / naphtha UST test pit excavation and the gasoline UST test pit excavation. The composite soil samples were analyzed for volatile organics by EPA Method 8021 for NYSDEC STARS parameters, and/or semi-volatile organics by EPA Method 8270 for NYSDEC STARS parameters.

The analytical results for the composite soil samples obtained from the fuel oil / naphtha UST test pit and the composite soil sample obtained from the gasoline UST test pit on July 6, 2000, were below laboratory detection limits and/or NYSDEC STARS Guidance Values. See the attached tank pull report for more detail.

According to the NYSDEC records, the three UST's referenced in this report had not been registered as required by the NYSDEC. Therefore, the UST's need to be registered with the NYSDEC, and then officially closed out.

If you have any questions concerning this Limited Subsurface Evaluation Report, please do not hesitate to call us at (607) 836-4400.

Sincerely,

GeoLogic NY, Inc.

Joseph L. Nossal/jpo

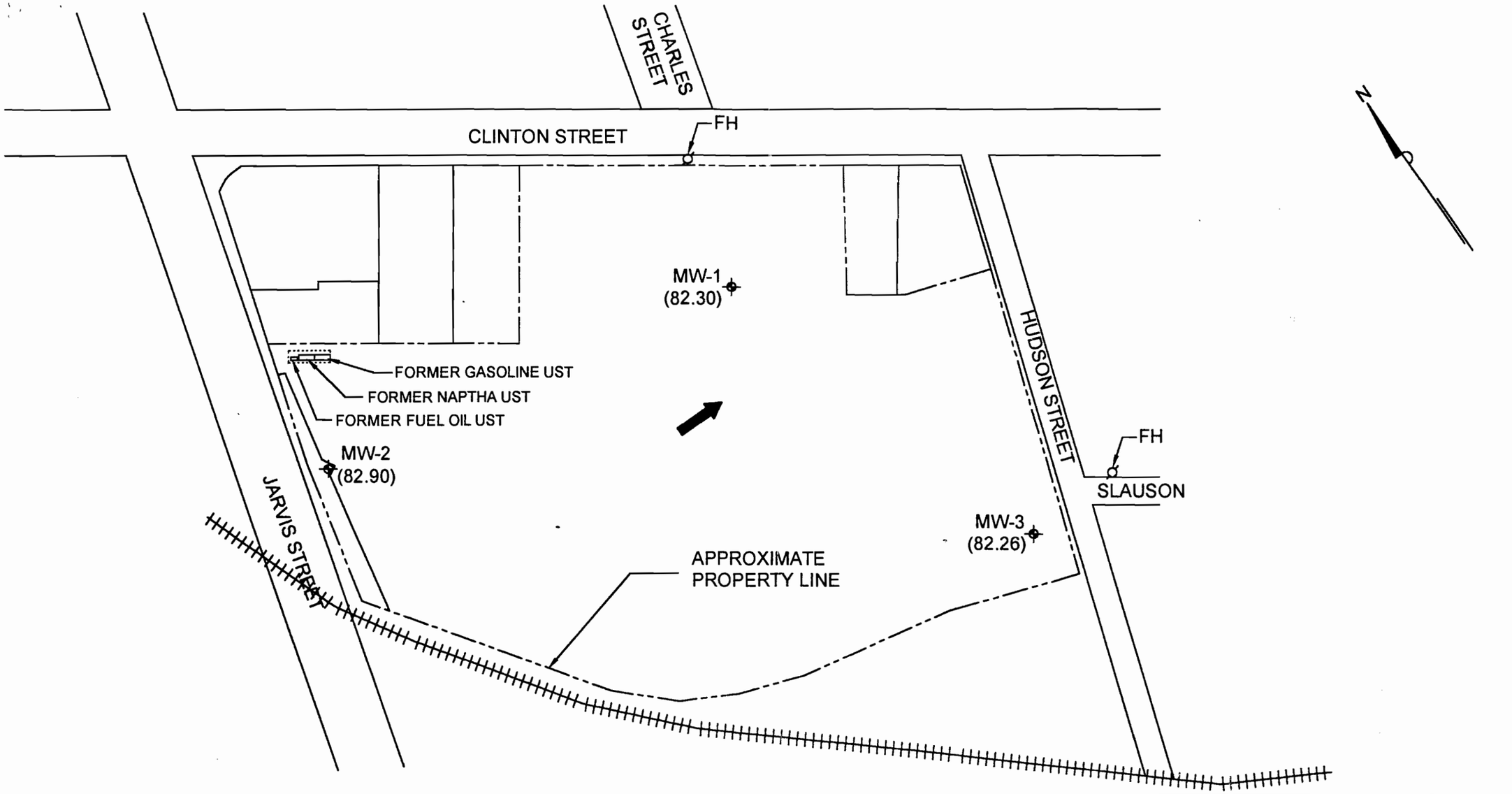
Joseph L. Nossal
Hydrogeologist

Forrest C. Earl

Forrest C. Earl
Vice President/Principal Hydrogeologist

Enc: Site Map, Metals Analytical Table, Analytical Results, Subsurface Logs (with Key), Methodologies and Tank Pull Report

cc: John Okesson, NYSDEC
Thomas Suozzo, NYSDEC
File: ..200048/report/Limited Phase II Evaluation




LEGEND

- MONITORING WELL LOCATION
- FH = FIRE HYDRANT
- (82.30) GROUNDWATER ELEVATION (FT.) FOR 5/30/00
- DIRECTION OF GROUNDWATER FLOW

APPROX. SCALE

0' 25' 50' 100'

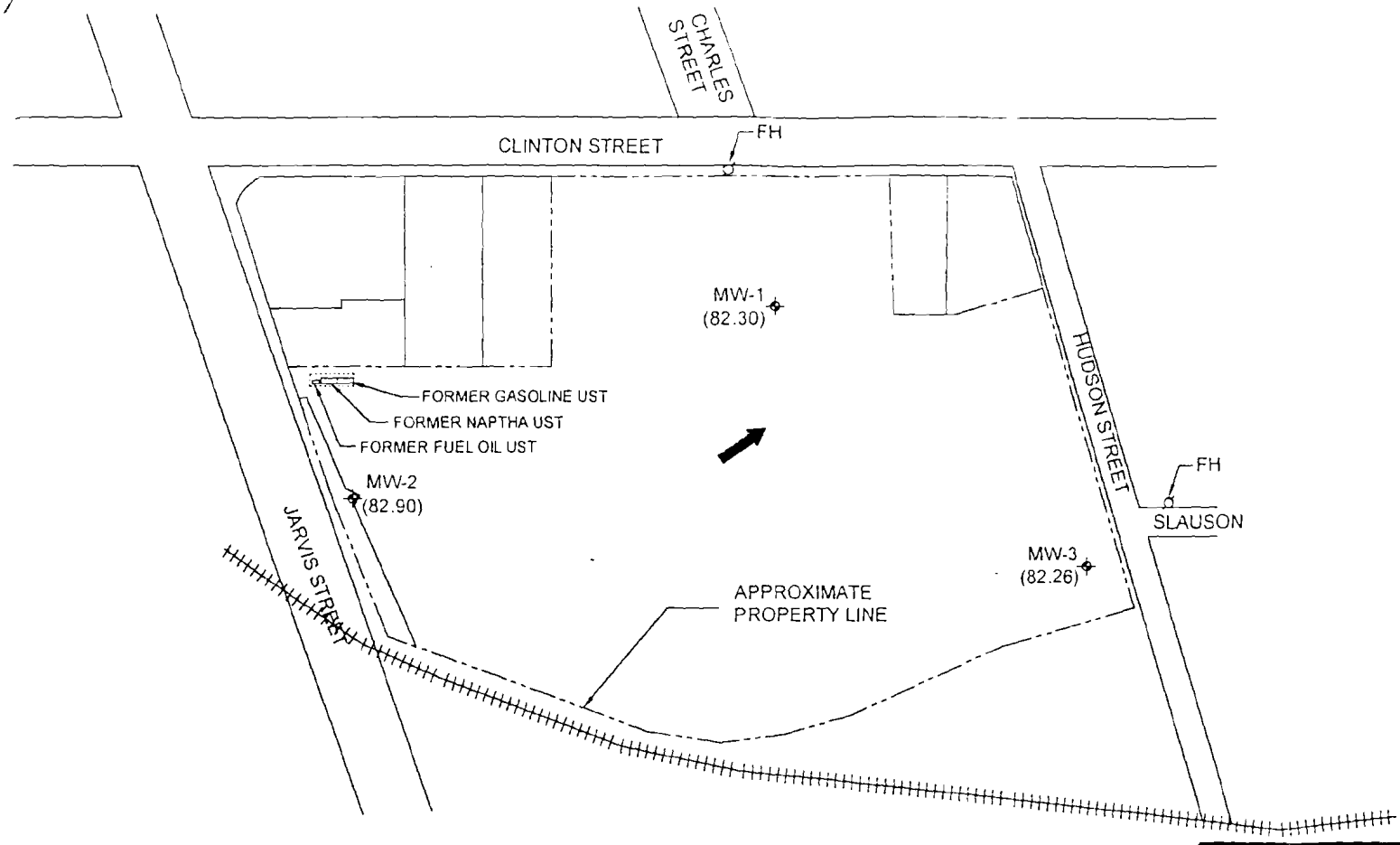
GeoLogic

GeoLogic NY, Inc.

SITE PLAN
187 CLINTON STREET
BINGHAMTON, NEW YORK

| DR. BY: | SCALE: | PROJ. NO: |
|---|---|---|
| JLN/SDW | AS SHOWN | 200048 |
| REVD BY: | DATE: | DRWG. NO: |
| | MAY 2000 | 1 |

F:\..\200048\TECH\SITE PLAN.DWG




LEGEND

- MONITORING WELL LOCATION
- FH = FIRE HYDRANT
- (82.30) GROUNDWATER ELEVATION (FT.) FOR 5/30/00
- DIRECTION OF GROUNDWATER FLOW

APPROX. SCALE

0' 25' 50' 100'

GeoLogic

GeoLogic NY, Inc.

SITE PLAN
187 CLINTON STREET
BINGHAMTON, NEW YORK

| DR. BY: | SCALE: | PROJ. NO: |
|---|---|---|
| JLN/SDW | AS SHOWN | 200048 |
| REVD BY: | DATE: | DRWG. NO: |
| | MAY 2000 | 1 |

F:\..\200048\TECH\SITE PLAN.DWG

**Table No. 1**

**Former Vail-Ballou**
**187 Clinton Street**
**Binghamton, NY**

**Total Metals - Unfiltered**

| Metals in Groundwater | NYSDEC Standards/GV mg/L (ppm) | 05/09/2000 MW-1 mg/L | 05/30/2000 MW-1 mg/L | 05/09/2000 MW-2 mg/L | 05/30/2000 MW-2 mg/L | 05/09/2000 MW-3 mg/L | 5/30/200 MW-3 mg/L |
|---|---|---|---|---|---|---|---|
| mercury | 0.0007 | 0.0015 | ND | 0.0102 | ND | 0.0251 | ND |
| | | | | | | | |
| arsenic | 0.025 | ND | ND | 0.0378 | ND | 0.117 | ND |
| barium | 1.0 | 0.159 | 0.0829 | 3.85 | ND | 0.847 | 0.0816 |
| cadmium | 0.005 | ND | ND | 0.018 | ND | 0.027 | ND |
| chromium | 0.05 | 0.0168 | ND | 0.322 | ND | 0.609 | ND |
| lead | 0.025 | 0.0342 | 0.00538 | 2.43 | ND | 0.894 | 0.00557 |
| selenium | 0.01 | ND | ND | ND | ND | ND | ND |
| silver | 0.05 | ND | ND | ND | ND | ND | ND |
| | | | | | | | |

Exceeds NYSDEC Standards / Guidance Values

**North Star Drilling**
P. O. Box 67
Cortland, New York 13045
(607) 753-8820

# KEY TO SUBSURFACE LOG

Boring No.: B-1
Project No.: 200001
Date Started: 1/31/00
Date Completed: 1/31/00
Sheet 1 of 1

Project:
Location:

Reference Elevation: 100.0

| Depth (ft.) | Sample No. | Type | SPT Blows | N-Value | Recovery (ft.) | PID Reading (ppm) | MATERIAL DESCRIPTION | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Ground Surface | Water level at 2.0' with augers at 7.5'. |
| 1 | 1 | ss | 1 2 2 1 | 4 | 2.0 | 32 | Brown SILT, Some fine-coarse Sand, trace clay, moist-loose | At completion water level at 2.2' with augers at 10.0'. |
| 2 | 2 | | | | | | Gray SHALE, medium hard weathered, thin bedded, some fractures | Run #1: 3.0'-5.0' 95% Recovery, 50% RQD |

1 2 3 4 5 6 7 8 9 10

**TABLE I**

Identification of soil type is made on basis of an estimate of particle sizes, and in the case of fine-grained soils also on basis of plasticity.

| Soil Type | | Soil Particle | |
|---|---|---|---|
| Boulder | | > 12" | |
| Cobble | | 12" - 3" | |
| Gravel | - Coarse | 3" - 3/4" | Coarse Grained |
| | - Fine | 3/4" - #4 | (Granular) |
| Sand | - Coarse | #4 - #10 | |
| | - Medium | #10 - #40 | |
| | - Fine | #40 - #200 | |
| Silt-Non Plastic (Granular) | | < #200 | Fine Grained |
| Clay-Plastic (Cohesive) | | | |

**TABLE II**

The following terms are used in classifying soils consisting of mixtures of two or more soil types. The estimate is based on weight of total sample.

| Term | Percent of Total Sample |
|---|---|
| "and" | 35 - 50 |
| "some" | 20 - 35 |
| "little" | 10 - 20 |
| "trace" | 1 - 10 |

(When sampling gravelly soils with a standard split spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter.)

**TABLE III**

The relative compactness or consistency is described in accordance with the following terms.

| Granular Soils | | Cohesive Soils | |
|---|---|---|---|
| Term | Blows per Foot, N | Term | Blows per Foot, N |
| Loose | < 11 | Very Soft | < 2 |
| Firm | 11 - 30 | Soft | 2 - 4 |
| Compact | 31 - 50 | Medium | 4 - 8 |
| Very Compact | > 51 | Stiff | 8 - 15 |
| | | Very Stiff | 15 - 30 |
| | | Hard | >30 |

(Large particles in the soils will often significantly influence the blows per foot recorded during the Penetration Test.)

**TABLE IV**

| Stratified Soils | |
|---|---|
| Descriptive Term | Thickness |
| Parting | - 0" - 1/16" |
| Seam | - 1/16" - 1/2" |
| Layer | - 1/2" - 12" |
| Stratum | - >12" |
| Varved Clay | - Alternating seams or layers of sand, silt & clay |
| Pocket | - small, erratic deposit, usually <12" |
| Lens | - lenticular deposit |
| Occasional | - one or less per foot of thickness |
| Frequent | - more than one per foot of thickness |

**North Star Drilling**
P.O. Box 67
Cortland, NY 13045
607-756-8820
607-753-9911 (fax)

## SUBSURFACE LOG

Boring No.: MW-1
Project No.: 200048
Date Started: 5-8-00
Date Completed: 5-8-00
Page 1 of 1
Reference Elevation: 98.22

Project: Former Vail-Ballou
Location:187 Clinton St. Binghamton NY

| Depth (ft) | Number | SPT Blows (6") | N-Value | Recovery (ft) | MATERIAL DESCRIPTION | PID Readings (ppm) | Well Detail | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | Ground Surface | | | |
| 0-1 | 1 | 50<br>50-.4 | | 0.5 | FILL: Brown SAND and GRAVEL, trace silt<br>very compact, moist | 0 | | Curb Box with locking cap in Concrete |
| 1-5 | | | | | | | | Auger cuttings 2.0' - 4.5' |
| 5-6 | 2 | 7<br>8<br>50-.4 | | 0.8 | similar | 0 | | 2" dia. PVC Riser 0'-10' |
| 6-10 | | | | | | | | Bentonite Seal, 4.5'-7.5' |
| 10-11 | 3 | 8<br>50-.4 | | 0.9 | Brown SAND and GRAVEL, trace silt<br>very compact, moist-wet | 0 | | Sandpack 7.5'-25' |
| 11-15 | | | | | | | | |
| 15-16 | 4 | 35<br>25<br>16<br>12 | 41 | 1.6 | similar | 0 | | 2" dia. PVC Well Screen,<br>10'-25', 0.020" slot size |
| 16-20 | | | | | | | | |
| 20-21 | 5 | 3<br>3<br>5<br>4 | 8 | 1.1 | washed GRAVEL, loose-saturated | 0 | | |
| 21-25 | | | | | | | | At completion, water at 17.7',<br>augers at 25'. |
| 25 | | | | | End of Borehole | | | |
| 25-27 | | | | | | | | |

Sampling Method: ASTM D-1586
Notes: 4 1/4" I.D. Hollow Stem Augers

Visually Classified: J. Nossal
File: 200048/tech/ MW1

**North Star Drilling**

P.O. Box 67
Cortland, NY 13045
607-756-8820
607-753-9911 (fax)

## SUBSURFACE LOG

Boring No.: MW-2
Project No.: 200048
Date Started: 5-8-00
Date Completed: 5-8-00
Page 1 of 1
Reference Elevation: 95.37

Project: Former Vail-Ballou
Location:187 Clinton St. Binghamton NY

| Depth (ft) | Number | SPT Blows (6") | N-Value | Recovery (ft) | MATERIAL DESCRIPTION | PID Readings (ppm) | Well Detail | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | Ground Surface | | | |
| 1 | 1 | 2<br>3<br>7<br>16 | 10 | 1.0 | FILL: Brick, Cinders, Ash, with SAND and GRAVEL, moist | 0 | | Curb Box with locking cap in Concrete |
| 5 | 2 | 7<br>30<br>36<br>22 | 66 | 1.6 | Brown SAND and GRAVEL, trace silt, compact, moist | 0 | | Auger Cuttings 2.0' - 5.0'<br>2" dia. PVC Riser 0'-10' |
| 10 | 3 | 38<br>38<br>27<br>30 | 65 | 1.8 | Brown SAND and GRAVEL, trace silt, compact, moist | 0 | | Bentonite Seal, 5.0'-8.0'<br>Sandpack 8.0'-20.0' |
| 15 | 4 | 3<br>6<br>19<br>8 | 25 | 0.1 | similar, saturated | 0 | | 2" dia. PVC Well Screen, 10.0'-20.0', 0.020" slot size |
| 20 | 5 | 12<br>7<br>7<br>8 | 14 | 1.7 | similar, saturated | 0 | | |
| 22 | | | | | End of Borehole | | | At completion, water at 15.2', augers at 20.0'. |

Sampling Method: ASTM D-1586
Notes: 4 1/4" I.D. Hollow Stem Augers

Visually Classified: J. Nossal
File: 200048/tech/ MW2

**North Star Drilling**

P.O. Box 67
Cortland, NY 13045
607-756-8820
607-753-9911 (fax)

## SUBSURFACE LOG

Boring No.: MW-3
Project No.: 200048
Date Started: 5-8-00
Date Completed: 5-8-00

Reference Elevation: 100.78

Project: Former Vail-Ballou
Location:187 Clinton St. Binghamton NY

| Depth (ft) | Number | SPT Blows (6") | N-Value | Recovery (ft) | MATERIAL DESCRIPTION | PID Readings (ppm) | Well Detail | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | Ground Surface | | | |
| 1 | | | | | FILL: Brick, Cinders, SAND and GRAVEL, auger cuttings | | | Curb Box with locking cap in Concrete |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | Auger cuttings, 2.0' - 9.5' |
| 6 | 1 | 11<br>7<br>25<br>50-.1 | 32 | 0.7 | FILL: Cinders, SAND and GRAVEL, brick, moist | 4 | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | Bentonite Seal, 9.5'-12.5' |
| 11 | 2 | 11<br>50-.4 | | 0.9 | Brown SAND and GRAVEL, little-trace silt, moist | 3 | | |
| 12 | | | | | | | | 2" dia. PVC Riser 0'-10' |
| 13 | | | | | | | | |
| 14 | | | | | | | | Sandpack 9.5'-25.0' |
| 15 | | | | | | | | |
| 16 | 3 | 35<br>50<br>40<br>49 | 90 | 1.8 | similar, very compact, moist | 4 | | 2" dia. PVC Well Screen, 15.0'-25.0', 0.020" slot size |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 21 | 4 | 16<br>30<br>15<br>15 | 45 | 1.6 | similar, saturated at 21' | 3 | | |
| 22 | | | | | | | | |
| 23 | | | | | | | | At completion, water at 20.0', augers at 25.0'. |
| 24 | | | | | | | | |
| 25 | | | | | End of Borehole | | | |
| 26 | | | | | | | | |
| 27 | | | | | | | | |

Sampling Method: ASTM D-1586
Notes: 4 1/4" I.D. Hollow Stem Augers

Visually Classified: J. Nossal
File: 200048/tech/ MW3

## DRILLING METHODOLOGY

### SOIL BORINGS

Borings were advanced using 4¼-inch I.D. hollow stem augers.

Representative samples of the overburden were obtained by driving a 2-inch OD split spoon sampler into the soil, through and beneath the augers, using a 140-pound hammer free-falling 30 inches (ASTM D 1586).

The soil samples were classified in the field by the geologist.

The drilling equipment was steam cleaned before starting work at the site and between each boring to minimize the possibility of cross contamination.

The Subsurface Logs attached to this report presents the observations and mechanical data collected at the site, supplemented by classification of material removed from the borings as determined through visual identification. It is cautioned that the materials removed from the borings represent only a fraction of the total volume of the deposits at the site and may not necessarily be representative of the subsurface conditions between adjacent borings or between the sampled intervals. The data presented on the Subsurface Logs, together with the recovered samples, will provide a basis for evaluating the character of the subsurface conditions relative to the project. The evaluation must consider all the recorded details and their significance relative to each other. Often the analysis of boring data indicate the need for additional testing or sampling procedures to more adequately evaluate the subsurface conditions. Any evaluation of the contents of this report and the recovered samples must be performed by knowledgeable Professionals.

### MONITORING WELL CONSTRUCTION

A water table monitoring well was installed in each boring. The well screen was positioned to straddle the water table at the time of installation.

The monitoring wells are constructed of 2-inch diameter PVC well pipe. The well screens are 10 feet to 15-feet long and have 0.020-inch size slots.

A medium grade sand pack was placed around the wells 2 to 4 feet above the top of the well screen. A 2 to 4-foot bentonite seal was placed above the sand pack to minimize the vertical migration of contaminants into the well. The remainder of the borehole was backfilled with natural material.

Locking caps and flushed mounted curb boxes were placed on the wells to protect the well.

## SURVEY METHODOLOGY

The locations of the monitoring wells were determined by taped measurements from existing site structures.

Elevations of the monitoring wells were determined by differential leveling.

A temporary bench mark was established and assigned an elevation of 100.00.

The temporary benchmark was top nut of the fire hydrant located on south side of Clinton Street across from Charles Street.

## GROUNDWATER SAMPLING METHODOLOGY

### WATER LEVEL MEASUREMENTS

All water levels were referenced to the top of the well casing.

Water levels were measured with a water level indicator to the nearest 0.01 foot.

The water level indicator was rinsed with distilled water between each well.

### GROUNDWATER SAMPLES

Groundwater samples were obtained utilizing new-dedicated bailers and new polypropylene rope.

Prior to obtaining groundwater samples, at least three well volumes were purged from the wells, or until the wells were purged dry.

Groundwater samples were placed in containers provided by the analytical laboratory and kept chilled until delivery to the laboratory.

A chain of custody was maintained throughout sampling and delivery of the samples to the laboratory.

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ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

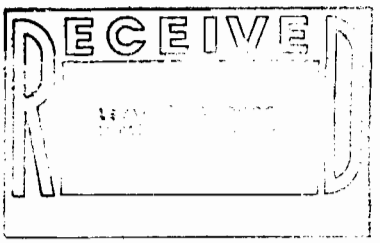
**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-1
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-01A

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **STARS SEMIVOLATILES BY EPA 8270** | | Analyst: **JK** | Analysis Date: **05/22/00** | | | |
| Acenaphthene | 83-32-9 | 1 | 10 | ND | µg/L | |
| Acenaphthylene | 208-96-8 | 1 | 10 | ND | µg/L | |
| Anthracene | 120-12-7 | 1 | 10 | ND | µg/L | |
| Benz(a)anthracene | 56-55-3 | 1 | 10 | ND | µg/L | |
| Benzo(a)pyrene | 50-32-8 | 1 | 10 | ND | µg/L | |
| Benzo(b)fluoranthene | 205-99-2 | 1 | 10 | ND | µg/L | |
| Benzo(g,h,i)perylene | 191-24-2 | 1 | 10 | ND | µg/L | |
| Benzo(k)fluoranthene | 207-08-9 | 1 | 10 | ND | µg/L | |
| Chrysene | 218-01-9 | 1 | 10 | ND | µg/L | |
| Dibenz(a,h)anthracene | 53-70-3 | 1 | 10 | ND | µg/L | |
| Fluoranthene | 206-44-0 | 1 | 10 | ND | µg/L | |
| Fluorene | 86-73-7 | 1 | 10 | ND | µg/L | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 1 | 10 | ND | µg/L | |
| Naphthalene | 91-20-3 | 1 | 10 | ND | µg/L | |
| Phenanthrene | 85-01-8 | 1 | 10 | ND | µg/L | |
| Pyrene | 129-00-0 | 1 | 10 | ND | µg/L | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 1 | 10-102.8 | 45.6 | %REC | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 1 | 10-111.7 | 53.9 | %REC | |
| Surr: Terphenyl-d14 | 98904-43-9 | 1 | 10-156.4 | 47.0 | %REC | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

**Abbreviations:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Est., Value exceeds quantitation range
H - Est., Holding time exceedance

*3821 Buck Drive, Cortland, NY 13045-5150*
*Tel 607.753.3403 Fax 607.753.3415*

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ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

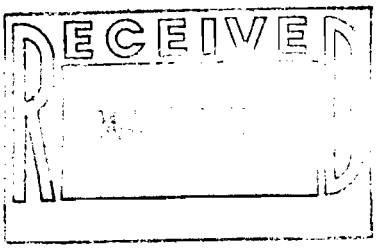
**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-1
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-01B

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **MERCURY, TOTAL** | | Analyst: **MB** | Analysis Date: **05/22/00** | | | |
| Mercury | 7439-97-6 | 1 | 0.000400 | **0.00150** | mg/L | |
| **METALS BY ICP** | | Analyst: **MB** | Analysis Date: **05/24/00** | | | |
| Arsenic | 7440-38-2 | 1 | 0.0250 | **ND** | mg/L | |
| Barium | 7440-39-3 | 1 | 0.0450 | **0.159** | mg/L | |
| Cadmium | 7440-43-9 | 1 | 0.00500 | **ND** | mg/L | |
| Chromium | 7440-47-3 | 1 | 0.00500 | **0.0168** | mg/L | |
| Lead | 7439-92-1 | 1 | 0.00500 | **0.0342** | mg/L | |
| Selenium | 7782-49-2 | 1 | 0.0200 | **ND** | mg/L | |
| Silver | 7440-22-4 | 1 | 0.0150 | **ND** | mg/L | |

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**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-1
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-01C

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **GC/MS VOLATILES BY EPA 8260** | | Analyst: **PI** | Analysis Date: **05/16/00** | | | |
| Acetone | 67-64-1 | 1 | 25 | ND | µg/L | |
| Benzene | 71-43-2 | 1 | 5.0 | ND | µg/L | |
| Bromobenzene | 108-86-1 | 1 | 5.0 | ND | µg/L | |
| Bromochloromethane | 74-97-5 | 1 | 5.0 | ND | µg/L | |
| Bromodichloromethane | 75-27-4 | 1 | 5.0 | ND | µg/L | |
| Bromoform | 75-25-2 | 1 | 5.0 | ND | µg/L | |
| Bromomethane | 74-83-9 | 1 | 5.0 | ND | µg/L | |
| 2-Butanone | 78-93-3 | 1 | 25 | ND | µg/L | |
| n-Butylbenzene | 104-51-8 | 1 | 5.0 | ND | µg/L | |
| sec-Butylbenzene | 135-98-8 | 1 | 5.0 | ND | µg/L | |
| tert-Butylbenzene | 98-06-6 | 1 | 5.0 | ND | µg/L | |
| Carbon disulfide | 75-15-0 | 1 | 5.0 | ND | µg/L | |
| Carbon tetrachloride | 56-23-5 | 1 | 5.0 | ND | µg/L | |
| Chlorobenzene | 108-90-7 | 1 | 5.0 | ND | µg/L | |
| Chloroethane | 75-00-3 | 1 | 5.0 | ND | µg/L | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 1 | 5.0 | ND | µg/L | |
| Chloroform | 67-66-3 | 1 | 5.0 | ND | µg/L | |
| Chloromethane | 74-87-3 | 1 | 5.0 | ND | µg/L | |
| 2-Chlorotoluene | 95-49-8 | 1 | 5.0 | ND | µg/L | |
| 4-Chlorotoluene | 106-43-4 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 1 | 5.0 | ND | µg/L | |
| Dibromochloromethane | 124-48-1 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dibromoethane | 106-93-4 | 1 | 5.0 | ND | µg/L | |
| Dibromomethane | 74-95-3 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dichlorobenzene | 95-50-1 | 1 | 5.0 | ND | µg/L | |
| 1,3-Dichlorobenzene | 541-73-1 | 1 | 5.0 | ND | µg/L | |
| 1,4-Dichlorobenzene | 106-46-7 | 1 | 5.0 | ND | µg/L | |
| Dichlorodifluoromethane | 75-71-8 | 1 | 5.0 | ND | µg/L | |
| 1,1-Dichloroethane | 75-34-3 | 1 | 5.0 | ND | µg/L | |

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ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-1
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-01C

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 107-06-2 | 1 | 5.0 | ND | µg/L | |
| 1,1-Dichloroethene | 75-35-4 | 1 | 5.0 | ND | µg/L | |
| cis-1,2-Dichloroethene | 156-59-2 | 1 | 5.0 | ND | µg/L | |
| trans-1,2-Dichloroethene | 156-60-5 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dichloropropane | 78-87-5 | 1 | 5.0 | ND | µg/L | |
| 1,3-Dichloropropane | 142-28-9 | 1 | 5.0 | ND | µg/L | |
| 2,2-Dichloropropane | 590-20-7 | 1 | 5.0 | ND | µg/L | |
| cis-1,3-Dichloropropene | 10061-01-5 | 1 | 5.0 | ND | µg/L | |
| trans-1,3-Dichloropropene | 10061-02-6 | 1 | 5.0 | ND | µg/L | |
| Hexachlorobutadiene | 87-68-3 | 1 | 5.0 | ND | µg/L | |
| Ethylbenzene | 100-41-4 | 1 | 5.0 | ND | µg/L | |
| 1,1-Dichloropropene | 563-58-6 | 1 | 5.0 | ND | µg/L | |
| 2-Hexanone | 591-78-6 | 1 | 25 | ND | µg/L | |
| Methylene chloride | 75-09-2 | 1 | 5.0 | ND | µg/L | |
| 4-Isopropyltoluene | 99-87-6 | 1 | 5.0 | ND | µg/L | |
| Methyl tert-butyl ether | 1634-04-4 | 1 | 5.0 | ND | µg/L | |
| 4-Methyl-2-pentanone | 108-10-1 | 1 | 25 | ND | µg/L | |
| n-Propylbenzene | 103-65-1 | 1 | 5.0 | ND | µg/L | |
| Styrene | 100-42-5 | 1 | 5.0 | ND | µg/L | |
| Isopropylbenzene | 98-82-8 | 1 | 5.0 | ND | µg/L | |
| Naphthalene | 91-20-3 | 1 | 5.0 | ND | µg/L | |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 1 | 5.0 | ND | µg/L | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 1 | 5.0 | ND | µg/L | |
| Tetrachloroethene | 127-18-4 | 1 | 5.0 | ND | µg/L | |
| Toluene | 108-88-3 | 1 | 5.0 | ND | µg/L | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 1 | 5.0 | ND | µg/L | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 1 | 5.0 | ND | µg/L | |
| 1,1,1-Trichloroethane | 71-55-6 | 1 | 5.0 | ND | µg/L | |
| Trichloroethene | 79-01-6 | 1 | 5.0 | ND | µg/L | |
| 1,1,2-Trichloroethane | 79-00-5 | 1 | 5.0 | ND | µg/L | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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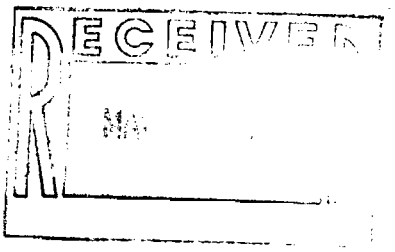
**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-1
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-01C

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| 1,2,3-Trichloropropane | 96-18-4 | 1 | 5.0 | ND | µg/L | |
| Trichlorofluoromethane | 75-69-4 | 1 | 5.0 | ND | µg/L | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 1 | 5.0 | ND | µg/L | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 1 | 5.0 | ND | µg/L | |
| Vinyl acetate | 108-05-4 | 1 | 5.0 | ND | µg/L | |
| Vinyl chloride | 75-01-4 | 1 | 5.0 | ND | µg/L | |
| m,p-Xylene | 1330-20-7 | 1 | 10 | ND | µg/L | |
| o-Xylene | 95-47-6 | 1 | 5.0 | ND | µg/L | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 1 | 72.2-115.6 | 98.4 | %REC | |
| Surr: Dibromofluoromethane | 1868-53-7 | 1 | 82.7-126.6 | 106 | %REC | |
| Surr: Toluene-d8 | 2037-26-5 | 1 | 83.8-114.2 | 102 | %REC | |

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H - Est., Holding time exceedance

*3821 Buck Drive, Cortland, NY 13045-5150*
*Tel 607.753.3403 Fax 607.753.3415*

BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

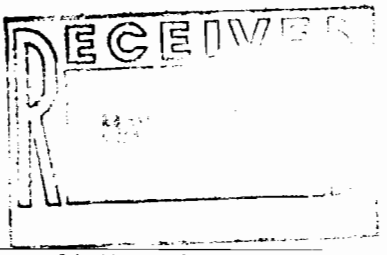
**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-2
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-02A

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **STARS SEMIVOLATILES BY EPA 8270** | | Analyst: **JK** | Analysis Date: **05/22/00** | | | |
| Acenaphthene | 83-32-9 | 1 | 10 | ND | µg/L | |
| Acenaphthylene | 208-96-8 | 1 | 10 | ND | µg/L | |
| Anthracene | 120-12-7 | 1 | 10 | ND | µg/L | |
| Benz(a)anthracene | 56-55-3 | 1 | 10 | ND | µg/L | |
| Benzo(a)pyrene | 50-32-8 | 1 | 10 | ND | µg/L | |
| Benzo(b)fluoranthene | 205-99-2 | 1 | 10 | ND | µg/L | |
| Benzo(g,h,i)perylene | 191-24-2 | 1 | 10 | ND | µg/L | |
| Benzo(k)fluoranthene | 207-08-9 | 1 | 10 | ND | µg/L | |
| Chrysene | 218-01-9 | 1 | 10 | ND | µg/L | |
| Dibenz(a,h)anthracene | 53-70-3 | 1 | 10 | ND | µg/L | |
| Fluoranthene | 206-44-0 | 1 | 10 | ND | µg/L | |
| Fluorene | 86-73-7 | 1 | 10 | ND | µg/L | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 1 | 10 | ND | µg/L | |
| Naphthalene | 91-20-3 | 1 | 10 | ND | µg/L | |
| Phenanthrene | 85-01-8 | 1 | 10 | ND | µg/L | |
| Pyrene | 129-00-0 | 1 | 10 | ND | µg/L | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 1 | 10-102.8 | 30.0 | %REC | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 1 | 10-111.7 | 34.1 | %REC | |
| Surr: Terphenyl-d14 | 98904-43-9 | 1 | 10-156.4 | 40.8 | %REC | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

**Abbreviations:**
ND - Not Detected at the Reporting Limit
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BUCK
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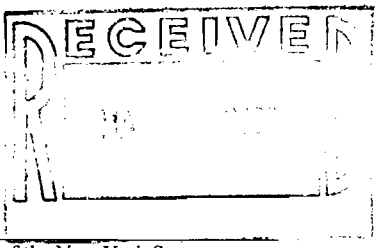
**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-2
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-02B

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **MERCURY, TOTAL** | | Analyst: **MB** | Analysis Date: **05/22/00** | | | |
| Mercury | 7439-97-6 | 10 | 0.00400 | **0.0102** | mg/L | |
| **METALS BY ICP** | | Analyst: **MB** | Analysis Date: **05/24/00** | | | |
| Arsenic | 7440-38-2 | 1 | 0.0250 | **0.0378** | mg/L | |
| Barium | 7440-39-3 | 1 | 0.0450 | **3.85** | mg/L | |
| Cadmium | 7440-43-9 | 1 | 0.00500 | **0.0180** | mg/L | |
| Chromium | 7440-47-3 | 1 | 0.00500 | **0.322** | mg/L | |
| Lead | 7439-92-1 | 1 | 0.00500 | **2.43** | mg/L | |
| Selenium | 7782-49-2 | 1 | 0.0200 | **ND** | mg/L | |
| Silver | 7440-22-4 | 1 | 0.0150 | **ND** | mg/L | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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BUCK
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*accredited environmental analysis*

**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-2
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-02C

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **GC/MS VOLATILES BY EPA 8260** | | Analyst: **PI** | Analysis Date: **05/16/00** | | | |
| Acetone | 67-64-1 | 1 | 25 | ND | µg/L | |
| Benzene | 71-43-2 | 1 | 5.0 | ND | µg/L | |
| Bromobenzene | 108-86-1 | 1 | 5.0 | ND | µg/L | |
| Bromochloromethane | 74-97-5 | 1 | 5.0 | ND | µg/L | |
| Bromodichloromethane | 75-27-4 | 1 | 5.0 | ND | µg/L | |
| Bromoform | 75-25-2 | 1 | 5.0 | ND | µg/L | |
| Bromomethane | 74-83-9 | 1 | 5.0 | ND | µg/L | |
| 2-Butanone | 78-93-3 | 1 | 25 | ND | µg/L | |
| n-Butylbenzene | 104-51-8 | 1 | 5.0 | ND | µg/L | |
| sec-Butylbenzene | 135-98-8 | 1 | 5.0 | ND | µg/L | |
| tert-Butylbenzene | 98-06-6 | 1 | 5.0 | ND | µg/L | |
| Carbon disulfide | 75-15-0 | 1 | 5.0 | ND | µg/L | |
| Carbon tetrachloride | 56-23-5 | 1 | 5.0 | ND | µg/L | |
| Chlorobenzene | 108-90-7 | 1 | 5.0 | ND | µg/L | |
| Chloroethane | 75-00-3 | 1 | 5.0 | ND | µg/L | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 1 | 5.0 | ND | µg/L | |
| Chloroform | 67-66-3 | 1 | 5.0 | **5.3** | µg/L | |
| Chloromethane | 74-87-3 | 1 | 5.0 | ND | µg/L | |
| 2-Chlorotoluene | 95-49-8 | 1 | 5.0 | ND | µg/L | |
| 4-Chlorotoluene | 106-43-4 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 1 | 5.0 | ND | µg/L | |
| Dibromochloromethane | 124-48-1 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dibromoethane | 106-93-4 | 1 | 5.0 | ND | µg/L | |
| Dibromomethane | 74-95-3 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dichlorobenzene | 95-50-1 | 1 | 5.0 | ND | µg/L | |
| 1,3-Dichlorobenzene | 541-73-1 | 1 | 5.0 | ND | µg/L | |
| 1,4-Dichlorobenzene | 106-46-7 | 1 | 5.0 | ND | µg/L | |
| Dichlorodifluoromethane | 75-71-8 | 1 | 5.0 | ND | µg/L | |
| 1,1-Dichloroethane | 75-34-3 | 1 | 5.0 | ND | µg/L | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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E - Est., Value exceeds quantitation range
H - Est., Holding time exceedance

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BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-2
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-02C

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 107-06-2 | 1 | 5.0 | ND | µg/L | |
| 1,1-Dichloroethene | 75-35-4 | 1 | 5.0 | ND | µg/L | |
| cis-1,2-Dichloroethene | 156-59-2 | 1 | 5.0 | ND | µg/L | |
| trans-1,2-Dichloroethene | 156-60-5 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dichloropropane | 78-87-5 | 1 | 5.0 | ND | µg/L | |
| 1,3-Dichloropropane | 142-28-9 | 1 | 5.0 | ND | µg/L | |
| 2,2-Dichloropropane | 590-20-7 | 1 | 5.0 | ND | µg/L | |
| cis-1,3-Dichloropropene | 10061-01-5 | 1 | 5.0 | ND | µg/L | |
| trans-1,3-Dichloropropene | 10061-02-6 | 1 | 5.0 | ND | µg/L | |
| Hexachlorobutadiene | 87-68-3 | 1 | 5.0 | ND | µg/L | |
| Ethylbenzene | 100-41-4 | 1 | 5.0 | ND | µg/L | |
| 1,1-Dichloropropene | 563-58-6 | 1 | 5.0 | ND | µg/L | |
| 2-Hexanone | 591-78-6 | 1 | 25 | ND | µg/L | |
| Methylene chloride | 75-09-2 | 1 | 5.0 | ND | µg/L | |
| 4-Isopropyltoluene | 99-87-6 | 1 | 5.0 | ND | µg/L | |
| Methyl tert-butyl ether | 1634-04-4 | 1 | 5.0 | ND | µg/L | |
| 4-Methyl-2-pentanone | 108-10-1 | 1 | 25 | ND | µg/L | |
| n-Propylbenzene | 103-65-1 | 1 | 5.0 | ND | µg/L | |
| Styrene | 100-42-5 | 1 | 5.0 | ND | µg/L | |
| Isopropylbenzene | 98-82-8 | 1 | 5.0 | ND | µg/L | |
| Naphthalene | 91-20-3 | 1 | 5.0 | ND | µg/L | |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 1 | 5.0 | ND | µg/L | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 1 | 5.0 | ND | µg/L | |
| Tetrachloroethene | 127-18-4 | 1 | 5.0 | ND | µg/L | |
| Toluene | 108-88-3 | 1 | 5.0 | ND | µg/L | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 1 | 5.0 | ND | µg/L | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 1 | 5.0 | ND | µg/L | |
| 1,1,1-Trichloroethane | 71-55-6 | 1 | 5.0 | ND | µg/L | |
| Trichloroethene | 79-01-6 | 1 | 5.0 | ND | µg/L | |
| 1,1,2-Trichloroethane | 79-00-5 | 1 | 5.0 | ND | µg/L | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

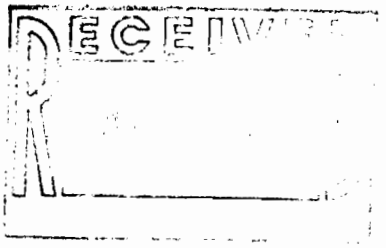
**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-2
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-02C

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| 1,2,3-Trichloropropane | 96-18-4 | 1 | 5.0 | ND | µg/L | |
| Trichlorofluoromethane | 75-69-4 | 1 | 5.0 | ND | µg/L | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 1 | 5.0 | ND | µg/L | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 1 | 5.0 | ND | µg/L | |
| Vinyl acetate | 108-05-4 | 1 | 5.0 | ND | µg/L | |
| Vinyl chloride | 75-01-4 | 1 | 5.0 | ND | µg/L | |
| m,p-Xylene | 1330-20-7 | 1 | 10 | ND | µg/L | |
| o-Xylene | 95-47-6 | 1 | 5.0 | ND | µg/L | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 1 | 72.2-115.6 | 98.4 | %REC | |
| Surr: Dibromofluoromethane | 1868-53-7 | 1 | 82.7-126.6 | 102 | %REC | |
| Surr: Toluene-d8 | 2037-26-5 | 1 | 83.8-114.2 | 88.2 | %REC | |



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**NYSDOH ELAP #10795**

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BUCK
ENVIRONMENTAL LABORATORIES, INC.
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**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-3
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-03A

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **STARS SEMIVOLATILES BY EPA 8270** | | Analyst: **JK** | Analysis Date: **05/22/00** | | | |
| Acenaphthene | 83-32-9 | 1 | 11 | ND | µg/L | |
| Acenaphthylene | 208-96-8 | 1 | 11 | ND | µg/L | |
| Anthracene | 120-12-7 | 1 | 11 | ND | µg/L | |
| Benz(a)anthracene | 56-55-3 | 1 | 11 | ND | µg/L | |
| Benzo(a)pyrene | 50-32-8 | 1 | 11 | ND | µg/L | |
| Benzo(b)fluoranthene | 205-99-2 | 1 | 11 | ND | µg/L | |
| Benzo(g,h,i)perylene | 191-24-2 | 1 | 11 | ND | µg/L | |
| Benzo(k)fluoranthene | 207-08-9 | 1 | 11 | ND | µg/L | |
| Chrysene | 218-01-9 | 1 | 11 | ND | µg/L | |
| Dibenz(a,h)anthracene | 53-70-3 | 1 | 11 | ND | µg/L | |
| Fluoranthene | 206-44-0 | 1 | 11 | ND | µg/L | |
| Fluorene | 86-73-7 | 1 | 11 | ND | µg/L | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 1 | 11 | ND | µg/L | |
| Naphthalene | 91-20-3 | 1 | 11 | ND | µg/L | |
| Phenanthrene | 85-01-8 | 1 | 11 | ND | µg/L | |
| Pyrene | 129-00-0 | 1 | 11 | ND | µg/L | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 1 | 10-102.8 | 46.7 | %REC | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 1 | 10-111.7 | 54.1 | %REC | |
| Surr: Terphenyl-d14 | 98904-43-9 | 1 | 10-156.4 | 50.5 | %REC | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-3
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-03B

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **MERCURY, TOTAL** | | Analyst: **MB** | Analysis Date: **05/22/00** | | | |
| Mercury | 7439-97-6 | 10 | 0.00400 | **0.0251** | mg/L | |
| **METALS BY ICP** | | Analyst: **MB** | Analysis Date: **05/24/00** | | | |
| Arsenic | 7440-38-2 | 1 | 0.0250 | **0.117** | mg/L | |
| Barium | 7440-39-3 | 1 | 0.0450 | **0.847** | mg/L | |
| Cadmium | 7440-43-9 | 1 | 0.00500 | **0.0270** | mg/L | |
| Chromium | 7440-47-3 | 1 | 0.00500 | **0.609** | mg/L | |
| Lead | 7439-92-1 | 1 | 0.00500 | **0.894** | mg/L | |
| Selenium | 7782-49-2 | 1 | 0.0200 | ND | mg/L | |
| Silver | 7440-22-4 | 1 | 0.0150 | ND | mg/L | |

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**NYSDOH ELAP #10795**

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**Laboratory Director**

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BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-3
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-03C

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **GC/MS VOLATILES BY EPA 8260** | | Analyst: **PI** | Analysis Date: **05/16/00** | | | |
| Acetone | 67-64-1 | 1 | 25 | ND | µg/L | |
| Benzene | 71-43-2 | 1 | 5.0 | ND | µg/L | |
| Bromobenzene | 108-86-1 | 1 | 5.0 | ND | µg/L | |
| Bromochloromethane | 74-97-5 | 1 | 5.0 | ND | µg/L | |
| Bromodichloromethane | 75-27-4 | 1 | 5.0 | ND | µg/L | |
| Bromoform | 75-25-2 | 1 | 5.0 | ND | µg/L | |
| Bromomethane | 74-83-9 | 1 | 5.0 | ND | µg/L | |
| 2-Butanone | 78-93-3 | 1 | 25 | ND | µg/L | |
| n-Butylbenzene | 104-51-8 | 1 | 5.0 | ND | µg/L | |
| sec-Butylbenzene | 135-98-8 | 1 | 5.0 | ND | µg/L | |
| tert-Butylbenzene | 98-06-6 | 1 | 5.0 | ND | µg/L | |
| Carbon disulfide | 75-15-0 | 1 | 5.0 | ND | µg/L | |
| Carbon tetrachloride | 56-23-5 | 1 | 5.0 | ND | µg/L | |
| Chlorobenzene | 108-90-7 | 1 | 5.0 | ND | µg/L | |
| Chloroethane | 75-00-3 | 1 | 5.0 | ND | µg/L | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 1 | 5.0 | ND | µg/L | |
| Chloroform | 67-66-3 | 1 | 5.0 | ND | µg/L | |
| Chloromethane | 74-87-3 | 1 | 5.0 | ND | µg/L | |
| 2-Chlorotoluene | 95-49-8 | 1 | 5.0 | ND | µg/L | |
| 4-Chlorotoluene | 106-43-4 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 1 | 5.0 | ND | µg/L | |
| Dibromochloromethane | 124-48-1 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dibromoethane | 106-93-4 | 1 | 5.0 | ND | µg/L | |
| Dibromomethane | 74-95-3 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dichlorobenzene | 95-50-1 | 1 | 5.0 | ND | µg/L | |
| 1,3-Dichlorobenzene | 541-73-1 | 1 | 5.0 | ND | µg/L | |
| 1,4-Dichlorobenzene | 106-46-7 | 1 | 5.0 | ND | µg/L | |
| Dichlorodifluoromethane | 75-71-8 | 1 | 5.0 | ND | µg/L | |
| 1,1-Dichloroethane | 75-34-3 | 1 | 5.0 | ND | µg/L | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

**Abbreviations:**
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Est., Value exceeds quantitation range
H - Est., Holding time exceedance

*3821 Buck Drive, Cortland, NY 13045-5150*
*Tel 607.753.3403 Fax 607.753.3415*

BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-3
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-03C

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 107-06-2 | 1 | 5.0 | ND | µg/L | |
| 1,1-Dichloroethene | 75-35-4 | 1 | 5.0 | ND | µg/L | |
| cis-1,2-Dichloroethene | 156-59-2 | 1 | 5.0 | ND | µg/L | |
| trans-1,2-Dichloroethene | 156-60-5 | 1 | 5.0 | ND | µg/L | |
| 1,2-Dichloropropane | 78-87-5 | 1 | 5.0 | ND | µg/L | |
| 1,3-Dichloropropane | 142-28-9 | 1 | 5.0 | ND | µg/L | |
| 2,2-Dichloropropane | 590-20-7 | 1 | 5.0 | ND | µg/L | |
| cis-1,3-Dichloropropene | 10061-01-5 | 1 | 5.0 | ND | µg/L | |
| trans-1,3-Dichloropropene | 10061-02-6 | 1 | 5.0 | ND | µg/L | |
| Hexachlorobutadiene | 87-68-3 | 1 | 5.0 | ND | µg/L | |
| Ethylbenzene | 100-41-4 | 1 | 5.0 | ND | µg/L | |
| 1,1-Dichloropropene | 563-58-6 | 1 | 5.0 | ND | µg/L | |
| 2-Hexanone | 591-78-6 | 1 | 25 | ND | µg/L | |
| Methylene chloride | 75-09-2 | 1 | 5.0 | ND | µg/L | |
| 4-Isopropyltoluene | 99-87-6 | 1 | 5.0 | ND | µg/L | |
| Methyl tert-butyl ether | 1634-04-4 | 1 | 5.0 | ND | µg/L | |
| 4-Methyl-2-pentanone | 108-10-1 | 1 | 25 | ND | µg/L | |
| n-Propylbenzene | 103-65-1 | 1 | 5.0 | ND | µg/L | |
| Styrene | 100-42-5 | 1 | 5.0 | ND | µg/L | |
| Isopropylbenzene | 98-82-8 | 1 | 5.0 | ND | µg/L | |
| Naphthalene | 91-20-3 | 1 | 5.0 | ND | µg/L | |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 1 | 5.0 | ND | µg/L | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 1 | 5.0 | ND | µg/L | |
| Tetrachloroethene | 127-18-4 | 1 | 5.0 | ND | µg/L | |
| Toluene | 108-88-3 | 1 | 5.0 | ND | µg/L | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 1 | 5.0 | ND | µg/L | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 1 | 5.0 | ND | µg/L | |
| 1,1,1-Trichloroethane | 71-55-6 | 1 | 5.0 | ND | µg/L | |
| Trichloroethene | 79-01-6 | 1 | 5.0 | ND | µg/L | |
| 1,1,2-Trichloroethane | 79-00-5 | 1 | 5.0 | ND | µg/L | |

This laboratory analysis has been performed in accordance with generally accepted laboratory practices and requirements of the New York State Department of Health ELAP Program. Buck Environmental Laboratories, Inc. makes no recommendations, representations or warranties other than as specifically set forth in this report and shall not be responsible or liable for any action or the consequences of any action taken in connection with this report.

**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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*3821 Buck Drive, Cortland, NY 13045-5150*
*Tel 607.753.3403 Fax 607.753.3415*

BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

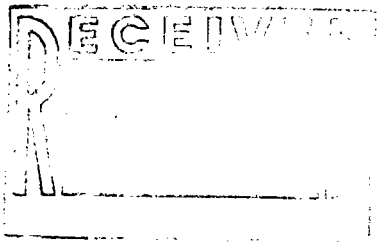
**Report Date:** *25-May-00*
**Lab Log No:** 0005141

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-3
**Sampled By:** J. N.
**Collection Date:** 05/09/00
**Received at Lab:** 05/10/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005141-03C

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| 1,2,3-Trichloropropane | 96-18-4 | 1 | 5.0 | ND | µg/L | |
| Trichlorofluoromethane | 75-69-4 | 1 | 5.0 | ND | µg/L | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 1 | 5.0 | ND | µg/L | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 1 | 5.0 | ND | µg/L | |
| Vinyl acetate | 108-05-4 | 1 | 5.0 | ND | µg/L | |
| Vinyl chloride | 75-01-4 | 1 | 5.0 | ND | µg/L | |
| m,p-Xylene | 1330-20-7 | 1 | 10 | ND | µg/L | |
| o-Xylene | 95-47-6 | 1 | 5.0 | ND | µg/L | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 1 | 72.2-115.6 | 99.0 | %REC | |
| Surr: Dibromofluoromethane | 1868-53-7 | 1 | 82.7-126.6 | 104 | %REC | |
| Surr: Toluene-d8 | 2037-26-5 | 1 | 83.8-114.2 | 97.8 | %REC | |



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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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***3821 Buck Drive, Cortland, NY 13045-5150***
***Tel 607.753.3403 Fax 607.753.3415***

B U C K
ENVIRONMENTAL LABORATORIES, INC.

May 25, 2000

Mr. Nossal
GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080
TEL: (607) 836-4400
FAX: (607) 836-4403

RE: 200048 Order No.: 0005141

Dear Mr. Nossal,

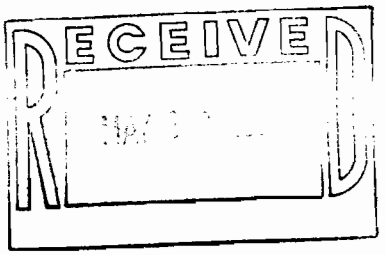
Buck Environmental Labs, Inc. received 3 samples on 05/10/00 for the analyses presented in the following report.

The analytical results for your samples are presented on the enclosed laboratory report(s). In accordance with NYSDOH-ELAP and NELAC regulations, we are required to notify you of any aspects of the analysis that did not comply with these regulations. A summary of problems, notations, and non-compliant parameters is presented on the attached "Narrative". Any data qualifiers are noted on the laboratory report. The Laboratory also maintains a "Sample Receipt Checklist" and the submitted "Chain of Custody" forms in its files that are available upon request.

Thank you for the opportunity to provide these analytical services. Please contact Pamela Brown, Client Services Manager, or Barbara Houskamp, QA/QC Manager, with questions on the analysis.

Sincerely,

John H. Buck, P.E.
Laboratory Director
ELAP Lab ID # 10795




CC:

3821 Buck Drive, P.O. Box 5150, Cortland, NY 13045 • 607.753.3403 fax 607.753.3415
Branch Office: 14 Smith Avenue, Binghamton, NY 13904 • 607.771.0866 fax 607.771.0966

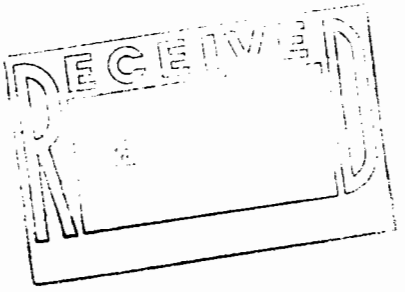
**Buck Environmental Labs, Inc.** **Date:** *25-May-00*

**CLIENT:** GEOLOGIC NY, INC
**Project:** 200048
**Lab Order:** 0005141

# CASE NARRATIVE

Samples were analyzed using Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition or other methods specifically approved by NYSDOH-ELAP.

All quality control parameters for the analyses in this log number met the laboratory acceptance limits and no data were qualified.



B U C K
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

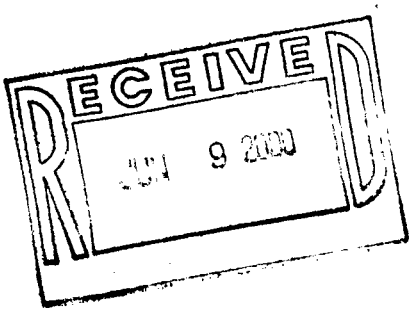
**Report Date:** *07-Jun-00*
**Lab Log No:** 0005396

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-1
**Sampled By:** J.N.
**Collection Date:** 05/30/00
**Received at Lab:** 05/31/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005396-01A

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **MERCURY, TOTAL** | | Analyst: **MB** | Analysis Date: **06/07/00** | | | |
| Mercury | 7439-97-6 | 1 | 0.000400 | ND | mg/L | |
| **METALS BY ICP** | | Analyst: **MB** | Analysis Date: **06/05/00** | | | |
| Arsenic | 7440-38-2 | 1 | 0.0250 | ND | mg/L | |
| Barium | 7440-39-3 | 1 | 0.0450 | **0.0829** | mg/L | |
| Cadmium | 7440-43-9 | 1 | 0.00500 | ND | mg/L | |
| Chromium | 7440-47-3 | 1 | 0.00500 | ND | mg/L | |
| Lead | 7439-92-1 | 1 | 0.00500 | **0.00538** | mg/L | |
| Selenium | 7782-49-2 | 1 | 0.0200 | ND | mg/L | |
| Silver | 7440-22-4 | 1 | 0.0150 | ND | mg/L | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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H - Est., Holding time exceedance

*3821 Buck Drive, Cortland, NY 13045-5150*
*Tel 607.753.3403 Fax 607.753.3415*

BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *07-Jun-00*
**Lab Log No:** 0005396

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-2
**Sampled By:** J.N.
**Collection Date:** 05/30/00
**Received at Lab:** 05/31/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005396-02A

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **MERCURY, TOTAL** | | Analyst: **MB** | Analysis Date: **06/07/00** | | | |
| Mercury | 7439-97-6 | 1 | 0.000400 | ND | mg/L | |
| **METALS BY ICP** | | Analyst: **MB** | Analysis Date: **06/05/00** | | | |
| Arsenic | 7440-38-2 | 1 | 0.0250 | ND | mg/L | |
| Barium | 7440-39-3 | 1 | 0.0450 | ND | mg/L | |
| Cadmium | 7440-43-9 | 1 | 0.00500 | ND | mg/L | |
| Chromium | 7440-47-3 | 1 | 0.00500 | ND | mg/L | |
| Lead | 7439-92-1 | 1 | 0.00500 | ND | mg/L | |
| Selenium | 7782-49-2 | 1 | 0.0200 | ND | mg/L | |
| Silver | 7440-22-4 | 1 | 0.0150 | ND | mg/L | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *07-Jun-00*
**Lab Log No:** 0005396

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** MW-3
**Sampled By:** J.N.
**Collection Date:** 05/30/00
**Received at Lab:** 05/31/00
**Matrix:** AQUEOUS

**Project:** 200048
**Lab ID:** 0005396-03A

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **MERCURY, TOTAL** | | Analyst: **MB** | Analysis Date: **06/07/00** | | | |
| Mercury | 7439-97-6 | 1 | 0.000400 | ND | mg/L | |
| **METALS BY ICP** | | Analyst: **MB** | Analysis Date: **06/05/00** | | | |
| Arsenic | 7440-38-2 | 1 | 0.0250 | ND | mg/L | |
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| Cadmium | 7440-43-9 | 1 | 0.00500 | ND | mg/L | |
| Chromium | 7440-47-3 | 1 | 0.00500 | **ND** | mg/L | |
| Lead | 7439-92-1 | 1 | 0.00500 | **0.00557** | mg/L | |
| Selenium | 7782-49-2 | 1 | 0.0200 | **ND** | mg/L | |
| Silver | 7440-22-4 | 1 | 0.0150 | **ND** | mg/L | |

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**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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*3821 Buck Drive, Cortland, NY 13045-5150*
*Tel 607.753.3403 Fax 607.753.3415*

B U C K
ENVIRONMENTAL LABORATORIES, INC.
accredited environmental analysis

June 07, 2000

Mr. Nossal
GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080
TEL: (607) 836-4400
FAX: (607) 836-4403

RE: 200048 Order No.: 0005396

Dear Mr. Nossal,

Buck Environmental Labs, Inc. received 3 samples on 05/31/00 for the analyses presented in the following report.

The analytical results for your samples are presented on the enclosed laboratory report(s). In accordance with NYSDOH-ELAP and NELAC regulations, we are required to notify you of any aspects of the analysis that did not comply with these regulations. A summary of problems, notations, and non-compliant parameters is presented on the attached "Narrative". Any data qualifiers are noted on the laboratory report. The Laboratory also maintains a "Sample Receipt Checklist" and the submitted "Chain of Custody" forms in its files that are available upon request.

Thank you for the opportunity to provide these analytical services. Please contact Pamela Brown, Client Services Manager, or Barbara Houskamp, QA/QC Manager, with questions on the analysis.

Sincerely,

John H. Buck, P.E.
Laboratory Director
ELAP Lab ID # 10795

CC:

RECEIVED
JUN 9 2000

**Buck Environmental Labs, Inc.**

**Date:** *07-Jun-00*

**CLIENT:** GEOLOGIC NY, INC
**Project:** 200048
**Lab Order:** 0005396

# CASE NARRATIVE

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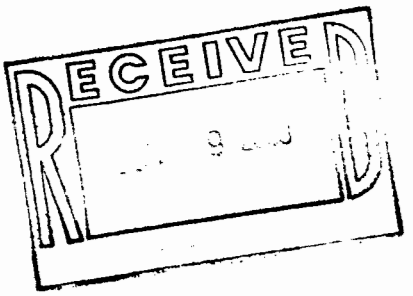

# NYSDEC SPILL REPORT FORM

DEC REGION# 7 (Kirkwood) SPILL NUMBER 0065067

SPILL NAME: FORMER VAIL-BALLOU PRESS DEC LEAD: JOS

CALLER'S NAME: JOE NOSSAL NOTIFIER'S NAME: JOE NOSSAL

CALLER'S AGENCY: GEOLOGIC OF NY NOTIFIER'S AGENCY: GEOLOGIC OF NY

CALLER'S PHONE: (607) 836-4400 EXT. NOTIFIER'S PHONE: (607) 836-4400 EXT.

SPILL DATE: 07/06/2000 TIME: 12:00

CALL RECEIVED DATE: 07/24/2000 TIME: 12:00 RECEIVED BY CID #:

| | Material Spilled | Mat. Class | Am't Spilled | Units | Am't Recovered |
|---|---|---|---|---|---|
| 1) | #2 FUEL OIL | (Pet)-Haz-Other-Unk. | Unknown | (Gal) - Lbs | Unknown |
| 2) | | Pet-Haz-Other-Unk. | | Gal - Lbs | |
| 3) | | Pet-Haz-Other-Unk. | | Gal - Lbs | |
| 4) | | Pet-Haz-Other-Unk. | | Gal - Lbs | |

## SPILL LOCATION

PLACE: FORMER VAIL-BALLOU PRESS

STREET: 187 CLINTON STREET

T/C/V: BINGHAMTON CO: BROOME

CONTACT:

PHONE: EXT.

## POTENTIAL SPILLER

NAME: UNKNOWN

STREET:

CITY:

STATE: ZIP: -

CONTACT:

PHONE: ( ) - EXT.

## SPILL CAUSE

| | | |
|---|---|---|
| Human Error | Tank Test Failure* | (Tank Failure) |
| Traffic Accident | Housekeeping | Tank Overfill |
| Equipment Failure | Deliberate | Other |
| Vandalism | Abandoned Drums | Unknown |

## SPILL SOURCE

| | | |
|---|---|---|
| Gas Station | Private Dwelling | Non-Maj Facility |
| Passenger Vehicle | Vessel | (Comm/Indust) |
| Comm. Vehicle | Railroad Car | Non-Comm/Instit |
| Tank Truck | Major Facility | Unknown |

## RESOURCE AFFECTED

| | | |
|---|---|---|
| (On Land) | Groundwater | Air |
| In Sewer | Surface Water** | |

**WATERBODY:

## SPILL REPORTED BY

| | | |
|---|---|---|
| (Responsible Party) | Tank Tester | Local Agency |
| Affected Persons | DEC | Federal Gov't |
| Police Department | Citizen | Other |
| Fire Department | Health Dept. | |

CALLER REMARKS: UST'S REMOVED FROM SITE. SOIL SAMPLE RESULTS FOUND LOW LEVAL PETROLEUM CONTAMINATION IN SOIL . BELOW STARS GUIDANCES VALUES.

| *PBS Number | Tank Number | Tank Size | Test Method | Leak Rate |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

PRIMARY CONTACT CALLED DATE: TIME: hrs. REACHED DATE: TIME: hrs.

SECONDARY CONT. CALLED DATE: TIME: hrs. FAXED BY CID#:

| | | | | |
|---|---|---|---|---|
| PIN # | T & A | Cost Center | ISR to Central Office | |
| Cleanup Ceased | Meets St'ds NO | Last Inspection 07/06/2000 | Penalty NO | |
| RP-CUI | ENF-INIT | INVES-COM | CAP | |
| UST Trust Eligible NO | Site: A B C (D) E | Resp. Party 1 2 (3) 4 5 6 | Reg Close Date | |

Created on 07/28/2000 Last Updated on 07/28/2000 Is Updated? YES EDO DATA INPUT [ ]

Date Printed: 07/28/2000

PrintFor 1/9/98 AAA

**New York State Department of Environmental Conservation**
**Region 7 - Kirkwood Sub-Office**
**1679 NY Route 11**
**Kirkwood, New York 13795-1602**
(607) 775-2545
FAX (607) 775-2019

**John P. Cahill**
**Commissioner**

COVER SHEET

# FAX

**IMMEDIATE ATTENTION**

**TO:** Geologic ATTN: Joe Nossal

**FROM:** John O.
**REGION 7 KIRKWOOD OFFICE - SPILL RESPONSE**

**DATE:** 8/16/00

**NUMBER OF PAGES** 1 **PLUS COVER**

**MESSAGE:** Letter Concering former Vail-Balka.

C:\OFFICE\WPWIN\WPDOCS\FORMS\FAX.WPD

**New York State Department of Environmental Conservation**
**Division of Environmental Remediation, Region 7**
**Spill Prevention and Response**
1679 NY Route 11, Kirkwood, New York 13795-1602
**Phone:** (607) 775-2545 • **FAX:** (607) 775-2019
**Website:** www.dec.state.ny.us

John P. Cahill
Commissioner

August 16, 2000

FILE COPY

GeoLogic NY, Inc.
P.O. Box 5080
Cortland, NY 13045

Attn: Mr. Joseph Nossal

RE: Spill # 00-65067
Former Vail-Ballou Press Inc. - Tank Removal
187 Clinton Street
Binghamton - Broome County

Dear Mr. Nossal :

This office is in receipt of GeoLogic NY Inc. July 19, 2000 Tank Removal Report concerning the above referenced location. Upon review of the soil sample results, it has been concluded that all compounds analyzed were found to be below Soil Guidance Values determined by the NYSDEC Petroleum-Contaminated Soil Guidance Policy (STARS Memo # 1).

Based on the above information, this department is not requiring any further work and considers the above referenced spill closed.

Be advised, the tanks in question are regulated within our Petroleum Bulk Storage program and must be properly registered by the owner. If you have any questions regarding the above mentioned, please contact John Okesson at 607-775-2545.

Very truly yours,

Gary L. Peterson, P.E.
Region 7 - Kirkwood Spill Engineer

GLP/jeo
C:\OFFICE\WPWIN\WPDOCS\OKEY\0065067.A

cc: Mr. Brian Kradjian

GeoLogic

GeoLogic NY, Inc. P.O. Box 5080 • Cortland, NY 13045 • 607.836.4400 • Fax: 607.836.4403

July 19, 2000

Mr. Brian Kradjian
Kradjian Properties
84 Court Street, Suite 600
Binghamton, NY 13901-3316

Reference: Former Vail-Ballou Press, Inc.
187 Clinton Street, Binghamton, New York

Dear Mr. Kradjian:

GeoLogic NY, Inc. was requested by the Kradjian Properties to observe the removal of three underground storage tanks (UST's) at the above referenced site (see Site Location Plan) on July 6, 2000. Attached is the Tank Removal Report that contains the observations made by our personnel during the removal activities. Also attached are the analytical results from the analysis of the soil samples obtained.

The composite sample obtained from the sidewalls and bottom of the fuel oil/naphtha UST excavation was below the NYSDEC STARS guidance values for fuel oil and gasoline contaminated soils. The composite soil sample obtained from the sidewalls and bottom of the gasoline UST excavation was below the NYSDEC STARS guidance values for gasoline-contaminated soils. Copies of the analytical results are attached.

Mr. John Okesson, NYSDEC, was on site to observe the removal of the three UST's. After the UST's were removed and soils samples were obtained and scanned with a photo-ionization detector (PID). Based on the field results, the NYSDEC agreed to place the excavated soil from around the UST's back onto the excavation.

