REMEDIAL INVESTIGATION (RI) / ALTERNATIVES ANALYSIS REPORT (AAR)

FOR

BCP SITE NO. C915394
1803 ELMWOOD AVENUE BCP
1803 ELMWOOD AVENUE
CITY OF BUFFALO, ERIE COUNTY, NEW YORK

Prepared by:

C&S ENGINEERS, INC.
141 ELM STREET, SUITE 100
BUFFALO, NEW YORK 14203

Prepared on Behalf of:

1803-1807 ELMWOOD AVENUE LLC
MOD-PAC CORPORATION
1801 ELMWOOD AVENUE
BUFFALO, NEW YORK 14207

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Acronym List

AAR	Alternatives Analysis Report
ASP	Analytical Services Protocol
BCA	Brownfield Cleanup Agreement
BCP	Brownfield cleanup Program
BGS	Below Ground Surface
CAMP	Community Air Monitoring Plan
CIS-1,2-DCE	Cis-1,2-dichloroethene
CVOC	Chlorinated Volatile Organic Compound
DER	Department of Environmental Remediation
DUSR	Data Usability and Summary Report
EDD	Electronic Data Deliverable
ELAP	Environmental Laboratory Accreditation Program
ESA	Environmental Site Assessment
FER	Final Engineering Report
GPR	Ground Penetrating Radar
HASP	Health and Safety Plan
IA	Indoor Air
ISMP	Interim Site Management Plan
IRM	Interim Remedial Measures
IRM WP	Interim Remedial Measures Work Plan
MS/MSD	Matrix Spike / Matrix Spike Duplicate
MSL	Mean Sea Level
NAPL	Non-Aqueous Phase Liquid
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOL	New York State Department of Labor
OA	Outdoor Air
PAH	Polycyclic Aromatic Hydrocarbons
PPM	Parts per Million
PCB	Polychlorinated Biphenyl
PID	Photo-ionization Detector

Acronym List

PCE	Tetrachloroethylene
PFAS	Per- and Polyfluoroalkyl Substances
PVC	Poly Vinyl Chloride
QA/QC	Quality Assurance / Quality Control
RAO	Remedial Action Objective
REC	Recognized Environmental Condition
RI	Remedial Investigation
RIWP	Remedial Investigation Work Plan
SCG	Standards, Criteria, Guidance
SCO	Soil Cleanup Objective
Site	1803 Elmwood Avenue, City of Buffalo, Erie County, New York
SMP	Site management Plan
SS	Sub-Slab
SSDS	Sub-Slab Depressurization System
SVOC	Semi volatile Organic Compound
TAL	Target Analyte List
TCE	Trichloroethene
TCL	Target Compound List
TCLP	Toxicity Characteristic leaching Procedure
TENORM	Technologically Enhanced Naturally Occurring Radiological Material
TOGS	technical and Operational Guidance Series
µg/m^3	Microgram per Cubic Meter
USEPA	United States Environmental Protection Agency
USGS	United States Geologic Service
UST	Underground Storage Tank
VOC	Volatile Organic Compound
VOV	Volatile Organic Vapor

I, John Camp, certify that I am currently a NYS Registered Professional Engineer and that this Remedial Investigation / Alternatives Analysis Report 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).



John Camp, P.E.
State of New York Professional Engineer No. 082375

October 22, 2024

EXECUTIVE SUMMARY

This document presents the Remedial Investigation (RI) and Alternatives Analysis (AA) Report for Brownfield Cleanup Program Site No. C915394 located at 1803 Elmwood Avenue, City of Buffalo, Erie County, New York (the "Site"). The RI Report reports on the data and findings resulting from implementation of the Remedial Investigation Work Plan (RIWP). The project details are summarized below.

Contaminant Source and Constituents

Contamination exceeding soil cleanup objectives (SCO) is generally associated with historic fill material (HFM) located throughout the Site. Constituents in the HFM at concentrations that exceed the Unrestricted Use SCOs generally include volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), metals, and per- and polyfluoroalkyl substances (PFAS).

In the groundwater samples, VOCs are present at concentrations marginally exceeding groundwater values. TCE and Cis-1,2-Dichloroethene exceedances are likely due to past site uses.

Based on New York State Department of Health (NYSDOH) guidance, vapor intrusion mitigation is required due to the concentration of TCE in the sub-slab vapor and indoor air.

Extent of Contamination

HFM is located across the Site. The HFM is located immediately below existing surfaces and is underlain by native soils. Generally, the HFM thickness extends to seven to eight feet below ground surface. The variation in analyte concentrations in the soils across the Site that contain HFM indicates that the source of contamination in these soil samples is the HFM material.

VOCs are present at concentrations marginally exceeding groundwater values. Trichloroethene (TCE) and cis-1,2-Dichloroethene exceedances are likely due to past site uses. It is likely that chlorinated VOC (cVOC) exceedances in groundwater are attributed to the adjoining MOD-PAC BCP Site (C915314).

A metal analyte was present in the groundwater that did exceed groundwater guidance values. Sodium concentrations were above TOGS standards in every sample collected. Sodium is a naturally occurring metal and common in groundwater in the area. Sodium exceedances may be attributed to repeated use of rock salt for de-icing pavement.

Low level PFAS was detected in one monitoring well. Since PFAS were also detected in HFM, it is likely that the PFAS-contaminated HFM is a source of PFAS contamination in groundwater. However, at this time, no source or current/past uses of the Site can be directly attributed to the presence of PFAS in the groundwater. No on-site source of PFAS was encountered during the RI. It is also possible that PFAS at the adjoining MOD-PAC BCP Site source is a source for PFAS in groundwater.

The soil vapor exceedances were located in the southeast corner of the warehouse structure. The vapors beneath the sub-slab and in indoor air contain concentrations of TCE that warrant mitigation.

Proposed Site Redevelopment

The Applicant intends to renovate the warehouse on the Site and place new storage and potential manufacturing equipment in the facility.

Remedial Investigation

To characterize site conditions and identify the appropriate remedy for the Site, a RI was implemented. The RI included the collection and analysis of 35 soil samples, one round of groundwater sampling from five wells, soil vapor intrusion (SVI) sampling, and concrete sampling. Sample results are summarized in Section 4.

Alternatives Analysis

Based on the alternative analysis evaluation, the Track 4 (Commercial) – Cover System and Vapor Mitigation remedy is the recommended final remedial approach for the Site. This alternative is fully protective of public health and the environment; significantly less disruptive to the community; consistent with current and future land use; and represents a more cost effective approach than the Track 1 remedy, while fully satisfying the RAOs.

Conclusions

Based on the data presented in this document:

- Contaminated soils exist with concentrations of contaminants that exceed Unrestricted Use SCOs, with some analytes exceeding Industrial Use SCOs.

- Contaminated soils exist with concentrations of contaminants that exceed Protection of Groundwater SCOs. Some of these contaminants have also been detected in groundwater.

- Indoor air contamination exists with respect to TCE. The concentration of TCE in sub slab soil vapor (SV) and SVI were above action levels and thus warrant mitigation.

- The concrete floor slab is contaminated with PCBs that exceed Commercial Use SCOs.

- Mitigation of the indoor air contamination is required.

1 INTRODUCTION

C&S Engineers, Inc. (C&S) has prepared this Remedial Investigation (RI) and Alternatives Analysis (AA) Report on behalf of the applicants for Brownfield Cleanup Program (BCP) Site No. C915394, 1803-1807 Elmwood Avenue LLC, (hereafter known as "Applicants"), for the 1803 Elmwood Avenue BCP Site located at 1803 Elmwood Avenue, City of Buffalo, Erie County, New York (the "Site"). The Applicants entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) on October 13, 2023.

Based upon investigations conducted prior to the RI, the primary contaminants of concern in the subsurface soil include SVOCs/PAHs and metals. These contaminants are found in HFM to an average depth of seven to eight feet below ground surface. HFM also contained marginal levels of cVOCs exceeding Protection of Groundwater SCOs. Contaminants in the subsurface soil were widespread.

The primary contaminants of concern in the groundwater and sub-slab vapors also included VOCs. Additionally, PCB contamination within the concrete floor slab n was also present. The prior investigations are further discussed in **Section 2.3**.

In April 2024, C&S prepared a Remedial Investigation Work Plan (RIWP) to describe the proposed approach to more thoroughly assess site contaminant conditions. The RIWP was approved by the Department on April 19, 2024. The subsequent RI included soil, groundwater, air, and concrete evaluations.

2 PROJECT BACKGROUND

2.1 Site Description

The Site consists of approximately 0.655 acres of a larger parcel totaling approximately 8.53 acres of land addressed at 1803 Elmwood Avenue in the City of Buffalo, Erie County, New York. For purposes of this Work Plan, the larger parcel that contains the Site will be referred to as "the parent parcel", whereas the BCP Site will be referred to as "the Site". The parent parcel, known as SBL #78.70-3-20.11, is bound to the west by an industrial parcel occupied by MOD-PAC Corp. and the Nardin Academy outside sports complex, to the south by Brinks Security Company and the CSX railroad tracks, to the east with commercial buildings occupied by various private tenants, and to the north by commercial buildings occupied by various private tenants and a small community of residential structures. The Site is bound to the north, west, and south by the industrial parcel occupied by MOD-PAC Corp., and to the east by portions of the larger Site parcel, developed with both commercial and industrial buildings occupied by MOD-PAC Corp., Nardin Academy and various other private tenants. The area within the BCP boundary is developed with one structure. The Site is located within an urban area, utilized for industrial, commercial, and residential purposes.

The Site includes an approximate +/-14,400 square-foot warehouse structure, currently utilized for storage by MOD-PAC Corp. since late-2021. The Site structure occupies the northern portion of the BCP area and was originally constructed by 1935. Exterior Site features consist of the exterior of the building, as well as asphalt, concrete paved areas, and railroad spurs. The entire Site is covered in hardscape surfaces.

The adjacent parcel to the west, occupied by MOD-PAC Corp., is also a BCP site. The adjacent site contained contaminated groundwater. The source of groundwater contamination may be a common source due to the BCP sites proximity to one another.

Figure 1 shows the location of the Site and **Figure 2** shows the Project Area and Site Boundaries.

2.2 Site History

The Site and surrounding properties were originally developed as a radiator manufacturing plant, occupied by American Radiator Co., since 1912 and was utilized as such until approximately 1959 when the plant reportedly closed. During that time, structural improvements were erected on-site which included four buildings situated in the central portion of the Site that were associated with the foundry to the west of the Site.

A portion of the current Site structure was constructed in 1935, utilized as a crane building, with a later addition in 1959.

Following the closure of American Radiator in 1959, American Radiator and Standard Stamping Plant (1803 Elmwood Avenue) and Office (1807 Elmwood Avenue), totaling 55-acres at the corner of Elmwood and Hertel Avenues (including the Site), were sold to Irving Levick, Buffalo real estate investor and chairman of Sattler's Department Store. Levick planned to move some warehousing operations out of his Seneca Warehouse (701 Seneca Street; formerly the Larkin Warehouse) to the Elmwood Avenue property, which would reportedly fill more than half of the plant. The Elmwood Avenue property became known as the Seneca Warehouse and Industrial Center, Inc.

The Site was part of a larger property formerly occupied by Sattler's Home Furnishing City. The Sattler's buildings were utilized as a department store as well as for warehousing. Reportedly, Niagara Machine occupied the Site structure prior to 1990; however, the Site operations and time frame of occupancy are not known.

The former larger parcel was leased to Buffalo Industrial Leasing Corp. in 1977. Several sections were sold off to MOD-PAC Corp. in the 1980s, and Newbuff Holdings Corp. purchased the larger Site parcel in 1992. Newbuff Holdings began leasing the Site to O'Connell Machinery Company, Inc. in 1998 and 1803-1807 Elmwood Avenue LLC in 2003.

Upon acquisition of the Site and larger Site parcel by Newbuff Associates in 1992, the Site was utilized as commercial spaces for multiple tenants. Since 1992, AIRSEP (1992-1996), Goodwill (1996-1998), Mack Pallet (1996-1998), and O'Connell Machinery Co, Inc. (1998-2021) have occupied the Site structure. The Site had previously been under a 50-year lease agreement with 1803-1807 Elmwood Avenue LLC beginning in 2003. 1803-1807 Elmwood Avenue LLC purchased the Site and portions of the larger site parcel on November 1, 2022. The Site structure is currently used for storage by MOD-PAC Corp. 1803-1807 Elmwood Avenue LLC is solely owned by MOD-PAC Corp. The adjoining MOD-PAC BCP Site (C915314) is under the same ownership and conducts similar operations.

The following table summarizes the historical and current operations on the Site based on the October 2022 Phase I ESA.

Table 2-1: Historical Owner & Occupant Summary

Years	Owner / Occupants
1939-1963	American Radiator & Standard Corporation
1963-1964	Irving Levick
1964-1967	Senvick Corporation
1967	Landeb, Inc.
1967-1979	Arnold Raynor & Marvin B. Tepper
1979-1986	Helen Schmincke
1986-1992	Martin C. Barrell & Donald C. Shack
1992-2004	Newbuff Holdings Corporation AIRSEP – Lessor (1992-1996) Goodwill – Lessor 1996-1998 Mack Pallet – Lessor (1996-1998) O'Connell Machinery Company, Inc. – Lessor (1998-2021) 1803-1807 Elmwood Avenue LLC – Lessor (2003-2022)
2004-2022	Newbuff Associates LLC
2022-Present	1803-1807 Elmwood Avenue LLC c/o MOD-PAC Corp.

The applicant purchased the Site in November 2022. The most recent operators at the Site consist of Newbuff Associates LLC, including commercial tenants AIRSEP, Goodwill, Mack Pallet, O'Connell Machining, and 1803-1807 Elmwood Avenue LLC.

2.3 Previous Investigations

Environmental information currently exists for the Site from a Phase I ESA completed by Environmental Advantage, Inc., dated October 2022, a Focused Phase II ESA completed by Environmental Advantage, Inc., dated February 2023, and an Asbestos Conditions Assessment, completed by AMD Environmental Consultants, dated February 2024. The following summarizes these efforts.

Environmental Advantage, Inc. Phase I ESA Report – October 2022

- The Site consists of approximately 0.655 acres of a larger parcel totaling approximately 11.55 acres of land addressed at 1803 Elmwood Avenue in the City of Buffalo.

The Phase I ESA identified the following Recognized Environmental Conditions (RECs).

- The Site was originally occupied by American Radiator Co. Former structures which were replaced by the current structure in approximately 1935. Following the closure of American Radiator in 1959, the American Radiator and Standard Stamping Plant (1803 Elmwood Avenue) and Office (1807 Elmwood Avenue) were sold to Irving Levick, Buffalo real estate investor and chairman of Sattler's Department Store. Environmental Advantage, Inc. could not find accurate records of the Site occupants from the 1960s to the

acquisition by Newbuff Associates in 1992. Although exact occupants of the Site structure could not be determined, the Site was part of a larger property formerly occupied by Sattler's Home Furnishing City that was utilized as a department store as well as for warehousing. Reportedly, Niagara Machine occupied the Site structure prior to 1990; however, the time frame of occupancy is not known. Since 1992, AIRSEP Corp. (1992-1996), Goodwill (1996-1998), Mack Pallet (1996-1998), and O'Connell Machinery Co, Inc. (1998-2021) have occupied the Site structure. The Site has been under a 50-year lease agreement with 1803-1807 Elmwood Avenue LLC beginning in 2003. Industrial facilities may have had operations suspected to have included the routine use storage and handling of various regulated substances, including but not limited to, petroleum products, heavy metals, paints, and solvent materials.

- The western adjoining property (MOD-PAC Corp.) is currently listed as a Completed Brownfield Cleanup Program Site with remaining contamination, regulated by institutional and engineering controls under a Site Management Plan.

Environmental Advantage, Inc. Focused Phase II ESA – February 2023

The Focused Phase II ESA (i.e., Investigation) was completed to obtain an overview of the environmental and subsurface conditions of the Site. The Investigation consisted of a combination of multiple soil boring sampling events occurring in October 2021 and April 2022, in addition to a Soil Vapor Intrusion investigation that occurred in July 2020. A total of twenty-seven (27) exterior borings and fourteen (14) interior borings were completed in October 2021 and April 2022 utilizing a direct-push track-mounted Geoprobe. Soil boring logs are attached as **Appendix A**. Locations of the soil borings and analytes detected in concentrations exceeding SCOs are shown on **Figures 3, 4, and 5**. The Investigation is summarized below.

- Sub-Slab Vapor Intrusion Monitoring performed July 28, 2020:
  - Investigation work included 2 Sub-slab VIM points located in the southern portion of the Site structure.
  - Elevated levels of TCE were encountered at a concentration above NYSDOH Soil Vapor/Indoor Air Matrix A mitigation levels.
  - Polychlorinated Biphenyls (PCBs) were detected in samples from three locations where oily residue was identified on the concrete surface.

- Concrete sampling performed July 28, 2020:
  - Investigation work included the collection of one concrete sample from the slab of the building on-site.

  - Three different Aroclors – Aroclor 1248, Aroclor 1254, and Aroclor 1260 – were detected in concentrations exceeding Unrestricted Use SCOs. The concentration of total PCBs was 1.75 ppm, exceeding CUSCO.

- Soil Sampling performed October 12-13, 2021:
  - Investigation work included 11 soil borings within the BCP limits and 14 on the larger parent parcel for a total of 25 soil borings.
  - Of the 11 samples collected within the BCP limits, five were submitted for laboratory analysis at an Environmental Laboratory Approval Program (ELAP) certified laboratory. Elevated levels of arsenic and SVOCs were found in four of the five samples submitted for analysis. **Table 1** attached at the rear of this report contains analytical results for the sampling.

- Additional Soil Sampling performed April 21, 2022:
  - Investigation work included 15 soil borings located within the BCP Site.
  - Elevated levels of SVOCs, mercury, and arsenic were identified in 7 of the 13 samples submitted for analysis. **Table 1** attached at the rear of this report contains analytical results for the sampling.

- Based on the Phase II Investigation completed, the primary contaminants of concern in the soil include semi-volatile organic compounds (SVOCs) including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene; and metals including arsenic and mercury.

- Exceedance of NYSDOH Sub-slab Vapor concentrations includes one chlorinated solvent, trichloroethene (TCE). TCE was encountered at a concentration of 83.8 micrograms/cubic meter (ug/m3) in the sub-slab soil vapor of the interior southeast corner of the Site structure. Indoor air was not collected as a part of this investigation. NYSDOH Soil Vapor/Indoor Air Matrix A for sub-slab concentrations of TCE, cis-1,2-Dichloroethene (c12-DCE), 1,1-Dichloroethene (11-DCE), and Carbon Tetrachloride recommends mitigation for levels ≥60 ug/m3.

A soil analytical results summary was prepared from the soil samples collected during the Phase II ESA for the soil borings completed on the BCP Site in October 2021 and April 2022. The primary contaminants of concern in the soil include semi-volatile organic compounds (SVOCs), specifically polycyclic aromatic hydrocarbons (PAHs), and metals which were encountered in the soil samples collected from the Site at concentrations exceeding commercial use soil cleanup objectives (CUSCO). Below is a summary of sampling data collected during the Investigation.

Table 2-2: Subsurface Soil Analytical Results Summary

Analyte Exceeding Commercial Use SCO	Number of Exceedances	Maximum Detection (ppm)	Commercial Use SCO (ppm)	Depth (ft bgs)
Benzo(a)anthracene	4	33	5.6	0.5-7.0
Benzo(a)pyrene	7	32	1	0.5-7.0
Benzo(b)fluoranthene	4	37	5.6	0.5-7.0
Dibenzo(a,h)anthracene	4	2.0	0.56	0.5-7.0
Indeno(1,2,3-cd)pyrene	2	22	5.6	2.5-7.0
Arsenic	4	75.4	16	0.5-3.5
Mercury	1	16.3	2.8	2.5-4.5

Table 2-3: Sub-Slab Vapor Analytical Results Summary

Analyte	Total Detections	Maximum Detection (ug/m^3)	Type
Dichlorodifluoromethane	2	87	Soil Vapor
Ethanol	1	16.3	Soil Vapor
Acetone	2	156	Soil Vapor
Trichlorofluoromethane	1	1.81	Soil Vapor
Isopropanol	1	3.27	Soil Vapor
Tertiary butyl Alcohol	1	1.76	Soil Vapor
Carbon disulfide	2	48	Soil Vapor
2-Butanone	1	5.22	Soil Vapor
Chloroform	1	18.7	Soil Vapor
n-Hexane	2	7080	Soil Vapor
Benzene	2	24.8	Soil Vapor
Cyclohexane	2	87.1	Soil Vapor
Trichloroethene	2	83.8	Soil Vapor
Heptane	2	4390	Soil Vapor
Toluene	2	180	Soil Vapor
Tetrachloroethene	1	25.7	Soil Vapor
Ethylbenzene	2	46.5	Soil Vapor
p/m-Xylene	2	222	Soil Vapor
o-Xylene	2	86	Soil Vapor
4-Ethyltoluene	1	23.8	Soil Vapor
1,3,5-Trimethylbenzene	2	34.1	Soil Vapor

In addition, the report summarized past groundwater sampling events that occurred on the Site outside of this investigation by Wittman Geosciences, PLLC in June 2018. A total of four groundwater samples were collected within the Site boundary and analyzed for volatile organic compounds (VOCs). Two of the samples contained compounds that exceeded the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS 1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. There is also groundwater contamination present in the adjoining BCP Site (C915314) that may be a common source of contamination on both sites. Results from previous groundwater sampling

events at the adjoining BCP Site are shown in **Table 2**. Groundwater logs are attached as **Appendix C**.

Below is a summary of sampling data collected during the June 2018 Wittman Geosciences, PLLC investigation.

Table 2-4: Groundwater Analytical Results Summary

Analyte Exceeding TOGS	Number of Exceedances	Maximum Detection (ug/L)	TOGS Guidance Value (ug/L)
Acetone	2	53	50
Trichloroethene	1	8.4	5

AMD Environmental Consultants, Inc. Asbestos Conditions Assessment – February 2024

The report outlined the screening and sample collection of suspected asbestos containing materials (ACM) located within the structure on the Site that occurred in July and August 2020.

An original assessment was conducted in July 2020 and included the collection of 12 samples from six separate locations. Of those samples, three locations were identified that were positive for ACM. Those areas are outlined in the table below:

Table 2-5: July 2020 ACM Analytical Results Summary

Homogeneous Area Number (HAN)	Material Description	Space Identification Number (SID)	Estimated Quantity (ft^2)	Friability / Condition
700	Roof Field	High Bay Roof	14,000	Non-Friable / Damaged
701	Roof Flashing	High Bay Roof at all perimeters, protrusions, and penetrations	Included in HAN 700	Non-Friable / Damaged
703	Aluminum Casing	High Bay Roof on Roof Field	Included in HAN 700	Non-Friable / Damaged

*Quantities are approximate and are only associated with areas of planned renovation. Additional asbestos containing materials may be located outside areas of planned renovation that were not surveyed, assessed, or quantified during this inspection.

Additional ACM samples were collected and analyzed following the results of the first sampling event in August 2020. A total of five samples were collected from five separate locations in Site structure. Of those additional samples collected, three locations were identified that were positive for ACM. Those areas are outlined in the table below:

Table 2-6: August 2020 ACM Analytical Results Summary

Homogeneous Area Number (HAN)	Material Description	Space Identification Number (SID)	Estimated Quantity (ft^2)	Friability / Condition
400	Mud Fittings	High Bay Warehouse Interior – Located on Elevated Pipe Lines	50 linear feet	Friable / Damaged
401	Mud Pipe Insulation	High Bay Warehouse Interior – Located on Elevated Pipe Lines	20 linear feet <10 ft^2 of Debris	Friable / Damaged
601	Coating on Corrugated Metal Panels	High Bay Roof Warehouse Interior	30,000	Non-Friable / Damaged

*Quantities are approximate and are only associated with areas of planned renovation. Additional asbestos containing materials may be located outside areas of planned renovation that were not surveyed, assessed, or quantified during this inspection.

This ACM was removed from the Site throughout the Spring 2024 after the NYSDEC was notified. Great Lakes Abatement performed the work under the management and monitoring of AMD Environmental.

2.4 Remedial Investigation Objectives, Scope, and Rationale

The objectives of the RI were to evaluate contaminant impacts to soil, groundwater, air, and hardscape surfaces and identify and evaluate appropriate remedial actions necessary to renovate and repurpose the Site. The investigation work included evaluating the magnitude and extent of contaminant impacts, conducting a qualitative exposure assessment for actual or potential exposures to contaminants at the Site and/or emanating from the Site, and producing data that will support the development of an acceptable RI Report and Alternatives Analysis (AA) Report.

The RI scope of work was based on information previously gathered regarding historical operations conducted at the Site, the results of previous investigations / characterizations, and the project objectives. The RI included the following:

- Buried Utilities Evaluation – This task consisted of locating buried public and private utilities and scanning for unknown buried anomalies, such as tanks or drywells in the vicinity of subsurface investigation. The purpose of this task was to provide the drillers a setback for exploration.

- Soil Evaluation – This task consisted of assessing the Site overall with focus on the following distinct areas / elements:

    a) Historic Fill Material (HFM). The HFM was characterized to identify the extent and magnitude of contamination within the HFM. This soil was also the subject of waste characterization sampling because the

anticipated potential remedial activities could include the excavation and off-site disposal of the HFM to achieve proposed site grades.

b) Native soils located across the Site. Native soils were characterized to determine the depth of impacts from the overlying HFM. and

- Groundwater Evaluation – A total of five groundwater monitoring wells were installed on Site to assess groundwater quality and determine groundwater flow.

- SVI Evaluation – Sub-slab (SS), indoor air (IA), and outdoor air (OA) samples were collected to determine if volatile organic compounds (VOCs) identified in the soil have affected indoor air quality.

- Concrete Evaluation – A total of eight concrete samples were collected from the building slab to assess the extent of potential PCB contamination.

The locations of all explorations are shown on **Figures 3-7, 9, 10, 13, and 14.**

The RI activities were completed consistent with NYSDEC Division of Environmental Remediation: Technical Guidance for Site Investigation and Remediation dated May 2010 (DER-10) and with the approved RI Work Plan dated April 2024.

3 METHODOLOGY

The RI intended to characterize site conditions by identifying buried utilities near sampling locations, the advancement of soil borings, the installation of groundwater monitoring wells, and by collecting and analyzing soil, groundwater, air, and concrete samples.

3.1 Buried Utilities Evaluation

Prior to initiating subsurface investigation activities, C&S' drilling subcontractor, Matrix Environmental Technologies, notified UDig New York, to arrange for identification and marking of buried public utilities at the Site.

Matrix Environmental Technologies performed a visual and a geophysical inspection to assess for utility structures in the vicinity of subsurface drilling. The purpose of this evaluation was to maintain an appropriate setback for drilling activities. Utilizing a SPX RD7000 in conductive, inductive and power/radio modes, Matrix located and marked out utilities not marked by UDig New York. Additional confirmation was performed with the Mala Easy Locator HDR. GPR signal reception varies depending upon soil conditions. Therefore, it is utilized in combination with various other geophysical tools for the most accurate verification of known / unknown utilities and / or structures. Utilities were painted in appropriate color. C&S endeavored to maintain a minimum setback of at least three feet from utilities during our investigation.

3.2 Soil Characterization

3.2.1 Boring Advancement

Soil borings were advanced across the Site to facilitate the characterization of soils. A total of 19 soil borings were advanced as shown on **Figures 3, 4, 6, and 7**. From the borings, HFM and native soil samples were collected to document Site conditions.

A Geoprobe direct-push drilling rig was used to advance borings at the Site. Each boring location was continuously sampled in five-foot intervals using a two-inch steel sampling tube fitted with a disposable acetate liner. All non-disposable sampling equipment was decontaminated between runs and between drill locations to avoid potential cross contamination of samples.

Soils from the borings were screened in the field for visible impairment, olfactory indications of impairment, evidence of NAPLs, and/or indication of detectable VOCs with a PID, collectively referred to as "evidence of impairment" and the results were recorded on boring logs.

Soil boring logs were prepared and include soil description, PID readings, etc. The RI boring logs are included in **Appendix C**.

3.2.1.1 HFM Sampling

Soil samples were collected from soil borings across the Site. A total of 18 HFM samples were collected. Soil samples were collected based on evidence of impairment and to provide characterization. The soil samples were collected and analyzed for the following:

- Total Petroleum Hydrocarbons;
- Part 375 VOCs;
- Part 375 SVOCs;
- Part 375 pesticides / herbicides;
- PCBs;
- Part 375 metals, including total mercury;
- Cyanide and hexavalent chromium; and
- PFAS and 1,4-dioxane.

Pesticides / herbicides, cyanide, and hexavalent chromium were sampled at a reduced frequency in fill samples as they are not the likely contaminants of concern based on previous sampling data.

Additionally, one sample was collected of subsurface soils and analyzed for waste disposal characteristics. The waste characterization analysis included:

- Toxicity Characteristic Leaching Procedure (TCLP) VOCs;
- TCLP SVOCs;
- TCLP pesticides/herbicides;
- PCBs;
- TCLP metals;
- Reactivity;
- Corrosivity;
- Ignitability; and
- Paint Filter.

Boring locations and sample results are shown on **Figures 4 and 6**.

3.2.1.2 Native Soil Sampling

Soil samples were collected from soil borings across the Site. A total of 17 native samples were collected. Native samples were collected at depths beneath the fill sample to determine depths of clean material and to assess any impacts to native soil. The soil samples were collected and analyzed for the following:

- Part 375 VOCs;
- Part 375 SVOCs;
- Part 375 pesticides / herbicides;
- PCBs;
- Part 375 metals, including total mercury;
- Cyanide and hexavalent chromium; and
- PFAS and 1,4-dioxane.

Pesticides / herbicides, cyanide, and hexavalent chromium were sampled at a reduced frequency in native samples as they are not the likely contaminants of concern based on previous sampling data.

Boring locations and sample results are shown on **Figures 4 and 7.**

Cross sections of the geology of the Site are depicted in **Figures 8A and 8B.**

3.3 Groundwater Characterization

Well Construction

To characterize groundwater conditions at the Site, five groundwater monitoring wells were constructed. The wells were distributed across the Site, as shown in **Figures 3, 9, 10, and 11.** MW-01 through MW-05 were installed on May 23, 24, and 30, 2024 based on locations shown in the approved RIWP.

A rotary drill was used to advance 4-1/4-inch hollow stem augers into five locations where Geoprobe soil borings were advanced and sampled. The following five soil borings were over drilled to install the following monitoring wells:

- SB-03 → MW-01
- SB-07 → MW-02
- SB-08 → MW-03
- SB-11 → MW-04
- SB-16 → MW-05

All well borings were augured down to depth without the collection of any soil samples for geologic classification since samples were collected when the soil boring was originally advanced. The overburden wells were constructed to intersect the top of the water table. Each well was completed with approximately 25 to 35 feet of 2-inch Schedule 40 0.010-slot well screen connected to an appropriate length of schedule 40 PVC well riser to complete the well. The annulus was sand packed with quartz sand to approximately two feet above the screened section, and two feet of bentonite chips or pellets above the sand. The remaining annulus was backfilled

with native soil cuttings to ground surface. Each well was completed with a flush-mount riser. Well construction logs are included in **Appendix D**.

Following installation, the monitoring wells were developed through the removal of approximately three well volumes using low-flow pumping devices and until stabilization criteria was reached. A peristaltic pump was utilized for well development and evacuated groundwater was containerized. On October 11, 2024, a total of 655 gallons of containerized groundwater was removed from the Site by Environmental Service Group, Inc. and disposed of at American Recyclers Company.

Groundwater Sampling

Groundwater sampling was conducted using low-flow purging and sampling techniques. Before purging the wells, water levels were measured using an electric water level sounder capable of measuring to the 0.01-foot accuracy. A Peristaltic Pump was utilized. According to the equipment supplier, the pumping system when fitted with HDPE tubing, does not contain materials that could affect per- and polyfluoroalkyl (PFAS) sampling results. Calibration, purging, and sampling procedures were performed as specified by the United States Environmental Protection Agency (USEPA) and NYSDEC[1] for low-flow and emerging contaminant sampling. Decontamination was conducted after each well was sampled to reduce the likelihood of cross contamination. Calibration times, purging volumes, water levels and field measurements were recorded in a field log and are included in **Appendix D**.

Groundwater sampling was completed on June 24 and 25, 2024. Analysis for the wells varied as shown in **Table 3-1**:

Table 3-1
Groundwater Sampling Analysis

Well No.	TCL VOCs	TCL SVOCs	TCL pesticides	TCL herbicides	TAL metals (+ mercury)	Cyanide	Hex Chromium	PFAS, 1,4-dioxane
MW-01	X	X			X			X
MW-02	X	X	X	X	X	X	X	X
MW-03	X	X			X			X
MW-04	X	X			X			X
MW-05	X	X			X			X

Notes:

- Based on the RIWP, pesticides and herbicides were analyzed for 20% of the samples for MW-1 through MW-5.
- Based on the RIWP, cyanide and hexavalent chromium were analyzed for 20% of the first-round samples for MW-1 through MW-5.

[1] U.S. EPA Region 1 Low Stress (low-flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells, September 19, 2017.
NYSDEC Guidelines for Sampling and Analysis of PFAS, January 2020.

Drilling decontamination, development, and purge fluids were poured into drums and staged for subsequent disposal.

3.4 Soil Vapor Sampling

To characterize indoor air conditions in the warehouse building, seven air samples were collected. This included three pairs of sub-slab / indoor air samples and one background outdoor air sample. The samples were distributed throughout the warehouse structure as shown in **Figure 13.** The air samples were collected on May 10, 2024 based on locations shown in the approved RIWP. IT should be noted that this SV sampling event occurred outside of the heating season. NYSDOH SV sampling protocols prefer that sampling typically be completed during the heating season as heating systems may create a negative pressure that draws soil vapor into a building.

Indoor and outdoor air samples were collected using a Summa™ canister (6-Liter capacity) equipped with a critical orifice flow regulation device sized to allow an air sample to be collected over a 24-hour sampling period. Care was taken to deploy the canisters away from the direct influence of any forced air emanating from air conditioning units, central air conditioning vents, furnaces or heaters.
Sub-slab sampling points were installed to collect soil gas immediately below the slab. Sub-slab gas samples were collected using a 6-Liter Summa™ canister fitted with a flow orifice pre-calibrated to collect a 6-Liter sample over a 24-hour period. The sub-slab vapor points were installed by advancing a small diameter hole (approximately 3/8 inches in diameter) through the floor slab to determine thickness. The hole extended through the slab and terminated at the interface with underlying material (i.e., gravel base or soil). A sample point consisting of a length of tubing was placed into the boring and extends to the bottom of the slab. The cored slab annulus was filled with clay placed around the sub-slab vapor point. To ensure there was no connection between the sub-slab and indoor air, helium short-circuit testing was performed. Prior to sub-slab soil gas sample collection, the monitoring point and above grade tubing was purged. At the end of the sampling event, a pressure gauge reading was recorded.

The samples were tested for VOCs via USEPA Method TO-15.

3.5 Concrete Sampling

Concrete chip sampling occurred to identify the presence of PCB contamination of the warehouse concrete slab due to historical Site uses. Specifically, NYSDEC requested concrete chip sampling when it became apparent that the surface of the concrete floor was covered in any oily looking material that could potentially be contaminated with PCBs. A total of eight concrete samples were collected throughout the warehouse building slab foundation, as shown on **Figure 14**.

The samples were collected by chipping the concrete locations using a hammer drill with a chisel bit to an approximate depth of two centimeters below the slab surface. Any drilling equipment that has the potential to come in contact with the sampled media was either decontaminated prior to each use or disposable, dedicated materials were used if decontaminated could not occur. The samples for analysis in pre-cleaned bottles provided by the laboratory with a decontaminated stainless-steel spoon or by gloved hand. Samples were submitted under standard chain-of-custody procedures for laboratory analyses using United States Environmental Protection Agency (USEPA) methods.

The samples were analyzed for Part 375 PCBs per USEPA method 8082 with detection level of 100 parts per billion (ppb).

3.6 Radiological Characterization

The MJW Companies (MJW) was retained to collect samples from the soil boring slag during the soil boring advancement.

A total of 11 samples, two field duplicates, one laboratory duplicate, and one background sample were collected. The samples were analyzed for Rad Gamma Spec Analysis by GEL Laboratories LLC of Charleston, South Carolina.

3.7 Quality Assurance / Quality Control / Data Usability

Quality Assurance/Quality Control (QA/QC) samples were collected based on the following minimum number of samples per media type as defined in the RIWP:

- Soil samples (excluding waste characteristic samples)
    - Blind duplicate – 5% (2 total)
    - Matrix Spike / Matrix Spike Duplicate (MS/MSD) – 5% (2 sets total)

- Groundwater samples
    - Trip blank – 1 per shipment
    - Field blank – 1 per PFAS sampling event
    - Blind Duplicate – 5% (1 total)
    - MS/MSD – 5% (1 set total)

- Concrete samples
    - Blind Duplicate – 5% (1 total)
    - MS/MSD – 5% (1 set total)

- Radiological samples
    - Field Duplicates – 2 samples
    - Laboratory Duplicate – 1 sample

A total of 35 soil samples were collected during the RI activities; and six QA/QC samples were taken (two blind duplicates and two sets MS/MSDs); meeting the 5% criteria. Over the groundwater sampling event, a total of five groundwater samples were taken with an additional five QA/QC samples, one blind duplicate, one field blank, one trip blank, and one set MS/MSD; also meeting the 5% criteria. A total of eight concrete samples were collected; and three QA/QC samples were collected (one blind duplicate and one set MS/MSD), also meeting the 5% criteria.

A third-party data consultant, Environmental Data Usability, prepared the Data Usability and Summary Report ("DUSR") as required by DER-10 Section 2.2, and as reflected in the RIWP. The DUSR is included as **Appendix E.** The following items were reviewed:

- Laboratory Narrative Discussion
- Custody Documentation
- Holding Times
- Surrogate Standard Recoveries
- Matrix Spike Recoveries. Duplicate Recoveries
- Blind Field Duplicate Correlations
- Preparation/calibration Blanks
- Laboratory Control Samples (LCSs)
- Calibration/Low Level Standards
- ICP Serial Dilution
- Instrument MDLs
- Sample Result Verification.

Pace Analytical Services, a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certified laboratory, performed the analytical testing. The laboratory results for the samples were reported in a Category B deliverables package to facilitate validation of the data, and a third-party validator reviewed the laboratory data and prepared a DUSR. The validator evaluated the analytical results for the field samples and quality assurance / quality control samples and compared the findings to USEPA guidance to determine the accuracy and validity of the results.

Details regarding RI activities are submitted to the NYSDEC. All data submitted to the NYSDEC was in approved electronic data deliverable (EDD) format.

3.8 Investigation-Derived Waste Management

Sixteen 55-gallon steel drums were delivered to the Site for the purpose of storing Investigation-Derived Waste (IDW). IDW generated during RI activities was placed in the 55-gallon steel drums, sealed, labeled, and stored on the Site for additional material that may be generated by future remedial activities. All sixteen drums were

removed from the Site on October 11, 2024 by Environmental Service Group, Inc. for disposal at American Recyclers Company.

3.9 Community Air Monitoring Program (CAMP)

To provide a measure of protection for the off-site / downwind community from potential airborne contaminant releases as a direct result of investigative work activities, and to confirm that work activities did not spread contamination off-site through the air, real-time air quality monitoring was conducted during ground-disturbing activities at the Site. Such air quality monitoring was performed in accordance with the Community Air Monitoring Program (CAMP) described in the RIWP, and included continuous monitoring for VOCs and particulates (i.e., dust) during ground intrusive activities, including but not limited to: soil excavation and handling (including asphalt and concrete removal), advancement of soil borings, and the installation of monitoring wells.

CAMP monitoring was continuously performed during indoor soil boring advancement, even when using hand tools. CAMP monitoring was not conducted when developing the groundwater monitoring wells, or when collecting groundwater samples. Air monitoring logs are attached as **Appendix G**.

4 FINDINGS

4.1 Geology and Hydrogeology

4.1.1 Site Geology

Generally, soil borings indicated a gravel/stone layer directly beneath the asphalt and other hardscape surfaces. This layer extended down to approximately 12 inches in depth. Beneath that sub-base layer, HFM was encountered, down to an average depth of approximately seven to eight feet. HFM identified on-Site consisted of any one or a mixture of the following materials:

Crushed Rock	Slag
Sand	Lumber
Silt	Ash/Cinders
Clay	Ceramics
Plastics	Bricks
Construction Debris	Metal

Native soil was encountered below the HFM and extended down to the terminus of the soil boring. The native soil can be characterized as a dense brown clay. Cross sections of the soil profile are shown on **Figures 8A and 8B**.

According to the *Surficial Geology Map of New York, Niagara Sheet* (D.H. Cadwell, G.G. Connally, P.J. Fleisher, E.H. Muller, 1991), the overburden materials at and in the vicinity of the Site are comprised of Urban land. This material is generally described as covered by asphalt, concrete, buildings and other impervious structures.

The *Geologic Map of New York, Niagara Sheet* (Lawrence V. Rickard and Donald W. Fisher, 1970) identifies the local bedrock around the Site as Akron Dolostone – included in the Bertie Formation, part of the Salina group, which consist primarily of light to dark grey dolostone. Bedrock was not encountered during the RI or previous documented investigation activities.

4.1.2 Site Hydrogeology

Based on a review of the Site topographic conditions, as depicted on the USGS 7.5-minute Topographic Quadrangle Map of Buffalo, regional groundwater is expected to flow south-southwest toward Scajaquada Creek located approximately 0.7 miles south of the Site. Scajaquada Creek flows in a western direction and ultimately discharges to the Niagara River. The surface elevation for the Site is approximately 600 feet above mean sea level. Site specific groundwater flow was determined to be generally in the southwest direction, as shown in **Figure 11**. It is assumed that the regional groundwater table typically conforms to surface and bedrock topography.

Localized shallow groundwater flow may vary as a result of underground utilities, site features, or other subsurface conditions.

Table 4-1 presents water level measurements.

Table 4-1
Groundwater Elevations

Well No.	Ground Elevation	Depth	Elevation
Date	**--**	***June 24 & 25, 2024***	
MW-1	599.00	4.70	594.30
MW-2	598.00	5.50	592.50
MW-3	597.00	3.20	593.80
MW-4	598.00	5.50	592.50
MW-5	598.00	5.40	592.60

The primary drinking water source for the City of Buffalo is Lake Erie, located 3.6 miles to the southwest. Water processed in the City of Buffalo Water Authority potable water plants for the City of Buffalo undergoes varying levels of treatment to ensure that drinking water meets NYSDEC and United States Environmental Protection Agency (USEPA) standards. Groundwater in the City of Buffalo is prohibited from being used for public drinking water supply.

4.1.3 Field Observations

Throughout the majority of the Site, the soil and HFM material exhibited evidence of contamination with dark grey or black staining. Two borings (SB-05 & SB-07) contained an oily substance at approximately six feet below ground surface (bgs), one of which also contained a petroleum odor at approximately two feet bgs. There were no visual, olfactory, or field vapor screening detections in the native soil to suggest contamination of the native soil beyond the fill interface.

4.1.4 Buried Utilities Evaluation

Prior to initiating subsurface investigation activities, C&S' drilling subcontractor, Matrix Environmental Technologies, notified UDig New York, to arrange for identification and marking of buried public utilities at the Site.

Matrix Environmental Technologies performed a visual inspection to assess for utility structures in the vicinity of subsurface drilling. The purpose of this evaluation was to maintain an appropriate setback for drilling activities. Utilizing a SPX RD7000 in conductive, inductive and power/radio modes, they located and marked out utilities not marked by UDig New York. Additional confirmation was performed with the Mala Easy Locator HDR. GPR signal reception varies depending upon soil

conditions. Therefore, it is utilized in combination with various other geophysical tools for the most accurate verification of known / unknown utilities and / or structures. Utilities were painted in appropriate color. C&S endeavored to maintain a minimum setback of at least three feet from utilities during our investigation.

4.1.5 Analytical Results

The following sections summarize and discuss the analytical results generated during the RI. Soil, groundwater, air, and concrete samples were collected for chemical analysis to determine the magnitude and extent of potential contamination occurring in various media at the Site.

For discussion purposes, this data was compared with the Standards Criteria and Guidance values (SCGs) applicable to each medium sampled, and included:

- Soil & Concrete: NYSDEC's 6NYCRR Part 375 Environmental Remediation Programs: Part 375-6.8: Unrestricted, Residential, Restricted Residential, Commercial and Industrial Use SCOs; NYSDEC's October 2023 DMM-5: Management of Soils Contaminated with Technologically Enhanced Naturally Occurring Radioactive Materials (TENORM); EPA's September 2023 Technical Guidance for Determining the Presence of Manufactured PCB Products in Buildings and Other Structures.

- Groundwater: NYSDEC's June 1998 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations in the Technical and Operational Guidance Series (TOGS) 1.1.1.

- Air: NYSDOH's October 2006 Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York.

Consistent with NYSDEC guidelines, the ASP Category B deliverables are required to be presented as appendices to the electronic version of the RI Report. The data has been transmitted electronically to the NYSDEC in a format consistent with the EDD Manual. The associated DUSR is included in **Appendix E**.

4.1.6 Surface Soil

The entirety of the Site is covered in hardscape surfaces. As such, surface soil samples were not collected for this Investigation.

4.1.7 Subsurface Soil

A total of 35 subsurface soil samples were collected from across the Site.

Tables 1 & 2 summarizes the analytical results and **Figures 4 - 7** shows the sampling locations and results.

4.1.7.1 HFM Sampling

A total of 18 samples were collected from subsurface HFM, as shown in **Figures 4 and 6**. Each sample was analyzed for total petroleum hydrocarbons, Part 375 VOCs, SVOCs, PCBs, metals, PFAS, and 1,4-dioxane. Four of the samples were also analyzed for pesticides, herbicides, total cyanide and hexavalent chromium.