Recommendations:

According to the NYSDEC records, the three UST's referenced in this report had not been registered as required by the NYSDEC. Therefore, the UST's need to be registered with the NYSDEC then officially closed out.

If you have any questions about this report, please contact us at 607-836-4400.

Sincerely,

GeoLogic NY, Inc.
Joseph L. Nossal/JRD
Joseph L. Nossal
Project Manager/Hydrogeologist

Forrest C. Earl
Vice President/Principal Hydrogeologist

Enc: (Tank Removal Report, and Analytical Results)
cc: Mr. John Okesson, NYSDEC
File f:\...\200048\report\tankpull

## TANK REMOVAL REPORT
## Project No. 200048

**Site:** 187 Clinton Street Property.

**Client:** Kradjian Properties.

**Date of Removal Activities:** July 6, 2000.

**Personnel on Site:** Joseph L. Nossal, GeoLogic NY, Inc., and John Okesson, NYSDEC.

**Reason Tank(s) Are Being Removed:** Closure.

**Number of Tanks Removed:** Three (3).

**Description of Soils Encountered:** Sand and Gravel fill underlain by sand and gravel with little silt.

**Dimensions of Excavation:** One excavation divided into two sections.

The fuel oil/naphtha UST excavation was approximately 9 feet wide by 18 feet long by 6.5 feet deep.

The gasoline UST excavation was approximately 9 feet wide by 13 feet long by 6.5 feet deep.

**Depth to Groundwater:** Groundwater was not encountered.

**Was Contamination Encountered?** No.

**Was Free Product Encountered?** No.

**Estimated Volume of Soil Removed:** None.

**Estimated Volume of Contaminated Soil Removed:** None.

**Disposition of Excavated Soil:** The soil was placed back into the excavation.

**Were Any Remedial Components Placed in the Excavation?** No.

**TANK No. 1**

**Capacity:** 275 gallons

**Contents:** Fuel Oil

**Diameter:** 4 feet by 2.5 feet

**Length:** 5 feet

**Construction:** Steel, single-walled

**Physical Condition:** Poor

**Surface Conditions:** Pitted surface with holes

**Depth to Top of Tank:** 3 feet bgs

**Comments:** Holes observed in UST

**Contamination:** A composite soil sample was obtained in the fuel oil/naphtha. The analytical results were below the NYSDEC Guidance values / standards.

**TANK No. 2**

**Capacity:** 1,000 gallons

**Contents:** Naphtha

**Diameter:** 4 feet

**Length:** 11.5 feet

**Construction:** Steel, single-walled

**Physical Condition:** Fair

**Surface Conditions:** Pitted surface

**Depth to Top of Tank:** 2 feet bgs

**Comments:** No holes observed in UST

**Contamination:** A composite soil sample was obtained in the fuel oil/naphtha. The analytical results were below the NYSDEC Guidance values / standards.

**TANK No. 3**

**Capacity:** 1,000 gallons

**Contents:** Gasoline

**Diameter:** 4 feet

**Length:** 11.5 feet

**Construction:** Steel, single-walled

**Physical Condition:** Fair

**Surface Conditions:** Pitted surface

**Depth to Top of Tank:** 2 feet bgs

**Comments:** No holes observed in UST

**Contamination:** A composite soil sample was obtained in the gasoline tank pit. The analytical results were below the NYSDEC Guidance values / standards.

Photo-ionization Detector Readings

Fuel Oil/Naphtha Tank Pit

| Sample Location | Reading (PPM) |
|---|---|
| Sidewall & Bottom composite | 0 ppm |

Gasoline Tank Pit

| Sample Location | Reading (PPM) |
|---|---|
| Sidewall & Bottom composite | 0 ppm |

Analytical Samples

| Sample Description | Testing Requested |
|---|---|
| Soil-Fuel Oil/Naphtha Tank Pit Composite | STARS 8020 & STARS 8270 |
| Soil–Gasoline Tank Pit Composite | STARS 8020 |

**Potential Contaminant Receptors:**

Based on the field readings and the analytical results it is unlikely that the adjoining properties and/or the municipal utility would be impacted.

BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *13-Jul-00*
**Lab Log No:** 0007050

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** F.O/NAPTHA TEST PIT
**Sampled By:** J.N.
**Collection Date:** 07/06/00
**Received at Lab:** 07/07/00
**Matrix:** SOLID

**Project:** 200048
**Lab ID:** 0007050-01A

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **STARS SEMIVOLATILES BY EPA 8270** | | Analyst: PI | Analysis Date: 07/12/00 | | | |
| Acenaphthene | 83-32-9 | 1 | 330 | ND | µg/Kg | |
| Acenaphthylene | 208-96-8 | 1 | 330 | ND | µg/Kg | |
| Anthracene | 120-12-7 | 1 | 330 | ND | µg/Kg | |
| Benz(a)anthracene | 56-55-3 | 1 | 330 | ND | µg/Kg | |
| Benzo(a)pyrene | 50-32-8 | 1 | 330 | ND | µg/Kg | |
| Benzo(b)fluoranthene | 205-99-2 | 1 | 330 | ND | µg/Kg | |
| Benzo(g,h,i)perylene | 191-24-2 | 1 | 330 | ND | µg/Kg | |
| Benzo(k)fluoranthene | 207-08-9 | 1 | 330 | ND | µg/Kg | |
| Chrysene | 218-01-9 | 1 | 330 | ND | µg/Kg | |
| Dibenz(a,h)anthracene | 53-70-3 | 1 | 330 | ND | µg/Kg | |
| Fluoranthene | 206-44-0 | 1 | 330 | ND | µg/Kg | |
| Fluorene | 86-73-7 | 1 | 330 | ND | µg/Kg | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 1 | 330 | ND | µg/Kg | |
| Naphthalene | 91-20-3 | 1 | 330 | ND | µg/Kg | |
| Phenanthrene | 85-01-8 | 1 | 330 | ND | µg/Kg | |
| Pyrene | 129-00-0 | 1 | 330 | ND | µg/Kg | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 1 | 10-113.1 | 32.0 | %REC | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 1 | 10-96.7 | 28.1 | %REC | |
| Surr: Terphenyl-d14 | 98904-43-9 | 1 | 10-156.7 | 35.3 | %REC | |

RECEIVED

This laboratory analysis has been performed in accordance with generally accepted laboratory practices and requirements of the New York State Department of Health ELAP Program. Buck Environmental Laboratories, Inc. makes no recommendations, representations or warranties other than as specifically set forth in this report and shall not be responsible or liable for any action or the consequences of any action taken in connection with this report.

**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

**Abbreviations:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Est., Value exceeds quantitation range
H - Est., Holding time exceedance



***3821 Buck Drive, Cortland, NY 13045-5150***
***Tel 607.753.3403 Fax 607.753.3415***

BUCK
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *13-Jul-00*
**Lab Log No:** 0007050

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** F.O/NAPTHA TEST PIT
**Sampled By:** J.N.
**Collection Date:** 07/06/00
**Received at Lab:** 07/07/00
**Matrix:** SOLID

**Project:** 200048
**Lab ID:** 0007050-01A

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **STARS VOLATILES BY EPA 8021** | | Analyst: **NA** | Analysis Date: **07/13/00** | | | |
| Benzene | 71-43-2 | 1 | 1.0 | ND | µg/Kg | |
| n-Butylbenzene | 104-51-8 | 1 | 1.0 | ND | µg/Kg | |
| sec-Butylbenzene | 135-98-8 | 1 | 1.0 | **2.3** | µg/Kg | |
| tert-Butylbenzene | 98-06-6 | 1 | 1.0 | ND | µg/Kg | |
| Ethylbenzene | 100-41-4 | 1 | 1.0 | ND | µg/Kg | |
| Isopropylbenzene | 98-82-8 | 1 | 1.0 | ND | µg/Kg | |
| p-Isopropyltoluene | 99-87-6 | 1 | 1.0 | **3.8** | µg/Kg | |
| MTBE | 1634-04-4 | 1 | 5.0 | ND | µg/Kg | |
| Naphthalene | 91-20-3 | 1 | 1.0 | **20** | µg/Kg | |
| n-Propylbenzene | 103-65-1 | 1 | 1.0 | ND | µg/Kg | |
| Toluene | 108-88-3 | 1 | 1.0 | ND | µg/Kg | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 1 | 1.0 | **1.4** | µg/Kg | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 1 | 1.0 | ND | µg/Kg | |
| m,p-Xylene | 1330-20-7 | 1 | 2.0 | ND | µg/Kg | |
| o-Xylene | 95-47-6 | 1 | 1.0 | ND | µg/Kg | |
| Surr: PID Surrogate (4BCB) | 106-39-8 | 1 | 41-144 | 68.1 | %REC | |

RECEIVED

This laboratory analysis has been performed in accordance with generally accepted laboratory practices and requirements of the New York State Department of Health ELAP Program. Buck Environmental Laboratories, Inc. makes no recommendations, representations or warranties other than as specifically set forth in this report and shall not be responsible or liable for any action or the consequences of any action taken in connection with this report.

**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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E - Est., Value exceeds quantitation range
H - Est., Holding time exceedance

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*Tel 607.753.3403 Fax 607.753.3415*

B U C K
ENVIRONMENTAL LABORATORIES, INC.
*accredited environmental analysis*

**Report Date:** *13-Jul-00*
**Lab Log No:** 0007050

**CLIENT:** GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080

**Client Sample ID:** GASOLINE TEST PIT
**Sampled By:** J.N.
**Collection Date:** 07/06/00
**Received at Lab:** 07/07/00
**Matrix:** SOLID

**Project:** 200048
**Lab ID:** 0007050-02A

| Analyses | CAS | DF | PQL | Result | Units | Qual |
|---|---|---|---|---|---|---|
| **STARS VOLATILES BY EPA 8021** | | Analyst: **NA** | Analysis Date: **07/13/00** | | | |
| Benzene | 71-43-2 | 1 | 1.0 | ND | µg/Kg | |
| n-Butylbenzene | 104-51-8 | 1 | 1.0 | ND | µg/Kg | |
| sec-Butylbenzene | 135-98-8 | 1 | 1.0 | ND | µg/Kg | |
| tert-Butylbenzene | 98-06-6 | 1 | 1.0 | ND | µg/Kg | |
| Ethylbenzene | 100-41-4 | 1 | 1.0 | ND | µg/Kg | |
| Isopropylbenzene | 98-82-8 | 1 | 1.0 | ND | µg/Kg | |
| p-Isopropyltoluene | 99-87-6 | 1 | 1.0 | ND | µg/Kg | |
| MTBE | 1634-04-4 | 1 | 5.0 | ND | µg/Kg | |
| Naphthalene | 91-20-3 | 1 | 1.0 | ND | µg/Kg | |
| n-Propylbenzene | 103-65-1 | 1 | 1.0 | ND | µg/Kg | |
| Toluene | 108-88-3 | 1 | 1.0 | ND | µg/Kg | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 1 | 1.0 | ND | µg/Kg | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 1 | 1.0 | ND | µg/Kg | |
| m,p-Xylene | 1330-20-7 | 1 | 2.0 | ND | µg/Kg | |
| o-Xylene | 95-47-6 | 1 | 1.0 | ND | µg/Kg | |
| Surr: PID Surrogate (4BCB) | 106-39-8 | 1 | 41-144 | 65.0 | %REC | |

RECEIVED

This laboratory analysis has been performed in accordance with generally accepted laboratory practices and requirements of the New York State Department of Health ELAP Program. Buck Environmental Laboratories, Inc. makes no recommendations, representations or warranties other than as specifically set forth in this report and shall not be responsible or liable for any action or the consequences of any action taken in connection with this report.

**NYSDOH ELAP #10795**

**John H. Buck, P.E.**
**Laboratory Director**

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R - RPD outside accepted recovery limits
E - Est., Value exceeds quantitation range
H - Est., Holding time exceedance

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***Tel 607.753.3403 Fax 607.753.3415***

B U C K
ENVIRONMENTAL LABORATORIES, INC.
accredited environmental analysis

July 13, 2000

Mr. Earl
GEOLOGIC NY, INC
PO BOX 5080
CORTLAND, NY 130455080
TEL: (607) 836-4400
FAX: (607) 836-4403

RE: 200048 Order No.: 0007050

Dear Mr. Earl,

Buck Environmental Labs, Inc. received 2 samples on 07/07/00 for the analyses presented in the following report.

The analytical results for your samples are presented on the enclosed laboratory report(s). In accordance with NYSDOH-ELAP and NELAC regulations, we are required to notify you of any aspects of the analysis that did not comply with these regulations. A summary of problems, notations, and non-compliant parameters is presented on the attached "Narrative". Any data qualifiers are noted on the laboratory report. The Laboratory also maintains a "Sample Receipt Checklist" and the submitted "Chain of Custody" forms in its files that are available upon request.

Thank you for the opportunity to provide these analytical services. Please contact Pamela Brown, Client Services Manager, or Barbara Houskamp, QA/QC Manager, with questions on the analysis.

Sincerely,

John H. Buck, P.E.
Laboratory Director
ELAP Lab ID # 10795

CC:

RECEIVED

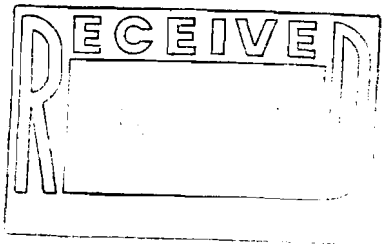
**Buck Environmental Labs, Inc.** **Date:** *13-Jul-00*

**CLIENT:** GEOLOGIC NY, INC
**Project:** 200048
**Lab Order:** 0007050

# CASE NARRATIVE

Samples were analyzed using Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition or other methods specifically approved by NYSDOH-ELAP.

All quality control parameters for the analyses in this log number met the laboratory acceptance limits and no data were qualified.



# APPENDIX H

# Regulatory Review Database Report

# APPENDIX I

# Documentation of Supplemental Phase II Environmental Investigation

GALLAGHER BASSETT | TECHNICAL SERVICES

# PHASE II

# ENVIRONMENTAL INVESTIGATION

## 181-187 and 205 Clinton Street, and 34 Jarvis Street
## City of Binghamton
## Broome County, New York

**February 5, 2024**

**GBTS Project: 23003-0060**

---

22 IBM Road – Suite 101
Poughkeepsie, NY 12601
(845) 452-1658 www.gallagherbassett.com

# PHASE II ENVIRONMENTAL INVESTIGATION

**February 5, 2024**

**GBTS Project: 23003-0060**

**Prepared By:**

**Gallagher Bassett Technical Services**
**22 IBM Road – Suite 101**
**Poughkeepsie, New York 12601**

**Prepared For:**

**Think City Partners, LLC**
**545 Vanderbilt Avenue, 12C**
**Brooklyn, New York 11238**

Environmental investigation services were performed by Gallagher Bassett Technical Services (GBTS). The undersigned have reviewed this Phase II Environmental Investigation and certify to Think City Partners that the information provided in this document is accurate as of the date of issuance by this office.

Szabolcs David
Gallagher Bassett Technical Services
Environmental Technician

Scott Spitzer
Gallagher Bassett Technical Services
Technical Director – Environmental Consulting

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**ATTACHMENTS**

*A Fieldwork Map*

*B Data Summary Tables*

*C Laboratory Reports*

# 1.0 INTRODUCTION

## 1.1 Purpose

This Phase II Environmental Investigation (Report) documents fieldwork performed by Gallagher Bassett Technical Services (GBTS), at the property located at 181-187 and 205 Clinton Street, and 34 Jarvis Street, City of Binghamton, Broome County, New York. Surface soil samples, collected by GBTS in conjunction with a Phase I Environmental Site Assessment (Phase I ESA), were submitted for laboratory analysis to screen for potential contamination conditions resulting from historical commercial uses of the subject property.

This Report describes all fieldwork methodologies for the work conducted by GBTS, includes discussions of the resulting analytical data from collected samples and provides conclusions and recommendations drawn from the fieldwork and analytical data.

## 1.2 Limitations

This written analysis summarizes environmental fieldwork activities conducted on specified portions of the above-referenced property during the indicated fieldwork dates, and is not relevant to other portions of this property or any other property. Environmental services were performed in accordance with generally accepted practices and protocols established by the New York State Department of Environmental Conservation (NYSDEC). Findings, conclusions, and recommendations provided by GBTS are based on professional judgement.

## 1.3 Site Location and Description

The subject property is an approximately 4.3-acre irregularly-shaped parcel comprised of five contiguous commercial lots on the southern side of Clinton Street. A single story commercial building is located on Lot 30 (205 Clinton Street). The remainder of the property is vacant land generally covered by degraded foundation slabs, degraded asphalt paved surfaces, gravel, and over grown vegetation. A Fieldwork Map indicating specific Site characteristics is provided in Attachment A.

## 1.4 Additional Environmental Reports

GBTS issued a Phase I ESA concurrently with this Report, which identified historical commercial uses (including manufacturing) that may have resulted in environmental contamination at the subject property.

# 2.0 SOIL INVESTIGATION

## 2.1 Summary of Services

GBTS collected twenty surface soil samples to screen for the presence or absence of contamination. A map indicating relevant Site information and fieldwork locations is provided as Attachment A.

## 2.2 Fieldwork Activities

General Protocols

GBTS collected samples in general conformance with NYSDEC and New York State Department of Health (NYSDOH) sample collection and decontamination protocols. Field personnel wore dedicated, disposable gloves during fieldwork activities, and any non-dedicated sampling instruments were decontaminated prior to media collection. Soil samples were collected from exposed areas utilizing clean, dedicated tools.

All sample were placed in laboratory-supplied containers and maintained at proper temperatures (using ice-packs and coolers as appropriate) while in GBTS's custody. Samples were transported the following day via courier to York Analytical Laboratories, Inc., a NYSDOH-certified laboratory (ELAP Certification Number 10854) for chemical analyses. Appropriate chain-of-custody procedures were followed.

Surface Soil Sampling

Twenty surface (0-4") soil samples were collected from the property to document potential contamination from metals and/or polycyclic aromatic hydrocarbons (PAHs). Sample locations were determined in the field and were informed by the review of historical data (Sanborn Maps and previous environmental documents) presented in the Phase I ESA.

## 2.3 Laboratory Analysis

### 2.3.1 Standards, Criteria and/or Guidance

Laboratory results for organic compounds and metals in soils are compared to NYSDEC Remedial Program Soil Cleanup Objectives (SCOs) for Unrestricted Use (UU) and Restricted Residential Use (RRU) as provided in 6 NYCRR Subpart 375, Table 375-6.8(a), and (as needed) Soil Cleanup Levels (for gasoline and fuel oil contaminated Soils) presented in NYSDEC CP-51 (Soil Cleanup Guidance, October 2010) Tables 2 through 3.

### 2.3.2 Sample Submission

Twenty samples (eight at Lot 2 and three at each of the remaining lots) were submitted for laboratory analysis. All samples were analyzed for total arsenic, barium, lead, and mercury. Six of the samples from Lot 2 were additionally analyzed for remaining Target Analyte List (TAL) metals and for PAHs. Analysis was via USEPA 6010/7473 (metals) and 8270 (PAHs).

### 2.3.3 Laboratory Results

A summary of the results of the laboratory analyses is presented below. Results are referenced as milligrams per kilogram (parts per million [ppm]). Data summary tables and the laboratory reports are provided as Attachments B and C, respectively.

*PAHs*

PAHs were reported above RRU SCOs in L2SS-07 (multiple compounds, ranging from 1.02 to 4.22 ppm) and L2SS-02 (one low-grade exceedance), collected at the southern portion of Lot 2. Three of the four remaining samples contained PAHs below UU SCOs.

*Metals*

One or more metals were detected above RRU SCOs in 9 of 20 samples (at all subject property lots), including: arsenic (18.1 to 51.5 ppm; SCO 16 ppm); barium (2,550 ppm; SCO 400 ppm); lead (634 to 1,470 ppm; SCO 400 ppm); and, mercury (0.911 ppm; SCO 0.81 ppm). These metals, plus copper, and/or zinc, were reported above UU SCOs in multiple other samples.

## 3.0 CONCLUSIONS AND RECOMMENDATIONS

GBTS has completed the services summarized in Section 2.0 on the Site, located at 181-187 and 205 Clinton Street, and 34 Jarvis Street, City of Binghamton, Broome County, New York. Fieldwork (conducted to document the presence or absence of contamination resulting from historical commercial use) included the collection and laboratory analysis of twenty (20) surface soil samples.

Conclusions, based on the fieldwork services and laboratory data, are as follows:

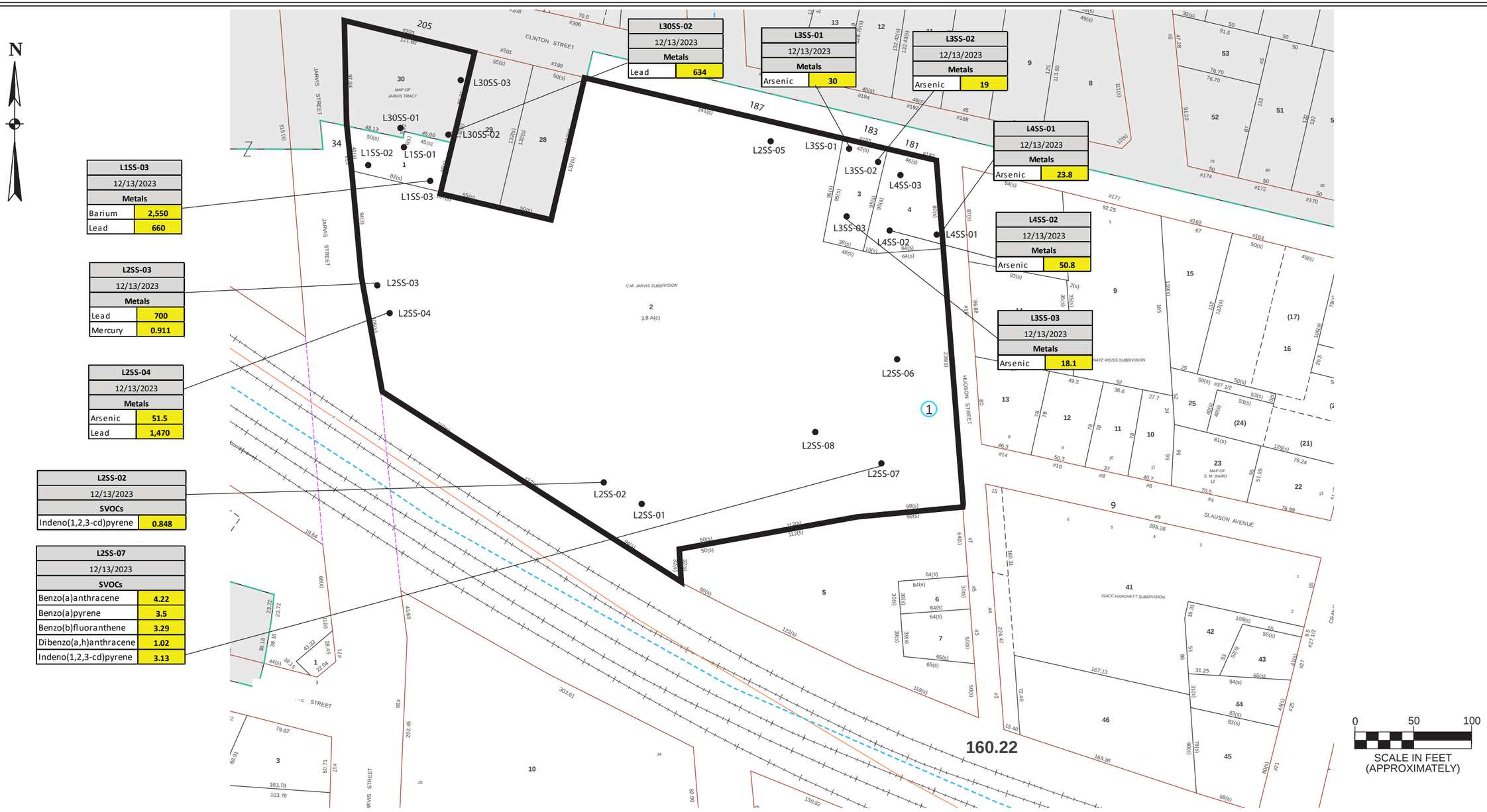
PAH and/or metal contamination has been detected in surface soils (0-4”) throughout the subject property, with 11 sampling locations (covering all five lots) exceeding RRU SCOs. These findings are indicative of impacts from historical commercial operations and/or from demolition of former structures.

**It is recommended that that a comprehensive environmental investigation be performed at the subject property in order to document the presence or absence of contamination in site media (soil, groundwater, and soil vapor).**

# ATTACHMENT A

# Fieldwork Map

GALLAGHER BASSETT | TECHNICAL SERVICES




All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Legend:

- subject property border
- sample location

All data in mg/Kg

**Analyte Above RRU Guidance/SCO**

# Fieldwork Map

181-187 & 205 Clinton Street, 34 Jarvis Street
City of Binghamton
Broome County, New York

File: 23003-0060

Scale as shown

January 2024 | Attachment

# ATTACHMENT B

# Data Summary Tables

**Table 1: PAHs in Soils**
**GBTS Project: 23003-0060**

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | Sample | L2SS-01 | | L2SS-02 | | L2SS-05 | | L2SS-06 | | L2SS-07 | | L2SS-08 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | Date | 2023-12-13 | | 2023-12-13 | | 2023-12-13 | | 2023-12-13 | | 2023-12-13 | | 2023-12-13 | |
| *All data in mg/Kg (ppm)* | | Dilution | 2 | | 10 | | 10 | | 10 | | 10 | | 2 | |
| **PAHs, 8270** | **UU SCO** | **RRU SCO** | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* |
| 2-methylnaphthalene | NA | NA | 0.0438 | *U* | 0.264 | *U* | 0.258 | *U* | 0.252 | *U* | 0.187 | *D* | 0.0473 | *U* |
| acenaphthene | 20 | 100 | 0.0438 | *U* | 0.264 | *U* | 0.258 | *U* | 0.252 | *U* | 0.51 | *D* | 0.0473 | *U* |
| acenaphthylene | 100 | 100 | 0.0438 | *U* | 0.264 | *U* | 0.258 | *U* | 0.252 | *U* | 0.348 | *D* | 0.0473 | *U* |
| anthracene | 100 | 100 | 0.0438 | *U* | 0.264 | *U* | 0.258 | *U* | 0.252 | *U* | 1.83 | *D* | 0.0473 | *U* |
| benzo(a)anthracene | 1 | 1 | 0.0895 | *D* | 0.683 | *D* | 0.258 | *U* | 0.302 | *JD* | **4.22** | *D* | 0.0709 | *JD* |
| benzo(a)pyrene | 1 | 1 | 0.117 | *D* | 0.789 | *D* | 0.258 | *U* | 0.285 | *JD* | **3.5** | *D* | 0.0678 | *JD* |
| benzo(b)fluoranthene | 1 | 1 | 0.125 | *D* | 0.814 | *D* | 0.258 | *U* | 0.354 | *JD* | **3.29** | *D* | 0.0678 | *JD* |
| benzo(g,h,i)perylene | 100 | 100 | 0.0965 | *D* | 0.784 | *D* | 0.258 | *U* | 0.252 | *U* | 2.99 | *D* | 0.0648 | *JD* |
| benzo(k)fluoranthene | 0.8 | 3.9 | 0.111 | *D* | 0.595 | *D* | 0.258 | *U* | 0.252 | *U* | 2.72 | *D* | 0.0709 | *JD* |
| chrysene | 1 | 3.9 | 0.0979 | *D* | 0.658 | *D* | 0.258 | *U* | 0.326 | *JD* | 3.67 | *D* | 0.0686 | *JD* |
| dibenzo(a,h)anthracene | 0.33 | 0.33 | 0.0438 | *U* | 0.264 | *U* | 0.258 | *U* | 0.252 | *U* | **1.02** | *D* | 0.0473 | *U* |
| fluoranthene | 100 | 100 | 0.203 | *D* | 1.41 | *D* | 0.258 | *U* | 0.318 | *JD* | 9.37 | *D* | 0.134 | *D* |
| fluorene | 30 | 100 | 0.0438 | *U* | 0.264 | *U* | 0.258 | *U* | 0.252 | *U* | 0.804 | *D* | 0.0473 | *U* |
| indeno(1,2,3-cd)pyrene | 0.5 | 0.5 | 0.1 | *D* | **0.848** | *D* | 0.258 | *U* | 0.366 | *JD* | **3.13** | *D* | 0.0701 | *JD* |
| naphthalene | 12 | 100 | 0.0438 | *U* | 0.264 | *U* | 0.258 | *U* | 0.252 | *U* | 0.349 | *D* | 0.0473 | *U* |
| phenanthrene | 100 | 100 | 0.0944 | *D* | 0.346 | *JD* | 0.258 | *U* | 0.252 | *U* | 7.1 | *D* | 0.0588 | *JD* |
| pyrene | 100 | 100 | 0.192 | *D* | 0.915 | *D* | 0.258 | *U* | 0.35 | *JD* | 7.3 | *D* | 0.109 | *D* |

Analyte Detected
**Analyte Above UU SCO**
**Analyte Above RRU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Flags: J = approximate E = estimated B = detected in blank D = diluted

## Table 2: TAL Metals in Soils

**GBTS Project: 23003-0060**

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | Sample | L1SS-01 | | L1SS-02 | | L1SS-01 | | L2SS-01 | | L2SS-02 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | Date | 2023-12-13 | | 2023-12-13 | | 2023-12-13 | | 2023-12-13 | | 2023-12-13 | |
| *All data in mg/Kg (ppm)* | | Dilution | 1 | | 1 | | 1 | | 1 | | 1 | |
| **Metals, 6010 and 7473** | **UU SCO** | **RRU SCO** | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* |
| aluminum | NA | NA | **NA** | | **NA** | | **NA** | | 13,400 | | 8,430 | |
| antimony | NA | NA | **NA** | | **NA** | | **NA** | | 2.2 | *U* | 2.64 | *U* |
| arsenic | 13 | 16 | 3.69 | | 11.1 | | 10.2 | | 4.12 | | 5.58 | |
| barium | 350 | 400 | 386 | | 90.4 | | **2,550** | | 71.6 | | 94.8 | |
| beryllium | 7.2 | 72 | **NA** | | **NA** | | **NA** | | 0.044 | *U* | 0.507 | |
| cadmium | 2.5 | 4.3 | **NA** | | **NA** | | **NA** | | 0.264 | *U* | 0.579 | |
| calcium | NA | NA | **NA** | | **NA** | | **NA** | | 107,000 | | 83,600 | |
| chromium | 30 | 180 | **NA** | | **NA** | | **NA** | | 13.1 | | 29.9 | |
| cobalt | NA | NA | **NA** | | **NA** | | **NA** | | 5.94 | | 6.71 | |
| copper | 50 | 270 | **NA** | | **NA** | | **NA** | | 20.6 | | 78.2 | |
| iron | NA | NA | **NA** | | **NA** | | **NA** | | 16,600 | | 16,700 | |
| lead | 63 | 400 | 23.3 | | 215 | | **660** | | 8.54 | | 52 | |
| magnesium | NA | NA | **NA** | | **NA** | | **NA** | | 8,620 | | 7,260 | |
| manganese | 1,600 | 2,000 | **NA** | | **NA** | | **NA** | | 511 | | 426 | |
| mercury | 0.18 | 0.81 | 0.48 | | 0.353 | | 0.289 | | 0.0322 | | 0.159 | |
| nickel | 30 | 310 | **NA** | | **NA** | | **NA** | | 15.2 | | 28.5 | |
| potassium | NA | NA | **NA** | | **NA** | | **NA** | | 1,040 | | 1,130 | |
| selenium | 3.9 | 180 | **NA** | | **NA** | | **NA** | | 2.2 | *U* | 2.64 | *U* |
| silver | 2 | 180 | **NA** | | **NA** | | **NA** | | 0.443 | *U* | 1.33 | |
| sodium | NA | NA | **NA** | | **NA** | | **NA** | | 112 | | 1,110 | |
| thallium | NA | NA | **NA** | | **NA** | | **NA** | | 2.2 | *U* | 2.64 | *U* |
| vanadium | NA | NA | **NA** | | **NA** | | **NA** | | 15.3 | | 42.8 | |
| zinc | 109 | 10,000 | **NA** | | **NA** | | **NA** | | 41.5 | | 186 | |

Analyte Detected
**Analyte Above UU SCO**
**Analyte Above RRU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

## Table 2: TAL Metals in Soils

**GBTS Project: 23003-0060**

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | Sample | L2SS-03 | | L2SS-04 | | L2SS-05 | | L2SS-06 | | L2SS-07 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | Date | 2023-12-13 | | 2023-12-13 | | 2023-12-13 | | 2023-12-13 | | 2023-12-13 | |
| *All data in mg/Kg (ppm)* | | Dilution | 1 | | 1 | | 1 | | 1 | | 1 | |
| **Metals, 6010 and 7473** | **UU SCO** | **RRU SCO** | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* |
| aluminum | NA | NA | **NA** | | **NA** | | 14,800 | | 9,930 | | 13,100 | |
| antimony | NA | NA | **NA** | | **NA** | | 2.58 | *U* | 2.52 | *U* | 2.6 | *U* |
| arsenic | 13 | 16 | 12.7 | | **51.5** | | 5.09 | | 10.2 | | 14.1 | |
| barium | 350 | 400 | 111 | | 67.2 | | 93 | | 149 | | 61.8 | |
| beryllium | 7.2 | 72 | **NA** | | **NA** | | 0.052 | *U* | 0.327 | | 0.668 | |
| cadmium | 2.5 | 4.3 | **NA** | | **NA** | | 0.309 | *U* | 0.56 | | 0.312 | *U* |
| calcium | NA | NA | **NA** | | **NA** | | 81,000 | | 17,500 | | 4,530 | |
| chromium | 30 | 180 | **NA** | | **NA** | | 15 | | 15.6 | | 16.9 | |
| cobalt | NA | NA | **NA** | | **NA** | | 8.02 | | 6.52 | | 10.9 | |
| copper | 50 | 270 | **NA** | | **NA** | | 19.8 | | 56.2 | | 18.9 | |
| iron | NA | NA | **NA** | | **NA** | | 19,100 | | 20,100 | | 28,400 | |
| lead | 63 | 400 | **700** | | **1,470** | | 15 | | 220 | | 19.9 | |
| magnesium | NA | NA | **NA** | | **NA** | | 6,510 | | 3,970 | | 4,880 | |
| manganese | 1,600 | 2,000 | **NA** | | **NA** | | 558 | | 603 | | 648 | |
| mercury | 0.18 | 0.81 | **0.911** | | 0.0972 | | 0.0371 | *U* | 0.485 | | 0.0651 | |
| nickel | 30 | 310 | **NA** | | **NA** | | 18.2 | | 18.3 | | 27 | |
| potassium | NA | NA | **NA** | | **NA** | | 1,390 | *B* | 789 | *B* | 1,540 | *B* |
| selenium | 3.9 | 180 | **NA** | | **NA** | | 2.58 | *U* | 2.94 | | 3.24 | |
| silver | 2 | 180 | **NA** | | **NA** | | 0.52 | *U* | 0.508 | *U* | 0.524 | *U* |
| sodium | NA | NA | **NA** | | **NA** | | 349 | | 1,270 | | 69.2 | |
| thallium | NA | NA | **NA** | | **NA** | | 2.58 | *U* | 2.52 | *U* | 2.6 | *U* |
| vanadium | NA | NA | **NA** | | **NA** | | 16.5 | | 18.4 | | 16.4 | |
| zinc | 109 | 10,000 | **NA** | | **NA** | | 62.6 | | 237 | | 72 | |

Analyte Detected
**Analyte Above UU SCO**
**Analyte Above RRU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

## Table 2: TAL Metals in Soils

**GBTS Project: 23003-0060**

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | Sample | L2SS-08 | | L3SS-01 | | L3SS-02 | | L3SS-03 | | L4SS-01 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | Date | 2023-12-13 | | 2023-12-13 | | 2023-12-13 | | 2023-12-13 | | 2023-12-13 | |
| *All data in mg/Kg (ppm)* | | Dilution | 1 | | 1 | | 1 | | 1 | | 1 | |
| **Metals, 6010 and 7473** | **UU SCO** | **RRU SCO** | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* |
| aluminum | NA | NA | 9,200 | | **NA** | | **NA** | | **NA** | | **NA** | |
| antimony | NA | NA | 2.43 | *U* | **NA** | | **NA** | | **NA** | | **NA** | |
| arsenic | 13 | 16 | 11.2 | | **30** | | **19** | | **18.1** | | **23.8** | |
| barium | 350 | 400 | 102 | | 99 | | 76.6 | | 89.7 | | 82.1 | |
| beryllium | 7.2 | 72 | 0.331 | | **NA** | | **NA** | | **NA** | | **NA** | |
| cadmium | 2.5 | 4.3 | 0.291 | *U* | **NA** | | **NA** | | **NA** | | **NA** | |
| calcium | NA | NA | 15,800 | | **NA** | | **NA** | | **NA** | | **NA** | |
| chromium | 30 | 180 | 15.4 | | **NA** | | **NA** | | **NA** | | **NA** | |
| cobalt | NA | NA | 6.54 | | **NA** | | **NA** | | **NA** | | **NA** | |
| copper | 50 | 270 | 43.4 | | **NA** | | **NA** | | **NA** | | **NA** | |
| iron | NA | NA | 19,800 | | **NA** | | **NA** | | **NA** | | **NA** | |
| lead | 63 | 400 | 106 | | 45.2 | | 34.9 | | 29.2 | | 29.1 | |
| magnesium | NA | NA | 3,160 | | **NA** | | **NA** | | **NA** | | **NA** | |
| manganese | 1,600 | 2,000 | 633 | | **NA** | | **NA** | | **NA** | | **NA** | |
| mercury | 0.18 | 0.81 | 0.142 | | 0.0335 | *U* | 0.0358 | *U* | 0.0336 | *U* | 0.0355 | *U* |
| nickel | 30 | 310 | 15.6 | | **NA** | | **NA** | | **NA** | | **NA** | |
| potassium | NA | NA | 835 | *B* | **NA** | | **NA** | | **NA** | | **NA** | |
| selenium | 3.9 | 180 | 2.43 | *U* | **NA** | | **NA** | | **NA** | | **NA** | |
| silver | 2 | 180 | 0.489 | *U* | **NA** | | **NA** | | **NA** | | **NA** | |
| sodium | NA | NA | 764 | | **NA** | | **NA** | | **NA** | | **NA** | |
| thallium | NA | NA | 2.43 | *U* | **NA** | | **NA** | | **NA** | | **NA** | |
| vanadium | NA | NA | 16.8 | | **NA** | | **NA** | | **NA** | | **NA** | |
| zinc | 109 | 10,000 | 148 | | **NA** | | **NA** | | **NA** | | **NA** | |

Analyte Detected
**Analyte Above UU SCO**
**Analyte Above RRU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

## Table 2: TAL Metals in Soils

**GBTS Project: 23003-0060**

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | | Sample | L4SS-02 | | L4SS-03 | | L30SS-01 | | L30SS-02 | | L30SS-03 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | Date | 2023-12-13 | | 2023-12-13 | | 2023-12-13 | | 2023-12-13 | | 2023-12-13 | |
| *All data in mg/Kg (ppm)* | | | Dilution | 1 | | 1 | | 1 | | 1 | | 1 | |
| **Metals, 6010 and 7473** | **UU SCO** | **RRU SCO** | | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* |
| aluminum | NA | NA | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| antimony | NA | NA | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| arsenic | 13 | 16 | | **50.8** | | 11.3 | | 6.84 | | 4.67 | | 6.3 | |
| barium | 350 | 400 | | 83.6 | | 71.3 | | 81.5 | | 130 | | 81 | |
| beryllium | 7.2 | 72 | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| cadmium | 2.5 | 4.3 | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| calcium | NA | NA | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| chromium | 30 | 180 | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| cobalt | NA | NA | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| copper | 50 | 270 | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| iron | NA | NA | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| lead | 63 | 400 | | 96.2 | | 142 | | 193 | | **634** | | 172 | |
| magnesium | NA | NA | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| manganese | 1,600 | 2,000 | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| mercury | 0.18 | 0.81 | | 0.0326 | *U* | 0.0491 | | 0.462 | | 0.227 | | 0.235 | |
| nickel | 30 | 310 | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| potassium | NA | NA | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| selenium | 3.9 | 180 | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| silver | 2 | 180 | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| sodium | NA | NA | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| thallium | NA | NA | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| vanadium | NA | NA | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| zinc | 109 | 10,000 | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |

Analyte Detected
**Analyte Above UU SCO**
**Analyte Above RRU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

# ATTACHMENT C

# Laboratory Reports

# Technical Report

prepared for:

**Gallagher Bassett - Poughkeepsie, NY**
22 IBM Road, Suite 101
Poughkeepsie NY, 12601
**Attention: Szabolcs David**

Report Date: 01/03/2024
**Client Project ID: 23003-0060**
York Project (SDG) No.: 23L1063

**Revision No. 1.0**

CT Cert. No. PH-0723 New Jersey Cert. No. CT005 and NY037 New York Cert. Nos. 10854 and 12058 PA Cert. No. 68-04440

120 RESEARCH DRIVE STRATFORD, CT 06615 ■ 132-02 89th AVENUE RICHMOND HILL, NY 11418
www.YORKLAB.com (203) 325-1371 FAX (203) 357-0166 ClientServices@yorklab.com

Report Date: 01/03/2024
Client Project ID: 23003-0060
York Project (SDG) No.: 23L1063

**Gallagher Bassett - Poughkeepsie, NY**
22 IBM Road, Suite 101
Poughkeepsie NY, 12601
Attention: Szabolcs David

## Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on December 14, 2023 and listed below. The project was identified as your project: **23003-0060**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Sample and Analysis Qualifiers section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the Sample and Data Qualifiers Relating to This Work Order section of this report and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

| York Sample ID | Client Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| 23L1063-01 | L1SS-01 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-02 | L1SS-02 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-03 | L1SS-03 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-04 | L2SS-01 | Solid | 12/13/2023 | 12/14/2023 |
| 23L1063-05 | L2SS-02 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-06 | L2SS-03 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-07 | L2SS-04 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-08 | L2SS-05 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-09 | L2SS-06 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-10 | L2SS-07 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-11 | L2SS-08 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-12 | L3SS-01 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-13 | L3SS-02 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-14 | L3SS-03 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-15 | L4SS-01 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-16 | L4SS-02 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-17 | L4SS-03 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-18 | L5SS-01 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-19 | L5SS-02 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-20 | L5SS-03 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-21 | L5SS-04 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-22 | L6SS-01 | Soil | 12/13/2023 | 12/14/2023 |

| York Sample ID | Client Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| 23L1063-23 | L6SS-02 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-24 | L6SS-03 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-25 | L7SS-01 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-26 | L7SS-02 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-27 | L7SS-03 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-28 | L30SS-01 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-29 | L30SS-02 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-30 | L30SS-03 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-31 | L41SS-01 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-32 | L41SS-02 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-33 | L41SS-03 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-34 | L41SS-04 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-35 | L46SS-01 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-36 | L46SS-02 | Soil | 12/13/2023 | 12/14/2023 |
| 23L1063-37 | L46SS-03 | Soil | 12/13/2023 | 12/14/2023 |

## General Notes for York Project (SDG) No.: 23L1063

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All analyses conducted met method or Laboratory SOP requirements. See the Sample and Data Qualifiers Section for further information.
6. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
7. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.
8. Analyses conducted at York Analytical Laboratories, Inc. Stratford, CT are indicated by NY Cert. No. 10854; those conducted at York Analytical Laboratories, Inc., Richmond Hill, NY are indicated by NY Cert. No. 12058.

**Approved By:** **Date:** 01/03/2024

Cassie L. Mosher
Laboratory Manager

## Sample Information

**Client Sample ID:** L1SS-01 **York Sample ID:** 23L1063-01

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **3.69** | | mg/kg dry | 1.26 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 15:50 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Barium by EPA 6010

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **386** | | mg/kg dry | 2.10 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 15:50 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Lead by EPA 6010

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **23.3** | | mg/kg dry | 0.421 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 15:50 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.480** | | mg/kg dry | 0.0363 | 1 | EPA 7473 | 12/20/2023 18:18 | 12/20/2023 22:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **82.6** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L1SS-02 **York Sample ID:** 23L1063-02

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:** **Sample Notes:**

## Sample Information

**Client Sample ID:** L1SS-02 **York Sample ID:** 23L1063-02

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **11.1** | | mg/kg dry | 1.51 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 15:52 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Barium by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **90.4** | | mg/kg dry | 2.52 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 15:52 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Lead by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **215** | | mg/kg dry | 0.505 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 15:52 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Mercury by 7473** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.353** | | mg/kg dry | 0.0436 | 1 | EPA 7473 | 12/20/2023 18:18 | 12/20/2023 22:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

**Total Solids** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **68.8** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 16:39 | 12/21/2023 21:54 | LRS |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L1SS-03 **York Sample ID:** 23L1063-03

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

**Arsenic by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|

## Sample Information

**Client Sample ID:** L1SS-03 **York Sample ID:** 23L1063-03

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **10.2** | | mg/kg dry | 1.29 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 15:55 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Barium by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **2550** | | mg/kg dry | 2.15 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 15:55 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Lead by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **660** | | mg/kg dry | 0.431 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 15:55 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.289** | | mg/kg dry | 0.0372 | 1 | EPA 7473 | 12/20/2023 18:18 | 12/20/2023 22:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **80.6** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 16:39 | 12/21/2023 21:54 | LRS |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L2SS-01 **York Sample ID:** 23L1063-04

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Solid | December 13, 2023 12:10 pm | 12/14/2023 |

### Semi-Volatiles, PAH Target List

**Log-in Notes:**

**Sample Notes:**

## Sample Information

**Client Sample ID:** L2SS-01 **York Sample ID:** 23L1063-04

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Solid | December 13, 2023 12:10 pm | 12/14/2023 |

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 91-57-6 | 2-Methylnaphthalene | ND | | mg/kg dry | 0.0438 | 0.0875 | 2 | EPA 8270D<br>Certifications: | 12/27/2023 09:23 | 12/29/2023 10:27 | KH-<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 83-32-9 | Acenaphthene | ND | | mg/kg dry | 0.0438 | 0.0875 | 2 | EPA 8270D<br>Certifications: | 12/27/2023 09:23 | 12/29/2023 10:27 | KH-<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 208-96-8 | Acenaphthylene | ND | | mg/kg dry | 0.0438 | 0.0875 | 2 | EPA 8270D<br>Certifications: | 12/27/2023 09:23 | 12/29/2023 10:27 | KH-<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 120-12-7 | Anthracene | ND | | mg/kg dry | 0.0438 | 0.0875 | 2 | EPA 8270D<br>Certifications: | 12/27/2023 09:23 | 12/29/2023 10:27 | KH-<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 56-55-3 | **Benzo(a)anthracene** | **0.0895** | | mg/kg dry | 0.0438 | 0.0875 | 2 | EPA 8270D<br>Certifications: | 12/27/2023 09:23 | 12/29/2023 10:27 | KH-<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 50-32-8 | **Benzo(a)pyrene** | **0.117** | | mg/kg dry | 0.0438 | 0.0875 | 2 | EPA 8270D<br>Certifications: | 12/27/2023 09:23 | 12/29/2023 10:27 | KH-<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 205-99-2 | **Benzo(b)fluoranthene** | **0.125** | | mg/kg dry | 0.0438 | 0.0875 | 2 | EPA 8270D<br>Certifications: | 12/27/2023 09:23 | 12/29/2023 10:27 | KH-<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 191-24-2 | **Benzo(g,h,i)perylene** | **0.0965** | | mg/kg dry | 0.0438 | 0.0875 | 2 | EPA 8270D<br>Certifications: | 12/27/2023 09:23 | 12/29/2023 10:27 | KH-<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 207-08-9 | **Benzo(k)fluoranthene** | **0.111** | | mg/kg dry | 0.0438 | 0.0875 | 2 | EPA 8270D<br>Certifications: | 12/27/2023 09:23 | 12/29/2023 10:27 | KH-<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 218-01-9 | **Chrysene** | **0.0979** | | mg/kg dry | 0.0438 | 0.0875 | 2 | EPA 8270D<br>Certifications: | 12/27/2023 09:23 | 12/29/2023 10:27 | KH-<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | mg/kg dry | 0.0438 | 0.0875 | 2 | EPA 8270D<br>Certifications: | 12/27/2023 09:23 | 12/29/2023 10:27 | KH-<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 206-44-0 | **Fluoranthene** | **0.203** | | mg/kg dry | 0.0438 | 0.0875 | 2 | EPA 8270D<br>Certifications: | 12/27/2023 09:23 | 12/29/2023 10:27 | KH-<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 86-73-7 | Fluorene | ND | | mg/kg dry | 0.0438 | 0.0875 | 2 | EPA 8270D<br>Certifications: | 12/27/2023 09:23 | 12/29/2023 10:27 | KH-<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 |
| 193-39-5 | **Indeno(1,2,3-cd)pyrene** | **0.100** | | mg/kg dry | 0.0438 | 0.0875 | 2 | EPA 8270D<br>Certifications: | 12/27/2023 09:23 | 12/29/2023 10:27 | KH-<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 91-20-3 | Naphthalene | ND | | mg/kg dry | 0.0438 | 0.0875 | 2 | EPA 8270D<br>Certifications: | 12/27/2023 09:23 | 12/29/2023 10:27 | KH-<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 85-01-8 | **Phenanthrene** | **0.0944** | | mg/kg dry | 0.0438 | 0.0875 | 2 | EPA 8270D<br>Certifications: | 12/27/2023 09:23 | 12/29/2023 10:27 | KH-<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 129-00-0 | **Pyrene** | **0.192** | | mg/kg dry | 0.0438 | 0.0875 | 2 | EPA 8270D<br>Certifications: | 12/27/2023 09:23 | 12/29/2023 10:27 | KH-<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *48.7 %* | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *54.7 %* | *21-113* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *69.4 %* | *24-116* |

**Metals, Target Analyte**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|

## Sample Information

**Client Sample ID:** L2SS-01 **York Sample ID:** 23L1063-04

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Solid | December 13, 2023 12:10 pm | 12/14/2023 |

**Metals, Target Analyte** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **13400** | | mg/kg dry | 4.40 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.20 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **4.12** | | mg/kg dry | 1.32 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **71.6** | | mg/kg dry | 2.20 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | Beryllium | ND | | mg/kg dry | 0.044 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.264 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-70-2 | **Calcium** | **107000** | | mg/kg dry | 4.40 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **13.1** | | mg/kg dry | 0.440 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **5.94** | | mg/kg dry | 0.352 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **20.6** | | mg/kg dry | 1.76 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **16600** | | mg/kg dry | 22.0 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **8.54** | | mg/kg dry | 0.440 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **8620** | | mg/kg dry | 4.40 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **511** | | mg/kg dry | 0.440 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **15.2** | | mg/kg dry | 0.876 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1040** | | mg/kg dry | 4.40 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.20 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.443 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **112** | | mg/kg dry | 44.0 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.20 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **15.3** | | mg/kg dry | 0.876 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **41.5** | | mg/kg dry | 2.19 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** L2SS-01 **York Sample ID:** 23L1063-04

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Solid | December 13, 2023 12:10 pm | 12/14/2023 |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.0322** | | mg/kg dry | 0.0317 | 1 | EPA 7473 | 12/20/2023 18:18 | 12/20/2023 22:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **94.7** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L2SS-02 **York Sample ID:** 23L1063-05

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Semi-Volatiles, PAH Target List

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 91-57-6 | 2-Methylnaphthalene | ND | | mg/kg dry | 0.264 | 0.528 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 10:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 83-32-9 | Acenaphthene | ND | | mg/kg dry | 0.264 | 0.528 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 10:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 208-96-8 | Acenaphthylene | ND | | mg/kg dry | 0.264 | 0.528 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 10:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 120-12-7 | Anthracene | ND | | mg/kg dry | 0.264 | 0.528 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 10:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 56-55-3 | **Benzo(a)anthracene** | **0.683** | | mg/kg dry | 0.264 | 0.528 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 10:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 50-32-8 | **Benzo(a)pyrene** | **0.789** | | mg/kg dry | 0.264 | 0.528 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 10:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 205-99-2 | **Benzo(b)fluoranthene** | **0.814** | | mg/kg dry | 0.264 | 0.528 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 10:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 191-24-2 | **Benzo(g,h,i)perylene** | **0.784** | | mg/kg dry | 0.264 | 0.528 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 10:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 207-08-9 | **Benzo(k)fluoranthene** | **0.595** | | mg/kg dry | 0.264 | 0.528 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 10:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** L2SS-02 **York Sample ID:** 23L1063-05

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Semi-Volatiles, PAH Target List

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 218-01-9 | **Chrysene** | **0.658** | | mg/kg dry | 0.264 | 0.528 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 10:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | mg/kg dry | 0.264 | 0.528 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 10:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 206-44-0 | **Fluoranthene** | **1.41** | | mg/kg dry | 0.264 | 0.528 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 10:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 86-73-7 | Fluorene | ND | | mg/kg dry | 0.264 | 0.528 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 10:57 | KH- |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 193-39-5 | **Indeno(1,2,3-cd)pyrene** | **0.848** | | mg/kg dry | 0.264 | 0.528 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 10:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 91-20-3 | Naphthalene | ND | | mg/kg dry | 0.264 | 0.528 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 10:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 85-01-8 | **Phenanthrene** | **0.346** | J | mg/kg dry | 0.264 | 0.528 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 10:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 129-00-0 | **Pyrene** | **0.915** | | mg/kg dry | 0.264 | 0.528 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 10:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *28.0 %* | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *27.6 %* | *21-113* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *25.2 %* | *24-116* |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **8430** | | mg/kg dry | 5.29 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.64 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **5.58** | | mg/kg dry | 1.59 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **94.8** | | mg/kg dry | 2.64 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.507** | | mg/kg dry | 0.053 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | **Cadmium** | **0.579** | | mg/kg dry | 0.317 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-70-2 | **Calcium** | **83600** | | mg/kg dry | 5.29 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **29.9** | | mg/kg dry | 0.529 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **6.71** | | mg/kg dry | 0.423 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** L2SS-02 **York Sample ID:** 23L1063-05

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-50-8 | **Copper** | **78.2** | | mg/kg dry | 2.12 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **16700** | | mg/kg dry | 26.4 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **52.0** | | mg/kg dry | 0.529 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **7260** | | mg/kg dry | 5.29 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **426** | | mg/kg dry | 0.529 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **28.5** | | mg/kg dry | 1.05 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1130** | | mg/kg dry | 5.29 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.64 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | **Silver** | **1.33** | | mg/kg dry | 0.533 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-23-5 | **Sodium** | **1110** | | mg/kg dry | 52.9 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.64 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **42.8** | | mg/kg dry | 1.05 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **186** | | mg/kg dry | 2.63 | 1 | EPA 6010D | 12/18/2023 17:52 | 12/26/2023 16:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.159** | | mg/kg dry | 0.0381 | 1 | EPA 7473 | 12/20/2023 18:18 | 12/20/2023 22:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **78.8** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L2SS-03 **York Sample ID:** 23L1063-06

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **12.7** | | mg/kg dry | 1.53 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 13:55 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Barium by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **111** | | mg/kg dry | 2.55 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 13:55 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Lead by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **700** | | mg/kg dry | 0.511 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 13:55 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.911** | | mg/kg dry | 0.0441 | 1 | EPA 7473 | 12/20/2023 18:18 | 12/20/2023 22:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **68.1** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L2SS-04 **York Sample ID:** 23L1063-07

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:**

**Sample Notes:**

## Sample Information

**Client Sample ID:** L2SS-04 **York Sample ID:** 23L1063-07

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **51.5** | | mg/kg dry | 1.22 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 13:57 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Barium by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **67.2** | | mg/kg dry | 2.04 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 13:57 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Lead by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **1470** | | mg/kg dry | 0.409 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 13:57 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Mercury by 7473** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.0972** | | mg/kg dry | 0.0353 | 1 | EPA 7473 | 12/20/2023 18:18 | 12/20/2023 22:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

**Total Solids** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **85.0** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L2SS-05 **York Sample ID:** 23L1063-08

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

**Semi-Volatiles, PAH Target List** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|

## Sample Information

**Client Sample ID:** L2SS-05 **York Sample ID:** 23L1063-08

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Semi-Volatiles, PAH Target List

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 91-57-6 | 2-Methylnaphthalene | ND | | mg/kg dry | 0.258 | 0.514 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 83-32-9 | Acenaphthene | ND | | mg/kg dry | 0.258 | 0.514 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 208-96-8 | Acenaphthylene | ND | | mg/kg dry | 0.258 | 0.514 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 120-12-7 | Anthracene | ND | | mg/kg dry | 0.258 | 0.514 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 56-55-3 | Benzo(a)anthracene | ND | | mg/kg dry | 0.258 | 0.514 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 50-32-8 | Benzo(a)pyrene | ND | | mg/kg dry | 0.258 | 0.514 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 205-99-2 | Benzo(b)fluoranthene | ND | | mg/kg dry | 0.258 | 0.514 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | mg/kg dry | 0.258 | 0.514 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 207-08-9 | Benzo(k)fluoranthene | ND | | mg/kg dry | 0.258 | 0.514 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 218-01-9 | Chrysene | ND | | mg/kg dry | 0.258 | 0.514 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | mg/kg dry | 0.258 | 0.514 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 206-44-0 | Fluoranthene | ND | | mg/kg dry | 0.258 | 0.514 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 86-73-7 | Fluorene | ND | | mg/kg dry | 0.258 | 0.514 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:27 | KH- |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | mg/kg dry | 0.258 | 0.514 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 91-20-3 | Naphthalene | ND | | mg/kg dry | 0.258 | 0.514 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 85-01-8 | Phenanthrene | ND | | mg/kg dry | 0.258 | 0.514 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 129-00-0 | Pyrene | ND | | mg/kg dry | 0.258 | 0.514 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *55.6 %* | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *52.4 %* | *21-113* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *76.0 %* | *24-116* |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|

## Sample Information

**Client Sample ID:** L2SS-05 **York Sample ID:** 23L1063-08

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

**Metals, Target Analyte** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **14800** | | mg/kg dry | 5.15 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.58 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **5.09** | | mg/kg dry | 1.55 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **93.0** | | mg/kg dry | 2.57 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | Beryllium | ND | | mg/kg dry | 0.052 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.309 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-70-2 | **Calcium** | **81000** | | mg/kg dry | 5.16 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **15.0** | | mg/kg dry | 0.516 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **8.02** | | mg/kg dry | 0.412 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **19.8** | | mg/kg dry | 2.06 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **19100** | | mg/kg dry | 25.8 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **15.0** | | mg/kg dry | 0.516 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **6510** | | mg/kg dry | 5.16 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **558** | | mg/kg dry | 0.516 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **18.2** | | mg/kg dry | 1.03 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1390** | B | mg/kg dry | 5.16 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.58 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.520 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **349** | | mg/kg dry | 51.6 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.58 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **16.5** | | mg/kg dry | 1.03 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **62.6** | | mg/kg dry | 2.57 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** L2SS-05 **York Sample ID:** 23L1063-08

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | ND | | mg/kg dry | 0.0371 | 1 | EPA 7473 | 12/20/2023 18:18 | 12/20/2023 22:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-044 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **80.8** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L2SS-06 **York Sample ID:** 23L1063-09

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Semi-Volatiles, PAH Target List

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 91-57-6 | 2-Methylnaphthalene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 83-32-9 | Acenaphthene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 208-96-8 | Acenaphthylene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 120-12-7 | Anthracene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 56-55-3 | **Benzo(a)anthracene** | **0.302** | J | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 50-32-8 | **Benzo(a)pyrene** | **0.285** | J | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 205-99-2 | **Benzo(b)fluoranthene** | **0.354** | J | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 207-08-9 | Benzo(k)fluoranthene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 218-01-9 | **Chrysene** | **0.326** | J | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** L2SS-06 **York Sample ID:** 23L1063-09

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Semi-Volatiles, PAH Target List

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 206-44-0 | **Fluoranthene** | **0.318** | J | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 86-73-7 | Fluorene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:57 | KH- |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 193-39-5 | **Indeno(1,2,3-cd)pyrene** | **0.366** | J | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 91-20-3 | Naphthalene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 85-01-8 | Phenanthrene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 129-00-0 | **Pyrene** | **0.350** | J | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 11:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *43.6 %* | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *65.2 %* | *21-113* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *51.6 %* | *24-116* |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **9930** | | mg/kg dry | 5.04 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.52 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **10.2** | | mg/kg dry | 1.51 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **149** | | mg/kg dry | 2.52 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.327** | | mg/kg dry | 0.051 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | **Cadmium** | **0.560** | | mg/kg dry | 0.303 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-70-2 | **Calcium** | **17500** | | mg/kg dry | 5.04 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **15.6** | | mg/kg dry | 0.505 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **6.52** | | mg/kg dry | 0.403 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **56.2** | | mg/kg dry | 2.02 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** L2SS-06 **York Sample ID:** 23L1063-09

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-89-6 | **Iron** | **20100** | | mg/kg dry | 25.2 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **220** | | mg/kg dry | 0.505 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **3970** | | mg/kg dry | 5.05 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **603** | | mg/kg dry | 0.505 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **18.3** | | mg/kg dry | 1.00 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **789** | B | mg/kg dry | 5.05 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | **Selenium** | **2.94** | | mg/kg dry | 2.52 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.508 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **1270** | | mg/kg dry | 50.4 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.52 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **18.4** | | mg/kg dry | 1.00 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **237** | | mg/kg dry | 2.51 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:02 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.485** | | mg/kg dry | 0.0363 | 1 | EPA 7473 | 12/20/2023 18:18 | 12/20/2023 22:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **82.6** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L2SS-07 **York Sample ID:** 23L1063-10

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Semi-Volatiles, PAH Target List

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 91-57-6 | **2-Methylnaphthalene** | **0.187** | | mg/kg dry | 0.0519 | 0.104 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 83-32-9 | **Acenaphthene** | **0.510** | | mg/kg dry | 0.0519 | 0.104 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 208-96-8 | **Acenaphthylene** | **0.348** | | mg/kg dry | 0.0519 | 0.104 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 120-12-7 | **Anthracene** | **1.83** | | mg/kg dry | 0.0519 | 0.104 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 56-55-3 | **Benzo(a)anthracene** | **4.22** | | mg/kg dry | 0.260 | 0.518 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/30/2023 01:44 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 50-32-8 | **Benzo(a)pyrene** | **3.50** | | mg/kg dry | 0.260 | 0.518 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/30/2023 01:44 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 205-99-2 | **Benzo(b)fluoranthene** | **3.29** | | mg/kg dry | 0.260 | 0.518 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/30/2023 01:44 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 191-24-2 | **Benzo(g,h,i)perylene** | **2.99** | | mg/kg dry | 0.0519 | 0.104 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 207-08-9 | **Benzo(k)fluoranthene** | **2.72** | | mg/kg dry | 0.0519 | 0.104 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 218-01-9 | **Chrysene** | **3.67** | | mg/kg dry | 0.260 | 0.518 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/30/2023 01:44 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 53-70-3 | **Dibenzo(a,h)anthracene** | **1.02** | | mg/kg dry | 0.0519 | 0.104 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 206-44-0 | **Fluoranthene** | **9.37** | | mg/kg dry | 0.260 | 0.518 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/30/2023 01:44 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 86-73-7 | **Fluorene** | **0.804** | | mg/kg dry | 0.0519 | 0.104 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:27 | KH- |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 193-39-5 | **Indeno(1,2,3-cd)pyrene** | **3.13** | | mg/kg dry | 0.0519 | 0.104 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 91-20-3 | **Naphthalene** | **0.349** | | mg/kg dry | 0.0519 | 0.104 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:27 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 85-01-8 | **Phenanthrene** | **7.10** | | mg/kg dry | 0.260 | 0.518 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/30/2023 01:44 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 129-00-0 | **Pyrene** | **7.30** | | mg/kg dry | 0.260 | 0.518 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/30/2023 01:44 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *41.5 %* | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *48.2 %* | *21-113* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *59.0 %* | *24-116* |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

## Sample Information

**Client Sample ID:** L2SS-07 **York Sample ID:** 23L1063-10

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **13100** | | mg/kg dry | 5.19 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.60 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **14.1** | | mg/kg dry | 1.56 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **61.8** | | mg/kg dry | 2.59 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.668** | | mg/kg dry | 0.052 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.312 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-70-2 | **Calcium** | **4530** | | mg/kg dry | 5.20 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **16.9** | | mg/kg dry | 0.520 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **10.9** | | mg/kg dry | 0.415 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **18.9** | | mg/kg dry | 2.08 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **28400** | | mg/kg dry | 26.0 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **19.9** | | mg/kg dry | 0.520 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **4880** | | mg/kg dry | 5.20 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **648** | | mg/kg dry | 0.520 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **27.0** | | mg/kg dry | 1.03 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1540** | B | mg/kg dry | 5.20 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | **Selenium** | **3.24** | | mg/kg dry | 2.60 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.524 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **69.2** | | mg/kg dry | 52.0 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.60 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **16.4** | | mg/kg dry | 1.03 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **72.0** | | mg/kg dry | 2.59 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:04 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** L2SS-07 **York Sample ID:** 23L1063-10

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.0651** | | mg/kg dry | 0.0374 | 1 | EPA 7473 | 12/20/2023 18:18 | 12/20/2023 22:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **80.2** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L2SS-08 **York Sample ID:** 23L1063-11

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Semi-Volatiles, PAH Target List

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 91-57-6 | 2-Methylnaphthalene | ND | | mg/kg dry | 0.0473 | 0.0943 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:57 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 83-32-9 | Acenaphthene | ND | | mg/kg dry | 0.0473 | 0.0943 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:57 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 208-96-8 | Acenaphthylene | ND | | mg/kg dry | 0.0473 | 0.0943 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:57 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 120-12-7 | Anthracene | ND | | mg/kg dry | 0.0473 | 0.0943 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:57 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 56-55-3 | **Benzo(a)anthracene** | **0.0709** | J | mg/kg dry | 0.0473 | 0.0943 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:57 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 50-32-8 | **Benzo(a)pyrene** | **0.0678** | J | mg/kg dry | 0.0473 | 0.0943 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:57 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 205-99-2 | **Benzo(b)fluoranthene** | **0.0678** | J | mg/kg dry | 0.0473 | 0.0943 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:57 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 191-24-2 | **Benzo(g,h,i)perylene** | **0.0648** | J | mg/kg dry | 0.0473 | 0.0943 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:57 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 207-08-9 | **Benzo(k)fluoranthene** | **0.0709** | J | mg/kg dry | 0.0473 | 0.0943 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:57 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 218-01-9 | **Chrysene** | **0.0686** | J | mg/kg dry | 0.0473 | 0.0943 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:57 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |

## Sample Information

**Client Sample ID:** L2SS-08 **York Sample ID:** 23L1063-11

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Semi-Volatiles, PAH Target List

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | mg/kg dry | 0.0473 | 0.0943 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 206-44-0 | **Fluoranthene** | **0.134** | | mg/kg dry | 0.0473 | 0.0943 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 86-73-7 | Fluorene | ND | | mg/kg dry | 0.0473 | 0.0943 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:57 | KH- |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 193-39-5 | **Indeno(1,2,3-cd)pyrene** | **0.0701** | J | mg/kg dry | 0.0473 | 0.0943 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 91-20-3 | Naphthalene | ND | | mg/kg dry | 0.0473 | 0.0943 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 85-01-8 | **Phenanthrene** | **0.0588** | J | mg/kg dry | 0.0473 | 0.0943 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 129-00-0 | **Pyrene** | **0.109** | | mg/kg dry | 0.0473 | 0.0943 | 2 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 12:57 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *42.0 %* | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *54.3 %* | *21-113* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *60.4 %* | *24-116* |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **9200** | | mg/kg dry | 4.85 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.43 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **11.2** | | mg/kg dry | 1.46 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **102** | | mg/kg dry | 2.42 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.331** | | mg/kg dry | 0.049 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.291 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-70-2 | **Calcium** | **15800** | | mg/kg dry | 4.85 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **15.4** | | mg/kg dry | 0.486 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **6.54** | | mg/kg dry | 0.388 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **43.4** | | mg/kg dry | 1.94 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** L2SS-08 **York Sample ID:** 23L1063-11

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-89-6 | **Iron** | **19800** | | mg/kg dry | 24.3 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **106** | | mg/kg dry | 0.486 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **3160** | | mg/kg dry | 4.86 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **633** | | mg/kg dry | 0.486 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **15.6** | | mg/kg dry | 0.967 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **835** | B | mg/kg dry | 4.86 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.43 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.489 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **764** | | mg/kg dry | 48.5 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.43 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **16.8** | | mg/kg dry | 0.967 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **148** | | mg/kg dry | 2.42 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:06 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.142** | | mg/kg dry | 0.0349 | 1 | EPA 7473 | 12/20/2023 18:18 | 12/20/2023 22:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **85.9** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L3SS-01 **York Sample ID:** 23L1063-12

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **30.0** | | mg/kg dry | 1.16 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:08 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Barium by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **99.0** | | mg/kg dry | 1.94 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:08 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Lead by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **45.2** | | mg/kg dry | 0.389 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:08 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | ND | | mg/kg dry | 0.0335 | 1 | EPA 7473 | 12/20/2023 18:18 | 12/20/2023 22:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-044 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **89.4** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L3SS-02 **York Sample ID:** 23L1063-13

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:**

**Sample Notes:**

## Sample Information

**Client Sample ID:** L3SS-02 **York Sample ID:** 23L1063-13

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **19.0** | | mg/kg dry | 1.24 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:16 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Barium by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **76.6** | | mg/kg dry | 2.07 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:16 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Lead by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **34.9** | | mg/kg dry | 0.415 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:16 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Mercury by 7473** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | ND | | mg/kg dry | 0.0358 | 1 | EPA 7473 | 12/20/2023 18:18 | 12/20/2023 22:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-044 | | |

**Total Solids** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **83.7** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L3SS-03 **York Sample ID:** 23L1063-14

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

**Arsenic by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|

## Sample Information

**Client Sample ID:** L3SS-03 **York Sample ID:** 23L1063-14

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **18.1** | | mg/kg dry | 1.16 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:18 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Barium by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **89.7** | | mg/kg dry | 1.94 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:18 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Lead by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **29.2** | | mg/kg dry | 0.389 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:18 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | ND | | mg/kg dry | 0.0336 | 1 | EPA 7473 | 12/20/2023 18:18 | 12/20/2023 22:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-044 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **89.4** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L4SS-01 **York Sample ID:** 23L1063-15

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:**

**Sample Notes:**

## Sample Information

**Client Sample ID:** L4SS-01 **York Sample ID:** 23L1063-15

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **23.8** | | mg/kg dry | 1.23 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:21 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Barium by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **82.1** | | mg/kg dry | 2.05 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:21 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Lead by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **29.1** | | mg/kg dry | 0.412 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:21 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Mercury by 7473** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | ND | | mg/kg dry | 0.0355 | 1 | EPA 7473 | 12/20/2023 18:18 | 12/20/2023 22:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-044 | | |

**Total Solids** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **84.4** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L4SS-02 **York Sample ID:** 23L1063-16

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

**Arsenic by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|

## Sample Information

**Client Sample ID:** L4SS-02 **York Sample ID:** 23L1063-16

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **50.8** | | mg/kg dry | 1.13 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:53 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Barium by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **83.6** | | mg/kg dry | 1.89 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:53 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Lead by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **96.2** | | mg/kg dry | 0.378 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:53 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | ND | | mg/kg dry | 0.0326 | 1 | EPA 7473 | 12/21/2023 15:44 | 12/21/2023 22:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-044 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **91.9** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L4SS-03 **York Sample ID:** 23L1063-17

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:**

**Sample Notes:**

## Sample Information

**Client Sample ID:** L4SS-03 **York Sample ID:** 23L1063-17

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **11.3** | | mg/kg dry | 1.31 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Barium by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **71.3** | | mg/kg dry | 2.19 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Lead by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **142** | | mg/kg dry | 0.439 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Mercury by 7473** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.0491** | | mg/kg dry | 0.0379 | 1 | EPA 7473 | 12/21/2023 15:44 | 12/21/2023 22:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

**Total Solids** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **79.2** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L5SS-01 **York Sample ID:** 23L1063-18

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

**Arsenic by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|

## Sample Information

**Client Sample ID:** L5SS-01 **York Sample ID:** 23L1063-18

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **149** | | mg/kg dry | 1.63 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Barium by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **97.6** | | mg/kg dry | 2.71 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Lead by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **209** | | mg/kg dry | 0.543 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 14:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.357** | | mg/kg dry | 0.0468 | 1 | EPA 7473 | 12/21/2023 15:44 | 12/21/2023 22:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **64.0** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L5SS-02 **York Sample ID:** 23L1063-19

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:**

**Sample Notes:**

## Sample Information

**Client Sample ID:** L5SS-02 **York Sample ID:** 23L1063-19

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **108** | | mg/kg dry | 1.50 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Barium by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **70.5** | | mg/kg dry | 2.49 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Lead by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **170** | | mg/kg dry | 0.500 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:00 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Mercury by 7473** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.358** | | mg/kg dry | 0.0432 | 1 | EPA 7473 | 12/21/2023 15:44 | 12/21/2023 22:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

**Total Solids** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **69.5** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L5SS-03 **York Sample ID:** 23L1063-20

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

**Arsenic by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|

## Sample Information

**Client Sample ID:** L5SS-03 **York Sample ID:** 23L1063-20

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **10.5** | | mg/kg dry | 1.33 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Barium by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **58.2** | | mg/kg dry | 2.22 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Lead by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **220** | | mg/kg dry | 0.445 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.0789** | | mg/kg dry | 0.0384 | 1 | EPA 7473 | 12/21/2023 15:44 | 12/21/2023 22:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **78.1** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L5SS-04 **York Sample ID:** 23L1063-21

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:**

**Sample Notes:**

## Sample Information

**Client Sample ID:** L5SS-04 **York Sample ID:** 23L1063-21

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **10.3** | | mg/kg dry | 1.46 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Barium by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **96.7** | | mg/kg dry | 2.43 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Lead by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **251** | | mg/kg dry | 0.488 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:05 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Mercury by 7473** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.287** | | mg/kg dry | 0.0421 | 1 | EPA 7473 | 12/21/2023 16:04 | 12/22/2023 16:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

**Total Solids** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **71.3** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L6SS-01 **York Sample ID:** 23L1063-22

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

**Semi-Volatiles, PAH Target List** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|

## Sample Information

**Client Sample ID:** L6SS-01 **York Sample ID:** 23L1063-22

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Semi-Volatiles, PAH Target List

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 91-57-6 | 2-Methylnaphthalene | ND | | mg/kg dry | 0.224 | 0.448 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:28 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 83-32-9 | Acenaphthene | ND | | mg/kg dry | 0.224 | 0.448 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:28 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 208-96-8 | Acenaphthylene | ND | | mg/kg dry | 0.224 | 0.448 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:28 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 120-12-7 | Anthracene | ND | | mg/kg dry | 0.224 | 0.448 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:28 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 56-55-3 | Benzo(a)anthracene | ND | | mg/kg dry | 0.224 | 0.448 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:28 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 50-32-8 | Benzo(a)pyrene | ND | | mg/kg dry | 0.224 | 0.448 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:28 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 205-99-2 | Benzo(b)fluoranthene | ND | | mg/kg dry | 0.224 | 0.448 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:28 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | mg/kg dry | 0.224 | 0.448 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:28 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 207-08-9 | Benzo(k)fluoranthene | ND | | mg/kg dry | 0.224 | 0.448 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:28 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 218-01-9 | Chrysene | ND | | mg/kg dry | 0.224 | 0.448 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:28 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | mg/kg dry | 0.224 | 0.448 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:28 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 206-44-0 | Fluoranthene | ND | | mg/kg dry | 0.224 | 0.448 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:28 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 86-73-7 | Fluorene | ND | | mg/kg dry | 0.224 | 0.448 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:28 | KH- |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | mg/kg dry | 0.224 | 0.448 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:28 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 91-20-3 | Naphthalene | ND | | mg/kg dry | 0.224 | 0.448 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:28 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 85-01-8 | Phenanthrene | ND | | mg/kg dry | 0.224 | 0.448 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:28 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 129-00-0 | Pyrene | ND | | mg/kg dry | 0.224 | 0.448 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:28 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *29.2 %* | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *30.0 %* | *21-113* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *30.0 %* | *24-116* |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|

## Sample Information

**Client Sample ID:** **L6SS-01** **York Sample ID:** **23L1063-22**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

**Metals, Target Analyte** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **5880** | | mg/kg dry | 4.49 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.24 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **5.44** | | mg/kg dry | 1.35 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **97.5** | | mg/kg dry | 2.24 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.487** | | mg/kg dry | 0.045 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.269 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-70-2 | **Calcium** | **48300** | | mg/kg dry | 4.49 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **15.4** | | mg/kg dry | 0.449 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **4.44** | | mg/kg dry | 0.359 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **53.8** | | mg/kg dry | 1.80 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **18300** | | mg/kg dry | 22.4 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **114** | | mg/kg dry | 0.449 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **6820** | | mg/kg dry | 4.49 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **343** | | mg/kg dry | 0.449 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **19.2** | | mg/kg dry | 0.894 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **861** | B | mg/kg dry | 4.49 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.24 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.453 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **484** | | mg/kg dry | 44.9 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.24 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **32.2** | | mg/kg dry | 0.894 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** L6SS-01 **York Sample ID:** 23L1063-22

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-66-6 | **Zinc** | **107** | | mg/kg dry | 2.24 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:12 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | ND | | mg/kg dry | 0.0323 | 1 | EPA 7473 | 12/21/2023 16:04 | 12/22/2023 16:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-044 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **92.8** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 15:04 | 12/21/2023 18:01 | CAM2 |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L6SS-02 **York Sample ID:** 23L1063-23

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Semi-Volatiles, PAH Target List

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 91-57-6 | 2-Methylnaphthalene | ND | | mg/kg dry | 0.240 | 0.479 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 83-32-9 | Acenaphthene | ND | | mg/kg dry | 0.240 | 0.479 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 208-96-8 | Acenaphthylene | ND | | mg/kg dry | 0.240 | 0.479 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 120-12-7 | Anthracene | ND | | mg/kg dry | 0.240 | 0.479 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 56-55-3 | Benzo(a)anthracene | ND | | mg/kg dry | 0.240 | 0.479 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 50-32-8 | Benzo(a)pyrene | ND | | mg/kg dry | 0.240 | 0.479 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |

## Sample Information

**Client Sample ID:** L6SS-02 **York Sample ID:** 23L1063-23

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Semi-Volatiles, PAH Target List

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 205-99-2 | Benzo(b)fluoranthene | ND | | mg/kg dry | 0.240 | 0.479 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | mg/kg dry | 0.240 | 0.479 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 207-08-9 | Benzo(k)fluoranthene | ND | | mg/kg dry | 0.240 | 0.479 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 218-01-9 | Chrysene | ND | | mg/kg dry | 0.240 | 0.479 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | mg/kg dry | 0.240 | 0.479 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 206-44-0 | **Fluoranthene** | **0.314** | J | mg/kg dry | 0.240 | 0.479 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 86-73-7 | Fluorene | ND | | mg/kg dry | 0.240 | 0.479 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:59 | KH- |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | mg/kg dry | 0.240 | 0.479 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 91-20-3 | Naphthalene | ND | | mg/kg dry | 0.240 | 0.479 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 85-01-8 | Phenanthrene | ND | | mg/kg dry | 0.240 | 0.479 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 129-00-0 | **Pyrene** | **0.253** | J | mg/kg dry | 0.240 | 0.479 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 13:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *30.8 %* | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *49.2 %* | *21-113* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *40.8 %* | *24-116* |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **7680** | | mg/kg dry | 4.80 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.40 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **6.42** | | mg/kg dry | 1.44 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **57.7** | | mg/kg dry | 2.40 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.460** | | mg/kg dry | 0.048 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.288 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |

## Sample Information

**Client Sample ID:** L6SS-02 **York Sample ID:** 23L1063-23

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-70-2 | **Calcium** | **39700** | | mg/kg dry | 4.80 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **12.7** | | mg/kg dry | 0.480 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **5.94** | | mg/kg dry | 0.383 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **31.3** | | mg/kg dry | 1.92 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **16400** | | mg/kg dry | 24.0 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **103** | | mg/kg dry | 0.480 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **7530** | | mg/kg dry | 4.80 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **391** | | mg/kg dry | 0.480 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **18.6** | | mg/kg dry | 0.956 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **997** | B | mg/kg dry | 4.80 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.40 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.484 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **1200** | | mg/kg dry | 48.0 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.40 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **27.6** | | mg/kg dry | 0.956 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **198** | | mg/kg dry | 2.39 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.133** | | mg/kg dry | 0.0345 | 1 | EPA 7473 | 12/21/2023 16:04 | 12/22/2023 16:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

## Sample Information

**Client Sample ID:** L6SS-02 **York Sample ID:** 23L1063-23

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **86.8** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 16:39 | 12/21/2023 21:54 | LRS |
| | | | | | | | Certifications: CTDOH-PH-0723 | | | |

## Sample Information

**Client Sample ID:** L6SS-03 **York Sample ID:** 23L1063-24

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

**Semi-Volatiles, PAH Target List** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 91-57-6 | 2-Methylnaphthalene | ND | | mg/kg dry | 0.261 | 0.521 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:29 | KH- |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 83-32-9 | Acenaphthene | ND | | mg/kg dry | 0.261 | 0.521 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:29 | KH- |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 208-96-8 | Acenaphthylene | ND | | mg/kg dry | 0.261 | 0.521 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:29 | KH- |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 120-12-7 | Anthracene | ND | | mg/kg dry | 0.261 | 0.521 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:29 | KH- |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 56-55-3 | **Benzo(a)anthracene** | **1.59** | | mg/kg dry | 0.261 | 0.521 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:29 | KH- |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 50-32-8 | **Benzo(a)pyrene** | **1.68** | | mg/kg dry | 0.261 | 0.521 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:29 | KH- |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 205-99-2 | **Benzo(b)fluoranthene** | **1.47** | | mg/kg dry | 0.261 | 0.521 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:29 | KH- |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 191-24-2 | **Benzo(g,h,i)perylene** | **0.920** | | mg/kg dry | 0.261 | 0.521 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:29 | KH- |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 207-08-9 | **Benzo(k)fluoranthene** | **1.14** | | mg/kg dry | 0.261 | 0.521 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:29 | KH- |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 218-01-9 | **Chrysene** | **1.54** | | mg/kg dry | 0.261 | 0.521 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:29 | KH- |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 53-70-3 | **Dibenzo(a,h)anthracene** | **0.387** | J | mg/kg dry | 0.261 | 0.521 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:29 | KH- |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 206-44-0 | **Fluoranthene** | **1.87** | | mg/kg dry | 0.261 | 0.521 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:29 | KH- |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 86-73-7 | Fluorene | ND | | mg/kg dry | 0.261 | 0.521 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:29 | KH- |
| | | | | | | | | Certifications: NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | | |
| 193-39-5 | **Indeno(1,2,3-cd)pyrene** | **1.32** | | mg/kg dry | 0.261 | 0.521 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:29 | KH- |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |

## Sample Information

**Client Sample ID:** L6SS-03 **York Sample ID:** 23L1063-24

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Semi-Volatiles, PAH Target List

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 91-20-3 | Naphthalene | ND | | mg/kg dry | 0.261 | 0.521 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 85-01-8 | **Phenanthrene** | **0.512** | J | mg/kg dry | 0.261 | 0.521 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 129-00-0 | **Pyrene** | **1.74** | | mg/kg dry | 0.261 | 0.521 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

| | Surrogate Recoveries | Result | | Acceptance Range |
|---|---|---|---|---|
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *20.4 %* | S-01, S-08 | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *24.4 %* | | *21-113* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *26.8 %* | | *24-116* |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **7380** | | mg/kg dry | 5.22 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.61 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **6.15** | | mg/kg dry | 1.57 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **166** | | mg/kg dry | 2.61 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.687** | | mg/kg dry | 0.053 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | **Cadmium** | **0.475** | | mg/kg dry | 0.313 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-70-2 | **Calcium** | **47800** | | mg/kg dry | 5.22 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **20.3** | | mg/kg dry | 0.523 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **5.72** | | mg/kg dry | 0.417 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **61.9** | | mg/kg dry | 2.09 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **17200** | | mg/kg dry | 26.1 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **239** | | mg/kg dry | 0.523 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **8210** | | mg/kg dry | 5.23 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** L6SS-03 **York Sample ID:** 23L1063-24

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-96-5 | **Manganese** | **430** | | mg/kg dry | 0.523 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **27.7** | | mg/kg dry | 1.04 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1030** | B | mg/kg dry | 5.23 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.61 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.526 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **3320** | | mg/kg dry | 52.2 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.61 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **56.8** | | mg/kg dry | 1.04 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **519** | | mg/kg dry | 2.60 | 1 | EPA 6010D | 12/18/2023 17:39 | 12/22/2023 15:17 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.118** | | mg/kg dry | 0.0376 | 1 | EPA 7473 | 12/21/2023 16:04 | 12/22/2023 16:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **79.8** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 16:39 | 12/21/2023 21:54 | LRS |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L7SS-01 **York Sample ID:** 23L1063-25

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

## Sample Information

**Client Sample ID:** L7SS-01 **York Sample ID:** 23L1063-25

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **2.76** | | mg/kg dry | 1.16 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:35 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Barium by EPA 6010

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **48.2** | | mg/kg dry | 1.94 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:35 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Lead by EPA 6010

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **39.3** | | mg/kg dry | 0.389 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:35 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.0410** | | mg/kg dry | 0.0335 | 1 | EPA 7473 | 12/21/2023 16:04 | 12/22/2023 16:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **89.4** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 16:39 | 12/21/2023 21:54 | LRS |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L7SS-02 **York Sample ID:** 23L1063-26

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:** **Sample Notes:**

## Sample Information

**Client Sample ID:** L7SS-02 **York Sample ID:** 23L1063-26

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **9.17** | | mg/kg dry | 1.21 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:43 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Barium by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **436** | | mg/kg dry | 2.02 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:43 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Lead by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **3530** | | mg/kg dry | 0.405 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:43 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Mercury by 7473** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **1.22** | | mg/kg dry | 0.0350 | 1 | EPA 7473 | 12/21/2023 16:04 | 12/22/2023 16:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

**Total Solids** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **85.7** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 16:39 | 12/21/2023 21:54 | LRS |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L7SS-03 **York Sample ID:** 23L1063-27

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

**Arsenic by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|

## Sample Information

**Client Sample ID:** L7SS-03 **York Sample ID:** 23L1063-27

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **6.24** | | mg/kg dry | 1.21 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:46 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Barium by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **69.9** | | mg/kg dry | 2.01 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:46 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Lead by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **135** | | mg/kg dry | 0.402 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:46 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.198** | | mg/kg dry | 0.0347 | 1 | EPA 7473 | 12/21/2023 16:04 | 12/22/2023 16:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **86.4** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 16:39 | 12/21/2023 21:54 | LRS |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L30SS-01 **York Sample ID:** 23L1063-28

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:**

**Sample Notes:**

## Sample Information

**Client Sample ID:** L30SS-01 **York Sample ID:** 23L1063-28

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **6.84** | | mg/kg dry | 1.81 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:48 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Barium by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **81.5** | | mg/kg dry | 3.02 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:48 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Lead by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **193** | | mg/kg dry | 0.605 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:48 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Mercury by 7473** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.462** | | mg/kg dry | 0.0522 | 1 | EPA 7473 | 12/21/2023 16:04 | 12/22/2023 16:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

**Total Solids** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **57.4** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 16:39 | 12/21/2023 21:54 | LRS |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L30SS-02 **York Sample ID:** 23L1063-29

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

**Arsenic by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|

## Sample Information

**Client Sample ID:** L30SS-02 **York Sample ID:** 23L1063-29

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **4.67** | | mg/kg dry | 2.06 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:51 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Barium by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **130** | | mg/kg dry | 3.43 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:51 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Lead by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **634** | | mg/kg dry | 0.687 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:51 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.227** | | mg/kg dry | 0.0593 | 1 | EPA 7473 | 12/21/2023 16:04 | 12/22/2023 16:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **50.6** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 16:39 | 12/21/2023 21:54 | LRS |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L30SS-03 **York Sample ID:** 23L1063-30

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:**

**Sample Notes:**

## Sample Information

**Client Sample ID:** L30SS-03 **York Sample ID:** 23L1063-30

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **6.30** | | mg/kg dry | 1.42 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:53 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Barium by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **81.0** | | mg/kg dry | 2.35 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:53 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Lead by EPA 6010** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **172** | | mg/kg dry | 0.472 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:53 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

**Mercury by 7473** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.235** | | mg/kg dry | 0.0408 | 1 | EPA 7473 | 12/21/2023 16:04 | 12/22/2023 16:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

**Total Solids** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **73.6** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 16:39 | 12/21/2023 21:54 | LRS |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L41SS-01 **York Sample ID:** 23L1063-31

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

**Semi-Volatiles, PAH Target List** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|

## Sample Information

**Client Sample ID:** **L41SS-01** **York Sample ID:** **23L1063-31**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Semi-Volatiles, PAH Target List

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 91-57-6 | 2-Methylnaphthalene | ND | | mg/kg dry | 0.225 | 0.449 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 83-32-9 | Acenaphthene | ND | | mg/kg dry | 0.225 | 0.449 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 208-96-8 | Acenaphthylene | ND | | mg/kg dry | 0.225 | 0.449 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 120-12-7 | Anthracene | ND | | mg/kg dry | 0.225 | 0.449 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 56-55-3 | Benzo(a)anthracene | ND | | mg/kg dry | 0.225 | 0.449 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 50-32-8 | Benzo(a)pyrene | ND | | mg/kg dry | 0.225 | 0.449 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 205-99-2 | Benzo(b)fluoranthene | ND | | mg/kg dry | 0.225 | 0.449 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | mg/kg dry | 0.225 | 0.449 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 207-08-9 | Benzo(k)fluoranthene | ND | | mg/kg dry | 0.225 | 0.449 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 218-01-9 | Chrysene | ND | | mg/kg dry | 0.225 | 0.449 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | mg/kg dry | 0.225 | 0.449 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 206-44-0 | Fluoranthene | ND | | mg/kg dry | 0.225 | 0.449 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 86-73-7 | Fluorene | ND | | mg/kg dry | 0.225 | 0.449 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:59 | KH- |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | mg/kg dry | 0.225 | 0.449 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 91-20-3 | Naphthalene | ND | | mg/kg dry | 0.225 | 0.449 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 85-01-8 | Phenanthrene | ND | | mg/kg dry | 0.225 | 0.449 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 129-00-0 | Pyrene | ND | | mg/kg dry | 0.225 | 0.449 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 14:59 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |

| | Surrogate Recoveries | Result | | Acceptance Range |
|---|---|---|---|---|
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *14.0 %* | S-01, S-08 | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *12.4 %* | S-01, S-08 | *21-113* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *12.8 %* | S-01, S-08 | *24-116* |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

## Sample Information

**Client Sample ID:** **L41SS-01** **York Sample ID:** **23L1063-31**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **7710** | | mg/kg dry | 4.50 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.25 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **7.01** | | mg/kg dry | 1.35 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **49.6** | | mg/kg dry | 2.25 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.517** | | mg/kg dry | 0.045 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.270 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-70-2 | **Calcium** | **36600** | | mg/kg dry | 4.50 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **12.0** | | mg/kg dry | 0.451 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **6.14** | | mg/kg dry | 0.360 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **28.0** | | mg/kg dry | 1.80 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **17700** | | mg/kg dry | 22.5 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **37.0** | | mg/kg dry | 0.451 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **7050** | | mg/kg dry | 4.51 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **413** | | mg/kg dry | 0.451 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **21.4** | | mg/kg dry | 0.897 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **857** | | mg/kg dry | 4.51 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.25 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.454 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **564** | | mg/kg dry | 45.0 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.25 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **34.6** | | mg/kg dry | 0.897 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **106** | | mg/kg dry | 2.24 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:56 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** L41SS-01 **York Sample ID:** 23L1063-31

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.0767** | | mg/kg dry | 0.0324 | 1 | EPA 7473 | 12/21/2023 19:55 | 12/22/2023 16:01 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **92.6** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 16:39 | 12/21/2023 21:54 | LRS |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L41SS-02 **York Sample ID:** 23L1063-32

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Semi-Volatiles, PAH Target List

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 91-57-6 | 2-Methylnaphthalene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 15:29 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 83-32-9 | Acenaphthene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 15:29 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 208-96-8 | Acenaphthylene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 15:29 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 120-12-7 | Anthracene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 15:29 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 56-55-3 | Benzo(a)anthracene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 15:29 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 50-32-8 | Benzo(a)pyrene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 15:29 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 205-99-2 | Benzo(b)fluoranthene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 15:29 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 15:29 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 207-08-9 | Benzo(k)fluoranthene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 15:29 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 218-01-9 | Chrysene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 15:29 | KH- |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |

## Sample Information

**Client Sample ID:** L41SS-02 **York Sample ID:** 23L1063-32

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Semi-Volatiles, PAH Target List

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 15:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 206-44-0 | Fluoranthene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 15:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 86-73-7 | Fluorene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 15:29 | KH- |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 15:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 91-20-3 | Naphthalene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 15:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 85-01-8 | Phenanthrene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 15:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 129-00-0 | Pyrene | ND | | mg/kg dry | 0.252 | 0.503 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 15:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *28.8 %* | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *47.2 %* | *21-113* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *49.6 %* | *24-116* |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **8130** | | mg/kg dry | 5.04 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.52 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **6.94** | | mg/kg dry | 1.51 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **47.7** | | mg/kg dry | 2.52 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.462** | | mg/kg dry | 0.051 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.303 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-70-2 | **Calcium** | **56400** | | mg/kg dry | 5.04 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **13.6** | | mg/kg dry | 0.505 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **5.54** | | mg/kg dry | 0.403 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **31.7** | | mg/kg dry | 2.02 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** **L41SS-02** **York Sample ID:** **23L1063-32**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-89-6 | **Iron** | **23000** | | mg/kg dry | 25.2 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **29.2** | | mg/kg dry | 0.505 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **7430** | | mg/kg dry | 5.05 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **398** | | mg/kg dry | 0.505 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **21.9** | | mg/kg dry | 1.00 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1250** | | mg/kg dry | 5.05 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.52 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.508 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **460** | | mg/kg dry | 50.4 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.52 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **27.7** | | mg/kg dry | 1.00 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **86.4** | | mg/kg dry | 2.51 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 15:58 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | ND | | mg/kg dry | 0.0363 | 1 | EPA 7473 | 12/21/2023 19:55 | 12/22/2023 16:01 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-044 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **82.6** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 16:39 | 12/21/2023 21:54 | LRS |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** **L41SS-03** **York Sample ID:** **23L1063-33**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Semi-Volatiles, PAH Target List

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 91-57-6 | 2-Methylnaphthalene | ND | | mg/kg dry | 0.243 | 0.485 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:00 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 83-32-9 | Acenaphthene | ND | | mg/kg dry | 0.243 | 0.485 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:00 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 208-96-8 | Acenaphthylene | ND | | mg/kg dry | 0.243 | 0.485 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:00 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 120-12-7 | Anthracene | ND | | mg/kg dry | 0.243 | 0.485 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:00 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 56-55-3 | Benzo(a)anthracene | ND | | mg/kg dry | 0.243 | 0.485 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:00 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 50-32-8 | Benzo(a)pyrene | ND | | mg/kg dry | 0.243 | 0.485 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:00 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 205-99-2 | Benzo(b)fluoranthene | ND | | mg/kg dry | 0.243 | 0.485 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:00 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | mg/kg dry | 0.243 | 0.485 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:00 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 207-08-9 | Benzo(k)fluoranthene | ND | | mg/kg dry | 0.243 | 0.485 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:00 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 218-01-9 | Chrysene | ND | | mg/kg dry | 0.243 | 0.485 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:00 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | mg/kg dry | 0.243 | 0.485 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:00 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 206-44-0 | Fluoranthene | ND | | mg/kg dry | 0.243 | 0.485 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:00 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 86-73-7 | Fluorene | ND | | mg/kg dry | 0.243 | 0.485 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:00 | KH- |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | mg/kg dry | 0.243 | 0.485 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:00 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 91-20-3 | Naphthalene | ND | | mg/kg dry | 0.243 | 0.485 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:00 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 85-01-8 | Phenanthrene | ND | | mg/kg dry | 0.243 | 0.485 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:00 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 129-00-0 | Pyrene | ND | | mg/kg dry | 0.243 | 0.485 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:00 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *40.4 %* | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *45.2 %* | *21-113* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *48.4 %* | *24-116* |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|

## Sample Information

**Client Sample ID:** **L41SS-03** **York Sample ID:** **23L1063-33**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

**Metals, Target Analyte** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **6030** | | mg/kg dry | 4.87 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.43 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **4.37** | | mg/kg dry | 1.46 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **36.8** | | mg/kg dry | 2.43 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.337** | | mg/kg dry | 0.049 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.292 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-70-2 | **Calcium** | **62600** | | mg/kg dry | 4.87 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **9.63** | | mg/kg dry | 0.487 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **4.32** | | mg/kg dry | 0.389 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **22.4** | | mg/kg dry | 1.95 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **13900** | | mg/kg dry | 24.3 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **18.5** | | mg/kg dry | 0.487 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **9090** | | mg/kg dry | 4.87 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **375** | | mg/kg dry | 0.487 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **15.8** | | mg/kg dry | 0.969 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **926** | | mg/kg dry | 4.87 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.43 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.491 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **550** | | mg/kg dry | 48.7 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.43 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **16.6** | | mg/kg dry | 0.969 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** L41SS-03 **York Sample ID:** 23L1063-33

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-66-6 | **Zinc** | **89.8** | | mg/kg dry | 2.42 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:01 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | ND | | mg/kg dry | 0.0350 | 1 | EPA 7473 | 12/21/2023 19:55 | 12/22/2023 16:01 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-044 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **85.6** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 16:39 | 12/21/2023 21:54 | LRS |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L41SS-04 **York Sample ID:** 23L1063-34

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Semi-Volatiles, PAH Target List

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 91-57-6 | 2-Methylnaphthalene | ND | | mg/kg dry | 0.247 | 0.492 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 83-32-9 | Acenaphthene | ND | | mg/kg dry | 0.247 | 0.492 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 208-96-8 | Acenaphthylene | ND | | mg/kg dry | 0.247 | 0.492 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 120-12-7 | Anthracene | ND | | mg/kg dry | 0.247 | 0.492 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 56-55-3 | Benzo(a)anthracene | ND | | mg/kg dry | 0.247 | 0.492 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 50-32-8 | Benzo(a)pyrene | ND | | mg/kg dry | 0.247 | 0.492 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |

## Sample Information

**Client Sample ID:** **L41SS-04** **York Sample ID:** **23L1063-34**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Semi-Volatiles, PAH Target List

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 205-99-2 | Benzo(b)fluoranthene | ND | | mg/kg dry | 0.247 | 0.492 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | mg/kg dry | 0.247 | 0.492 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 207-08-9 | Benzo(k)fluoranthene | ND | | mg/kg dry | 0.247 | 0.492 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 218-01-9 | Chrysene | ND | | mg/kg dry | 0.247 | 0.492 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | mg/kg dry | 0.247 | 0.492 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 206-44-0 | Fluoranthene | ND | | mg/kg dry | 0.247 | 0.492 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 86-73-7 | Fluorene | ND | | mg/kg dry | 0.247 | 0.492 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:29 | KH- |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | mg/kg dry | 0.247 | 0.492 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 91-20-3 | Naphthalene | ND | | mg/kg dry | 0.247 | 0.492 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 85-01-8 | Phenanthrene | ND | | mg/kg dry | 0.247 | 0.492 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 129-00-0 | Pyrene | ND | | mg/kg dry | 0.247 | 0.492 | 10 | EPA 8270D | 12/27/2023 09:23 | 12/29/2023 16:29 | KH- |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *36.4 %* | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *40.4 %* | *21-113* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *37.6 %* | *24-116* |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **6620** | | mg/kg dry | 4.93 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.47 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **4.40** | | mg/kg dry | 1.48 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **38.7** | | mg/kg dry | 2.46 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.366** | | mg/kg dry | 0.050 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.296 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |

## Sample Information

**Client Sample ID:** **L41SS-04** **York Sample ID:** **23L1063-34**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-70-2 | **Calcium** | **75800** | | mg/kg dry | 4.93 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **7.92** | | mg/kg dry | 0.494 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **4.72** | | mg/kg dry | 0.394 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **17.8** | | mg/kg dry | 1.97 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **13200** | | mg/kg dry | 24.7 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **16.7** | | mg/kg dry | 0.494 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **6120** | | mg/kg dry | 4.94 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **353** | | mg/kg dry | 0.494 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **15.2** | | mg/kg dry | 0.983 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **965** | | mg/kg dry | 4.94 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.47 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.497 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **397** | | mg/kg dry | 49.3 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.47 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **16.5** | | mg/kg dry | 0.983 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **56.2** | | mg/kg dry | 2.46 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:03 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | ND | | mg/kg dry | 0.0355 | 1 | EPA 7473 | 12/21/2023 19:55 | 12/22/2023 16:01 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-044 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

## Sample Information

**Client Sample ID:** L41SS-04 **York Sample ID:** 23L1063-34

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **84.5** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 16:39 | 12/21/2023 21:54 | LRS |
| | | | | | | | Certifications: CTDOH-PH-0723 | | | |

## Sample Information

**Client Sample ID:** L46SS-01 **York Sample ID:** 23L1063-35

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **10.7** | | mg/kg dry | 1.26 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:06 | CEG |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |

### Barium by EPA 6010

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **78.4** | | mg/kg dry | 2.10 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:06 | CEG |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |

### Lead by EPA 6010

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **558** | | mg/kg dry | 0.421 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:06 | CEG |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.235** | | mg/kg dry | 0.0364 | 1 | EPA 7473 | 12/21/2023 19:55 | 12/22/2023 16:01 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|

## Sample Information

**Client Sample ID:** L46SS-01 **York Sample ID:** 23L1063-35

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **82.4** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 16:39 | 12/21/2023 21:54 | LRS |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** L46SS-02 **York Sample ID:** 23L1063-36

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **9.59** | | mg/kg dry | 1.26 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Barium by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **49.2** | | mg/kg dry | 2.09 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Lead by EPA 6010

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **23.1** | | mg/kg dry | 0.419 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:14 | CEG |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.0412** | | mg/kg dry | 0.0362 | 1 | EPA 7473 | 12/21/2023 19:55 | 12/22/2023 16:01 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

## Sample Information

**Client Sample ID:** L46SS-02 **York Sample ID:** 23L1063-36

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **83.0** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 16:57 | 12/21/2023 22:00 | LRS |
| | | | | | | | Certifications: CTDOH-PH-0723 | | | |

## Sample Information

**Client Sample ID:** L46SS-03 **York Sample ID:** 23L1063-37

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Arsenic by EPA 6010

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **17.1** | | mg/kg dry | 1.35 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:17 | CEG |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |

### Barium by EPA 6010

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-39-3 | **Barium** | **167** | | mg/kg dry | 2.24 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:17 | CEG |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |

### Lead by EPA 6010

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-92-1 | **Lead** | **329** | | mg/kg dry | 0.449 | 1 | EPA 6010D | 12/18/2023 17:35 | 12/22/2023 16:17 | CEG |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.436** | | mg/kg dry | 0.0388 | 1 | EPA 7473 | 12/21/2023 19:55 | 12/22/2023 16:01 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|

## Sample Information

**Client Sample ID:** **L46SS-03** **York Sample ID:** **23L1063-37**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 23L1063 | 23003-0060 | Soil | December 13, 2023 12:10 pm | 12/14/2023 |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **77.3** | | % | 0.100 | 1 | SM 2540G | 12/21/2023 16:57 | 12/21/2023 22:00 | LRS |
| | | | | | | | Certifications: CTDOH-PH-0723 | | | |

# Analytical Batch Summary

**Batch ID:** BL31219 **Preparation Method:** EPA 3050B **Prepared By:** JEF

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 23L1063-25 | L7SS-01 | 12/18/23 |
| 23L1063-26 | L7SS-02 | 12/18/23 |
| 23L1063-26 | L7SS-02 | 12/18/23 |
| 23L1063-27 | L7SS-03 | 12/18/23 |
| 23L1063-28 | L30SS-01 | 12/18/23 |
| 23L1063-29 | L30SS-02 | 12/18/23 |
| 23L1063-30 | L30SS-03 | 12/18/23 |
| 23L1063-31 | L41SS-01 | 12/18/23 |
| 23L1063-32 | L41SS-02 | 12/18/23 |
| 23L1063-33 | L41SS-03 | 12/18/23 |
| 23L1063-34 | L41SS-04 | 12/18/23 |
| 23L1063-35 | L46SS-01 | 12/18/23 |
| 23L1063-36 | L46SS-02 | 12/18/23 |
| 23L1063-37 | L46SS-03 | 12/18/23 |
| BL31219-BLK1 | Blank | 12/18/23 |
| BL31219-DUP1 | Duplicate | 12/18/23 |
| BL31219-MS1 | Matrix Spike | 12/18/23 |
| BL31219-PS1 | Post Spike | 12/18/23 |
| BL31219-SRM1 | Reference | 12/18/23 |

**Batch ID:** BL31220 **Preparation Method:** EPA 3050B **Prepared By:** JEF

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 23L1063-06 | L2SS-03 | 12/18/23 |
| 23L1063-07 | L2SS-04 | 12/18/23 |
| 23L1063-08 | L2SS-05 | 12/18/23 |
| 23L1063-09 | L2SS-06 | 12/18/23 |
| 23L1063-10 | L2SS-07 | 12/18/23 |
| 23L1063-11 | L2SS-08 | 12/18/23 |
| 23L1063-12 | L3SS-01 | 12/18/23 |
| 23L1063-13 | L3SS-02 | 12/18/23 |
| 23L1063-14 | L3SS-03 | 12/18/23 |
| 23L1063-15 | L4SS-01 | 12/18/23 |
| 23L1063-16 | L4SS-02 | 12/18/23 |
| 23L1063-17 | L4SS-03 | 12/18/23 |
| 23L1063-18 | L5SS-01 | 12/18/23 |
| 23L1063-19 | L5SS-02 | 12/18/23 |
| 23L1063-20 | L5SS-03 | 12/18/23 |
| 23L1063-21 | L5SS-04 | 12/18/23 |
| 23L1063-22 | L6SS-01 | 12/18/23 |
| 23L1063-23 | L6SS-02 | 12/18/23 |
| 23L1063-24 | L6SS-03 | 12/18/23 |
| BL31220-BLK1 | Blank | 12/18/23 |
| BL31220-DUP1 | Duplicate | 12/18/23 |
| BL31220-MS1 | Matrix Spike | 12/18/23 |
| BL31220-PS1 | Post Spike | 12/18/23 |

| | | |
|---|---|---|
| BL31220-SRM1 | Reference | 12/18/23 |

**Batch ID:** BL31221 **Preparation Method:** EPA 3050B **Prepared By:** JEF

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 23L1063-01 | L1SS-01 | 12/18/23 |
| 23L1063-02 | L1SS-02 | 12/18/23 |
| 23L1063-03 | L1SS-03 | 12/18/23 |
| 23L1063-04 | L2SS-01 | 12/18/23 |
| 23L1063-05 | L2SS-02 | 12/18/23 |
| BL31221-BLK1 | Blank | 12/18/23 |
| BL31221-DUP1 | Duplicate | 12/18/23 |
| BL31221-MS1 | Matrix Spike | 12/18/23 |
| BL31221-PS1 | Post Spike | 12/18/23 |
| BL31221-SRM1 | Reference | 12/18/23 |

**Batch ID:** BL31438 **Preparation Method:** EPA 7473 soil **Prepared By:** AGNR

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 23L1063-01 | L1SS-01 | 12/20/23 |
| 23L1063-02 | L1SS-02 | 12/20/23 |
| 23L1063-03 | L1SS-03 | 12/20/23 |
| 23L1063-04 | L2SS-01 | 12/20/23 |
| 23L1063-05 | L2SS-02 | 12/20/23 |
| 23L1063-06 | L2SS-03 | 12/20/23 |
| 23L1063-07 | L2SS-04 | 12/20/23 |
| 23L1063-08 | L2SS-05 | 12/20/23 |
| 23L1063-09 | L2SS-06 | 12/20/23 |
| 23L1063-10 | L2SS-07 | 12/20/23 |
| 23L1063-11 | L2SS-08 | 12/20/23 |
| 23L1063-12 | L3SS-01 | 12/20/23 |
| 23L1063-13 | L3SS-02 | 12/20/23 |
| 23L1063-14 | L3SS-03 | 12/20/23 |
| 23L1063-15 | L4SS-01 | 12/20/23 |
| BL31438-BLK1 | Blank | 12/20/23 |
| BL31438-DUP1 | Duplicate | 12/20/23 |
| BL31438-MS1 | Matrix Spike | 12/20/23 |
| BL31438-SRM1 | Reference | 12/20/23 |

**Batch ID:** BL31539 **Preparation Method:** % Solids Prep **Prepared By:** CAM2

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 23L1063-01 | L1SS-01 | 12/21/23 |
| 23L1063-04 | L2SS-01 | 12/21/23 |
| 23L1063-05 | L2SS-02 | 12/21/23 |
| 23L1063-06 | L2SS-03 | 12/21/23 |
| 23L1063-07 | L2SS-04 | 12/21/23 |
| 23L1063-08 | L2SS-05 | 12/21/23 |
| 23L1063-09 | L2SS-06 | 12/21/23 |
| 23L1063-10 | L2SS-07 | 12/21/23 |

| | | |
|---|---|---|
| 23L1063-11 | L2SS-08 | 12/21/23 |
| 23L1063-12 | L3SS-01 | 12/21/23 |
| 23L1063-13 | L3SS-02 | 12/21/23 |
| 23L1063-14 | L3SS-03 | 12/21/23 |
| 23L1063-15 | L4SS-01 | 12/21/23 |
| 23L1063-16 | L4SS-02 | 12/21/23 |
| 23L1063-17 | L4SS-03 | 12/21/23 |
| 23L1063-18 | L5SS-01 | 12/21/23 |
| 23L1063-19 | L5SS-02 | 12/21/23 |
| 23L1063-20 | L5SS-03 | 12/21/23 |
| 23L1063-21 | L5SS-04 | 12/21/23 |
| 23L1063-22 | L6SS-01 | 12/21/23 |
| BL31539-DUP1 | Duplicate | 12/21/23 |

**Batch ID:** BL31542 **Preparation Method:** EPA 7473 soil **Prepared By:** AGNR

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 23L1063-16 | L4SS-02 | 12/21/23 |
| 23L1063-17 | L4SS-03 | 12/21/23 |
| 23L1063-18 | L5SS-01 | 12/21/23 |
| 23L1063-19 | L5SS-02 | 12/21/23 |
| 23L1063-20 | L5SS-03 | 12/21/23 |
| BL31542-BLK1 | Blank | 12/21/23 |
| BL31542-DUP1 | Duplicate | 12/21/23 |
| BL31542-MS1 | Matrix Spike | 12/21/23 |
| BL31542-SRM1 | Reference | 12/21/23 |

**Batch ID:** BL31544 **Preparation Method:** EPA 7473 soil **Prepared By:** AGNR

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 23L1063-21 | L5SS-04 | 12/21/23 |
| 23L1063-22 | L6SS-01 | 12/21/23 |
| 23L1063-23 | L6SS-02 | 12/21/23 |
| 23L1063-24 | L6SS-03 | 12/21/23 |
| 23L1063-25 | L7SS-01 | 12/21/23 |
| 23L1063-26 | L7SS-02 | 12/21/23 |
| 23L1063-27 | L7SS-03 | 12/21/23 |
| 23L1063-28 | L30SS-01 | 12/21/23 |
| 23L1063-29 | L30SS-02 | 12/21/23 |
| 23L1063-30 | L30SS-03 | 12/21/23 |
| BL31544-BLK1 | Blank | 12/21/23 |
| BL31544-DUP1 | Duplicate | 12/21/23 |
| BL31544-MS1 | Matrix Spike | 12/21/23 |
| BL31544-SRM1 | Reference | 12/21/23 |

**Batch ID:** BL31549 **Preparation Method:** % Solids Prep **Prepared By:** LRS

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 23L1063-02 | L1SS-02 | 12/21/23 |
| 23L1063-03 | L1SS-03 | 12/21/23 |

| | | |
|---|---|---|
| 23L1063-23 | L6SS-02 | 12/21/23 |
| 23L1063-24 | L6SS-03 | 12/21/23 |
| 23L1063-25 | L7SS-01 | 12/21/23 |
| 23L1063-26 | L7SS-02 | 12/21/23 |
| 23L1063-27 | L7SS-03 | 12/21/23 |
| 23L1063-28 | L30SS-01 | 12/21/23 |
| 23L1063-29 | L30SS-02 | 12/21/23 |
| 23L1063-30 | L30SS-03 | 12/21/23 |
| 23L1063-31 | L41SS-01 | 12/21/23 |
| 23L1063-32 | L41SS-02 | 12/21/23 |
| 23L1063-33 | L41SS-03 | 12/21/23 |
| 23L1063-34 | L41SS-04 | 12/21/23 |
| 23L1063-35 | L46SS-01 | 12/21/23 |
| BL31549-DUP1 | Duplicate | 12/21/23 |

**Batch ID:** BL31552 **Preparation Method:** % Solids Prep **Prepared By:** LRS

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 23L1063-36 | L46SS-02 | 12/21/23 |
| 23L1063-37 | L46SS-03 | 12/21/23 |
| BL31552-DUP1 | Duplicate | 12/21/23 |

**Batch ID:** BL31566 **Preparation Method:** EPA 7473 soil **Prepared By:** AGNR

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 23L1063-31 | L41SS-01 | 12/21/23 |
| 23L1063-32 | L41SS-02 | 12/21/23 |
| 23L1063-33 | L41SS-03 | 12/21/23 |
| 23L1063-34 | L41SS-04 | 12/21/23 |
| 23L1063-35 | L46SS-01 | 12/21/23 |
| 23L1063-36 | L46SS-02 | 12/21/23 |
| 23L1063-37 | L46SS-03 | 12/21/23 |
| BL31566-BLK1 | Blank | 12/21/23 |
| BL31566-DUP1 | Duplicate | 12/21/23 |
| BL31566-MS1 | Matrix Spike | 12/21/23 |
| BL31566-SRM1 | Reference | 12/21/23 |

**Batch ID:** BL31840 **Preparation Method:** EPA 3550C **Prepared By:** me

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 23L1063-04 | L2SS-01 | 12/27/23 |
| 23L1063-05 | L2SS-02 | 12/27/23 |
| 23L1063-08 | L2SS-05 | 12/27/23 |
| 23L1063-09 | L2SS-06 | 12/27/23 |
| 23L1063-10 | L2SS-07 | 12/27/23 |
| 23L1063-10RE1 | L2SS-07 | 12/27/23 |
| 23L1063-11 | L2SS-08 | 12/27/23 |
| 23L1063-22 | L6SS-01 | 12/27/23 |
| 23L1063-23 | L6SS-02 | 12/27/23 |
| 23L1063-24 | L6SS-03 | 12/27/23 |

| | | |
|---|---|---|
| 23L1063-31 | L41SS-01 | 12/27/23 |
| 23L1063-32 | L41SS-02 | 12/27/23 |
| 23L1063-33 | L41SS-03 | 12/27/23 |
| 23L1063-34 | L41SS-04 | 12/27/23 |
| BL31840-BLK1 | Blank | 12/27/23 |
| BL31840-BS1 | LCS | 12/27/23 |
| BL31840-MS1 | Matrix Spike | 12/27/23 |
| BL31840-MSD1 | Matrix Spike Dup | 12/27/23 |

## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc. - Stratford

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL31840 - EPA 3550C** | | | | | | | | | | | |
| **Blank (BL31840-BLK1)** | | | | | | | | | | | Prepared: 12/27/2023 Analyzed: 12/28/2023 |
| 2-Methylnaphthalene | ND | 0.0416 | mg/kg wet | | | | | | | | |
| Acenaphthene | ND | 0.0416 | " | | | | | | | | |
| Acenaphthylene | ND | 0.0416 | " | | | | | | | | |
| Anthracene | ND | 0.0416 | " | | | | | | | | |
| Benzo(a)anthracene | ND | 0.0416 | " | | | | | | | | |
| Benzo(a)pyrene | ND | 0.0416 | " | | | | | | | | |
| Benzo(b)fluoranthene | ND | 0.0416 | " | | | | | | | | |
| Benzo(g,h,i)perylene | ND | 0.0416 | " | | | | | | | | |
| Benzo(k)fluoranthene | ND | 0.0416 | " | | | | | | | | |
| Chrysene | ND | 0.0416 | " | | | | | | | | |
| Dibenzo(a,h)anthracene | ND | 0.0416 | " | | | | | | | | |
| Fluoranthene | ND | 0.0416 | " | | | | | | | | |
| Fluorene | ND | 0.0416 | " | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ND | 0.0416 | " | | | | | | | | |
| Naphthalene | ND | 0.0416 | " | | | | | | | | |
| Phenanthrene | ND | 0.0416 | " | | | | | | | | |
| Pyrene | ND | 0.0416 | " | | | | | | | | |
| *Surrogate: SURR: Nitrobenzene-d5* | *0.505* | | *"* | *0.831* | | *60.8* | *22-108* | | | | |
| *Surrogate: SURR: 2-Fluorobiphenyl* | *0.447* | | *"* | *0.831* | | *53.8* | *21-113* | | | | |
| *Surrogate: SURR: Terphenyl-d14* | *0.596* | | *"* | *0.831* | | *71.8* | *24-116* | | | | |
| **LCS (BL31840-BS1)** | | | | | | | | | | | Prepared: 12/27/2023 Analyzed: 12/28/2023 |
| 2-Methylnaphthalene | 0.589 | 0.0416 | mg/kg wet | 0.831 | | 70.9 | 16-127 | | | | |
| Acenaphthene | 0.522 | 0.0416 | " | 0.831 | | 62.8 | 17-124 | | | | |
| Acenaphthylene | 0.542 | 0.0416 | " | 0.831 | | 65.2 | 16-124 | | | | |
| Anthracene | 0.564 | 0.0416 | " | 0.831 | | 67.9 | 24-124 | | | | |
| Benzo(a)anthracene | 0.661 | 0.0416 | " | 0.831 | | 79.6 | 25-134 | | | | |
| Benzo(a)pyrene | 0.621 | 0.0416 | " | 0.831 | | 74.7 | 29-144 | | | | |
| Benzo(b)fluoranthene | 0.659 | 0.0416 | " | 0.831 | | 79.3 | 20-151 | | | | |
| Benzo(g,h,i)perylene | 0.729 | 0.0416 | " | 0.831 | | 87.7 | 10-153 | | | | |
| Benzo(k)fluoranthene | 0.693 | 0.0416 | " | 0.831 | | 83.5 | 10-148 | | | | |
| Chrysene | 0.651 | 0.0416 | " | 0.831 | | 78.4 | 24-116 | | | | |
| Dibenzo(a,h)anthracene | 0.776 | 0.0416 | " | 0.831 | | 93.5 | 17-147 | | | | |
| Fluoranthene | 0.565 | 0.0416 | " | 0.831 | | 68.0 | 36-125 | | | | |
| Fluorene | 0.547 | 0.0416 | " | 0.831 | | 65.8 | 16-130 | | | | |
| Indeno(1,2,3-cd)pyrene | 0.794 | 0.0416 | " | 0.831 | | 95.6 | 10-155 | | | | |
| Naphthalene | 0.564 | 0.0416 | " | 0.831 | | 67.9 | 20-121 | | | | |
| Phenanthrene | 0.566 | 0.0416 | " | 0.831 | | 68.2 | 24-123 | | | | |
| Pyrene | 0.673 | 0.0416 | " | 0.831 | | 81.1 | 24-132 | | | | |
| *Surrogate: SURR: Nitrobenzene-d5* | *0.572* | | *"* | *0.831* | | *68.8* | *22-108* | | | | |
| *Surrogate: SURR: 2-Fluorobiphenyl* | *0.562* | | *"* | *0.831* | | *67.7* | *21-113* | | | | |
| *Surrogate: SURR: Terphenyl-d14* | *0.688* | | *"* | *0.831* | | *82.9* | *24-116* | | | | |

## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc. - Stratford

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL31840 - EPA 3550C** | | | | | | | | | | | |
| **Matrix Spike (BL31840-MS1)** | *Source sample: 23L1573-04 (Matrix Spike) | | | | | | | | Prepared: 12/27/2023 Analyzed: 12/28/2023 | | |
| 2-Methylnaphthalene | 0.529 | 0.0890 | mg/kg dry | 0.889 | ND | 59.4 | 10-143 | | | | |
| Acenaphthene | 0.488 | 0.0890 | " | 0.889 | ND | 54.9 | 13-133 | | | | |
| Acenaphthylene | 0.482 | 0.0890 | " | 0.889 | ND | 54.2 | 25-125 | | | | |
| Anthracene | 0.510 | 0.0890 | " | 0.889 | ND | 57.4 | 27-128 | | | | |
| Benzo(a)anthracene | 0.596 | 0.0890 | " | 0.889 | ND | 67.0 | 20-147 | | | | |
| Benzo(a)pyrene | 0.571 | 0.0890 | " | 0.889 | ND | 64.2 | 18-153 | | | | |
| Benzo(b)fluoranthene | 0.585 | 0.0890 | " | 0.889 | ND | 65.8 | 10-163 | | | | |
| Benzo(g,h,i)perylene | 0.665 | 0.0890 | " | 0.889 | ND | 74.8 | 10-157 | | | | |
| Benzo(k)fluoranthene | 0.599 | 0.0890 | " | 0.889 | ND | 67.4 | 10-157 | | | | |
| Chrysene | 0.587 | 0.0890 | " | 0.889 | ND | 66.0 | 18-133 | | | | |
| Dibenzo(a,h)anthracene | 0.680 | 0.0890 | " | 0.889 | ND | 76.5 | 10-146 | | | | |
| Fluoranthene | 0.512 | 0.0890 | " | 0.889 | ND | 57.5 | 10-155 | | | | |
| Fluorene | 0.509 | 0.0890 | " | 0.889 | ND | 57.2 | 12-150 | | | | |
| Indeno(1,2,3-cd)pyrene | 0.693 | 0.0890 | " | 0.889 | ND | 77.9 | 10-155 | | | | |
| Naphthalene | 0.502 | 0.0890 | " | 0.889 | ND | 56.5 | 15-132 | | | | |
| Phenanthrene | 0.522 | 0.0890 | " | 0.889 | ND | 58.6 | 10-151 | | | | |
| Pyrene | 0.588 | 0.0890 | " | 0.889 | ND | 66.1 | 13-148 | | | | |
| *Surrogate: SURR: Nitrobenzene-d5* | *0.549* | | *"* | *0.889* | | *61.8* | *22-108* | | | | |
| *Surrogate: SURR: 2-Fluorobiphenyl* | *0.524* | | *"* | *0.889* | | *59.0* | *21-113* | | | | |
| *Surrogate: SURR: Terphenyl-d14* | *0.625* | | *"* | *0.889* | | *70.2* | *24-116* | | | | |
| **Matrix Spike Dup (BL31840-MSD1)** | *Source sample: 23L1573-04 (Matrix Spike Dup) | | | | | | | | Prepared: 12/27/2023 Analyzed: 12/28/2023 | | |
| 2-Methylnaphthalene | 0.541 | 0.0890 | mg/kg dry | 0.889 | ND | 60.9 | 10-143 | | 2.39 | 30 | |
| Acenaphthene | 0.495 | 0.0890 | " | 0.889 | ND | 55.6 | 13-133 | | 1.30 | 30 | |
| Acenaphthylene | 0.508 | 0.0890 | " | 0.889 | ND | 57.1 | 25-125 | | 5.17 | 30 | |
| Anthracene | 0.493 | 0.0890 | " | 0.889 | ND | 55.4 | 27-128 | | 3.40 | 30 | |
| Benzo(a)anthracene | 0.599 | 0.0890 | " | 0.889 | ND | 67.4 | 20-147 | | 0.476 | 30 | |
| Benzo(a)pyrene | 0.568 | 0.0890 | " | 0.889 | ND | 63.8 | 18-153 | | 0.500 | 30 | |
| Benzo(b)fluoranthene | 0.580 | 0.0890 | " | 0.889 | ND | 65.2 | 10-163 | | 0.855 | 30 | |
| Benzo(g,h,i)perylene | 0.658 | 0.0890 | " | 0.889 | ND | 74.0 | 10-157 | | 1.08 | 30 | |
| Benzo(k)fluoranthene | 0.606 | 0.0890 | " | 0.889 | ND | 68.1 | 10-157 | | 1.06 | 30 | |
| Chrysene | 0.591 | 0.0890 | " | 0.889 | ND | 66.5 | 18-133 | | 0.725 | 30 | |
| Dibenzo(a,h)anthracene | 0.709 | 0.0890 | " | 0.889 | ND | 79.8 | 10-146 | | 4.20 | 30 | |
| Fluoranthene | 0.521 | 0.0890 | " | 0.889 | ND | 58.6 | 10-155 | | 1.79 | 30 | |
| Fluorene | 0.525 | 0.0890 | " | 0.889 | ND | 59.0 | 12-150 | | 3.17 | 30 | |
| Indeno(1,2,3-cd)pyrene | 0.702 | 0.0890 | " | 0.889 | ND | 79.0 | 10-155 | | 1.33 | 30 | |
| Naphthalene | 0.514 | 0.0890 | " | 0.889 | ND | 57.8 | 15-132 | | 2.24 | 30 | |
| Phenanthrene | 0.499 | 0.0890 | " | 0.889 | ND | 56.2 | 10-151 | | 4.32 | 30 | |
| Pyrene | 0.575 | 0.0890 | " | 0.889 | ND | 64.6 | 13-148 | | 2.20 | 30 | |
| *Surrogate: SURR: Nitrobenzene-d5* | *0.540* | | *"* | *0.889* | | *60.7* | *22-108* | | | | |
| *Surrogate: SURR: 2-Fluorobiphenyl* | *0.520* | | *"* | *0.889* | | *58.5* | *21-113* | | | | |
| *Surrogate: SURR: Terphenyl-d14* | *0.638* | | *"* | *0.889* | | *71.7* | *24-116* | | | | |

## Metals by ICP - Quality Control Data

## York Analytical Laboratories, Inc. - Stratford

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL31219 - EPA 3050B** | | | | | | | | | | | |
| **Blank (BL31219-BLK1)** | | | | | | | | | | | Prepared: 12/18/2023 Analyzed: 12/22/2023 |
| Aluminum | ND | 5.00 | mg/kg wet | | | | | | | | |
| Antimony | ND | 2.50 | " | | | | | | | | |
| Arsenic | ND | 1.25 | " | | | | | | | | |
| Arsenic | ND | 1.50 | " | | | | | | | | |
| Barium | ND | 2.08 | " | | | | | | | | |
| Barium | ND | 2.50 | " | | | | | | | | |
| Beryllium | ND | 0.050 | " | | | | | | | | |
| Cadmium | ND | 0.300 | " | | | | | | | | |
| Calcium | ND | 5.00 | " | | | | | | | | |
| Chromium | ND | 0.500 | " | | | | | | | | |
| Cobalt | ND | 0.400 | " | | | | | | | | |
| Copper | ND | 2.00 | " | | | | | | | | |
| Iron | ND | 25.0 | " | | | | | | | | |
| Lead | ND | 0.500 | " | | | | | | | | |
| Lead | ND | 0.417 | " | | | | | | | | |
| Magnesium | ND | 5.00 | " | | | | | | | | |
| Manganese | ND | 0.500 | " | | | | | | | | |
| Nickel | ND | 0.996 | " | | | | | | | | |
| Potassium | ND | 5.00 | " | | | | | | | | |
| Selenium | ND | 2.50 | " | | | | | | | | |
| Silver | ND | 0.504 | " | | | | | | | | |
| Sodium | ND | 50.0 | " | | | | | | | | |
| Thallium | ND | 2.50 | " | | | | | | | | |
| Vanadium | ND | 0.996 | " | | | | | | | | |
| Zinc | ND | 2.49 | " | | | | | | | | |
| **Duplicate (BL31219-DUP1)** | *Source sample: 23L1073-37 (Duplicate) | | | | | | | | | | Prepared: 12/18/2023 Analyzed: 12/22/2023 |
| Aluminum | 9580 | 8.16 | mg/kg dry | | 7200 | | | | 28.4 | 35 | |
| Antimony | ND | 4.08 | " | | ND | | | | | 35 | |
| Arsenic | 9.35 | 2.04 | " | | 5.06 | | | | 59.6 | 35 | Non-dir. |
| Arsenic | 9.35 | 2.45 | " | | 5.06 | | | | 59.6 | 35 | Non-dir. |
| Barium | 77.4 | 3.39 | " | | 52.1 | | | | 39.1 | 35 | Non-dir. |
| Barium | 77.4 | 4.07 | " | | 52.1 | | | | 39.1 | 35 | Non-dir. |
| Beryllium | ND | 0.082 | " | | ND | | | | | 35 | |
| Cadmium | 1.13 | 0.490 | " | | 0.684 | | | | 49.2 | 35 | Non-dir. |
| Calcium | 35200 | 8.16 | " | | 25600 | | | | 31.7 | 35 | |
| Chromium | 33.6 | 0.817 | " | | 24.4 | | | | 31.7 | 35 | |
| Cobalt | 7.42 | 0.652 | " | | 5.94 | | | | 22.1 | 35 | |
| Copper | 60.6 | 3.27 | " | | 48.1 | | | | 22.9 | 35 | |
| Iron | 21100 | 40.8 | " | | 17400 | | | | 19.2 | 35 | |
| Lead | 253 | 0.817 | " | | 195 | | | | 26.1 | 35 | |
| Lead | 253 | 0.681 | " | | 195 | | | | 26.1 | 35 | |
| Magnesium | 19600 | 8.17 | " | | 14200 | | | | 31.8 | 35 | |
| Manganese | 214 | 0.817 | " | | 174 | | | | 20.6 | 35 | |
| Nickel | 19.6 | 1.63 | " | | 15.2 | | | | 25.4 | 35 | |
| Potassium | 1600 | 8.17 | " | | 1140 | | | | 33.5 | 35 | |
| Selenium | ND | 4.08 | " | | ND | | | | | 35 | |
| Silver | ND | 0.823 | " | | ND | | | | | 35 | |
| Sodium | 1450 | 81.6 | " | | 1050 | | | | 32.0 | 35 | |
| Thallium | ND | 4.08 | " | | ND | | | | | 35 | |
| Vanadium | 27.5 | 1.63 | " | | 21.5 | | | | 24.8 | 35 | |

## Metals by ICP - Quality Control Data

## York Analytical Laboratories, Inc. - Stratford

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL31219 - EPA 3050B** | | | | | | | | | | | |
| **Duplicate (BL31219-DUP1)** | *Source sample: 23L1073-37 (Duplicate) | | | | | | | | Prepared: 12/18/2023 Analyzed: 12/22/2023 | | |
| Zinc | 224 | 4.06 | mg/kg dry | | 173 | | | | 25.7 | 35 | |
| **Matrix Spike (BL31219-MS1)** | *Source sample: 23L1073-37 (Matrix Spike) | | | | | | | | Prepared: 12/18/2023 Analyzed: 12/22/2023 | | |
| Aluminum | 9030 | 8.16 | mg/kg dry | 326 | 7200 | 562 | 75-125 | High Bias | | | |
| Antimony | 19.0 | 4.08 | " | 40.8 | ND | 46.5 | 75-125 | Low Bias | | | |
| Arsenic | 358 | 2.45 | " | 326 | 5.06 | 108 | 75-125 | | | | |
| Arsenic | 358 | 2.04 | " | 326 | 5.06 | 108 | 75-125 | | | | |
| Barium | 394 | 4.07 | " | 326 | 52.1 | 105 | 75-125 | | | | |
| Barium | 394 | 3.39 | " | 326 | 52.1 | 105 | 75-125 | | | | |
| Beryllium | 7.85 | 0.082 | " | 8.16 | ND | 96.2 | 75-125 | | | | |
| Cadmium | 8.92 | 0.490 | " | 8.16 | 0.684 | 101 | 75-125 | | | | |
| Calcium | 53100 | 8.16 | " | 163 | 25600 | NR | 75-125 | High Bias | | | |
| Chromium | 67.6 | 0.817 | " | 32.6 | 24.4 | 132 | 75-125 | High Bias | | | |
| Cobalt | 87.1 | 0.652 | " | 81.6 | 5.94 | 99.4 | 75-125 | | | | |
| Copper | 110 | 3.27 | " | 40.8 | 48.1 | 151 | 75-125 | High Bias | | | |
| Iron | 21300 | 40.8 | " | 163 | 17400 | NR | 75-125 | High Bias | | | |
| Lead | 251 | 0.817 | " | 81.6 | 195 | 68.9 | 75-125 | Low Bias | | | |
| Lead | 251 | 0.681 | " | 81.6 | 195 | 68.9 | 75-125 | Low Bias | | | |
| Magnesium | 27700 | 8.17 | " | 163 | 14200 | NR | 75-125 | High Bias | | | |
| Manganese | 305 | 0.817 | " | 81.6 | 174 | 161 | 75-125 | High Bias | | | |
| Nickel | 98.0 | 1.63 | " | 81.6 | 15.2 | 101 | 75-125 | | | | |
| Potassium | 1620 | 8.17 | " | 163 | 1140 | 296 | 75-125 | High Bias | | | |
| Selenium | 342 | 4.08 | " | 326 | ND | 105 | 75-125 | | | | |
| Silver | 4.55 | 0.823 | " | 8.16 | ND | 55.8 | 75-125 | Low Bias | | | |
| Sodium | 1760 | 81.6 | " | 163 | 1050 | 435 | 75-125 | High Bias | | | |
| Thallium | 306 | 4.08 | " | 326 | ND | 93.7 | 75-125 | | | | |
| Vanadium | 109 | 1.63 | " | 81.6 | 21.5 | 107 | 75-125 | | | | |
| Zinc | 275 | 4.06 | " | 81.6 | 173 | 125 | 75-125 | | | | |

## Metals by ICP - Quality Control Data

## York Analytical Laboratories, Inc. - Stratford

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL31219 - EPA 3050B** | | | | | | | | | | | |
| **Post Spike (BL31219-PS1)** | *Source sample: 23L1073-37 (Post Spike) | | | | | | | Prepared: 12/18/2023 Analyzed: 12/22/2023 | | | |
| Aluminum | 56.2 | | ug/mL | 2.00 | 52.9 | 166 | 75-125 | High Bias | | | |
| Antimony | 0.275 | | " | 0.250 | 0.007 | 107 | 75-125 | | | | |
| Arsenic | 2.19 | | " | 2.00 | 0.0372 | 108 | 75-125 | | | | |
| Arsenic | 2.19 | | " | 2.00 | 0.037 | 108 | 75-125 | | | | |
| Barium | 2.47 | | " | 2.00 | 0.383 | 104 | 75-125 | | | | |
| Barium | 2.47 | | " | 2.00 | 0.383 | 104 | 75-125 | | | | |
| Beryllium | 0.049 | | " | 0.0500 | -0.003 | 97.6 | 75-125 | | | | |
| Cadmium | 0.054 | | " | 0.0500 | 0.005 | 98.6 | 75-125 | | | | |
| Calcium | 193 | | " | 1.00 | 188 | 460 | 75-125 | High Bias | | | |
| Chromium | 0.381 | | " | 0.200 | 0.179 | 101 | 75-125 | | | | |
| Cobalt | 0.542 | | " | 0.500 | 0.044 | 99.6 | 75-125 | | | | |
| Copper | 0.629 | | " | 0.250 | 0.354 | 110 | 75-125 | | | | |
| Iron | 132 | | " | 1.00 | 128 | 398 | 75-125 | High Bias | | | |
| Lead | 1.94 | | " | 0.500 | 1.43 | 102 | 75-125 | | | | |
| Lead | 1.94 | | " | 0.500 | 1.43 | 102 | 75-125 | | | | |
| Magnesium | 108 | | " | 1.00 | 104 | 382 | 75-125 | High Bias | | | |
| Manganese | 1.81 | | " | 0.500 | 1.28 | 107 | 75-125 | | | | |
| Nickel | 0.603 | | " | 0.500 | 0.112 | 98.3 | 75-125 | | | | |
| Potassium | 9.70 | | " | 1.00 | 8.36 | 134 | 75-125 | High Bias | | | |
| Selenium | 2.11 | | " | 2.00 | 0.005 | 105 | 75-125 | | | | |
| Silver | 0.022 | | " | 0.0500 | -0.022 | 44.1 | 75-125 | Low Bias | | | |
| Sodium | 11.6 | | " | 1.00 | 7.74 | 384 | 75-125 | High Bias | | | |
| Thallium | 1.94 | | " | 2.00 | 0.003 | 96.7 | 75-125 | | | | |
| Vanadium | 0.671 | | " | 0.500 | 0.158 | 103 | 75-125 | | | | |
| Zinc | 1.73 | | " | 0.500 | 1.27 | 91.8 | 75-125 | | | | |
| **Reference (BL31219-SRM1)** | | | | | | | | Prepared: 12/18/2023 Analyzed: 12/22/2023 | | | |
| Aluminum | 9680 | 5.00 | mg/kg wet | 11400 | | 85.0 | 45.4-128.6 | | | | |
| Antimony | 70.0 | 2.50 | " | 298 | | 23.5 | 3-103.2 | | | | |
| Arsenic | 159 | 1.50 | " | 196 | | 81.4 | 68.7-100.6 | | | | |
| Arsenic | 159 | 1.25 | " | 196 | | 81.4 | 68.7-100.6 | | | | |
| Barium | 359 | 2.50 | " | 383 | | 93.9 | 82.5-115.7 | | | | |
| Barium | 359 | 2.08 | " | 383 | | 93.9 | 82.5-115.7 | | | | |
| Beryllium | 113 | 0.050 | " | 143 | | 79.4 | 77.7-109.2 | | | | |
| Cadmium | 130 | 0.300 | " | 156 | | 83.5 | 75.2-106.2 | | | | |
| Calcium | 6320 | 5.00 | " | 6000 | | 105 | 80.6-114.4 | | | | |
| Chromium | 160 | 0.500 | " | 184 | | 87.0 | 77.8-111.8 | | | | |
| Cobalt | 164 | 0.400 | " | 184 | | 89.1 | 79.1-109.8 | | | | |
| Copper | 280 | 2.00 | " | 294 | | 95.3 | 80.4-111 | | | | |
| Iron | 8710 | 25.0 | " | 9050 | | 96.3 | 69.8-144.6 | | | | |
| Lead | 239 | 0.500 | " | 264 | | 90.5 | 80-113.6 | | | | |
| Lead | 239 | 0.417 | " | 264 | | 90.5 | 80-113.6 | | | | |
| Magnesium | 2380 | 5.00 | " | 2380 | | 100 | 85.9-129.3 | | | | |
| Manganese | 513 | 0.500 | " | 517 | | 99.2 | 79.6-114.2 | | | | |
| Nickel | 184 | 0.996 | " | 210 | | 87.7 | 76.6-108.6 | | | | |
| Potassium | 1890 | 5.00 | " | 1880 | | 100 | 80.9-131.2 | | | | |
| Selenium | 178 | 2.50 | " | 187 | | 95.1 | 80.8-118.6 | | | | |
| Silver | 85.1 | 0.504 | " | 99.5 | | 85.6 | 76.7-114.7 | | | | |
| Sodium | 1310 | 50.0 | " | 544 | | 241 | 72.2-119.7 | High Bias | | | |
| Thallium | 99.5 | 2.50 | " | 119 | | 83.4 | 75.8-110.7 | | | | |
| Vanadium | 176 | 0.996 | " | 204 | | 86.2 | 75.3-114.1 | | | | |