Table 4-2 below summarizes the analytes that exceeded the SCOs, including the lowest and highest exceedance concentrations. **Table 3** attached to the rear of this report summarizes the analytical results.

Table 4-2
Fill Material
Summary of Exceedances

Analyte	Samples with Detections above SCOs						Low Concentration (ppm)	High Concentration (ppm)
	UR	PG	RS	RR	CM	IN		
VOCs								
Acetone		1					0.055	0.055
TCE		2	2				1.7	12
SVOCs / PAHs								
Benzo(a)anthracene				4	1		2.1	8.4
Benzo(a)pyrene						5	1.8	6.8
Benzo(b)fluoranthene				4	1		2.4	9.4
Benzo(k)fluoranthene			4				1.1	2.4
Chrysene			3	2			2.1	7.4
Dibenzo(a,h)anthracene				2	1	1	0.43	1.1
Indeno(1,2,3-cd)pyrene				5			1.1	4.5
PCBs								
Aroclor 1268	2						0.105	0.127
Total PCBs	3						0.1	0.283
Pesticides								
No pesticides were detected at concentrations above SCOs.								
Herbicides								
No herbicides were detected at concentrations above SCOs.								

Metals								
Arsenic	1					2	13	21.4
Cadmium				2			4.62	5.18
Chromium (Trivalent)			1				41.8	41.8
Copper	6						50	105
Lead	5			1			111	554
Mercury	2					2	0.241	28.2
Nickel	2		1				37	153
Silver	1						2.09	2.09
Zinc	7						154	1540
PFAS								
PFOS	2	2					0.000894	0.00114

Notes: UR = Unrestricted Use SCOs
PG = Protection of Groundwater SCOs
RS = Residential Use SCOs
RR = Restricted Residential Use SCOs
CM = Commercial Use SCOs
IN = Industrial Use SCOs

Contaminants in the HFM at concentrations that exceed the Unrestricted Use SCOs are generally VOCs, SVOCs, PCBs, metals, and PFAS. Based on sample results, contamination in the HFM reduced with depth when native material was encountered, as summarized in the next section.

4.1.7.2 Native Soil Sampling

A total of 17 samples were collected from subsurface native material, as shown in **Figure 7**. Each sample was analyzed for Part 375 VOCs, SVOCs, PCBs, metals, PFAS, and 1,4-dioxane. Four of the samples were also analyzed for pesticides, herbicides, total cyanide and hexavalent chromium.

Table 4-3 below summarizes the analytes that exceeded the SCOs, including the lowest and highest exceedance concentrations. **Table 4** attached to the rear of this report summarizes the analytical results.

Table 4-3
Native Soil
Summary of Exceedances

Analyte	Samples with Detections above SCOs					Low Concentration (ppm)	High Concentration (ppm)
	UR	RS	RR	CM	IN		
VOCs							
No VOCs were detected at concentrations above SCOs.							

SVOCs / PAHs							
No SVOCs were detected at concentrations above SCOs.							
PCBs							
No PCBs were detected at concentrations above SCOs.							
Pesticides							
No pesticides were detected at concentrations above SCOs.							
Herbicides							
No herbicides were detected at concentrations above SCOs.							
Metals							
Manganese			1			3370	3370
Nickel	6					30	43
PFAS							
No PFAS compounds were detected at concentrations above SCOs.							

Notes: UR = Unrestricted Use SCOs
RS = Residential Use SCOs
RR = Restricted Residential Use SCOs
CM = Commercial Use SCOs
IN = Industrial Use SCOs

The majority of native soil samples collected exhibited no contamination exceeding Unrestricted Use SCOs. Contaminants in the native soil at concentrations that exceed the Unrestricted Use SCOs are limited to metals.

4.1.8 Groundwater

One groundwater sampling event took place on June 24 and 25, 2024. Groundwater samples were collected from five groundwater monitoring wells installed during the RI. As previously detailed in **Table 3-1**, the groundwater samples were analyzed for a combination of TCL VOCs, TCL SVOCs, pesticides, herbicides, PCBs, TAL metals, total mercury, total cyanide, hexavalent chromium, and PFAS.

Table 5 attached to the rear of this report, summarizes the analytical results for the groundwater samples. The locations of monitoring wells and sampling results are depicted on **Figures 9 and 10.**

VOCs

- Trichloroethene concentrations exceeded TOGS standards in monitoring wells MW-01, MW-02, and MW-03. Concentrations that exceeded standards ranged from 5.4 ug/l to 14 ug/l. The TOGS standard for trichloroethene is 5.0 ug/l.

- cis-1,2-Dichloroethene concentrations exceeded TOGS standards in monitoring wells MW-01, MW-03, and MW-04. Concentrations that exceeded standards ranged from 5.1 ug/l to 9.3 ug/l. The TOGS standard for cis-1,2-

Dichloroethene is 5.0 ug/l.

SVOCs

SVOCs were not detected at concentrations greater than laboratory detection limits.

Pesticides

Pesticides were not detected at concentrations greater than laboratory detection limits.

Herbicides

Herbicides were not detected at concentrations greater than laboratory detection limits.

PCBs

PCBs were not detected at concentrations greater than laboratory detection limits.

Metals

Total and dissolved sodium concentrations exceeded TOGS standards in every monitoring well. Concentrations that exceeded standards ranged from 63,100 ug/l to 188,000 ug/l in the dissolved phase, and 71,300 ug/l to 213,000 ug/l in the total metals phase. Sodium is a common compound encountered in groundwater in Western New York due to the "hard water" characteristics it has as well as longtime use of rock salt for de-icing.

PFAS

PFAS data was compared to the following guidance values:

USEPA

- PFOA / PFOS – 70 parts per trillion (ppt)

NYSDEC

- PFOA – 6.7 ppt
- PFOS – 2.7 ppt

As a result of comparing the groundwater data to these values, the following was noted:

- PFOA was detected at concentrations exceeding NYDEC standards in monitoring well MW-03 at a concentration of 14.8 PPT.
- PFOS was detected at concentrations exceeding NYDEC standards in monitoring well MW-03 at a concentration of 7.7 PPT.

4.1.9 Sub-Slab Soil Vapor

A total of three sub-slab soil vapor samples, three co-located indoor air samples, and one outdoor air sample were collected. The sub-slab and indoor air samples were collected from three locations equally spread out within the warehouse structure. The outdoor air sample was collected at an exterior up-wind location.

The results indicate vapor contamination that reaches the level of mitigation at sample location SSV/IA-01. The TCE concentration within the sub-slab sample was detected at a concentration of 270 ug/m^3, far exceeding the guidance value of 6 ug/m^3. At the same co-located sample, IA-01, TCE concentration was detected at a concentration of 0.59 ug/m^3, exceeding the guidance value of 0.2 ug/m^3.
Based on NYSDOH Soil Vapor / Indoor Air Matrix A, mitigation is required due to the concentration of TCE at location SSV/IA-01.

Tables 6A-6F attached to the rear of this report summarizes the VOC SV results compared to NYSDOH guidance criteria for the protection of human health. **Figure 1**3 shows the sample locations and results.

4.1.10 Concrete Sampling

A total of eight samples were collected from throughout the concrete floor slab of the warehouse structure located on-site. The sampling locations and results are shown in **Figure 14**. Each sample was analyzed for Part 375 PCBs. The samples were collected through the chipping of the top of the concrete slab on July 17, 2024. **Table 7** attached to the rear of this report summarizes the analytical results.

Multiple individual PCB Aroclors were detected at concentrations exceeding Unrestricted Use SCOs in seven samples. Total PCBs were detected at concentrations exceeding Unrestricted Use SCOs in five samples, and Commercial Use SCOs in two samples. Sample Aroclor concentrations are summarized below:

<u>Aroclor 1242</u>

- Detected at concentrations exceeding Unrestricted Use SCOs in one sample (C-01) at a concentration of 0.247 mg/kg.

<u>Aroclor 1254</u>

- Detected at concentrations exceeding Unrestricted Use SCOs in six samples (C-01, C-02, C-04, C-05, C-07 & C-08) at concentrations ranging from 0.118

mg/kg to 0.506 mg/kg.

Aroclor 1260

- Detected at concentrations exceeding Unrestricted Use SCOs in seven samples (C-01, C-02, C-04, C-05, C-06, C-07 & C-08) at concentrations ranging from 0.125 mg/kg to 0.615 mg/kg.

Aroclor 1268

- Detected at concentrations exceeding Unrestricted Use SCOs in four samples (C-01, C-04, C-05 & C-06) at concentrations ranging from 0.156 mg/kg to 0.463 mg/kg.

Total PCBs

- Total PCBs were detected at concentrations exceeding Unrestricted Use SCOs in five samples (C-02, C-05, C-06, C-07 & C-08) at concentrations ranging from 0.391 mg/kg to 0.713 mg/kg.

- Total PCBs were detected at concentrations exceeding Commercial Use SCOs in two samples at concentrations of 1.75 mg/kg at C-01 and 1.17 mg/kg at C-04.

One concrete sample was also collected during the Phase II ESA completed by Environmental Advantage, Inc. The sample was analyzed for Part 375 PCBs. The sample was collected through the chipping of the top of the concrete slab on July 28, 2020. Three PCB Aroclors – Aroclor 1248, Aroclor 1254, and Aroclor 1260 - were detected in concentrations exceeding Unrestricted Use SCOs. Total PCBs were detected at concentrations exceeding Commercial Use SCOs with a concentration of 1.75 mg/kg.

4.1.11 Radiological Sampling

Due to previous sampling observations and regional concerns regarding Technologically Enhanced Naturally Occurring Radiological Materials (TENORM), MJW performed a radiological survey and subsequent sampling. MJW's report is provided in **Appendix F**. **Table 4-3** below summarizes sample concentrations. The average concentration of all Ra-226 soil boring samples was 0.87±.0181 pCi/g. The highest Ra-226 sample concentration was 2.3±0.258 pCi/g for sample MJW-CS-0521-Borehole 15 Slag. Nearby offsite backgrounds from areas identified as unimpacted were taken with an average Ra-226 value of 1.12±.265 pCi/g; the samples were analyzed with a full 21-day ingrowth.

The backgrounds from these off-site samples reflect the typical background values for Western New York; Ra-226 is 1.1 pCi/g [DOE 1993a] and 0.9 pCi/g [ORNL 1992]. All but three samples returned results below the local background. The three

samples that did return results above background are still well below the DMM-5 guidance of 5 pCi/g for background comparable material. Sample MJW-CS-0521-Borehole 15 Slag was sampled and labeled as such due to the lack of soil and the presence of gravel/rocky material. The location of the borehole (building subgrade) and the analytical results indicate that it is a historical fill and does not indicate TENORM.

In compliance with DMM-5 guidance, the material is classified as NORM. Equivalent results to Ra-226 are reported for every sample where there is no Lab Qualifier, for both the thorium and uranium decay chains. Analytical characteristics and visual cues give no indication of the material being TENORM.

There are no restrictions on the usage or disposal of this material.

Table 4-4: Radiological Sample Summary

Sample No.	Ra-226 (pCi/g)	Sample Type
MJW-CS-0521-Borehole 03	0.868 ± 0.126	Target
MJW-CS-0521-Borehole 05	0.585 ± 0.154	Target
MJW-CS-0521-Borehole 06	0.659 ± 0.176	Target
MJW-CS-0521-Borehole 06 Dup	0.603 ± 0.159	Field Duplicate
MJW-CS-0522-Borehole 09	0.86 ± 0.194	Target
MJW-CS-0522-Borehole 11	0.774 ± 0.156	Target
MJW-CS-0522-Borehole 12	0.327 ± 0.167	Target
MJW-CS-0522-Borehole 13	0.653 ± 0.145	Target
MJW-CS-0521-Borehole 14	0.661 ± 0.204	Target
MJW-CS-0521-Borehole 15	0.579 ± 0.177	Target
MJW-CS-0521-Borehole 15 Dup	1.19 ± 0.216	Field Duplicate
MJW-CS-0521-Borehole 15 Slag	2.3 ± 0.258	Target
MJW-CS-0521-Borehole 16	1.23 ± 0.187	Target
MJW-CS-0523-BKG	1.2 ± 0.225	Background
MJW-CS-0523-BKG(669289001DUP)	1.04 ± 0.197	Lab Duplicate
Sample Average	**0.87 ± 0.181**	
Background Average	**1.12 ± 0.265**	

5 CONTAMINANT ASSESSMENT

5.1 Nature, Extent, and Source of Contamination

5.1.1 Surface Soil

The entirety of the Site is covered in hardscape surfaces. As such, surface soil sample were not collected for this Investigation.

5.1.2 Subsurface Soil – HFM

A total of 19 soil borings and 18 soil samples were collected from the HFM within soil borings throughout the Site during the RI. Previously, during a Phase II ESA completed in February 2023, a total of 41 soil borings and 27 samples were collected from the HFM across the Site.

Table 4-2 summarizes the contaminants that exceeded the SCOs in this soil, including the lowest and highest exceedance concentrations. **Table 1** and **Table 3** attached to the rear of this report provides analytical results compared to SCOs for samples from the previous Phase II and this RI, respectively. **Figures 3, 4, 5, and 6** show the sampling locations. The following table identifies the contaminants detected in the soil above Unrestricted Use SCOs.

Table 5-1: Detected Contaminants in Fill Material

VOCs	SVOCs	PCBs	Herbicides	Pesticides	Metals	PFAS
Acetone TCE	Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(k)fluoranthene Chrysene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	Aroclor 1268 Total PCBs	None	None	Arsenic Cadmium Chromium (Trivalent) Copper Lead Mercury Nickel Silver Zinc	PFOS

HFM is located across the Site. The HFM is located immediately below existing surfaces and is underlain by native soils. Generally, the HFM thickness extends to seven to eight feet below ground surface. The variation in analyte concentrations in the soils across the Site that contain HFM indicates that the source of contamination in these soil samples is the HFM and no apparent discrete source is located on-site or off-site.

Two borings (SB-05 & SB-07) contained an oily substance at approximately six feet below ground surface (bgs), one of which also contained a petroleum odor at approximately two feet bgs. There were no visual, olfactory, or field vapor screening detections in the native soil to suggest contamination of the native soil beyond the fill interface.

The contaminants detected in the HFM layer are likely attributable to the waste material characteristics of this fill material, historical industrial use of the site, and potential unregulated industrial waste disposal or spills.

5.1.3 Subsurface Soil – Native Material

A total of 19 soil borings and 17 soil samples were collected from native soils within the soil borings throughout the Site.

Table 4-3 summarizes the contaminants that exceeded the SCOs in this soil, including the lowest and highest exceedance concentrations. **Table 4** attached to the rear of this report provides analytical results compared to SCOs for each sample and **Figure 7** shows the sampling locations and results. The following table identifies the contaminants detected in the soil above Unrestricted Use SCOs.

Table 5-2: Detected Contaminants in Native Soil

VOCs	SVOCs	PCBs	Herbicides	Pesticides	Metals	PFAS
None	None	None	None	None	Manganese Nickel	None

Native soils are characterized as deposits of brown sandy clay. Metals were present at concentrations that marginally exceeded Unrestricted Use SCOs in six samples. Metals present at a concentration slightly above the Restricted-Residential SCO is limited to a single sample, likely due to the impact from the overlying HFM.

5.1.4 Groundwater

Table 5, attached to the rear of this report, summarizes the analytical results for the groundwater samples. The locations of the groundwater monitoring wells are depicted on **Figures 3, 9, and 10.**

The following table identifies the contaminants detected in the groundwater above Ambient Water Quality TOGS.

Table 5-3: Detected Contaminants in Groundwater

VOCs	SVOCs	PCBs	Herbicides	Pesticides	Metals	PFAS
TCE cis-1,2-Dichloroethene	None	None	None	None	Sodium	PFOA PFOS

VOCs are present at concentrations marginally exceeding groundwater values. TCE and cis-1,2-Dichloroethene exceedances are likely due to past industrial site uses and releases and / or migration from the adjoining MOD-PAC BCP Site. Concentrations on the adjacent parcel are significantly higher than concentrations of contaminants on the Site.

A metal analyte was present in the groundwater that did exceed groundwater guidance values. Sodium concentrations were above TOGS standards in every sample collected. Sodium is a naturally occurring metal and common in groundwater in the area, which may be attributed to longtime use of rock salt for de-icing pavement at the site. The metals detected at concentrations above the groundwater standards and guidance values appear to be representative of local groundwater quality.

Low level PFAS was detected in one monitoring well. At this time, no source or current/past uses of the Site can be directly attributed to the presence of PFAS in the groundwater but it is possible that PFAS compounds may have migrated from the adjoining MOD-PAC BCP Site. Soil sampling results did not identify any PFAS exceedances in the soil across the Site from ground surface to up to 11 feet below ground.

Offsite migration of groundwater contaminants that are sourced from the Site is unlikely. Contaminants detected in the groundwater samples likely emanate from the adjacent parcel that has undergone remediation and continued monitoring. Additional investigation of the groundwater contaminants does not appear warranted. Additionally, groundwater at and in the vicinity of the Site is not used for public drinking water supply as the Buffalo Water Board states that every dwelling, house, or other building requiring the use of water must be supplied from the water mains maintained by the City of Buffalo.

5.1.5 Soil Vapor

Soil vapor results that exceed criteria requiring mitigation were detected at sample location SSV/IA-01. The TCE concentration within the sub-slab sample was detected at a concentration of 270 ug/m^3, far exceeding the guidance value of 6 ug/m^3. At the same co-located sample, IA-01, TCE was detected at a concentration of 0.59 ug/m^3, exceeding the guidance value of 0.2 ug/m^3. Based on NYSDOH Soil Vapor / Indoor Air Matrix A, mitigation is required due to the concentration of TCE at location SSV/IA-01.

The exceedances occurred in the southeast corner of the warehouse structure. It is understood that the contaminant sources may be attributed to the historical urban and industrial uses of the property.

5.1.6 Concrete

A total of eight concrete slab foundation samples were collected from throughout the concrete slab of the warehouse structure located on-site. Each sample was analyzed for Part 375 PCBs.

Multiple individual PCB Aroclors were detected at concentrations exceeding Unrestricted Use SCOs in seven samples. Total PCBs were detected at concentrations exceeding Unrestricted Use SCOs in five samples, and Commercial Use SCOs in two samples.

The source of this contamination is likely past warehouse uses and spills to the concrete floor which absorbed into the concrete surface.

5.2 Contaminant Fate and Transport

The probable fate and transport of contaminants detected on the Site is a function of the properties of the individual contaminants and available pathways for the contaminants to migrate. The degree to which as well as the route by which contaminants migrate is dependent on the physical characteristics of the site and the type and distribution of contaminants. The following sections discuss the probable fate and transport of contaminants in the different types of media at the Site.

Primary contaminants of concern are associated with HFM and indoor air on the Site. Constituents in the soil primarily include SVOCs and metals. TCE is present in the soil, groundwater, and indoor air at the Site. In groundwater, TCE and its breakdown products, 1,2-Dichloroethene and vinyl chloride, are the primary contaminants of concern.

VOCs are not strongly sorbed to soil and will transport through the soil into saturated zones. Due to chemical properties of VOCs, a portion of the VOCs will solubilize in water, while the rest will move upward through the water column and soil until to be released as a vapor. The presence of VOCs in the Site soil, groundwater, and indoor air appears to be associated with past site uses and possibly the adjoining MOD-PAC BCP Site. The adjoining BCP Site has extensive documentation of cVOC contamination in soil, groundwater, and soil vapor. Based on the low contaminant levels in groundwater and overburden soil, it is possible that cVOCs have migrated on Site from the adjacent BCP Site.

The polyaromatic hydrocarbons (PAHs) detected are characterized by low water solubilities and, therefore, have a tendency to adsorb onto soil particles. Because of their low vapor pressures, compounds with five or more aromatic rings, which include most of the detected PAHs, will exist mainly adsorbed to airborne

particulate matter, such as fly ash and soot. Those with four or fewer rings, such as benzo(a)anthracene, will occur both in the vapor phase and adsorbed to particles. The detected compounds have relatively low vapor pressures and are expected to remain in a solid or liquid state and undergo degradation via naturally occurring microbes. Due to the low solubility, these contaminants are not expected to impact groundwater quality or migrate substantially into the subsurface. This is supported by the lack of these compounds in the on-site groundwater.

Heavy metals, such as arsenic, nickel, and lead, are non-biodegradable pollutants that are generally transported through anthropogenic activities. In contaminated soils, they tend to persist for many years in the surface layers of soil. In aquatic systems, heavy metals may become blocked as sinks in bottom sediments, where they may remain for many years. Metals can be remobilized in water if the pH falls increasing heavy metal solubility increases. Due to the low solubility, these contaminants are not expected to impact groundwater quality or migrate substantially into the subsurface. This is supported by the lack of these compounds in the on-site groundwater. Other metals were present in the groundwater that did exceed groundwater guidance values; these include naturally occurring metals such as sodium. Elevated concentrations of sodium at the site may be attributed to longtime use of rock salt for de-icing pavement at the site. Metals do not readily break down and will persist in the environment.

PCBs are synthetic organic chemicals. Concentrations of PCBs were detected exceeding Commercial Use SCOs in the concrete floor slab of the warehouse structure. Concentrations of low-level PCBs have been detected within the HFM in three locations on the Site. No samples contained PCBs above the Commercial Use SCO in the soil. PCBs do not readily break down and therefore persist in the environment. In groundwater, PCBs have a high affinity for suspended solids, especially soils with high organic carbon, and adsorb to soil and will not usually be carried widely throughout the subsurface. Some PCBs are more persistent in the environment than others. PCBs can be broken down either by sunlight or by aerobic or anaerobic microorganisms in the subsurface. PCBs were not detected in groundwater samples above TOGS.

5.3 Evaluation of Potential Receptors

Human populations that could potentially be affected include the following:

Table 5-4: Potential Receptors

Group	Contaminant Source / Transport Medium	Assessment
Nearby Utility Workers	Subsurface soil and Groundwater	Buried utility line workers near the Site could come into contact with contaminated media during buried utility repair / excavation activities. Exposure could occur via incidental ingestion, inhalation, and/or dermal contact.
Future On-Site Construction Workers (excluding those workers performing remedial activities as a part of the project)	Subsurface soil and Groundwater	On-Site workers participating in future site development activities could be directly exposed to several contaminant sources. Exposure could occur via incidental ingestion, inhalation, and/or dermal contact.
Future Off-site Construction Workers on Neighboring Properties	Subsurface soil and Groundwater	Off-Site workers participating in potential future development activities near the Site could be exposed to contaminant sources. Exposure could occur via incidental ingestion, inhalation, and/or dermal contact.

5.4 Potential Exposure Pathways

5.4.1 Surface Soil

Under the current use, people living and working in the vicinity of the Site and / or persons trespassing on the Site could not be exposed to contamination in surface soils due to the entire Site being covered in hardscape surfaces.

Construction workers, site visitors and people living, working and traveling through the area near the project site could be exposed to contamination in the near-surface soil during excavation of the contaminated soil in connection with site redevelopment. Potential exposure routes for these receptors include inhalation of

contaminated dust and incidental ingestion of, and/or dermal contact with the contaminated soil/HFM. However, the use of appropriate personal protective equipment, dust suppression techniques and personal/air monitoring, and the development and implementation of a Health and Safety Plan (HASP) minimize the risk of exposure during this stage of the project.

No complete exposure pathways to the potential contaminants in the surface soil have been identified in connection with the post-redevelopment period.

5.4.2 Subsurface Soil / HFM

The presence of elevated concentrations of contaminants, primarily SVOCs and metals in subsurface soil / HFM, is not interpreted to represent a human or environmental exposure risk because no complete exposure pathways were identified under the current use scenario for the Site. This is a function of the subsurface disposition of the contamination, which effectively minimizes the potential for the incidental ingestion of, or dermal contact with the contaminated media. These factors also reduce the potential for the emission of vapors and particulates that could pose an exposure risk via inhalation. This applies to people living, working and traveling through the area surrounding the Site, as well as persons visiting, working or trespassing on the Site.

During excavation of the contaminated soil / HFM in connection with site redevelopment activities, environmental receptors, construction workers, site visitors and people living, working and traveling through the project site could be exposed to contaminants in the subsurface soil / HFM. Potential exposure routes for these receptors include inhalation of contaminated dust and incidental ingestion of and / or dermal contact with the contaminated soil / HFM. However, the use of appropriate personal protective equipment, dust suppression techniques and personal / air monitoring, and the development of a HASP would minimize the risk of exposure during this stage of the project.

5.4.3 Groundwater

Groundwater is not considered a relevant mechanism for exposure due to the City of Buffalo Water Board servicing the Site and requirement for an Environmental Easement that will restrict the use of groundwater.

Groundwater in the City of Buffalo is prohibited from being used for public drinking water supply.

5.4.4 Soil Vapor

Soil vapor under the slab and in the indoor air of the warehouse structure was identified to have TCE impacts. The detected concentrations require mitigation per NYSDOH Soil Vapor criteria. As such, the vapor intrusion pathway is relevant under current conditions.

5.4.5 Exposure Assessment Summary

The human health exposure assessment identified exposure scenarios for the Site.

- Exposed soil / HFM during construction presents a potential route of exposure to construction or remediation workers via contact, fugitive dust and surface water. Upon completion of planned construction activities, the Site will be covered by buildings and paved parking lots. The proposed structures / features will prevent direct human exposure to any materials that may be left in-place.

- A potential route of exposure includes soil vapor to human receptors via inhalation inside the building. Vapor intrusion for future use scenario presents a low but potential route of exposure.

- Groundwater is not considered a relevant mechanism for exposure due to the municipal water servicing the Site and requirement for an Environmental Easement that will restrict the use of groundwater. Groundwater in the City of Buffalo is prohibited from being utilized as a source of drinking water.

5.5 Qualitative Human and Fish / Wildlife Resources Exposure Assessment

The Site is used as an industrial building complex in an urban area with limited wildlife exposure. Humans living or working near or on the Site could be exposed to contamination in the subsurface soils. However, the proposed remedy for the Site includes a cover system that will restrict contact with contaminated soils.

The Site and surrounding area are within a heavily urbanized area. The Site is not located in or substantially contiguous to a Critical Environmental Area designated pursuant to Article 8 or the ECL and 6 NYCRR 617, nor are any state or federally designated wetlands located on or adjacent to the project site.

Based upon the information summarized above, there are no ecological resources present on or in the vicinity of the site and, consequently, no fish and wildlife resource impacts have been identified.

6 DATA INTERPRETATION

6.1 Conceptual Site Model

The Site is situated within an urban residential area in the City of Buffalo. The Site itself is a part of a larger paperboard and packaging manufacturing facility. The Site is surrounded by multiple BCP sites; including MOD-PAC Corp (C915314) to the west, Pierce Arrow (C915308) to the south, Former Pierce Arrow Manufacturing Site (C915220) to the south, and 157 Great Arrow Avenue (C915326) to the south. A residential area is located north of the Site, and commercial sites are located to the east. Additionally, an athletic field is located directly adjacent to the Site, serving as a cover system for the MOD-PAC Corp BCP parcel.

As summarized in the previous sections, contamination is present within the subsurface soil, groundwater, and soil vapor. Primary contaminants include TCE and its breakdown products. HFM is present at depths as deep as eight feet below ground surface.

The probable fate and transport of contaminants detected on the Site is a function of the properties of the individual contaminants and available pathways for the contaminants to migrate. The degree to which, as well as the route by which, contaminants migrate is dependent on the physical characteristics of the Site and the type and distribution of contaminants. The following discusses the probable fate and transport of contaminants in the different types of media at the Site:

- TCE and its breakdown products are present in groundwater across the Site in concentrations exceeding New York State Ambient Water Quality Standards. Groundwater on the Site flows to the southeast, indicating the possibility for contaminated groundwater to migrate off site. TCE and its breakdown products are dense non-aqueous phase liquids (DNAPL), so it is possible for contamination to vertically migrate further into the aquifer. However, the subsurface native soil was characterized as being dense, dry clay, which has a low permeability and may prevent cVOCs from migrating deeper into the aquifer.

- SVOCs (specifically PAHs) and metals (primarily including arsenic, cadmium, and mercury) are associated with the HFM deposited across the Site. SVOCs were primarily detected in concentrations exceeding Restricted Residential Use SCOs and above while metals primarily detected at lower concentrations exceeding just Unrestricted Use SCOs. The vertical migration of contaminants from HFM to native soil appears to be very limited as significant impacts were generally not detected in deeper HFM samples and deep native soil

samples. Further, the metals present in the HFM have low solubilities so it is not expected that they will migrate substantially into the subsurface.

Potential receptors could include facility or construction workers working with exposed soil / HFM, or any visitors to the Site or adjacent athletic fields. Potential routes of exposure for these receptors include inhalation of contaminated dust and ingestion of / dermal contact with HFM / contaminated soil. Exposure to contaminated soil vapors on the interior of the onsite structure is possible by inhalation but would be limited to workers at the facility. Due to the Site's exterior existing hardscape cover system, exposure pathways to the public are minimal. Furthermore, groundwater is not considered a relevant mechanism for exposure due to the City of Buffalo's ban on groundwater use as a drinking water source.

6.2 Data Gaps

One data gap was identified through this Investigation. That data gap included the inability to sample soil boring location SB-02. This was due to Geoprobe refusal uncovered in the field. This data gap was not deemed significant due to the additional samples collected in the nearby vicinity to that location.

6.3 Deviations from the RIWP

The RIWP stated that remaining annulus for well construction would be grouted to the ground surface, but instead the well construction was backfilled with native soil cuttings. The soil material backfilled consisted of native soils from the bottom of the well excavation exhibiting no visible contamination.

The RIWP stated that supplemental samples would be collected from borings exhibiting additional areas of concern, but this did not occur for soil boring SB-07 which was identified as containing an oily substance. The fill and native sample at this location did not exceed Commercial Use SCOs for any compound.

7 CONCLUSIONS AND RECOMMENDATIONS

To characterize site conditions and identify the appropriate remedy for the Site, a RI was implemented. The RI included the collection and analysis of 35 soil samples, one round of groundwater sampling from five wells, SVI sampling, and concrete sampling.

Contaminant Source and Constituents

Contamination exceeding SCO is generally associated with HFM located throughout the Site. Constituents in the HFM at concentrations that exceed the Unrestricted Use SCOs generally include VOCs, SVOCs, PCBs, metals, and PFAS.

In the groundwater samples, VOCs are present at concentrations marginally exceeding groundwater values. Cis-1,2-Dichloroethene exceedances are likely due to past site uses.

Based on NYSDOH guidance, vapor intrusion mitigation is required due to the concentration of TCE in the sub-slab vapor and indoor air.

Extent of Contamination

HFM is located across the Site. The HFM is located immediately below existing surfaces and is underlain by native soils. Generally, the HFM thickness extends to seven to eight feet below ground surface. The variation in analyte concentrations in the soils across the Site that contain HFM indicates that the source of contamination in these soil samples is the HFM material.

VOCs are present at concentrations marginally exceeding groundwater values. TCE and cis-1,2-Dichloroethene exceedances are likely due to past site uses. It is likely that cVOC exceedances in groundwater are attributed to the adjoining MOD-PAC BCP Site (C915314).

A metal analyte was present in the groundwater that did exceed groundwater guidance values. Sodium concentrations were above TOGS standards in every sample collected. Sodium is a naturally occurring metal and common in groundwater in the area. Sodium exceedances may be attributed to repeated use of rock salt for de-icing pavement.

Low level PFAS was detected in one monitoring well. Since PFAS were also detected in HFM, it is likely that the PFAS-contaminated HFM is a source of PFAS contamination in groundwater. However, at this time, no source or current/past uses of the Site can be directly attributed to the presence of PFAS in the groundwater. No on-site source of PFAS was encountered during the RI. It is also

possible that PFAS at the adjoining MOD-PAC BCP Site source is a source for PFAS in groundwater.

The soil vapor exceedances were located in the southeast corner of the warehouse structure. The vapors beneath the sub-slab and in indoor air contain concentrations of TCE that warrant mitigation.

Recommendations

Remediation of the Site is warranted. Specific remedial actions are summarized and compared in the following section.

8 ALTERNATIVES ANALYSIS REPORT

8.1 Objectives

The objectives of this portion of the document, the AA Report, is to evaluate remedial alternatives to address the contamination presented in the RI Report and select remedial actions to be implemented. As defined in NYSDEC DER-10 (Section 4.0) and DER-31, remedial alternatives will be evaluated based on the following criteria:

a. Overall Protection of Public Health and the Environment: This criterion evaluates exposure and residual risks to human health and the environment during or subsequent to implementation of the alternative.

b. Compliance with SCGs: This criterion evaluates whether the remedial alternative will ultimately result in compliance with SCGs, to the extent practicable.

c. Long-Term Effectiveness and Permanence: This criterion evaluates if the remedy is effective in the long-term after implementation (e.g., potential rebound). In the event that residual impacts will remain as part of the alternative, then the risks and adequacy/reliability of the controls are also evaluated.

d. Reduction of Toxicity, Mobility, or Volume with Treatment: This criterion evaluates the reduction of contaminant toxicity, mobility or volume as a result of the remedial alternative. In addition, the reversibility of the contaminant destruction or treatment is evaluated.

e. Short-Term Effectives: This criterion evaluates if the remedial alternative protects the community, workers and the environment during implementation.

f. Implementability: This criterion evaluates the remedial alternative based on its suitability, implementability at the specific site, and availability of services and materials that will be required.

g. Cost: This criterion evaluates the capital, operation, maintenance, and monitoring costs for the remedial alternative. The estimated costs are presented on a present worth basis.

h. Land Use: This criterion evaluates the proposed remedial approach against the current, intended, and reasonably anticipated future use of the land and its surroundings.

i. Community Acceptance: This criterion considers concerns of the community regarding the proposed remedy. Any public comments and overall public perception are addressed as part of the criterion.

j. Green Remediation: This criterion considers all environmental effects of remedy implementation and incorporates alternatives that minimize the environmental footprint of cleanup actions.

8.2 Applicable Standards, Criteria, and Guidance

The remedial alternatives were developed in consideration of the following Standards, Criteria, and Guidance (SCG):

8.2.1 Soil

New York Codes, Rules, and regulations, Title 6 (6 NYCRR), Chapter IV, Subpart 375-6: *Remedial Program Soil Cleanup Objectives*, and *DEC CP-51 Soil Cleanup Guidance*, issued October 21, 2010.

NYSDEC DMM-5, *Management of Soils with Technologically Enhanced Naturally Occurring Radioactive Materials (TENORM),* October 2023.

8.2.2 Groundwater

NYSDEC Technical and Operational Guidance Series (TOGS), *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations*, June 1998.

6 NYCRR Part 703, *Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations*.

8.2.3 Soil Vapor

NYSDOH *Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, October 2006, with updates.

NYSDOH *Trichloroethene (TCE) in Indoor Air and Outdoor Air, August 2015 Fact Sheet*.

8.2.4 Waste Characterization Analysis

NYSDEC 6 NYCRR Part 371, *Identification and Listing of Hazardous Wastes*.

8.2.5 Alternatives Analysis Guidelines:

NYSDEC DER-10, *Technical Guidance for Site Investigation and Remediation*, May 2010.

NYSDEC DER-31, *Green Remediation*, January 20, 2011

8.3 Remedial Action Objectives

Remedial Action Objectives (RAOs) are medium-specific objectives for the protection of public health and the environment and are developed based on contaminant-specific SCGs established by NYSDEC and / or NYSDOH. The site-specific RAOs are based on the anticipated use of the site for mixed use commercial and industrial use.

Soil RAOs

The RAOs for soil used in this AA are:

- RAOs for Public Health Protection
  - Prevent ingestion/direct contact with contaminated soil.
  - Prevent inhalation exposure to contaminants volatilizing from soil.

- RAOs for Environmental Protection
  - Prevent migration of contaminants that would result in groundwater or surface water contamination.

Groundwater RAOs

The RAOs for groundwater used in this AA are:

- RAOs for Public Health Protection
  - Prevent contact with, or inhalation of, volatiles from contaminated groundwater.
- RAOs for Environmental Protection
  - Restore groundwater aquifer to pre-disposal / pre-release conditions, to the extent practicable.
  - Remove the source of ground or surface water contamination.

Soil Vapor RAOs

The RAOs for soil vapor used in this AA are:

- RAOs for Public Health Protection
  - Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a Site.

8.4 Future Use Evaluation

When evaluating remedial alternatives, reasonableness of the anticipated future land use should be considered. The warehouse structure is currently undergoing renovation and repurposing for future use as a storage and potential manufacturing facility.

8.5 Development of Alternatives

This section identifies potential remedial alternatives being considered to address the Site. Per DER-10 4.2(a)(i), each alternative considered must be protective of human health and the environment and conform to officially promulgated SCGs. These two criteria are considered threshold criteria.

The following alternatives are discussed in the subsections below:

1. No Action – Although this alternative does not meet the DER-10 threshold criteria, is it provided to demonstrate the need to undertake some level of remedial action.

2. Cover System and Vapor Mitigation. This alternative is a Track 4 cleanup designed to meet Commercial SCOs and prepare the Site for a commercial and industrial mixed-use development, subject to institutional controls (IC) and engineering controls (EC). The major elements of this alternative include a cover system, removal of PCB impacted concrete, and mitigation for soil vapor.

3. Complete Fill Removal and Groundwater Treatment. This alternative is a Track 1 cleanup designed to meet Unrestricted Use SCOs and prepare the Site for any type of development, and not subject to ECs / ICs. The major elements of this alternative includes complete fill removal and groundwater treatment.

These remedial alternatives evaluated are summarized below:

8.5.1 No Action

The No Action Alternative is included as a procedural requirement and as a baseline to evaluate other alternatives. Under this alternative, no further remedial or monitoring activities would occur and no controls would be employed to prevent exposure to contaminated HFM / soil, groundwater, or concrete, and soil vapor intrusion would not be controlled. No Action does not provide protection of human health or the environment and does not comply with SCGs.

8.5.2 Track 4 (Commercial) – Cover System and Vapor Mitigation

8.5.2.1 Description

The Track 4 remediation will consist of the following elements:

- Contaminated Concrete Slab Removal & Replacement;
- Soil Vapor Mitigation via SSDS Installation; and
- Cover Repair (where necessary following installation of SSDS).

In general, the types and concentrations of contaminants in the soil / HFM across the Site are typical of an urban area and the RAOs can be achieved by a cover system. Therefore, complete removal of this soil / HFM is not warranted and the remainder of the Site will be remediated by installing a cover system. This will consist of impervious cover (asphalt or concrete surface).

Remediation of groundwater is not a part of this alternative. This is due to: a) relatively low concentrations and isolated locations of VOC compounds; b) the City of Buffalo has a prohibition on using groundwater for drinking water, therefore an institutional control already exists; and c) the presence of low levels of VOCs that could cause indoor air concerns can readily be controlled with a vapor mitigation system. Additionally, it was determined that the likely source of contamination is the adjacent parcel with known groundwater contamination issues and monitoring actions.

Vapor mitigation is a part of this alternative. This component of the alternative includes the removal of PCB contaminated concrete floor slab and portion of underlying HFM and the installation of a sub-slab depressurization system to mitigate the TCE impacts in the indoor air. The underlying HFM removed will be necessary for installation of vapor system and sub-base material to reach necessary grades beneath the new system. A new concrete floor will also be re-installed as part of the remedy. It is unknown the exact amount of HFM that will be excavated beneath the sub-slab until the floor is removed, but for cost estimating purposes it is assumed to be approximately 500 tons.

Any destruction of exterior hardscape cover shall be properly repaired following installation of the vapor mitigation system.

Components of the selected Track 4 Remedy are shown on **Figure 15**.

8.5.2.2 Assessment

<u>Overall Protection of Human Health and the Environment</u>

A portion of the excavated soil / HFM with arsenic and mercury concentrations

above Commercial SCOs would be removed and disposed of off-site. Soil / HFM re-used onsite or otherwise remaining onsite will be isolated by the cover system.

Groundwater is not used for drinking water at the Site. Drinking water is obtained from the City of Buffalo. This water is sourced from Lake Erie, which is treated prior to use to ensure the water meets NYSDEC and USEPA standards. The potential for contaminated groundwater to affect indoor air quality will be mitigated with a SSDS in the warehouse portion of the Site. The systems are designed to result in compliance with NYSDOH indoor air guidance values established for human health protection.

Long term human health and environmental protection and control can be managed with a Site Management Plan (SMP), environmental easement, deed restrictions, monitoring and other such IC / EC. This alternative would be protective of human health and the environment.

Compliance with SCGs

The alternative complies with the SCGs, as on-site HFM / soil with contaminant concentrations above the SCOs would either be removed and disposed of off-site or left under impervious asphalt or concrete cover.

Some VOCs, metals, and PFAS compounds in groundwater exceed TOGS on Site. However, there is no identifiable human exposure pathway given 1) the ban on use of City of Buffalo groundwater as a drinking water source and 2) an IC in the form of an environmental easement that restricts groundwater use from the Site as potable or process water without necessary water quality treatment as determined by the NYSDOH or County DOH.

Indoor soil vapor will be mitigated with a SSDS in the warehouse structure. The system will be designed to result in compliance with NYSDOH indoor air guidance values (AGVs).

Short-term Impacts and Effectiveness

This alternative increases the short-term risks for the community and the workers implementing the alternative (i.e., through the disturbance of impacted HFM / soil) because the Site will undergo removal and grading of contaminated HFM / soil. However, these risks would be minimized through the implementation of appropriate HFM / soil handling procedures, air monitoring, and dust suppression techniques.

Long-term Effectiveness and Permanence

This alternative would be a permanent remedy to address the contaminant concentrations in the soil / HFM throughout the Site. The presence of a cover system will eliminate the potential for users of the Site to come into contact with the HFM.

Reduction of Toxicity, Mobility and Volume

This alternative would result in the reduction of the mobility and volume of contaminants in the HFM / soil. Mobility would be controlled by the cover system. This alternative does not reduce toxicity and only minimally reduces the volume of contaminants remaining at the Site.

Implementability

This alternative is implementable using existing construction methods and equipment. The expected duration is less than one construction season. This alternative would result in a Site suitable for redevelopment for commercial use.

Cost Effectiveness

The estimated cost of this alternative is $620,880 as detailed in the table below.

Table 8-1: Track 4 Summary of Remedial Costs

Category	Unit Rate	Number	Units	Estimated Cost
Site Mobilization & Control Measures	$10,000	1	LS	$10,000
Site Demolition & Clearing	$10,000	1	LS	$10,000
Site Control/Security	$5,000	1	LS	$5,000
Backfill Characterization Sampling / Testing	$800	4	Sample	$3,200
Soil Disposal Sampling / Testing	$800	4	Sample	$3,200
Backfill Procurement and Placement	$25	300	CY	$7,500
Contaminated Soil Excavation and Disposal	$80	500	ton	$40,000
Concrete Slab Removal and Disposal	$83,500	1	LS	$83,500
Site Survey	$10,000	1	LS	$10,000
Erosion, Sediment, Dust Control	$10,000	1	LS	$10,000
SSDS	$100,000	1	LS	$100,000
Concrete Floor Slab Replacement	$150,000	1	LS	$150,000
Operation and Maintenance of Remedy	$10,000	1	LS	$10,000
Subtotal				**$442,400**
Contingency	20 percent			$88,480
Construction Subtotal				**$530,880**
Annual Certification – Present Worth	$3,000	Year	30	$90,000
TOTAL				**$620,880**

Land Use

This alternative would allow for the use of the parcel as a mixed-use storage warehouse with Commercial and Industrial Use, which conforms to the City of Buffalo development plans for the area. Therefore, this alternative would allow for the highest and best use of the land.

Community Acceptance

Based on the findings of the studies performed to date, it is anticipated that the results of this alternative would be acceptable to the community.

Green Remediation

This alternative could utilize the following green remediation options:

- Utilizing a cover system to isolate the HFM. This approach significantly reduces the use of fossil fuels that would be used to excavate and haul the HFM off-site for disposal, as well as bring replacement material to the Site. This option also limits the volume of soil to be managed in a landfill.
- Clean soil and aggregate needed to construct the cover system can be sourced from local pits / quarries, thus reducing emissions for transport vehicles.
- High efficiency motors for vapor mitigation.

8.5.2.3 Summary

The Track 4 (Commercial) – Cover System and Vapor Mitigation Alternative was designed to remediate the Site to a moderately restrictive level – Commercial SCOs, and prepare the Site for redevelopment for commercial and industrial mixed uses.

8.5.3 Track 1 (Unrestricted Use) – Complete Fill Removal and Groundwater Treatment

8.5.3.1 Description

Under this Unrestricted Use Alternative, HFM and soil impacted at concentrations greater than the Unrestricted Use SCOs would be excavated and disposed of off-site in accordance with applicable regulations. Based on the results of the RI (average contaminated HFM depth of 7 feet across 85% of the Site), the estimated volume of soil requiring removal is 6,300 cubic yards. Assuming a conversion rate of 1.62 tons per cubic yard, the weight of this HFM is estimated at 10,200 tons. This would require removal of soil adjacent to and under the building foundation.

Groundwater would be treated with an in-situ chemical oxidation (ISCO) product. The effectiveness of the ISCO would be verified by four rounds of groundwater

sampling and analysis.

8.5.3.2 Assessment

Overall Protection of Human Health and the Environment

This alternative would be protective of human health and the environment, as: 1) all soil with contaminant concentrations above SCOs on-site would be removed and disposed of off-site; and 2) groundwater would be treated in-situ to meet TOGS Standards.

Compliance with SCGs

The alternative complies with the SCGs, as: 1) on-site HFM / soil with contaminant concentrations above the SCOs would be removed and disposed of off-site; and 2) groundwater would be treated in-situ to meet TOGS Standards.