## Metals by ICP - Quality Control Data

## York Analytical Laboratories, Inc. - Stratford

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL31219 - EPA 3050B** | | | | | | | | | | | |
| **Reference (BL31219-SRM1)** | | | | | | | | | | Prepared: 12/18/2023 Analyzed: 12/22/2023 | |
| Zinc | 211 | 2.49 | mg/kg wet | 241 | | 87.4 | 79.6-115.92 | | | | |
| **Batch BL31220 - EPA 3050B** | | | | | | | | | | | |
| **Blank (BL31220-BLK1)** | | | | | | | | | | Prepared: 12/18/2023 Analyzed: 12/22/2023 | |
| Aluminum | ND | 4.17 | mg/kg wet | | | | | | | | |
| Antimony | ND | 2.08 | " | | | | | | | | |
| Arsenic | ND | 1.25 | " | | | | | | | | |
| Arsenic | ND | 1.04 | " | | | | | | | | |
| Barium | ND | 2.08 | " | | | | | | | | |
| Barium | ND | 1.73 | " | | | | | | | | |
| Beryllium | ND | 0.042 | " | | | | | | | | |
| Cadmium | ND | 0.250 | " | | | | | | | | |
| Calcium | ND | 4.17 | " | | | | | | | | |
| Chromium | ND | 0.417 | " | | | | | | | | |
| Cobalt | ND | 0.333 | " | | | | | | | | |
| Copper | ND | 1.67 | " | | | | | | | | |
| Iron | ND | 20.8 | " | | | | | | | | |
| Lead | ND | 0.348 | " | | | | | | | | |
| Lead | ND | 0.417 | " | | | | | | | | |
| Magnesium | ND | 4.17 | " | | | | | | | | |
| Manganese | ND | 0.417 | " | | | | | | | | |
| Nickel | ND | 0.830 | " | | | | | | | | |
| Potassium | 4.46 | 4.17 | " | | | | | | | | |
| Selenium | ND | 2.08 | " | | | | | | | | |
| Silver | ND | 0.420 | " | | | | | | | | |
| Sodium | ND | 41.7 | " | | | | | | | | |
| Thallium | ND | 2.08 | " | | | | | | | | |
| Vanadium | ND | 0.830 | " | | | | | | | | |
| Zinc | ND | 2.08 | " | | | | | | | | |

## Metals by ICP - Quality Control Data

## York Analytical Laboratories, Inc. - Stratford

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL31220 - EPA 3050B** | | | | | | | | | | | |
| **Duplicate (BL31220-DUP1)** | *Source sample: 23L1063-24 (L6SS-03) | | | | | | | | Prepared: 12/18/2023 Analyzed: 12/22/2023 | | |
| Aluminum | 5990 | 5.22 | mg/kg dry | | 7380 | | | | 20.7 | 35 | |
| Antimony | ND | 2.61 | " | | ND | | | | | 35 | |
| Arsenic | 5.09 | 1.31 | " | | 6.15 | | | | 18.7 | 35 | |
| Arsenic | 5.09 | 1.57 | " | | 6.15 | | | | 18.7 | 35 | |
| Barium | 144 | 2.61 | " | | 166 | | | | 13.7 | 35 | |
| Barium | 144 | 2.17 | " | | 166 | | | | 13.7 | 35 | |
| Beryllium | 0.676 | 0.053 | " | | 0.687 | | | | 1.72 | 35 | |
| Cadmium | 0.481 | 0.313 | " | | 0.475 | | | | 1.33 | 35 | |
| Calcium | 81800 | 5.22 | " | | 47800 | | | | 52.5 | 35 | Non-dir. |
| Chromium | 12.6 | 0.523 | " | | 20.3 | | | | 46.9 | 35 | Non-dir. |
| Cobalt | 4.48 | 0.417 | " | | 5.72 | | | | 24.4 | 35 | |
| Copper | 52.7 | 2.09 | " | | 61.9 | | | | 16.2 | 35 | |
| Iron | 13400 | 26.1 | " | | 17200 | | | | 25.0 | 35 | |
| Lead | 162 | 0.523 | " | | 239 | | | | 38.7 | 35 | Non-dir. |
| Lead | 162 | 0.436 | " | | 239 | | | | 38.7 | 35 | Non-dir. |
| Magnesium | 24800 | 5.23 | " | | 8210 | | | | 101 | 35 | Non-dir. |
| Manganese | 470 | 0.523 | " | | 430 | | | | 8.99 | 35 | |
| Nickel | 21.2 | 1.04 | " | | 27.7 | | | | 26.5 | 35 | |
| Potassium | 962 | 5.23 | " | | 1030 | | | | 6.48 | 35 | |
| Selenium | ND | 2.61 | " | | ND | | | | | 35 | |
| Silver | 0.611 | 0.526 | " | | ND | | | | | 35 | |
| Sodium | 3100 | 52.2 | " | | 3320 | | | | 7.13 | 35 | |
| Thallium | ND | 2.61 | " | | ND | | | | | 35 | |
| Vanadium | 54.9 | 1.04 | " | | 56.8 | | | | 3.34 | 35 | |
| Zinc | 447 | 2.60 | " | | 519 | | | | 15.0 | 35 | |
| **Matrix Spike (BL31220-MS1)** | *Source sample: 23L1063-24 (L6SS-03) | | | | | | | | Prepared: 12/18/2023 Analyzed: 12/22/2023 | | |
| Aluminum | 8180 | 5.22 | mg/kg dry | 209 | 7380 | 384 | 75-125 | High Bias | | | |
| Antimony | 12.2 | 2.61 | " | 26.1 | ND | 46.9 | 75-125 | Low Bias | | | |
| Arsenic | 233 | 1.31 | " | 209 | 6.15 | 109 | 75-125 | | | | |
| Arsenic | 233 | 1.57 | " | 209 | 6.15 | 109 | 75-125 | | | | |
| Barium | 413 | 2.61 | " | 209 | 166 | 118 | 75-125 | | | | |
| Barium | 413 | 2.17 | " | 209 | 166 | 118 | 75-125 | | | | |
| Beryllium | 6.05 | 0.053 | " | 5.22 | 0.687 | 103 | 75-125 | | | | |
| Cadmium | 5.49 | 0.313 | " | 5.22 | 0.475 | 96.0 | 75-125 | | | | |
| Calcium | 34000 | 5.22 | " | 104 | 47800 | NR | 75-125 | Low Bias | | | |
| Chromium | 43.3 | 0.523 | " | 20.9 | 20.3 | 110 | 75-125 | | | | |
| Cobalt | 57.2 | 0.417 | " | 52.2 | 5.72 | 98.6 | 75-125 | | | | |
| Copper | 119 | 2.09 | " | 26.1 | 61.9 | 219 | 75-125 | High Bias | | | |
| Iron | 17700 | 26.1 | " | 104 | 17200 | 464 | 75-125 | High Bias | | | |
| Lead | 326 | 0.523 | " | 52.2 | 239 | 167 | 75-125 | High Bias | | | |
| Lead | 326 | 0.436 | " | 52.2 | 239 | 167 | 75-125 | High Bias | | | |
| Magnesium | 7110 | 5.23 | " | 104 | 8210 | NR | 75-125 | Low Bias | | | |
| Manganese | 491 | 0.523 | " | 52.2 | 430 | 117 | 75-125 | | | | |
| Nickel | 80.1 | 1.04 | " | 52.2 | 27.7 | 100 | 75-125 | | | | |
| Potassium | 1220 | 5.23 | " | 104 | 1030 | 184 | 75-125 | High Bias | | | |
| Selenium | 223 | 2.61 | " | 209 | ND | 107 | 75-125 | | | | |
| Silver | 5.04 | 0.526 | " | 5.22 | ND | 96.6 | 75-125 | | | | |
| Sodium | 8800 | 52.2 | " | 104 | 3320 | NR | 75-125 | High Bias | | | |
| Thallium | 192 | 2.61 | " | 209 | ND | 92.1 | 75-125 | | | | |
| Vanadium | 113 | 1.04 | " | 52.2 | 56.8 | 107 | 75-125 | | | | |

## Metals by ICP - Quality Control Data

## York Analytical Laboratories, Inc. - Stratford

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL31220 - EPA 3050B** | | | | | | | | | | | |
| **Matrix Spike (BL31220-MS1)** | *Source sample: 23L1063-24 (L6SS-03) | | | | | | | Prepared: 12/18/2023 Analyzed: 12/22/2023 | | | |
| Zinc | 1320 | 2.60 | mg/kg dry | 52.2 | 519 | NR | 75-125 | High Bias | | | |
| **Post Spike (BL31220-PS1)** | *Source sample: 23L1063-24 (L6SS-03) | | | | | | | Prepared: 12/18/2023 Analyzed: 12/22/2023 | | | |
| Aluminum | 73.3 | | ug/mL | 2.00 | 70.6 | 136 | 75-125 | High Bias | | | |
| Antimony | 0.279 | | " | 0.250 | 0.009 | 108 | 75-125 | | | | |
| Arsenic | 2.24 | | " | 2.00 | 0.059 | 109 | 75-125 | | | | |
| Arsenic | 2.24 | | " | 2.00 | 0.0588 | 109 | 75-125 | | | | |
| Barium | 3.63 | | " | 2.00 | 1.59 | 102 | 75-125 | | | | |
| Barium | 3.63 | | " | 2.00 | 1.59 | 102 | 75-125 | | | | |
| Beryllium | 0.058 | | " | 0.0500 | 0.007 | 102 | 75-125 | | | | |
| Cadmium | 0.053 | | " | 0.0500 | 0.005 | 96.2 | 75-125 | | | | |
| Calcium | 457 | | " | 1.00 | 457 | 7.56 | 75-125 | Low Bias | | | |
| Chromium | 0.394 | | " | 0.200 | 0.195 | 99.9 | 75-125 | | | | |
| Cobalt | 0.550 | | " | 0.500 | 0.055 | 99.0 | 75-125 | | | | |
| Copper | 0.866 | | " | 0.250 | 0.593 | 109 | 75-125 | | | | |
| Iron | 165 | | " | 1.00 | 165 | 8.07 | 75-125 | Low Bias | | | |
| Lead | 2.78 | | " | 0.500 | 2.29 | 98.2 | 75-125 | | | | |
| Lead | 2.78 | | " | 0.500 | 2.29 | 98.2 | 75-125 | | | | |
| Magnesium | 79.1 | | " | 1.00 | 78.6 | 48.2 | 75-125 | Low Bias | | | |
| Manganese | 4.58 | | " | 0.500 | 4.11 | 93.0 | 75-125 | | | | |
| Nickel | 0.752 | | " | 0.500 | 0.265 | 97.5 | 75-125 | | | | |
| Potassium | 11.3 | | " | 1.00 | 9.82 | 148 | 75-125 | High Bias | | | |
| Selenium | 2.17 | | " | 2.00 | 0.011 | 108 | 75-125 | | | | |
| Silver | 0.046 | | " | 0.0500 | 0.001 | 90.2 | 75-125 | | | | |
| Sodium | 35.4 | | " | 1.00 | 31.8 | 359 | 75-125 | High Bias | | | |
| Thallium | 1.89 | | " | 2.00 | 0.004 | 94.1 | 75-125 | | | | |
| Vanadium | 1.05 | | " | 0.500 | 0.543 | 101 | 75-125 | | | | |
| Zinc | 5.35 | | " | 0.500 | 4.97 | 75.8 | 75-125 | | | | |

## Metals by ICP - Quality Control Data

## York Analytical Laboratories, Inc. - Stratford

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL31220 - EPA 3050B** | | | | | | | | | | | |
| **Reference (BL31220-SRM1)** | | | | | | | | Prepared: 12/18/2023 Analyzed: 12/22/2023 | | | |
| Aluminum | 7840 | 4.17 | mg/kg wet | 9490 | | 82.6 | 45.4-128.6 | | | | |
| Antimony | 61.8 | 2.08 | " | 248 | | 24.9 | 3-103.2 | | | | |
| Arsenic | 129 | 1.04 | " | 163 | | 78.8 | 68.7-100.6 | | | | |
| Arsenic | 129 | 1.25 | " | 163 | | 78.8 | 68.7-100.6 | | | | |
| Barium | 276 | 1.73 | " | 319 | | 86.6 | 82.5-115.7 | | | | |
| Barium | 276 | 2.08 | " | 319 | | 86.6 | 82.5-115.7 | | | | |
| Beryllium | 93.1 | 0.042 | " | 119 | | 78.2 | 77.7-109.2 | | | | |
| Cadmium | 104 | 0.250 | " | 130 | | 80.1 | 75.2-106.2 | | | | |
| Calcium | 4370 | 4.17 | " | 5000 | | 87.4 | 80.6-114.4 | | | | |
| Chromium | 129 | 0.417 | " | 153 | | 84.6 | 77.8-111.8 | | | | |
| Cobalt | 132 | 0.333 | " | 153 | | 86.3 | 79.1-109.8 | | | | |
| Copper | 226 | 1.67 | " | 245 | | 92.3 | 80.4-111 | | | | |
| Iron | 7370 | 20.8 | " | 7540 | | 97.8 | 69.8-144.6 | | | | |
| Lead | 191 | 0.417 | " | 220 | | 86.6 | 80-113.6 | | | | |
| Lead | 191 | 0.348 | " | 220 | | 86.6 | 80-113.6 | | | | |
| Magnesium | 1890 | 4.17 | " | 1980 | | 95.6 | 85.9-129.3 | | | | |
| Manganese | 386 | 0.417 | " | 431 | | 89.6 | 79.6-114.2 | | | | |
| Nickel | 150 | 0.830 | " | 175 | | 85.5 | 76.6-108.6 | | | | |
| Potassium | 1490 | 4.17 | " | 1570 | | 95.1 | 80.9-131.2 | | | | |
| Selenium | 143 | 2.08 | " | 156 | | 91.9 | 80.8-118.6 | | | | |
| Silver | 59.9 | 0.420 | " | 82.9 | | 72.2 | 76.7-114.7 | Low Bias | | | |
| Sodium | 1010 | 41.7 | " | 453 | | 224 | 72.2-119.7 | High Bias | | | |
| Thallium | 79.5 | 2.08 | " | 99.4 | | 80.0 | 75.8-110.7 | | | | |
| Vanadium | 139 | 0.830 | " | 170 | | 82.0 | 75.3-114.1 | | | | |
| Zinc | 171 | 2.08 | " | 201 | | 85.1 | 79.6-115.92 | | | | |
| **Batch BL31221 - EPA 3050B** | | | | | | | | | | | |
| **Blank (BL31221-BLK1)** | | | | | | | | Prepared: 12/18/2023 Analyzed: 12/22/2023 | | | |
| Aluminum | ND | 4.17 | mg/kg wet | | | | | | | | |
| Antimony | ND | 2.08 | " | | | | | | | | |
| Arsenic | ND | 1.25 | " | | | | | | | | |
| Arsenic | ND | 1.04 | " | | | | | | | | |
| Barium | ND | 2.08 | " | | | | | | | | |
| Barium | ND | 1.73 | " | | | | | | | | |
| Beryllium | ND | 0.042 | " | | | | | | | | |
| Cadmium | ND | 0.250 | " | | | | | | | | |
| Calcium | ND | 4.17 | " | | | | | | | | |
| Chromium | ND | 0.417 | " | | | | | | | | |
| Cobalt | ND | 0.333 | " | | | | | | | | |
| Copper | ND | 1.67 | " | | | | | | | | |
| Iron | ND | 20.8 | " | | | | | | | | |
| Lead | ND | 0.348 | " | | | | | | | | |
| Lead | ND | 0.417 | " | | | | | | | | |
| Magnesium | ND | 4.17 | " | | | | | | | | |
| Manganese | ND | 0.417 | " | | | | | | | | |
| Nickel | ND | 0.830 | " | | | | | | | | |
| Potassium | ND | 4.17 | " | | | | | | | | |
| Selenium | ND | 2.08 | " | | | | | | | | |
| Silver | ND | 0.420 | " | | | | | | | | |
| Sodium | ND | 41.7 | " | | | | | | | | |
| Thallium | ND | 2.08 | " | | | | | | | | |

## Metals by ICP - Quality Control Data

## York Analytical Laboratories, Inc. - Stratford

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL31221 - EPA 3050B** | | | | | | | | | | | |
| **Blank (BL31221-BLK1)** | | | | | | | | | Prepared: 12/18/2023 Analyzed: 12/22/2023 | | |
| Vanadium | ND | 0.830 | mg/kg wet | | | | | | | | |
| Zinc | ND | 2.08 | " | | | | | | | | |
| **Duplicate (BL31221-DUP1)** | *Source sample: 23L1063-05 (L2SS-02) | | | | | | | | Prepared: 12/18/2023 Analyzed: 12/26/2023 | | |
| Aluminum | 7270 | 5.29 | mg/kg dry | | 8430 | | | | 14.8 | 35 | |
| Antimony | ND | 2.64 | " | | ND | | | | | 35 | |
| Arsenic | 5.06 | 1.32 | " | | 5.58 | | | | 9.74 | 35 | |
| Arsenic | 5.06 | 1.59 | " | | 5.58 | | | | 9.74 | 35 | |
| Barium | 95.2 | 2.20 | " | | 94.8 | | | | 0.485 | 35 | |
| Barium | 95.2 | 2.64 | " | | 94.8 | | | | 0.485 | 35 | |
| Beryllium | 0.554 | 0.053 | " | | 0.507 | | | | 8.98 | 35 | |
| Cadmium | 0.915 | 0.317 | " | | 0.579 | | | | 45.0 | 35 | Non-dir. |
| Calcium | 124000 | 5.29 | " | | 83600 | | | | 38.8 | 35 | Non-dir. |
| Chromium | 12.6 | 0.529 | " | | 29.9 | | | | 81.3 | 35 | Non-dir. |
| Cobalt | 6.84 | 0.423 | " | | 6.71 | | | | 1.92 | 35 | |
| Copper | 121 | 2.12 | " | | 78.2 | | | | 43.1 | 35 | Non-dir. |
| Iron | 14300 | 26.4 | " | | 16700 | | | | 15.9 | 35 | |
| Lead | 55.1 | 0.529 | " | | 52.0 | | | | 5.78 | 35 | |
| Lead | 55.1 | 0.441 | " | | 52.0 | | | | 5.78 | 35 | |
| Magnesium | 7710 | 5.29 | " | | 7260 | | | | 5.94 | 35 | |
| Manganese | 375 | 0.529 | " | | 426 | | | | 12.6 | 35 | |
| Nickel | 29.8 | 1.05 | " | | 28.5 | | | | 4.31 | 35 | |
| Potassium | 1040 | 5.29 | " | | 1130 | | | | 7.73 | 35 | |
| Selenium | ND | 2.64 | " | | ND | | | | | 35 | |
| Silver | 1.24 | 0.533 | " | | 1.33 | | | | 6.88 | 35 | |
| Sodium | 1650 | 52.9 | " | | 1110 | | | | 39.5 | 35 | Non-dir. |
| Thallium | ND | 2.64 | " | | ND | | | | | 35 | |
| Vanadium | 45.7 | 1.05 | " | | 42.8 | | | | 6.66 | 35 | |
| Zinc | 239 | 2.63 | " | | 186 | | | | 24.9 | 35 | |

## Metals by ICP - Quality Control Data

## York Analytical Laboratories, Inc. - Stratford

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL31221 - EPA 3050B** | | | | | | | | | | | |
| **Matrix Spike (BL31221-MS1)** | *Source sample: 23L1063-05 (L2SS-02) | | | | | | | Prepared: 12/18/2023 Analyzed: 12/26/2023 | | | |
| Aluminum | 8670 | 5.29 | mg/kg dry | 212 | 8430 | 118 | 75-125 | | | | |
| Antimony | 8.46 | 2.64 | " | 26.4 | ND | 32.0 | 75-125 | Low Bias | | | |
| Arsenic | 219 | 1.32 | " | 212 | 5.58 | 101 | 75-125 | | | | |
| Arsenic | 219 | 1.59 | " | 212 | 5.58 | 101 | 75-125 | | | | |
| Barium | 357 | 2.20 | " | 212 | 94.8 | 124 | 75-125 | | | | |
| Barium | 357 | 2.64 | " | 212 | 94.8 | 124 | 75-125 | | | | |
| Beryllium | 5.60 | 0.053 | " | 5.29 | 0.507 | 96.3 | 75-125 | | | | |
| Cadmium | 6.05 | 0.317 | " | 5.29 | 0.579 | 104 | 75-125 | | | | |
| Calcium | 118000 | 5.29 | " | 106 | 83600 | NR | 75-125 | High Bias | | | |
| Chromium | 36.0 | 0.529 | " | 21.2 | 29.9 | 28.6 | 75-125 | Low Bias | | | |
| Cobalt | 55.8 | 0.423 | " | 52.9 | 6.71 | 92.7 | 75-125 | | | | |
| Copper | 165 | 2.12 | " | 26.4 | 78.2 | 330 | 75-125 | High Bias | | | |
| Iron | 15700 | 26.4 | " | 106 | 16700 | NR | 75-125 | Low Bias | | | |
| Lead | 139 | 0.441 | " | 52.9 | 52.0 | 164 | 75-125 | High Bias | | | |
| Lead | 139 | 0.529 | " | 52.9 | 52.0 | 164 | 75-125 | High Bias | | | |
| Magnesium | 7390 | 5.29 | " | 106 | 7260 | 116 | 75-125 | | | | |
| Manganese | 442 | 0.529 | " | 52.9 | 426 | 31.2 | 75-125 | Low Bias | | | |
| Nickel | 80.1 | 1.05 | " | 52.9 | 28.5 | 97.5 | 75-125 | | | | |
| Potassium | 1240 | 5.29 | " | 106 | 1130 | 109 | 75-125 | | | | |
| Selenium | 208 | 2.64 | " | 212 | ND | 98.4 | 75-125 | | | | |
| Silver | 6.16 | 0.533 | " | 5.29 | 1.33 | 91.4 | 75-125 | | | | |
| Sodium | 2780 | 52.9 | " | 106 | 1110 | NR | 75-125 | High Bias | | | |
| Thallium | 168 | 2.64 | " | 212 | ND | 79.6 | 75-125 | | | | |
| Vanadium | 94.3 | 1.05 | " | 52.9 | 42.8 | 97.5 | 75-125 | | | | |
| Zinc | 419 | 2.63 | " | 52.9 | 186 | 441 | 75-125 | High Bias | | | |
| **Post Spike (BL31221-PS1)** | *Source sample: 23L1063-05 (L2SS-02) | | | | | | | Prepared: 12/18/2023 Analyzed: 12/26/2023 | | | |
| Aluminum | 81.7 | | ug/mL | 2.00 | 79.7 | 104 | 75-125 | | | | |
| Antimony | 0.263 | | " | 0.250 | 0.015 | 99.2 | 75-125 | | | | |
| Arsenic | 2.09 | | " | 2.00 | 0.053 | 102 | 75-125 | | | | |
| Arsenic | 2.09 | | " | 2.00 | 0.0528 | 102 | 75-125 | | | | |
| Barium | 2.85 | | " | 2.00 | 0.896 | 97.7 | 75-125 | | | | |
| Barium | 2.85 | | " | 2.00 | 0.896 | 97.7 | 75-125 | | | | |
| Beryllium | 0.054 | | " | 0.0500 | 0.005 | 98.3 | 75-125 | | | | |
| Cadmium | 0.049 | | " | 0.0500 | 0.005 | 87.8 | 75-125 | | | | |
| Calcium | 1040 | | " | 1.00 | 791 | NR | 75-125 | High Bias | | | |
| Chromium | 0.472 | | " | 0.200 | 0.283 | 94.6 | 75-125 | | | | |
| Cobalt | 0.530 | | " | 0.500 | 0.063 | 93.3 | 75-125 | | | | |
| Copper | 1.00 | | " | 0.250 | 0.739 | 105 | 75-125 | | | | |
| Iron | 158 | | " | 1.00 | 158 | NR | 75-125 | Low Bias | | | |
| Lead | 0.923 | | " | 0.500 | 0.492 | 86.2 | 75-125 | | | | |
| Lead | 0.923 | | " | 0.500 | 0.492 | 86.2 | 75-125 | | | | |
| Magnesium | 69.1 | | " | 1.00 | 68.7 | 40.6 | 75-125 | Low Bias | | | |
| Manganese | 4.47 | | " | 0.500 | 4.03 | 89.4 | 75-125 | | | | |
| Nickel | 0.732 | | " | 0.500 | 0.270 | 92.5 | 75-125 | | | | |
| Potassium | 12.0 | | " | 1.00 | 10.6 | 135 | 75-125 | High Bias | | | |
| Selenium | 2.02 | | " | 2.00 | 0.003 | 101 | 75-125 | | | | |
| Silver | 0.058 | | " | 0.0500 | 0.013 | 90.5 | 75-125 | | | | |
| Sodium | 14.6 | | " | 1.00 | 10.5 | 407 | 75-125 | High Bias | | | |
| Thallium | 1.71 | | " | 2.00 | 0.003 | 85.4 | 75-125 | | | | |
| Vanadium | 0.890 | | " | 0.500 | 0.404 | 97.2 | 75-125 | | | | |

## Metals by ICP - Quality Control Data

## York Analytical Laboratories, Inc. - Stratford

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL31221 - EPA 3050B** | | | | | | | | | | | |
| **Post Spike (BL31221-PS1)** | *Source sample: 23L1063-05 (L2SS-02) | | | | | | | | | Prepared: 12/18/2023 Analyzed: 12/26/2023 | |
| Zinc | 2.17 | | ug/mL | 0.500 | 1.76 | 83.5 | 75-125 | | | | |
| **Reference (BL31221-SRM1)** | | | | | | | | | | Prepared: 12/18/2023 Analyzed: 12/22/2023 | |
| Aluminum | 7790 | 4.17 | mg/kg wet | 9490 | | 82.1 | 45.4-128.6 | | | | |
| Antimony | 66.0 | 2.08 | " | 248 | | 26.6 | 3-103.2 | | | | |
| Arsenic | 131 | 1.04 | " | 163 | | 80.6 | 68.7-100.6 | | | | |
| Arsenic | 131 | 1.25 | " | 163 | | 80.6 | 68.7-100.6 | | | | |
| Barium | 287 | 2.08 | " | 319 | | 90.1 | 82.5-115.7 | | | | |
| Barium | 287 | 1.73 | " | 319 | | 90.1 | 82.5-115.7 | | | | |
| Beryllium | 95.2 | 0.042 | " | 119 | | 80.0 | 77.7-109.2 | | | | |
| Cadmium | 108 | 0.250 | " | 130 | | 82.8 | 75.2-106.2 | | | | |
| Calcium | 4970 | 4.17 | " | 5000 | | 99.5 | 80.6-114.4 | | | | |
| Chromium | 133 | 0.417 | " | 153 | | 86.9 | 77.8-111.8 | | | | |
| Cobalt | 136 | 0.333 | " | 153 | | 88.7 | 79.1-109.8 | | | | |
| Copper | 231 | 1.67 | " | 245 | | 94.1 | 80.4-111 | | | | |
| Iron | 7150 | 20.8 | " | 7540 | | 94.8 | 69.8-144.6 | | | | |
| Lead | 194 | 0.417 | " | 220 | | 88.1 | 80-113.6 | | | | |
| Lead | 194 | 0.348 | " | 220 | | 88.1 | 80-113.6 | | | | |
| Magnesium | 1920 | 4.17 | " | 1980 | | 96.9 | 85.9-129.3 | | | | |
| Manganese | 405 | 0.417 | " | 431 | | 94.1 | 79.6-114.2 | | | | |
| Nickel | 154 | 0.830 | " | 175 | | 87.9 | 76.6-108.6 | | | | |
| Potassium | 1500 | 4.17 | " | 1570 | | 95.5 | 80.9-131.2 | | | | |
| Selenium | 147 | 2.08 | " | 156 | | 93.9 | 80.8-118.6 | | | | |
| Silver | 68.6 | 0.420 | " | 82.9 | | 82.8 | 76.7-114.7 | | | | |
| Sodium | 1100 | 41.7 | " | 453 | | 243 | 72.2-119.7 | High Bias | | | |
| Thallium | 82.3 | 2.08 | " | 99.4 | | 82.8 | 75.8-110.7 | | | | |
| Vanadium | 143 | 0.830 | " | 170 | | 84.2 | 75.3-114.1 | | | | |
| Zinc | 175 | 2.08 | " | 201 | | 87.1 | 79.6-115.92 | | | | |

## Mercury by EPA 7000/200 Series Methods - Quality Control Data

## York Analytical Laboratories, Inc. - Stratford

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL31438 - EPA 7473 soil** | | | | | | | | | | | |
| **Blank (BL31438-BLK1)** | | | | | | | | Prepared & Analyzed: 12/20/2023 | | | |
| Mercury | ND | 0.0300 | mg/kg wet | | | | | | | | |
| **Duplicate (BL31438-DUP1)** | *Source sample: 23L1063-01 (L1SS-01) | | | | | | | Prepared & Analyzed: 12/20/2023 | | | |
| Mercury | 0.712 | 0.0363 | mg/kg dry | | 0.480 | | | | 38.9 | 35 | Non-dir. |
| **Matrix Spike (BL31438-MS1)** | *Source sample: 23L1063-01 (L1SS-01) | | | | | | | Prepared & Analyzed: 12/20/2023 | | | |
| Mercury | 0.818 | | mg/kg | 0.500 | 0.396 | 84.2 | 75-125 | | | | |
| **Reference (BL31438-SRM1)** | | | | | | | | Prepared & Analyzed: 12/20/2023 | | | |
| Mercury | 22.630 | | mg/kg | 18.2 | | 124 | 59.9-140.1 | | | | |
| **Batch BL31542 - EPA 7473 soil** | | | | | | | | | | | |
| **Blank (BL31542-BLK1)** | | | | | | | | Prepared & Analyzed: 12/21/2023 | | | |
| Mercury | ND | 0.0300 | mg/kg wet | | | | | | | | |
| **Duplicate (BL31542-DUP1)** | *Source sample: 23L0977-06 (Duplicate) | | | | | | | Prepared & Analyzed: 12/21/2023 | | | |
| Mercury | ND | 0.0337 | mg/kg dry | | 0.0440 | | | | | 35 | |
| **Matrix Spike (BL31542-MS1)** | *Source sample: 23L0977-06 (Matrix Spike) | | | | | | | Prepared & Analyzed: 12/21/2023 | | | |
| Mercury | 0.587 | | mg/kg | 0.500 | 0.0392 | 109 | 75-125 | | | | |
| **Reference (BL31542-SRM1)** | | | | | | | | Prepared & Analyzed: 12/21/2023 | | | |
| Mercury | 19.072 | | mg/kg | 18.2 | | 105 | 59.9-140.1 | | | | |
| **Batch BL31544 - EPA 7473 soil** | | | | | | | | | | | |
| **Blank (BL31544-BLK1)** | | | | | | | | Prepared: 12/21/2023 Analyzed: 12/22/2023 | | | |
| Mercury | ND | 0.0300 | mg/kg wet | | | | | | | | |

## Mercury by EPA 7000/200 Series Methods - Quality Control Data

## York Analytical Laboratories, Inc. - Stratford

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL31544 - EPA 7473 soil** | | | | | | | | | | | |
| **Duplicate (BL31544-DUP1)** | *Source sample: 23L1063-21 (L5SS-04) | | | | | | | Prepared: 12/21/2023 Analyzed: 12/22/2023 | | | |
| Mercury | 0.284 | 0.0421 | mg/kg dry | | 0.287 | | | | 1.33 | 35 | |
| **Matrix Spike (BL31544-MS1)** | *Source sample: 23L1063-21 (L5SS-04) | | | | | | | Prepared: 12/21/2023 Analyzed: 12/22/2023 | | | |
| Mercury | 0.689 | | mg/kg | 0.500 | 0.205 | 96.8 | 75-125 | | | | |
| **Reference (BL31544-SRM1)** | | | | | | | | Prepared: 12/21/2023 Analyzed: 12/22/2023 | | | |
| Mercury | 19.848 | | mg/kg | 18.2 | | 109 | 59.9-140.1 | | | | |
| **Batch BL31566 - EPA 7473 soil** | | | | | | | | | | | |
| **Blank (BL31566-BLK1)** | | | | | | | | Prepared: 12/21/2023 Analyzed: 12/22/2023 | | | |
| Mercury | ND | 0.0300 | mg/kg wet | | | | | | | | |
| **Duplicate (BL31566-DUP1)** | *Source sample: 23L1063-31 (L41SS-01) | | | | | | | Prepared: 12/21/2023 Analyzed: 12/22/2023 | | | |
| Mercury | 0.0735 | 0.0324 | mg/kg dry | | 0.0767 | | | | 4.32 | 35 | |
| **Matrix Spike (BL31566-MS1)** | *Source sample: 23L1063-31 (L41SS-01) | | | | | | | Prepared: 12/21/2023 Analyzed: 12/22/2023 | | | |
| Mercury | 0.581 | | mg/kg | 0.500 | 0.0710 | 102 | 75-125 | | | | |
| **Reference (BL31566-SRM1)** | | | | | | | | Prepared: 12/21/2023 Analyzed: 12/22/2023 | | | |
| Mercury | 22.004 | | mg/kg | 18.2 | | 121 | 59.9-140.1 | | | | |

## Miscellaneous Physical Parameters - Quality Control Data

## York Analytical Laboratories, Inc. - Stratford

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL31539 - % Solids Prep** | | | | | | | | | | | |
| **Duplicate (BL31539-DUP1)** | *Source sample: 23L1063-01 (L1SS-01) | | | | | | | Prepared & Analyzed: 12/21/2023 | | | |
| % Solids | 83.8 | 0.100 | % | | 82.6 | | | | 1.51 | 20 | |
| **Batch BL31549 - % Solids Prep** | | | | | | | | | | | |
| **Duplicate (BL31549-DUP1)** | *Source sample: 23L1020-02 (Duplicate) | | | | | | | Prepared & Analyzed: 12/21/2023 | | | |
| % Solids | 93.4 | 0.100 | % | | 92.8 | | | | 0.691 | 20 | |
| **Batch BL31552 - % Solids Prep** | | | | | | | | | | | |
| **Duplicate (BL31552-DUP1)** | *Source sample: 23L1063-36 (L46SS-02) | | | | | | | Prepared & Analyzed: 12/21/2023 | | | |
| % Solids | 86.1 | 0.100 | % | | 83.0 | | | | 3.77 | 20 | |

YORK
ANALYTICAL LABORATORIES INC

## Sample and Data Qualifiers Relating to This Work Order

| | |
|---|---|
| S-08 | The recovery of this surrogate was outside of QC limits. |
| S-01 | The surrogate recovery for this sample may not be available due to sample dilution required from high analyte concentration and/or matrix interferences. |
| M-DUPS | The RPD between the native sample and the duplicate is outside of limits due to sample non-homogeneity |
| J | Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration. |
| B | Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants. |

## Definitions and Other Explanations

| | |
|---|---|
| * | Analyte is not certified or the state of the samples origination does not offer certification for the Analyte. |
| ND | NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL) |
| RL | REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve. |
| LOQ | LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses. |
| LOD | LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846. |
| MDL | METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods. |
| Reported to | This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only. |
| NR | Not reported |
| RPD | Relative Percent Difference |
| Wet | The data has been reported on an as-received (wet weight) basis |
| Low Bias | Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias. |
| High Bias | High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias. |
| Non-Dir. | Non-dir. flag (Non-Directional Bias ) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons. |

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two. For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.

---

Revision Description: This report has been revised to include additional analyses.

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www.yorklab.com

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YORK Project No. 23L 1063



| YOUR Information | Report To: | Invoice To: | YOUR Project Number | Turn-Around Time |
|---|---|---|---|---|
| Company: Gallagher Bassett Technical Services | same | same | 23003-0060 | RUSH - Next Day |
| Address: 22 IBM Rd Suite 101 Poughkeepsie, NY | Address: | Address: | YOUR Project Name | RUSH - Two Day |
| Phone.: (845) 867-4727 | Phone.: | Phone.: | 23003-0060 | RUSH - Three Day |
| Contact: Szabolcs David | Contact: | Contact: Brenda | | RUSH - Four Day |
| E-mail: szabolcs_david@gbtpa.com | E-mail: | Brenda_Wells@gbtpa.com | YOUR PO#: 23003-0060 | Standard (5-7 Day) X |

***Please print clearly and legibly. All information must be complete. Samples will not be logged in and the turn-around-time clock will not begin until any questions by YORK are resolved.***

Samples Collected by: (print your name above and sign below)
Szabolcs David

**Matrix Codes**
S - soil / solid
GW - groundwater
DW - drinking water
WW - wastewater
O - Oil | Other

**Samples From**
New York X
New Jersey
Connecticut
Pennsylvania
Other

**Report / EDD Type** (circle selections)
Summary Report | QA Report | NY ASP A Package | NY ASP B Package
CT RCP | CT RCP DQA/DUE | NJDEP Reduced | Deliverables | NJDKQP
Standard Excel EDD | EQuIS (Standard) | NYSDEC EQuIS | NJDEP SRP HazSite | Other:

**YORK Reg. Comp.**
Compared to the following Regulation(s): RRU SCOs

| Sample Identification | Sample Matrix | Date/Time Sampled | Analysis Requested (SD) | Container Description |
|---|---|---|---|---|
| L1SS-01 | soil | 12/13/2023 | total lead and arsenic, barium, mercury | 1 X 8oz |
| L1SS-02 | | | | |
| L1SS-03 | | | | |
| L2SS-01 | | | | |
| L2SS-02 | | | | |
| L2SS-03 | | | | |
| L2SS-04 | | | | |
| L2SS-05 | | | | |
| L2SS-06 | | | | |
| L2SS-07 | | | | |

**Comments:**

**Preservation:** (check all that apply)
HCl ___ MeOH ___ HNO3 ___ H2SO4 ___ NaOH ___ ZnAc ___ Ascorbic Acid ___ Other: ___

**Special Instruction**
Field Filtered ____
Lab to Filter ____

| 1. Samples Relinquished by / Company | Date/Time | 1. Samples Received by / Company | Date/Time | 2. Samples Relinquished by / Company | Date/Time |
|---|---|---|---|---|---|
| GBTS | 12/14/23 @1200 | Chris Cathcart | 12-14-23 12:10 | Chris Cathcart 12-14-23 | 1600 |
| 2. Samples Received by / Company | Date/Time | 3. Samples Relinquished by / Company | Date/Time | 3. Samples Received by / Company | Date/Time |
| | | | | | |
| 4. Samples Relinquished by / Company | Date/Time | 4. Samples Received by / Company | Date/Time | Samples Received in LAB by | Date/Time / Temp. Received at Lab |
| | | | | | 12/14/23 1600 4.8 Degrees C |

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www.yorklab.com

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| Phone.: (845) 867-4727 | Phone.: | Phone.: | 23003-0060 | RUSH - Three Day ___ |
| Contact: Szabolcs David | Contact: | Contact: Brenda | | RUSH - Four Day ___ |
| E-mail: szabolcs_david@gbtpa.com | E-mail: | Brenda_Wells@gbtpa.com | YOUR PO#: 23003-0060 | Standard (5-7 Day) X |

***Please print clearly and legibly. All information must be complete. Samples will not be logged in and the turn-around-time clock will not begin until any questions by YORK are resolved.***

Samples Collected by: (print your name above and sign below)
Szabolcs David

**Matrix Codes**
S - soil / solid
GW - groundwater
DW - drinking water
WW - wastewater
O - Oil ⋮ Other

**Samples From**
New York X
New Jersey
Connecticut
Pennsylvania
Other

**Report / EDD Type** (circle selections)
Summary Report | CT RCP | Standard Excel EDD
QA Report | CT RCP DQA/DUE | EQuIS (Standard)
NY ASP A Package | NJDEP Reduced | NYSDEC EQuIS
NY ASP B Package | Deliverables | NJDEP SRP HazSite
NJDKQP | Other:

**YORK Reg. Comp.**
Compared to the following Regulation(s): RRU SCOs

| Sample Identification | Sample Matrix | Date/Time Sampled | Analysis Requested (5D) | Container Description |
|---|---|---|---|---|
| L2SS-08 | soil | 12/13/2023 | total lead and arsenic, barium, mercury | 1 X 8oz |
| L3SS-01 | | | | |
| L3SS-02 | | | | |
| L3SS-03 | | | | |
| L4SS-01 | | | | |
| L4SS-02 | | | | |
| L4SS-03 | | | | |
| L5SS-01 | | | | |
| L5SS-02 | | | | |
| L5SS-03 | | | | |

**Comments:**

**Preservation:** (check all that apply)
HCl ___ MeOH ___ HNO3 ___ H2SO4 ___ NaOH ___ ZnAc ___ Ascorbic Acid ___ Other: ___

**Special Instruction**
Field Filtered ___
Lab to Filter ___

| 1. Samples Relinquished by / Company | Date/Time | 1. Samples Received by / Company | Date/Time | 2. Samples Relinquished by / Company | Date/Time |
|---|---|---|---|---|---|
| GBTS | 12/14/23 @1600 | Chris Catalfo | 12-14-23 12:10 | Chris Catalfo | 12-14-23 1600 |
| 2. Samples Received by / Company | Date/Time | 3. Samples Relinquished by / Company | Date/Time | 3. Samples Received by / Company | Date/Time |
| | | | | | |
| 4. Samples Relinquished by / Company | Date/Time | 4. Samples Received by / Company | Date/Time | Samples Received in LAB by | Date/Time / Temp. Received at Lab |
| | | | | CF | 12/14/23 1600 4.3 Degrees C |

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www.yorklab.com

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| Company: Gallagher Bassett Technical Services | same | same | 23003-0060 | RUSH - Next Day |
| Address: 22 IBM Rd Suite 101 Poughkeepsie, NY | Address: | Address: | YOUR Project Name | RUSH - Two Day |
| Phone.: (845) 867-4727 | Phone.: | Phone.: | 23003-0060 | RUSH - Three Day |
| Contact: Szabolcs David | Contact: | Contact: Brenda | | RUSH - Four Day |
| E-mail: szabolcs_david@gbtpa.com | E-mail: | Brenda_Wells@gbtpa.com | YOUR PO#: 23003-0060 | Standard (5-7 Day) X |

***Please print clearly and legibly. All information must be complete. Samples will not be logged in and the turn-around-time clock will not begin until any questions by YORK are resolved.***

Samples Collected by: (print your name above and sign below)
Szabolcs David

**Matrix Codes**
S - soil / solid
GW - groundwater
DW - drinking water
WW - wastewater
O - Oil ⋮ Other

**Samples From**
New York X
New Jersey
Connecticut
Pennsylvania
Other

**Report / EDD Type** (circle selections)
Summary Report | CT RCP | Standard Excel EDD
QA Report | CT RCP DQA/DUE | EQuIS (Standard)
NY ASP A Package | NJDEP Reduced | NYSDEC EQuIS
NY ASP B Package | Deliverables | NJDEP SRP HazSite
NJDKQP | Other:

**YORK Reg. Comp.**
Compared to the following Regulation(s): RRU SCOs

| Sample Identification | Sample Matrix | Date/Time Sampled | Analysis Requested | Container Description |
|---|---|---|---|---|
| L5SS-04 | soil | 12/13/2023 | total lead and arsenic, barium, mercury | 1 X 8oz |
| L6SS-01 | | | | |
| L6SS-02 | | | | |
| L6SS-03 | | | | |
| L7SS-01 | | | | |
| L7SS-02 | | | | |
| L7SS-03 | | | | |
| L30SS-01 | | | | |
| L30SS-02 | | | | |
| L30SS-03 | | | | |

**Comments:**

**Preservation:** (check all that apply)
HCl ___ MeOH ___ HNO3 ___ H2SO4 ___ NaOH ___ ZnAc ___ Ascorbic Acid ___ Other: _____

**Special Instruction**
Field Filtered ____
Lab to Filter ____

| 1. Samples Relinquished by / Company | Date/Time | 1. Samples Received by / Company | Date/Time | 2. Samples Relinquished by / Company | Date/Time |
|---|---|---|---|---|---|
| GBTS | 12/14/23 @1200 | Chris Catania | 12-14-23 12:10 | Chris Catania | 12-14-23 1600 |
| 2. Samples Received by / Company | Date/Time | 3. Samples Relinquished by / Company | Date/Time | 3. Samples Received by / Company | Date/Time |
| | | | | | |
| 4. Samples Relinquished by / Company | Date/Time | 4. Samples Received by / Company | Date/Time | Samples Received in LAB by | Date/Time / Temp. Received at Lab |
| | | | | [illegible] | 12/14/23 1600 4.9 Degrees C |

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| YOUR Information | Report To: | Invoice To: | YOUR Project Number | Turn-Around Time |
|---|---|---|---|---|
| Company: Gallagher Bassett Technical Services | same | same | 23003-0060 | RUSH - Next Day |
| Address: 22 IBM Rd Suite 101 Poughkeepsie, NY | Address: | Address: | YOUR Project Name | RUSH - Two Day / RUSH - Three Day / RUSH - Four Day |
| Phone.: (845) 867-4727 | Phone.: | Phone.: | 23003-0060 | Standard (5-7 Day) X |
| Contact: Szabolcs David | Contact: | Contact: Brenda | | |
| E-mail: szabolcs_david@gbtpa.com | E-mail: | Brenda_Wells@gbtpa.com | YOUR PO#: 23003-0060 | |

***Please print clearly and legibly. All information must be complete. Samples will not be logged in and the turn-around-time clock will not begin until any questions by YORK are resolved.***

Samples Collected by: (print your name above and sign below)
Szabolcs David

**Matrix Codes**
S - soil / solid
GW - groundwater
DW - drinking water
WW - wastewater
O - Oil ; Other

**Samples From**
New York X
New Jersey
Connecticut
Pennsylvania
Other

**Report / EDD Type** (circle selections)
Summary Report (circled) | CT RCP | Standard Excel EDD
QA Report | CT RCP DQA/DUE | EQuIS (Standard)
NY ASP A Package | NJDEP Reduced | NYSDEC EQuIS
NY ASP B Package | Deliverables | NJDEP SRP HazSite
NJDKQP | Other:

**YORK Reg. Comp.**
Compared to the following Regulation(s): RRU SCOs

| Sample Identification | Sample Matrix | Date/Time Sampled | Analysis Requested | Container Description |
|---|---|---|---|---|
| L41SS-01 | soil | 12/13/2023 | total lead and arsenic, barium, mercury (SD) | 1 X 8oz |
| L41SS-02 | | | | |
| L41SS-03 | | | | |
| L41SS-04 | | | | |
| L46SS-01 | | | | |
| L46SS-02 | | | | |
| L46SS-03 | | | | |

**Comments:**

**Preservation:** (check all that apply)
HCl ___ MeOH ___ $HNO_3$ ___ $H_2SO_4$ ___ NaOH ___ ZnAc ___ Ascorbic Acid ___ Other: ___

**Special Instruction**
Field Filtered ____
Lab to Filter ____

| 1. Samples Relinquished by / Company | Date/Time | 1. Samples Received by / Company | Date/Time | 2. Samples Relinquished by / Company | Date/Time |
|---|---|---|---|---|---|
| GBTS | 12/14/23 @1200 | Chris Cattani | 12-14-23 12:10 | Chris Cattani | 12-14-23 1600 |
| 2. Samples Received by / Company | Date/Time | 3. Samples Relinquished by / Company | Date/Time | 3. Samples Received by / Company | Date/Time |
| | | | | | |
| 4. Samples Relinquished by / Company | Date/Time | 4. Samples Received by / Company | Date/Time | Samples Received in LAB by | Date/Time / Temp. Received at Lab |
| | | | | | 12/14/23 1600 4.8 Degrees C |

# APPENDIX J

# Scope of Services

# Phase I Environmental Site Assessment
## Scope of Services

**Task 1.0 Description of Subject Property and Surrounding Area Physical Settings**

1.1 Description of property location, topography, geology, hydrogeology, surface hydrology and wetlands
1.2 Identification of adjoining and surrounding area properties

**Task 2.0 Historic Investigation (Review of Applicable, Reasonably Ascertainable Sources)**

2.1 Review of historic maps and plans (to the earliest date of available maps)
2.2 Review of aerial photographs
2.3 Review of local records (e.g., building department), including cursory ownership information and City Directories, if applicable.
2.4 Interviews with User, Key Site Manager, and other knowledgeable individuals
2.5 Review of User or property owner provided documents and/or analytical results

**Task 3.0 Federal and State Regulatory Agency Records Review**

3.1 Review of ASTM-required federal, state, and/or tribal databases at required search distances and analysis of the relationship of each Site (e.g., upgradient, downgradient) to the Subject Property;

- Federal NPL (1.0 mile) and delisted NPL sites (0.5 mile)
- Federal SEMS list and CERCLIS NFRAP site list (0.5 mile)
- Federal RCRA CORRACTS facilities list (1.0 mile)
- Federal RCRA non-CORRACTS TSD facilities list (0.5 mile)
- Federal RCRA generators list (subject/adjoining properties)
- Federal ERNS list (subject property)
- Federal, state, and tribal institutional control/engineering control registries (subject property)
- State- and tribal-equivalent NPL (1.0 mile)
- State- and tribal-equivalent SEMS (0.5 mile)
- State and tribal Brownfield and voluntary cleanup sites (0.5 mile)
- State and tribal leaking storage tank lists (0.5 mile)
- State (including locally administered) and tribal registered storage tank lists (subject/adjoining)
- State and tribal landfill and/or solid waste disposal site lists (0.5 mile)
- NYC E-Designation List

3.2 Review of additional federal and state environmental databases:

- State spill file records (0.5 mile)
- State MOSF list (0.5 mile)
- State radon data (by local municipality as available)
- Federal and state wastewater discharge permits (subject/adjoining properties)

3.3 Interviews (as applicable) with government representative regarding regulatory compliance

**Task 4.0 Physical Inspection**

4.1 Inspection of property and structures for potential contamination and contaminant sources, including:

- Hazardous/medical/radioactive waste storage and disposal areas
- Petroleum and/or chemical storage (including tanks and associated piping)
- Spatial extent and current condition of suspect asbestos-containing materials (ACM), suspect lead-based paint (LBP) and mold
- Site conditions that may indicate the potential for radon and lead in drinking water
- If ACM or LBP is identified as presumed or suspect, provide estimates of the quantity of such material and costs for abasement to the extent feasible.
- Wastewater and stormwater discharge systems
- Equipment potentially containing polychlorinated biphenyls (PCBs)

4.2 Inspection of property for the following:

- Presence of contamination (e.g., debris, soil staining)
- Evidence of prior structures and uses
- Unusual or man-made topographical formations (e.g., berms, sinkholes)
- On-site surface water quality
- Evidence and location of wells
- Vegetative stress

4.3 Identification of overt on-site sensitive environmental receptors (e.g., wetlands)
4.4 Limited inspection of adjoining and nearby properties for:

- Potential off-site sources of contamination
- Sensitive environmental receptors

4.5 If appropriate, interviews with owners/tenants/operators and other available knowledgeable individuals present during physical inspection

**Task 5.0 Preparation of Written Summary Report**

5.1 Summary of findings of Tasks 1.0 through 4.0
5.2 Identification of any Recognized Environmental Conditions and/or other potential concerns
5.3 Conclusions and Recommendations, including any specific additional investigatory or remedial work
5.4 Production and transmission of the final Phase I ESA to Client in PDF format, and hard copy if requested.

# APPENDIX K

# Qualifications of Environmental Professionals

GALLAGHER BASSETT | TECHNICAL SERVICES

# SUMMARY REPORT OF

# SUBSURFACE INVESTIGATION

## 181-187 and 205 Clinton Street
## and 34 Jarvis Street
### City of Binghamton, Broome County, New York
**NYSDEC BCP ID: C704063**

**September 3, 2025**

**GBTS Project: 23003-0060**

---

22 IBM Road – Suite 101
Poughkeepsie, NY 12601
(845) 452-1658 www.gallagherbassett.com

# SUMMARY REPORT OF SUBSURFACE INVESTIGATION

**September 3, 2025**

**GBTS Project: 23003-0060**


**Prepared By:**

**Gallagher Bassett Technical Services**
**22 IBM Road – Suite 101**
**Poughkeepsie, New York 12601**

**Prepared For:**

**Think City Partners, LLC**
**545 Vanderbilt Avenue, 12C**
**Brooklyn, New York 11238**


Environmental investigation services were performed by Gallagher Bassett Technical Services (GBTS). The undersigned have reviewed this Phase II Environmental Investigation and certify to Think City Partners that the information provided in this document is accurate as of the date of issuance by this office.


Richard Hooker
Gallagher Bassett Technical Services
Manager – Environmental Consulting

Scott Spitzer
Gallagher Bassett Technical Services
Technical Director – Environmental Consulting

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**2.0 SOIL INVESTIGATION ..... 2**

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2.2 Fieldwork Activities ..... 2

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2.3.2 Sample Submission

2.3.3 Laboratory Results

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**ATTACHMENTS**

*A Fieldwork Map*

*B Data Summary Tables*

*C Laboratory Reports*

*D Test Pit Logs*

*E Photographs*

# 1.0 INTRODUCTION

## 1.1 Purpose

This Summary Report of Subsurface Investigation (Report) documents fieldwork performed by Gallagher Bassett Technical Services (GBTS) at the property located at 181-187 and 205 Clinton Street, and 34 Jarvis Street, City of Binghamton, Broome County, New York (Site; BCP ID: C704063). A geophysical survey was conducted at northern portions of the property, fourteen (14) test pits were extended, and soil samples were submitted for laboratory analysis to screen for potential contamination conditions resulting from historical commercial and industrial uses of the Site.

This Report describes all fieldwork methodologies for the work conducted by GBTS, includes discussions of the resulting analytical data from collected samples and provides conclusions and recommendations drawn from the fieldwork and analytical data.

## 1.2 Limitations

This written analysis summarizes environmental fieldwork activities conducted on specified portions of the above-referenced property during the indicated fieldwork dates, and is not relevant to other portions of this property or any other property. Environmental services were performed in accordance with generally accepted practices and protocols established by the New York State Department of Environmental Conservation (NYSDEC). Findings, conclusions, and recommendations provided by GBTS are based on professional judgement.

## 1.3 Site Location and Description

The Site is an approximately 4.3-acre irregularly-shaped parcel comprised of five contiguous commercial lots (Lots 1, 2, 3, 4, 5, and 30) on the southern side of Clinton Street. A single-story commercial building is located on Lot 30 (205 Clinton Street). The remainder of the property is vacant land generally covered by degraded foundation slabs, degraded asphalt paved surfaces, gravel, and overgrown vegetation. A Fieldwork Map indicating specific Site characteristics is provided in Attachment A.

## 1.4 Related Environmental Reports

A Phase I Environmental Site Assessment (ESA; GBTS, February 2024) identified historical commercial uses likely to have resulted in environmental contamination and a Phase II ESA (GBTS, February 2024) documented exceedances of NYSDEC Restricted-Residential Use (RRU) Soil Cleanup Objectives (SCOs) in surface soil at all lots, including metals (arsenic, barium, and lead). Geotechnical borings have documented fill materials between 1 and 12.5 feet below surface grade (bsg) across the Site, overlying a glacial outwash deposit comprised of sand and gravel, and groundwater encountered at depths between 20 and 23 feet bsg.

# 2.0 SOIL INVESTIGATION

## 2.1 Summary of Services

GBTS conducted the following services at the Site on July 25, 2024:

- Performed a geophysical survey, inclusive of ground penetrating radar (GPR), at the northern portion of the Site to identify any underground storage tanks (USTs) or other relevant subsurface features;
- Advanced fourteen (14) test pits (TP-02 to TP-15) to a maximum depth of approximately 15 feet bsg in the vicinity of: GPR identified subsurface anomalies; a former on-site filling station; and former USTs and other areas of the property potentially impacted by historical site usage as indicated by Sanborn Maps; and,
- Documented the presence or absence of contamination through sampling and laboratory analysis of subsurface soil samples for semi volatile organic compounds (SVOCs), Target Analyte List (TAL) metals, pesticides, and PCBs.

This Report is divided into sections that document fieldwork methodology (Section 2.2) and laboratory results (Section 2.3), and present GBTS's conclusions and recommendations (Section 3.0). A map indicating fieldwork locations and selected Site features is provided in Appendix A.

## 2.2 Fieldwork Activities

Geophysical Survey

A geophysical survey of the subsurface at the northern portion of the Site was performed by East Coast Geophysics personnel in order to scan for any buried utilities and/or any other anomalous subsurface features. Equipment used included GPR (SIR-3000 with 400 MHz antenna), Radio Detection Pipe Locator, and a TW-6 Magnetic Locator. The survey identified a 1,000-gallon UST at Lot 30 and three potential subsurface anomalies in the central northern portion of the Site (subsequently investigated by the extension of Test Pits TP-06, TP-07 and TP-08).

General Protocols

Encountered material was screened (as appropriate) with a properly calibrated MiniRAE 3000 (Model PGM 7320) photo-ionization detector (PID) for volatile organic vapors. GBTS documented field observations in logbooks, including any indications of contamination. Soils exposed in test pits consisted of variable texture fill overlaying glacial outwash. Field evidence of contamination (staining) was observed at the 8'-10' increment at TP-04. Relevant information from GBTS logs for each fieldwork location is summarized in Appendix D.

GBTS collected samples in general conformance with NYSDEC and New York State Department of Health (NYSDOH) sample collection and decontamination protocols. Field personnel wore dedicated, disposable gloves during fieldwork activities, and any non-dedicated sampling

instruments were decontaminated prior to media collection. Soil samples were collected from exposed areas utilizing clean, dedicated tools. All sample were placed in laboratory-supplied containers and maintained at proper temperatures (using ice-packs and coolers as appropriate) while in GBTS's custody. Samples were transported the following day via courier to York Analytical Laboratories, Inc., a NYSDOH-certified laboratory (ELAP Certification Number 10854) for chemical analyses. Appropriate chain-of-custody procedures were followed.

Soil Sampling

Twenty-eight soil samples were collected between 2 and 13 feet bsg in the test pits. Locations were informed by field observations, GPR results, and historical data presented in the Phase I and II ESAs. Test pit logs and photographs are included as attachments D and E respectively.

## 2.3 Laboratory Analysis

### 2.3.1 Standards, Criteria and/or Guidance

Laboratory results for soils are compared to NYSDEC Remedial Program RRU SCOs provided in 6 NYCRR Subpart 375, Table 375-6.8(b).

### 2.3.2 Sample Submission

A total of 28 samples were submitted for laboratory analysis. All samples were analyzed for Target Analyte List (TAL) metals (6010/7473), with a subset also analyzed for semi-volatile organic compounds (SVOCs, 8270), pesticides (8081), and/or polychlorinated biphenyls (PCBs, 8082).

| Area of Concern | Sample ID(s) | Laboratory Analysis |
|---|---|---|
| Former Filling Station (1950 Sanborn and GPR) | TP-0-6 4, TP-06 6, TP-06 12, TP-07 2, TP-07 4, TP-08 2, TP-09 13, TP-08 10 | TAL metals |
| | TP-06 6, TP-08 2 | SVOCs |
| lead (Phase II sample L2SS-04) | TP-03 3 | TAL metals<br>SVOCs |
| Slab of former structure | TP-10 2, TP 10 10 | TAL metals |
| Former foundry (1918 Sanborn) | TP-04 2, TP-04 4, TP-04 6, TP-04 8, TP-05 4 | TAL metals |
| | TP-04 4, TP-04 6 | SVOCs |
| arsenic (Phase II sample L5SS-02) | TP-14 2, TP-14 4 | TAL metals |
| | TP-14 2 | SVOCs |
| Industrial uses (1918 Sanborn) | TP-12 4, TP-13 6, TP-13 8, TP-13 13 | TAL metals |
| | TP-13 13 | SVOCs |
| Area of observed surface staining | TP-11 2, TP-11 8 | TAL metals |
| | TP-11 2 | SVOCs, pesticides, PCBs |
| Observed surface anomaly | TP-15 2, TP-15 4, TP-15 8, TP-15-12 | TAL metals |
| | TP-15 4 | SVOCs, pesticides |

### 2.3.3 Laboratory Results

A summary of the results of the laboratory analyses is presented below. Results are referenced as milligrams per kilogram (parts per million [ppm]). Data summary tables and the laboratory reports are provided as Attachments B and C, respectively.

*SVOCs*

Multiple SVOCs (restricted to polycyclic aromatic hydrocarbons) were reported above RRU SCOs in 4 of 8 samples collected at 2 and/or 4 feet bsg, with detections as high as 31.1 ppm.

*Metals*

One or more metals were detected above RRU SCOs in 13 of 28 samples collected at depths ranging from 2 to 13 feet bsg, including maximum values of arsenic (54.7 ppm; SCO 16 ppm); barium (832 ppm; SCO 400 ppm); chromium (370 ppm; SCO 180 ppm), lead (16,900 ppm; SCO 400 ppm); and mercury (1.37 ppm; SCO 0.81 ppm). Lead over 1,000 ppm was found up to 8 feet bsg.

*Pesticides and PCBs*

No pesticides or PCBs were detected above RRU SCOs.

## 3.0 CONCLUSIONS

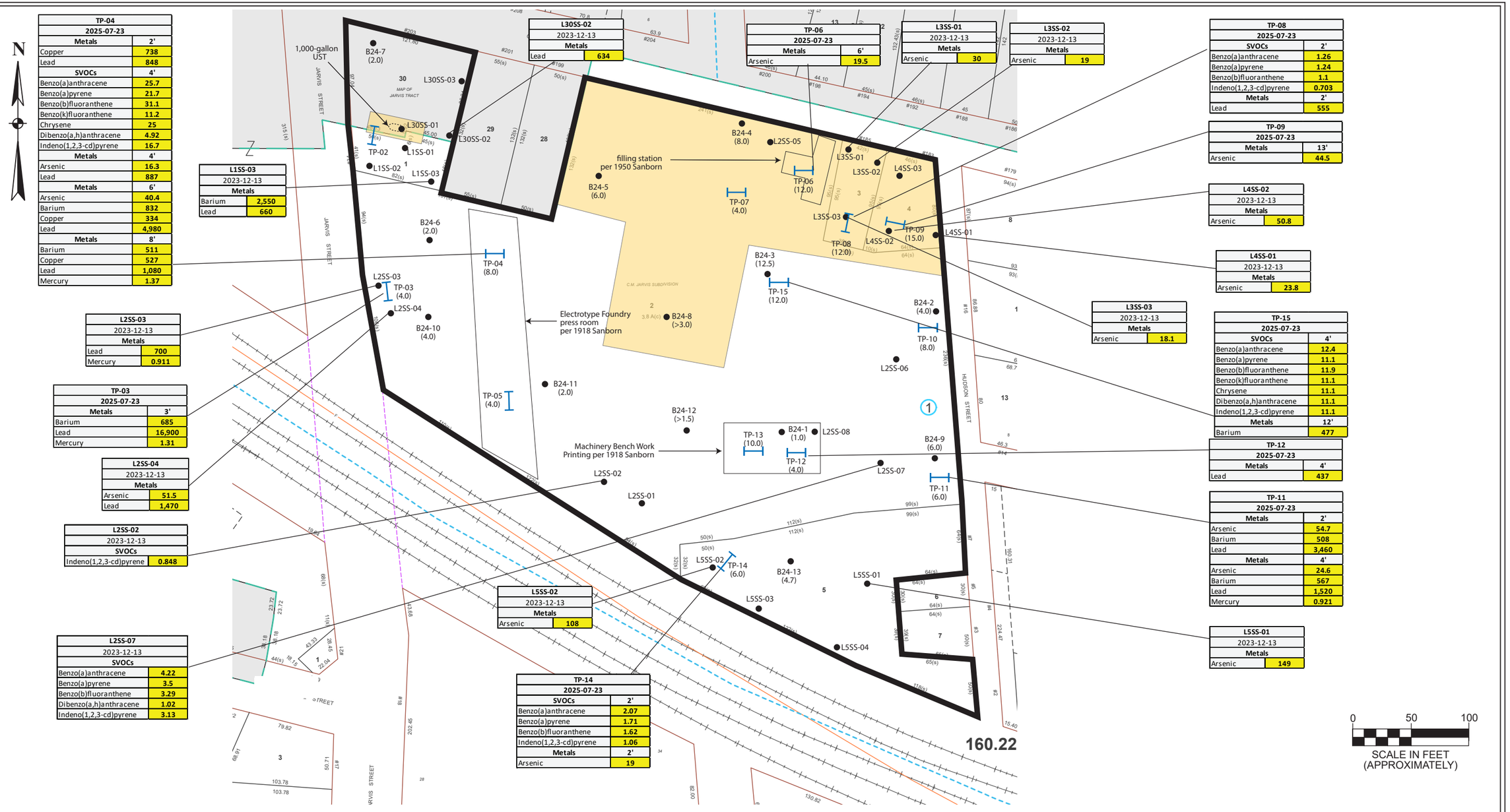
GBTS has completed the services summarized in Section 2.0 on the Site, located at 181-187 and 205 Clinton Street, and 34 Jarvis Street, City of Binghamton, Broome County, New York. Fieldwork (conducted to further document the presence or absence of contamination from historical uses) included the extension of fourteen (14) test pits and collection of twenty-eight (28) soil samples.

Conclusions, based on the fieldwork services and laboratory data, are as follows:

SVOC and/or metal contamination has been detected in subsurface soils/fill up to approximately 13 feet bsg throughout the Site, with 14 of 28 sampling locations exceeding RRU SCOs. SVOC and metals impacts at several locations are as high as 30 to 40 times the applicable SCO, representing a significant potential exposure risk. These findings are consistent with previous surface-soil data presented in the GBTS Phase II ESA, which documented contaminant concentrations exceeding RRU SCOs in shallow soils, including high levels of metals, and are likely indicative of impacts from historical commercial/industrial operations, fill materials, and/or from demolition of former structures.

# ATTACHMENT A - Fieldwork Map

GALLAGHER BASSETT | TECHNICAL SERVICES




| TP-04 | |
|---|---|
| 2025-07-23 | |
| **Metals** | **2'** |
| Copper | 738 |
| Lead | 848 |
| **SVOCs** | **4'** |
| Benzo(a)anthracene | 25.7 |
| Benzo(a)pyrene | 21.7 |
| Benzo(b)fluoranthene | 31.1 |
| Benzo(k)fluoranthene | 11.2 |
| Chrysene | 25 |
| Dibenzo(a,h)anthracene | 4.92 |
| Indeno(1,2,3-cd)pyrene | 16.7 |
| **Metals** | **4'** |
| Arsenic | 16.3 |
| Lead | 887 |
| **Metals** | **6'** |
| Arsenic | 40.4 |
| Barium | 832 |
| Copper | 334 |
| Lead | 4,980 |
| **Metals** | **8'** |
| Barium | 511 |
| Copper | 527 |
| Lead | 1,080 |
| Mercury | 1.37 |

| L1SS-03 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Barium | 2,550 |
| Lead | 660 |

| L2SS-03 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Lead | 700 |
| Mercury | 0.911 |

| TP-03 | |
|---|---|
| 2025-07-23 | |
| **Metals** | **3'** |
| Barium | 685 |
| Lead | 16,900 |
| Mercury | 1.31 |

| L2SS-04 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Arsenic | 51.5 |
| Lead | 1,470 |

| L2SS-02 | |
|---|---|
| 2023-12-13 | |
| **SVOCs** | |
| Indeno(1,2,3-cd)pyrene | 0.848 |

| L2SS-07 | |
|---|---|
| 2023-12-13 | |
| **SVOCs** | |
| Benzo(a)anthracene | 4.22 |
| Benzo(a)pyrene | 3.5 |
| Benzo(b)fluoranthene | 3.29 |
| Dibenzo(a,h)anthracene | 1.02 |
| Indeno(1,2,3-cd)pyrene | 3.13 |

| L30SS-02 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Lead | 634 |

| TP-06 | |
|---|---|
| 2025-07-23 | |
| **Metals** | **6'** |
| Arsenic | 19.5 |

| L3SS-01 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Arsenic | 30 |

| L3SS-02 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Arsenic | 19 |

| TP-08 | |
|---|---|
| 2025-07-23 | |
| **SVOCs** | **2'** |
| Benzo(a)anthracene | 1.26 |
| Benzo(a)pyrene | 1.24 |
| Benzo(b)fluoranthene | 1.1 |
| Indeno(1,2,3-cd)pyrene | 0.703 |
| **Metals** | **2'** |
| Lead | 555 |

| TP-09 | |
|---|---|
| 2025-07-23 | |
| **Metals** | **13'** |
| Arsenic | 44.5 |

| L4SS-02 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Arsenic | 50.8 |

| L4SS-01 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Arsenic | 23.8 |

| L3SS-03 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Arsenic | 18.1 |

| TP-15 | |
|---|---|
| 2025-07-23 | |
| **SVOCs** | **4'** |
| Benzo(a)anthracene | 12.4 |
| Benzo(a)pyrene | 11.1 |
| Benzo(b)fluoranthene | 11.9 |
| Benzo(k)fluoranthene | 11.1 |
| Chrysene | 11.1 |
| Dibenzo(a,h)anthracene | 11.1 |
| Indeno(1,2,3-cd)pyrene | 11.1 |
| **Metals** | **12'** |
| Barium | 477 |

| TP-12 | |
|---|---|
| 2025-07-23 | |
| **Metals** | **4'** |
| Lead | 437 |

| TP-11 | |
|---|---|
| 2025-07-23 | |
| **Metals** | **2'** |
| Arsenic | 54.7 |
| Barium | 508 |
| Lead | 3,460 |
| **Metals** | **4'** |
| Arsenic | 24.6 |
| Barium | 567 |
| Lead | 1,520 |
| Mercury | 0.921 |

| L5SS-01 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Arsenic | 149 |

| L5SS-02 | |
|---|---|
| 2023-12-13 | |
| **Metals** | |
| Arsenic | 108 |

| TP-14 | |
|---|---|
| 2025-07-23 | |
| **SVOCs** | **2'** |
| Benzo(a)anthracene | 2.07 |
| Benzo(a)pyrene | 1.71 |
| Benzo(b)fluoranthene | 1.62 |
| Indeno(1,2,3-cd)pyrene | 1.06 |
| **Metals** | **2'** |
| Arsenic | 19 |

Legend:

- BCP boundary
- test pit location
- Foundation Design Inc. - Geotechnical boring location
- (#) depth to native material
- GPR location

*Data in mg/Kg*
**Analyte Above RRU SCO**

All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

# Fieldwork Map: Exceedances of RRU SCOS

BCP Site: C704063
181-187 Clinton Street
City of Binghamton
Broome County, New York

File: 23003-0060

Scale as shown

September 2025 | Attachment

# ATTACHMENT B - Data Summary Tables

# Table 1: SVOCs in Soils

**NYSDEC BCP (C704063) Eligibility Supplemental Sampling**

**GBTS Project: 23003-0060**

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | Sample | TP-03 3 | | TP-04 4 | | TP-06 6 | | TP-08 2 | | TP-11 2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected* | | Date | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | |
| *Data in mg/Kg* | | Dilution | 2 | | 200 | | 2 | | 2 | | 2 | |
| **SVOCs, 8270** | **UU SCO** | **RRU SCO** | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* |
| 1,1'-biphenyl | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 1,2,4,5-tetrachlorobenzene | NA | NA | 0.111 | U | 0.0982 | U | 0.113 | U | 0.0938 | U | 0.0988 | U |
| 1,2,4-trichlorobenzene | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 1,2-dichlorobenzene | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 1,2-diphenylhydrazine (azobenzene) | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 1,3-dichlorobenzene | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 1,4-dichlorobenzene | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 2,3,4,6-tetrachlorophenol | NA | NA | 0.111 | U | 0.0982 | U | 0.113 | U | 0.0938 | U | 0.0988 | U |
| 2,4,5-trichlorophenol | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 2,4,6-trichlorophenol | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 2,4-dichlorophenol | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 2,4-dimethylphenol | NA | NA | 0.0558 | U | 0.0502 | JD | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 2,4-dinitrophenol | NA | NA | 0.111 | U | 0.0982 | U | 0.113 | U | 0.0938 | U | 0.0988 | U |
| 2,4-dinitrotoluene | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 2,6-dinitrotoluene | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 2-chloronaphthalene | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 2-chlorophenol | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 2-methylnaphthalene | NA | NA | 0.0558 | U | 0.0965 | JD | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 2-methylphenol | 0.33 | 100 | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 2-nitroaniline | NA | NA | 0.111 | U | 0.0982 | U | 0.113 | U | 0.0938 | U | 0.0988 | U |
| 2-nitrophenol | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 3- & 4-methylphenols | 0.33 | 100 | 0.0558 | U | 0.102 | D | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 3,3'-dichlorobenzidine | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 3-nitroaniline | NA | NA | 0.111 | U | 0.0982 | U | 0.113 | U | 0.0938 | U | 0.0988 | U |
| 4,6-dinitro-2-methylphenol | NA | NA | 0.111 | U | 0.0982 | U | 0.113 | U | 0.0938 | U | 0.0988 | U |
| 4-bromophenyl phenyl ether | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 4-chloro-3-methylphenol | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 4-chloroaniline | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 4-chlorophenyl phenyl ether | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| 4-nitroaniline | NA | NA | 0.111 | U | 0.0982 | U | 0.113 | U | 0.0938 | U | 0.0988 | U |
| 4-nitrophenol | NA | NA | 0.111 | U | 0.0982 | U | 0.113 | U | 0.0938 | U | 0.0988 | U |
| acenaphthene | 20 | 100 | 0.0558 | U | 0.48 | D | 0.0566 | U | 0.101 | D | 0.0495 | U |
| acenaphthylene | 100 | 100 | 0.0558 | U | 0.85 | D | 0.0566 | U | 0.128 | D | 0.0495 | U |
| acetophenone | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| aniline | NA | NA | 0.223 | U | 0.197 | U | 0.226 | U | 0.188 | U | 0.198 | U |
| anthracene | 100 | 100 | 0.0558 | U | 4.92 | U | 0.0566 | U | 0.36 | D | 0.0495 | U |
| atrazine | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| benzaldehyde | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| benzidine | NA | NA | 0.223 | U | 0.197 | U | 0.226 | U | 0.188 | U | 0.198 | U |
| benzo(a)anthracene | 1 | 1 | 0.108 | JD | **25.7** | D | 0.0566 | U | **1.26** | D | 0.0495 | U |
| benzo(a)pyrene | 1 | 1 | 0.141 | D | **21.7** | D | 0.0566 | U | **1.24** | D | 0.0495 | U |
| benzo(b)fluoranthene | 1 | 1 | 0.12 | D | **31.1** | D | 0.0566 | U | **1.1** | D | 0.0495 | U |
| benzo(g,h,i)perylene | 100 | 100 | 0.11 | JD | 15.5 | D | 0.0566 | U | 0.67 | D | 0.0495 | U |
| benzo(k)fluoranthene | 0.8 | 3.9 | 0.121 | D | **11.2** | D | 0.0566 | U | 1.07 | D | 0.0495 | U |
| benzoic acid | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| benzyl alcohol | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| benzyl butyl phthalate | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| bis(2-chloroethoxy)methane | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| bis(2-chloroethyl)ether | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| bis(2-chloroisopropyl)ether | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| bis(2-ethylhexyl)phthalate | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| caprolactam | NA | NA | 0.111 | U | 0.0982 | U | 0.113 | U | 0.0938 | U | 0.0988 | U |
| carbazole | NA | NA | 0.0558 | U | 2.57 | D | 0.0566 | U | 0.162 | D | 0.0495 | U |
| chrysene | 1 | 3.9 | 0.17 | D | **25** | D | 0.0566 | U | 1.27 | D | 0.0495 | U |
| dibenzo(a,h)anthracene | 0.33 | 0.33 | 0.0558 | U | 4.92 | U | 0.0566 | U | 0.238 | D | 0.0495 | U |
| dibenzofuran | 7 | 59 | 0.0558 | U | 0.345 | D | 0.0566 | U | 0.057 | JD | 0.0495 | U |
| diethyl phthalate | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| dimethyl phthalate | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| di-n-butyl phthalate | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| di-n-octyl phthalate | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| fluoranthene | 100 | 100 | 0.345 | D | 36.3 | D | 0.0566 | U | 2.47 | D | 0.0495 | U |
| fluorene | 30 | 100 | 0.0558 | U | 0.656 | D | 0.0566 | U | 0.115 | D | 0.0495 | U |
| hexachlorobenzene | 0.33 | 1.2 | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| hexachlorobutadiene | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| hexachlorocyclopentadiene | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| hexachloroethane | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| indeno(1,2,3-cd)pyrene | 0.5 | 0.5 | 0.103 | JD | **16.7** | D | 0.0566 | U | **0.703** | D | 0.0495 | U |
| isophorone | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| naphthalene | 12 | 100 | 0.0558 | U | 0.166 | D | 0.0566 | U | 0.047 | U | 0.0495 | U |
| nitrobenzene | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| n-nitrosodimethylamine | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| n-nitroso-di-n-propylamine | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| n-nitrosodiphenylamine | NA | NA | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| pentachlorophenol | 0.8 | 6.7 | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| phenanthrene | 100 | 100 | 0.224 | D | 14.9 | D | 0.0566 | U | 1.46 | D | 0.0495 | U |
| phenol | 0.33 | 100 | 0.0558 | U | 0.0492 | U | 0.0566 | U | 0.047 | U | 0.0495 | U |
| pyrene | 100 | 100 | 0.297 | D | 38 | D | 0.0566 | U | 2.33 | D | 0.0495 | U |

Analyte Detected
**Analyte Above UU SCO**
**Analyte Above RRU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Flags: J = approximate E = estimated B = detected in blank D = diluted

# Table 1: SVOCs in Soils

**NYSDEC BCP (C704063) Eligibility Supplemental Sampling**

**GBTS Project: 23003-0060**

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | Sample | TP-13 13 | | TP-14 2 | | TP-15 4 | |
|---|---|---|---|---|---|---|---|---|
| *U= Not Detected* | | Date | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | |
| *Data in mg/Kg* | | Dilution | 2 | | 10 | | 500 | |
| **SVOCs, 8270** | **UU SCO** | **RRU SCO** | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* |
| 1,1'-biphenyl | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 1,2,4,5-tetrachlorobenzene | NA | NA | 0.0908 | U | 0.0904 | U | 0.0889 | U |
| 1,2,4-trichlorobenzene | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 1,2-dichlorobenzene | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 1,2-diphenylhydrazine (azobenzene) | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 1,3-dichlorobenzene | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 1,4-dichlorobenzene | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 2,3,4,6-tetrachlorophenol | NA | NA | 0.0908 | U | 0.0904 | U | 0.0889 | U |
| 2,4,5-trichlorophenol | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 2,4,6-trichlorophenol | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 2,4-dichlorophenol | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 2,4-dimethylphenol | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 2,4-dinitrophenol | NA | NA | 0.0908 | U | 0.0904 | U | 0.0889 | U |
| 2,4-dinitrotoluene | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 2,6-dinitrotoluene | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 2-chloronaphthalene | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 2-chlorophenol | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 2-methylnaphthalene | NA | NA | 0.0455 | U | 0.158 | D | 0.464 | D |
| 2-methylphenol | 0.33 | 100 | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 2-nitroaniline | NA | NA | 0.0908 | U | 0.0904 | U | 0.0889 | U |
| 2-nitrophenol | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 3- & 4-methylphenols | 0.33 | 100 | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 3,3'-dichlorobenzidine | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 3-nitroaniline | NA | NA | 0.0908 | U | 0.0904 | U | 0.0889 | U |
| 4,6-dinitro-2-methylphenol | NA | NA | 0.0908 | U | 0.0904 | U | 0.0889 | U |
| 4-bromophenyl phenyl ether | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 4-chloro-3-methylphenol | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 4-chloroaniline | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 4-chlorophenyl phenyl ether | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| 4-nitroaniline | NA | NA | 0.0908 | U | 0.0904 | U | 0.0889 | U |
| 4-nitrophenol | NA | NA | 0.0908 | U | 0.0904 | U | 0.0889 | U |
| acenaphthene | 20 | 100 | 0.0455 | U | 0.416 | D | 11.1 | U |
| acenaphthylene | 100 | 100 | 0.0455 | U | 0.0585 | JD | 0.972 | D |
| acetophenone | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| aniline | NA | NA | 0.182 | U | 0.181 | U | 0.178 | U |
| anthracene | 100 | 100 | 0.0455 | U | 0.8 | D | 11.1 | U |
| atrazine | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| benzaldehyde | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| benzidine | NA | NA | 0.182 | U | 0.181 | U | 0.178 | U |
| benzo(a)anthracene | 1 | 1 | 0.0455 | U | **2.07** | D | **12.4** | JD |
| benzo(a)pyrene | 1 | 1 | 0.0455 | U | **1.71** | D | 11.1 | U |
| benzo(b)fluoranthene | 1 | 1 | 0.0455 | U | **1.62** | D | **11.9** | JD |
| benzo(g,h,i)perylene | 100 | 100 | 0.0455 | U | 0.924 | D | 11.1 | U |
| benzo(k)fluoranthene | 0.8 | 3.9 | 0.0455 | U | 1.69 | D | 11.1 | U |
| benzoic acid | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| benzyl alcohol | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| benzyl butyl phthalate | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| bis(2-chloroethoxy)methane | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| bis(2-chloroethyl)ether | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| bis(2-chloroisopropyl)ether | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| bis(2-ethylhexyl)phthalate | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| caprolactam | NA | NA | 0.0908 | U | 0.0904 | U | 0.0889 | U |
| carbazole | NA | NA | 0.0455 | U | 0.425 | D | 11.1 | U |
| chrysene | 1 | 3.9 | 0.0455 | U | 1.88 | D | 11.1 | U |
| dibenzo(a,h)anthracene | 0.33 | 0.33 | 0.0455 | U | 0.33 | D | 11.1 | U |
| dibenzofuran | 7 | 59 | 0.0455 | U | 0.194 | D | 1.7 | D |
| diethyl phthalate | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| dimethyl phthalate | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| di-n-butyl phthalate | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| di-n-octyl phthalate | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| fluoranthene | 100 | 100 | 0.0455 | U | 4.39 | D | 25.1 | D |
| fluorene | 30 | 100 | 0.0455 | U | 0.325 | D | 11.1 | U |
| hexachlorobenzene | 0.33 | 1.2 | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| hexachlorobutadiene | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| hexachlorocyclopentadiene | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| hexachloroethane | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| indeno(1,2,3-cd)pyrene | 0.5 | 0.5 | 0.0455 | U | **1.06** | D | 11.1 | U |
| isophorone | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| naphthalene | 12 | 100 | 0.0455 | U | 0.229 | D | 0.74 | D |
| nitrobenzene | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| n-nitrosodimethylamine | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| n-nitroso-di-n-propylamine | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| n-nitrosodiphenylamine | NA | NA | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| pentachlorophenol | 0.8 | 6.7 | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| phenanthrene | 100 | 100 | 0.0455 | U | 3.2 | D | 17.4 | JD |
| phenol | 0.33 | 100 | 0.0455 | U | 0.0453 | U | 0.0446 | U |
| pyrene | 100 | 100 | 0.0455 | U | 3.17 | D | 22.6 | D |

Analyte Detected
**Analyte Above UU SCO**
**Analyte Above RRU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Flags: J = approximate E = estimated B = detected in blank D = diluted

## Table 2: TAL Metals in Soils

**NYSDEC BCP (C704063) Eligibility Supplemental Sampling**
**GBTS Project: 23003-0060**

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | Sample | TP-03 3 | | TP-04 2 | | TP-04 4 | | TP-04 6 | | TP-04 8 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected* | | Date | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | |
| *Data in mg/Kg* | | Dilution | 1 | | 1 | | 1 | | 1 | | 1 | |
| **Metals, 6010 and 7473** | **UU SCO** | **RRU SCO** | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* |
| aluminum | NA | NA | 4,370 | | 7,080 | | 10,100 | | 9,760 | | 12,200 | |
| antimony | NA | NA | 2.79 | *U* | 32.1 | | 20.5 | | 2.8 | *U* | 29.6 | |
| arsenic | 13 | 16 | 14.9 | | 11.3 | | **16.3** | | **40.4** | | 10.8 | |
| barium | 350 | 400 | **685** | | 139 | | 280 | | **832** | | **511** | |
| beryllium | 7.2 | 72 | 0.469 | | 0.51 | | 0.594 | | 0.656 | | 0.588 | |
| cadmium | 2.5 | 4.3 | 0.625 | | 0.601 | | 0.523 | | 0.906 | | 0.923 | |
| calcium | NA | NA | 7,380 | | 12,500 | | 28,800 | | 10,300 | | 15,600 | |
| chromium | 30 | 180 | 24.8 | | 27.9 | | **370** | | 25.4 | | 21.7 | |
| cobalt | NA | NA | 9.78 | | 5.87 | | 8.41 | | 9.62 | | 11.4 | |
| copper | 50 | 270 | 143 | | **738** | | 215 | | **334** | | **527** | |
| iron | NA | NA | 45,300 | | 20,400 | | 27,000 | | 12,800 | | 29,200 | |
| lead | 63 | 400 | **16,900** | | **848** | | **887** | | **4,980** | | **1,080** | |
| magnesium | NA | NA | 918 | | 3,150 | | 12,600 | | 1,330 | | 4,470 | |
| manganese | 1,600 | 2,000 | 356 | | 453 | | 583 | | 539 | | 918 | |
| mercury | 0.18 | 0.81 | **1.31** | | 0.425 | | 0.79 | | 0.228 | | **1.37** | |
| nickel | 30 | 310 | 22.5 | | 14.9 | | 17.8 | | 21.1 | | 24.7 | |
| potassium | NA | NA | 865 | | 1,070 | | 1,930 | | 1,620 | | 1,060 | |
| selenium | 3.9 | 180 | 2.79 | *U* | 2.28 | *U* | 2.47 | *U* | 14.4 | | 2.68 | *U* |
| silver | 2 | 180 | 0.563 | *U* | 1.17 | | 3.5 | | 3.21 | | 1.13 | |
| sodium | NA | NA | 169 | | 110 | | 249 | | 470 | | 99.3 | |
| thallium | NA | NA | 2.24 | *U* | 1.83 | *U* | 1.98 | *U* | 2.24 | *U* | 2.15 | *U* |
| vanadium | NA | NA | 20.9 | | 16.3 | | 22.2 | | 35 | | 20 | |
| zinc | 109 | 10,000 | 133 | | 237 | | 331 | | 1,010 | | 756 | |

Analyte Detected
**Analyte Above UU SCO**
**Analyte Above RRU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Flags: J = approximate E = estimated B = detected in blank D = diluted

## Table 2: TAL Metals in Soils

**NYSDEC BCP (C704063) Eligibility Supplemental Sampling**
**GBTS Project: 23003-0060**

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | Sample | TP-05 4 | | TP-06 4 | | TP-06 6 | | TP-06 12 | | TP-07 2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected* | | Date | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | |
| *Data in mg/Kg* | | Dilution | 1 | | 1 | | 1 | | 1 | | 1 | |
| **Metals, 6010 and 7473** | **UU SCO** | **RRU SCO** | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* |
| aluminum | NA | NA | 10,800 | | 11,600 | | 8,190 | | 7,490 | | 4,970 | |
| antimony | NA | NA | 2.2 | *U* | 2.25 | *U* | 2.83 | *U* | 2.22 | *U* | 2.35 | *U* |
| arsenic | 13 | 16 | 7.03 | | 10.1 | | **19.5** | | 6.37 | | 8.91 | |
| barium | 350 | 400 | 30 | | 59.2 | | 97.3 | | 38.5 | | 114 | |
| beryllium | 7.2 | 72 | 0.373 | | 0.426 | | 2 | | 0.31 | | 0.288 | |
| cadmium | 2.5 | 4.3 | 0.265 | *U* | 0.27 | *U* | 0.339 | *U* | 0.267 | *U* | 0.819 | |
| calcium | NA | NA | 1,210 | | 45,200 | | 4,490 | | 39,700 | | 6,260 | |
| chromium | 30 | 180 | 13 | | 14.4 | | 12.1 | | 9.79 | | 9.25 | |
| cobalt | NA | NA | 7.14 | | 9.63 | | 15.5 | | 6.54 | | 4.43 | |
| copper | 50 | 270 | 28.4 | | 36.7 | | 38 | | 25.1 | | 39.5 | |
| iron | NA | NA | 18,100 | | 24,200 | | 7,240 | | 16,100 | | 11,600 | |
| lead | 63 | 400 | 9.33 | | 11.6 | | 43.8 | | 22.6 | | 338 | |
| magnesium | NA | NA | 3,190 | | 6,370 | | 619 | | 6,960 | | 1,770 | |
| manganese | 1,600 | 2,000 | 467 | | 492 | | 113 | | 391 | | 276 | |
| mercury | 0.18 | 0.81 | 0.0317 | *U* | 0.0324 | *U* | 0.0546 | | 0.0322 | | 0.238 | |
| nickel | 30 | 310 | 17.6 | | 21.7 | | 31.4 | | 14.3 | | 12.8 | |
| potassium | NA | NA | 1,250 | | 1,730 | | 715 | | 1,100 | | 548 | |
| selenium | 3.9 | 180 | 2.2 | *U* | 2.25 | *U* | 2.83 | *U* | 2.22 | *U* | 2.35 | *U* |
| silver | 2 | 180 | 0.444 | *U* | 0.454 | *U* | 0.57 | *U* | 0.448 | *U* | 0.474 | *U* |
| sodium | NA | NA | 44.4 | | 321 | | 395 | | 167 | | 88.1 | |
| thallium | NA | NA | 1.77 | *U* | 1.81 | *U* | 2.27 | *U* | 1.78 | *U* | 1.89 | *U* |
| vanadium | NA | NA | 19.1 | | 16.9 | | 33 | | 11.6 | | 11.3 | |
| zinc | 109 | 10,000 | 46.4 | | 55.5 | | 49.2 | | 73.1 | | 194 | |

Analyte Detected
**Analyte Above UU SCO**
**Analyte Above RRU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Flags: J = approximate E = estimated B = detected in blank D = diluted

## Table 2: TAL Metals in Soils

**NYSDEC BCP (C704063) Eligibility Supplemental Sampling**
**GBTS Project: 23003-0060**

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | Sample | TP-07 4 | | TP-08 2 | | TP-08 10 | | TP-09 13 | | TP-10 2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected* | | Date | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | |
| *Data in mg/Kg* | | Dilution | 1 | | 1 | | 1 | | 1 | | 1 | |
| **Metals, 6010 and 7473** | **UU SCO** | **RRU SCO** | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* |
| aluminum | NA | NA | 5,690 | | 4,600 | | 7,020 | | 12,200 | | 6,850 | |
| antimony | NA | NA | 2.76 | *U* | 2.35 | *U* | 2.29 | *U* | 2.29 | *U* | 2.15 | *U* |
| arsenic | 13 | 16 | 14.2 | | 14.4 | | 8.57 | | **44.5** | | 4.37 | |
| barium | 350 | 400 | 62.5 | | 224 | | 89.5 | | 108 | | 31.8 | |
| beryllium | 7.2 | 72 | 0.983 | | 0.36 | | 0.484 | | 0.582 | | 0.043 | *U* |
| cadmium | 2.5 | 4.3 | 0.331 | *U* | 2.58 | | 1.09 | | 0.275 | *U* | 0.284 | |
| calcium | NA | NA | 3,450 | | 10,800 | | 34,900 | | 5,600 | | 64,500 | |
| chromium | 30 | 180 | 8.77 | | 12.6 | | 11.3 | | 13.6 | | 63 | |
| cobalt | NA | NA | 10.9 | | 5.93 | | 6.68 | | 15.2 | | 12.2 | |
| copper | 50 | 270 | 30.9 | | 174 | | 45.2 | | 32.7 | | 25.7 | |
| iron | NA | NA | 6,430 | | 55,100 | | 18,000 | | 28,500 | | 35,000 | |
| lead | 63 | 400 | 53 | | **555** | | 154 | | 37.5 | | 28.3 | |
| magnesium | NA | NA | 872 | | 2,460 | | 9,050 | | 5,360 | | 8,030 | |
| manganese | 1,600 | 2,000 | 135 | | 459 | | 411 | | 727 | | 427 | |
| mercury | 0.18 | 0.81 | 0.0593 | | 0.348 | | 0.157 | | 0.033 | *U* | 0.031 | *U* |
| nickel | 30 | 310 | 23.9 | | 16.4 | | 18.2 | | 27.8 | | 18.4 | |
| potassium | NA | NA | 505 | | 356 | | 858 | | 1,850 | | 963 | |
| selenium | 3.9 | 180 | 2.76 | *U* | 2.35 | *U* | 2.29 | *U* | 2.29 | *U* | 2.15 | *U* |
| silver | 2 | 180 | 0.556 | *U* | 1.32 | | 0.462 | *U* | 0.462 | *U* | 0.434 | *U* |
| sodium | NA | NA | 221 | | 306 | | 138 | | 89.6 | | 108 | |
| thallium | NA | NA | 2.21 | *U* | 1.88 | *U* | 1.84 | *U* | 1.84 | *U* | 1.73 | *U* |
| vanadium | NA | NA | 21.5 | | 15.6 | | 15.1 | | 11.5 | | 160 | |
| zinc | 109 | 10,000 | 32.6 | | 730 | | 143 | | 69.3 | | 62.1 | |

Analyte Detected
**Analyte Above UU SCO**
**Analyte Above RRU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Flags: J = approximate E = estimated B = detected in blank D = diluted

## Table 2: TAL Metals in Soils

**NYSDEC BCP (C704063) Eligibility Supplemental Sampling**
**GBTS Project: 23003-0060**

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | Sample | TP-10 10 | | TP-11 2 | | TP-11 4 | | TP-12 4 | | TP-13 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected* | | Date | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | |
| *Data in mg/Kg* | | Dilution | 1 | | 50 | | 1 | | 1 | | 1 | |
| **Metals, 6010 and 7473** | **UU SCO** | **RRU SCO** | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* |
| aluminum | NA | NA | 6,570 | | 2,990 | | 4,720 | | 10,800 | | 9,370 | |
| antimony | NA | NA | 2.35 | *U* | 2.48 | *U* | 2.74 | *U* | 2.27 | *U* | 2.6 | *U* |
| arsenic | 13 | 16 | 5.5 | | **54.7** | | **24.6** | | 8.59 | | 11.6 | |
| barium | 350 | 400 | 30.3 | | **508** | | **567** | | 98.7 | | 98.6 | |
| beryllium | 7.2 | 72 | 0.29 | | 0.28 | | 0.904 | | 0.457 | | 0.576 | |
| cadmium | 2.5 | 4.3 | 0.283 | *U* | 2.06 | | 2.27 | | 0.5 | | 0.312 | *U* |
| calcium | NA | NA | 98,900 | | 5,300 | | 11,800 | | 13,500 | | 23,400 | |
| chromium | 30 | 180 | 9.99 | | 105 | | 19.8 | | 16.5 | | 13.1 | |
| cobalt | NA | NA | 4.85 | | 16.5 | | 11.7 | | 8.09 | | 7.06 | |
| copper | 50 | 270 | 21.7 | | 240 | | 76.4 | | 67.4 | | 37.9 | |
| iron | NA | NA | 14,500 | | 250,000 | *D* | 79,100 | | 26,400 | | 24,700 | |
| lead | 63 | 400 | 17.7 | | **3,460** | | **1,520** | | **437** | | 74 | |
| magnesium | NA | NA | 7,370 | | 366 | | 1,770 | | 4,610 | | 5,430 | |
| manganese | 1,600 | 2,000 | 396 | | 812 | | 389 | | 784 | | 464 | |
| mercury | 0.18 | 0.81 | 0.0339 | *U* | 0.203 | | **0.921** | | 0.215 | | 0.0765 | |
| nickel | 30 | 310 | 11.8 | | 26.8 | | 17.8 | | 18.2 | | 16.8 | |
| potassium | NA | NA | 1,100 | | 446 | | 516 | | 1,120 | | 1,280 | |
| selenium | 3.9 | 180 | 2.35 | *U* | 2.48 | *U* | 2.74 | *U* | 2.27 | *U* | 2.6 | *U* |
| silver | 2 | 180 | 0.475 | *U* | 0.499 | *U* | 0.553 | *U* | 0.458 | *U* | 0.935 | |
| sodium | NA | NA | 117 | | 159 | | 181 | | 51.4 | | 95.6 | |
| thallium | NA | NA | 1.89 | *U* | 1.98 | *U* | 2.2 | *U* | 1.82 | *U* | 2.08 | *U* |
| vanadium | NA | NA | 11.2 | | 25.7 | | 22.2 | | 20.1 | | 19 | |
| zinc | 109 | 10,000 | 42.7 | | 941 | | 725 | | 163 | | 70.7 | |

Analyte Detected
**Analyte Above UU SCO**
**Analyte Above RRU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Flags: J = approximate E = estimated B = detected in blank D = diluted

## Table 2: TAL Metals in Soils

**NYSDEC BCP (C704063) Eligibility Supplemental Sampling**
**GBTS Project: 23003-0060**

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | Sample | TP-13 8 | | TP-13 13 | | TP-14 2 | | TP-14 4 | | TP-15 2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected* | | Date | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | |
| *Data in mg/Kg* | | Dilution | 1 | | 1 | | 1 | | 1 | | 1 | |
| **Metals, 6010 and 7473** | **UU SCO** | **RRU SCO** | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* |
| aluminum | NA | NA | 8,800 | | 10,700 | | 6,020 | | 7,690 | | 8,580 | |
| antimony | NA | NA | 2.36 | *U* | 2.27 | *U* | 2.27 | *U* | 2.15 | *U* | 27.4 | |
| arsenic | 13 | 16 | 8.66 | | 7.06 | | **19** | | 7.4 | | 8.4 | |
| barium | 350 | 400 | 60.2 | | 38.1 | | 172 | | 32.5 | | 189 | |
| beryllium | 7.2 | 72 | 0.4 | | 0.442 | | 0.988 | | 0.315 | | 0.271 | |
| cadmium | 2.5 | 4.3 | 0.34 | | 0.273 | *U* | 0.535 | | 0.258 | *U* | 1.36 | |
| calcium | NA | NA | 42,400 | | 42,600 | | 26,600 | | 73,100 | | 58,100 | |
| chromium | 30 | 180 | 12.5 | | 14 | | 15.9 | | 9.87 | | 35.4 | |
| cobalt | NA | NA | 7.04 | | 6.07 | | 5.58 | | 5.44 | | 6.53 | |
| copper | 50 | 270 | 37 | | 34.7 | | 41.4 | | 30.5 | | 127 | |
| iron | NA | NA | 24,600 | | 19,300 | | 18,200 | | 16,300 | | 45,600 | |
| lead | 63 | 400 | 311 | | 12.2 | | 108 | | 23.7 | | 116 | |
| magnesium | NA | NA | 8,210 | | 11,900 | | 3,740 | | 12,700 | | 6,160 | |
| manganese | 1,600 | 2,000 | 578 | | 490 | | 334 | | 499 | | 444 | |
| mercury | 0.18 | 0.81 | 0.0363 | | 0.0328 | *U* | 0.126 | | 0.041 | | 0.412 | |
| nickel | 30 | 310 | 15.6 | | 15.5 | | 13.6 | | 13.1 | | 26.5 | |
| potassium | NA | NA | 1,190 | | 1,760 | | 747 | | 1,700 | | 1,300 | |
| selenium | 3.9 | 180 | 2.36 | *U* | 2.27 | *U* | 2.27 | *U* | 2.15 | *U* | 2.54 | *U* |
| silver | 2 | 180 | 0.475 | *U* | 0.459 | *U* | 0.457 | *U* | 0.433 | *U* | 0.833 | |
| sodium | NA | NA | 84.5 | | 73 | | 217 | | 88.9 | | 716 | |
| thallium | NA | NA | 1.89 | *U* | 1.82 | *U* | 1.82 | *U* | 1.72 | *U* | 2.04 | *U* |
| vanadium | NA | NA | 17.3 | | 19.2 | | 18.1 | | 14.5 | | 19.2 | |
| zinc | 109 | 10,000 | 90.7 | | 57.3 | | 72.9 | | 47.5 | | 372 | |

Analyte Detected
**Analyte Above UU SCO**
**Analyte Above RRU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Flags: J = approximate E = estimated B = detected in blank D = diluted

## Table 2: TAL Metals in Soils

**NYSDEC BCP (C704063) Eligibility Supplemental Sampling**
**GBTS Project: 23003-0060**

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | Sample | TP-15 4 | | TP-15 8 | | TP-15 12 | |
|---|---|---|---|---|---|---|---|---|
| *U= Not Detected* | | Date | 2025-07-23 | | 2025-07-23 | | 2025-07-23 | |
| *Data in mg/Kg* | | Dilution | 1 | | 1 | | 1 | |
| **Metals, 6010 and 7473** | **UU SCO** | **RRU SCO** | *Result* | *Flag* | *Result* | *Flag* | *Result* | *Flag* |
| aluminum | NA | NA | 9,220 | | 12,900 | | 12,400 | |
| antimony | NA | NA | 4.54 | | 6.99 | | 3.5 | |
| arsenic | 13 | 16 | 8.31 | | 11.6 | | 12.3 | |
| barium | 350 | 400 | 397 | | 350 | | **477** | |
| beryllium | 7.2 | 72 | 0.33 | | 0.464 | | 0.48 | |
| cadmium | 2.5 | 4.3 | 0.606 | | 0.866 | | 0.837 | |
| calcium | NA | NA | 68,500 | | 54,900 | | 61,000 | |
| chromium | 30 | 180 | 14.6 | | 22.5 | | 20.2 | |
| cobalt | NA | NA | 6.4 | | 9.19 | | 8.82 | |
| copper | 50 | 270 | 42.4 | | 85.9 | | 66.2 | |
| iron | NA | NA | 16,700 | | 26,500 | | 23,300 | |
| lead | 63 | 400 | 132 | | 133 | | 154 | |
| magnesium | NA | NA | 6,720 | | 8,010 | | 7,800 | |
| manganese | 1,600 | 2,000 | 382 | | 529 | | 475 | |
| mercury | 0.18 | 0.81 | 0.148 | | 0.119 | | 0.0893 | |
| nickel | 30 | 310 | 19.2 | | 29.3 | | 27.3 | |
| potassium | NA | NA | 1,600 | | 1,810 | | 1,710 | |
| selenium | 3.9 | 180 | 2.23 | *U* | 2.3 | *U* | 2.25 | *U* |
| silver | 2 | 180 | 0.449 | *U* | 0.465 | *U* | 0.454 | *U* |
| sodium | NA | NA | 265 | | 347 | | 590 | |
| thallium | NA | NA | 1.79 | *U* | 1.85 | *U* | 1.8 | *U* |
| vanadium | NA | NA | 29.3 | | 29.9 | | 27.9 | |
| zinc | 109 | 10,000 | 255 | | 431 | | 380 | |

Analyte Detected
**Analyte Above UU SCO**
**Analyte Above RRU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Flags: J = approximate E = estimated B = detected in blank D = diluted

## Table 3: Pesticides and PCBs in Soils

**NYSDEC BCP (C704063) Eligibility Supplemental Sampling**

**GBTS Project: 23003-0060**

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | Sample | TP-14 2 | | TP-15 4 | |
|---|---|---|---|---|---|---|
| *U= Not Detected* | | Date | 2025-07-23 | | 2025-07-23 | |
| *Data in mg/Kg* | | Dilution | 5 | | 5 | |
| **Pesticides, 8081** | **UU SCO** | **RRU SCO** | *Result* | *Flag* | *Result* | *Flag* |
| 4,4'-DDD | 0.0033 | 13 | 0.00178 | *U* | 0.00282 | *D* |
| 4,4'-DDE | 0.0033 | 8.9 | 0.00178 | *U* | 0.00175 | *U* |
| 4,4'-DDT | 0.0033 | 7.9 | 0.00178 | *U* | 0.00175 | *U* |
| aldrin | 0.005 | 0.097 | 0.00178 | *U* | 0.00175 | *U* |
| alpha-BHC | 0.02 | 0.48 | 0.00178 | *U* | 0.00175 | *U* |
| alpha-chlordane | 0.094 | 4.2 | 0.00178 | *U* | 0.00175 | *U* |
| beta-BHC | 0.036 | 0.36 | 0.00178 | *U* | 0.00175 | *U* |
| chlordane (total) | NA | NA | 0.0357 | *U* | 0.0351 | *U* |
| delta-BHC | 0.04 | 100 | 0.00178 | *U* | 0.00175 | *U* |
| dieldrin | 0.005 | 0.2 | 0.00178 | *U* | 0.00175 | *U* |
| endosulfan I | 2.4 | 24 | 0.00178 | *U* | 0.00175 | *U* |
| endosulfan ii | 2.4 | 24 | 0.00178 | *U* | 0.00175 | *U* |
| endosulfan sulfate | 2.4 | 24 | 0.00178 | *U* | 0.00175 | *U* |
| endrin | 0.014 | 11 | 0.00178 | *U* | 0.00175 | *U* |
| endrin aldehyde | NA | NA | 0.00178 | *U* | 0.00175 | *U* |
| endrin ketone | NA | NA | 0.00178 | *U* | 0.00175 | *U* |
| gamma-bhc (lindane) | 0.1 | 1.3 | 0.00178 | *U* | 0.00175 | *U* |
| gamma-chlordane | NA | NA | 0.00178 | *U* | 0.00175 | *U* |
| heptachlor | 0.042 | 2.1 | 0.00178 | *U* | 0.00175 | *U* |
| heptachlor epoxide | NA | NA | 0.00178 | *U* | 0.00175 | *U* |
| methoxychlor | NA | NA | 0.00178 | *U* | 0.00175 | *U* |
| toxaphene | NA | NA | 0.178 | *U* | 0.175 | *U* |

| | | Sample | TP-14 2 | | TP-15 4 | |
|---|---|---|---|---|---|---|
| | | Date | 2025-07-23 | | 2025-07-23 | |
| | | Dilution | 1 | | | |
| **PCBs, 8082** | **UU SCO** | **RRU SCO** | *Result* | *Flag* | *Result* | *Flag* |
| Aroclor 1016 | 0.1 | 1.00 | 0.018 | *U* | NA | |
| Aroclor 1221 | 0.1 | 1.00 | 0.018 | *U* | NA | |
| Aroclor 1232 | 0.1 | 1.00 | 0.018 | *U* | NA | |
| Aroclor 1242 | 0.1 | 1.00 | 0.018 | *U* | NA | |
| Aroclor 1248 | 0.1 | 1.00 | 0.018 | *U* | NA | |
| Aroclor 1254 | 0.1 | 1.00 | 0.018 | *U* | NA | |
| Aroclor 1260 | 0.1 | 1.00 | 0.018 | *U* | NA | |
| Total PCBs | 0.1 | 1.00 | 0.018 | *U* | NA | |

Analyte Detected

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available

Result Flags: J = approximate E = estimated B = detected in blank D = diluted

# ATTACHMENT C - Laboratory Reports

# Technical Report

prepared for:

**Gallagher Bassett - NY**
22 IBM Road, Suite 101
Poughkeepsie NY, 12601
**Attention: Richard Hooker**

Report Date: 08/05/2025
**Client Project ID: 23003-0060**
York Project (SDG) No.: 25G1696

Stratford, CT Laboratory IDs:
NY:10854, NJ: CT005, PA: 68-0440, CT: PH-0723

Richmond Hill, NY Laboratory IDs:
NY:12058, NJ: NY037, CT: PH-0721, NH: 2097,
EPA: NY01600

120 RESEARCH DRIVE STRATFORD, CT 06615 ■ 132-02 89th AVENUE RICHMOND HILL, NY 11418
www.YORKLAB.com (203) 325-1371 FAX (203) 357-0166 ClientServices@yorklab.com

Report Date: 08/05/2025
Client Project ID: 23003-0060
York Project (SDG) No.: 25G1696

**Gallagher Bassett - NY**
22 IBM Road, Suite 101
Poughkeepsie NY, 12601
Attention: Richard Hooker

## Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on July 25, 2025 and listed below. The project was identified as your project: **23003-0060**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Sample and Analysis Qualifiers section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the Sample and Data Qualifiers Relating to This Work Order section of this report and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

| York Sample ID | Client Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| 25G1696-01 | TP-03 3 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-02 | TP-04 2 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-03 | TP-04 4 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-04 | TP-04 6 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-05 | TP-04 8 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-06 | TP-05 4 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-07 | TP-06 4 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-08 | TP-06 6 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-09 | TP-06 12 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-10 | TP-07 2 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-11 | TP-07 4 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-12 | TP-08 2 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-13 | TP-08 10 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-14 | TP-09 13 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-15 | TP-10 2 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-16 | TP-10 10 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-17 | TP-11 2 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-18 | TP-11 4 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-19 | TP-12 4 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-20 | TP-13 6 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-21 | TP-13 8 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-22 | TP-13 13 | Soil | 07/23/2025 | 07/25/2025 |

| York Sample ID | Client Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| 25G1696-23 | TP-14 2 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-24 | TP-14 4 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-25 | TP-15 2 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-26 | TP-15 4 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-27 | TP-15 8 | Soil | 07/23/2025 | 07/25/2025 |
| 25G1696-28 | TP-15 12 | Soil | 07/23/2025 | 07/25/2025 |

## General Notes for York Project (SDG) No.: 25G1696

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All analyses conducted met method or Laboratory SOP requirements. See the Sample and Data Qualifiers Section for further information.
6. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
7. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.
8. Analyses conducted at York Analytical Laboratories, Inc. Stratford, CT are indicated by NY Cert. No. 10854, NJ Cert No. CT005, PA Cert No. 68-04440, CT Cert No. PH-0723; those conducted at York Analytical Laboratories, Inc., Richmond Hill, NY are indicated by NY Cert. No. 12058, NJ Cert No. NY037, CT Cert No. PH-0721, NH Cert No. 2097, EPA Cert No. NY01600.

**Approved By:** Cassie L. Mosher

Cassie L. Mosher
Laboratory Manager

**Date:** 08/05/2025

## Sample Information

**Client Sample ID:** TP-03 3 **York Sample ID:** 25G1696-01

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

**Semi-Volatiles, 8270 Comprehensive** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 92-52-4 | 1,1-Biphenyl | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | 07/31/2025 16:52 | SS |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | | mg/kg dry | 0.111 | 0.223 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | 07/31/2025 16:52 | SS |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 16:52 | SS |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>NELAC-NY10854,PADEP-68-04440 | 07/31/2025 16:52 | SS |
| 122-66-7 | 1,2-Diphenylhydrazine (as Azobenzene) | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | 07/31/2025 16:52 | SS |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>NELAC-NY10854,PADEP-68-04440 | 07/31/2025 16:52 | SS |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>NELAC-NY10854,PADEP-68-04440 | 07/31/2025 16:52 | SS |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | | mg/kg dry | 0.111 | 0.223 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | 07/31/2025 16:52 | SS |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 16:52 | SS |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 16:52 | SS |
| 120-83-2 | 2,4-Dichlorophenol | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 16:52 | SS |
| 105-67-9 | 2,4-Dimethylphenol | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 16:52 | SS |
| 51-28-5 | 2,4-Dinitrophenol | ND | | mg/kg dry | 0.111 | 0.223 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 16:52 | SS |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 16:52 | SS |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 16:52 | SS |
| 91-58-7 | 2-Chloronaphthalene | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 16:52 | SS |
| 95-57-8 | 2-Chlorophenol | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 16:52 | SS |
| 91-57-6 | 2-Methylnaphthalene | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 16:52 | SS |
| 95-48-7 | 2-Methylphenol | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 16:52 | SS |
| 88-74-4 | 2-Nitroaniline | ND | | mg/kg dry | 0.111 | 0.223 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 16:52 | SS |
| 88-75-5 | 2-Nitrophenol | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 16:52 | SS |
| 65794-96-9 | 3- & 4-Methylphenols | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 16:52 | SS |

## Sample Information

**Client Sample ID:** TP-03 3 **York Sample ID:** 25G1696-01

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

**Semi-Volatiles, 8270 Comprehensive**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 91-94-1 | 3,3-Dichlorobenzidine | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 99-09-2 | 3-Nitroaniline | ND | | mg/kg dry | 0.111 | 0.223 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | mg/kg dry | 0.111 | 0.223 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 106-47-8 | 4-Chloroaniline | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 100-01-6 | 4-Nitroaniline | ND | | mg/kg dry | 0.111 | 0.223 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 100-02-7 | 4-Nitrophenol | ND | | mg/kg dry | 0.111 | 0.223 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 83-32-9 | Acenaphthene | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 208-96-8 | Acenaphthylene | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 98-86-2 | Acetophenone | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 62-53-3 | Aniline | ND | | mg/kg dry | 0.223 | 0.446 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 120-12-7 | Anthracene | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 1912-24-9 | Atrazine | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 100-52-7 | Benzaldehyde | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 92-87-5 | Benzidine | ND | | mg/kg dry | 0.223 | 0.446 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,PADEP-68-04440 | SS |
| 56-55-3 | **Benzo(a)anthracene** | **0.108** | J | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 50-32-8 | **Benzo(a)pyrene** | **0.141** | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 205-99-2 | **Benzo(b)fluoranthene** | **0.120** | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 191-24-2 | **Benzo(g,h,i)perylene** | **0.110** | J | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 207-08-9 | **Benzo(k)fluoranthene** | **0.121** | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 65-85-0 | Benzoic acid | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |

## Sample Information

**Client Sample ID:** TP-03 3 **York Sample ID:** 25G1696-01

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-51-6 | Benzyl alcohol | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 85-68-7 | Benzyl butyl phthalate | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 111-91-1 | Bis(2-chloroethoxy)methane | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 111-44-4 | Bis(2-chloroethyl)ether | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 108-60-1 | Bis(2-chloroisopropyl)ether | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 105-60-2 | Caprolactam | ND | | mg/kg dry | 0.111 | 0.223 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 86-74-8 | Carbazole | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 218-01-9 | **Chrysene** | **0.170** | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 132-64-9 | Dibenzofuran | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 84-66-2 | Diethyl phthalate | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 131-11-3 | Dimethyl phthalate | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 84-74-2 | Di-n-butyl phthalate | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 117-84-0 | Di-n-octyl phthalate | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 206-44-0 | **Fluoranthene** | **0.345** | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 86-73-7 | Fluorene | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 118-74-1 | Hexachlorobenzene | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 87-68-3 | Hexachlorobutadiene | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 67-72-1 | Hexachloroethane | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 193-39-5 | **Indeno(1,2,3-cd)pyrene** | **0.103** | J | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 78-59-1 | Isophorone | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 16:52<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |

## Sample Information

**Client Sample ID:** TP-03 3 **York Sample ID:** 25G1696-01

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 91-20-3 | Naphthalene | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 16:52 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 98-95-3 | Nitrobenzene | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 16:52 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 62-75-9 | N-Nitrosodimethylamine | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 16:52 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 621-64-7 | N-nitroso-di-n-propylamine | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 16:52 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 16:52 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 87-86-5 | Pentachlorophenol | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 16:52 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 85-01-8 | **Phenanthrene** | **0.224** | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 16:52 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 108-95-2 | Phenol | ND | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 16:52 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 129-00-0 | **Pyrene** | **0.297** | | mg/kg dry | 0.0558 | 0.111 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 16:52 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 367-12-4 | *Surrogate: SURR: 2-Fluorophenol* | *49.7 %* | *20-108* |
| 13127-88-3 | *Surrogate: SURR: Phenol-d6* | *41.9 %* | *23-114* |
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *56.3 %* | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *61.1 %* | *21-113* |
| 118-79-6 | *Surrogate: SURR: 2,4,6-Tribromophenol* | *86.3 %* | *19-110* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *70.2 %* | *24-116* |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **4370** | | mg/kg dry | 5.58 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.79 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **14.9** | | mg/kg dry | 1.68 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **685** | | mg/kg dry | 2.79 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.469** | | mg/kg dry | 0.056 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | **Cadmium** | **0.625** | | mg/kg dry | 0.335 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-03 3 **York Sample ID:** 25G1696-01

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-70-2 | **Calcium** | **7380** | | mg/kg dry | 5.58 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **24.8** | | mg/kg dry | 0.559 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **9.78** | | mg/kg dry | 0.446 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **143** | | mg/kg dry | 2.23 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **45300** | | mg/kg dry | 27.9 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **16900** | | mg/kg dry | 0.559 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **918** | | mg/kg dry | 5.59 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **356** | | mg/kg dry | 0.559 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **22.5** | | mg/kg dry | 1.11 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **865** | | mg/kg dry | 5.59 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.79 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.563 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **169** | | mg/kg dry | 55.8 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.24 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **20.9** | | mg/kg dry | 1.11 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **133** | | mg/kg dry | 2.78 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **1.31** | | mg/kg dry | 0.0402 | 1 | EPA 7473 | 07/29/2025 09:22 | 07/29/2025 12:54 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

## Sample Information

**Client Sample ID:** TP-03 3 **York Sample ID:** 25G1696-01

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **74.6** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:43 | 07/30/2025 15:33 | BF |
| | | | | | | | Certifications: CTDOH-PH-0723 | | | |

## Sample Information

**Client Sample ID:** TP-04 2 **York Sample ID:** 25G1696-02

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

**Metals, Target Analyte** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **7080** | | mg/kg dry | 4.55 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-36-0 | **Antimony** | **32.1** | | mg/kg dry | 2.28 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-38-2 | **Arsenic** | **11.3** | | mg/kg dry | 1.37 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-39-3 | **Barium** | **139** | | mg/kg dry | 2.27 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-41-7 | **Beryllium** | **0.510** | | mg/kg dry | 0.046 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-43-9 | **Cadmium** | **0.601** | | mg/kg dry | 0.273 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-70-2 | **Calcium** | **12500** | | mg/kg dry | 4.56 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-47-3 | **Chromium** | **27.9** | | mg/kg dry | 0.456 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-48-4 | **Cobalt** | **5.87** | | mg/kg dry | 0.364 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-50-8 | **Copper** | **738** | | mg/kg dry | 1.82 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7439-89-6 | **Iron** | **20400** | | mg/kg dry | 22.8 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7439-92-1 | **Lead** | **848** | | mg/kg dry | 0.456 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7439-95-4 | **Magnesium** | **3150** | | mg/kg dry | 4.56 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7439-96-5 | **Manganese** | **453** | | mg/kg dry | 0.456 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |

## Sample Information

**Client Sample ID:** TP-04 2 **York Sample ID:** 25G1696-02

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-02-0 | **Nickel** | **14.9** | | mg/kg dry | 0.907 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1070** | | mg/kg dry | 4.56 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.28 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | **Silver** | **1.17** | | mg/kg dry | 0.459 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-23-5 | **Sodium** | **110** | | mg/kg dry | 45.6 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.83 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **16.3** | | mg/kg dry | 0.907 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **237** | | mg/kg dry | 2.27 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:18 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.425** | | mg/kg dry | 0.0328 | 1 | EPA 7473 | 07/29/2025 10:10 | 07/29/2025 15:16 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **91.5** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:43 | 07/30/2025 15:33 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** TP-04 4 **York Sample ID:** 25G1696-03

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:** **Sample Notes:**

## Sample Information

**Client Sample ID:** **TP-04 4** **York Sample ID:** **25G1696-03**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 92-52-4 | 1,1-Biphenyl | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | | mg/kg dry | 0.0982 | 0.196 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>NELAC-NY10854,PADEP-68-04440 | SS |
| 122-66-7 | 1,2-Diphenylhydrazine (as Azobenzene) | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>NELAC-NY10854,PADEP-68-04440 | SS |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>NELAC-NY10854,PADEP-68-04440 | SS |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | | mg/kg dry | 0.0982 | 0.196 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 120-83-2 | 2,4-Dichlorophenol | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 105-67-9 | **2,4-Dimethylphenol** | **0.0502** | J | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 51-28-5 | 2,4-Dinitrophenol | ND | | mg/kg dry | 0.0982 | 0.196 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 91-58-7 | 2-Chloronaphthalene | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 95-57-8 | 2-Chlorophenol | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 91-57-6 | **2-Methylnaphthalene** | **0.0965** | J | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 95-48-7 | 2-Methylphenol | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 88-74-4 | 2-Nitroaniline | ND | | mg/kg dry | 0.0982 | 0.196 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 88-75-5 | 2-Nitrophenol | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 65794-96-9 | **3- & 4-Methylphenols** | **0.102** | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 91-94-1 | 3,3-Dichlorobenzidine | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 99-09-2 | 3-Nitroaniline | ND | | mg/kg dry | 0.0982 | 0.196 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |

# Sample Information

**Client Sample ID:** TP-04 4 **York Sample ID:** 25G1696-03

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

## Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | mg/kg dry | 0.0982 | 0.196 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 106-47-8 | 4-Chloroaniline | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 100-01-6 | 4-Nitroaniline | ND | | mg/kg dry | 0.0982 | 0.196 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 100-02-7 | 4-Nitrophenol | ND | | mg/kg dry | 0.0982 | 0.196 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 83-32-9 | **Acenaphthene** | **0.480** | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 208-96-8 | **Acenaphthylene** | **0.850** | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 98-86-2 | Acetophenone | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 62-53-3 | Aniline | ND | | mg/kg dry | 0.197 | 0.393 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 120-12-7 | Anthracene | ND | | mg/kg dry | 4.92 | 9.82 | 200 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 08/05/2025 14:30<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SR |
| 1912-24-9 | Atrazine | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 100-52-7 | Benzaldehyde | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 92-87-5 | Benzidine | ND | | mg/kg dry | 0.197 | 0.393 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,PADEP-68-04440 | SS |
| 56-55-3 | **Benzo(a)anthracene** | **25.7** | | mg/kg dry | 4.92 | 9.82 | 200 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 08/05/2025 14:30<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SR |
| 50-32-8 | **Benzo(a)pyrene** | **21.7** | | mg/kg dry | 4.92 | 9.82 | 200 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 08/05/2025 14:30<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SR |
| 205-99-2 | **Benzo(b)fluoranthene** | **31.1** | | mg/kg dry | 4.92 | 9.82 | 200 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 08/05/2025 14:30<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SR |
| 191-24-2 | **Benzo(g,h,i)perylene** | **15.5** | | mg/kg dry | 4.92 | 9.82 | 200 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 08/05/2025 14:30<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SR |
| 207-08-9 | **Benzo(k)fluoranthene** | **11.2** | | mg/kg dry | 4.92 | 9.82 | 200 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 08/05/2025 14:30<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SR |
| 65-85-0 | Benzoic acid | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 100-51-6 | Benzyl alcohol | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 85-68-7 | Benzyl butyl phthalate | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |

## Sample Information

**Client Sample ID:** TP-04 4 **York Sample ID:** 25G1696-03

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 111-91-1 | Bis(2-chloroethoxy)methane | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 111-44-4 | Bis(2-chloroethyl)ether | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 108-60-1 | Bis(2-chloroisopropyl)ether | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 105-60-2 | Caprolactam | ND | | mg/kg dry | 0.0982 | 0.196 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21 | SS<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 |
| 86-74-8 | **Carbazole** | **2.57** | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 218-01-9 | **Chrysene** | **25.0** | | mg/kg dry | 4.92 | 9.82 | 200 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 08/05/2025 14:30 | SR<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | mg/kg dry | 4.92 | 9.82 | 200 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 08/05/2025 14:30 | SR<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 132-64-9 | **Dibenzofuran** | **0.345** | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 84-66-2 | Diethyl phthalate | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 131-11-3 | Dimethyl phthalate | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 84-74-2 | Di-n-butyl phthalate | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 117-84-0 | Di-n-octyl phthalate | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 206-44-0 | **Fluoranthene** | **36.3** | | mg/kg dry | 4.92 | 9.82 | 200 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 08/05/2025 14:30 | SR<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 86-73-7 | **Fluorene** | **0.656** | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21 | SS<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 |
| 118-74-1 | Hexachlorobenzene | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 87-68-3 | Hexachlorobutadiene | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 67-72-1 | Hexachloroethane | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 193-39-5 | **Indeno(1,2,3-cd)pyrene** | **16.7** | | mg/kg dry | 4.92 | 9.82 | 200 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 08/05/2025 14:30 | SR<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 78-59-1 | Isophorone | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 91-20-3 | **Naphthalene** | **0.166** | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 98-95-3 | Nitrobenzene | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:21 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |

## Sample Information

**Client Sample ID:** TP-04 4 **York Sample ID:** 25G1696-03

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 62-75-9 | N-Nitrosodimethylamine | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 17:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 621-64-7 | N-nitroso-di-n-propylamine | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 17:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 17:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 87-86-5 | Pentachlorophenol | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 17:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 85-01-8 | **Phenanthrene** | **14.9** | | mg/kg dry | 4.92 | 9.82 | 200 | EPA 8270E | 07/31/2025 08:46 | 08/05/2025 14:30 | SR |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 108-95-2 | Phenol | ND | | mg/kg dry | 0.0492 | 0.0982 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 17:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 129-00-0 | **Pyrene** | **38.0** | | mg/kg dry | 4.92 | 9.82 | 200 | EPA 8270E | 07/31/2025 08:46 | 08/05/2025 14:30 | SR |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 367-12-4 | *Surrogate: SURR: 2-Fluorophenol* | *70.3 %* | *20-108* |
| 13127-88-3 | *Surrogate: SURR: Phenol-d6* | *59.8 %* | *23-114* |
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *61.3 %* | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *59.1 %* | *21-113* |
| 118-79-6 | *Surrogate: SURR: 2,4,6-Tribromophenol* | *88.8 %* | *19-110* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *63.5 %* | *24-116* |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **10100** | | mg/kg dry | 4.94 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | **Antimony** | **20.5** | | mg/kg dry | 2.47 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-38-2 | **Arsenic** | **16.3** | | mg/kg dry | 1.48 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **280** | | mg/kg dry | 2.46 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.594** | | mg/kg dry | 0.050 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | **Cadmium** | **0.523** | | mg/kg dry | 0.296 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-70-2 | **Calcium** | **28800** | | mg/kg dry | 4.94 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **370** | | mg/kg dry | 0.494 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-04 4 **York Sample ID:** 25G1696-03

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-48-4 | **Cobalt** | **8.41** | | mg/kg dry | 0.395 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **215** | | mg/kg dry | 1.98 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **27000** | | mg/kg dry | 24.7 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **887** | | mg/kg dry | 0.494 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **12600** | | mg/kg dry | 4.94 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **583** | | mg/kg dry | 0.494 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **17.8** | | mg/kg dry | 0.984 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1930** | | mg/kg dry | 4.94 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.47 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | **Silver** | **3.50** | | mg/kg dry | 0.498 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-23-5 | **Sodium** | **249** | | mg/kg dry | 49.4 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.98 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **22.2** | | mg/kg dry | 0.984 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **331** | | mg/kg dry | 2.46 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:20 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.790** | | mg/kg dry | 0.0355 | 1 | EPA 7473 | 07/29/2025 10:10 | 07/29/2025 15:16 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **84.4** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:51 | 07/30/2025 13:50 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** TP-04 6 **York Sample ID:** 25G1696-04

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

**Metals, Target Analyte** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **9760** | | mg/kg dry | 5.59 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.80 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **40.4** | M-CCV 1 | mg/kg dry | 1.68 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **832** | | mg/kg dry | 2.79 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.656** | | mg/kg dry | 0.056 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | **Cadmium** | **0.906** | | mg/kg dry | 0.335 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-70-2 | **Calcium** | **10300** | | mg/kg dry | 5.59 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **25.4** | | mg/kg dry | 0.560 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **9.62** | | mg/kg dry | 0.447 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **334** | | mg/kg dry | 2.24 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **12800** | | mg/kg dry | 28.0 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **4980** | | mg/kg dry | 0.560 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **1330** | | mg/kg dry | 5.60 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **539** | | mg/kg dry | 0.560 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **21.1** | | mg/kg dry | 1.11 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1620** | | mg/kg dry | 5.60 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | **Selenium** | **14.4** | M-CCV 1 | mg/kg dry | 2.80 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-22-4 | **Silver** | **3.21** | | mg/kg dry | 0.564 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-23-5 | **Sodium** | **470** | | mg/kg dry | 55.9 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.24 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **35.0** | | mg/kg dry | 1.11 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-04 6 **York Sample ID:** 25G1696-04

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-66-6 | **Zinc** | **1010** | | mg/kg dry | 2.78 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:24 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.228** | | mg/kg dry | 0.0403 | 1 | EPA 7473 | 07/29/2025 10:10 | 07/29/2025 15:16 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **74.5** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:51 | 07/30/2025 13:50 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** TP-04 8 **York Sample ID:** 25G1696-05

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **12200** | | mg/kg dry | 5.37 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | **Antimony** | **29.6** | | mg/kg dry | 2.68 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-38-2 | **Arsenic** | **10.8** | M-CCV 1 | mg/kg dry | 1.61 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **511** | | mg/kg dry | 2.68 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.588** | | mg/kg dry | 0.054 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | **Cadmium** | **0.923** | | mg/kg dry | 0.322 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-04 8 **York Sample ID:** 25G1696-05

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-70-2 | **Calcium** | **15600** | | mg/kg dry | 5.37 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **21.7** | | mg/kg dry | 0.537 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **11.4** | | mg/kg dry | 0.429 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **527** | | mg/kg dry | 2.15 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **29200** | | mg/kg dry | 26.8 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **1080** | | mg/kg dry | 0.537 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **4470** | | mg/kg dry | 5.37 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **918** | | mg/kg dry | 0.537 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **24.7** | | mg/kg dry | 1.07 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1060** | | mg/kg dry | 5.37 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.68 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | **Silver** | **1.13** | | mg/kg dry | 0.541 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-23-5 | **Sodium** | **99.3** | | mg/kg dry | 53.7 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.15 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **20.0** | | mg/kg dry | 1.07 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **756** | | mg/kg dry | 2.67 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:26 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **1.37** | | mg/kg dry | 0.0386 | 1 | EPA 7473 | 07/29/2025 10:10 | 07/29/2025 15:16 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

## Sample Information

**Client Sample ID:** TP-04 8 **York Sample ID:** 25G1696-05

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **77.6** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:51 | 07/30/2025 13:50 | BF |
| | | | | | | | Certifications: CTDOH-PH-0723 | | | |

## Sample Information

**Client Sample ID:** TP-05 4 **York Sample ID:** 25G1696-06

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

**Metals, Target Analyte** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **10800** | | mg/kg dry | 4.41 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.20 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 7440-38-2 | **Arsenic** | **7.03** | M-CCV 1 | mg/kg dry | 1.32 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-39-3 | **Barium** | **30.0** | | mg/kg dry | 2.20 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-41-7 | **Beryllium** | **0.373** | | mg/kg dry | 0.044 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.265 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 7440-70-2 | **Calcium** | **1210** | | mg/kg dry | 4.41 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-47-3 | **Chromium** | **13.0** | | mg/kg dry | 0.441 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-48-4 | **Cobalt** | **7.14** | | mg/kg dry | 0.352 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-50-8 | **Copper** | **28.4** | | mg/kg dry | 1.76 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7439-89-6 | **Iron** | **18100** | | mg/kg dry | 22.0 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7439-92-1 | **Lead** | **9.33** | | mg/kg dry | 0.441 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7439-95-4 | **Magnesium** | **3190** | | mg/kg dry | 4.41 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7439-96-5 | **Manganese** | **467** | | mg/kg dry | 0.441 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |

## Sample Information

**Client Sample ID:** TP-05 4 **York Sample ID:** 25G1696-06

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-02-0 | **Nickel** | **17.6** | | mg/kg dry | 0.878 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1250** | | mg/kg dry | 4.41 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.20 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.444 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **44.4** | | mg/kg dry | 44.1 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.77 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **19.1** | | mg/kg dry | 0.878 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **46.4** | | mg/kg dry | 2.20 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:27 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | ND | | mg/kg dry | 0.0317 | 1 | EPA 7473 | 07/29/2025 10:10 | 07/29/2025 15:16 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-044 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **94.5** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:51 | 07/30/2025 13:50 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** TP-06 4 **York Sample ID:** 25G1696-07

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

## Sample Information

**Client Sample ID:** TP-06 4 **York Sample ID:** 25G1696-07

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **11600** | | mg/kg dry | 4.50 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.25 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **10.1** | M-CCV 1 | mg/kg dry | 1.35 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **59.2** | | mg/kg dry | 2.25 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.426** | | mg/kg dry | 0.045 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.270 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-70-2 | **Calcium** | **45200** | | mg/kg dry | 4.50 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **14.4** | | mg/kg dry | 0.451 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **9.63** | | mg/kg dry | 0.360 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **36.7** | | mg/kg dry | 1.80 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **24200** | | mg/kg dry | 22.5 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **11.6** | | mg/kg dry | 0.451 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **6370** | | mg/kg dry | 4.51 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **492** | | mg/kg dry | 0.451 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **21.7** | | mg/kg dry | 0.897 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1730** | | mg/kg dry | 4.51 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.25 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.454 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **321** | | mg/kg dry | 45.0 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.81 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **16.9** | | mg/kg dry | 0.897 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **55.5** | | mg/kg dry | 2.24 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:29 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-06 4 **York Sample ID:** 25G1696-07

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | ND | | mg/kg dry | 0.0324 | 1 | EPA 7473 | 07/29/2025 10:10 | 07/29/2025 15:16 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-044 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **92.5** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:51 | 07/30/2025 13:50 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** TP-06 6 **York Sample ID:** 25G1696-08

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 92-52-4 | 1,1-Biphenyl | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 17:51 | SS |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | | mg/kg dry | 0.113 | 0.225 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 17:51 | SS |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 17:51 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 17:51 | SS |
| | | | | | | | | Certifications: | NELAC-NY10854,PADEP-68-04440 | | |
| 122-66-7 | 1,2-Diphenylhydrazine (as Azobenzene) | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 17:51 | SS |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 17:51 | SS |
| | | | | | | | | Certifications: | NELAC-NY10854,PADEP-68-04440 | | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 17:51 | SS |
| | | | | | | | | Certifications: | NELAC-NY10854,PADEP-68-04440 | | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | | mg/kg dry | 0.113 | 0.225 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 17:51 | SS |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 17:51 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 17:51 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |

## Sample Information

**Client Sample ID:** TP-06 6 **York Sample ID:** 25G1696-08

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 120-83-2 | 2,4-Dichlorophenol | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 105-67-9 | 2,4-Dimethylphenol | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 51-28-5 | 2,4-Dinitrophenol | ND | | mg/kg dry | 0.113 | 0.225 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 91-58-7 | 2-Chloronaphthalene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 95-57-8 | 2-Chlorophenol | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 91-57-6 | 2-Methylnaphthalene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 95-48-7 | 2-Methylphenol | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 88-74-4 | 2-Nitroaniline | ND | | mg/kg dry | 0.113 | 0.225 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 88-75-5 | 2-Nitrophenol | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 65794-96-9 | 3- & 4-Methylphenols | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 91-94-1 | 3,3-Dichlorobenzidine | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 99-09-2 | 3-Nitroaniline | ND | | mg/kg dry | 0.113 | 0.225 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | mg/kg dry | 0.113 | 0.225 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 106-47-8 | 4-Chloroaniline | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 100-01-6 | 4-Nitroaniline | ND | | mg/kg dry | 0.113 | 0.225 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 100-02-7 | 4-Nitrophenol | ND | | mg/kg dry | 0.113 | 0.225 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 83-32-9 | Acenaphthene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 208-96-8 | Acenaphthylene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |

## Sample Information

**Client Sample ID:** TP-06 6 **York Sample ID:** 25G1696-08

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 98-86-2 | Acetophenone | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 62-53-3 | Aniline | ND | | mg/kg dry | 0.226 | 0.452 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 120-12-7 | Anthracene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 1912-24-9 | Atrazine | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 100-52-7 | Benzaldehyde | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 92-87-5 | Benzidine | ND | | mg/kg dry | 0.226 | 0.452 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,PADEP-68-04440 | SS |
| 56-55-3 | Benzo(a)anthracene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 50-32-8 | Benzo(a)pyrene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 205-99-2 | Benzo(b)fluoranthene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 207-08-9 | Benzo(k)fluoranthene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 65-85-0 | Benzoic acid | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 100-51-6 | Benzyl alcohol | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 85-68-7 | Benzyl butyl phthalate | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 111-91-1 | Bis(2-chloroethoxy)methane | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 111-44-4 | Bis(2-chloroethyl)ether | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 108-60-1 | Bis(2-chloroisopropyl)ether | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 105-60-2 | Caprolactam | ND | | mg/kg dry | 0.113 | 0.225 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 86-74-8 | Carbazole | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 218-01-9 | Chrysene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 132-64-9 | Dibenzofuran | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |

## Sample Information

**Client Sample ID:** TP-06 6 **York Sample ID:** 25G1696-08

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 84-66-2 | Diethyl phthalate | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 131-11-3 | Dimethyl phthalate | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 84-74-2 | Di-n-butyl phthalate | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 117-84-0 | Di-n-octyl phthalate | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 206-44-0 | Fluoranthene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 86-73-7 | Fluorene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 |
| 118-74-1 | Hexachlorobenzene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 87-68-3 | Hexachlorobutadiene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 67-72-1 | Hexachloroethane | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 78-59-1 | Isophorone | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 91-20-3 | Naphthalene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 98-95-3 | Nitrobenzene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 62-75-9 | N-Nitrosodimethylamine | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 621-64-7 | N-nitroso-di-n-propylamine | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 86-30-6 | N-Nitrosodiphenylamine | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 87-86-5 | Pentachlorophenol | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 85-01-8 | Phenanthrene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 108-95-2 | Phenol | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 129-00-0 | Pyrene | ND | | mg/kg dry | 0.0566 | 0.113 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 17:51 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 367-12-4 | *Surrogate: SURR: 2-Fluorophenol* | *65.7 %* | *20-108* |
| 13127-88-3 | *Surrogate: SURR: Phenol-d6* | *54.2 %* | *23-114* |
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *55.0 %* | *22-108* |

## Sample Information

**Client Sample ID:** TP-06 6 **York Sample ID:** 25G1696-08

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *62.8 %* | | | *21-113* | | | | | | |
| 118-79-6 | *Surrogate: SURR: 2,4,6-Tribromophenol* | *89.2 %* | | | *19-110* | | | | | | |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *69.4 %* | | | *24-116* | | | | | | |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **8190** | | mg/kg dry | 5.66 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.83 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **19.5** | M-CCV 1 | mg/kg dry | 1.70 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **97.3** | | mg/kg dry | 2.82 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **2.00** | | mg/kg dry | 0.057 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.339 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-70-2 | **Calcium** | **4490** | | mg/kg dry | 5.66 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **12.1** | | mg/kg dry | 0.566 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **15.5** | | mg/kg dry | 0.452 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **38.0** | | mg/kg dry | 2.26 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **7240** | | mg/kg dry | 28.3 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **43.8** | | mg/kg dry | 0.566 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **619** | | mg/kg dry | 5.66 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **113** | | mg/kg dry | 0.566 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **31.4** | | mg/kg dry | 1.13 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **715** | | mg/kg dry | 5.66 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.83 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |

## Sample Information

**Client Sample ID:** TP-06 6 **York Sample ID:** 25G1696-08

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.570 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **395** | | mg/kg dry | 56.6 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.27 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **33.0** | | mg/kg dry | 1.13 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **49.2** | | mg/kg dry | 2.82 | 1 | EPA 6010D | 07/29/2025 21:51 | 07/30/2025 17:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.0546** | | mg/kg dry | 0.0407 | 1 | EPA 7473 | 07/29/2025 10:10 | 07/29/2025 15:16 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **73.7** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:51 | 07/30/2025 13:50 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** TP-06 12 **York Sample ID:** 25G1696-09