Short-term Impacts and Effectiveness

This alternative increases the short-term risks for the community and the workers implementing the alternative (i.e., through the disturbance of impacted HFM / soil), because the Site will undergo complete removal of contaminated HFM / soil. However, these risks would be minimized through the implementation of appropriate HFM / soil handling procedures, air monitoring, and dust suppression techniques.

Long-term Effectiveness and Permanence

The Unrestricted Use Alternative would be a permanent remedy to address the contaminant concentrations in the soil, groundwater, concrete slab foundation, and soil vapor on the Site.

Reduction of Toxicity, Mobility and Volume

This alternative would result in the reduction of the toxicity, mobility, and volume of contaminants on the Site since the remedy would include the removal of contaminated HFM / soil and treatment of groundwater. This would eliminate the source of soil vapor intrusion into the building.

Implementability

This alternative is implementable using existing construction methods and equipment. The expected duration is one construction season. This alternative would result in a Site suitable for redevelopment for any use.

Cost Effectiveness

The estimated cost of this alternative is $3,038,280 as detailed in the table below.

Table 8-2: Track 1 Summary of Remedial Costs

Category	Unit Rate	Number	Units	Estimated Cost
Site Mobilization & Control Measures	$20,000	1	LS	$20,000
Site Demolition & Clearing	$20,000	1	LS	$20,000
Site Control / Security	$15,000	1	LS	$15,000
Building Structural Modifications and Shoring	$250,000	1	LS	$250,000
Backfill Characterization Sampling / Testing	$800	20	Sample	$16,000
Confirmatory Soil Sampling	$500	30	Sample	$15,000
Soil Disposal Sampling / Testing	$800	8	Sample	$6,400
Contaminated Soil Excavation and Disposal	$80	10,200	ton	$816,000
Backfill Procurement and Placement	$25	12,600	ton	$315,000
Concrete Slab Removal and Disposal	$83,500	1	LS	$83,500
Impervious Cover System Elements (pavement)	$10,000	1	LS	$10,000
Concrete Floor Slab Replacement	$150,000	1	LS	$150,000
Groundwater Treatment Pilot study	$100,000	1	LS	$100,000
Groundwater ISCO	$500,000	1	LS	$500,000
Groundwater Monitoring	$10,000	10	Rounds	$100,000
Site Survey	$20,000	1	LS	$20,000
Erosion, Sediment, Dust Control	$20,000	1	LS	$20,000
Subtotal				**$2,456,900**
Contingency	20 percent			$491,380
Construction Subtotal				**$2,948,280**
Annual Certification – Present Worth	$3,000	Year	30	$90,000
TOTAL				**$3,038,280**

Land Use

This alternative would allow for the use of the parcel for any use, contingent on the requirements for zoning / land use in the City of Buffalo.

Community Acceptance

It is anticipated that this alternative would be acceptable to the community.

Green Remediation

Due to the magnitude of soil removal, backfilling, and landfill disposal required for this option, local resources may be affected. The remediation will require a

significant expenditure of fossil fuels to fuel the more than 510 trucks necessary to remove the HFM from the Site, as well as the more than 630 trucks that will provide backfill materials for the Site. Green remediation alternatives will be limited to local sourcing of material and in-situ treatment of groundwater. However, the impacts related to soil management will far outweigh these benefits.

8.5.3.3 Summary

The Unrestricted Use Alternative was designed to remediate the Site to its least restrictive level – Unrestricted Use Soil SCOs - and prepare the Site for redevelopment for any type of use. This alternative would not require ECs / ICs, and there would be no need for site management.

8.6 Comparative Evaluation of Alternatives and Recommended Actions

This section of the report compares the remedial alternatives proposed for each of the impacted media and presents the recommended action for each media group.

8.6.1 No Action Alternative

The No Action Alternative does not meet DER-10 threshold criteria and is therefore not protective of human health and the environment and would likely not be acceptable to the community in the long term. Therefore, this alternative is not the recommended remedy for the Site.

8.6.2 Track 4 (Commercial) – Cover System and Vapor Mitigation

The Track 4 – Cover System and Vapor Mitigation Alternative would be a long-term remedy and is anticipated to be acceptable to the community. This alternative reduces the toxicity, mobility, and volume of impacted media through: a) removal of impacted soil / HFM and replacement with clean material, b) installation of a cover system across the Site, and c) installation of a SSDS and ventilation system for the building. This alternative was designed to:

- Remediate the Site to a reasonable level that protects human health and the environment.
- Provide a cost-effective effort that meets SCGs and the future land use of the Site
- Prepare the Site for redevelopment for commercial and industrial mixed uses

8.6.3 Track 1 (Unrestricted Use) – Complete Fill Removal and Groundwater Treatment

The Unrestricted Use Alternative would be a long-term remedy and is anticipated to be acceptable to the community. This alternative effectively reduces the toxicity, mobility, and volume of impacted media through the removal of all HFM from the Site and replacement with clean material, as well as the treatment of groundwater. However, this alternative will negatively impact the redevelopment because of increased complexity of the remediation due to multiple actions to reestablish the Site, increased timeframe to conduct the remediation, and a significantly higher remedial cost.

8.7 Recommended Remedial Alternative

Based on the alternative analysis evaluation, the Track 4 (Commercial) – Cover System and Vapor Mitigation remedy is the recommended final remedial approach for the Site. This alternative is fully protective of public health and the environment; significantly less disruptive to the community; consistent with current and future land use; and represents a more cost-effective approach than the Track 1 remedy, while fully satisfying the RAOs. The recommended remedial alternative would involve the following:

8.7.1 Engineering Controls

Cover System

The need for the cover system is based on the results of the RI, which indicates that HFM is present across the majority of Site. Generally, the HFM is present at depths down to an average of seven to eight feet bgs (refer to **Figures 4 - 6** for HFM locations and depths). Based on RI sampling data, the HFM may contain contaminants at concentrations exceeding Commercial SCOs, and therefore the cover system is necessary to prevent human exposure to potential contaminants. The cover system will be installed across the Site except for where surface soils appear to be native, there is no physical evidence of impacts (does not contain HFM), and samples analyzed during the RI did not exceed Commercial SCOs. Because there is presently hardscape cover across the entirety of the Site, surface soil samples were not collected.

The cover system will be comprised of hardscape and the details of each system are as follows.

Hardscape Cover System

The Site is entirely covered with a hardscape cover system. This hardscape cover system consists of either building foundations and floor slabs or asphalt or concrete pavement. Therefore, there will be no installation of a hardscape cover system unless areas require repair or replacement. It was determined that hardscape present on the exterior of the building does not need repairs and is suitable in its current condition to serve as cover. Existing hardscape cover will be inspected and maintained to ensure an adequate cover system.

Vapor Mitigation

Based on the sampling of soil, groundwater, and air during the RI, a system designed to mitigate vapor intrusion will be installed in the existing warehouse structure

A description of the SSDS system designed to be installed is as follows:

- Designed to maintain an adequate negative pressure beneath the slab.
- Vacuum gauges and alarms will be installed on vertical risers to monitor pressure and system status.
- Suction points will penetrate into the soil under the slab on grade. Each point will be urethane sealed and tested for tightness.
- Suction points will be collected to risers that will discharge air vertically through the roof by way of a continuously operating forced air blower mounted on at the top of each riser above the roof.

Operation & Maintenance Manuals as well as inspection plans for the systems will be included in the SMP and appended to the FER.

8.7.2 Institutional Controls

An institutional control in the form of an environmental easement for the controlled property which will:

- Require the remedial party or site owner to complete and submit to the Department a periodic certification of IC / EC in accordance with Part 375-1.8(h)(3);
- Allow the use and development of the controlled property for Commercial Use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- Restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
- Require compliance with the Department approved SMP.

8.7.3 Site Management Plan

A SMP is required, which includes the following:

a. An Institutional and Engineering Control Plan that identifies use restrictions and EC for the Site and details the steps and media-specific requirements necessary to ensure the following IC / EC remain in place and effective:

   This plan includes, but may not be limited to:

   - An Excavation Work Plan (EWP) which details the provisions for management of future excavations in areas of remaining contamination;
   - Descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
   - A provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
   - A provision that should a building foundation or building slab be removed in the future, a cover system will be placed in any areas where the upper two feet of exposed surface soil exceeds the applicable SCOs;
   - Provisions for the management and inspection of the identified EC;
   - Maintaining site access controls and Department notification; and
   - The steps necessary for the periodic reviews and certification of the IC / EC.

b. A Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

   - Monitoring of groundwater to assess the performance and effectiveness of the remedy;
   - A schedule for monitoring and frequency of submittals to the Department; and
   - Monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

c. An Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the active vapor mitigation systems. The plan includes, but is not limited to:

   - Procedures for operating and maintaining the systems;

- Compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary reporting;
- Maintaining site access controls and Department notification; and
- Providing the Department access to the site and O&M records.

Figures

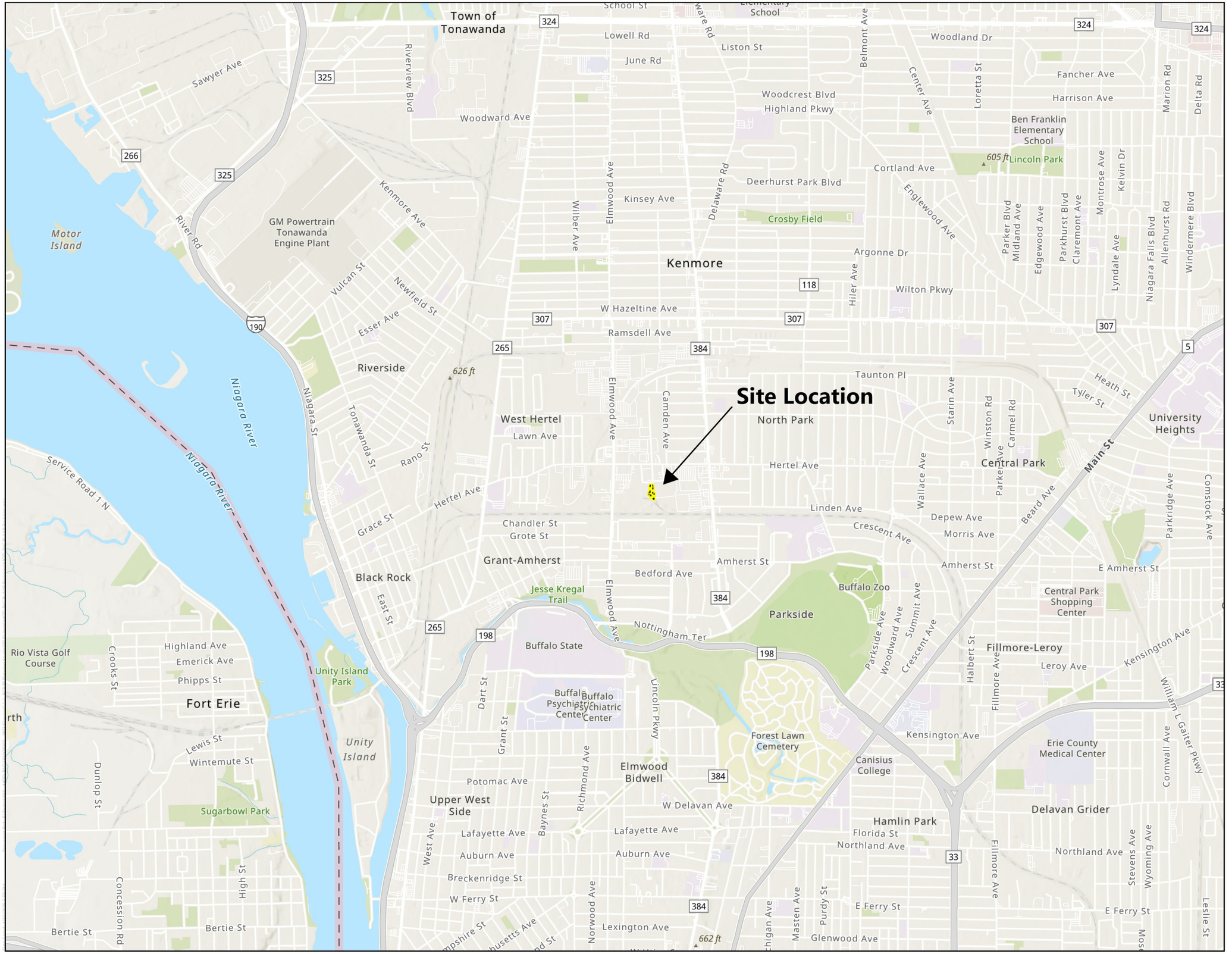




Figure 1

Site Location

Legend

BCP Boundary

N

0 1 Miles

When printed at 11 in. by 17 in.

1803 Elmwood Avenue BCP

Sources: . Created by C&S Engineers, Inc.

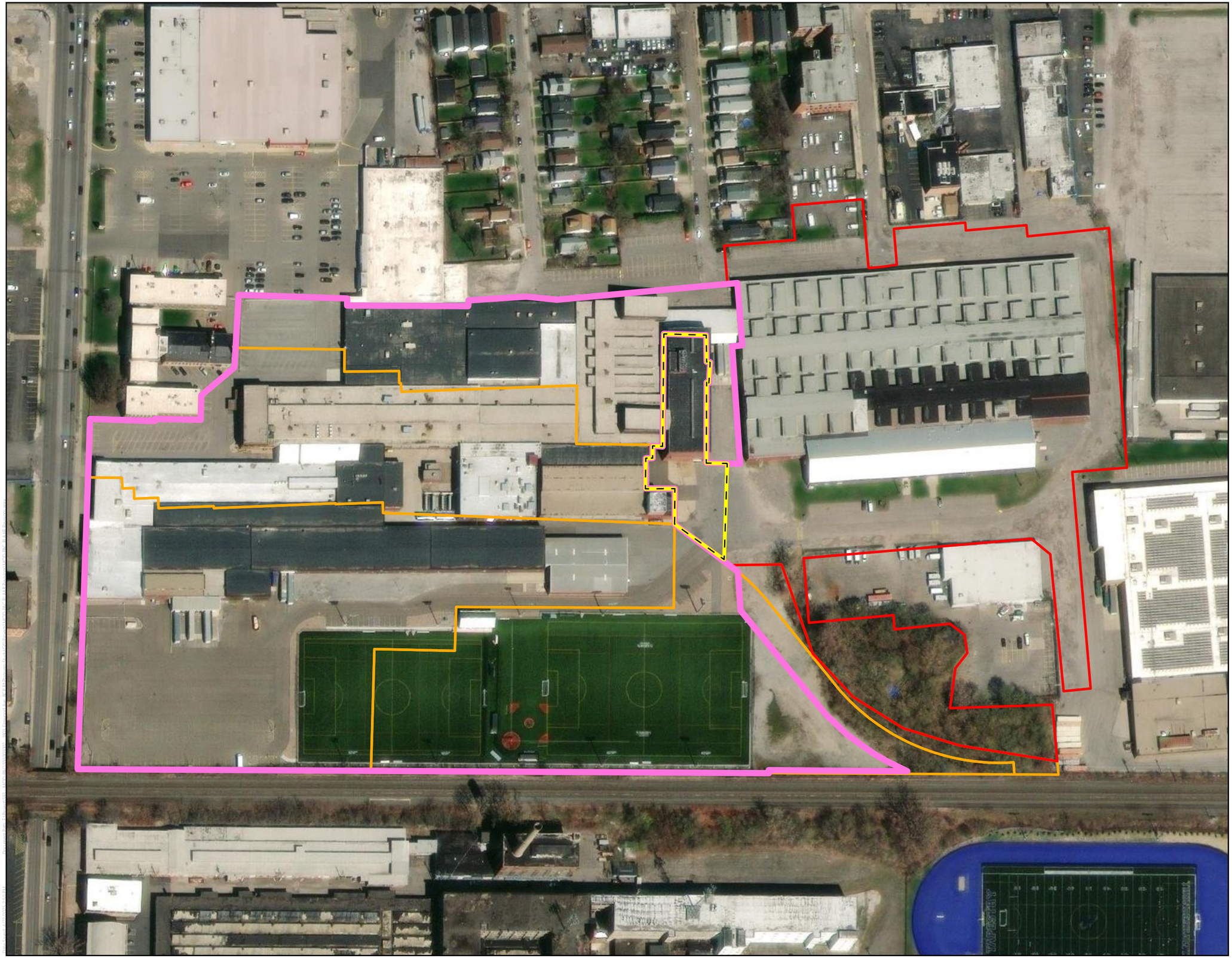


Figure 2

Site Map

Legend

- BCP Boundary
- Parent parcel
- Adjoining Mod-Pac BCP Site (C915314) Boundary
- Adjoining Mod-Pac BCP Site (C915314) individual parcels

N

0 350 Feet

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1803 Elmwood Avenue BCP

Sources: . Created by C&S Engineers, Inc.

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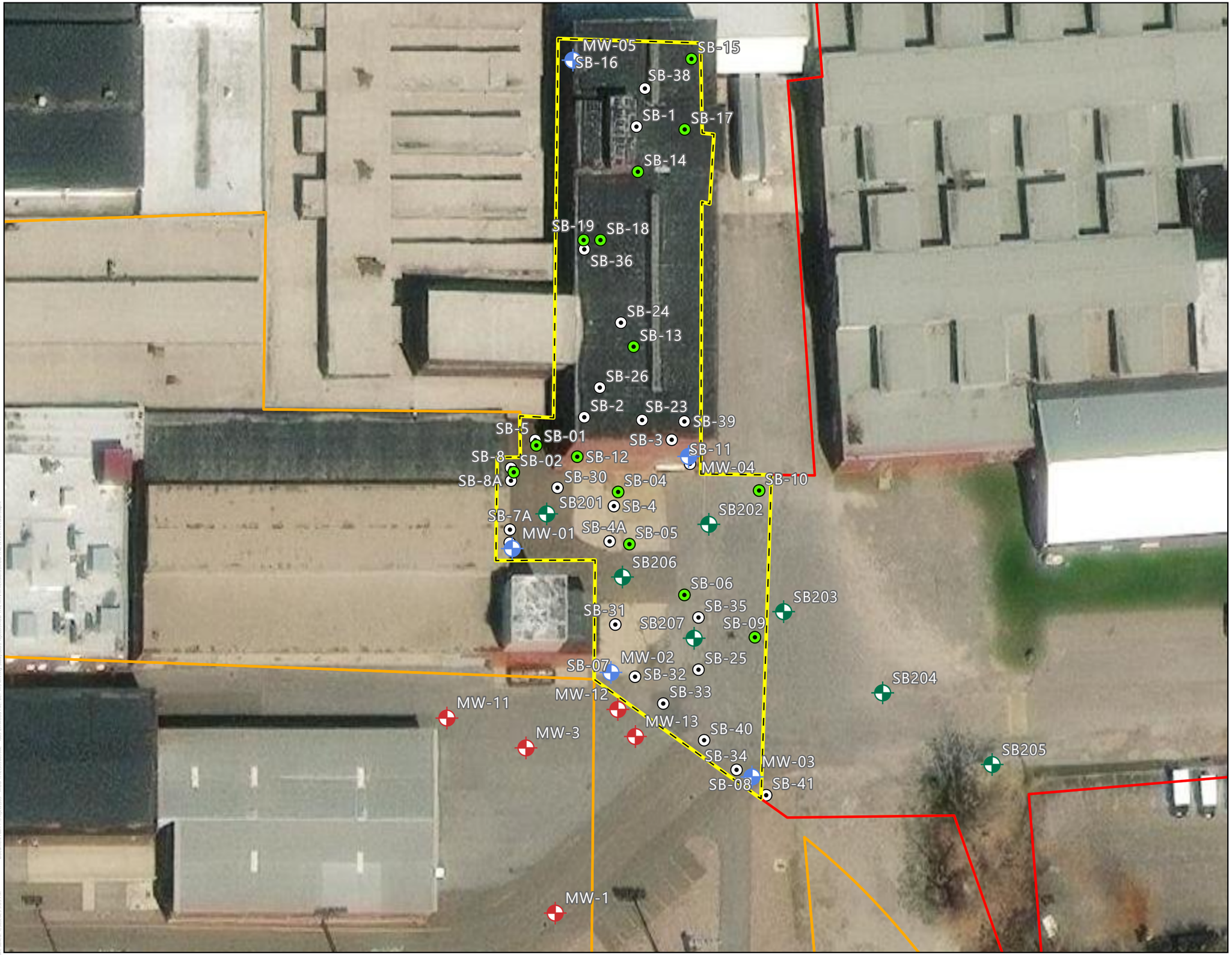


Figure 3

Soil Boring and Monitoring Well Locations

Legend

- BCP Boundary
- Parent parcel
- Adjoining Mod-Pac BCP Site
- Phase II Soil Boring
- RI Soil Boring
- Phase II Monitoring Well
- RI Monitoring Well
- Adjoining BCP Site Monitoring Well

N

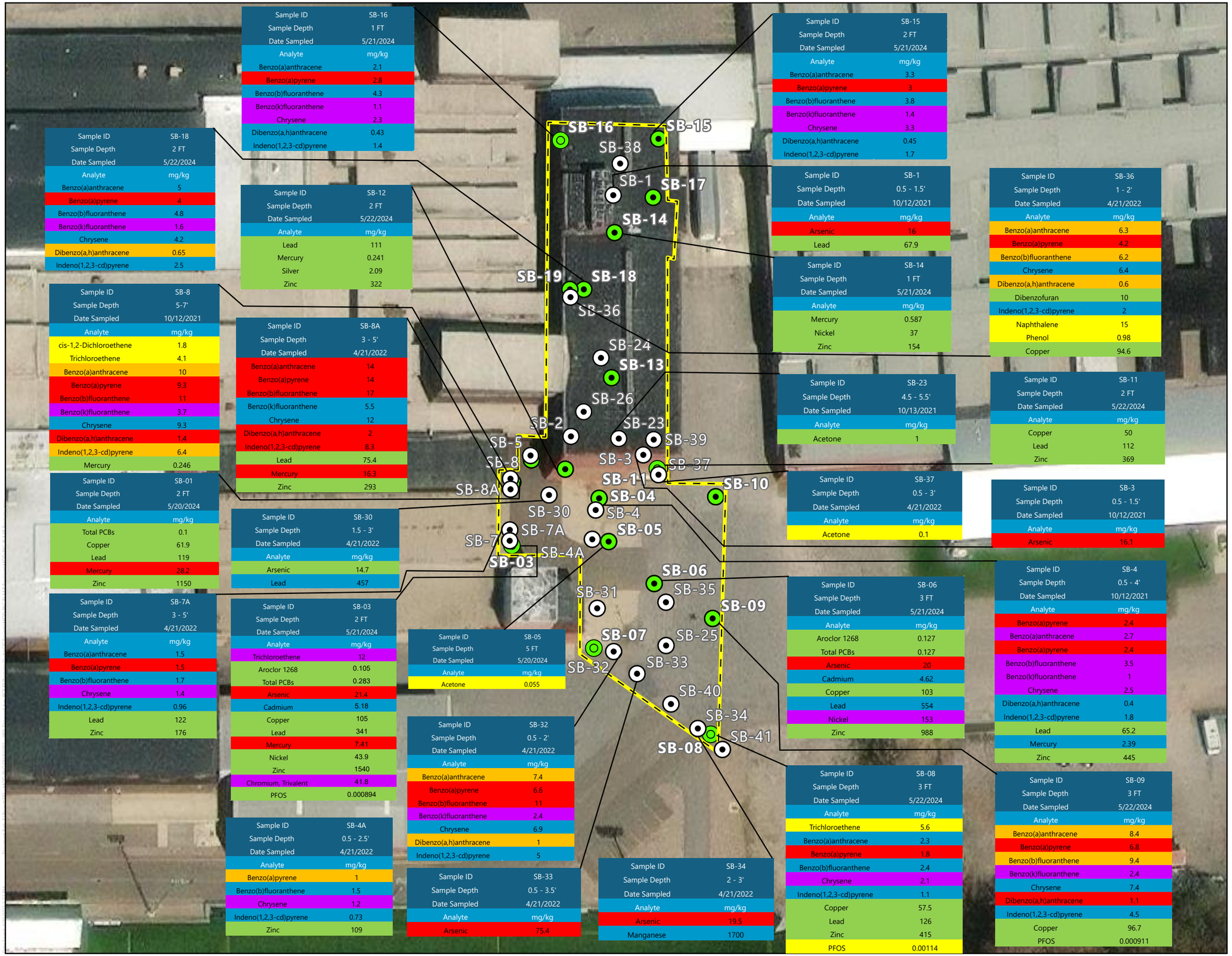
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1803 Elmwood Avenue BCP