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **7490** | | mg/kg dry | 4.44 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.22 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |

## Sample Information

**Client Sample ID:** TP-06 12 **York Sample ID:** 25G1696-09

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-38-2 | **Arsenic** | **6.37** | | mg/kg dry | 1.33 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **38.5** | | mg/kg dry | 2.22 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.310** | | mg/kg dry | 0.045 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.267 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-70-2 | **Calcium** | **39700** | | mg/kg dry | 4.45 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **9.79** | | mg/kg dry | 0.445 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **6.54** | | mg/kg dry | 0.355 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **25.1** | | mg/kg dry | 1.78 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **16100** | | mg/kg dry | 22.2 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **22.6** | | mg/kg dry | 0.445 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **6960** | | mg/kg dry | 4.45 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **391** | | mg/kg dry | 0.445 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **14.3** | | mg/kg dry | 0.886 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1100** | | mg/kg dry | 4.45 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.22 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.448 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **167** | | mg/kg dry | 44.5 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.78 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **11.6** | | mg/kg dry | 0.886 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **73.1** | | mg/kg dry | 2.21 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:28 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

## Sample Information

**Client Sample ID:** TP-06 12 **York Sample ID:** 25G1696-09

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.0322** | | mg/kg dry | 0.0320 | 1 | EPA 7473 | 07/29/2025 10:10 | 07/29/2025 15:16 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

**Total Solids**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **93.7** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:51 | 07/30/2025 13:50 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** TP-07 2 **York Sample ID:** 25G1696-10

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

**Metals, Target Analyte**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **4970** | | mg/kg dry | 4.71 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.35 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **8.91** | | mg/kg dry | 1.41 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **114** | | mg/kg dry | 2.35 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.288** | | mg/kg dry | 0.047 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | **Cadmium** | **0.819** | | mg/kg dry | 0.282 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-70-2 | **Calcium** | **6260** | | mg/kg dry | 4.71 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **9.25** | | mg/kg dry | 0.471 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **4.43** | | mg/kg dry | 0.376 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **39.5** | | mg/kg dry | 1.88 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-07 2 **York Sample ID:** 25G1696-10

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-89-6 | **Iron** | **11600** | | mg/kg dry | 23.5 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **338** | | mg/kg dry | 0.471 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **1770** | | mg/kg dry | 4.71 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **276** | | mg/kg dry | 0.471 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **12.8** | | mg/kg dry | 0.938 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **548** | | mg/kg dry | 4.71 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.35 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.474 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **88.1** | | mg/kg dry | 47.1 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.89 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **11.3** | | mg/kg dry | 0.938 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **194** | | mg/kg dry | 2.34 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:30 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.238** | | mg/kg dry | 0.0339 | 1 | EPA 7473 | 07/29/2025 10:10 | 07/29/2025 15:16 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **88.5** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:51 | 07/30/2025 13:50 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** TP-07 4 **York Sample ID:** 25G1696-11

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

**Metals, Target Analyte** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **5690** | | mg/kg dry | 5.52 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.76 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **14.2** | | mg/kg dry | 1.66 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **62.5** | | mg/kg dry | 2.75 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.983** | | mg/kg dry | 0.056 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.331 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-70-2 | **Calcium** | **3450** | | mg/kg dry | 5.52 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **8.77** | | mg/kg dry | 0.552 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **10.9** | | mg/kg dry | 0.441 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **30.9** | | mg/kg dry | 2.21 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **6430** | | mg/kg dry | 27.6 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **53.0** | | mg/kg dry | 0.552 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **872** | | mg/kg dry | 5.52 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **135** | | mg/kg dry | 0.552 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **23.9** | | mg/kg dry | 1.10 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **505** | | mg/kg dry | 5.52 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.76 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.556 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **221** | | mg/kg dry | 55.2 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.21 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **21.5** | | mg/kg dry | 1.10 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-07 4 **York Sample ID:** 25G1696-11

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-66-6 | **Zinc** | **32.6** | | mg/kg dry | 2.75 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:31 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.0593** | | mg/kg dry | 0.0397 | 1 | EPA 7473 | 07/29/2025 10:10 | 07/29/2025 15:16 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **75.5** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:51 | 07/30/2025 13:50 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** TP-08 2 **York Sample ID:** 25G1696-12

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 92-52-4 | 1,1-Biphenyl | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | | mg/kg dry | 0.0938 | 0.187 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | NELAC-NY10854,PADEP-68-04440 | | |
| 122-66-7 | 1,2-Diphenylhydrazine (as Azobenzene) | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | NELAC-NY10854,PADEP-68-04440 | | |

## Sample Information

**Client Sample ID:** TP-08 2 **York Sample ID:** 25G1696-12

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

**Semi-Volatiles, 8270 Comprehensive**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 106-46-7 | 1,4-Dichlorobenzene | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>NELAC-NY10854,PADEP-68-04440 | SS |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | | mg/kg dry | 0.0938 | 0.187 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 120-83-2 | 2,4-Dichlorophenol | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 105-67-9 | 2,4-Dimethylphenol | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 51-28-5 | 2,4-Dinitrophenol | ND | | mg/kg dry | 0.0938 | 0.187 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 91-58-7 | 2-Chloronaphthalene | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 95-57-8 | 2-Chlorophenol | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 91-57-6 | 2-Methylnaphthalene | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 95-48-7 | 2-Methylphenol | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 88-74-4 | 2-Nitroaniline | ND | | mg/kg dry | 0.0938 | 0.187 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 88-75-5 | 2-Nitrophenol | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 65794-96-9 | 3- & 4-Methylphenols | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 91-94-1 | 3,3-Dichlorobenzidine | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 99-09-2 | 3-Nitroaniline | ND | | mg/kg dry | 0.0938 | 0.187 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | mg/kg dry | 0.0938 | 0.187 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 106-47-8 | 4-Chloroaniline | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |

## Sample Information

**Client Sample ID:** TP-08 2 **York Sample ID:** 25G1696-12

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-01-6 | 4-Nitroaniline | ND | | mg/kg dry | 0.0938 | 0.187 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 100-02-7 | 4-Nitrophenol | ND | | mg/kg dry | 0.0938 | 0.187 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 83-32-9 | **Acenaphthene** | **0.101** | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 208-96-8 | **Acenaphthylene** | **0.128** | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 98-86-2 | Acetophenone | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 62-53-3 | Aniline | ND | | mg/kg dry | 0.188 | 0.376 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 120-12-7 | **Anthracene** | **0.360** | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 1912-24-9 | Atrazine | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 100-52-7 | Benzaldehyde | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 92-87-5 | Benzidine | ND | | mg/kg dry | 0.188 | 0.376 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,PADEP-68-04440 | SS |
| 56-55-3 | **Benzo(a)anthracene** | **1.26** | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 50-32-8 | **Benzo(a)pyrene** | **1.24** | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 205-99-2 | **Benzo(b)fluoranthene** | **1.10** | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 191-24-2 | **Benzo(g,h,i)perylene** | **0.670** | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 207-08-9 | **Benzo(k)fluoranthene** | **1.07** | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | SS |
| 65-85-0 | Benzoic acid | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 100-51-6 | Benzyl alcohol | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 85-68-7 | Benzyl butyl phthalate | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 111-91-1 | Bis(2-chloroethoxy)methane | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 111-44-4 | Bis(2-chloroethyl)ether | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 108-60-1 | Bis(2-chloroisopropyl)ether | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 105-60-2 | Caprolactam | ND | | mg/kg dry | 0.0938 | 0.187 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:21<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |

## Sample Information

**Client Sample ID:** TP-08 2 **York Sample ID:** 25G1696-12

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 86-74-8 | **Carbazole** | **0.162** | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 218-01-9 | **Chrysene** | **1.27** | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 53-70-3 | **Dibenzo(a,h)anthracene** | **0.238** | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 132-64-9 | **Dibenzofuran** | **0.0570** | J | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 84-66-2 | Diethyl phthalate | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 131-11-3 | Dimethyl phthalate | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 84-74-2 | Di-n-butyl phthalate | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 117-84-0 | Di-n-octyl phthalate | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 206-44-0 | **Fluoranthene** | **2.47** | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 86-73-7 | **Fluorene** | **0.115** | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 118-74-1 | Hexachlorobenzene | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 87-68-3 | Hexachlorobutadiene | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 67-72-1 | Hexachloroethane | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 193-39-5 | **Indeno(1,2,3-cd)pyrene** | **0.703** | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 78-59-1 | Isophorone | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 91-20-3 | Naphthalene | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 98-95-3 | Nitrobenzene | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 62-75-9 | N-Nitrosodimethylamine | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 621-64-7 | N-nitroso-di-n-propylamine | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 87-86-5 | Pentachlorophenol | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 85-01-8 | **Phenanthrene** | **1.46** | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-08 2 **York Sample ID:** 25G1696-12

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 108-95-2 | Phenol | ND | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 129-00-0 | **Pyrene** | **2.33** | | mg/kg dry | 0.0470 | 0.0938 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:21 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 367-12-4 | *Surrogate: SURR: 2-Fluorophenol* | *47.6 %* | *20-108* |
| 13127-88-3 | *Surrogate: SURR: Phenol-d6* | *38.2 %* | *23-114* |
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *44.2 %* | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *45.8 %* | *21-113* |
| 118-79-6 | *Surrogate: SURR: 2,4,6-Tribromophenol* | *67.1 %* | *19-110* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *53.5 %* | *24-116* |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **4600** | | mg/kg dry | 4.70 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.35 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **14.4** | | mg/kg dry | 1.41 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **224** | | mg/kg dry | 2.35 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.360** | | mg/kg dry | 0.047 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | **Cadmium** | **2.58** | | mg/kg dry | 0.282 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-70-2 | **Calcium** | **10800** | | mg/kg dry | 4.70 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **12.6** | | mg/kg dry | 0.471 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **5.93** | | mg/kg dry | 0.376 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **174** | | mg/kg dry | 1.88 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **55100** | | mg/kg dry | 23.5 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **555** | | mg/kg dry | 0.471 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **2460** | | mg/kg dry | 4.71 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-08 2 **York Sample ID:** 25G1696-12

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-96-5 | **Manganese** | **459** | | mg/kg dry | 0.471 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **16.4** | | mg/kg dry | 0.937 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **356** | | mg/kg dry | 4.71 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.35 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | **Silver** | **1.32** | | mg/kg dry | 0.474 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-23-5 | **Sodium** | **306** | | mg/kg dry | 47.0 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.88 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **15.6** | | mg/kg dry | 0.937 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **730** | | mg/kg dry | 2.34 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:33 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.348** | | mg/kg dry | 0.0339 | 1 | EPA 7473 | 07/29/2025 10:10 | 07/29/2025 15:16 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **88.6** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:51 | 07/30/2025 13:50 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** TP-08 10 **York Sample ID:** 25G1696-13

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

## Sample Information

**Client Sample ID:** TP-08 10 **York Sample ID:** 25G1696-13

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

**Metals, Target Analyte** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **7020** | | mg/kg dry | 4.58 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.29 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **8.57** | | mg/kg dry | 1.37 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **89.5** | | mg/kg dry | 2.29 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.484** | | mg/kg dry | 0.046 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | **Cadmium** | **1.09** | | mg/kg dry | 0.275 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-70-2 | **Calcium** | **34900** | | mg/kg dry | 4.58 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **11.3** | | mg/kg dry | 0.458 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **6.68** | | mg/kg dry | 0.366 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **45.2** | | mg/kg dry | 1.83 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **18000** | | mg/kg dry | 22.9 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **154** | | mg/kg dry | 0.458 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **9050** | | mg/kg dry | 4.58 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **411** | | mg/kg dry | 0.458 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **18.2** | | mg/kg dry | 0.912 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **858** | | mg/kg dry | 4.58 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.29 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.462 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **138** | | mg/kg dry | 45.8 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.84 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **15.1** | | mg/kg dry | 0.912 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **143** | | mg/kg dry | 2.28 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:34 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-08 10 **York Sample ID:** 25G1696-13

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.157** | | mg/kg dry | 0.0330 | 1 | EPA 7473 | 07/29/2025 10:10 | 07/29/2025 15:16 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **91.0** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:51 | 07/30/2025 13:50 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** TP-09 13 **York Sample ID:** 25G1696-14

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **12200** | | mg/kg dry | 4.58 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.29 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **44.5** | | mg/kg dry | 1.37 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **108** | | mg/kg dry | 2.29 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.582** | | mg/kg dry | 0.046 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.275 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-70-2 | **Calcium** | **5600** | | mg/kg dry | 4.58 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **13.6** | | mg/kg dry | 0.458 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **15.2** | | mg/kg dry | 0.366 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

# Sample Information

**Client Sample ID:** TP-09 13 **York Sample ID:** 25G1696-14

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

## Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-50-8 | **Copper** | **32.7** | | mg/kg dry | 1.83 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **28500** | | mg/kg dry | 22.9 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **37.5** | | mg/kg dry | 0.458 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **5360** | | mg/kg dry | 4.58 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **727** | | mg/kg dry | 0.458 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **27.8** | | mg/kg dry | 0.912 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1850** | | mg/kg dry | 4.58 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.29 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.462 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **89.6** | | mg/kg dry | 45.8 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.84 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **11.5** | | mg/kg dry | 0.912 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **69.3** | | mg/kg dry | 2.28 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:36 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | ND | | mg/kg dry | 0.0330 | 1 | EPA 7473 | 07/29/2025 10:10 | 07/29/2025 15:16 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-044 | | |

## Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **91.0** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:51 | 07/30/2025 13:50 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** **TP-10 2** **York Sample ID:** **25G1696-15**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

**Metals, Target Analyte** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **6850** | | mg/kg dry | 4.31 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.15 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **4.37** | | mg/kg dry | 1.29 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **31.8** | | mg/kg dry | 2.15 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | Beryllium | ND | | mg/kg dry | 0.043 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-43-9 | **Cadmium** | **0.284** | | mg/kg dry | 0.259 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-70-2 | **Calcium** | **64500** | | mg/kg dry | 4.31 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **63.0** | | mg/kg dry | 0.431 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **12.2** | | mg/kg dry | 0.344 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **25.7** | | mg/kg dry | 1.72 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **35000** | | mg/kg dry | 21.5 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **28.3** | | mg/kg dry | 0.431 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **8030** | | mg/kg dry | 4.31 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **427** | | mg/kg dry | 0.431 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **18.4** | | mg/kg dry | 0.858 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **963** | | mg/kg dry | 4.31 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.15 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.434 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **108** | | mg/kg dry | 43.1 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.73 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **160** | | mg/kg dry | 0.858 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-10 2 **York Sample ID:** 25G1696-15

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-66-6 | **Zinc** | **62.1** | | mg/kg dry | 2.15 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:37 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | ND | | mg/kg dry | 0.0310 | 1 | EPA 7473 | 07/29/2025 10:10 | 07/29/2025 15:16 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-044 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **96.7** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:51 | 07/30/2025 13:50 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** TP-10 10 **York Sample ID:** 25G1696-16

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **6570** | | mg/kg dry | 4.71 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.35 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **5.50** | | mg/kg dry | 1.41 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **30.3** | | mg/kg dry | 2.35 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.290** | | mg/kg dry | 0.047 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.283 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |

## Sample Information

**Client Sample ID:** TP-10 10 **York Sample ID:** 25G1696-16

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-70-2 | **Calcium** | **98900** | | mg/kg dry | 4.71 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **9.99** | | mg/kg dry | 0.471 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **4.85** | | mg/kg dry | 0.376 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **21.7** | | mg/kg dry | 1.88 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **14500** | | mg/kg dry | 23.5 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **17.7** | | mg/kg dry | 0.471 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **7370** | | mg/kg dry | 4.71 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **396** | | mg/kg dry | 0.471 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **11.8** | | mg/kg dry | 0.938 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1100** | | mg/kg dry | 4.71 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.35 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.475 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **117** | | mg/kg dry | 47.1 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.89 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **11.2** | | mg/kg dry | 0.938 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **42.7** | | mg/kg dry | 2.35 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:47 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | ND | | mg/kg dry | 0.0339 | 1 | EPA 7473 | 07/29/2025 10:10 | 07/29/2025 15:16 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-044 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

## Sample Information

**Client Sample ID:** TP-10 10 **York Sample ID:** 25G1696-16

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **88.5** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:51 | 07/30/2025 13:50 | BF |
| | | | | | | | Certifications: CTDOH-PH-0723 | | | |

## Sample Information

**Client Sample ID:** TP-11 2 **York Sample ID:** 25G1696-17

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

**Semi-Volatiles, 8270 Comprehensive** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 92-52-4 | 1,1-Biphenyl | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:50 | SS |
| | | | | | | | | Certifications: NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | | mg/kg dry | 0.0988 | 0.197 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:50 | SS |
| | | | | | | | | Certifications: NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:50 | SS |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:50 | SS |
| | | | | | | | | Certifications: NELAC-NY10854,PADEP-68-04440 | | | |
| 122-66-7 | 1,2-Diphenylhydrazine (as Azobenzene) | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:50 | SS |
| | | | | | | | | Certifications: NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:50 | SS |
| | | | | | | | | Certifications: NELAC-NY10854,PADEP-68-04440 | | | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:50 | SS |
| | | | | | | | | Certifications: NELAC-NY10854,PADEP-68-04440 | | | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | | mg/kg dry | 0.0988 | 0.197 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:50 | SS |
| | | | | | | | | Certifications: NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:50 | SS |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:50 | SS |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 120-83-2 | 2,4-Dichlorophenol | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:50 | SS |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 105-67-9 | 2,4-Dimethylphenol | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:50 | SS |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 51-28-5 | 2,4-Dinitrophenol | ND | | mg/kg dry | 0.0988 | 0.197 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:50 | SS |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:50 | SS |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 18:50 | SS |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |

## Sample Information

**Client Sample ID:** TP-11 2

**York Sample ID:** 25G1696-17

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 91-58-7 | 2-Chloronaphthalene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 95-57-8 | 2-Chlorophenol | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 91-57-6 | 2-Methylnaphthalene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 95-48-7 | 2-Methylphenol | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 88-74-4 | 2-Nitroaniline | ND | | mg/kg dry | 0.0988 | 0.197 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 88-75-5 | 2-Nitrophenol | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 65794-96-9 | 3- & 4-Methylphenols | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 91-94-1 | 3,3-Dichlorobenzidine | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 99-09-2 | 3-Nitroaniline | ND | | mg/kg dry | 0.0988 | 0.197 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | mg/kg dry | 0.0988 | 0.197 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 106-47-8 | 4-Chloroaniline | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 100-01-6 | 4-Nitroaniline | ND | | mg/kg dry | 0.0988 | 0.197 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 100-02-7 | 4-Nitrophenol | ND | | mg/kg dry | 0.0988 | 0.197 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 83-32-9 | Acenaphthene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 208-96-8 | Acenaphthylene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 98-86-2 | Acetophenone | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 62-53-3 | Aniline | ND | | mg/kg dry | 0.198 | 0.396 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 120-12-7 | Anthracene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 1912-24-9 | Atrazine | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 100-52-7 | Benzaldehyde | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 18:50<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |

## Sample Information

**Client Sample ID:** TP-11 2

**York Sample ID:** 25G1696-17

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 92-87-5 | Benzidine | ND | | mg/kg dry | 0.198 | 0.396 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,PADEP-68-04440 | 07/31/2025 18:50 | SS |
| 56-55-3 | Benzo(a)anthracene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 50-32-8 | Benzo(a)pyrene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 205-99-2 | Benzo(b)fluoranthene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 207-08-9 | Benzo(k)fluoranthene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 65-85-0 | Benzoic acid | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | 07/31/2025 18:50 | SS |
| 100-51-6 | Benzyl alcohol | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | 07/31/2025 18:50 | SS |
| 85-68-7 | Benzyl butyl phthalate | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 111-91-1 | Bis(2-chloroethoxy)methane | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 111-44-4 | Bis(2-chloroethyl)ether | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 108-60-1 | Bis(2-chloroisopropyl)ether | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 105-60-2 | Caprolactam | ND | | mg/kg dry | 0.0988 | 0.197 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | 07/31/2025 18:50 | SS |
| 86-74-8 | Carbazole | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 218-01-9 | Chrysene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 132-64-9 | Dibenzofuran | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 84-66-2 | Diethyl phthalate | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 131-11-3 | Dimethyl phthalate | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 84-74-2 | Di-n-butyl phthalate | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 117-84-0 | Di-n-octyl phthalate | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 206-44-0 | Fluoranthene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |

## Sample Information

**Client Sample ID:** TP-11 2 **York Sample ID:** 25G1696-17

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 86-73-7 | Fluorene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | 07/31/2025 18:50 | SS |
| 118-74-1 | Hexachlorobenzene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 87-68-3 | Hexachlorobutadiene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 67-72-1 | Hexachloroethane | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 78-59-1 | Isophorone | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 91-20-3 | Naphthalene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 98-95-3 | Nitrobenzene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 62-75-9 | N-Nitrosodimethylamine | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 621-64-7 | N-nitroso-di-n-propylamine | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 86-30-6 | N-Nitrosodiphenylamine | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 87-86-5 | Pentachlorophenol | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 85-01-8 | Phenanthrene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 108-95-2 | Phenol | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |
| 129-00-0 | Pyrene | ND | | mg/kg dry | 0.0495 | 0.0988 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 07/31/2025 18:50 | SS |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 367-12-4 | *Surrogate: SURR: 2-Fluorophenol* | *59.2 %* | *20-108* |
| 13127-88-3 | *Surrogate: SURR: Phenol-d6* | *47.9 %* | *23-114* |
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *48.9 %* | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *51.4 %* | *21-113* |
| 118-79-6 | *Surrogate: SURR: 2,4,6-Tribromophenol* | *78.5 %* | *19-110* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *62.7 %* | *24-116* |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|

## Sample Information

**Client Sample ID:** TP-11 2 **York Sample ID:** 25G1696-17

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

**Metals, Target Analyte** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **2990** | | mg/kg dry | 4.95 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.48 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **54.7** | | mg/kg dry | 1.49 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **508** | | mg/kg dry | 2.47 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.280** | | mg/kg dry | 0.050 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | **Cadmium** | **2.06** | | mg/kg dry | 0.297 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-70-2 | **Calcium** | **5300** | | mg/kg dry | 4.95 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **105** | | mg/kg dry | 0.496 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **16.5** | | mg/kg dry | 0.396 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **240** | | mg/kg dry | 1.98 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **250000** | | mg/kg dry | 1240 | 50 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 13:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **3460** | | mg/kg dry | 0.496 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **366** | | mg/kg dry | 4.96 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **812** | | mg/kg dry | 0.496 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **26.8** | | mg/kg dry | 0.986 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **446** | | mg/kg dry | 4.96 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.48 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.499 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **159** | | mg/kg dry | 49.5 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.98 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **25.7** | | mg/kg dry | 0.986 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-11 2 **York Sample ID:** 25G1696-17

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-66-6 | **Zinc** | **941** | | mg/kg dry | 2.47 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:48 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.203** | | mg/kg dry | 0.0357 | 1 | EPA 7473 | 07/29/2025 10:10 | 07/29/2025 15:16 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **84.1** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:51 | 07/30/2025 13:50 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** TP-11 4 **York Sample ID:** 25G1696-18

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **4720** | | mg/kg dry | 5.49 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.74 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **24.6** | | mg/kg dry | 1.65 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **567** | | mg/kg dry | 2.74 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.904** | | mg/kg dry | 0.055 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | **Cadmium** | **2.27** | | mg/kg dry | 0.329 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-11 4 **York Sample ID:** 25G1696-18

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-70-2 | **Calcium** | **11800** | | mg/kg dry | 5.49 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **19.8** | | mg/kg dry | 0.549 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **11.7** | | mg/kg dry | 0.439 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **76.4** | | mg/kg dry | 2.20 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **79100** | | mg/kg dry | 27.4 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **1520** | | mg/kg dry | 0.549 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **1770** | | mg/kg dry | 5.49 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **389** | | mg/kg dry | 0.549 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **17.8** | | mg/kg dry | 1.09 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **516** | | mg/kg dry | 5.49 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.74 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.553 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **181** | | mg/kg dry | 54.9 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.20 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **22.2** | | mg/kg dry | 1.09 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **725** | | mg/kg dry | 2.73 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:50 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.921** | | mg/kg dry | 0.0395 | 1 | EPA 7473 | 07/29/2025 10:10 | 07/29/2025 15:16 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

## Sample Information

**Client Sample ID:** TP-11 4 **York Sample ID:** 25G1696-18

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **75.9** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:51 | 07/30/2025 13:50 | BF |
| | | | | | | | Certifications: CTDOH-PH-0723 | | | |

## Sample Information

**Client Sample ID:** TP-12 4 **York Sample ID:** 25G1696-19

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

**Metals, Target Analyte** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **10800** | | mg/kg dry | 4.54 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.27 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 7440-38-2 | **Arsenic** | **8.59** | | mg/kg dry | 1.36 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-39-3 | **Barium** | **98.7** | | mg/kg dry | 2.27 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-41-7 | **Beryllium** | **0.457** | | mg/kg dry | 0.046 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-43-9 | **Cadmium** | **0.500** | | mg/kg dry | 0.273 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-70-2 | **Calcium** | **13500** | | mg/kg dry | 4.54 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-47-3 | **Chromium** | **16.5** | | mg/kg dry | 0.455 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-48-4 | **Cobalt** | **8.09** | | mg/kg dry | 0.363 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-50-8 | **Copper** | **67.4** | | mg/kg dry | 1.82 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7439-89-6 | **Iron** | **26400** | | mg/kg dry | 22.7 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7439-92-1 | **Lead** | **437** | | mg/kg dry | 0.455 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7439-95-4 | **Magnesium** | **4610** | | mg/kg dry | 4.55 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7439-96-5 | **Manganese** | **784** | | mg/kg dry | 0.455 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |

## Sample Information

**Client Sample ID:** TP-12 4 **York Sample ID:** 25G1696-19

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-02-0 | **Nickel** | **18.2** | | mg/kg dry | 0.905 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1120** | | mg/kg dry | 4.55 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.27 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.458 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **51.4** | | mg/kg dry | 45.4 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.82 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **20.1** | | mg/kg dry | 0.905 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **163** | | mg/kg dry | 2.26 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:51 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.215** | | mg/kg dry | 0.0327 | 1 | EPA 7473 | 07/29/2025 13:22 | 07/30/2025 09:54 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **91.7** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:51 | 07/30/2025 13:50 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** TP-13 6 **York Sample ID:** 25G1696-20

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

## Sample Information

**Client Sample ID:** TP-13 6 **York Sample ID:** 25G1696-20

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **9370** | | mg/kg dry | 5.19 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.60 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **11.6** | | mg/kg dry | 1.56 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **98.6** | | mg/kg dry | 2.59 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.576** | | mg/kg dry | 0.052 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.312 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-70-2 | **Calcium** | **23400** | | mg/kg dry | 5.19 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **13.1** | | mg/kg dry | 0.520 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **7.06** | | mg/kg dry | 0.415 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **37.9** | | mg/kg dry | 2.08 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **24700** | | mg/kg dry | 26.0 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **74.0** | | mg/kg dry | 0.520 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **5430** | | mg/kg dry | 5.20 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **464** | | mg/kg dry | 0.520 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **16.8** | | mg/kg dry | 1.03 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1280** | | mg/kg dry | 5.20 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.60 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | **Silver** | **0.935** | | mg/kg dry | 0.523 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-23-5 | **Sodium** | **95.6** | | mg/kg dry | 51.9 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.08 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **19.0** | | mg/kg dry | 1.03 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **70.7** | | mg/kg dry | 2.59 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:53 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-13 6 **York Sample ID:** 25G1696-20

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.0765** | | mg/kg dry | 0.0374 | 1 | EPA 7473 | 07/29/2025 13:22 | 07/30/2025 09:54 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **80.2** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:51 | 07/30/2025 13:50 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** TP-13 8 **York Sample ID:** 25G1696-21

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **8800** | | mg/kg dry | 4.71 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.36 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **8.66** | | mg/kg dry | 1.41 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **60.2** | | mg/kg dry | 2.35 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.400** | | mg/kg dry | 0.048 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | **Cadmium** | **0.340** | | mg/kg dry | 0.283 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-70-2 | **Calcium** | **42400** | | mg/kg dry | 4.72 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **12.5** | | mg/kg dry | 0.472 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **7.04** | | mg/kg dry | 0.377 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-13 8 **York Sample ID:** 25G1696-21

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-50-8 | **Copper** | **37.0** | | mg/kg dry | 1.89 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **24600** | | mg/kg dry | 23.6 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **311** | | mg/kg dry | 0.472 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **8210** | | mg/kg dry | 4.72 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **578** | | mg/kg dry | 0.472 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **15.6** | | mg/kg dry | 0.939 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1190** | | mg/kg dry | 4.72 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.36 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.475 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **84.5** | | mg/kg dry | 47.2 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.89 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **17.3** | | mg/kg dry | 0.939 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **90.7** | | mg/kg dry | 2.35 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:54 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.0363** | | mg/kg dry | 0.0340 | 1 | EPA 7473 | 07/29/2025 13:22 | 07/30/2025 09:54 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **88.4** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:51 | 07/30/2025 13:50 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** TP-13 13 **York Sample ID:** 25G1696-22

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

**Semi-Volatiles, 8270 Comprehensive** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 92-52-4 | 1,1-Biphenyl | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | | mg/kg dry | 0.0908 | 0.181 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>NELAC-NY10854,PADEP-68-04440 | SS |
| 122-66-7 | 1,2-Diphenylhydrazine (as Azobenzene) | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>NELAC-NY10854,PADEP-68-04440 | SS |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>NELAC-NY10854,PADEP-68-04440 | SS |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | | mg/kg dry | 0.0908 | 0.181 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 120-83-2 | 2,4-Dichlorophenol | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 105-67-9 | 2,4-Dimethylphenol | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 51-28-5 | 2,4-Dinitrophenol | ND | | mg/kg dry | 0.0908 | 0.181 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 91-58-7 | 2-Chloronaphthalene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 95-57-8 | 2-Chlorophenol | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 91-57-6 | 2-Methylnaphthalene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 95-48-7 | 2-Methylphenol | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 88-74-4 | 2-Nitroaniline | ND | | mg/kg dry | 0.0908 | 0.181 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 88-75-5 | 2-Nitrophenol | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 65794-96-9 | 3- & 4-Methylphenols | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 91-94-1 | 3,3-Dichlorobenzidine | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |

## Sample Information

**Client Sample ID:** TP-13 13 **York Sample ID:** 25G1696-22

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | ND | | mg/kg dry | 0.0908 | 0.181 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | mg/kg dry | 0.0908 | 0.181 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 106-47-8 | 4-Chloroaniline | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 100-01-6 | 4-Nitroaniline | ND | | mg/kg dry | 0.0908 | 0.181 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 100-02-7 | 4-Nitrophenol | ND | | mg/kg dry | 0.0908 | 0.181 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 83-32-9 | Acenaphthene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 208-96-8 | Acenaphthylene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 98-86-2 | Acetophenone | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 62-53-3 | Aniline | ND | | mg/kg dry | 0.182 | 0.363 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 120-12-7 | Anthracene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 1912-24-9 | Atrazine | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 100-52-7 | Benzaldehyde | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 92-87-5 | Benzidine | ND | | mg/kg dry | 0.182 | 0.363 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,PADEP-68-04440 | SS |
| 56-55-3 | Benzo(a)anthracene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 50-32-8 | Benzo(a)pyrene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 205-99-2 | Benzo(b)fluoranthene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 207-08-9 | Benzo(k)fluoranthene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | SS |
| 65-85-0 | Benzoic acid | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |
| 100-51-6 | Benzyl alcohol | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | SS |

## Sample Information

**Client Sample ID:** TP-13 13 **York Sample ID:** 25G1696-22

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

**Semi-Volatiles, 8270 Comprehensive**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 85-68-7 | Benzyl butyl phthalate | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 111-91-1 | Bis(2-chloroethoxy)methane | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 111-44-4 | Bis(2-chloroethyl)ether | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 108-60-1 | Bis(2-chloroisopropyl)ether | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 105-60-2 | Caprolactam | ND | | mg/kg dry | 0.0908 | 0.181 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 |
| 86-74-8 | Carbazole | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 218-01-9 | Chrysene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 132-64-9 | Dibenzofuran | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 84-66-2 | Diethyl phthalate | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 131-11-3 | Dimethyl phthalate | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 84-74-2 | Di-n-butyl phthalate | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 117-84-0 | Di-n-octyl phthalate | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 206-44-0 | Fluoranthene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 86-73-7 | Fluorene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 |
| 118-74-1 | Hexachlorobenzene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 87-68-3 | Hexachlorobutadiene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 67-72-1 | Hexachloroethane | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 78-59-1 | Isophorone | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 91-20-3 | Naphthalene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 08:46 | 07/31/2025 19:20 | SS<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |

## Sample Information

**Client Sample ID:** TP-13 13 **York Sample ID:** 25G1696-22

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 98-95-3 | Nitrobenzene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 19:20 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 62-75-9 | N-Nitrosodimethylamine | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 19:20 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 621-64-7 | N-nitroso-di-n-propylamine | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 19:20 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 19:20 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 87-86-5 | Pentachlorophenol | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 19:20 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 85-01-8 | Phenanthrene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 19:20 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 108-95-2 | Phenol | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 19:20 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 129-00-0 | Pyrene | ND | | mg/kg dry | 0.0455 | 0.0908 | 2 | EPA 8270E | 07/31/2025 08:46 | 07/31/2025 19:20 | SS |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 367-12-4 | *Surrogate: SURR: 2-Fluorophenol* | *42.1 %* | *20-108* |
| 13127-88-3 | *Surrogate: SURR: Phenol-d6* | *34.7 %* | *23-114* |
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *37.5 %* | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *39.5 %* | *21-113* |
| 118-79-6 | *Surrogate: SURR: 2,4,6-Tribromophenol* | *57.2 %* | *19-110* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *43.9 %* | *24-116* |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **10700** | | mg/kg dry | 4.55 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.27 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **7.06** | | mg/kg dry | 1.36 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **38.1** | | mg/kg dry | 2.27 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.442** | | mg/kg dry | 0.046 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.273 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-70-2 | **Calcium** | **42600** | | mg/kg dry | 4.55 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-13 13 **York Sample ID:** 25G1696-22

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-47-3 | **Chromium** | **14.0** | | mg/kg dry | 0.455 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **6.07** | | mg/kg dry | 0.364 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **34.7** | | mg/kg dry | 1.82 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **19300** | | mg/kg dry | 22.7 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **12.2** | | mg/kg dry | 0.455 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **11900** | | mg/kg dry | 4.55 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **490** | | mg/kg dry | 0.455 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **15.5** | | mg/kg dry | 0.906 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1760** | | mg/kg dry | 4.55 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.27 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.459 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **73.0** | | mg/kg dry | 45.5 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.82 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **19.2** | | mg/kg dry | 0.906 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **57.3** | | mg/kg dry | 2.27 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:56 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury | ND | | mg/kg dry | 0.0328 | 1 | EPA 7473 | 07/29/2025 13:22 | 07/30/2025 09:54 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-044 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|

## Sample Information

**Client Sample ID:** TP-13 13 **York Sample ID:** 25G1696-22

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | * % Solids | 91.6 | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:55 | 07/30/2025 11:23 | BF |
| | | | | | | | Certifications: CTDOH-PH-0723 | | | |

## Sample Information

**Client Sample ID:** TP-14 2 **York Sample ID:** 25G1696-23

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 92-52-4 | 1,1-Biphenyl | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | | mg/kg dry | 0.0904 | 0.181 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: NELAC-NY10854,PADEP-68-04440 | | | |
| 122-66-7 | 1,2-Diphenylhydrazine (as Azobenzene) | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: NELAC-NY10854,PADEP-68-04440 | | | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: NELAC-NY10854,PADEP-68-04440 | | | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | | mg/kg dry | 0.0904 | 0.181 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 120-83-2 | 2,4-Dichlorophenol | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 105-67-9 | 2,4-Dimethylphenol | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 51-28-5 | 2,4-Dinitrophenol | ND | CAL-E | mg/kg dry | 0.0904 | 0.181 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |

## Sample Information

**Client Sample ID:** TP-14 2 **York Sample ID:** 25G1696-23

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 606-20-2 | 2,6-Dinitrotoluene | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 91-58-7 | 2-Chloronaphthalene | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 95-57-8 | 2-Chlorophenol | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 91-57-6 | **2-Methylnaphthalene** | **0.158** | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 95-48-7 | 2-Methylphenol | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 88-74-4 | 2-Nitroaniline | ND | | mg/kg dry | 0.0904 | 0.181 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 88-75-5 | 2-Nitrophenol | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 65794-96-9 | 3- & 4-Methylphenols | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 91-94-1 | 3,3-Dichlorobenzidine | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 |
| 99-09-2 | 3-Nitroaniline | ND | | mg/kg dry | 0.0904 | 0.181 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | CAL-E | mg/kg dry | 0.0904 | 0.181 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 106-47-8 | 4-Chloroaniline | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 100-01-6 | 4-Nitroaniline | ND | | mg/kg dry | 0.0904 | 0.181 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 100-02-7 | 4-Nitrophenol | ND | | mg/kg dry | 0.0904 | 0.181 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 83-32-9 | **Acenaphthene** | **0.416** | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 208-96-8 | **Acenaphthylene** | **0.0585** | J | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 98-86-2 | Acetophenone | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 |
| 62-53-3 | Aniline | ND | | mg/kg dry | 0.181 | 0.362 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 |
| 120-12-7 | **Anthracene** | **0.800** | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 1912-24-9 | Atrazine | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 |

## Sample Information

**Client Sample ID:** TP-14 2 **York Sample ID:** 25G1696-23

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-52-7 | Benzaldehyde | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 |
| 92-87-5 | Benzidine | ND | CCVE | mg/kg dry | 0.181 | 0.362 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,PADEP-68-04440 |
| 56-55-3 | **Benzo(a)anthracene** | **2.07** | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 50-32-8 | **Benzo(a)pyrene** | **1.71** | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 205-99-2 | **Benzo(b)fluoranthene** | **1.62** | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 191-24-2 | **Benzo(g,h,i)perylene** | **0.924** | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 207-08-9 | **Benzo(k)fluoranthene** | **1.69** | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 65-85-0 | Benzoic acid | ND | CCVE | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 |
| 100-51-6 | Benzyl alcohol | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 |
| 85-68-7 | Benzyl butyl phthalate | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 111-91-1 | Bis(2-chloroethoxy)methane | ND | CCVE | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 111-44-4 | Bis(2-chloroethyl)ether | ND | CCVE | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 108-60-1 | Bis(2-chloroisopropyl)ether | ND | CCVE | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 105-60-2 | Caprolactam | ND | | mg/kg dry | 0.0904 | 0.181 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 |
| 86-74-8 | **Carbazole** | **0.425** | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 218-01-9 | **Chrysene** | **1.88** | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 53-70-3 | **Dibenzo(a,h)anthracene** | **0.330** | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 132-64-9 | **Dibenzofuran** | **0.194** | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 84-66-2 | Diethyl phthalate | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 131-11-3 | Dimethyl phthalate | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 84-74-2 | Di-n-butyl phthalate | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 117-84-0 | Di-n-octyl phthalate | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:11 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |

## Sample Information

**Client Sample ID:** TP-14 2 **York Sample ID:** 25G1696-23

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 206-44-0 | **Fluoranthene** | **4.39** | | mg/kg dry | 0.227 | 0.452 | 10 | EPA 8270E | 07/31/2025 09:43 | 08/05/2025 12:01 | SR |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 86-73-7 | **Fluorene** | **0.325** | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 118-74-1 | Hexachlorobenzene | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 87-68-3 | Hexachlorobutadiene | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | CCVE, QL-02 | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 67-72-1 | Hexachloroethane | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 193-39-5 | **Indeno(1,2,3-cd)pyrene** | **1.06** | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 78-59-1 | Isophorone | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 91-20-3 | **Naphthalene** | **0.229** | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 98-95-3 | Nitrobenzene | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 62-75-9 | N-Nitrosodimethylamine | ND | CCVE | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 621-64-7 | N-nitroso-di-n-propylamine | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 87-86-5 | Pentachlorophenol | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 85-01-8 | **Phenanthrene** | **3.20** | | mg/kg dry | 0.227 | 0.452 | 10 | EPA 8270E | 07/31/2025 09:43 | 08/05/2025 12:01 | SR |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 108-95-2 | Phenol | ND | | mg/kg dry | 0.0453 | 0.0904 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:11 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 129-00-0 | **Pyrene** | **3.17** | | mg/kg dry | 0.227 | 0.452 | 10 | EPA 8270E | 07/31/2025 09:43 | 08/05/2025 12:01 | SR |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 367-12-4 | *Surrogate: SURR: 2-Fluorophenol* | *47.6 %* | *20-108* |
| 13127-88-3 | *Surrogate: SURR: Phenol-d6* | *36.4 %* | *23-114* |
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *54.4 %* | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *51.4 %* | *21-113* |
| 118-79-6 | *Surrogate: SURR: 2,4,6-Tribromophenol* | *62.6 %* | *19-110* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *57.4 %* | *24-116* |

### Pesticides, 8081 List

**Log-in Notes:** **Sample Notes:**

## Sample Information

**Client Sample ID:** **TP-14 2** **York Sample ID:** **25G1696-23**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 72-54-8 | 4,4'-DDD | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 72-55-9 | 4,4'-DDE | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 50-29-3 | 4,4'-DDT | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 309-00-2 | Aldrin | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 319-84-6 | alpha-BHC | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 5103-71-9 | alpha-Chlordane | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005 | | |
| 319-85-7 | beta-BHC | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 319-86-8 | delta-BHC | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 60-57-1 | Dieldrin | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 959-98-8 | Endosulfan I | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 33213-65-9 | Endosulfan II | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854 | | |
| 1031-07-8 | Endosulfan sulfate | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 72-20-8 | Endrin | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7421-93-4 | Endrin aldehyde | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 53494-70-5 | Endrin ketone | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 58-89-9 | gamma-BHC (Lindane) | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 5566-34-7 | gamma-Chlordane | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005 | | |
| 76-44-8 | Heptachlor | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 1024-57-3 | Heptachlor epoxide | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 72-43-5 | Methoxychlor | ND | | mg/kg dry | 0.00178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 8001-35-2 | Toxaphene | ND | | mg/kg dry | 0.178 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 57-74-9 | * Chlordane, total | ND | | mg/kg dry | 0.0357 | 5 | EPA 8081B | 07/31/2025 08:56 | 07/31/2025 21:00 | RJ |
| | | | | | | | Certifications: | | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 2051-24-3 | *Surrogate: Decachlorobiphenyl* | *42.3 %* | *30-150* |
| 877-09-8 | *Surrogate: Tetrachloro-m-xylene* | *58.6 %* | *30-150* |

## Sample Information

**Client Sample ID:** TP-14 2 **York Sample ID:** 25G1696-23

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Polychlorinated Biphenyls (PCB), 8082 List

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | ND | | mg/kg dry | 0.0180 | 1 | EPA 8082A | 07/31/2025 08:44 | 08/01/2025 03:32 | NF |
| | | | | | | | Certifications: | NELAC-NY10854,CTDOH-PH-0723,NJDEP-CT005,PADEP-68-044 | | |
| 11104-28-2 | Aroclor 1221 | ND | | mg/kg dry | 0.0180 | 1 | EPA 8082A | 07/31/2025 08:44 | 08/01/2025 03:32 | NF |
| | | | | | | | Certifications: | NELAC-NY10854,CTDOH-PH-0723,NJDEP-CT005,PADEP-68-044 | | |
| 11141-16-5 | Aroclor 1232 | ND | | mg/kg dry | 0.0180 | 1 | EPA 8082A | 07/31/2025 08:44 | 08/01/2025 03:32 | NF |
| | | | | | | | Certifications: | NELAC-NY10854,CTDOH-PH-0723,NJDEP-CT005,PADEP-68-044 | | |
| 53469-21-9 | Aroclor 1242 | ND | | mg/kg dry | 0.0180 | 1 | EPA 8082A | 07/31/2025 08:44 | 08/01/2025 03:32 | NF |
| | | | | | | | Certifications: | NELAC-NY10854,CTDOH-PH-0723,NJDEP-CT005,PADEP-68-044 | | |
| 12672-29-6 | Aroclor 1248 | ND | | mg/kg dry | 0.0180 | 1 | EPA 8082A | 07/31/2025 08:44 | 08/01/2025 03:32 | NF |
| | | | | | | | Certifications: | NELAC-NY10854,CTDOH-PH-0723,NJDEP-CT005,PADEP-68-044 | | |
| 11097-69-1 | Aroclor 1254 | ND | | mg/kg dry | 0.0180 | 1 | EPA 8082A | 07/31/2025 08:44 | 08/01/2025 03:32 | NF |
| | | | | | | | Certifications: | NELAC-NY10854,CTDOH-PH-0723,NJDEP-CT005,PADEP-68-044 | | |
| 11096-82-5 | Aroclor 1260 | ND | | mg/kg dry | 0.0180 | 1 | EPA 8082A | 07/31/2025 08:44 | 08/01/2025 03:32 | NF |
| | | | | | | | Certifications: | NELAC-NY10854,CTDOH-PH-0723,NJDEP-CT005,PADEP-68-044 | | |
| 1336-36-3 | * Total PCBs | ND | | mg/kg dry | 0.0180 | 1 | EPA 8082A | 07/31/2025 08:44 | 08/01/2025 03:32 | NF |
| | | | | | | | Certifications: | | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 877-09-8 | *Surrogate: Tetrachloro-m-xylene* | *59.0 %* | *30-120* |
| 2051-24-3 | *Surrogate: Decachlorobiphenyl* | *43.5 %* | *30-120* |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **6020** | | mg/kg dry | 4.53 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.27 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **19.0** | | mg/kg dry | 1.36 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **172** | | mg/kg dry | 2.26 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.988** | | mg/kg dry | 0.046 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | **Cadmium** | **0.535** | | mg/kg dry | 0.272 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-70-2 | **Calcium** | **26600** | | mg/kg dry | 4.53 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **15.9** | | mg/kg dry | 0.454 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **5.58** | | mg/kg dry | 0.362 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-14 2 **York Sample ID:** 25G1696-23

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-50-8 | **Copper** | **41.4** | | mg/kg dry | 1.81 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **18200** | | mg/kg dry | 22.7 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **108** | | mg/kg dry | 0.454 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **3740** | | mg/kg dry | 4.54 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **334** | | mg/kg dry | 0.454 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **13.6** | | mg/kg dry | 0.903 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **747** | | mg/kg dry | 4.54 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.27 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.457 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **217** | | mg/kg dry | 45.3 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.82 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **18.1** | | mg/kg dry | 0.903 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **72.9** | | mg/kg dry | 2.26 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:57 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.126** | | mg/kg dry | 0.0326 | 1 | EPA 7473 | 07/29/2025 13:22 | 07/30/2025 09:54 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **91.9** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:55 | 07/30/2025 11:23 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** TP-14 4 **York Sample ID:** 25G1696-24

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

**Metals, Target Analyte** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **7690** | | mg/kg dry | 4.29 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | Antimony | ND | | mg/kg dry | 2.15 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-38-2 | **Arsenic** | **7.40** | | mg/kg dry | 1.29 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **32.5** | | mg/kg dry | 2.14 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.315** | | mg/kg dry | 0.043 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | Cadmium | ND | | mg/kg dry | 0.258 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-70-2 | **Calcium** | **73100** | | mg/kg dry | 4.29 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **9.87** | | mg/kg dry | 0.430 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **5.44** | | mg/kg dry | 0.343 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **30.5** | | mg/kg dry | 1.72 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **16300** | | mg/kg dry | 21.5 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **23.7** | | mg/kg dry | 0.430 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **12700** | | mg/kg dry | 4.30 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **499** | | mg/kg dry | 0.430 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **13.1** | | mg/kg dry | 0.855 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1700** | | mg/kg dry | 4.30 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.15 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.433 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **88.9** | | mg/kg dry | 42.9 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.72 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **14.5** | | mg/kg dry | 0.855 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-14 4 **York Sample ID:** 25G1696-24

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-66-6 | **Zinc** | **47.5** | | mg/kg dry | 2.14 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 10:59 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.0410** | | mg/kg dry | 0.0309 | 1 | EPA 7473 | 07/29/2025 13:22 | 07/30/2025 09:54 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **97.1** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:55 | 07/30/2025 11:23 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** TP-15 2 **York Sample ID:** 25G1696-25

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **8580** | | mg/kg dry | 5.08 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | **Antimony** | **27.4** | | mg/kg dry | 2.54 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-38-2 | **Arsenic** | **8.40** | | mg/kg dry | 1.52 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **189** | | mg/kg dry | 2.54 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.271** | | mg/kg dry | 0.051 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | **Cadmium** | **1.36** | | mg/kg dry | 0.305 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-15 2 **York Sample ID:** 25G1696-25

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-70-2 | **Calcium** | **58100** | | mg/kg dry | 5.08 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **35.4** | | mg/kg dry | 0.508 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **6.53** | | mg/kg dry | 0.406 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **127** | | mg/kg dry | 2.03 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **45600** | | mg/kg dry | 25.4 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **116** | | mg/kg dry | 0.508 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **6160** | | mg/kg dry | 5.08 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **444** | | mg/kg dry | 0.508 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **26.5** | | mg/kg dry | 1.01 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1300** | | mg/kg dry | 5.08 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.54 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | **Silver** | **0.833** | | mg/kg dry | 0.512 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-23-5 | **Sodium** | **716** | | mg/kg dry | 50.8 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 2.04 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **19.2** | | mg/kg dry | 1.01 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **372** | | mg/kg dry | 2.53 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:00 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.412** | | mg/kg dry | 0.0366 | 1 | EPA 7473 | 07/29/2025 13:22 | 07/30/2025 09:54 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

## Sample Information

**Client Sample ID:** TP-15 2 **York Sample ID:** 25G1696-25

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **82.1** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:55 | 07/30/2025 11:23 | BF |
| | | | | | | | Certifications: CTDOH-PH-0723 | | | |

## Sample Information

**Client Sample ID:** TP-15 4 **York Sample ID:** 25G1696-26

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

**Semi-Volatiles, 8270 Comprehensive** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 92-52-4 | 1,1-Biphenyl | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | | mg/kg dry | 0.0889 | 0.178 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: NELAC-NY10854,PADEP-68-04440 | | | |
| 122-66-7 | 1,2-Diphenylhydrazine (as Azobenzene) | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: NELAC-NY10854,PADEP-68-04440 | | | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: NELAC-NY10854,PADEP-68-04440 | | | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | | mg/kg dry | 0.0889 | 0.178 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 120-83-2 | 2,4-Dichlorophenol | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 105-67-9 | 2,4-Dimethylphenol | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 51-28-5 | 2,4-Dinitrophenol | ND | CAL-E | mg/kg dry | 0.0889 | 0.178 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | | |

## Sample Information

**Client Sample ID:** TP-15 4 **York Sample ID:** 25G1696-26

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 91-58-7 | 2-Chloronaphthalene | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 95-57-8 | 2-Chlorophenol | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 91-57-6 | **2-Methylnaphthalene** | **0.464** | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 95-48-7 | 2-Methylphenol | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 88-74-4 | 2-Nitroaniline | ND | | mg/kg dry | 0.0889 | 0.178 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 88-75-5 | 2-Nitrophenol | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 65794-96-9 | 3- & 4-Methylphenols | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 91-94-1 | 3,3-Dichlorobenzidine | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 |
| 99-09-2 | 3-Nitroaniline | ND | | mg/kg dry | 0.0889 | 0.178 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | CAL-E | mg/kg dry | 0.0889 | 0.178 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 106-47-8 | 4-Chloroaniline | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 100-01-6 | 4-Nitroaniline | ND | | mg/kg dry | 0.0889 | 0.178 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 100-02-7 | 4-Nitrophenol | ND | | mg/kg dry | 0.0889 | 0.178 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 83-32-9 | Acenaphthene | ND | | mg/kg dry | 11.1 | 22.2 | 500 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/05/2025 12:30 | SR<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 208-96-8 | **Acenaphthylene** | **0.972** | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 |
| 98-86-2 | Acetophenone | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 |
| 62-53-3 | Aniline | ND | | mg/kg dry | 0.178 | 0.356 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 |
| 120-12-7 | Anthracene | ND | | mg/kg dry | 11.1 | 22.2 | 500 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/05/2025 12:30 | SR<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 |
| 1912-24-9 | Atrazine | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 |
| 100-52-7 | Benzaldehyde | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43 | 08/01/2025 15:41 | AK<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 |

## Sample Information

**Client Sample ID:** TP-15 4 **York Sample ID:** 25G1696-26

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 92-87-5 | Benzidine | ND | CCVE | mg/kg dry | 0.178 | 0.356 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,PADEP-68-04440 | 08/01/2025 15:41 | AK |
| 56-55-3 | **Benzo(a)anthracene** | **12.4** | J | mg/kg dry | 11.1 | 22.2 | 500 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | 08/05/2025 12:30 | SR |
| 50-32-8 | Benzo(a)pyrene | ND | | mg/kg dry | 11.1 | 22.2 | 500 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 08/05/2025 12:30 | SR |
| 205-99-2 | **Benzo(b)fluoranthene** | **11.9** | J | mg/kg dry | 11.1 | 22.2 | 500 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | 08/05/2025 12:30 | SR |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | mg/kg dry | 11.1 | 22.2 | 500 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 08/05/2025 12:30 | SR |
| 207-08-9 | Benzo(k)fluoranthene | ND | | mg/kg dry | 11.1 | 22.2 | 500 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 08/05/2025 12:30 | SR |
| 65-85-0 | Benzoic acid | ND | CCVE | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | 08/01/2025 15:41 | AK |
| 100-51-6 | Benzyl alcohol | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | 08/01/2025 15:41 | AK |
| 85-68-7 | Benzyl butyl phthalate | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 08/01/2025 15:41 | AK |
| 111-91-1 | Bis(2-chloroethoxy)methane | ND | CCVE | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 08/01/2025 15:41 | AK |
| 111-44-4 | Bis(2-chloroethyl)ether | ND | CCVE | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 08/01/2025 15:41 | AK |
| 108-60-1 | Bis(2-chloroisopropyl)ether | ND | CCVE | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 08/01/2025 15:41 | AK |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 08/01/2025 15:41 | AK |
| 105-60-2 | Caprolactam | ND | | mg/kg dry | 0.0889 | 0.178 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | 08/01/2025 15:41 | AK |
| 86-74-8 | Carbazole | ND | | mg/kg dry | 11.1 | 22.2 | 500 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 08/05/2025 12:30 | SR |
| 218-01-9 | Chrysene | ND | | mg/kg dry | 11.1 | 22.2 | 500 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 08/05/2025 12:30 | SR |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | mg/kg dry | 11.1 | 22.2 | 500 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 08/05/2025 12:30 | SR |
| 132-64-9 | **Dibenzofuran** | **1.70** | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | 08/01/2025 15:41 | AK |
| 84-66-2 | Diethyl phthalate | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 08/01/2025 15:41 | AK |
| 131-11-3 | Dimethyl phthalate | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 08/01/2025 15:41 | AK |
| 84-74-2 | Di-n-butyl phthalate | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 08/01/2025 15:41 | AK |
| 117-84-0 | Di-n-octyl phthalate | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | 08/01/2025 15:41 | AK |
| 206-44-0 | **Fluoranthene** | **25.1** | | mg/kg dry | 11.1 | 22.2 | 500 | EPA 8270E<br>Certifications: | 07/31/2025 09:43<br>CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | 08/05/2025 12:30 | SR |

## Sample Information

**Client Sample ID:** TP-15 4 **York Sample ID:** 25G1696-26

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Semi-Volatiles, 8270 Comprehensive

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 86-73-7 | Fluorene | ND | | mg/kg dry | 11.1 | 22.2 | 500 | EPA 8270E | 07/31/2025 09:43 | 08/05/2025 12:30 | SR |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005,PADEP-68-04440 | | |
| 118-74-1 | Hexachlorobenzene | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 87-68-3 | Hexachlorobutadiene | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | CCVE, QL-02 | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 67-72-1 | Hexachloroethane | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | mg/kg dry | 11.1 | 22.2 | 500 | EPA 8270E | 07/31/2025 09:43 | 08/05/2025 12:30 | SR |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 78-59-1 | Isophorone | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 91-20-3 | **Naphthalene** | **0.740** | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 98-95-3 | Nitrobenzene | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 62-75-9 | N-Nitrosodimethylamine | ND | CCVE | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 621-64-7 | N-nitroso-di-n-propylamine | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 87-86-5 | Pentachlorophenol | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 85-01-8 | **Phenanthrene** | **17.4** | J | mg/kg dry | 11.1 | 22.2 | 500 | EPA 8270E | 07/31/2025 09:43 | 08/05/2025 12:30 | SR |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 108-95-2 | Phenol | ND | | mg/kg dry | 0.0446 | 0.0889 | 2 | EPA 8270E | 07/31/2025 09:43 | 08/01/2025 15:41 | AK |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 129-00-0 | **Pyrene** | **22.6** | | mg/kg dry | 11.1 | 22.2 | 500 | EPA 8270E | 07/31/2025 09:43 | 08/05/2025 12:30 | SR |
| | | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 367-12-4 | *Surrogate: SURR: 2-Fluorophenol* | *52.6 %* | *20-108* |
| 13127-88-3 | *Surrogate: SURR: Phenol-d6* | *43.2 %* | *23-114* |
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *57.7 %* | *22-108* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *56.0 %* | *21-113* |
| 118-79-6 | *Surrogate: SURR: 2,4,6-Tribromophenol* | *68.2 %* | *19-110* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *60.4 %* | *24-116* |

### Pesticides, 8081 List

**Log-in Notes:** **Sample Notes:**

# Sample Information

**Client Sample ID:** TP-15 4 **York Sample ID:** 25G1696-26

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

Sample Prepared by Method: EPA 3550C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 72-54-8 | **4,4'-DDD** | **0.00282** | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 72-55-9 | 4,4'-DDE | ND | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 50-29-3 | 4,4'-DDT | ND | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 309-00-2 | Aldrin | ND | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 319-84-6 | alpha-BHC | ND | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 5103-71-9 | alpha-Chlordane | ND | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005 | | |
| 319-85-7 | beta-BHC | ND | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 319-86-8 | delta-BHC | ND | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 60-57-1 | Dieldrin | ND | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 959-98-8 | Endosulfan I | ND | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 33213-65-9 | Endosulfan II | ND | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854 | | |
| 1031-07-8 | Endosulfan sulfate | ND | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 72-20-8 | Endrin | ND | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7421-93-4 | Endrin aldehyde | ND | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 53494-70-5 | Endrin ketone | ND | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 58-89-9 | gamma-BHC (Lindane) | ND | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 5566-34-7 | gamma-Chlordane | ND | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | NELAC-NY10854,NJDEP-CT005 | | |
| 76-44-8 | Heptachlor | ND | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 1024-57-3 | Heptachlor epoxide | ND | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 72-43-5 | Methoxychlor | ND | | mg/kg dry | 0.00175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 8001-35-2 | Toxaphene | ND | | mg/kg dry | 0.175 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 57-74-9 | * Chlordane, total | ND | | mg/kg dry | 0.0351 | 5 | EPA 8081B | 08/01/2025 08:54 | 08/01/2025 17:02 | RJ |
| | | | | | | | Certifications: | | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 2051-24-3 | *Surrogate: Decachlorobiphenyl* | *37.7 %* | *30-150* |
| 877-09-8 | *Surrogate: Tetrachloro-m-xylene* | *34.9 %* | *30-150* |

## Sample Information

**Client Sample ID:** TP-15 4 **York Sample ID:** 25G1696-26

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

**Metals, Target Analyte**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **9220** | | mg/kg dry | 4.46 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | **Antimony** | **4.54** | | mg/kg dry | 2.23 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-38-2 | **Arsenic** | **8.31** | | mg/kg dry | 1.34 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **397** | | mg/kg dry | 2.23 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.330** | | mg/kg dry | 0.045 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | **Cadmium** | **0.606** | | mg/kg dry | 0.267 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-70-2 | **Calcium** | **68500** | | mg/kg dry | 4.46 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **14.6** | | mg/kg dry | 0.446 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **6.40** | | mg/kg dry | 0.356 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **42.4** | | mg/kg dry | 1.78 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **16700** | | mg/kg dry | 22.3 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **132** | | mg/kg dry | 0.446 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **6720** | | mg/kg dry | 4.46 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **382** | | mg/kg dry | 0.446 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **19.2** | | mg/kg dry | 0.888 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1600** | | mg/kg dry | 4.46 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.23 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.449 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **265** | | mg/kg dry | 44.6 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.79 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **29.3** | | mg/kg dry | 0.888 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-15 4 **York Sample ID:** 25G1696-26

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-66-6 | **Zinc** | **255** | | mg/kg dry | 2.22 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:05 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.148** | | mg/kg dry | 0.0321 | 1 | EPA 7473 | 07/29/2025 13:22 | 07/30/2025 09:54 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **93.5** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:55 | 07/30/2025 11:23 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

## Sample Information

**Client Sample ID:** TP-15 8 **York Sample ID:** 25G1696-27

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **12900** | | mg/kg dry | 4.61 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-36-0 | **Antimony** | **6.99** | | mg/kg dry | 2.30 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-38-2 | **Arsenic** | **11.6** | | mg/kg dry | 1.38 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-39-3 | **Barium** | **350** | | mg/kg dry | 2.30 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-41-7 | **Beryllium** | **0.464** | | mg/kg dry | 0.046 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-43-9 | **Cadmium** | **0.866** | | mg/kg dry | 0.277 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

## Sample Information

**Client Sample ID:** TP-15 8 **York Sample ID:** 25G1696-27

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-70-2 | **Calcium** | **54900** | | mg/kg dry | 4.61 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-47-3 | **Chromium** | **22.5** | | mg/kg dry | 0.461 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-48-4 | **Cobalt** | **9.19** | | mg/kg dry | 0.368 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-50-8 | **Copper** | **85.9** | | mg/kg dry | 1.84 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-89-6 | **Iron** | **26500** | | mg/kg dry | 23.0 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-92-1 | **Lead** | **133** | | mg/kg dry | 0.461 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-95-4 | **Magnesium** | **8010** | | mg/kg dry | 4.61 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7439-96-5 | **Manganese** | **529** | | mg/kg dry | 0.461 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-02-0 | **Nickel** | **29.3** | | mg/kg dry | 0.918 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1810** | | mg/kg dry | 4.61 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.30 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.465 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **347** | | mg/kg dry | 46.1 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.85 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **29.9** | | mg/kg dry | 0.918 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **431** | | mg/kg dry | 2.30 | 1 | EPA 6010D | 07/30/2025 08:13 | 07/31/2025 11:06 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.119** | | mg/kg dry | 0.0332 | 1 | EPA 7473 | 07/29/2025 13:22 | 07/30/2025 09:54 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

## Sample Information

**Client Sample ID:** TP-15 8 **York Sample ID:** 25G1696-27

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **90.4** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:55 | 07/30/2025 11:23 | BF |
| | | | | | | | Certifications: CTDOH-PH-0723 | | | |

## Sample Information

**Client Sample ID:** TP-15 12 **York Sample ID:** 25G1696-28

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

**Metals, Target Analyte** **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | **Aluminum** | **12400** | | mg/kg dry | 4.50 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-36-0 | **Antimony** | **3.50** | | mg/kg dry | 2.25 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-38-2 | **Arsenic** | **12.3** | | mg/kg dry | 1.35 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-39-3 | **Barium** | **477** | | mg/kg dry | 2.25 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-41-7 | **Beryllium** | **0.480** | | mg/kg dry | 0.045 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-43-9 | **Cadmium** | **0.837** | | mg/kg dry | 0.270 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-70-2 | **Calcium** | **61000** | | mg/kg dry | 4.50 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-47-3 | **Chromium** | **20.2** | | mg/kg dry | 0.450 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-48-4 | **Cobalt** | **8.82** | | mg/kg dry | 0.360 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7440-50-8 | **Copper** | **66.2** | | mg/kg dry | 1.80 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7439-89-6 | **Iron** | **23300** | | mg/kg dry | 22.5 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7439-92-1 | **Lead** | **154** | | mg/kg dry | 0.450 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7439-95-4 | **Magnesium** | **7800** | | mg/kg dry | 4.50 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |
| 7439-96-5 | **Manganese** | **475** | | mg/kg dry | 0.450 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | | |

## Sample Information

**Client Sample ID:** TP-15 12 **York Sample ID:** 25G1696-28

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 25G1696 | 23003-0060 | Soil | July 23, 2025 3:00 pm | 07/25/2025 |

### Metals, Target Analyte

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3050B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7440-02-0 | **Nickel** | **27.3** | | mg/kg dry | 0.896 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-09-7 | **Potassium** | **1710** | | mg/kg dry | 4.50 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7782-49-2 | Selenium | ND | | mg/kg dry | 2.25 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-22-4 | Silver | ND | | mg/kg dry | 0.454 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-23-5 | **Sodium** | **590** | | mg/kg dry | 45.0 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-28-0 | Thallium | ND | | mg/kg dry | 1.80 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-044 | | |
| 7440-62-2 | **Vanadium** | **27.9** | | mg/kg dry | 0.896 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |
| 7440-66-6 | **Zinc** | **380** | | mg/kg dry | 2.24 | 1 | EPA 6010D | 07/30/2025 14:40 | 07/31/2025 11:17 | AGNR |
| | | | | | | | Certifications: | CTDOH-PH-0723,NELAC-NY10854,NJDEP-CT005,PADEP-68-04 | | |

### Mercury by 7473

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-97-6 | **Mercury** | **0.0893** | | mg/kg dry | 0.0324 | 1 | EPA 7473 | 07/29/2025 13:22 | 07/30/2025 09:54 | DBT |
| | | | | | | | Certifications: | CTDOH-PH-0723,NJDEP-CT005,NELAC-NY10854,PADEP-68-04 | | |

### Total Solids

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: % Solids Prep

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| solids | *** % Solids** | **92.6** | | % | 0.100 | 1 | SM 2540G | 07/30/2025 08:55 | 07/30/2025 11:23 | BF |
| | | | | | | | Certifications: | CTDOH-PH-0723 | | |

# Analytical Batch Summary

**Batch ID:** BG52013 **Preparation Method:** EPA 7473 soil **Prepared By:** JWT

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 25G1696-01 | TP-03 3 | 07/29/25 |
| BG52013-BLK1 | Blank | 07/29/25 |
| BG52013-SRM1 | Reference | 07/29/25 |

**Batch ID:** BG52037 **Preparation Method:** EPA 7473 soil **Prepared By:** JWT

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 25G1696-02 | TP-04 2 | 07/29/25 |
| 25G1696-03 | TP-04 4 | 07/29/25 |
| 25G1696-04 | TP-04 6 | 07/29/25 |
| 25G1696-05 | TP-04 8 | 07/29/25 |
| 25G1696-06 | TP-05 4 | 07/29/25 |
| 25G1696-07 | TP-06 4 | 07/29/25 |
| 25G1696-08 | TP-06 6 | 07/29/25 |
| 25G1696-09 | TP-06 12 | 07/29/25 |
| 25G1696-10 | TP-07 2 | 07/29/25 |
| 25G1696-11 | TP-07 4 | 07/29/25 |
| 25G1696-12 | TP-08 2 | 07/29/25 |
| 25G1696-13 | TP-08 10 | 07/29/25 |
| 25G1696-14 | TP-09 13 | 07/29/25 |
| 25G1696-15 | TP-10 2 | 07/29/25 |
| 25G1696-16 | TP-10 10 | 07/29/25 |
| 25G1696-17 | TP-11 2 | 07/29/25 |
| 25G1696-18 | TP-11 4 | 07/29/25 |
| BG52037-BLK1 | Blank | 07/29/25 |
| BG52037-DUP1 | Duplicate | 07/29/25 |
| BG52037-MS1 | Matrix Spike | 07/29/25 |
| BG52037-SRM1 | Reference | 07/29/25 |

**Batch ID:** BG52046 **Preparation Method:** EPA 7473 soil **Prepared By:** JWT

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 25G1696-19 | TP-12 4 | 07/29/25 |
| 25G1696-20 | TP-13 6 | 07/29/25 |
| 25G1696-21 | TP-13 8 | 07/29/25 |
| 25G1696-22 | TP-13 13 | 07/29/25 |
| 25G1696-23 | TP-14 2 | 07/29/25 |
| 25G1696-24 | TP-14 4 | 07/29/25 |
| 25G1696-25 | TP-15 2 | 07/29/25 |
| 25G1696-26 | TP-15 4 | 07/29/25 |
| 25G1696-27 | TP-15 8 | 07/29/25 |
| 25G1696-28 | TP-15 12 | 07/29/25 |
| BG52046-BLK1 | Blank | 07/29/25 |
| BG52046-SRM1 | Reference | 07/29/25 |

**Batch ID:** BG52099 **Preparation Method:** EPA 3050B **Prepared By:** DHD

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 25G1696-01 | TP-03 3 | 07/29/25 |
| 25G1696-02 | TP-04 2 | 07/29/25 |
| 25G1696-03 | TP-04 4 | 07/29/25 |
| 25G1696-04 | TP-04 6 | 07/29/25 |
| 25G1696-05 | TP-04 8 | 07/29/25 |
| 25G1696-06 | TP-05 4 | 07/29/25 |
| 25G1696-07 | TP-06 4 | 07/29/25 |
| 25G1696-08 | TP-06 6 | 07/29/25 |
| BG52099-BLK1 | Blank | 07/29/25 |
| BG52099-DUP1 | Duplicate | 07/29/25 |
| BG52099-PS1 | Post Spike | 07/29/25 |
| BG52099-SRM1 | Reference | 07/29/25 |