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Sample ID	SB-16
Sample Depth	1 FT
Date Sampled	5/21/2024
Analyte	mg/kg
Benzo(a)anthracene	2.1
Benzo(a)pyrene	2.8
Benzo(b)fluoranthene	4.3
Benzo(k)fluoranthene	1.1
Chrysene	2.3
Dibenzo(a,h)anthracene	0.43
Indeno(1,2,3-cd)pyrene	1.4

Sample ID	SB-15
Sample Depth	2 FT
Date Sampled	5/21/2024
Analyte	mg/kg
Benzo(a)anthracene	3.3
Benzo(a)pyrene	3
Benzo(b)fluoranthene	3.8
Benzo(k)fluoranthene	1.4
Chrysene	3.3
Dibenzo(a,h)anthracene	0.45
Indeno(1,2,3-cd)pyrene	1.7

Sample ID	SB-18
Sample Depth	2 FT
Date Sampled	5/22/2024
Analyte	mg/kg
Benzo(a)anthracene	5
Benzo(a)pyrene	4
Benzo(b)fluoranthene	4.8
Benzo(k)fluoranthene	1.6
Chrysene	4.2
Dibenzo(a,h)anthracene	0.65
Indeno(1,2,3-cd)pyrene	2.5

Sample ID	SB-12
Sample Depth	2 FT
Date Sampled	5/22/2024
Analyte	mg/kg
Lead	111
Mercury	0.241
Silver	2.09
Zinc	322

Sample ID	SB-1
Sample Depth	0.5 - 1.5'
Date Sampled	10/12/2021
Analyte	mg/kg
Arsenic	16
Lead	67.9

Sample ID	SB-36
Sample Depth	1 - 2'
Date Sampled	4/21/2022
Analyte	mg/kg
Benzo(a)anthracene	6.3
Benzo(a)pyrene	4.2
Benzo(b)fluoranthene	6.2
Chrysene	6.4
Dibenzo(a,h)anthracene	0.6
Dibenzofuran	10
Indeno(1,2,3-cd)pyrene	2
Naphthalene	15
Phenol	0.98
Copper	94.6

Sample ID	SB-14
Sample Depth	1 FT
Date Sampled	5/21/2024
Analyte	mg/kg
Mercury	0.587
Nickel	37
Zinc	154

Sample ID	SB-8
Sample Depth	5-7'
Date Sampled	10/12/2021
Analyte	mg/kg
cis-1,2-Dichloroethene	1.8
Trichloroethene	4.1
Benzo(a)anthracene	10
Benzo(a)pyrene	9.3
Benzo(b)fluoranthene	11
Benzo(k)fluoranthene	3.7
Chrysene	9.3
Dibenzo(a,h)anthracene	1.4
Indeno(1,2,3-cd)pyrene	6.4
Mercury	0.246

Sample ID	SB-8A
Sample Depth	3 - 5'
Date Sampled	4/21/2022
Benzo(a)anthracene	14
Benzo(a)pyrene	14
Benzo(b)fluoranthene	17
Benzo(k)fluoranthene	5.5
Chrysene	12
Dibenzo(a,h)anthracene	2
Indeno(1,2,3-cd)pyrene	8.3
Lead	75.4
Mercury	16.3
Zinc	293

Sample ID	SB-23
Sample Depth	4.5 - 5.5'
Date Sampled	10/13/2021
Analyte	mg/kg
Acetone	1

Sample ID	SB-11
Sample Depth	2 FT
Date Sampled	5/22/2024
Analyte	mg/kg
Copper	50
Lead	112
Zinc	369

Sample ID	SB-01
Sample Depth	2 FT
Date Sampled	5/20/2024
Analyte	mg/kg
Total PCBs	0.1
Copper	61.9
Lead	119
Mercury	28.2
Zinc	1150

Sample ID	SB-30
Sample Depth	1.5 - 3'
Date Sampled	4/21/2022
Analyte	mg/kg
Arsenic	14.7
Lead	457

Sample ID	SB-37
Sample Depth	0.5 - 3'
Date Sampled	4/21/2022
Analyte	mg/kg
Acetone	0.1

Sample ID	SB-3
Sample Depth	0.5 - 1.5'
Date Sampled	10/12/2021
Analyte	mg/kg
Arsenic	16.1

Sample ID	SB-7A
Sample Depth	3 - 5'
Date Sampled	4/21/2022
Analyte	mg/kg
Benzo(a)anthracene	1.5
Benzo(a)pyrene	1.5
Benzo(b)fluoranthene	1.7
Chrysene	1.4
Indeno(1,2,3-cd)pyrene	0.96
Lead	122
Zinc	176

Sample ID	SB-03
Sample Depth	2 FT
Date Sampled	5/21/2024
Analyte	mg/kg
Trichloroethene	12
Aroclor 1268	0.105
Total PCBs	0.283
Arsenic	21.4
Cadmium	5.18
Copper	105
Lead	341
Mercury	7.41
Nickel	43.9
Zinc	1540
Chromium, Trivalent	41.8
PFOS	0.000894

Sample ID	SB-05
Sample Depth	5 FT
Date Sampled	5/20/2024
Analyte	mg/kg
Acetone	0.055

Sample ID	SB-06
Sample Depth	3 FT
Date Sampled	5/21/2024
Analyte	mg/kg
Aroclor 1268	0.127
Total PCBs	0.127
Arsenic	20
Cadmium	4.62
Copper	103
Lead	554
Nickel	153
Zinc	988

Sample ID	SB-4
Sample Depth	0.5 - 4'
Date Sampled	10/12/2021
Analyte	mg/kg
Benzo(a)pyrene	2.4
Benzo(a)anthracene	2.7
Benzo(a)pyrene	2.4
Benzo(b)fluoranthene	3.5
Benzo(k)fluoranthene	1
Chrysene	2.5
Dibenzo(a,h)anthracene	0.4
Indeno(1,2,3-cd)pyrene	1.8
Lead	65.2
Mercury	2.39
Zinc	445

Sample ID	SB-32
Sample Depth	0.5 - 2'
Date Sampled	4/21/2022
Analyte	mg/kg
Benzo(a)anthracene	7.4
Benzo(a)pyrene	6.6
Benzo(b)fluoranthene	11
Benzo(k)fluoranthene	2.4
Chrysene	6.9
Dibenzo(a,h)anthracene	1
Indeno(1,2,3-cd)pyrene	5

Sample ID	SB-4A
Sample Depth	0.5 - 2.5'
Date Sampled	4/21/2022
Analyte	mg/kg
Benzo(a)pyrene	1
Benzo(b)fluoranthene	1.5
Chrysene	1.2
Indeno(1,2,3-cd)pyrene	0.73
Zinc	109

Sample ID	SB-33
Sample Depth	0.5 - 3.5'
Date Sampled	4/21/2022
Analyte	mg/kg
Arsenic	75.4

Sample ID	SB-34
Sample Depth	2 - 3'
Date Sampled	4/21/2022
Analyte	mg/kg
Arsenic	19.5
Manganese	1700

Sample ID	SB-08
Sample Depth	3 FT
Date Sampled	5/22/2024
Analyte	mg/kg
Trichloroethene	5.6
Benzo(a)anthracene	2.3
Benzo(a)pyrene	1.8
Benzo(b)fluoranthene	2.4
Chrysene	2.1
Indeno(1,2,3-cd)pyrene	1.1
Copper	57.5
Lead	126
Zinc	415
PFOS	0.00114

Sample ID	SB-09
Sample Depth	3 FT
Date Sampled	5/22/2024
Analyte	mg/kg
Benzo(a)anthracene	8.4
Benzo(a)pyrene	6.8
Benzo(b)fluoranthene	9.4
Benzo(k)fluoranthene	2.4
Chrysene	7.4
Dibenzo(a,h)anthracene	1.1
Indeno(1,2,3-cd)pyrene	4.5
Copper	96.7
PFOS	0.000911

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Figure 4

SCO Exceedances in HFM

Legend

- BCP Boundary
- Previous Phase II Soil Boring
- Soil Boring
- Soil Boring / Well

- SCO Exceedances
- Unrestricted Use
- Protection of Groundwater
- Residential Use
- Restricted Residential Use
- Commercial Use
- Industrial Use

N

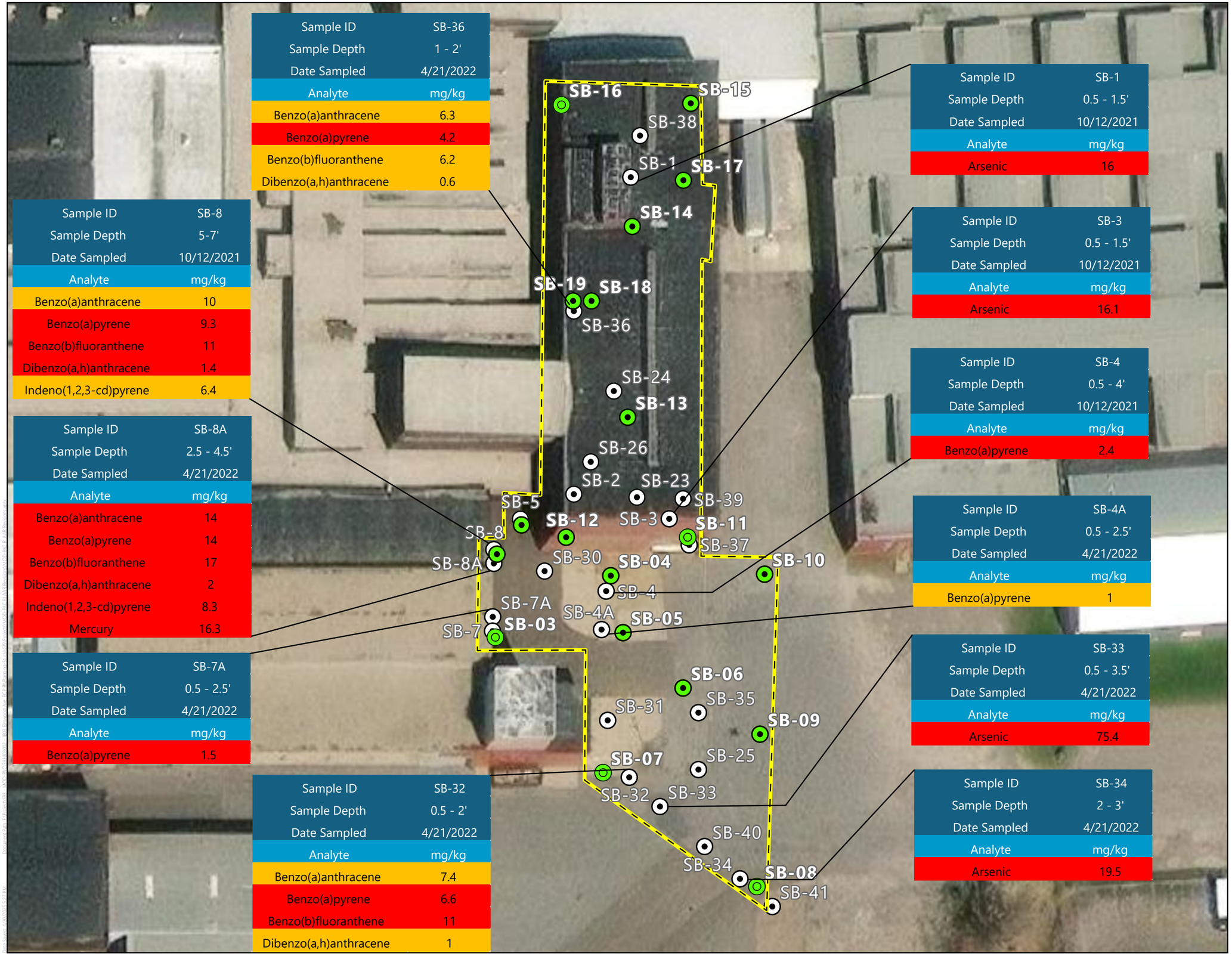
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User Name: robrim



Sample ID	SB-36
Sample Depth	1 - 2'
Date Sampled	4/21/2022
Analyte	mg/kg
Benzo(a)anthracene	6.3
Benzo(a)pyrene	4.2
Benzo(b)fluoranthene	6.2
Dibenzo(a,h)anthracene	0.6

Sample ID	SB-8
Sample Depth	5-7'
Date Sampled	10/12/2021
Analyte	mg/kg
Benzo(a)anthracene	10
Benzo(a)pyrene	9.3
Benzo(b)fluoranthene	11
Dibenzo(a,h)anthracene	1.4
Indeno(1,2,3-cd)pyrene	6.4

Sample ID	SB-8A
Sample Depth	2.5 - 4.5'
Date Sampled	4/21/2022
Analyte	mg/kg
Benzo(a)anthracene	14
Benzo(a)pyrene	14
Benzo(b)fluoranthene	17
Dibenzo(a,h)anthracene	2
Indeno(1,2,3-cd)pyrene	8.3
Mercury	16.3

Sample ID	SB-7A
Sample Depth	0.5 - 2.5'
Date Sampled	4/21/2022
Analyte	mg/kg
Benzo(a)pyrene	1.5

Sample ID	SB-32
Sample Depth	0.5 - 2'
Date Sampled	4/21/2022
Analyte	mg/kg
Benzo(a)anthracene	7.4
Benzo(a)pyrene	6.6
Benzo(b)fluoranthene	11
Dibenzo(a,h)anthracene	1

Sample ID	SB-1
Sample Depth	0.5 - 1.5'
Date Sampled	10/12/2021
Analyte	mg/kg
Arsenic	16

Sample ID	SB-3
Sample Depth	0.5 - 1.5'
Date Sampled	10/12/2021
Analyte	mg/kg
Arsenic	16.1

Sample ID	SB-4
Sample Depth	0.5 - 4'
Date Sampled	10/12/2021
Analyte	mg/kg
Benzo(a)pyrene	2.4

Sample ID	SB-4A
Sample Depth	0.5 - 2.5'
Date Sampled	4/21/2022
Analyte	mg/kg
Benzo(a)pyrene	1

Sample ID	SB-33
Sample Depth	0.5 - 3.5'
Date Sampled	4/21/2022
Analyte	mg/kg
Arsenic	75.4

Sample ID	SB-34
Sample Depth	2 - 3'
Date Sampled	4/21/2022
Analyte	mg/kg
Arsenic	19.5

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Figure 5

Commercial Use SCO and Industrial Use SCO Exceedances in HFM from Previous Phase II

Legend

- BCP Boundary
- Previous Phase II Soil Boring
- Sampling_Location
- Sample_Typ
  - Soil Boring
  - Soil Boring / Well

SCO Exceedances

Commercial Use

Industrial Use

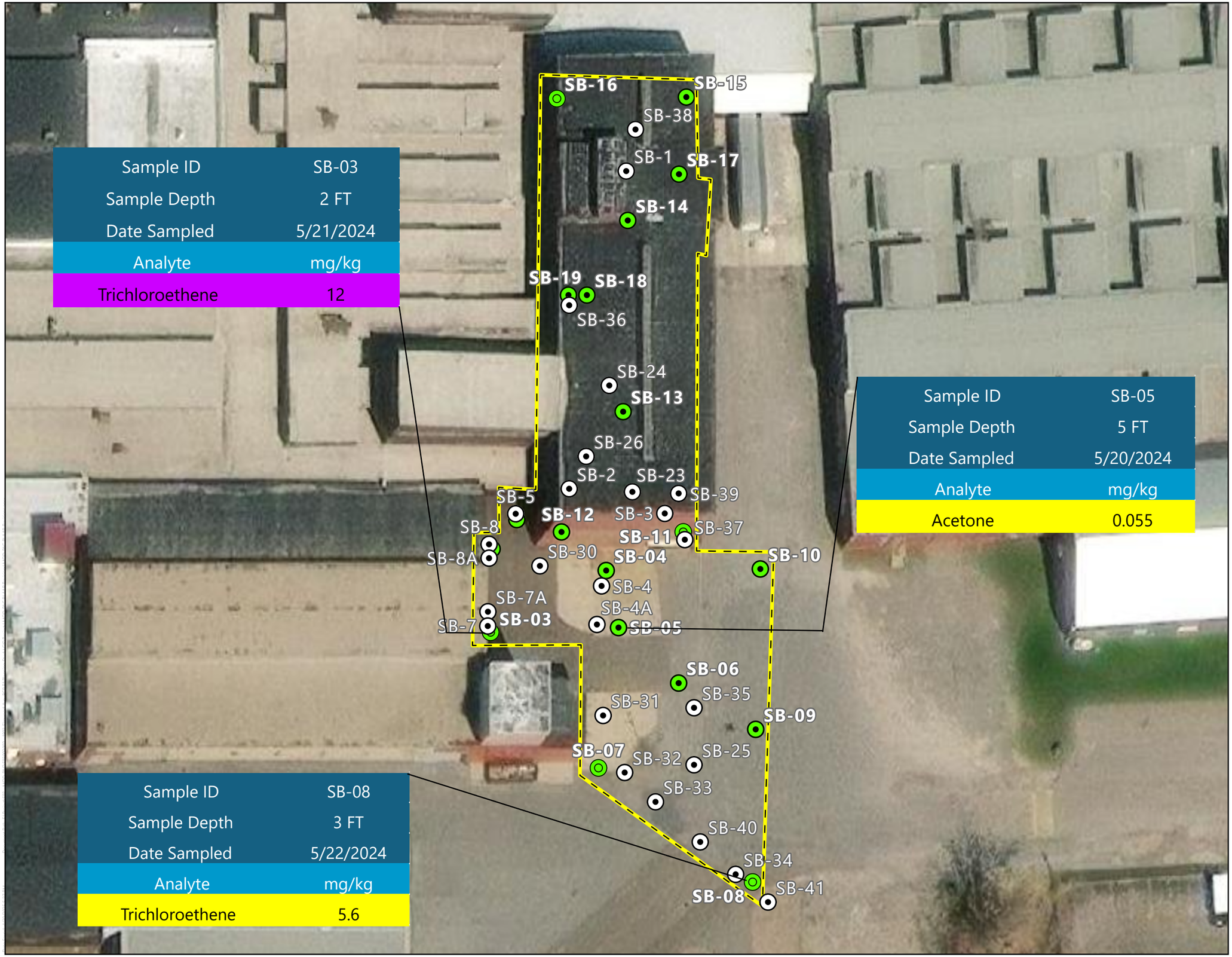
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0 25 50 100 Feet

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Figure 6

VOC and TCE Exceedances in HFM

Legend

- BCP Boundary
- Soil Boring
- Soil Boring / Monitoring Well

SCO Exceedances
Protection of Groundwater
Restricted Residential Use

N

0 100 Feet

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Figure 7

Native Soil Sample Exceedances

Legend

- BCP Boundary
- Soil Boring
- Soil Boring / Monitoring Well

SCO Exceedances
Unrestricted Use
Residential Use

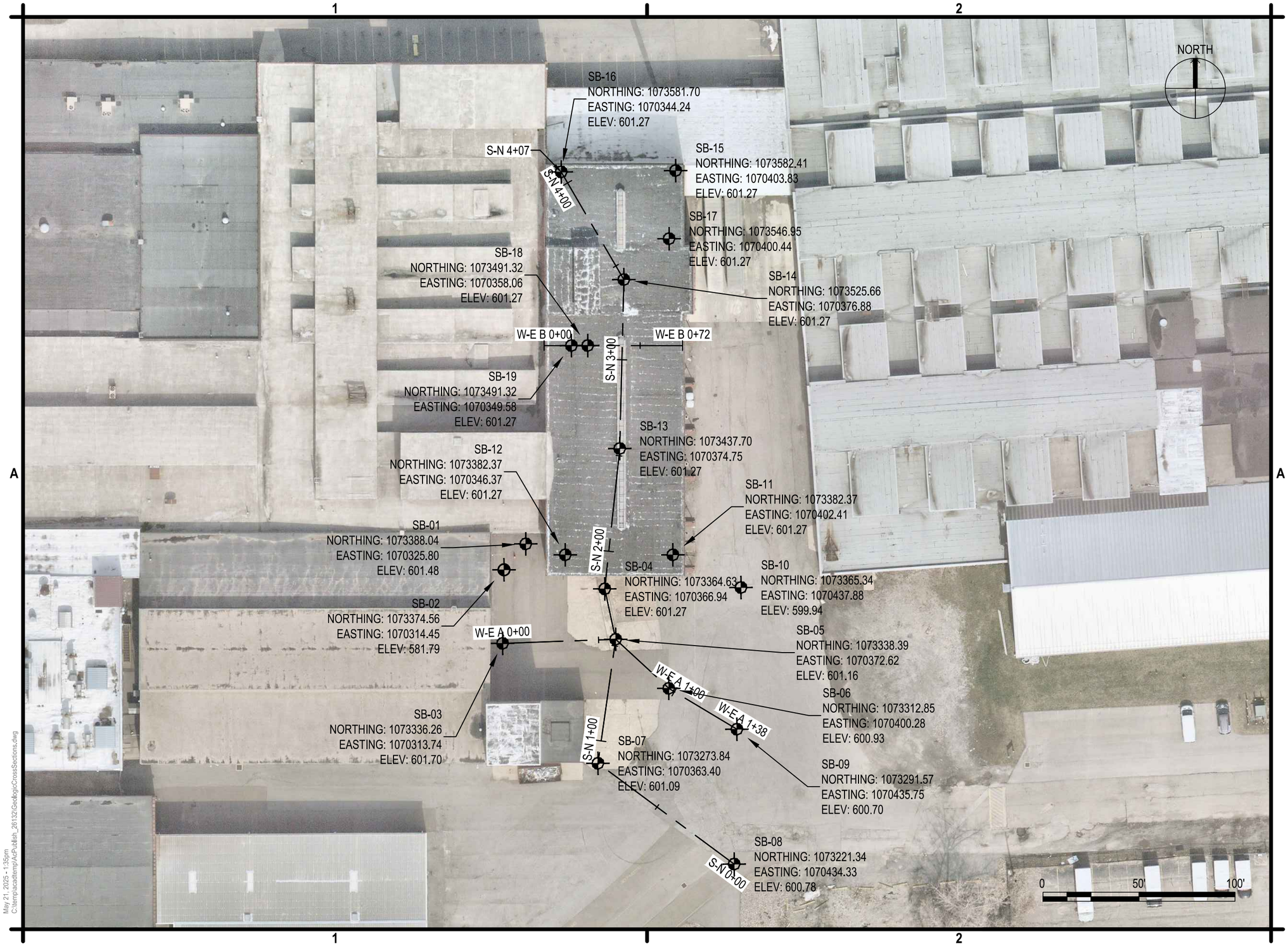
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1803 ELMWOOD AVENUE BCP
SITE NUMBER C915394

1803 ELMWOOD AVENUE
BUFFALO, NY 14207

MARK	DATE	DESCRIPTION
		REVISIONS

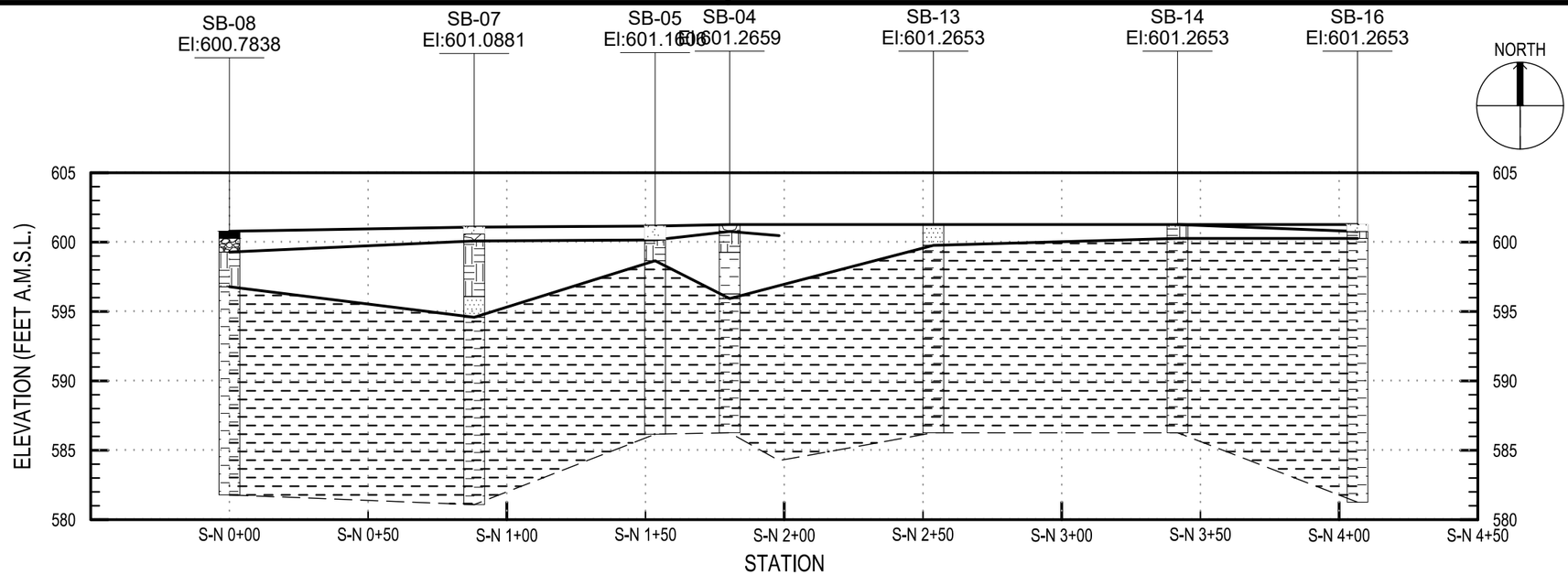
PROJECT NO:	S93.003.002
DATE:	MAY 2025
DRAWN BY:	J. URRA
DESIGNED BY:	J. URRA
CHECKED BY:	J. ALT-WINZIG

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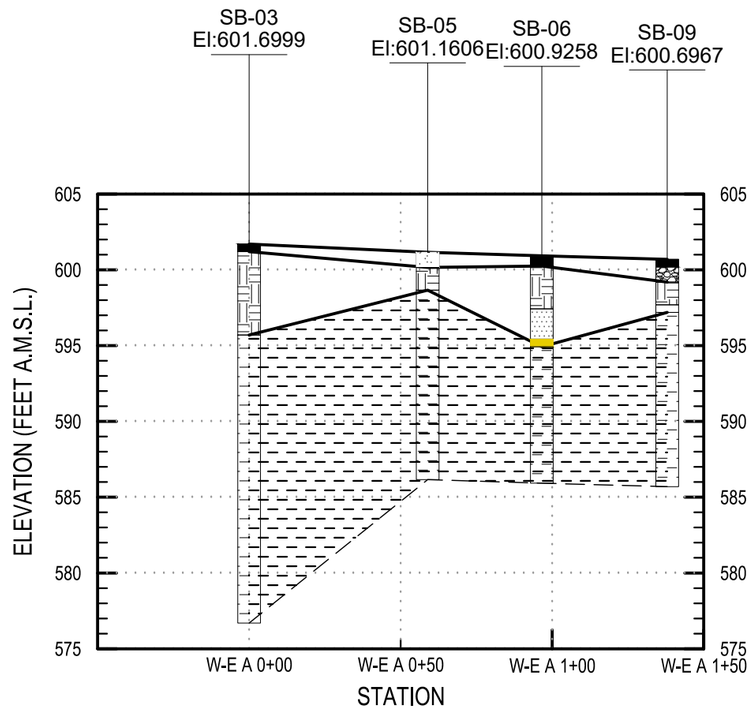
SOIL BORING AND ALIGNMENT LOCATIONS

FIGURE 8A

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W-E A GEOLOGIC CROSS SECTION

W-E B GEOLOGIC CROSS SECTION

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SITE NUMBER C915394

1803 ELMWOOD AVENUE
BUFFALO, NY 14207

MARK	DATE	DESCRIPTION

REVISIONS

PROJECT NO:	S93.003.002
DATE:	MAY 2025
DRAWN BY:	J. URRA
DESIGNED BY:	J. URRA
CHECKED BY:	J. ALT-WINZIG

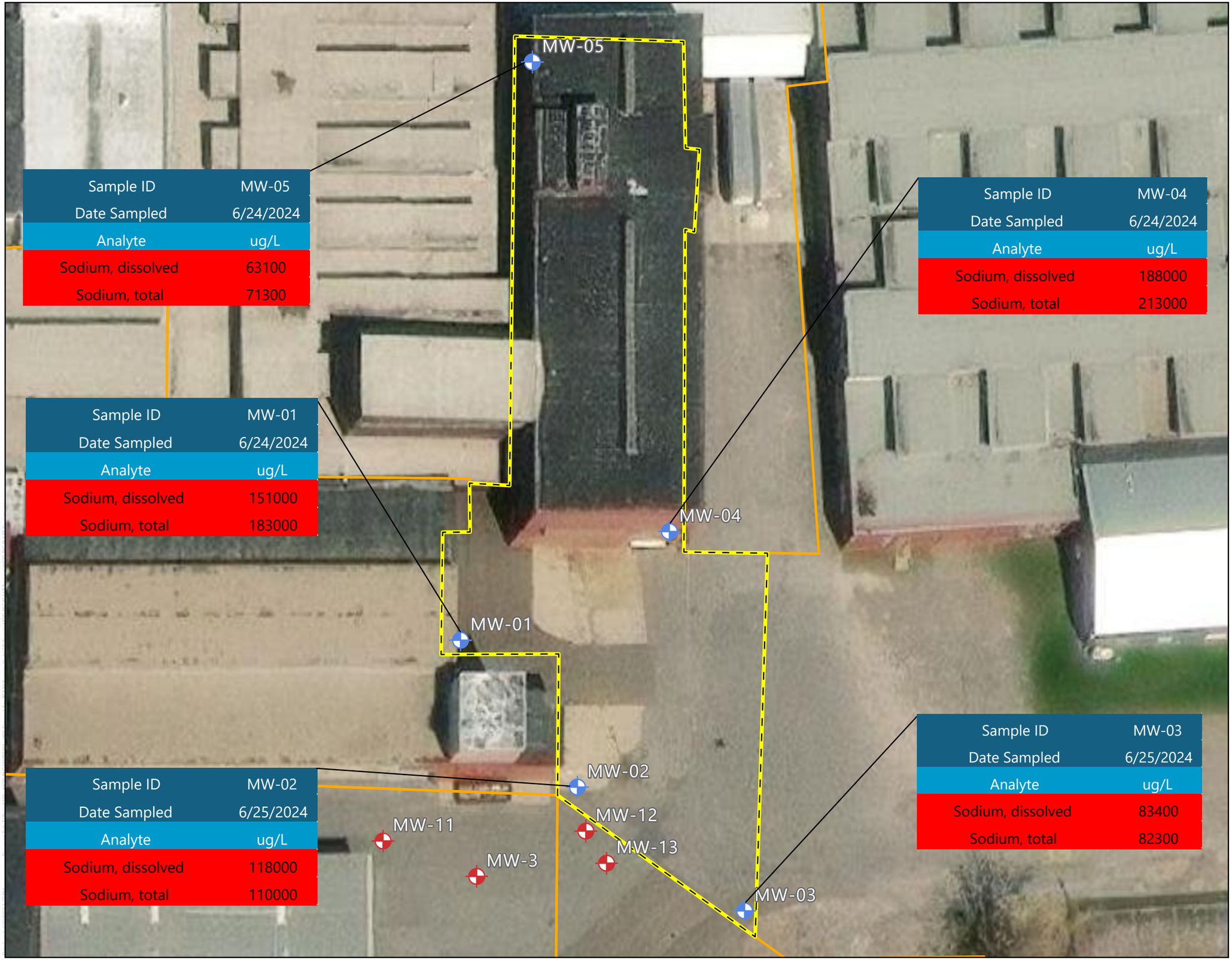
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GEOLOGIC CROSS SECTIONS

FIGURE 8B

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Sample ID	MW-05
Date Sampled	6/24/2024
Analyte	ug/L
Sodium, dissolved	63100
Sodium, total	71300

Sample ID	MW-04
Date Sampled	6/24/2024
Analyte	ug/L
Sodium, dissolved	188000
Sodium, total	213000

Sample ID	MW-01
Date Sampled	6/24/2024
Analyte	ug/L
Sodium, dissolved	151000
Sodium, total	183000

Sample ID	MW-02
Date Sampled	6/25/2024
Analyte	ug/L
Sodium, dissolved	118000
Sodium, total	110000

Sample ID	MW-03
Date Sampled	6/25/2024
Analyte	ug/L
Sodium, dissolved	83400
Sodium, total	82300

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Figure 9

Inorganic Exceedances in Groundwater

Legend

- BCP Boundary
- Monitoring Well
- Adjoining BCP Site Monitoring Well
- Adjoining Mod-Pac BCP Site

Note: Analytes listed in red were detected at concentrations exceeding New York State Ambient Water Quality Standards.

N

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0 100 Feet

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Sources: . Created by C&S Engineers, Inc.

User Name: mdorien

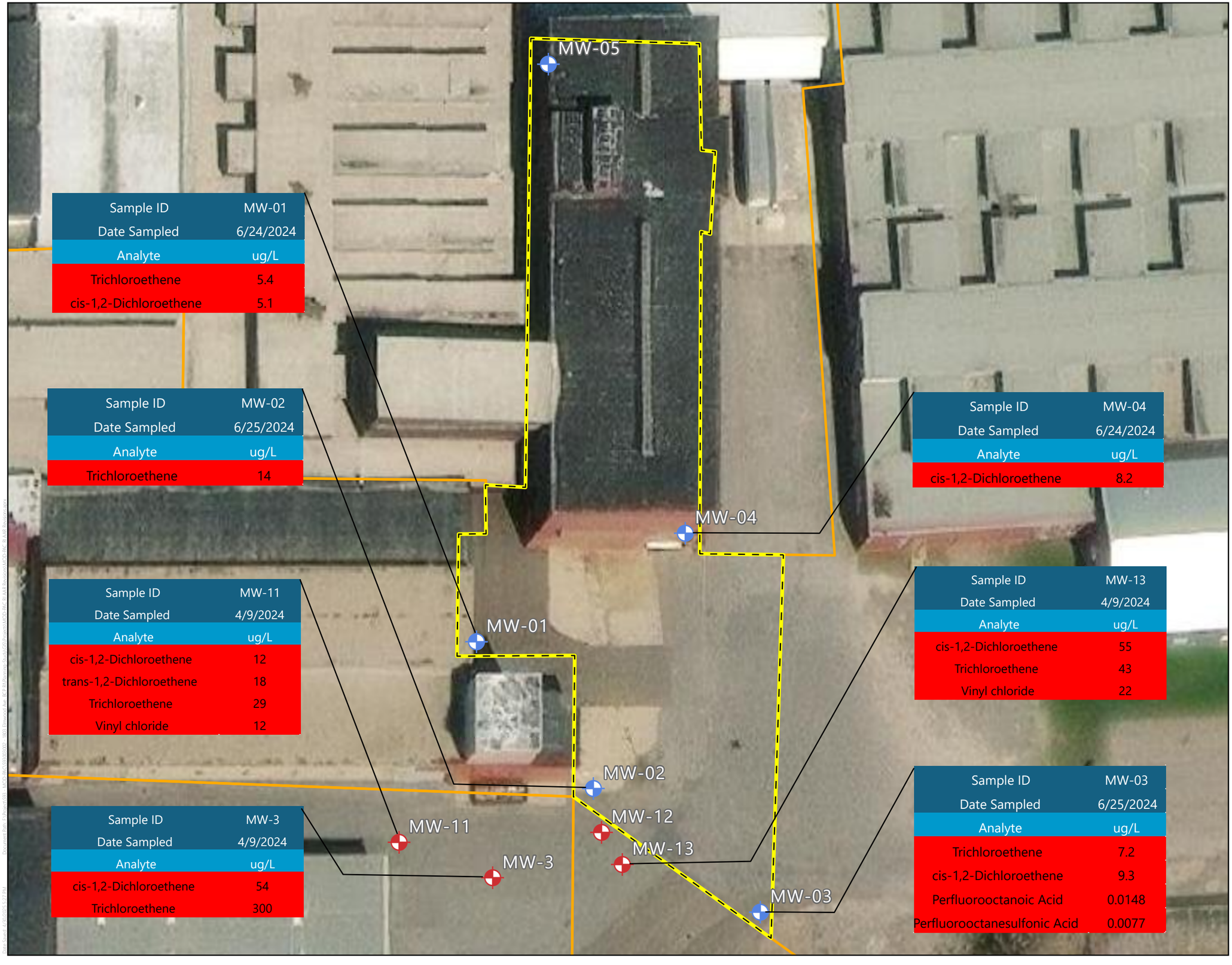


Figure 10

PFAS and VOCs Exceedances in Groundwater

Legend

- BCP Boundary
- Monitoring Well
- Adjoining BCP Site Monitoring Well
- Adjoining Mod-Pac BCP Site

Note: Analytes listed in red were detected at concentrations exceeding New York State Ambient Water Quality Standards.

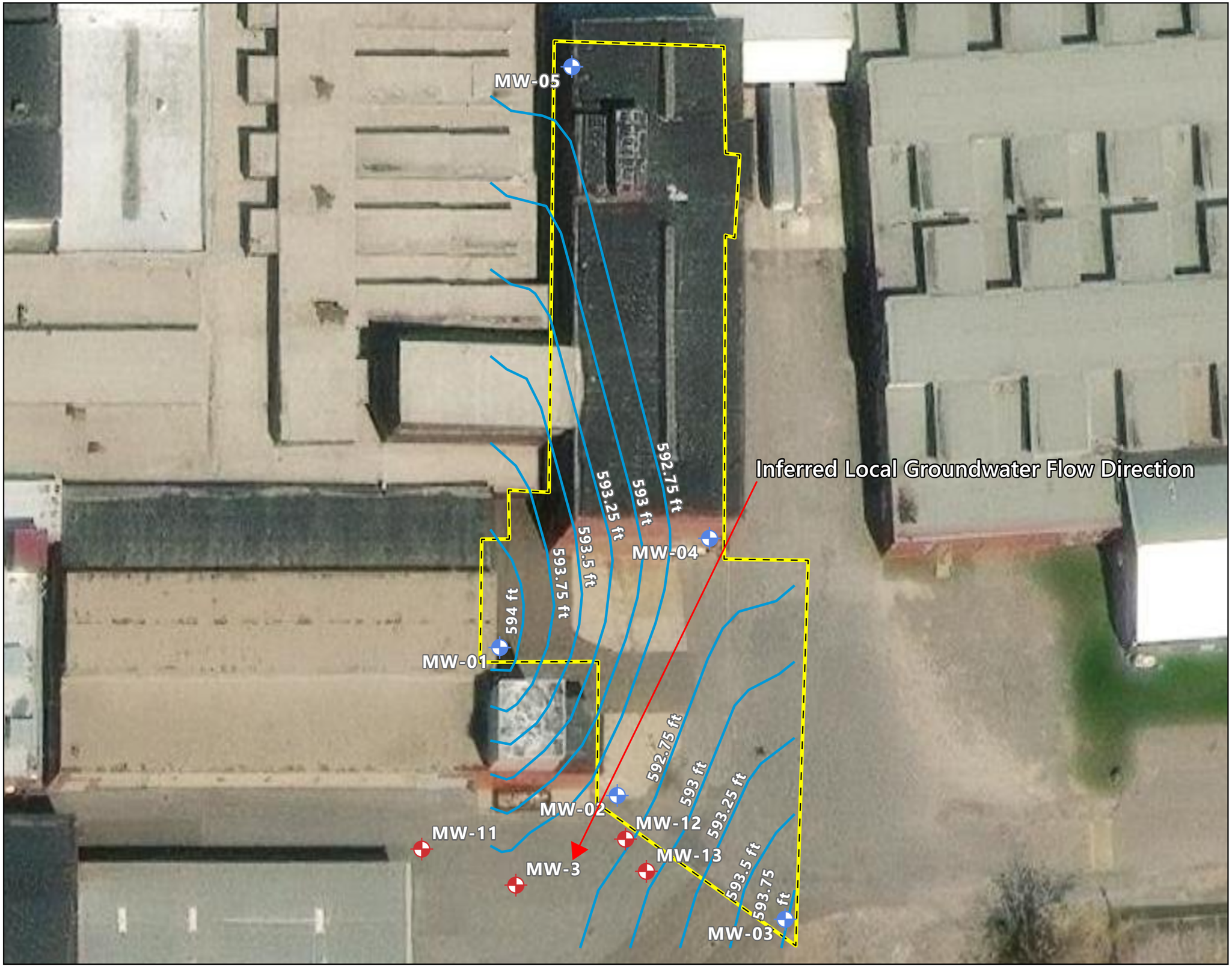
N

0 100 Feet

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1803 Elmwood Avenue BCP

Sources: . Created by C&S Engineers, Inc.



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Figure 11

Groundwater Contours

Legend

- BCP Boundary
- Groundwater Contour
- RI Monitoring Well
- Adjoining BCP Site Monitoring Well

N

0 100 Feet

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1803 Elmwood Avenue BCP

Sources: . Created by C&S Engineers, Inc.

User Name: mobrien
Date Saved: 4/30/2025 5:27 PM
Document Path: P:\Project\593 - MOD-PAC\593\003\002 - 1803 Elmwood Ave. BCP RI\Planning\StudyGIS\Projects\MOD-PAC RI AAR Revisions\MOD-PAC RI AAR Revisions.aprx

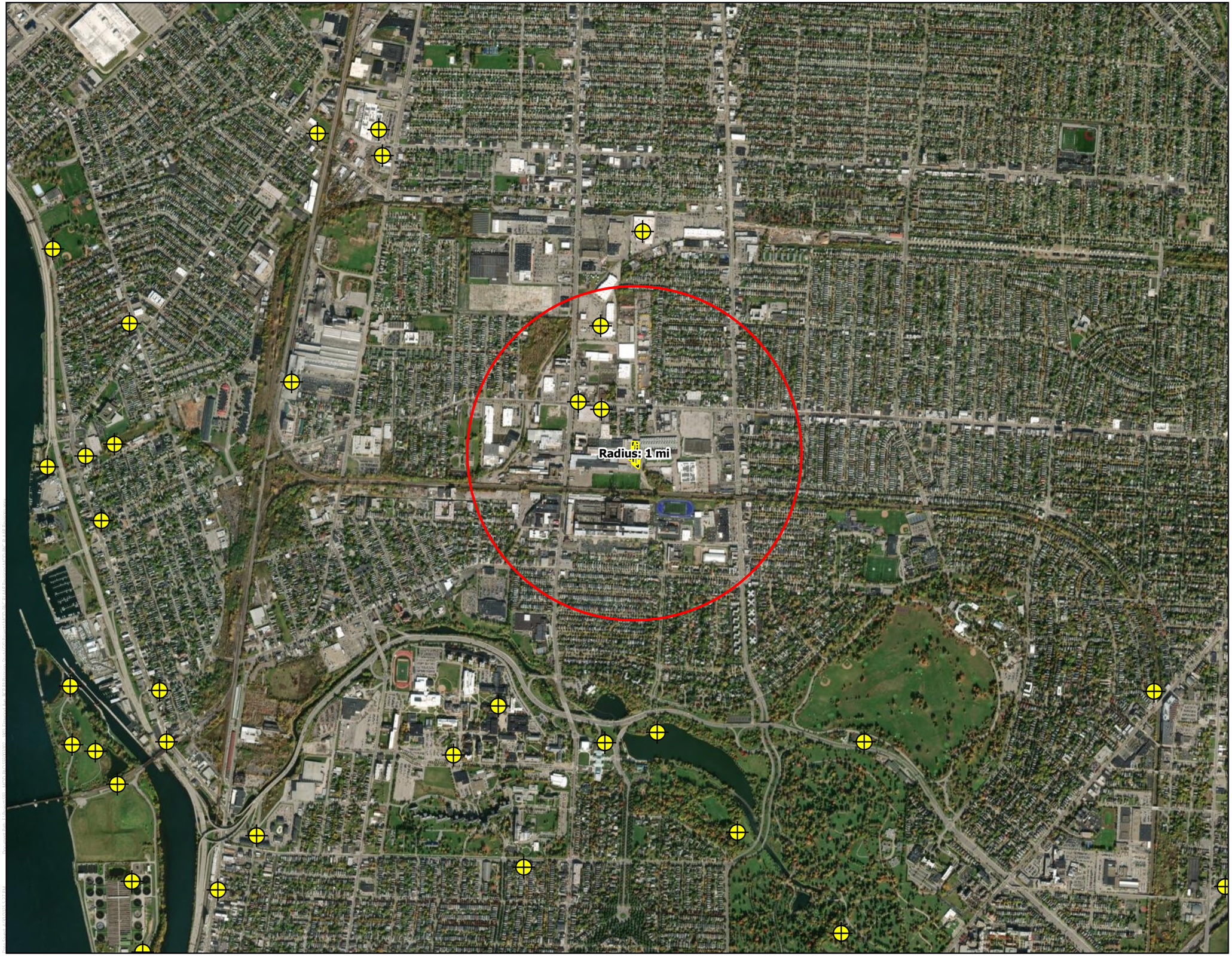


Figure 12

Groundwater Wells
Surrounding the BCP Site

Legend

- BCP Boundary
- 1-Mile Radius around BCP Site
- Inactive Groundwater Wells

Data for the Inactive Groundwater Wells is from the USGS National Water Information System Mapper.