**Batch ID:** BG52119 **Preparation Method:** EPA 3050B **Prepared By:** JWT

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 25G1696-09 | TP-06 12 | 07/30/25 |
| 25G1696-10 | TP-07 2 | 07/30/25 |
| 25G1696-11 | TP-07 4 | 07/30/25 |
| 25G1696-12 | TP-08 2 | 07/30/25 |
| 25G1696-13 | TP-08 10 | 07/30/25 |
| 25G1696-14 | TP-09 13 | 07/30/25 |
| 25G1696-15 | TP-10 2 | 07/30/25 |
| 25G1696-16 | TP-10 10 | 07/30/25 |
| 25G1696-17 | TP-11 2 | 07/30/25 |
| 25G1696-17RE1 | TP-11 2 | 07/30/25 |
| 25G1696-18 | TP-11 4 | 07/30/25 |
| 25G1696-19 | TP-12 4 | 07/30/25 |
| 25G1696-20 | TP-13 6 | 07/30/25 |
| 25G1696-21 | TP-13 8 | 07/30/25 |
| 25G1696-22 | TP-13 13 | 07/30/25 |
| 25G1696-23 | TP-14 2 | 07/30/25 |
| 25G1696-24 | TP-14 4 | 07/30/25 |
| 25G1696-25 | TP-15 2 | 07/30/25 |
| 25G1696-26 | TP-15 4 | 07/30/25 |
| 25G1696-27 | TP-15 8 | 07/30/25 |
| BG52119-BLK1 | Blank | 07/30/25 |
| BG52119-DUP1 | Duplicate | 07/30/25 |
| BG52119-MS1 | Matrix Spike | 07/30/25 |
| BG52119-PS1 | Post Spike | 07/30/25 |
| BG52119-SRM1 | Reference | 07/30/25 |

**Batch ID:** BG52138 **Preparation Method:** % Solids Prep **Prepared By:** BNF

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 25G1696-01 | TP-03 3 | 07/30/25 |

| | | |
|---|---|---|
| 25G1696-02 | TP-04 2 | 07/30/25 |

**Batch ID:** BG52140 **Preparation Method:** % Solids Prep **Prepared By:** BNF

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 25G1696-03 | TP-04 4 | 07/30/25 |
| 25G1696-04 | TP-04 6 | 07/30/25 |
| 25G1696-05 | TP-04 8 | 07/30/25 |
| 25G1696-06 | TP-05 4 | 07/30/25 |
| 25G1696-07 | TP-06 4 | 07/30/25 |
| 25G1696-08 | TP-06 6 | 07/30/25 |
| 25G1696-09 | TP-06 12 | 07/30/25 |
| 25G1696-10 | TP-07 2 | 07/30/25 |
| 25G1696-11 | TP-07 4 | 07/30/25 |
| 25G1696-12 | TP-08 2 | 07/30/25 |
| 25G1696-13 | TP-08 10 | 07/30/25 |
| 25G1696-14 | TP-09 13 | 07/30/25 |
| 25G1696-15 | TP-10 2 | 07/30/25 |
| 25G1696-16 | TP-10 10 | 07/30/25 |
| 25G1696-17 | TP-11 2 | 07/30/25 |
| 25G1696-18 | TP-11 4 | 07/30/25 |
| 25G1696-19 | TP-12 4 | 07/30/25 |
| 25G1696-20 | TP-13 6 | 07/30/25 |
| 25G1696-21 | TP-13 8 | 07/30/25 |
| BG52140-DUP1 | Duplicate | 07/30/25 |

**Batch ID:** BG52142 **Preparation Method:** % Solids Prep **Prepared By:** BNF

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 25G1696-22 | TP-13 13 | 07/30/25 |
| 25G1696-23 | TP-14 2 | 07/30/25 |
| 25G1696-24 | TP-14 4 | 07/30/25 |
| 25G1696-25 | TP-15 2 | 07/30/25 |
| 25G1696-26 | TP-15 4 | 07/30/25 |
| 25G1696-27 | TP-15 8 | 07/30/25 |
| 25G1696-28 | TP-15 12 | 07/30/25 |
| BG52142-DUP1 | Duplicate | 07/30/25 |

**Batch ID:** BG52193 **Preparation Method:** EPA 3050B **Prepared By:** KMQ

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 25G1696-28 | TP-15 12 | 07/30/25 |
| BG52193-BLK1 | Blank | 07/30/25 |
| BG52193-SRM1 | Reference | 07/30/25 |

**Batch ID:** BG52259 **Preparation Method:** EPA 3550C **Prepared By:** AJF

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 25G1696-23 | TP-14 2 | 07/31/25 |

| | | |
|---|---|---|
| BG52259-BLK2 | Blank | 07/31/25 |
| BG52259-BS2 | LCS | 07/31/25 |

**Batch ID:** BG52260 **Preparation Method:** EPA 3550C **Prepared By:** JM

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 25G1696-01 | TP-03 3 | 07/31/25 |
| 25G1696-03 | TP-04 4 | 07/31/25 |
| 25G1696-03RE1 | TP-04 4 | 07/31/25 |
| 25G1696-08 | TP-06 6 | 07/31/25 |
| 25G1696-12 | TP-08 2 | 07/31/25 |
| 25G1696-17 | TP-11 2 | 07/31/25 |
| 25G1696-22 | TP-13 13 | 07/31/25 |
| BG52260-BLK1 | Blank | 07/31/25 |
| BG52260-BS1 | LCS | 07/31/25 |

**Batch ID:** BG52266 **Preparation Method:** EPA 3550C **Prepared By:** AJF

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 25G1696-23 | TP-14 2 | 07/31/25 |
| BG52266-BLK1 | Blank | 07/31/25 |
| BG52266-BS1 | LCS | 07/31/25 |

**Batch ID:** BG52282 **Preparation Method:** EPA 3550C **Prepared By:** FA

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 25G1696-23 | TP-14 2 | 07/31/25 |
| 25G1696-23RE1 | TP-14 2 | 07/31/25 |
| 25G1696-26 | TP-15 4 | 07/31/25 |
| 25G1696-26RE1 | TP-15 4 | 07/31/25 |
| BG52282-BLK1 | Blank | 07/31/25 |
| BG52282-BS1 | LCS | 07/31/25 |
| BG52282-MS1 | Matrix Spike | 07/31/25 |
| BG52282-MSD1 | Matrix Spike Dup | 07/31/25 |

**Batch ID:** BH50023 **Preparation Method:** EPA 3550C **Prepared By:** JLM

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 25G1696-26 | TP-15 4 | 08/01/25 |
| BH50023-BLK1 | Blank | 08/01/25 |
| BH50023-BS1 | LCS | 08/01/25 |

## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52260 - EPA 3550C** | | | | | | | | | | | |
| **Blank (BG52260-BLK1)** | | | | | | | | | | | Prepared & Analyzed: 07/31/2025 |
| 1,1-Biphenyl | ND | 0.0416 | mg/kg wet | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ND | 0.0830 | " | | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 0.0416 | " | | | | | | | | |
| 1,2-Dichlorobenzene | ND | 0.0416 | " | | | | | | | | |
| 1,2-Diphenylhydrazine (as Azobenzene) | ND | 0.0416 | " | | | | | | | | |
| 1,3-Dichlorobenzene | ND | 0.0416 | " | | | | | | | | |
| 1,4-Dichlorobenzene | ND | 0.0416 | " | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ND | 0.0830 | " | | | | | | | | |
| 2,4,5-Trichlorophenol | ND | 0.0416 | " | | | | | | | | |
| 2,4,6-Trichlorophenol | ND | 0.0416 | " | | | | | | | | |
| 2,4-Dichlorophenol | ND | 0.0416 | " | | | | | | | | |
| 2,4-Dimethylphenol | ND | 0.0416 | " | | | | | | | | |
| 2,4-Dinitrophenol | ND | 0.0830 | " | | | | | | | | |
| 2,4-Dinitrotoluene | ND | 0.0416 | " | | | | | | | | |
| 2,6-Dinitrotoluene | ND | 0.0416 | " | | | | | | | | |
| 2-Chloronaphthalene | ND | 0.0416 | " | | | | | | | | |
| 2-Chlorophenol | ND | 0.0416 | " | | | | | | | | |
| 2-Methylnaphthalene | ND | 0.0416 | " | | | | | | | | |
| 2-Methylphenol | ND | 0.0416 | " | | | | | | | | |
| 2-Nitroaniline | ND | 0.0830 | " | | | | | | | | |
| 2-Nitrophenol | ND | 0.0416 | " | | | | | | | | |
| 3- & 4-Methylphenols | ND | 0.0416 | " | | | | | | | | |
| 3,3-Dichlorobenzidine | ND | 0.0416 | " | | | | | | | | |
| 3-Nitroaniline | ND | 0.0830 | " | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ND | 0.0830 | " | | | | | | | | |
| 4-Bromophenyl phenyl ether | ND | 0.0416 | " | | | | | | | | |
| 4-Chloro-3-methylphenol | ND | 0.0416 | " | | | | | | | | |
| 4-Chloroaniline | ND | 0.0416 | " | | | | | | | | |
| 4-Chlorophenyl phenyl ether | ND | 0.0416 | " | | | | | | | | |
| 4-Nitroaniline | ND | 0.0830 | " | | | | | | | | |
| 4-Nitrophenol | ND | 0.0830 | " | | | | | | | | |
| Acenaphthene | ND | 0.0416 | " | | | | | | | | |
| Acenaphthylene | ND | 0.0416 | " | | | | | | | | |
| Acetophenone | ND | 0.0416 | " | | | | | | | | |
| Aniline | ND | 0.166 | " | | | | | | | | |
| Anthracene | ND | 0.0416 | " | | | | | | | | |
| Atrazine | ND | 0.0416 | " | | | | | | | | |
| Benzaldehyde | ND | 0.0416 | " | | | | | | | | |
| Benzidine | ND | 0.166 | " | | | | | | | | |
| Benzo(a)anthracene | ND | 0.0416 | " | | | | | | | | |
| Benzo(a)pyrene | ND | 0.0416 | " | | | | | | | | |
| Benzo(b)fluoranthene | ND | 0.0416 | " | | | | | | | | |
| Benzo(g,h,i)perylene | ND | 0.0416 | " | | | | | | | | |
| Benzo(k)fluoranthene | ND | 0.0416 | " | | | | | | | | |
| Benzoic acid | ND | 0.0416 | " | | | | | | | | |
| Benzyl alcohol | ND | 0.0416 | " | | | | | | | | |
| Benzyl butyl phthalate | ND | 0.0416 | " | | | | | | | | |
| Bis(2-chloroethoxy)methane | ND | 0.0416 | " | | | | | | | | |
| Bis(2-chloroethyl)ether | ND | 0.0416 | " | | | | | | | | |
| Bis(2-chloroisopropyl)ether | ND | 0.0416 | " | | | | | | | | |

## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52260 - EPA 3550C** | | | | | | | | | | | |
| **Blank (BG52260-BLK1)** | | | | | | | | | | | |
| Prepared & Analyzed: 07/31/2025 | | | | | | | | | | | |
| Bis(2-ethylhexyl)phthalate | ND | 0.0416 | mg/kg wet | | | | | | | | |
| Caprolactam | ND | 0.0830 | " | | | | | | | | |
| Carbazole | ND | 0.0416 | " | | | | | | | | |
| Chrysene | ND | 0.0416 | " | | | | | | | | |
| Dibenzo(a,h)anthracene | ND | 0.0416 | " | | | | | | | | |
| Dibenzofuran | ND | 0.0416 | " | | | | | | | | |
| Diethyl phthalate | ND | 0.0416 | " | | | | | | | | |
| Dimethyl phthalate | ND | 0.0416 | " | | | | | | | | |
| Di-n-butyl phthalate | ND | 0.0416 | " | | | | | | | | |
| Di-n-octyl phthalate | ND | 0.0416 | " | | | | | | | | |
| Fluoranthene | ND | 0.0416 | " | | | | | | | | |
| Fluorene | ND | 0.0416 | " | | | | | | | | |
| Hexachlorobenzene | ND | 0.0416 | " | | | | | | | | |
| Hexachlorobutadiene | ND | 0.0416 | " | | | | | | | | |
| Hexachlorocyclopentadiene | ND | 0.0416 | " | | | | | | | | |
| Hexachloroethane | ND | 0.0416 | " | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ND | 0.0416 | " | | | | | | | | |
| Isophorone | ND | 0.0416 | " | | | | | | | | |
| Naphthalene | ND | 0.0416 | " | | | | | | | | |
| Nitrobenzene | ND | 0.0416 | " | | | | | | | | |
| N-Nitrosodimethylamine | ND | 0.0416 | " | | | | | | | | |
| N-nitroso-di-n-propylamine | ND | 0.0416 | " | | | | | | | | |
| N-Nitrosodiphenylamine | ND | 0.0416 | " | | | | | | | | |
| Pentachlorophenol | ND | 0.0416 | " | | | | | | | | |
| Phenanthrene | ND | 0.0416 | " | | | | | | | | |
| Phenol | ND | 0.0416 | " | | | | | | | | |
| Pyrene | ND | 0.0416 | " | | | | | | | | |
| *Surrogate: SURR: 2-Fluorophenol* | *1.31* | | " | *1.66* | | *79.0* | *20-108* | | | | |
| *Surrogate: SURR: Phenol-d6* | *1.11* | | " | *1.66* | | *67.0* | *23-114* | | | | |
| *Surrogate: SURR: Nitrobenzene-d5* | *0.538* | | " | *0.831* | | *64.7* | *22-108* | | | | |
| *Surrogate: SURR: 2-Fluorobiphenyl* | *0.621* | | " | *0.831* | | *74.8* | *21-113* | | | | |
| *Surrogate: SURR: 2,4,6-Tribromophenol* | *2.47* | | " | *1.66* | | *148* | *19-110* | | | | |
| *Surrogate: SURR: Terphenyl-d14* | *0.771* | | " | *0.831* | | *92.8* | *24-116* | | | | |

## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52260 - EPA 3550C** | | | | | | | | | | | |
| **LCS (BG52260-BS1)** | | | | | | | | Prepared & Analyzed: 07/31/2025 | | | |
| 1,1-Biphenyl | 0.401 | 0.0416 | mg/kg wet | 0.831 | | 48.2 | 18-111 | | | | |
| 1,2,4,5-Tetrachlorobenzene | 0.264 | 0.0830 | " | 0.831 | | 31.8 | 21-131 | | | | |
| 1,2,4-Trichlorobenzene | 0.497 | 0.0416 | " | 0.831 | | 59.8 | 10-140 | | | | |
| 1,2-Dichlorobenzene | 0.378 | 0.0416 | " | 0.831 | | 45.5 | 34-108 | | | | |
| 1,2-Diphenylhydrazine (as Azobenzene) | 0.236 | 0.0416 | " | 0.831 | | 28.4 | 17-137 | | | | |
| 1,3-Dichlorobenzene | 0.391 | 0.0416 | " | 0.831 | | 47.1 | 33-110 | | | | |
| 1,4-Dichlorobenzene | 0.390 | 0.0416 | " | 0.831 | | 47.0 | 32-104 | | | | |
| 2,3,4,6-Tetrachlorophenol | 0.341 | 0.0830 | " | 0.831 | | 41.1 | 30-130 | | | | |
| 2,4,5-Trichlorophenol | 0.442 | 0.0416 | " | 0.831 | | 53.2 | 27-118 | | | | |
| 2,4,6-Trichlorophenol | 0.446 | 0.0416 | " | 0.831 | | 53.7 | 31-120 | | | | |
| 2,4-Dichlorophenol | 0.449 | 0.0416 | " | 0.831 | | 54.0 | 20-127 | | | | |
| 2,4-Dimethylphenol | 0.388 | 0.0416 | " | 0.831 | | 46.7 | 14-132 | | | | |
| 2,4-Dinitrophenol | 1.40 | 0.0830 | " | 0.831 | | 169 | 10-171 | | | | |
| 2,4-Dinitrotoluene | 0.508 | 0.0416 | " | 0.831 | | 61.1 | 34-131 | | | | |
| 2,6-Dinitrotoluene | 0.480 | 0.0416 | " | 0.831 | | 57.8 | 31-128 | | | | |
| 2-Chloronaphthalene | 0.399 | 0.0416 | " | 0.831 | | 48.0 | 31-117 | | | | |
| 2-Chlorophenol | 0.365 | 0.0416 | " | 0.831 | | 44.0 | 33-113 | | | | |
| 2-Methylnaphthalene | 0.365 | 0.0416 | " | 0.831 | | 44.0 | 12-138 | | | | |
| 2-Methylphenol | 0.338 | 0.0416 | " | 0.831 | | 40.7 | 10-136 | | | | |
| 2-Nitroaniline | 0.383 | 0.0830 | " | 0.831 | | 46.1 | 27-132 | | | | |
| 2-Nitrophenol | 0.650 | 0.0416 | " | 0.831 | | 78.2 | 17-129 | | | | |
| 3- & 4-Methylphenols | 0.296 | 0.0416 | " | 0.831 | | 35.7 | 29-103 | | | | |
| 3,3-Dichlorobenzidine | 0.300 | 0.0416 | " | 0.831 | | 36.2 | 22-149 | | | | |
| 3-Nitroaniline | 0.284 | 0.0830 | " | 0.831 | | 34.2 | 20-133 | | | | |
| 4,6-Dinitro-2-methylphenol | 1.75 | 0.0830 | " | 0.831 | | 211 | 10-143 | High Bias | | | |
| 4-Bromophenyl phenyl ether | 0.490 | 0.0416 | " | 0.831 | | 59.0 | 29-120 | | | | |
| 4-Chloro-3-methylphenol | 0.379 | 0.0416 | " | 0.831 | | 45.6 | 24-129 | | | | |
| 4-Chloroaniline | 0.292 | 0.0416 | " | 0.831 | | 35.1 | 10-132 | | | | |
| 4-Chlorophenyl phenyl ether | 0.428 | 0.0416 | " | 0.831 | | 51.6 | 27-124 | | | | |
| 4-Nitroaniline | 0.318 | 0.0830 | " | 0.831 | | 38.3 | 16-128 | | | | |
| 4-Nitrophenol | 0.223 | 0.0830 | " | 0.831 | | 26.8 | 10-141 | | | | |
| Acenaphthene | 0.347 | 0.0416 | " | 0.831 | | 41.8 | 30-121 | | | | |
| Acenaphthylene | 0.364 | 0.0416 | " | 0.831 | | 43.8 | 30-115 | | | | |
| Acetophenone | 0.189 | 0.0416 | " | 0.831 | | 22.8 | 20-112 | | | | |
| Aniline | 0.291 | 0.166 | " | 0.831 | | 35.0 | 10-119 | | | | |
| Anthracene | 0.398 | 0.0416 | " | 0.831 | | 47.9 | 34-118 | | | | |
| Atrazine | 0.275 | 0.0416 | " | 0.831 | | 33.2 | 26-112 | | | | |
| Benzaldehyde | 0.165 | 0.0416 | " | 0.831 | | 19.9 | 21-100 | Low Bias | | | |
| Benzo(a)anthracene | 0.404 | 0.0416 | " | 0.831 | | 48.6 | 32-122 | | | | |
| Benzo(a)pyrene | 0.364 | 0.0416 | " | 0.831 | | 43.9 | 29-133 | | | | |
| Benzo(b)fluoranthene | 0.374 | 0.0416 | " | 0.831 | | 45.0 | 25-133 | | | | |
| Benzo(g,h,i)perylene | 0.556 | 0.0416 | " | 0.831 | | 67.0 | 10-143 | | | | |
| Benzo(k)fluoranthene | 0.377 | 0.0416 | " | 0.831 | | 45.4 | 25-128 | | | | |
| Benzoic acid | 0.323 | 0.0416 | " | 0.831 | | 38.9 | 10-140 | | | | |
| Benzyl alcohol | 0.320 | 0.0416 | " | 0.831 | | 38.5 | 30-115 | | | | |
| Benzyl butyl phthalate | 0.339 | 0.0416 | " | 0.831 | | 40.8 | 26-126 | | | | |
| Bis(2-chloroethoxy)methane | 0.345 | 0.0416 | " | 0.831 | | 41.5 | 19-132 | | | | |
| Bis(2-chloroethyl)ether | 0.312 | 0.0416 | " | 0.831 | | 37.5 | 19-125 | | | | |
| Bis(2-chloroisopropyl)ether | 0.350 | 0.0416 | " | 0.831 | | 42.1 | 20-135 | | | | |
| Bis(2-ethylhexyl)phthalate | 0.346 | 0.0416 | " | 0.831 | | 41.7 | 10-155 | | | | |
| Caprolactam | 0.195 | 0.0830 | " | 0.831 | | 23.5 | 10-127 | | | | |

## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52260 - EPA 3550C** | | | | | | | | | | | |
| **LCS (BG52260-BS1)** | | | | | | | Prepared & Analyzed: 07/31/2025 | | | | |
| Carbazole | 0.360 | 0.0416 | mg/kg wet | 0.831 | | 43.3 | 35-123 | | | | |
| Chrysene | 0.403 | 0.0416 | " | 0.831 | | 48.6 | 32-123 | | | | |
| Dibenzo(a,h)anthracene | 0.504 | 0.0416 | " | 0.831 | | 60.7 | 10-136 | | | | |
| Dibenzofuran | 0.366 | 0.0416 | " | 0.831 | | 44.1 | 29-121 | | | | |
| Diethyl phthalate | 0.341 | 0.0416 | " | 0.831 | | 41.1 | 34-116 | | | | |
| Dimethyl phthalate | 0.397 | 0.0416 | " | 0.831 | | 47.8 | 35-124 | | | | |
| Di-n-butyl phthalate | 0.355 | 0.0416 | " | 0.831 | | 42.8 | 31-116 | | | | |
| Di-n-octyl phthalate | 0.310 | 0.0416 | " | 0.831 | | 37.3 | 26-136 | | | | |
| Fluoranthene | 0.382 | 0.0416 | " | 0.831 | | 46.0 | 33-122 | | | | |
| Fluorene | 0.356 | 0.0416 | " | 0.831 | | 42.9 | 29-123 | | | | |
| Hexachlorobenzene | 0.326 | 0.0416 | " | 0.831 | | 39.3 | 21-124 | | | | |
| Hexachlorobutadiene | 0.564 | 0.0416 | " | 0.831 | | 67.9 | 10-149 | | | | |
| Hexachlorocyclopentadiene | 0.607 | 0.0416 | " | 0.831 | | 73.0 | 10-129 | | | | |
| Hexachloroethane | 0.549 | 0.0416 | " | 0.831 | | 66.0 | 28-108 | | | | |
| Indeno(1,2,3-cd)pyrene | 0.499 | 0.0416 | " | 0.831 | | 60.1 | 10-135 | | | | |
| Isophorone | 0.340 | 0.0416 | " | 0.831 | | 40.9 | 20-132 | | | | |
| Naphthalene | 0.393 | 0.0416 | " | 0.831 | | 47.3 | 23-124 | | | | |
| Nitrobenzene | 0.357 | 0.0416 | " | 0.831 | | 43.0 | 13-132 | | | | |
| N-Nitrosodimethylamine | 0.343 | 0.0416 | " | 0.831 | | 41.2 | 11-129 | | | | |
| N-nitroso-di-n-propylamine | 0.275 | 0.0416 | " | 0.831 | | 33.1 | 24-119 | | | | |
| N-Nitrosodiphenylamine | 0.353 | 0.0416 | " | 0.831 | | 42.5 | 22-152 | | | | |
| Pentachlorophenol | 0.242 | 0.0416 | " | 0.831 | | 29.1 | 10-139 | | | | |
| Phenanthrene | 0.402 | 0.0416 | " | 0.831 | | 48.4 | 33-123 | | | | |
| Phenol | 0.349 | 0.0416 | " | 0.831 | | 42.0 | 23-115 | | | | |
| Pyrene | 0.406 | 0.0416 | " | 0.831 | | 48.8 | 24-130 | | | | |
| *Surrogate: SURR: 2-Fluorophenol* | *0.809* | | " | *1.66* | | *48.7* | *20-108* | | | | |
| *Surrogate: SURR: Phenol-d6* | *0.696* | | " | *1.66* | | *41.9* | *23-114* | | | | |
| *Surrogate: SURR: Nitrobenzene-d5* | *0.358* | | " | *0.831* | | *43.1* | *22-108* | | | | |
| *Surrogate: SURR: 2-Fluorobiphenyl* | *0.402* | | " | *0.831* | | *48.4* | *21-113* | | | | |
| *Surrogate: SURR: 2,4,6-Tribromophenol* | *1.53* | | " | *1.66* | | *92.1* | *19-110* | | | | |
| *Surrogate: SURR: Terphenyl-d14* | *0.450* | | " | *0.831* | | *54.1* | *24-116* | | | | |

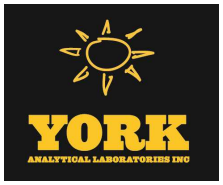
| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52282 - EPA 3550C** | | | | | | | | | | | |
| **Blank (BG52282-BLK1)** | | | | | | | | | | | |
| 1,1-Biphenyl | ND | 0.0417 | mg/kg wet | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ND | 0.0833 | " | | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 0.0417 | " | | | | | | | | |
| 1,2-Dichlorobenzene | ND | 0.0417 | " | | | | | | | | |
| 1,2-Diphenylhydrazine (as Azobenzene) | ND | 0.0417 | " | | | | | | | | |
| 1,3-Dichlorobenzene | ND | 0.0417 | " | | | | | | | | |
| 1,4-Dichlorobenzene | ND | 0.0417 | " | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ND | 0.0833 | " | | | | | | | | |
| 2,4,5-Trichlorophenol | ND | 0.0417 | " | | | | | | | | |
| 2,4,6-Trichlorophenol | ND | 0.0417 | " | | | | | | | | |
| 2,4-Dichlorophenol | ND | 0.0417 | " | | | | | | | | |
| 2,4-Dimethylphenol | ND | 0.0417 | " | | | | | | | | |
| 2,4-Dinitrophenol | ND | 0.0833 | " | | | | | | | | |
| 2,4-Dinitrotoluene | ND | 0.0417 | " | | | | | | | | |
| 2,6-Dinitrotoluene | ND | 0.0417 | " | | | | | | | | |
| 2-Chloronaphthalene | ND | 0.0417 | " | | | | | | | | |
| 2-Chlorophenol | ND | 0.0417 | " | | | | | | | | |
| 2-Methylnaphthalene | ND | 0.0417 | " | | | | | | | | |
| 2-Methylphenol | ND | 0.0417 | " | | | | | | | | |
| 2-Nitroaniline | ND | 0.0833 | " | | | | | | | | |
| 2-Nitrophenol | ND | 0.0417 | " | | | | | | | | |
| 3- & 4-Methylphenols | ND | 0.0417 | " | | | | | | | | |
| 3,3-Dichlorobenzidine | ND | 0.0417 | " | | | | | | | | |
| 3-Nitroaniline | ND | 0.0833 | " | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ND | 0.0833 | " | | | | | | | | |
| 4-Bromophenyl phenyl ether | ND | 0.0417 | " | | | | | | | | |
| 4-Chloro-3-methylphenol | ND | 0.0417 | " | | | | | | | | |
| 4-Chloroaniline | ND | 0.0417 | " | | | | | | | | |
| 4-Chlorophenyl phenyl ether | ND | 0.0417 | " | | | | | | | | |
| 4-Nitroaniline | ND | 0.0833 | " | | | | | | | | |
| 4-Nitrophenol | ND | 0.0833 | " | | | | | | | | |
| Acenaphthene | ND | 0.0417 | " | | | | | | | | |
| Acenaphthylene | ND | 0.0417 | " | | | | | | | | |
| Acetophenone | ND | 0.0417 | " | | | | | | | | |
| Aniline | ND | 0.167 | " | | | | | | | | |
| Anthracene | ND | 0.0417 | " | | | | | | | | |
| Atrazine | ND | 0.0417 | " | | | | | | | | |
| Benzaldehyde | ND | 0.0417 | " | | | | | | | | |
| Benzidine | ND | 0.167 | " | | | | | | | | |
| Benzo(a)anthracene | ND | 0.0417 | " | | | | | | | | |
| Benzo(a)pyrene | ND | 0.0417 | " | | | | | | | | |
| Benzo(b)fluoranthene | ND | 0.0417 | " | | | | | | | | |
| Benzo(g,h,i)perylene | ND | 0.0417 | " | | | | | | | | |
| Benzo(k)fluoranthene | ND | 0.0417 | " | | | | | | | | |
| Benzoic acid | ND | 0.0417 | " | | | | | | | | |
| Benzyl alcohol | ND | 0.0417 | " | | | | | | | | |
| Benzyl butyl phthalate | ND | 0.0417 | " | | | | | | | | |
| Bis(2-chloroethoxy)methane | ND | 0.0417 | " | | | | | | | | |
| Bis(2-chloroethyl)ether | ND | 0.0417 | " | | | | | | | | |
| Bis(2-chloroisopropyl)ether | ND | 0.0417 | " | | | | | | | | |
| Bis(2-ethylhexyl)phthalate | ND | 0.0417 | " | | | | | | | | |

Prepared: 07/31/2025 Analyzed: 08/01/2025

## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52282 - EPA 3550C** | | | | | | | | | | | |
| **Blank (BG52282-BLK1)** | | | | | | | | | | | |
| Prepared: 07/31/2025 Analyzed: 08/01/2025 | | | | | | | | | | | |
| Caprolactam | ND | 0.0833 | mg/kg wet | | | | | | | | |
| Carbazole | ND | 0.0417 | " | | | | | | | | |
| Chrysene | ND | 0.0417 | " | | | | | | | | |
| Dibenzo(a,h)anthracene | ND | 0.0417 | " | | | | | | | | |
| Dibenzofuran | ND | 0.0417 | " | | | | | | | | |
| Diethyl phthalate | ND | 0.0417 | " | | | | | | | | |
| Dimethyl phthalate | ND | 0.0417 | " | | | | | | | | |
| Di-n-butyl phthalate | ND | 0.0417 | " | | | | | | | | |
| Di-n-octyl phthalate | ND | 0.0417 | " | | | | | | | | |
| Fluoranthene | ND | 0.0417 | " | | | | | | | | |
| Fluorene | ND | 0.0417 | " | | | | | | | | |
| Hexachlorobenzene | ND | 0.0417 | " | | | | | | | | |
| Hexachlorobutadiene | ND | 0.0417 | " | | | | | | | | |
| Hexachlorocyclopentadiene | ND | 0.0417 | " | | | | | | | | |
| Hexachloroethane | ND | 0.0417 | " | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ND | 0.0417 | " | | | | | | | | |
| Isophorone | ND | 0.0417 | " | | | | | | | | |
| Naphthalene | ND | 0.0417 | " | | | | | | | | |
| Nitrobenzene | ND | 0.0417 | " | | | | | | | | |
| N-Nitrosodimethylamine | ND | 0.0417 | " | | | | | | | | |
| N-nitroso-di-n-propylamine | ND | 0.0417 | " | | | | | | | | |
| N-Nitrosodiphenylamine | ND | 0.0417 | " | | | | | | | | |
| Pentachlorophenol | ND | 0.0417 | " | | | | | | | | |
| Phenanthrene | ND | 0.0417 | " | | | | | | | | |
| Phenol | ND | 0.0417 | " | | | | | | | | |
| Pyrene | ND | 0.0417 | " | | | | | | | | |
| *Surrogate: SURR: 2-Fluorophenol* | *0.979* | | " | *1.67* | | *58.7* | *20-108* | | | | |
| *Surrogate: SURR: Phenol-d6* | *0.762* | | " | *1.67* | | *45.7* | *23-114* | | | | |
| *Surrogate: SURR: Nitrobenzene-d5* | *0.528* | | " | *0.833* | | *63.4* | *22-108* | | | | |
| *Surrogate: SURR: 2-Fluorobiphenyl* | *0.460* | | " | *0.833* | | *55.2* | *21-113* | | | | |
| *Surrogate: SURR: 2,4,6-Tribromophenol* | *1.12* | | " | *1.67* | | *67.1* | *19-110* | | | | |
| *Surrogate: SURR: Terphenyl-d14* | *0.598* | | " | *0.833* | | *71.8* | *24-116* | | | | |




## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52282 - EPA 3550C** | | | | | | | | | | | |
| **LCS (BG52282-BS1)** | | | | | | | | Prepared: 07/31/2025 Analyzed: 08/01/2025 | | | |
| 1,1-Biphenyl | 0.606 | 0.0417 | mg/kg wet | 0.833 | | 72.7 | 18-111 | | | | |
| 1,2,4,5-Tetrachlorobenzene | 0.540 | 0.0833 | " | 0.833 | | 64.8 | 21-131 | | | | |
| 1,2,4-Trichlorobenzene | 0.609 | 0.0417 | " | 0.833 | | 73.1 | 10-140 | | | | |
| 1,2-Dichlorobenzene | 0.542 | 0.0417 | " | 0.833 | | 65.0 | 34-108 | | | | |
| 1,2-Diphenylhydrazine (as Azobenzene) | 0.591 | 0.0417 | " | 0.833 | | 70.9 | 17-137 | | | | |
| 1,3-Dichlorobenzene | 0.538 | 0.0417 | " | 0.833 | | 64.6 | 33-110 | | | | |
| 1,4-Dichlorobenzene | 0.564 | 0.0417 | " | 0.833 | | 67.7 | 32-104 | | | | |
| 2,3,4,6-Tetrachlorophenol | 0.862 | 0.0833 | " | 0.833 | | 103 | 30-130 | | | | |
| 2,4,5-Trichlorophenol | 0.722 | 0.0417 | " | 0.833 | | 86.6 | 27-118 | | | | |
| 2,4,6-Trichlorophenol | 0.718 | 0.0417 | " | 0.833 | | 86.1 | 31-120 | | | | |
| 2,4-Dichlorophenol | 0.670 | 0.0417 | " | 0.833 | | 80.4 | 20-127 | | | | |
| 2,4-Dimethylphenol | 0.563 | 0.0417 | " | 0.833 | | 67.6 | 14-132 | | | | |
| 2,4-Dinitrophenol | 1.18 | 0.0833 | " | 0.833 | | 141 | 10-171 | | | | |
| 2,4-Dinitrotoluene | 0.700 | 0.0417 | " | 0.833 | | 84.0 | 34-131 | | | | |
| 2,6-Dinitrotoluene | 0.697 | 0.0417 | " | 0.833 | | 83.6 | 31-128 | | | | |
| 2-Chloronaphthalene | 0.567 | 0.0417 | " | 0.833 | | 68.0 | 31-117 | | | | |
| 2-Chlorophenol | 0.571 | 0.0417 | " | 0.833 | | 68.5 | 33-113 | | | | |
| 2-Methylnaphthalene | 0.551 | 0.0417 | " | 0.833 | | 66.1 | 12-138 | | | | |
| 2-Methylphenol | 0.546 | 0.0417 | " | 0.833 | | 65.6 | 10-136 | | | | |
| 2-Nitroaniline | 0.642 | 0.0833 | " | 0.833 | | 77.0 | 27-132 | | | | |
| 2-Nitrophenol | 0.773 | 0.0417 | " | 0.833 | | 92.7 | 17-129 | | | | |
| 3- & 4-Methylphenols | 0.513 | 0.0417 | " | 0.833 | | 61.5 | 29-103 | | | | |
| 3,3-Dichlorobenzidine | 0.374 | 0.0417 | " | 0.833 | | 44.9 | 22-149 | | | | |
| 3-Nitroaniline | 0.535 | 0.0833 | " | 0.833 | | 64.2 | 20-133 | | | | |
| 4,6-Dinitro-2-methylphenol | 1.31 | 0.0833 | " | 0.833 | | 157 | 10-143 | High Bias | | | |
| 4-Bromophenyl phenyl ether | 0.564 | 0.0417 | " | 0.833 | | 67.7 | 29-120 | | | | |
| 4-Chloro-3-methylphenol | 0.687 | 0.0417 | " | 0.833 | | 82.4 | 24-129 | | | | |
| 4-Chloroaniline | 0.374 | 0.0417 | " | 0.833 | | 44.8 | 10-132 | | | | |
| 4-Chlorophenyl phenyl ether | 0.601 | 0.0417 | " | 0.833 | | 72.1 | 27-124 | | | | |
| 4-Nitroaniline | 0.554 | 0.0833 | " | 0.833 | | 66.5 | 16-128 | | | | |
| 4-Nitrophenol | 0.621 | 0.0833 | " | 0.833 | | 74.5 | 10-141 | | | | |
| Acenaphthene | 0.546 | 0.0417 | " | 0.833 | | 65.6 | 30-121 | | | | |
| Acenaphthylene | 0.598 | 0.0417 | " | 0.833 | | 71.8 | 30-115 | | | | |
| Acetophenone | 0.507 | 0.0417 | " | 0.833 | | 60.9 | 20-112 | | | | |
| Aniline | 0.333 | 0.167 | " | 0.833 | | 39.9 | 10-119 | | | | |
| Anthracene | 0.575 | 0.0417 | " | 0.833 | | 69.0 | 34-118 | | | | |
| Atrazine | 0.603 | 0.0417 | " | 0.833 | | 72.4 | 26-112 | | | | |
| Benzaldehyde | 0.299 | 0.0417 | " | 0.833 | | 35.9 | 21-100 | | | | |
| Benzo(a)anthracene | 0.626 | 0.0417 | " | 0.833 | | 75.1 | 32-122 | | | | |
| Benzo(a)pyrene | 0.491 | 0.0417 | " | 0.833 | | 58.9 | 29-133 | | | | |
| Benzo(b)fluoranthene | 0.530 | 0.0417 | " | 0.833 | | 63.6 | 25-133 | | | | |
| Benzo(g,h,i)perylene | 0.571 | 0.0417 | " | 0.833 | | 68.5 | 10-143 | | | | |
| Benzo(k)fluoranthene | 0.531 | 0.0417 | " | 0.833 | | 63.8 | 25-128 | | | | |
| Benzoic acid | 0.327 | 0.0417 | " | 0.833 | | 39.3 | 10-140 | | | | |
| Benzyl alcohol | 0.512 | 0.0417 | " | 0.833 | | 61.4 | 30-115 | | | | |
| Benzyl butyl phthalate | 0.729 | 0.0417 | " | 0.833 | | 87.5 | 26-126 | | | | |
| Bis(2-chloroethoxy)methane | 0.543 | 0.0417 | " | 0.833 | | 65.2 | 19-132 | | | | |
| Bis(2-chloroethyl)ether | 0.475 | 0.0417 | " | 0.833 | | 57.0 | 19-125 | | | | |
| Bis(2-chloroisopropyl)ether | 0.421 | 0.0417 | " | 0.833 | | 50.5 | 20-135 | | | | |
| Bis(2-ethylhexyl)phthalate | 0.745 | 0.0417 | " | 0.833 | | 89.4 | 10-155 | | | | |
| Caprolactam | 0.752 | 0.0833 | " | 0.833 | | 90.3 | 10-127 | | | | |

## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52282 - EPA 3550C** | | | | | | | | | | | |
| **LCS (BG52282-BS1)** | | | | | | | | Prepared: 07/31/2025 Analyzed: 08/01/2025 | | | |
| Carbazole | 0.567 | 0.0417 | mg/kg wet | 0.833 | | 68.0 | 35-123 | | | | |
| Chrysene | 0.603 | 0.0417 | " | 0.833 | | 72.4 | 32-123 | | | | |
| Dibenzo(a,h)anthracene | 0.593 | 0.0417 | " | 0.833 | | 71.2 | 10-136 | | | | |
| Dibenzofuran | 0.608 | 0.0417 | " | 0.833 | | 73.0 | 29-121 | | | | |
| Diethyl phthalate | 0.639 | 0.0417 | " | 0.833 | | 76.6 | 34-116 | | | | |
| Dimethyl phthalate | 0.625 | 0.0417 | " | 0.833 | | 75.0 | 35-124 | | | | |
| Di-n-butyl phthalate | 0.663 | 0.0417 | " | 0.833 | | 79.6 | 31-116 | | | | |
| Di-n-octyl phthalate | 0.697 | 0.0417 | " | 0.833 | | 83.6 | 26-136 | | | | |
| Fluoranthene | 0.580 | 0.0417 | " | 0.833 | | 69.6 | 33-122 | | | | |
| Fluorene | 0.620 | 0.0417 | " | 0.833 | | 74.4 | 29-123 | | | | |
| Hexachlorobenzene | 0.747 | 0.0417 | " | 0.833 | | 89.6 | 21-124 | | | | |
| Hexachlorobutadiene | 0.653 | 0.0417 | " | 0.833 | | 78.4 | 10-149 | | | | |
| Hexachlorocyclopentadiene | 0.0287 | 0.0417 | " | 0.833 | | 3.44 | 10-129 | Low Bias | | | |
| Hexachloroethane | 0.579 | 0.0417 | " | 0.833 | | 69.5 | 28-108 | | | | |
| Indeno(1,2,3-cd)pyrene | 0.671 | 0.0417 | " | 0.833 | | 80.6 | 10-135 | | | | |
| Isophorone | 0.556 | 0.0417 | " | 0.833 | | 66.7 | 20-132 | | | | |
| Naphthalene | 0.593 | 0.0417 | " | 0.833 | | 71.2 | 23-124 | | | | |
| Nitrobenzene | 0.578 | 0.0417 | " | 0.833 | | 69.4 | 13-132 | | | | |
| N-Nitrosodimethylamine | 0.429 | 0.0417 | " | 0.833 | | 51.5 | 11-129 | | | | |
| N-nitroso-di-n-propylamine | 0.497 | 0.0417 | " | 0.833 | | 59.6 | 24-119 | | | | |
| N-Nitrosodiphenylamine | 0.721 | 0.0417 | " | 0.833 | | 86.5 | 22-152 | | | | |
| Pentachlorophenol | 0.624 | 0.0417 | " | 0.833 | | 74.8 | 10-139 | | | | |
| Phenanthrene | 0.608 | 0.0417 | " | 0.833 | | 73.0 | 33-123 | | | | |
| Phenol | 0.537 | 0.0417 | " | 0.833 | | 64.4 | 23-115 | | | | |
| Pyrene | 0.712 | 0.0417 | " | 0.833 | | 85.4 | 24-130 | | | | |
| *Surrogate: SURR: 2-Fluorophenol* | *1.04* | | " | *1.67* | | *62.5* | *20-108* | | | | |
| *Surrogate: SURR: Phenol-d6* | *0.931* | | " | *1.67* | | *55.9* | *23-114* | | | | |
| *Surrogate: SURR: Nitrobenzene-d5* | *0.572* | | " | *0.833* | | *68.6* | *22-108* | | | | |
| *Surrogate: SURR: 2-Fluorobiphenyl* | *0.544* | | " | *0.833* | | *65.3* | *21-113* | | | | |
| *Surrogate: SURR: 2,4,6-Tribromophenol* | *1.28* | | " | *1.67* | | *76.7* | *19-110* | | | | |
| *Surrogate: SURR: Terphenyl-d14* | *0.633* | | " | *0.833* | | *75.9* | *24-116* | | | | |

## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52282 - EPA 3550C** | | | | | | | | | | | |
| **Matrix Spike (BG52282-MS1)** | *Source sample: 25G1696-23 (TP-14 2) | | | | | | | Prepared: 07/31/2025 Analyzed: 08/01/2025 | | | |
| 1,1-Biphenyl | 1.37 | 0.0907 | mg/kg dry | 0.907 | ND | 151 | 10-130 | High Bias | | | |
| 1,2,4,5-Tetrachlorobenzene | 1.27 | 0.181 | " | 0.907 | ND | 140 | 10-133 | High Bias | | | |
| 1,2,4-Trichlorobenzene | 1.33 | 0.0907 | " | 0.907 | ND | 147 | 10-127 | High Bias | | | |
| 1,2-Dichlorobenzene | 1.43 | 0.0907 | " | 0.907 | ND | 157 | 14-111 | High Bias | | | |
| 1,2-Diphenylhydrazine (as Azobenzene) | 1.82 | 0.0907 | " | 0.907 | ND | 201 | 10-144 | High Bias | | | |
| 1,3-Dichlorobenzene | 1.32 | 0.0907 | " | 0.907 | ND | 145 | 11-111 | High Bias | | | |
| 1,4-Dichlorobenzene | 1.34 | 0.0907 | " | 0.907 | ND | 148 | 10-106 | High Bias | | | |
| 2,3,4,6-Tetrachlorophenol | 1.71 | 0.181 | " | 0.907 | ND | 189 | 30-130 | High Bias | | | |
| 2,4,5-Trichlorophenol | 1.34 | 0.0907 | " | 0.907 | ND | 148 | 10-127 | High Bias | | | |
| 2,4,6-Trichlorophenol | 1.33 | 0.0907 | " | 0.907 | ND | 147 | 10-132 | High Bias | | | |
| 2,4-Dichlorophenol | 1.34 | 0.0907 | " | 0.907 | ND | 148 | 10-128 | High Bias | | | |
| 2,4-Dimethylphenol | 1.27 | 0.0907 | " | 0.907 | ND | 140 | 10-137 | High Bias | | | |
| 2,4-Dinitrophenol | 0.166 | 0.181 | " | 0.907 | ND | 18.3 | 10-171 | | | | |
| 2,4-Dinitrotoluene | 1.32 | 0.0907 | " | 0.907 | ND | 146 | 16-135 | High Bias | | | |
| 2,6-Dinitrotoluene | 1.29 | 0.0907 | " | 0.907 | ND | 142 | 18-131 | High Bias | | | |
| 2-Chloronaphthalene | 1.29 | 0.0907 | " | 0.907 | ND | 142 | 10-129 | High Bias | | | |
| 2-Chlorophenol | 1.51 | 0.0907 | " | 0.907 | ND | 166 | 15-116 | High Bias | | | |
| 2-Methylnaphthalene | 1.70 | 0.0907 | " | 0.907 | 0.158 | 170 | 10-147 | High Bias | | | |
| 2-Methylphenol | 1.54 | 0.0907 | " | 0.907 | ND | 170 | 10-136 | High Bias | | | |
| 2-Nitroaniline | 1.26 | 0.181 | " | 0.907 | ND | 139 | 10-137 | High Bias | | | |
| 2-Nitrophenol | 1.43 | 0.0907 | " | 0.907 | ND | 158 | 10-129 | High Bias | | | |
| 3- & 4-Methylphenols | 1.35 | 0.0907 | " | 0.907 | ND | 148 | 10-123 | High Bias | | | |
| 3,3-Dichlorobenzidine | 0.685 | 0.0907 | " | 0.907 | ND | 75.6 | 10-155 | | | | |
| 3-Nitroaniline | 0.993 | 0.181 | " | 0.907 | ND | 110 | 12-133 | | | | |
| 4,6-Dinitro-2-methylphenol | 0.612 | 0.181 | " | 0.907 | ND | 67.5 | 10-155 | | | | |
| 4-Bromophenyl phenyl ether | 1.21 | 0.0907 | " | 0.907 | ND | 133 | 14-128 | High Bias | | | |
| 4-Chloro-3-methylphenol | 1.75 | 0.0907 | " | 0.907 | ND | 193 | 10-134 | High Bias | | | |
| 4-Chloroaniline | 0.998 | 0.0907 | " | 0.907 | ND | 110 | 10-145 | | | | |
| 4-Chlorophenyl phenyl ether | 1.20 | 0.0907 | " | 0.907 | ND | 132 | 14-130 | High Bias | | | |
| 4-Nitroaniline | 0.917 | 0.181 | " | 0.907 | ND | 101 | 10-147 | | | | |
| 4-Nitrophenol | 1.22 | 0.181 | " | 0.907 | ND | 134 | 10-137 | | | | |
| Acenaphthene | 2.39 | 0.0907 | " | 0.907 | 0.416 | 217 | 10-146 | High Bias | | | |
| Acenaphthylene | 1.43 | 0.0907 | " | 0.907 | 0.0585 | 151 | 10-134 | High Bias | | | |
| Acetophenone | 1.70 | 0.0907 | " | 0.907 | ND | 187 | 10-116 | High Bias | | | |
| Aniline | 1.12 | 0.363 | " | 0.907 | ND | 123 | 10-123 | | | | |
| Anthracene | 3.53 | 0.0907 | " | 0.907 | 0.800 | 302 | 10-142 | High Bias | | | |
| Atrazine | 1.49 | 0.0907 | " | 0.907 | ND | 164 | 19-115 | High Bias | | | |
| Benzaldehyde | 1.40 | 0.0907 | " | 0.907 | ND | 154 | 10-125 | High Bias | | | |
| Benzo(a)anthracene | 6.14 | 0.0907 | " | 0.907 | 2.07 | 448 | 10-158 | High Bias | | | |
| Benzo(a)pyrene | 5.61 | 0.0907 | " | 0.907 | 1.71 | 430 | 10-180 | High Bias | | | |
| Benzo(b)fluoranthene | 5.65 | 0.0907 | " | 0.907 | 1.62 | 444 | 10-200 | High Bias | | | |
| Benzo(g,h,i)perylene | 4.28 | 0.0907 | " | 0.907 | 0.924 | 370 | 10-138 | High Bias | | | |
| Benzo(k)fluoranthene | 4.74 | 0.0907 | " | 0.907 | 1.69 | 336 | 10-197 | High Bias | | | |
| Benzoic acid | 0.0849 | 0.0907 | " | 0.907 | ND | 9.36 | 10-166 | Low Bias | | | |
| Benzyl alcohol | 1.45 | 0.0907 | " | 0.907 | ND | 160 | 12-124 | High Bias | | | |
| Benzyl butyl phthalate | 1.61 | 0.0907 | " | 0.907 | ND | 178 | 10-154 | High Bias | | | |
| Bis(2-chloroethoxy)methane | 1.59 | 0.0907 | " | 0.907 | ND | 175 | 10-132 | High Bias | | | |
| Bis(2-chloroethyl)ether | 1.72 | 0.0907 | " | 0.907 | ND | 190 | 10-119 | High Bias | | | |
| Bis(2-chloroisopropyl)ether | 1.48 | 0.0907 | " | 0.907 | ND | 163 | 10-139 | High Bias | | | |
| Bis(2-ethylhexyl)phthalate | 1.85 | 0.0907 | " | 0.907 | ND | 204 | 10-167 | High Bias | | | |
| Caprolactam | 1.54 | 0.181 | " | 0.907 | ND | 170 | 10-132 | High Bias | | | |

## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52282 - EPA 3550C** | | | | | | | | | | | |
| **Matrix Spike (BG52282-MS1)** | *Source sample: 25G1696-23 (TP-14 2) | | | | | | | Prepared: 07/31/2025 Analyzed: 08/01/2025 | | | |
| Carbazole | 2.53 | 0.0907 | mg/kg dry | 0.907 | 0.425 | 232 | 10-167 | High Bias | | | |
| Chrysene | 6.34 | 0.0907 | " | 0.907 | 1.88 | 491 | 10-156 | High Bias | | | |
| Dibenzo(a,h)anthracene | 2.36 | 0.0907 | " | 0.907 | 0.330 | 224 | 10-137 | High Bias | | | |
| Dibenzofuran | 1.88 | 0.0907 | " | 0.907 | 0.194 | 186 | 10-147 | High Bias | | | |
| Diethyl phthalate | 1.38 | 0.0907 | " | 0.907 | ND | 152 | 20-120 | High Bias | | | |
| Dimethyl phthalate | 1.32 | 0.0907 | " | 0.907 | ND | 146 | 18-131 | High Bias | | | |
| Di-n-butyl phthalate | 1.45 | 0.0907 | " | 0.907 | ND | 160 | 10-137 | High Bias | | | |
| Di-n-octyl phthalate | 1.75 | 0.0907 | " | 0.907 | ND | 193 | 10-180 | High Bias | | | |
| Fluoranthene | 12.5 | 0.0907 | " | 0.907 | 4.67 | 861 | 10-160 | High Bias | | | |
| Fluorene | 2.23 | 0.0907 | " | 0.907 | 0.325 | 211 | 10-157 | High Bias | | | |
| Hexachlorobenzene | 1.64 | 0.0907 | " | 0.907 | ND | 180 | 10-137 | High Bias | | | |
| Hexachlorobutadiene | 1.31 | 0.0907 | " | 0.907 | ND | 145 | 10-132 | High Bias | | | |
| Hexachlorocyclopentadiene | 0.253 | 0.0907 | " | 0.907 | ND | 27.9 | 10-106 | | | | |
| Hexachloroethane | 1.51 | 0.0907 | " | 0.907 | ND | 166 | 10-110 | High Bias | | | |
| Indeno(1,2,3-cd)pyrene | 4.10 | 0.0907 | " | 0.907 | 1.06 | 334 | 10-144 | High Bias | | | |
| Isophorone | 1.78 | 0.0907 | " | 0.907 | ND | 196 | 10-132 | High Bias | | | |
| Naphthalene | 2.29 | 0.0907 | " | 0.907 | 0.229 | 227 | 10-141 | High Bias | | | |
| Nitrobenzene | 1.80 | 0.0907 | " | 0.907 | ND | 198 | 10-131 | High Bias | | | |
| N-Nitrosodimethylamine | 1.76 | 0.0907 | " | 0.907 | ND | 194 | 10-126 | High Bias | | | |
| N-nitroso-di-n-propylamine | 1.72 | 0.0907 | " | 0.907 | ND | 190 | 10-125 | High Bias | | | |
| N-Nitrosodiphenylamine | 1.99 | 0.0907 | " | 0.907 | ND | 219 | 10-177 | High Bias | | | |
| Pentachlorophenol | 1.09 | 0.0907 | " | 0.907 | ND | 120 | 10-153 | | | | |
| Phenanthrene | 10.7 | 0.0907 | " | 0.907 | 3.12 | 832 | 10-148 | High Bias | | | |
| Phenol | 1.62 | 0.0907 | " | 0.907 | ND | 179 | 10-126 | High Bias | | | |
| Pyrene | 11.5 | 0.0907 | " | 0.907 | 3.30 | 907 | 10-165 | High Bias | | | |
| *Surrogate: SURR: 2-Fluorophenol* | *1.45* | | " | *1.81* | | *80.0* | *20-108* | | | | |
| *Surrogate: SURR: Phenol-d6* | *1.35* | | " | *1.81* | | *74.4* | *23-114* | | | | |
| *Surrogate: SURR: Nitrobenzene-d5* | *0.771* | | " | *0.907* | | *85.0* | *22-108* | | | | |
| *Surrogate: SURR: 2-Fluorobiphenyl* | *0.589* | | " | *0.907* | | *65.0* | *21-113* | | | | |
| *Surrogate: SURR: 2,4,6-Tribromophenol* | *1.01* | | " | *1.81* | | *55.8* | *19-110* | | | | |
| *Surrogate: SURR: Terphenyl-d14* | *0.590* | | " | *0.907* | | *65.1* | *24-116* | | | | |

## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

### Batch BG52282 - EPA 3550C

**Matrix Spike Dup (BG52282-MSD1)** *Source sample: 25G1696-23 (TP-14 2) Prepared: 07/31/2025 Analyzed: 08/01/2025

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Biphenyl | 1.06 | 0.0907 | mg/kg dry | 0.907 | ND | 117 | 10-130 | | 25.4 | 30 | |
| 1,2,4,5-Tetrachlorobenzene | 0.954 | 0.181 | " | 0.907 | ND | 105 | 10-133 | | 28.5 | 30 | |
| 1,2,4-Trichlorobenzene | 0.993 | 0.0907 | " | 0.907 | ND | 110 | 10-127 | | 29.2 | 30 | |
| 1,2-Dichlorobenzene | 0.964 | 0.0907 | " | 0.907 | ND | 106 | 14-111 | | 38.6 | 30 | Non-dir. |
| 1,2-Diphenylhydrazine (as Azobenzene) | 1.30 | 0.0907 | " | 0.907 | ND | 144 | 10-144 | | 33.3 | 30 | Non-dir. |
| 1,3-Dichlorobenzene | 0.964 | 0.0907 | " | 0.907 | ND | 106 | 11-111 | | 30.9 | 30 | Non-dir. |
| 1,4-Dichlorobenzene | 0.965 | 0.0907 | " | 0.907 | ND | 106 | 10-106 | | 32.3 | 30 | Non-dir. |
| 2,3,4,6-Tetrachlorophenol | 1.37 | 0.181 | " | 0.907 | ND | 151 | 30-130 | High Bias | 22.3 | 30 | |
| 2,4,5-Trichlorophenol | 1.03 | 0.0907 | " | 0.907 | ND | 113 | 10-127 | | 26.6 | 30 | |
| 2,4,6-Trichlorophenol | 1.02 | 0.0907 | " | 0.907 | ND | 113 | 10-132 | | 26.5 | 30 | |
| 2,4-Dichlorophenol | 0.983 | 0.0907 | " | 0.907 | ND | 108 | 10-128 | | 31.0 | 30 | Non-dir. |
| 2,4-Dimethylphenol | 0.986 | 0.0907 | " | 0.907 | ND | 109 | 10-137 | | 25.0 | 30 | |
| 2,4-Dinitrophenol | ND | 0.181 | " | 0.907 | ND | | 10-171 | Low Bias | | 30 | |
| 2,4-Dinitrotoluene | 0.967 | 0.0907 | " | 0.907 | ND | 107 | 16-135 | | 31.0 | 30 | Non-dir. |
| 2,6-Dinitrotoluene | 0.947 | 0.0907 | " | 0.907 | ND | 104 | 18-131 | | 30.3 | 30 | Non-dir. |
| 2-Chloronaphthalene | 0.958 | 0.0907 | " | 0.907 | ND | 106 | 10-129 | | 29.2 | 30 | |
| 2-Chlorophenol | 1.04 | 0.0907 | " | 0.907 | ND | 115 | 15-116 | | 36.4 | 30 | Non-dir. |
| 2-Methylnaphthalene | 1.45 | 0.0907 | " | 0.907 | 0.158 | 142 | 10-147 | | 15.8 | 30 | |
| 2-Methylphenol | 1.09 | 0.0907 | " | 0.907 | ND | 120 | 10-136 | | 33.9 | 30 | Non-dir. |
| 2-Nitroaniline | 0.961 | 0.181 | " | 0.907 | ND | 106 | 10-137 | | 27.1 | 30 | |
| 2-Nitrophenol | 1.02 | 0.0907 | " | 0.907 | ND | 112 | 10-129 | | 33.7 | 30 | Non-dir. |
| 3- & 4-Methylphenols | 0.983 | 0.0907 | " | 0.907 | ND | 108 | 10-123 | | 31.2 | 30 | Non-dir. |
| 3,3-Dichlorobenzidine | 0.537 | 0.0907 | " | 0.907 | ND | 59.3 | 10-155 | | 24.2 | 30 | |
| 3-Nitroaniline | 0.771 | 0.181 | " | 0.907 | ND | 85.0 | 12-133 | | 25.2 | 30 | |
| 4,6-Dinitro-2-methylphenol | 0.191 | 0.181 | " | 0.907 | ND | 21.0 | 10-155 | | 105 | 30 | Non-dir. |
| 4-Bromophenyl phenyl ether | 0.870 | 0.0907 | " | 0.907 | ND | 95.9 | 14-128 | | 32.4 | 30 | Non-dir. |
| 4-Chloro-3-methylphenol | 1.23 | 0.0907 | " | 0.907 | ND | 136 | 10-134 | High Bias | 34.9 | 30 | Non-dir. |
| 4-Chloroaniline | 0.827 | 0.0907 | " | 0.907 | ND | 91.2 | 10-145 | | 18.8 | 30 | |
| 4-Chlorophenyl phenyl ether | 0.909 | 0.0907 | " | 0.907 | ND | 100 | 14-130 | | 27.6 | 30 | |
| 4-Nitroaniline | 0.796 | 0.181 | " | 0.907 | ND | 87.8 | 10-147 | | 14.1 | 30 | |
| 4-Nitrophenol | 1.00 | 0.181 | " | 0.907 | ND | 111 | 10-137 | | 19.3 | 30 | |
| Acenaphthene | 2.81 | 0.0907 | " | 0.907 | 0.416 | 264 | 10-146 | High Bias | 16.1 | 30 | |
| Acenaphthylene | 1.15 | 0.0907 | " | 0.907 | 0.0585 | 120 | 10-134 | | 21.5 | 30 | |
| Acetophenone | 1.25 | 0.0907 | " | 0.907 | ND | 138 | 10-116 | High Bias | 30.0 | 30 | |
| Aniline | 0.931 | 0.363 | " | 0.907 | ND | 103 | 10-123 | | 18.0 | 30 | |
| Anthracene | 4.49 | 0.0907 | " | 0.907 | 0.800 | 407 | 10-142 | High Bias | 23.9 | 30 | |
| Atrazine | 1.08 | 0.0907 | " | 0.907 | ND | 119 | 19-115 | High Bias | 31.3 | 30 | Non-dir. |
| Benzaldehyde | 1.31 | 0.0907 | " | 0.907 | ND | 145 | 10-125 | High Bias | 6.27 | 30 | |
| Benzo(a)anthracene | 9.97 | 0.0907 | " | 0.907 | 2.07 | 871 | 10-158 | High Bias | 47.6 | 30 | Non-dir. |
| Benzo(a)pyrene | 8.06 | 0.0907 | " | 0.907 | 1.71 | 700 | 10-180 | High Bias | 35.9 | 30 | Non-dir. |
| Benzo(b)fluoranthene | 7.92 | 0.0907 | " | 0.907 | 1.62 | 694 | 10-200 | High Bias | 33.4 | 30 | Non-dir. |
| Benzo(g,h,i)perylene | 4.61 | 0.0907 | " | 0.907 | 0.924 | 407 | 10-138 | High Bias | 7.49 | 30 | |
| Benzo(k)fluoranthene | 6.49 | 0.0907 | " | 0.907 | 1.69 | 528 | 10-197 | High Bias | 31.0 | 30 | Non-dir. |
| Benzoic acid | 0.278 | 0.0907 | " | 0.907 | ND | 30.7 | 10-166 | | 107 | 30 | Non-dir. |
| Benzyl alcohol | 1.01 | 0.0907 | " | 0.907 | ND | 111 | 12-124 | | 36.0 | 30 | Non-dir. |
| Benzyl butyl phthalate | 1.24 | 0.0907 | " | 0.907 | ND | 137 | 10-154 | | 26.0 | 30 | |
| Bis(2-chloroethoxy)methane | 1.19 | 0.0907 | " | 0.907 | ND | 131 | 10-132 | | 28.7 | 30 | |
| Bis(2-chloroethyl)ether | 1.24 | 0.0907 | " | 0.907 | ND | 136 | 10-119 | High Bias | 32.9 | 30 | Non-dir. |
| Bis(2-chloroisopropyl)ether | 1.06 | 0.0907 | " | 0.907 | ND | 117 | 10-139 | | 33.0 | 30 | Non-dir. |
| Bis(2-ethylhexyl)phthalate | 1.30 | 0.0907 | " | 0.907 | ND | 144 | 10-167 | | 34.8 | 30 | Non-dir. |
| Caprolactam | 1.21 | 0.181 | " | 0.907 | ND | 133 | 10-132 | High Bias | 24.0 | 30 | |

## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52282 - EPA 3550C** | | | | | | | | | | | |
| **Matrix Spike Dup (BG52282-MSD1)** | *Source sample: 25G1696-23 (TP-14 2) | | | | | | | | Prepared: 07/31/2025 Analyzed: 08/01/2025 | | |
| Carbazole | 2.77 | 0.0907 | mg/kg dry | 0.907 | 0.425 | 259 | 10-167 | High Bias | 9.03 | 30 | |
| Chrysene | 9.38 | 0.0907 | " | 0.907 | 1.88 | 827 | 10-156 | High Bias | 38.7 | 30 | Non-dir. |
| Dibenzo(a,h)anthracene | 2.38 | 0.0907 | " | 0.907 | 0.330 | 226 | 10-137 | High Bias | 0.582 | 30 | |
| Dibenzofuran | 1.77 | 0.0907 | " | 0.907 | 0.194 | 173 | 10-147 | High Bias | 6.13 | 30 | |
| Diethyl phthalate | 1.05 | 0.0907 | " | 0.907 | ND | 115 | 20-120 | | 27.6 | 30 | |
| Dimethyl phthalate | 1.00 | 0.0907 | " | 0.907 | ND | 111 | 18-131 | | 27.2 | 30 | |
| Di-n-butyl phthalate | 1.05 | 0.0907 | " | 0.907 | ND | 115 | 10-137 | | 32.3 | 30 | Non-dir. |
| Di-n-octyl phthalate | 1.37 | 0.0907 | " | 0.907 | ND | 151 | 10-180 | | 24.3 | 30 | |
| Fluoranthene | 17.9 | 0.0907 | " | 0.907 | 4.67 | NR | 10-160 | High Bias | 35.9 | 30 | Non-dir. |
| Fluorene | 2.38 | 0.0907 | " | 0.907 | 0.325 | 227 | 10-157 | High Bias | 6.44 | 30 | |
| Hexachlorobenzene | 1.17 | 0.0907 | " | 0.907 | ND | 129 | 10-137 | | 33.0 | 30 | Non-dir. |
| Hexachlorobutadiene | 1.02 | 0.0907 | " | 0.907 | ND | 113 | 10-132 | | 25.0 | 30 | |
| Hexachlorocyclopentadiene | 0.127 | 0.0907 | " | 0.907 | ND | 14.0 | 10-106 | | 66.4 | 30 | Non-dir. |
| Hexachloroethane | 1.09 | 0.0907 | " | 0.907 | ND | 120 | 10-110 | High Bias | 32.5 | 30 | Non-dir. |
| Indeno(1,2,3-cd)pyrene | 5.42 | 0.0907 | " | 0.907 | 1.06 | 481 | 10-144 | High Bias | 27.9 | 30 | |
| Isophorone | 1.33 | 0.0907 | " | 0.907 | ND | 147 | 10-132 | High Bias | 28.9 | 30 | |
| Naphthalene | 2.10 | 0.0907 | " | 0.907 | 0.229 | 207 | 10-141 | High Bias | 8.51 | 30 | |
| Nitrobenzene | 1.34 | 0.0907 | " | 0.907 | ND | 148 | 10-131 | High Bias | 29.3 | 30 | |
| N-Nitrosodimethylamine | 1.15 | 0.0907 | " | 0.907 | ND | 127 | 10-126 | High Bias | 41.9 | 30 | Non-dir. |
| N-nitroso-di-n-propylamine | 1.26 | 0.0907 | " | 0.907 | ND | 139 | 10-125 | High Bias | 30.5 | 30 | Non-dir. |
| N-Nitrosodiphenylamine | 1.75 | 0.0907 | " | 0.907 | ND | 193 | 10-177 | High Bias | 12.5 | 30 | |
| Pentachlorophenol | 0.768 | 0.0907 | " | 0.907 | ND | 84.7 | 10-153 | | 34.7 | 30 | Non-dir. |
| Phenanthrene | 15.8 | 0.0907 | " | 0.907 | 3.12 | NR | 10-148 | High Bias | 38.7 | 30 | Non-dir. |
| Phenol | 1.23 | 0.0907 | " | 0.907 | ND | 136 | 10-126 | High Bias | 27.3 | 30 | |
| Pyrene | 17.8 | 0.0907 | " | 0.907 | 3.30 | NR | 10-165 | High Bias | 42.9 | 30 | Non-dir. |
| *Surrogate: SURR: 2-Fluorophenol* | *2.12* | | *"* | *1.81* | | *117* | *20-108* | | | | |
| *Surrogate: SURR: Phenol-d6* | *1.97* | | *"* | *1.81* | | *109* | *23-114* | | | | |
| *Surrogate: SURR: Nitrobenzene-d5* | *1.17* | | *"* | *0.907* | | *129* | *22-108* | | | | |
| *Surrogate: SURR: 2-Fluorobiphenyl* | *0.879* | | *"* | *0.907* | | *97.0* | *21-113* | | | | |
| *Surrogate: SURR: 2,4,6-Tribromophenol* | *1.50* | | *"* | *1.81* | | *82.6* | *19-110* | | | | |
| *Surrogate: SURR: Terphenyl-d14* | *0.949* | | *"* | *0.907* | | *105* | *24-116* | | | | |

## Organochlorine Pesticides by GC/ECD - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52266 - EPA 3550C** | | | | | | | | | | | |
| **Blank (BG52266-BLK1)** | | | | | | | | | Prepared & Analyzed: 07/31/2025 | | |
| 4,4'-DDD | ND | 0.00164 | mg/kg wet | | | | | | | | |
| 4,4'-DDE | ND | 0.00164 | " | | | | | | | | |
| 4,4'-DDT | ND | 0.00164 | " | | | | | | | | |
| Aldrin | ND | 0.00164 | " | | | | | | | | |
| alpha-BHC | ND | 0.00164 | " | | | | | | | | |
| alpha-Chlordane | ND | 0.00164 | " | | | | | | | | |
| beta-BHC | ND | 0.00164 | " | | | | | | | | |
| delta-BHC | ND | 0.00164 | " | | | | | | | | |
| Dieldrin | ND | 0.00164 | " | | | | | | | | |
| Endosulfan I | ND | 0.00164 | " | | | | | | | | |
| Endosulfan II | ND | 0.00164 | " | | | | | | | | |
| Endosulfan sulfate | ND | 0.00164 | " | | | | | | | | |
| Endrin | ND | 0.00164 | " | | | | | | | | |
| Endrin aldehyde | ND | 0.00164 | " | | | | | | | | |
| Endrin ketone | ND | 0.00164 | " | | | | | | | | |
| gamma-BHC (Lindane) | ND | 0.00164 | " | | | | | | | | |
| gamma-Chlordane | ND | 0.00164 | " | | | | | | | | |
| Heptachlor | ND | 0.00164 | " | | | | | | | | |
| Heptachlor epoxide | ND | 0.00164 | " | | | | | | | | |
| Methoxychlor | ND | 0.00164 | " | | | | | | | | |
| Toxaphene | ND | 0.164 | " | | | | | | | | |
| Chlordane, total | ND | 0.0329 | " | | | | | | | | |
| *Surrogate: Decachlorobiphenyl* | *0.0420* | | *"* | *0.0664* | | *63.3* | *30-150* | | | | |
| *Surrogate: Tetrachloro-m-xylene* | *0.0526* | | *"* | *0.0664* | | *79.1* | *30-150* | | | | |
| **LCS (BG52266-BS1)** | | | | | | | | | Prepared & Analyzed: 07/31/2025 | | |
| 4,4'-DDD | 0.0321 | 0.00164 | mg/kg wet | 0.0332 | | 96.6 | 40-140 | | | | |
| 4,4'-DDE | 0.0292 | 0.00164 | " | 0.0332 | | 87.8 | 40-140 | | | | |
| 4,4'-DDT | 0.0285 | 0.00164 | " | 0.0332 | | 85.7 | 40-140 | | | | |
| Aldrin | 0.0275 | 0.00164 | " | 0.0332 | | 82.8 | 40-140 | | | | |
| alpha-BHC | 0.0273 | 0.00164 | " | 0.0332 | | 82.1 | 40-140 | | | | |
| alpha-Chlordane | 0.0290 | 0.00164 | " | 0.0332 | | 87.2 | 40-140 | | | | |
| beta-BHC | 0.0300 | 0.00164 | " | 0.0332 | | 90.3 | 40-140 | | | | |
| delta-BHC | 0.0262 | 0.00164 | " | 0.0332 | | 79.0 | 40-140 | | | | |
| Dieldrin | 0.0289 | 0.00164 | " | 0.0332 | | 87.0 | 40-140 | | | | |
| Endosulfan I | 0.0306 | 0.00164 | " | 0.0332 | | 92.1 | 40-140 | | | | |
| Endosulfan II | 0.0327 | 0.00164 | " | 0.0332 | | 98.4 | 40-140 | | | | |
| Endosulfan sulfate | 0.0310 | 0.00164 | " | 0.0332 | | 93.2 | 40-140 | | | | |
| Endrin | 0.0292 | 0.00164 | " | 0.0332 | | 87.8 | 40-140 | | | | |
| Endrin aldehyde | 0.0230 | 0.00164 | " | 0.0332 | | 69.4 | 40-140 | | | | |
| Endrin ketone | 0.0328 | 0.00164 | " | 0.0332 | | 98.7 | 40-140 | | | | |
| gamma-BHC (Lindane) | 0.0271 | 0.00164 | " | 0.0332 | | 81.6 | 40-140 | | | | |
| gamma-Chlordane | 0.0291 | 0.00164 | " | 0.0332 | | 87.5 | 40-140 | | | | |
| Heptachlor | 0.0276 | 0.00164 | " | 0.0332 | | 83.0 | 40-140 | | | | |
| Heptachlor epoxide | 0.0292 | 0.00164 | " | 0.0332 | | 88.0 | 40-140 | | | | |
| Methoxychlor | 0.0314 | 0.00164 | " | 0.0332 | | 94.4 | 40-140 | | | | |
| *Surrogate: Decachlorobiphenyl* | *0.0404* | | *"* | *0.0664* | | *60.9* | *30-150* | | | | |
| *Surrogate: Tetrachloro-m-xylene* | *0.0477* | | *"* | *0.0664* | | *71.8* | *30-150* | | | | |

## Organochlorine Pesticides by GC/ECD - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BH50023 - EPA 3550C** | | | | | | | | | | | |
| **Blank (BH50023-BLK1)** | | | | | | | | | | | Prepared & Analyzed: 08/01/2025 |
| 4,4'-DDD | ND | 0.00164 | mg/kg wet | | | | | | | | |
| 4,4'-DDE | ND | 0.00164 | " | | | | | | | | |
| 4,4'-DDT | ND | 0.00164 | " | | | | | | | | |
| Aldrin | ND | 0.00164 | " | | | | | | | | |
| alpha-BHC | ND | 0.00164 | " | | | | | | | | |
| alpha-Chlordane | ND | 0.00164 | " | | | | | | | | |
| beta-BHC | ND | 0.00164 | " | | | | | | | | |
| delta-BHC | ND | 0.00164 | " | | | | | | | | |
| Dieldrin | ND | 0.00164 | " | | | | | | | | |
| Endosulfan I | ND | 0.00164 | " | | | | | | | | |
| Endosulfan II | ND | 0.00164 | " | | | | | | | | |
| Endosulfan sulfate | ND | 0.00164 | " | | | | | | | | |
| Endrin | ND | 0.00164 | " | | | | | | | | |
| Endrin aldehyde | ND | 0.00164 | " | | | | | | | | |
| Endrin ketone | ND | 0.00164 | " | | | | | | | | |
| gamma-BHC (Lindane) | ND | 0.00164 | " | | | | | | | | |
| gamma-Chlordane | ND | 0.00164 | " | | | | | | | | |
| Heptachlor | ND | 0.00164 | " | | | | | | | | |
| Heptachlor epoxide | ND | 0.00164 | " | | | | | | | | |
| Methoxychlor | ND | 0.00164 | " | | | | | | | | |
| Toxaphene | ND | 0.164 | " | | | | | | | | |
| Chlordane, total | ND | 0.0329 | " | | | | | | | | |
| *Surrogate: Decachlorobiphenyl* | *0.0349* | | *"* | *0.0664* | | *52.6* | *30-150* | | | | |
| *Surrogate: Tetrachloro-m-xylene* | *0.0297* | | *"* | *0.0664* | | *44.8* | *30-150* | | | | |
| **LCS (BH50023-BS1)** | | | | | | | | | | | Prepared & Analyzed: 08/01/2025 |
| 4,4'-DDD | 0.0224 | 0.00164 | mg/kg wet | 0.0332 | | 67.3 | 40-140 | | | | |
| 4,4'-DDE | 0.0236 | 0.00164 | " | 0.0332 | | 71.1 | 40-140 | | | | |
| 4,4'-DDT | 0.0246 | 0.00164 | " | 0.0332 | | 74.1 | 40-140 | | | | |
| Aldrin | 0.0224 | 0.00164 | " | 0.0332 | | 67.5 | 40-140 | | | | |
| alpha-BHC | 0.0204 | 0.00164 | " | 0.0332 | | 61.5 | 40-140 | | | | |
| alpha-Chlordane | 0.0240 | 0.00164 | " | 0.0332 | | 72.1 | 40-140 | | | | |
| beta-BHC | 0.0234 | 0.00164 | " | 0.0332 | | 70.4 | 40-140 | | | | |
| delta-BHC | 0.0210 | 0.00164 | " | 0.0332 | | 63.4 | 40-140 | | | | |
| Dieldrin | 0.0228 | 0.00164 | " | 0.0332 | | 68.7 | 40-140 | | | | |
| Endosulfan I | 0.0232 | 0.00164 | " | 0.0332 | | 69.9 | 40-140 | | | | |
| Endosulfan II | 0.0242 | 0.00164 | " | 0.0332 | | 72.8 | 40-140 | | | | |
| Endosulfan sulfate | 0.0254 | 0.00164 | " | 0.0332 | | 76.5 | 40-140 | | | | |
| Endrin | 0.0219 | 0.00164 | " | 0.0332 | | 66.0 | 40-140 | | | | |
| Endrin aldehyde | 0.0260 | 0.00164 | " | 0.0332 | | 78.1 | 40-140 | | | | |
| Endrin ketone | 0.0252 | 0.00164 | " | 0.0332 | | 75.8 | 40-140 | | | | |
| gamma-BHC (Lindane) | 0.0204 | 0.00164 | " | 0.0332 | | 61.3 | 40-140 | | | | |
| gamma-Chlordane | 0.0235 | 0.00164 | " | 0.0332 | | 70.8 | 40-140 | | | | |
| Heptachlor | 0.0213 | 0.00164 | " | 0.0332 | | 64.0 | 40-140 | | | | |
| Heptachlor epoxide | 0.0225 | 0.00164 | " | 0.0332 | | 67.8 | 40-140 | | | | |
| Methoxychlor | 0.0316 | 0.00164 | " | 0.0332 | | 95.0 | 40-140 | | | | |
| *Surrogate: Decachlorobiphenyl* | *0.0319* | | *"* | *0.0664* | | *48.1* | *30-150* | | | | |
| *Surrogate: Tetrachloro-m-xylene* | *0.0268* | | *"* | *0.0664* | | *40.4* | *30-150* | | | | |

## Polychlorinated Biphenyls by GC/ECD - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52259 - EPA 3550C** | | | | | | | | | | | |
| **Blank (BG52259-BLK2)** | | | | | | | | | | | Prepared: 07/31/2025 Analyzed: 08/01/2025 |
| Aroclor 1016 | ND | 0.0166 | mg/kg wet | | | | | | | | |
| Aroclor 1221 | ND | 0.0166 | " | | | | | | | | |
| Aroclor 1232 | ND | 0.0166 | " | | | | | | | | |
| Aroclor 1242 | ND | 0.0166 | " | | | | | | | | |
| Aroclor 1248 | ND | 0.0166 | " | | | | | | | | |
| Aroclor 1254 | ND | 0.0166 | " | | | | | | | | |
| Aroclor 1260 | ND | 0.0166 | " | | | | | | | | |
| Total PCBs | ND | 0.0166 | " | | | | | | | | |
| *Surrogate: Tetrachloro-m-xylene* | *0.0581* | | *"* | *0.0664* | | *87.5* | *30-120* | | | | |
| *Surrogate: Decachlorobiphenyl* | *0.0392* | | *"* | *0.0664* | | *59.0* | *30-120* | | | | |
| **LCS (BG52259-BS2)** | | | | | | | | | | | Prepared: 07/31/2025 Analyzed: 08/01/2025 |
| Aroclor 1016 | 0.318 | 0.0166 | mg/kg wet | 0.332 | | 95.9 | 40-130 | | | | |
| Aroclor 1260 | 0.295 | 0.0166 | " | 0.332 | | 88.8 | 40-130 | | | | |
| *Surrogate: Tetrachloro-m-xylene* | *0.0532* | | *"* | *0.0664* | | *80.0* | *30-120* | | | | |
| *Surrogate: Decachlorobiphenyl* | *0.0389* | | *"* | *0.0664* | | *58.5* | *30-120* | | | | |

## Metals by ICP - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52099 - EPA 3050B** | | | | | | | | | | | |
| **Blank (BG52099-BLK1)** | | | | | | | | | | | Prepared: 07/29/2025 Analyzed: 07/30/2025 |
| Aluminum | ND | 4.17 | mg/kg wet | | | | | | | | |
| Antimony | ND | 2.08 | " | | | | | | | | |
| Arsenic | ND | 1.25 | " | | | | | | | | |
| Barium | ND | 2.08 | " | | | | | | | | |
| Beryllium | ND | 0.042 | " | | | | | | | | |
| Cadmium | ND | 0.250 | " | | | | | | | | |
| Calcium | ND | 4.17 | " | | | | | | | | |
| Chromium | ND | 0.417 | " | | | | | | | | |
| Cobalt | ND | 0.333 | " | | | | | | | | |
| Copper | ND | 1.67 | " | | | | | | | | |
| Iron | ND | 20.8 | " | | | | | | | | |
| Lead | ND | 0.417 | " | | | | | | | | |
| Magnesium | ND | 4.17 | " | | | | | | | | |
| Manganese | ND | 0.417 | " | | | | | | | | |
| Nickel | ND | 0.830 | " | | | | | | | | |
| Potassium | ND | 4.17 | " | | | | | | | | |
| Selenium | ND | 2.08 | " | | | | | | | | |
| Silver | ND | 0.420 | " | | | | | | | | |
| Sodium | ND | 41.7 | " | | | | | | | | |
| Thallium | ND | 1.67 | " | | | | | | | | |
| Vanadium | ND | 0.830 | " | | | | | | | | |
| Zinc | ND | 2.08 | " | | | | | | | | |
| **Duplicate (BG52099-DUP1)** | *Source sample: 25G1696-08 (TP-06 6) | | | | | | | | | | Prepared: 07/29/2025 Analyzed: 07/30/2025 |
| Aluminum | 8950 | 5.66 | mg/kg dry | | 8190 | | | | 8.94 | 35 | |
| Antimony | ND | 2.83 | " | | ND | | | | | 35 | |
| Arsenic | 13.3 | 1.70 | " | | 19.5 | | | | 38.1 | 35 | Non-dir. |
| Barium | 58.5 | 2.82 | " | | 97.3 | | | | 49.8 | 35 | Non-dir. |
| Beryllium | 0.764 | 0.057 | " | | 2.00 | | | | 89.4 | 35 | Non-dir. |
| Cadmium | ND | 0.339 | " | | ND | | | | | 35 | |
| Calcium | 4500 | 5.66 | " | | 4490 | | | | 0.351 | 35 | |
| Chromium | 13.2 | 0.566 | " | | 12.1 | | | | 8.95 | 35 | |
| Cobalt | 13.3 | 0.452 | " | | 15.5 | | | | 15.3 | 35 | |
| Copper | 28.6 | 2.26 | " | | 38.0 | | | | 28.0 | 35 | |
| Iron | 15900 | 28.3 | " | | 7240 | | | | 74.6 | 35 | Non-dir. |
| Lead | 58.1 | 0.566 | " | | 43.8 | | | | 28.1 | 35 | |
| Magnesium | 2370 | 5.66 | " | | 619 | | | | 117 | 35 | Non-dir. |
| Manganese | 316 | 0.566 | " | | 113 | | | | 94.9 | 35 | Non-dir. |
| Nickel | 31.3 | 1.13 | " | | 31.4 | | | | 0.217 | 35 | |
| Potassium | 738 | 5.66 | " | | 715 | | | | 3.15 | 35 | |
| Selenium | ND | 2.83 | " | | ND | | | | | 35 | |
| Silver | ND | 0.570 | " | | ND | | | | | 35 | |
| Sodium | 208 | 56.6 | " | | 395 | | | | 62.1 | 35 | Non-dir. |
| Thallium | ND | 2.27 | " | | ND | | | | | 35 | |
| Vanadium | 22.3 | 1.13 | " | | 33.0 | | | | 38.9 | 35 | Non-dir. |
| Zinc | 66.3 | 2.82 | " | | 49.2 | | | | 29.5 | 35 | |

## Metals by ICP - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52099 - EPA 3050B** | | | | | | | | | | | |
| **Post Spike (BG52099-PS1)** | *Source sample: 25G1696-08 (TP-06 6) | | | | | | | Prepared: 07/29/2025 Analyzed: 07/30/2025 | | | |
| Aluminum | 72.2 | | ug/mL | 2.00 | 72.4 | NR | 75-125 | Low Bias | | | |
| Antimony | 0.260 | | " | 0.250 | -0.005 | 104 | 75-125 | | | | |
| Arsenic | 2.21 | | " | 2.00 | 0.173 | 102 | 75-125 | | | | |
| Barium | 2.91 | | " | 2.00 | 0.860 | 102 | 75-125 | | | | |
| Beryllium | 0.069 | | " | 0.0500 | 0.018 | 102 | 75-125 | | | | |
| Cadmium | 0.052 | | " | 0.0500 | 0.002 | 99.2 | 75-125 | | | | |
| Calcium | 39.5 | | " | 1.00 | 39.7 | NR | 75-125 | Low Bias | | | |
| Chromium | 0.307 | | " | 0.200 | 0.107 | 100 | 75-125 | | | | |
| Cobalt | 0.643 | | " | 0.500 | 0.137 | 101 | 75-125 | | | | |
| Copper | 0.611 | | " | 0.250 | 0.336 | 110 | 75-125 | | | | |
| Iron | 64.3 | | " | 1.00 | 64.0 | 37.4 | 75-125 | Low Bias | | | |
| Lead | 0.889 | | " | 0.500 | 0.387 | 100 | 75-125 | | | | |
| Magnesium | 6.32 | | " | 1.00 | 5.47 | 84.5 | 75-125 | | | | |
| Manganese | 1.49 | | " | 0.500 | 0.995 | 99.4 | 75-125 | | | | |
| Nickel | 0.787 | | " | 0.500 | 0.277 | 102 | 75-125 | | | | |
| Potassium | 7.17 | | " | 1.00 | 6.32 | 84.5 | 75-125 | | | | |
| Selenium | 1.95 | | " | 2.00 | 0.004 | 97.3 | 75-125 | | | | |
| Silver | 0.048 | | " | 0.0500 | -0.003 | 96.6 | 75-125 | | | | |
| Sodium | 4.41 | | " | 1.00 | 3.49 | 91.8 | 75-125 | | | | |
| Thallium | 2.04 | | " | 2.00 | -0.003 | 102 | 75-125 | | | | |
| Vanadium | 0.795 | | " | 0.500 | 0.292 | 101 | 75-125 | | | | |
| Zinc | 0.919 | | " | 0.500 | 0.435 | 96.7 | 75-125 | | | | |
| **Reference (BG52099-SRM1)** | | | | | | | | Prepared: 07/29/2025 Analyzed: 07/30/2025 | | | |
| Aluminum | 9420 | 4.17 | mg/kg wet | 6840 | | 138 | 53.2-146.2 | | | | |
| Antimony | 75.3 | 2.08 | " | 101 | | 74.5 | 0.1-199 | | | | |
| Arsenic | 160 | 1.25 | " | 148 | | 108 | 81.1-119.6 | | | | |
| Barium | 200 | 2.08 | " | 191 | | 104 | 81.7-118.3 | | | | |
| Beryllium | 262 | 0.042 | " | 240 | | 109 | 82.1-117.5 | | | | |
| Cadmium | 193 | 0.250 | " | 190 | | 102 | 82.1-118.4 | | | | |
| Calcium | 4400 | 4.17 | " | 4030 | | 109 | 82.1-117.9 | | | | |
| Chromium | 142 | 0.417 | " | 132 | | 108 | 81.1-118.9 | | | | |
| Cobalt | 137 | 0.333 | " | 126 | | 109 | 82.5-117.5 | | | | |
| Copper | 275 | 1.67 | " | 234 | | 117 | 82.9-117.5 | | | | |
| Iron | 7610 | 20.8 | " | 6830 | | 111 | 59.7-140.4 | | | | |
| Lead | 102 | 0.417 | " | 98.6 | | 104 | 81.8-117.6 | | | | |
| Magnesium | 2360 | 4.17 | " | 1960 | | 121 | 76-124 | | | | |
| Manganese | 255 | 0.417 | " | 244 | | 105 | 80.7-119.3 | | | | |
| Nickel | 167 | 0.830 | " | 155 | | 108 | 81.9-118.1 | | | | |
| Potassium | 2550 | 4.17 | " | 2070 | | 123 | 71-128.5 | | | | |
| Selenium | 129 | 2.08 | " | 124 | | 104 | 78.5-121 | | | | |
| Silver | 60.0 | 0.420 | " | 54.9 | | 109 | 79.4-120.8 | | | | |
| Sodium | 338 | 41.7 | " | 275 | | 123 | 73.5-126.2 | | | | |
| Thallium | 190 | 1.67 | " | 183 | | 104 | 80.3-119.7 | | | | |
| Vanadium | 150 | 0.830 | " | 137 | | 110 | 78.1-121.9 | | | | |
| Zinc | 358 | 2.08 | " | 345 | | 104 | 79.4-120.6 | | | | |

## Metals by ICP - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52119 - EPA 3050B** | | | | | | | | | | | |
| **Blank (BG52119-BLK1)** | | | | | | | | | Prepared: 07/30/2025 Analyzed: 07/31/2025 | | |
| Aluminum | ND | 4.17 | mg/kg wet | | | | | | | | |
| Antimony | ND | 2.08 | " | | | | | | | | |
| Arsenic | ND | 1.25 | " | | | | | | | | |
| Barium | ND | 2.08 | " | | | | | | | | |
| Beryllium | ND | 0.042 | " | | | | | | | | |
| Cadmium | ND | 0.250 | " | | | | | | | | |
| Calcium | ND | 4.17 | " | | | | | | | | |
| Chromium | ND | 0.417 | " | | | | | | | | |
| Cobalt | ND | 0.333 | " | | | | | | | | |
| Copper | ND | 1.67 | " | | | | | | | | |
| Iron | ND | 20.8 | " | | | | | | | | |
| Lead | ND | 0.417 | " | | | | | | | | |
| Magnesium | ND | 4.17 | " | | | | | | | | |
| Manganese | ND | 0.417 | " | | | | | | | | |
| Nickel | ND | 0.830 | " | | | | | | | | |
| Potassium | ND | 4.17 | " | | | | | | | | |
| Selenium | ND | 2.08 | " | | | | | | | | |
| Silver | ND | 0.420 | " | | | | | | | | |
| Sodium | ND | 41.7 | " | | | | | | | | |
| Thallium | ND | 1.67 | " | | | | | | | | |
| Vanadium | ND | 0.830 | " | | | | | | | | |
| Zinc | ND | 2.08 | " | | | | | | | | |
| **Duplicate (BG52119-DUP1)** | *Source sample: 25G1696-27 (TP-15 8) | | | | | | | | Prepared: 07/30/2025 Analyzed: 07/31/2025 | | |
| Aluminum | 9970 | 4.61 | mg/kg dry | | 12900 | | | | 25.8 | 35 | |
| Antimony | 8.09 | 2.30 | " | | 6.99 | | | | 14.7 | 35 | |
| Arsenic | 10.1 | 1.38 | " | | 11.6 | | | | 13.1 | 35 | |
| Barium | 306 | 2.30 | " | | 350 | | | | 13.4 | 35 | |
| Beryllium | 0.321 | 0.046 | " | | 0.464 | | | | 36.4 | 35 | Non-dir. |
| Cadmium | 0.839 | 0.277 | " | | 0.866 | | | | 3.24 | 35 | |
| Calcium | 51800 | 4.61 | " | | 54900 | | | | 5.82 | 35 | |
| Chromium | 26.6 | 0.461 | " | | 22.5 | | | | 16.8 | 35 | |
| Cobalt | 8.01 | 0.368 | " | | 9.19 | | | | 13.7 | 35 | |
| Copper | 129 | 1.84 | " | | 85.9 | | | | 39.8 | 35 | Non-dir. |
| Iron | 34800 | 23.0 | " | | 26500 | | | | 26.8 | 35 | |
| Lead | 369 | 0.461 | " | | 133 | | | | 94.2 | 35 | Non-dir. |
| Magnesium | 7460 | 4.61 | " | | 8010 | | | | 7.10 | 35 | |
| Manganese | 489 | 0.461 | " | | 529 | | | | 8.03 | 35 | |
| Nickel | 25.3 | 0.918 | " | | 29.3 | | | | 15.0 | 35 | |
| Potassium | 1570 | 4.61 | " | | 1810 | | | | 14.3 | 35 | |
| Selenium | ND | 2.30 | " | | ND | | | | | 35 | |
| Silver | ND | 0.465 | " | | ND | | | | | 35 | |
| Sodium | 302 | 46.1 | " | | 347 | | | | 14.1 | 35 | |
| Thallium | ND | 1.85 | " | | ND | | | | | 35 | |
| Vanadium | 24.5 | 0.918 | " | | 29.9 | | | | 19.9 | 35 | |
| Zinc | 664 | 2.30 | " | | 431 | | | | 42.7 | 35 | Non-dir. |

## Metals by ICP - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52119 - EPA 3050B** | | | | | | | | | | | |
| **Matrix Spike (BG52119-MS1)** | *Source sample: 25G1696-27 (TP-15 8) | | | | | | | Prepared: 07/30/2025 Analyzed: 07/31/2025 | | | |
| Aluminum | 10400 | 4.61 | mg/kg dry | 184 | 12900 | NR | 75-125 | Low Bias | | | |
| Antimony | 17.0 | 2.30 | " | 23.0 | 6.99 | 43.4 | 75-125 | Low Bias | | | |
| Arsenic | 187 | 1.38 | " | 184 | 11.6 | 94.9 | 75-125 | | | | |
| Barium | 411 | 2.30 | " | 184 | 350 | 33.3 | 75-125 | Low Bias | | | |
| Beryllium | 3.97 | 0.046 | " | 4.61 | 0.464 | 76.1 | 75-125 | | | | |
| Cadmium | 5.01 | 0.277 | " | 4.61 | 0.866 | 90.0 | 75-125 | | | | |
| Calcium | 54100 | 4.61 | " | 92.2 | 54900 | NR | 75-125 | Low Bias | | | |
| Chromium | 36.5 | 0.461 | " | 18.4 | 22.5 | 75.6 | 75-125 | | | | |
| Cobalt | 43.9 | 0.368 | " | 46.1 | 9.19 | 75.4 | 75-125 | | | | |
| Copper | 114 | 1.84 | " | 23.0 | 85.9 | 120 | 75-125 | | | | |
| Iron | 22400 | 23.0 | " | 92.2 | 26500 | NR | 75-125 | Low Bias | | | |
| Lead | 145 | 0.461 | " | 46.1 | 133 | 27.1 | 75-125 | Low Bias | | | |
| Magnesium | 8230 | 4.61 | " | 92.2 | 8010 | 242 | 75-125 | High Bias | | | |
| Manganese | 535 | 0.461 | " | 46.1 | 529 | 12.9 | 75-125 | Low Bias | | | |
| Nickel | 70.6 | 0.918 | " | 46.1 | 29.3 | 89.5 | 75-125 | | | | |
| Potassium | 1520 | 4.61 | " | 92.2 | 1810 | NR | 75-125 | Low Bias | | | |
| Selenium | 168 | 2.30 | " | 184 | ND | 90.9 | 75-125 | | | | |
| Silver | 3.71 | 0.465 | " | 4.61 | ND | 80.6 | 75-125 | | | | |
| Sodium | 368 | 46.1 | " | 92.2 | 347 | 22.5 | 75-125 | Low Bias | | | |
| Thallium | 166 | 1.85 | " | 184 | ND | 90.2 | 75-125 | | | | |
| Vanadium | 67.3 | 0.918 | " | 46.1 | 29.9 | 81.2 | 75-125 | | | | |
| Zinc | 482 | 2.30 | " | 46.1 | 431 | 112 | 75-125 | | | | |
| **Post Spike (BG52119-PS1)** | *Source sample: 25G1696-27 (TP-15 8) | | | | | | | Prepared: 07/30/2025 Analyzed: 07/31/2025 | | | |
| Aluminum | 140 | | ug/mL | 2.00 | 140 | 0.780 | 75-125 | Low Bias | | | |
| Antimony | 0.335 | | " | 0.250 | 0.076 | 104 | 75-125 | | | | |
| Arsenic | 2.09 | | " | 2.00 | 0.126 | 98.4 | 75-125 | | | | |
| Barium | 5.72 | | " | 2.00 | 3.80 | 96.0 | 75-125 | | | | |
| Beryllium | 0.053 | | " | 0.0500 | 0.005 | 96.2 | 75-125 | | | | |
| Cadmium | 0.055 | | " | 0.0500 | 0.009 | 90.8 | 75-125 | | | | |
| Calcium | 590 | | " | 1.00 | 596 | NR | 75-125 | Low Bias | | | |
| Chromium | 0.431 | | " | 0.200 | 0.244 | 93.5 | 75-125 | | | | |
| Cobalt | 0.570 | | " | 0.500 | 0.100 | 94.0 | 75-125 | | | | |
| Copper | 1.20 | | " | 0.250 | 0.932 | 106 | 75-125 | | | | |
| Iron | 286 | | " | 1.00 | 288 | NR | 75-125 | Low Bias | | | |
| Lead | 1.89 | | " | 0.500 | 1.44 | 90.4 | 75-125 | | | | |
| Magnesium | 87.1 | | " | 1.00 | 86.9 | 24.2 | 75-125 | Low Bias | | | |
| Manganese | 6.17 | | " | 0.500 | 5.74 | 85.0 | 75-125 | | | | |
| Nickel | 0.779 | | " | 0.500 | 0.318 | 92.2 | 75-125 | | | | |
| Potassium | 20.6 | | " | 1.00 | 19.6 | 92.8 | 75-125 | | | | |
| Selenium | 1.90 | | " | 2.00 | -0.013 | 95.1 | 75-125 | | | | |
| Silver | 0.048 | | " | 0.0500 | -0.0008 | 96.4 | 75-125 | | | | |
| Sodium | 4.76 | | " | 1.00 | 3.77 | 99.5 | 75-125 | | | | |
| Thallium | 1.87 | | " | 2.00 | -0.006 | 93.3 | 75-125 | | | | |
| Vanadium | 0.820 | | " | 0.500 | 0.325 | 99.2 | 75-125 | | | | |
| Zinc | 5.07 | | " | 0.500 | 4.67 | 79.9 | 75-125 | | | | |

## Metals by ICP - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52119 - EPA 3050B** | | | | | | | | | | | |
| **Reference (BG52119-SRM1)** | | | | | | | | | | | |
| Prepared: 07/30/2025 Analyzed: 07/31/2025 | | | | | | | | | | | |
| Aluminum | 7600 | 4.17 | mg/kg wet | 6840 | | 111 | 53.2-146.2 | | | | |
| Antimony | 53.8 | 2.08 | " | 101 | | 53.3 | 0.1-199 | | | | |
| Arsenic | 147 | 1.25 | " | 148 | | 99.6 | 81.1-119.6 | | | | |
| Barium | 188 | 2.08 | " | 191 | | 98.6 | 81.7-118.3 | | | | |
| Beryllium | 238 | 0.042 | " | 240 | | 99.2 | 82.1-117.5 | | | | |
| Cadmium | 184 | 0.250 | " | 190 | | 97.0 | 82.1-118.4 | | | | |
| Calcium | 4030 | 4.17 | " | 4030 | | 100 | 82.1-117.9 | | | | |
| Chromium | 131 | 0.417 | " | 132 | | 99.5 | 81.1-118.9 | | | | |
| Cobalt | 130 | 0.333 | " | 126 | | 103 | 82.5-117.5 | | | | |
| Copper | 247 | 1.67 | " | 234 | | 105 | 82.9-117.5 | | | | |
| Iron | 6710 | 20.8 | " | 6830 | | 98.2 | 59.7-140.4 | | | | |
| Lead | 98.2 | 0.417 | " | 98.6 | | 99.6 | 81.8-117.6 | | | | |
| Magnesium | 2110 | 4.17 | " | 1960 | | 108 | 76-124 | | | | |
| Manganese | 265 | 0.417 | " | 244 | | 109 | 80.7-119.3 | | | | |
| Nickel | 158 | 0.830 | " | 155 | | 102 | 81.9-118.1 | | | | |
| Potassium | 2180 | 4.17 | " | 2070 | | 105 | 71-128.5 | | | | |
| Selenium | 122 | 2.08 | " | 124 | | 98.0 | 78.5-121 | | | | |
| Silver | 55.9 | 0.420 | " | 54.9 | | 102 | 79.4-120.8 | | | | |
| Sodium | 288 | 41.7 | " | 275 | | 105 | 73.5-126.2 | | | | |
| Thallium | 183 | 1.67 | " | 183 | | 100 | 80.3-119.7 | | | | |
| Vanadium | 140 | 0.830 | " | 137 | | 102 | 78.1-121.9 | | | | |
| Zinc | 342 | 2.08 | " | 345 | | 99.0 | 79.4-120.6 | | | | |
| **Batch BG52193 - EPA 3050B** | | | | | | | | | | | |
| **Blank (BG52193-BLK1)** | | | | | | | | | | | |
| Prepared: 07/30/2025 Analyzed: 07/31/2025 | | | | | | | | | | | |
| Aluminum | ND | 4.17 | mg/kg wet | | | | | | | | |
| Antimony | ND | 2.08 | " | | | | | | | | |
| Arsenic | ND | 1.25 | " | | | | | | | | |
| Barium | ND | 2.08 | " | | | | | | | | |
| Beryllium | ND | 0.042 | " | | | | | | | | |
| Cadmium | ND | 0.250 | " | | | | | | | | |
| Calcium | ND | 4.17 | " | | | | | | | | |
| Chromium | ND | 0.417 | " | | | | | | | | |
| Cobalt | ND | 0.333 | " | | | | | | | | |
| Copper | ND | 1.67 | " | | | | | | | | |
| Iron | ND | 20.8 | " | | | | | | | | |
| Lead | ND | 0.417 | " | | | | | | | | |
| Magnesium | ND | 4.17 | " | | | | | | | | |
| Manganese | ND | 0.417 | " | | | | | | | | |
| Nickel | ND | 0.830 | " | | | | | | | | |
| Potassium | ND | 4.17 | " | | | | | | | | |
| Selenium | ND | 2.08 | " | | | | | | | | |
| Silver | ND | 0.420 | " | | | | | | | | |
| Sodium | ND | 41.7 | " | | | | | | | | |
| Thallium | ND | 1.67 | " | | | | | | | | |
| Vanadium | ND | 0.830 | " | | | | | | | | |
| Zinc | ND | 2.08 | " | | | | | | | | |

## Metals by ICP - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52193 - EPA 3050B** | | | | | | | | | | | |
| **Reference (BG52193-SRM1)** | | | | | | | | Prepared: 07/30/2025 Analyzed: 07/31/2025 | | | |
| Aluminum | 8110 | 4.17 | mg/kg wet | 6840 | | 119 | 53.2-146.2 | | | | |
| Antimony | 62.5 | 2.08 | " | 101 | | 61.8 | 0.1-199 | | | | |
| Arsenic | 150 | 1.25 | " | 148 | | 101 | 81.1-119.6 | | | | |
| Barium | 202 | 2.08 | " | 191 | | 106 | 81.7-118.3 | | | | |
| Beryllium | 230 | 0.042 | " | 240 | | 95.8 | 82.1-117.5 | | | | |
| Cadmium | 183 | 0.250 | " | 190 | | 96.3 | 82.1-118.4 | | | | |
| Calcium | 4050 | 4.17 | " | 4030 | | 100 | 82.1-117.9 | | | | |
| Chromium | 133 | 0.417 | " | 132 | | 100 | 81.1-118.9 | | | | |
| Cobalt | 131 | 0.333 | " | 126 | | 104 | 82.5-117.5 | | | | |
| Copper | 253 | 1.67 | " | 234 | | 108 | 82.9-117.5 | | | | |
| Iron | 7090 | 20.8 | " | 6830 | | 104 | 59.7-140.4 | | | | |
| Lead | 98.1 | 0.417 | " | 98.6 | | 99.5 | 81.8-117.6 | | | | |
| Magnesium | 2170 | 4.17 | " | 1960 | | 111 | 76-124 | | | | |
| Manganese | 270 | 0.417 | " | 244 | | 111 | 80.7-119.3 | | | | |
| Nickel | 157 | 0.830 | " | 155 | | 101 | 81.9-118.1 | | | | |
| Potassium | 2330 | 4.17 | " | 2070 | | 112 | 71-128.5 | | | | |
| Selenium | 123 | 2.08 | " | 124 | | 98.8 | 78.5-121 | | | | |
| Silver | 55.7 | 0.420 | " | 54.9 | | 101 | 79.4-120.8 | | | | |
| Sodium | 296 | 41.7 | " | 275 | | 108 | 73.5-126.2 | | | | |
| Thallium | 181 | 1.67 | " | 183 | | 98.9 | 80.3-119.7 | | | | |
| Vanadium | 142 | 0.830 | " | 137 | | 104 | 78.1-121.9 | | | | |
| Zinc | 341 | 2.08 | " | 345 | | 98.7 | 79.4-120.6 | | | | |
| **Batch S5G3011 - BG52099** | | | | | | | | | | | |
| **25G1696-08 (S5G3011-SRD5)** | *Source sample: 25G1696-08 (TP-06 6) | | | | | | | Prepared: 07/29/2025 Analyzed: 07/30/2025 | | | |
| Aluminum | 10800 | 28.3 | mg/kg dry | 8190 | | | | | 32.3 | 10 | Non-dir. |
| Antimony | ND | 14.1 | " | ND | | | | | | 10 | |
| Arsenic | 24.9 | 8.48 | " | 19.5 | | | | | 27.6 | 10 | Non-dir. |
| Barium | 128 | 14.1 | " | 97.3 | | | | | 31.3 | 10 | Non-dir. |
| Beryllium | 2.69 | 0.285 | " | 2.00 | | | | | 34.8 | 10 | Non-dir. |
| Cadmium | ND | 1.70 | " | ND | | | | | | 10 | |
| Calcium | 5950 | 28.3 | " | 4490 | | | | | 32.5 | 10 | Non-dir. |
| Chromium | 15.8 | 2.83 | " | 12.1 | | | | | 30.7 | 10 | Non-dir. |
| Cobalt | 20.6 | 2.26 | " | 15.5 | | | | | 33.2 | 10 | Non-dir. |
| Copper | 46.3 | 11.3 | " | 38.0 | | | | | 21.9 | 10 | Non-dir. |
| Iron | 9360 | 141 | " | 7240 | | | | | 29.3 | 10 | Non-dir. |
| Lead | 57.3 | 2.83 | " | 43.8 | | | | | 30.8 | 10 | Non-dir. |
| Magnesium | 833 | 28.3 | " | 619 | | | | | 34.6 | 10 | Non-dir. |
| Manganese | 149 | 2.83 | " | 113 | | | | | 32.3 | 10 | Non-dir. |
| Nickel | 41.5 | 5.63 | " | 31.4 | | | | | 32.3 | 10 | Non-dir. |
| Potassium | 1020 | 28.3 | " | 715 | | | | | 42.9 | 10 | Non-dir. |
| Selenium | ND | 14.1 | " | ND | | | | | | 10 | |
| Silver | ND | 2.85 | " | ND | | | | | | 10 | |
| Sodium | 538 | 283 | " | 395 | | | | | 36.2 | 10 | Non-dir. |
| Thallium | ND | 11.3 | " | ND | | | | | | 10 | |
| Vanadium | 42.5 | 5.63 | " | 33.0 | | | | | 28.7 | 10 | Non-dir. |
| Zinc | 66.9 | 14.1 | " | 49.2 | | | | | 35.9 | 10 | Non-dir. |

## Metals by ICP - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch S5G3110 - BG52119** | | | | | | | | | | | |
| **25G1696-27 (S5G3110-SRD1)** | *Source sample: 25G1696-27 (TP-15 8) | | | | | | | | Prepared: 07/30/2025 Analyzed: 07/31/2025 | | |
| Aluminum | 16500 | 23.0 | mg/kg dry | | 12900 | | | | 27.9 | 10 | Non-dir. |
| Antimony | ND | 11.5 | " | | ND | | | | | 10 | |
| Arsenic | 15.1 | 6.91 | " | | 11.6 | | | | 30.7 | 10 | Non-dir. |
| Barium | 438 | 11.5 | " | | 350 | | | | 25.2 | 10 | Non-dir. |
| Beryllium | 0.595 | 0.232 | " | | 0.464 | | | | 28.2 | 10 | Non-dir. |
| Cadmium | ND | 1.38 | " | | ND | | | | | 10 | |
| Calcium | 71700 | 23.0 | " | | 54900 | | | | 30.5 | 10 | Non-dir. |
| Chromium | 28.1 | 2.31 | " | | 22.5 | | | | 24.6 | 10 | Non-dir. |
| Cobalt | 12.0 | 1.84 | " | | 9.19 | | | | 30.9 | 10 | Non-dir. |
| Copper | 98.4 | 9.22 | " | | 85.9 | | | | 14.5 | 10 | Non-dir. |
| Iron | 31700 | 115 | " | | 26500 | | | | 19.6 | 10 | Non-dir. |
| Lead | 170 | 2.31 | " | | 133 | | | | 27.8 | 10 | Non-dir. |
| Magnesium | 10200 | 23.1 | " | | 8010 | | | | 27.8 | 10 | Non-dir. |
| Manganese | 672 | 2.31 | " | | 529 | | | | 26.9 | 10 | Non-dir. |
| Nickel | 37.4 | 4.59 | " | | 29.3 | | | | 27.4 | 10 | Non-dir. |
| Potassium | 2220 | 23.1 | " | | 1810 | | | | 22.7 | 10 | Non-dir. |
| Selenium | ND | 11.5 | " | | ND | | | | | 10 | |
| Silver | ND | 2.32 | " | | ND | | | | | 10 | |
| Sodium | 445 | 230 | " | | 347 | | | | 28.2 | 10 | Non-dir. |
| Thallium | ND | 9.24 | " | | ND | | | | | 10 | |
| Vanadium | 36.4 | 4.59 | " | | 29.9 | | | | 21.7 | 10 | Non-dir. |
| Zinc | 565 | 11.5 | " | | 431 | | | | 31.3 | 10 | Non-dir. |

## Mercury by EPA 7000/200 Series Methods - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52013 - EPA 7473 soil** | | | | | | | | | | | |
| **Blank (BG52013-BLK1)** | | | | | | | | Prepared & Analyzed: 07/29/2025 | | | |
| Mercury | ND | 0.0300 | mg/kg wet | | | | | | | | |
| **Reference (BG52013-SRM1)** | | | | | | | | Prepared & Analyzed: 07/29/2025 | | | |
| Mercury | 16.674 | | mg/kg | 24.0 | | 69.5 | 55.8-109.6 | | | | |
| **Batch BG52037 - EPA 7473 soil** | | | | | | | | | | | |
| **Blank (BG52037-BLK1)** | | | | | | | | Prepared & Analyzed: 07/29/2025 | | | |
| Mercury | ND | 0.0300 | mg/kg wet | | | | | | | | |
| **Duplicate (BG52037-DUP1)** | *Source sample: 25G1696-02 (TP-04 2) | | | | | | | Prepared & Analyzed: 07/29/2025 | | | |
| Mercury | 0.958 | 0.0328 | mg/kg dry | | 0.425 | | | | 77.0 | 35 | Non-dir. |
| **Matrix Spike (BG52037-MS1)** | *Source sample: 25G1696-02 (TP-04 2) | | | | | | | Prepared & Analyzed: 07/29/2025 | | | |
| Mercury | 1.42 | | mg/kg | 1.00 | 0.389 | 103 | 75-125 | | | | |
| **Reference (BG52037-SRM1)** | | | | | | | | Prepared & Analyzed: 07/29/2025 | | | |
| Mercury | 16.172 | | mg/kg | 24.0 | | 67.4 | 55.8-109.6 | | | | |
| **Batch BG52046 - EPA 7473 soil** | | | | | | | | | | | |
| **Blank (BG52046-BLK1)** | | | | | | | | Prepared: 07/29/2025 Analyzed: 07/30/2025 | | | |
| Mercury | ND | 0.0300 | mg/kg wet | | | | | | | | |
| **Reference (BG52046-SRM1)** | | | | | | | | Prepared: 07/29/2025 Analyzed: 07/30/2025 | | | |
| Mercury | 16.219 | | mg/kg | 24.0 | | 67.6 | 55.8-109.6 | | | | |

## Miscellaneous Physical Parameters - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BG52140 - % Solids Prep** | | | | | | | | | | | |
| **Duplicate (BG52140-DUP1)** | *Source sample: 25G1696-21 (TP-13 8) | | | | | | | Prepared & Analyzed: 07/30/2025 | | | |
| % Solids | 89.6 | 0.100 | % | | 88.4 | | | | 1.44 | 20 | |
| **Batch BG52142 - % Solids Prep** | | | | | | | | | | | |
| **Duplicate (BG52142-DUP1)** | *Source sample: 25G1696-25 (TP-15 2) | | | | | | | Prepared & Analyzed: 07/30/2025 | | | |
| % Solids | 76.0 | 0.100 | % | | 82.1 | | | | 7.69 | 20 | |

## Sample and Data Qualifiers Relating to This Work Order

| | |
|---|---|
| QL-02 | This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature. |
| M-DUPS | The RPD between the native sample and the duplicate is outside of limits due to sample non-homogeneity |
| M-CCV1 | The recovery for this element in the Continuing Calibration Verification (CCV) was outside the 90-110% recovery criteria. |
| J | Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration. |
| CCVE | The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for average Rf or >20% Drift for quadratic fit). |
| CAL-E | The value reported is ESTIMATED. The value is estimated due to its behavior during initial calibration (average Rf>20%) |

## Definitions and Other Explanations

| | |
|---|---|
| * | Analyte is not certified or the state of the samples origination does not offer certification for the Analyte. |
| ND | NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL) |
| RL | REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve. |
| LOQ | LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses. |
| LOD | LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846. |
| MDL | METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods. |
| Reported to | This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only. |
| NR | Not reported |
| RPD | Relative Percent Difference |
| Wet | The data has been reported on an as-received (wet weight) basis |
| Low Bias | Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias. |
| High Bias | High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias. |
| Non-Dir. | Non-dir. flag (Non-Directional Bias ) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons. |

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two. For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.

---

# Field Chain-of-Custody Record

**YORK**
ANALYTICAL LABORATORIES INC

York Analytical Laboratories, Inc. (YORK)'s Standard Terms & Conditions are listed on the back side of this document.
This document serves as your written authorization for YORK to proceed with the analyses requested below.
Your signature binds you to YORK's Standard Terms & Conditions.

**YORK Project No.** 25G1696

120 Research Drive Stratford, CT 06615 132-02 89th Ave Queens, NY 11418 56 Church Hill Rd. #2 Newtown, CT 06470 clientservices@yorklab.com www.yorklab.com 800-306-YORK



| YOUR Information | Report To: | Invoice To: |
|---|---|---|
| Company: GBTS | Company: RICHARD | Company: BRENDA |
| Address: 22 IBM ROAD Poughkeepsie NY | Address: | Address: |
| Phone.: | Phone.: | Phone.: |
| Contact: | Contact: | Contact: |
| E-mail: | E-mail: | E-mail: |

**YOUR Project Number:** 23003-0060

**YOUR Project Name:** 23003-0060

**YOUR PO#:**

**Turn-Around Time**

- RUSH - Next Day
- RUSH - Two Day
- RUSH - Three Day
- RUSH - Four Day
- RUSH - Five Day
- **Standard (6-9 Day)** X

PFAS Standard is 7-10 Days

*Please print clearly and legibly. All information must be complete. Samples will not be logged in and the turn-around-time clock will not begin until any questions by YORK are resolved.*

R. Hooker BA Hook

**Samples Collected by:** (print AND sign your name)

**Matrix Codes**

S - soil / solid
GW - groundwater
DW - drinking water
WW - wastewater
O - Oil | Other

**Samples From**

New York X
New Jersey
Connecticut
Pennsylvania
Other:

**Report / EDD Type** (circle selections)

Summary Report | CT RCP | EQuIS (Standard)
QA Report | CT RCP DQA/DUE | NYSDEC EQuIS
CMDP | NJDEP Reduced Deliverables | NJDKQP
Standard Excel EDD | NJDEP SRP HazSite
NY ASP B Package | Other:

**YORK Reg. Comp.**

Compared to the following Regulation(s): (please fill in)

| Sample Identification | Sample Matrix | Date/Time Sampled | Analyses Requested | Container Type | No. |
|---|---|---|---|---|---|
| TP-03 3 | S | 7/23/25 | TAL METALS SVOCs | 8 oz jar | |
| TP-04 2 | | | | | |
| TP-04 4 | | | SVOCs | | |
| TP-04 6 | | | | | |
| TP-04 8 | | | | | |
| TP-05 4 | | | | | |
| TP-06 4 | | | | | |
| TP-06 6 | | | SVOCs | | |
| TP-06 12 | | | | | |
| TP-07 2 | ↓ | ↓ | ↓ | ↓ | |

**Comments:**

Samples iced/chilled at time of lab pickup? circle Yes or No

**Preservation:** (check all that apply)

HCl ___ MeOH ___ HNO3 ___ H2SO4 ___ NaOH ___
ZnAc ___ Ascorbic Acid ___ Other: ___

**Special Instruction**

Field Filtered
Lab to Filter

| 1. Samples Relinquished by / Company | Date/Time | 1. Samples Received by / Company | Date/Time | 2. Samples Relinquished by / Company | Date/Time |
|---|---|---|---|---|---|
| BA Hooker | 7/25/25 9:25 | Chris C | 7-25-25 9:25 | Chris C | 7-25-25 15:00 |
| 2. Samples Received by / Company | Date/Time | 3. Samples Relinquished by / Company | Date/Time | 3. Samples Received by / Company | Date/Time |
| | | | | | |
| 4. Samples Relinquished by / Company | Date/Time | 4. Samples Received by / Company | Date/Time | Samples Received in LAB by | Date/Time / Temperature |
| | | | | | 7/25/25 15:00 3.7 Degrees C |

York Analytical Laboratories, Inc.
120 Research Drive, Stratford, CT 06615
132-02 89th Ave, Queens, NY 11418
clientservices@yorklab.com
www.yorklab.com

# Field Chain-of-Custody Record

**NOTE:** YORK's Standard Terms & Conditions are listed on the back side of this document.
This document serves as your written authorization for YORK to proceed with the analyses requested below.
Your signature binds you to YORK's Standard Terms & Conditions.

YORK Project No. 25G1694



| YOUR Information | Report To: | Invoice To: |
|---|---|---|
| Company: GBTS | Company: RICHARD | Company: BRENDA |
| Address: 221 Bm Road Poughkeepsie NY | Address: | Address: |
| Phone.: | Phone.: | Phone.: |
| Contact: | Contact: | Contact: |
| E-mail: | E-mail: | E-mail: |

**YOUR Project Number:** 23003-0060

**YOUR Project Name:** 23003-0060

**YOUR PO#:**

**Turn-Around Time**

| | |
|---|---|
| RUSH - Next Day | |
| RUSH - Two Day | |
| RUSH - Three Day | |
| RUSH - Four Day | |
| Standard (5-7 Day) | X |

*Please print clearly and legibly. All information must be complete. Samples will not be logged in and the turn-around-time clock will not begin until any questions by YORK are resolved.*

R Hoover

Samples Collected by: (print your name above and sign below)

R A Hoover

**Matrix Codes**

S - soil / solid
GW - groundwater
DW - drinking water
WW - wastewater
O - Oil ⋮ Other

**Samples From**

| | |
|---|---|
| New York | X |
| New Jersey | |
| Connecticut | |
| Pennsylvania | |
| Other | |

**Report / EDD Type** (circle selections)

| | | |
|---|---|---|
| (Summary Report) | CT RCP | Standard Excel EDD |
| QA Report | CT RCP DQA/DUE | EQuIS (Standard) |
| NY ASP A Package | NJDEP Reduced Deliverables | NYSDEC EQuIS |
| NY ASP B Package | | NJDEP SRP HazSite |
| | NJDKQP | Other: |

**YORK Reg. Comp.**

Compared to the following Regulation(s): (please fill in)

| Sample Identification | Sample Matrix | Date/Time Sampled | Analysis Requested | Container Description |
|---|---|---|---|---|
| TP-07 4 | S | 7/23/25 | TAL METALS | 8oz jar |
| TP-08 2 | | | SVOCs | |
| TP-08 10 | | | | |
| TP-09 13 | | | | |
| TP-10 2 | | | | |
| TP-10 10 | | | | |
| TP-11 2 | | | SVOCs | |
| TP-11 4 | | | | |
| TP-12 4 | | | | |
| TP-13 6 | | | | |

**Comments:**

**Preservation:** (check all that apply)
HCl ___ MeOH ___ $HNO_3$ ___ $H_2SO_4$ ___ NaOH ___ ZnAc ___
Ascorbic Acid ___ Other: ___

**Special Instruction**
Field Filtered ___
Lab to Filter ___

| Samples Relinquished by / Company | Date/Time | Samples Received by / Company | Date/Time | Samples Relinquished by / Company | Date/Time |
|---|---|---|---|---|---|
| R A Hoover | 7/25/25 9:25 | Chris C | 7-25-25 9:25 | Chris C | 7-25-25 15:00 |
| Samples Received by / Company | Date/Time | Samples Relinquished by / Company | Date/Time | Samples Received by / Company | Date/Time |
| | | | | | |
| Samples Relinquished by / Company | Date/Time | Samples Received by / Company | Date/Time | Samples Received in LAB by | Date/Time |
| | | | | [signature] | 7/25/25 15:00 |

**Temp. Received at Lab:** 3.7 Degrees C

York Analytical Laboratories, Inc.
120 Research Drive, Stratford, CT 06615
132-02 89th Ave, Queens, NY 11418
clientservices@yorklab.com
www.yorklab.com

# Field Chain-of-Custody Record

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This document serves as your written authorization for YORK to proceed with the analyses requested below.
Your signature binds you to YORK's Standard Terms & Conditions.

YORK Project No. 25G1696



| YOUR Information | Report To: | Invoice To: |
|---|---|---|
| Company: GBTS | Company: RICHARD | Company: BRENDA |
| Address: 22 IBM ROAD POUGHKEEPSIE NY | Address: | Address: |
| Phone.: | Phone.: | Phone.: |
| Contact: | Contact: | Contact: |
| E-mail: | E-mail: | E-mail: |

**YOUR Project Number:** 23003 – 0060

**YOUR Project Name:** 23003 – 0060

**YOUR PO#:**

**Turn-Around Time**

| | |
|---|---|
| RUSH - Next Day | |
| RUSH - Two Day | |
| RUSH - Three Day | |
| RUSH - Four Day | |
| Standard (5-7 Day) | X |

*Please print clearly and legibly. All information must be complete. Samples will not be logged in and the turn-around-time clock will not begin until any questions by YORK are resolved.*

Samples Collected by: (print your name above and sign below)

R. HOOKER

R A Hooker

**Matrix Codes**

S - soil / solid
GW - groundwater
DW - drinking water
WW - wastewater
O - Oil | Other

**Samples From**

| | |
|---|---|
| New York | X |
| New Jersey | |
| Connecticut | |
| Pennsylvania | |
| Other | |

**Report / EDD Type** (circle selections)

| | | |
|---|---|---|
| (Summary Report) | CT RCP | Standard Excel EDD |
| QA Report | CT RCP DQA/DUE | EQuIS (Standard) |
| NY ASP A Package | NJDEP Reduced Deliverables | NYSDEC EQuIS |
| NY ASP B Package | NJDKQP | NJDEP SRP HazSite |
| | | Other: |

**YORK Reg. Comp.**

Compared to the following Regulation(s): (please fill in)

| Sample Identification | Sample Matrix | Date/Time Sampled | Analysis Requested | Container Description |
|---|---|---|---|---|
| TP-13 8 | S | 7/23/25 | TAL METALS | 8oz Jar |
| TP-13 13 | | | SVOCS | |
| TP-14 2 | | | SVOCS, PESTICIDES, PCBs | |
| TP-14 4 | | | | |
| TP-15 2 | | | | |
| TP-15 4 | | | SVOCS, PESTICIDES | |
| TP-15 8 | | | | |
| TP-15 12 | X | X | | |
| | | | X | X |
| | | | | |

**Comments:**

**Preservation:** (check all that apply)
HCl ___ MeOH ___ $HNO_3$ ___ $H_2SO_4$ ___ NaOH ___ ZnAc ___
Ascorbic Acid ___ Other: ___

**Special Instruction**
Field Filtered ____
Lab to Filter ____

| Samples Relinquished by / Company | Date/Time | Samples Received by / Company | Date/Time | Samples Relinquished by / Company | Date/Time |
|---|---|---|---|---|---|
| R A Hooker | 7/25/25 9:25 | Chris C | 7-25-25 9:25 | Chris C | 7-25-25 15:00 |
| Samples Received by / Company | Date/Time | Samples Relinquished by / Company | Date/Time | Samples Received by / Company | Date/Time |
| | | | | | |
| Samples Relinquished by / Company | Date/Time | Samples Received by / Company | Date/Time | Samples Received in LAB by | Date/Time / Temp. Received at Lab |
| | | | | | 7/25/25 15:00 — 3.7 Degrees C |

# ATTACHMENT D – Test Pit Logs

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| TP-03 (SHEET 1 OF 13) | Vanguard Village I & II – Subsurface Investigation<br>181-187 Clinton Street, City of Binghamton, New York<br>NYSDEC BCP ID: C704063 | GBTS PROJECT 23003-0060 |
|---|---|---|
| | DATE: 2025-07-23 EXCAVATOR Paragon (Hitachi ZX190L)<br>GBTS STAFF: R. Hooker WEATHER: sunny, 70s F | |

| INTERVAL | SURFACE MATERIAL: ASPHALT (6")<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 4'** | M SAND with glass and metal fragments (Fill) | Dry | 0.0 | ND | ND | ND | **3'** |
| **4 – 8'** | Brown M SAND with Gravel<br>****** End of Test Pit at 8' ***** | Dry | 0.0 | ND | ND | ND | |

***Notes***

**Fill Materials**
~0 - 4'

**Field Evidence of Contamination**
Not encountered

**Saturated Soils**
Not encountered

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **P** (plastic) **LP** (low plastic) **NP** (non-plastic) **Sl** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| TP-04 (SHEET 2 OF 13) | Vanguard Village I & II – Subsurface Investigation<br>181-187 Clinton Street, City of Binghamton, New York<br>NYSDEC BCP ID: C704063 | GBTS PROJECT 23003-0060 |
|---|---|---|
| | DATE: 2025-07-23 EXCAVATOR Paragon (Hitachi ZX190L)<br>GBTS STAFF: R. Hooker WEATHER: sunny, 70s F | |

| INTERVAL | SURFACE MATERIAL: ASPHALT (6")<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 8'** | Gray M SAND with glass and metal fragments (Fill) | Dry | 0.0 | ND | ND | ND | **2'**<br>**4'**<br>**6'** |
| **8 – 12'** | Brown M SAND with Gravel (dark staining 8-10')<br>****** End of Test Pit at 12' ***** | Dry | 0.0 | ND | ND | ND | **8'** |

***Notes***

**Fill Materials**
~0 - 8'

**Field Evidence of Contamination**
Dark staining 8-10'

**Saturated Soils**
Not encountered

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **P** (plastic) **LP** (low plastic) **NP** (non-plastic) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| TP-05 (SHEET 3 OF 13) | Vanguard Village I & II – Subsurface Investigation<br>181-187 Clinton Street, City of Binghamton, New York<br>NYSDEC BCP ID: C704063 | GBTS PROJECT 23003-0060 |
|---|---|---|
| | DATE: 2025-07-23 EXCAVATOR Paragon (Hitachi ZX190L)<br>GBTS STAFF: R. Hooker WEATHER: sunny, 70s F | |

| INTERVAL | SURFACE MATERIAL: CONCRETE (6")<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 4'** | Gray M SAND with glass and metal fragments (Fill) | Dry | 0.0 | ND | ND | ND | **4'** |
| **4 – 8'** | Brown M SAND with Gravel (likely fill)<br>****** End of Test Pit at 8' ***** | Dry | 0.0 | ND | ND | ND | |

***Notes***

**Fill Materials**
~0 - 8'
**Field Evidence of Contamination**
Dark staining 8'-10'
**Saturated Soils**
Not encountered

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **P** (plastic) **LP** (low plastic) **NP** (non-plastic) **Sl** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| TP-06 (SHEET 4 OF 13) | Vanguard Village I & II – Subsurface Investigation<br>181-187 Clinton Street, City of Binghamton, New York<br>NYSDEC BCP ID: C704063 | GBTS PROJECT 23003-0060 |
|---|---|---|
| | DATE: 2025-07-23 EXCAVATOR Paragon (Hitachi ZX190L)<br>GBTS STAFF: R. Hooker WEATHER: sunny, 70s F | |

| INTERVAL | SURFACE MATERIAL: ASPHALT (6")<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 12'** | Gray M SAND with glass and metal fragments (Fill) | Dry | 0.0 | ND | ND | ND | **4'**<br>**6'** |
| **12'** | Brown M SAND with Gravel<br>****** End of Test Pit at 12' ***** | Dry | 0.0 | ND | ND | ND | **12'** |

***Notes***

**Fill Materials**
~0 - 12'
**Field Evidence of Contamination**
Not encountered
**Saturated Soils**
Not encountered

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **P** (plastic) **LP** (low plastic) **NP** (non-plastic) **Sl** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| TP-07 (SHEET 5 OF 13) | Vanguard Village I & II – Subsurface Investigation<br>181-187 Clinton Street, City of Binghamton, New York<br>NYSDEC BCP ID: C704063 | GBTS PROJECT 23003-0060 |
|---|---|---|
| | DATE: 2025-07-23 EXCAVATOR Paragon (Hitachi ZX190L)<br>GBTS STAFF: R. Hooker WEATHER: sunny, 70s F | |

| INTERVAL (RECOVERY) | SURFACE MATERIAL: VEGETATION/DECAYED ASPHALT<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 4'** | Gray M SAND with glass and metal fragments (Fill) | Dry | 0.0 | ND | ND | ND | **2'**<br>**4'** |
| **4 – 10'** | Brown M SAND with Gravel<br>****** End of Test Pit at 10' ***** | Dry | 0.0 | ND | ND | ND | |

***Notes***

**Fill Materials**
~0 - 4'

**Field Evidence of Contamination**
Ash layer at approximately 2'

**Saturated Soils**
Not encountered

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **P** (plastic) **LP** (low plastic) **NP** (non-plastic) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| TP-08 (SHEET 6 OF 13) | Vanguard Village I & II – Subsurface Investigation<br>181-187 Clinton Street, City of Binghamton, New York<br>NYSDEC BCP ID: C704063 | GBTS PROJECT 23003-0060 |
|---|---|---|
| | DATE: 2025-07-23 EXCAVATOR Paragon (Hitachi ZX190L)<br>GBTS STAFF: R. Hooker WEATHER: sunny, 70s F | |

| INTERVAL | SURFACE MATERIAL: ASPHALT (6")<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 12'** | M SAND with glass, metal, wood, and fabric fragments (Fill) | Dry | 0.0 | ND | ND | ND | **2'**<br>**10'** |
| **12'** | Brown M SAND with Gravel<br>****** End of Test Pit at 12' ***** | Dry | 0.0 | ND | ND | ND | |

***Notes***

**Fill Materials**
~0 - 12'

**Field Evidence of Contamination**
Not encountered

**Saturated Soils**
Not encountered

**Additional Field Notes**
Test pit was extended at the location of an anomaly identified during geophysical survey. East wall of test pit to 12 was a brick wall of former structure. Concrete footing encountered at 12'

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **P** (plastic) **LP** (low plastic) **NP** (non-plastic) **Sl** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| TP-09 (SHEET 7 OF 13) | Vanguard Village I & II – Subsurface Investigation<br>181-187 Clinton Street, City of Binghamton, New York<br>NYSDEC BCP ID: C704063 | GBTS PROJECT 23003-0060 |
|---|---|---|
| | DATE: 2025-07-23 EXCAVATOR Paragon (Hitachi ZX190L)<br>GBTS STAFF: R. Hooker WEATHER: sunny, 70s F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: ASPHALT (6")<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 15'** | Light gray M SAND with Gravel (likely fill) | Dry | 0.0 | ND | ND | ND | **13'** |
| **15'** | Brown M SAND with Gravel<br>****** End of Test Pit at 15' ***** | Dry | 0.0 | ND | ND | ND | |

***Notes***

**Fill Materials**
0 - 15'
**Field Evidence of Contamination**
Not encountered
**Saturated Soils**
Not encountered

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **P** (plastic) **LP** (low plastic) **NP** (non-plastic) **Sl** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| TP-10 (SHEET 8 OF 13) | Vanguard Village I & II – Subsurface Investigation<br>181-187 Clinton Street, City of Binghamton, New York<br>NYSDEC BCP ID: C704063 | GBTS PROJECT 23003-0060 |
|---|---|---|
| | DATE: 2025-07-23 EXCAVATOR Paragon (Hitachi ZX190L)<br>GBTS STAFF: R. Hooker WEATHER: sunny, 70s F | |

| INTERVAL | SURFACE MATERIAL: CONCRETE (6")<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 8'** | Brown GRAVEL (<1/2"; likely fill)<br>4" cast iron pipe extended from northeast to southwest across test pit | Dry | 0.0 | ND | ND | ND | **2'** |
| **8 – 8.5'** | Concrete slab (6") | Dry | 0.0 | ND | ND | ND | |
| **8.5 – 12'** | Brown M SAND with Gravel<br>****** End of Test Pit at 12' ***** | Dry | 0.0 | ND | ND | ND | **10'** |

***Notes***

**Fill Materials**
~0 - 8'

**Field Evidence of Contamination**
Not encountered

**Saturated Soils**
Not encountered

**Additional Field Notes**
Test pit extended in location of a raised concrete platform located along the western side of Hudson Street

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **P** (plastic) **LP** (low plastic) **NP** (non-plastic) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| TP-11 (SHEET 9 OF 13) | Vanguard Village I & II – Subsurface Investigation<br>181-187 Clinton Street, City of Binghamton, New York<br>NYSDEC BCP ID: C704063 | GBTS PROJECT 23003-0060 |
|---|---|---|
| | DATE: 2025-07-23 EXCAVATOR Paragon (Hitachi ZX190L)<br>GBTS STAFF: R. Hooker WEATHER: sunny, 70s F | |

| INTERVAL | SURFACE MATERIAL: CONCRETE (8")<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 6'** | Dark brown to black Sandy SILT with some glass and brick fragments (Fill) | Dry | 0.0 | ND | ND | ND | **2'**<br>**4'** |
| **6 – 8'** | Brown M SAND with Gravel<br>****** End of Test Pit at 8' ***** | Dry | 0.0 | ND | ND | ND | |

***Notes***

**Fill Materials**
~0 - 6'

**Field Evidence of Contamination**
Discolored/black sandy soil. Burnt odor.

**Saturated Soils**
Not encountered

**Additional Field Notes**
8" concrete breach

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **P** (plastic) **LP** (low plastic) **NP** (non-plastic) **Sl** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| TP-12 (SHEET 10 OF 13) | Vanguard Village I & II – Subsurface Investigation<br>181-187 Clinton Street, City of Binghamton, New York<br>NYSDEC BCP ID: C704063 | GBTS PROJECT 23003-0060 |
|---|---|---|
| | DATE: 2025-07-23 EXCAVATOR Paragon (Hitachi ZX190L)<br>GBTS STAFF: R. Hooker WEATHER: sunny, 70s F | |

| INTERVAL | SURFACE MATERIAL: GRASS/VEGETATION<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 4'** | Gray SILT with some brick, concrete fragments, pale/white powder horizon at 3'-4' (Fill) | Dry | 0.0 | ND | ND | ND | **4'** |
| **4 – 8'** | Brown M SAND with Gravel<br>****** End of Test Pit at 8' ***** | Dry | 0.0 | ND | ND | ND | |

***Notes***

**Fill Materials**
~0 - 4'

**Field Evidence of Contamination**
Discoloration/white powder commingled with soil

**Saturated Soils**
Not encountered

**Additional Field Notes**
Test pit extended on the eastern side of a stockpile that had become overgrown with vegetation

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **P** (plastic) **LP** (low plastic) **NP** (non-plastic) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| TP-13 (SHEET 11 OF 13) | Vanguard Village I & II – Subsurface Investigation<br>181-187 Clinton Street, City of Binghamton, New York<br>NYSDEC BCP ID: C704063 | GBTS PROJECT 23003-0060 |
|---|---|---|
| | DATE: 2025-07-23 EXCAVATOR Paragon (Hitachi ZX190L)<br>GBTS STAFF: R. Hooker WEATHER: sunny, 70s F | |

| INTERVAL | SURFACE MATERIAL: CONCRETE (6")<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 13'** | Subgrade brick structure; M SAND with 4" cast iron pipe fragments, fabric, and glass (Fill) | Dry | 0.0 | ND | ND | ND | **6'**<br>**8'** |
| **13 – 15'** | Brown M SAND with Gravel | Dry | 0.0 | ND | ND | ND | **13'** |

***Notes***

**Fill Materials**
~0 - 13'

**Field Evidence of Contamination**
Not encountered

**Saturated Soils**
Not encountered

**Additional Field Notes**
Evidence of a sub-grade brick structure and several 4" cast iron pipe fragments

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **P** (plastic) **LP** (low plastic) **NP** (non-plastic) **Sl** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| TP-14 (SHEET 12 OF 13) | Vanguard Village I & II – Subsurface Investigation<br>181-187 Clinton Street, City of Binghamton, New York<br>NYSDEC BCP ID: C704063 | GBTS PROJECT 23003-0060 |
|---|---|---|
| | DATE: 2025-07-23 EXCAVATOR Paragon (Hitachi ZX190L)<br>GBTS STAFF: R. Hooker WEATHER: sunny, 70s F | |

| INTERVAL | SURFACE MATERIAL: ASPHALT (6")<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** | Dark gray Sandy SILT with some brick and concrete fragments (Fill) | Dry | 0.0 | ND | ND | ND | **2'**<br>**4'** |
| **5 – 10'** | Brown M SAND with Gravel<br>****** End of Test Pit at 10' ***** | Dry | 0.0 | ND | ND | ND | |

***Notes***

**Fill Materials**
~0 - 5'
**Field Evidence of Contamination**
Gray staining
**Saturated Soils**
Not encountered

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **P** (plastic) **LP** (low plastic) **NP** (non-plastic) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| TP-15 (SHEET 13 OF 13) | Vanguard Village I & II – Subsurface Investigation<br>181-187 Clinton Street, City of Binghamton, New York<br>NYSDEC BCP ID: C704063 | GBTS PROJECT 23003-0060 |
|---|---|---|
| | DATE: 2025-07-23 EXCAVATOR Paragon (Hitachi ZX190L)<br>GBTS STAFF: R. Hooker WEATHER: sunny, 70s F | |

| INTERVAL | SURFACE MATERIAL: GRASS/VEGETATION<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 12'** | F SAND with brick, rubber, metal, glass, and wood fragments (Fill) | Dry | 0.0 | ND | ND | ND | **2'<br>4'<br>8'<br>12'** |
| **12'** | Concrete slab<br>****** End of Test Pit (Refusal) at 12' ***** | Dry | 0.0 | ND | ND | ND | |

***Notes***

**Fill Materials**
~0 - 12'

**Field Evidence of Contamination**
Gray staining, mild petroleum odor at ~4'

**Saturated Soils**
Not encountered

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **P** (plastic) **LP** (low plastic) **NP** (non-plastic) **Sl** (slight)

# ATTACHMENT E – Photographs

**TP-03**

**TP-04**

**TP-05**

**TP-06**

**TP-07**

**TP-08**

**TP-09**

**TP-09 Base**

TP-09 Stockpile

TP-09 Stockpile detail

TP-10

TP-10

**TP-11**

**TP-12**

**TP-12**

**TP-13**

**TP-13**

**TP-13**

**TP-14**

**TP-15**

**TP-15**