N

0 0.6 Miles

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1803 Elmwood Avenue BCP

Sources: . Created by C&S Engineers, Inc.

User Name: mdorin



Sample ID	IA-03
Date Sampled	5/10/2024
Analyte	mg/kg
Carbon tetrachloride	0.5
Trichloroethene	0.21

Sample ID	IA-02
Date Sampled	5/10/2024
Analyte	mg/kg
Carbon tetrachloride	0.44

Sample ID	SSV-01
Date Sampled	5/10/2024
Analyte	mg/kg
Trichloroethene	270

Sample ID	IA-01
Date Sampled	7/17/2024
Analyte	mg/kg
Carbon tetrachloride	0.44
Trichloroethene	0.59

Sample ID	OA-01
Date Sampled	5/10/2024
Analyte	mg/kg
Carbon tetrachloride	0.5
Trichloroethene	0.21

Figure 13

SVI Sample Locations and Results

Legend

- BCP Boundary
- Outdoor Air Sample
- SVI Sample

Analytes in white were detected in concentrations above NY-IAC-A only and do not require monitoring or mitigation.

Analytes in yellow were detected in concentrations above both NY-IAC-A and NY-SSC-A and must be monitored or mitigated.

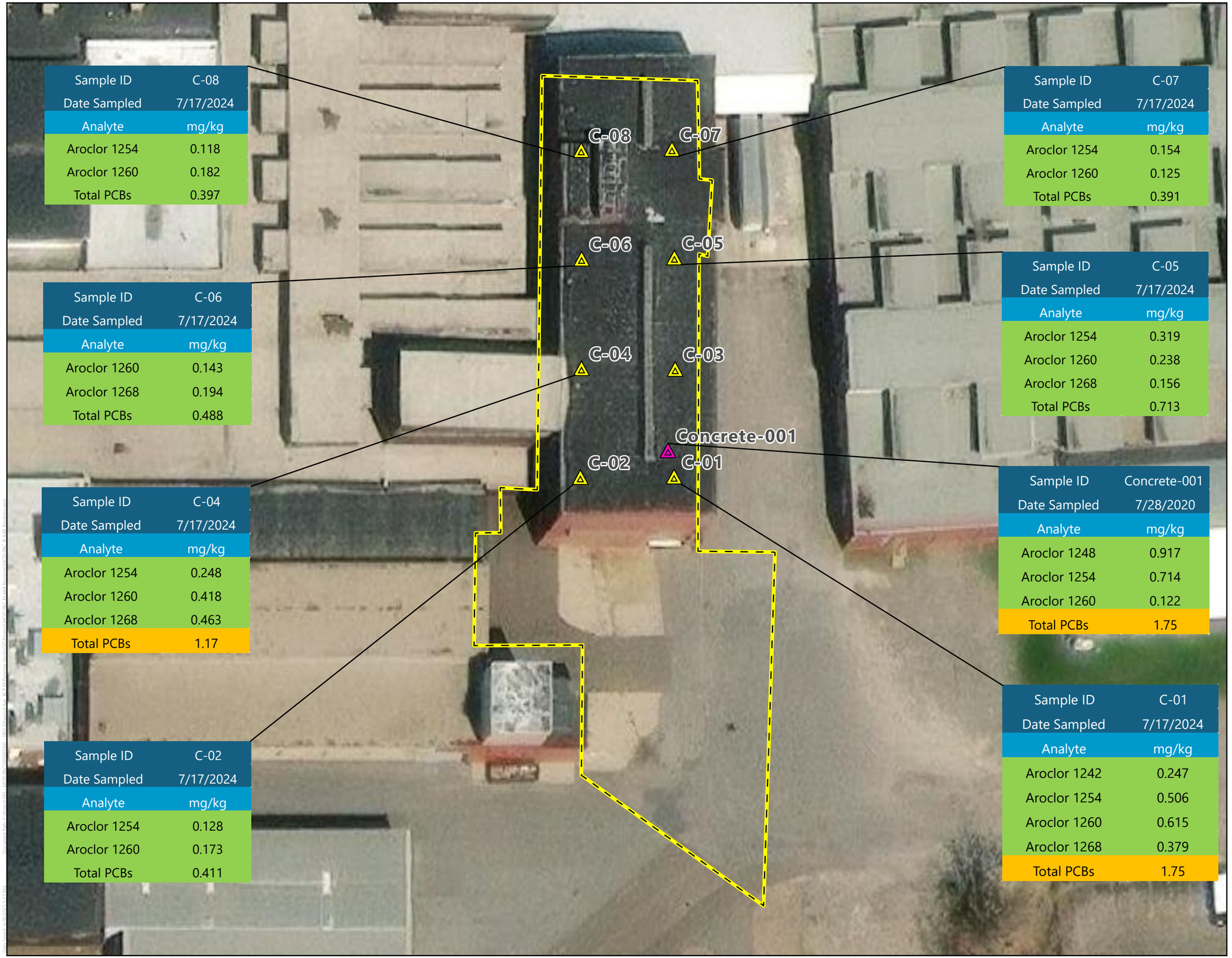
N

0 25 50 100 Feet

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1803 Elmwood Avenue BCP

Sources: . Created by C&S Engineers, Inc.



Sample ID	C-08
Date Sampled	7/17/2024
Analyte	mg/kg
Aroclor 1254	0.118
Aroclor 1260	0.182
Total PCBs	0.397

Sample ID	C-07
Date Sampled	7/17/2024
Analyte	mg/kg
Aroclor 1254	0.154
Aroclor 1260	0.125
Total PCBs	0.391

Sample ID	C-06
Date Sampled	7/17/2024
Analyte	mg/kg
Aroclor 1260	0.143
Aroclor 1268	0.194
Total PCBs	0.488

Sample ID	C-05
Date Sampled	7/17/2024
Analyte	mg/kg
Aroclor 1254	0.319
Aroclor 1260	0.238
Aroclor 1268	0.156
Total PCBs	0.713

Sample ID	C-04
Date Sampled	7/17/2024
Analyte	mg/kg
Aroclor 1254	0.248
Aroclor 1260	0.418
Aroclor 1268	0.463
Total PCBs	1.17

Sample ID	Concrete-001
Date Sampled	7/28/2020
Analyte	mg/kg
Aroclor 1248	0.917
Aroclor 1254	0.714
Aroclor 1260	0.122
Total PCBs	1.75

Sample ID	C-02
Date Sampled	7/17/2024
Analyte	mg/kg
Aroclor 1254	0.128
Aroclor 1260	0.173
Total PCBs	0.411

Sample ID	C-01
Date Sampled	7/17/2024
Analyte	mg/kg
Aroclor 1242	0.247
Aroclor 1254	0.506
Aroclor 1260	0.615
Aroclor 1268	0.379
Total PCBs	1.75

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Figure 14

Concrete Sampling Locations and Results

Legend

- BCP Boundary
- RI Concrete Samples
- Previous Phase II Concrete Samples

SCO Exceedances

Unrestricted Use

Commercial Use

N

0 100 Feet

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Sources: . Created by C&S Engineers, Inc.

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Date Saved: 11/20/2025 3:37:37 PM

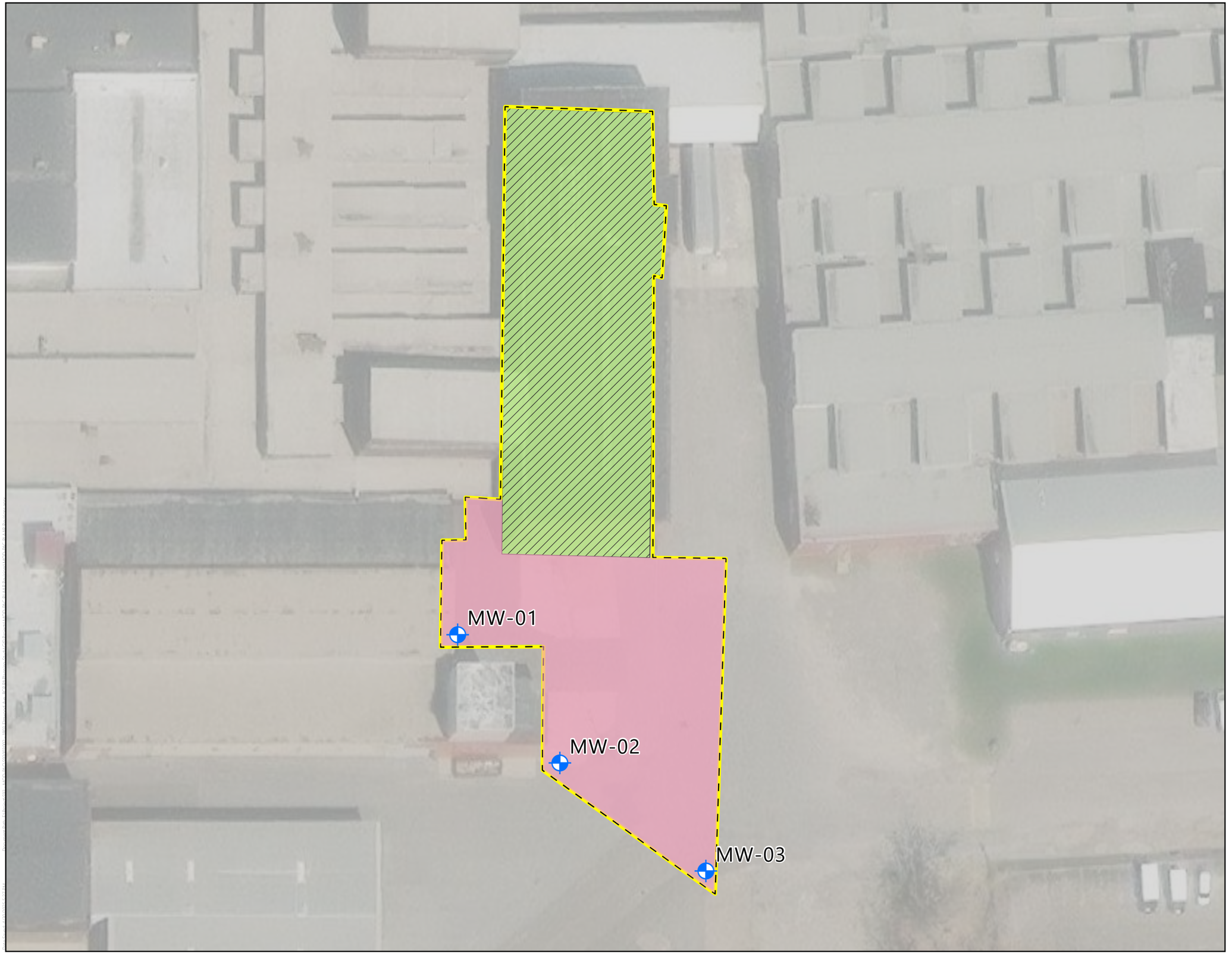


Figure 15

Track 4 Remedy

Legend

- BCP Boundary
- Concrete Slab Removal & SSDS
- Existing Hardscape
- Monitoring Wells to Remain

N

0 100 Feet

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Sources: . Created by C&S Engineers, Inc.

User Name: rschriver

Tables

Table 1
MPC O'Connell Building - Soil Analytical Results Summary
Elmwood Ave, Buffalo, NY

LOCATION						SB1	SB3	SB4	SB8	SB9	SB11	SB11	SB12	SB12	SB12	SB16	SB19	SB21	SB21	SB22	SB22	SB22	SB23	SB23	SB4A	SB7A	SB8A	SB8A	SB30	SB32	SB32	SB33	SB33	SB34	SB34	SB36	SB36	SB37	SB38	SB40
SAMPLING DATE	UU SCO	RU SCO	RRU SCO	CU SCO	IU SCO	10/12/21	10/12/21	10/12/21	10/12/21	10/12/21	10/12/21	10/12/21	10/12/21	10/12/21	10/12/21	10/12/21	10/12/21	10/13/21	10/13/21	10/13/21	10/13/21	10/13/21	10/13/21	10/13/21	10/13/21	4/21/22	4/21/22	4/21/22	4/21/22	4/21/22	4/21/22	4/21/22	4/21/22	4/21/22	4/21/22	4/21/22	4/21/22	4/21/22	4/21/22	4/21/22	4/21/22
LAB SAMPLE ID						L2156729-01	L2156729-02	L2156729-03	L2156729-04	L2156729-05	L2156729-06	L2156729-06 R1	L2156729-07	L2156729-08	L2156729-08 R1	L2156981-02	L2156729-09	L2156729-10	L2156729-10 R1	L2156729-11	L2156729-11 R1	L2156981-01	L2156729-12	L2156729-12 R1	L2221374-02	L2221374-04	L2221374-06	L2221374-06 R1	L2221374-07	L2221374-08	L2221374-08 R1	L2221374-13	L2221374-09	L2221374-10	L2221374-11	L2221374-03	L2221374-03 R1	L2221374-01	L2221374-05	L2221374-12
Volatile Organic Compounds Analysis via EPA Method 8260 (mg/kg)																																							
1,2,4-Trimethylbenzene	3.6	47	52	190	380	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	ND	NT	NT	NT	NT	NT	NT	ND	NT	ND	**0.13**	NT	**0.00048 J**	NT	ND
1,2-Dichloroethane	0.02	2.3	3.1	30	60	NT	ND	ND	0.068 U	0.064 U	ND	NT	NT	ND	NT	ND	ND	ND	ND	NT	NT	ND	0.14 U	ND	NT	ND	NT	NT	NT	NT	NT	NT	NT	ND	0.067 U	NT	ND	NT	ND
1,3,5-Trimethylbenzene	8.4	47	52	190	380	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	ND	**0.068 J**	NT	**0.00033 J**	NT	ND
1,4-Dioxane	130	250	9.8	13	0.1	NT	ND	ND	5.4 U	5.1 U	ND	NT	NT	ND	NT	ND	ND	ND	ND	NT	NT	ND	12 U	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	ND
2-Butanone	0.12	100	100	500	1000	NT	ND	**0.0034 J**	0.68 U	0.64 U	**0.0082 J**	NT	NT	**0.014**	NT	ND	ND	ND	ND	NT	NT	ND	1.4 U	**0.0094 J**	NT	ND	NT	NT	NT	NT	NT	ND	NT	ND	0.67 U	NT	ND	NT	ND
Acetone	0.05	100	100	500	1000	NT	ND	**0.035**	0.68 U	0.64 U	**0.068**	NT	NT	**0.073**	NT	NT	**0.035**	**0.008 J**	ND	NT	NT	**0.024**	**1 J**	**1.9 E**	NT	**0.0063 J**	NT	NT	NT	NT	NT	ND	NT	**0.04**	0.67 U	NT	**0.1**	NT	ND
Benzene	0.06	2.9	4.8	44	89	NT	ND	**0.0007**	ND	ND	ND	NT	NT	**0.00018 J**	NT	ND	ND	**0.00018 J**	ND	NT	NT	ND	0.073 U	**0.00045 J**	NT	ND	NT	NT	NT	NT	NT	**0.00026 J**	NT	ND	ND	NT	**0.00016 J**	NT	ND
Chloroform	0.37	10	49	350	700	NT	**0.00022 J**	**0.00016 J**	**0.014 J**	**0.017 J**	**0.00018 J**	NT	NT	**0.00019 J**	NT	**0.0002 J**	ND	ND	ND	NT	NT	ND	ND	ND	NT	ND	NT	NT	NT	NT	NT	ND	NT	**0.00017 J**	ND	NT	**0.00019 J**	NT	ND
cis-1,2-Dichloroethene	0.25	59	100	500	1000	NT	ND	**0.0002 J**	**1.8**	**0.11**	ND	NT	NT	ND	NT	ND	ND	ND	ND	NT	NT	ND	ND	**0.0007 J**	NT	ND	NT	NT	NT	NT	NT	ND	NT	**0.034**	ND	NT	ND	NT	ND
Cyclohexane	NV	NV	NV	NV	NV	NT	ND	ND	ND	ND	ND	NT	NT	**0.00083 J**	NT	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	ND	NT	NT	NT	NT	NT	ND	NT	**0.0011 J**	**0.036 J**	NT	ND	NT	ND
Ethylbenzene	1	30	41	390	780	NT	ND	ND	ND	ND	ND	NT	NT	**0.00021 J**	NT	ND	ND	ND	ND	NT	NT	ND	ND	**0.00026 J**	NT	ND	NT	NT	NT	NT	NT	**0.0002 J**	NT	ND	**0.016 J**	NT	**0.00015 J**	NT	ND
Isopropylbenzene	NV	NV	NV	NV	NV	NT	ND	ND	ND	ND	ND	NT	NT	**0.0017**	NT	ND	ND	ND	ND	NT	NT	ND	ND	**0.00035 J**	NT	ND	NT	NT	NT	NT	NT	ND	NT	ND	ND	NT	ND	NT	ND
Methyl Acetate	NV	NV	NV	NV	NV	NT	ND	ND	**0.1 J**	ND	ND	NT	NT	ND	NT	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	ND	NT	NT	NT	NT	NT	ND	NT	ND	ND	NT	ND	NT	ND
Methyl cyclohexane	NV	NV	NV	NV	NV	NT	ND	ND	**0.051 J**	ND	ND	NT	NT	**0.0016 J**	NT	ND	ND	ND	ND	NT	NT	ND	ND	**0.0042 J**	NT	ND	NT	NT	NT	NT	NT	ND	NT	ND	**0.079 J**	NT	**0.00095 J**	NT	ND
Methylene chloride	0.05	51	100	500	1000	NT	ND	ND	0.34 U	0.32 U	ND	NT	NT	ND	NT	ND	ND	ND	ND	NT	NT	ND	0.73 U	ND	NT	ND	NT	NT	NT	NT	NT	ND	NT	ND	0.33 U	NT	ND	NT	ND
Naphthalene	12	100	100	500	1000	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	ND	NT	NT	NT	NT	NT	ND	NT	ND	**8**	NT	ND	NT	ND
o-Xylene	NV	NV	NV	NV	NV	NT	ND	ND	ND	ND	ND	NT	NT	**0.0022**	NT	ND	ND	ND	ND	NT	NT	ND	ND	**0.0015**	NT	ND	NT	NT	NT	NT	NT	ND	NT	ND	**0.037 J**	NT	**0.0003 J**	NT	ND
p-Isopropyltoluene	NV	NV	NV	NV	NV	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	ND	NT	NT	NT	NT	NT	ND	NT	ND	**0.1**	NT	ND	NT	ND
p/m-Xylene	NV	NV	NV	NV	NV	NT	ND	ND	ND	ND	ND	NT	NT	ND	NT	ND	ND	ND	ND	NT	NT	ND	ND	**0.0012 J**	NT	ND	NT	NT	NT	NT	NT	ND	NT	ND	**0.072 J**	NT	ND	NT	ND
Styrene	NV	NV	NV	NV	NV	NT	ND	**0.00072 J**	ND	ND	ND	NT	NT	ND	NT	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	ND	NT	NT	NT	NT	NT	ND	NT	ND	ND	NT	ND	NT	ND
Tetrachloroethene	1.3	5.5	19	150	300	NT	ND	ND	ND	ND	ND	NT	NT	**0.00029 J**	NT	ND	**0.00031 J**	ND	ND	NT	NT	ND	ND	ND	NT	ND	NT	NT	NT	NT	NT	ND	NT	**0.00062**	ND	NT	ND	NT	ND
Toluene	0.7	100	100	500	1000	NT	ND	ND	ND	ND	ND	NT	NT	ND	NT	ND	ND	ND	ND	NT	NT	ND	**0.12 J**	**0.0018**	NT	ND	NT	NT	NT	NT	NT	ND	NT	**0.082**	ND	NT	ND	NT	ND
trans-1,2-Dichloroethene	0.19	100	100	500	1000	NT	ND	ND	**0.18**	ND	ND	NT	NT	ND	NT	ND	ND	ND	ND	NT	NT	ND	0.22 U	ND	NT	ND	NT	NT	NT	NT	NT	ND	NT	**0.0009 J**	ND	NT	ND	NT	ND
Trichloroethene	0.47	10	21	200	400	NT	**0.019**	**0.00031 J**	**4.1**	**10**	**0.00021 J**	NT	NT	ND	NT	**0.00024 J**	ND	ND	ND	NT	NT	ND	ND	ND	NT	**0.04**	NT	NT	NT	NT	NT	**0.00095**	NT	**0.23**	**0.022 J**	NT	**0.00084**	NT	**0.048**
Vinyl chloride	0.02	0.21	0.9	13	27	NT	ND	ND	0.068 U	0.064 U	ND	NT	NT	ND	NT	ND	ND	ND	ND	NT	NT	ND	0.14 U	ND	NT	ND	NT	NT	NT	NT	NT	ND	NT	ND	0.067 U	NT	ND	NT	ND
Semivolatile Organics Compounds Analysis via EPA Method 8270 (mg/kg)																																							
2-Methylnaphthalene	NV	NV	NV	NV	NV	**0.03 J**	**0.34**	**0.96**	**1 J**	ND	**0.48 J**	**0.13 J**	NT	ND	**0.22 J**	NT	NT	**0.033 J**	NT	**0.044 J**	**0.21 J**	NT	NT	NT	**0.3**	**0.28**	**1.2**	NT	**0.21 J**	**0.38**	NT	NT	ND	NT	**0.077 J**	**14 E**	**14**	NT	**0.096 J**	**0.1 J**
2-Methylphenol	0.33	100	100	500	1000	ND	ND	ND	1 U	ND	0.94 U	0.94 U	NT	4.7 U	0.94 U	NT	NT	ND	NT	ND	0.91 U	NT	NT	NT	ND	ND	**0.037 J**	NT	ND	ND	NT	NT	ND	NT	ND	ND	NT	NT	ND	ND
3-Methylphenol/4-Methylphenol	0.33	34	100	500	1000	ND	ND	ND	1.5 U	ND	1.3 U	1.4 U	NT	6.7 U	1.4 U	NT	NT	ND	NT	ND	1.3 U	NT	NT	NT	ND	ND	**0.14 J**	NT	ND	**0.049 J**	NT	NT	0.33 U	NT	ND	**0.098 J**	NT	NT	0.33 U	ND
Acenaphthene	20	100	100	500	1000	**0.054 J**	ND	**1.8**	**5**	ND	**0.39 J**	ND	NT	ND	ND	NT	NT	ND	NT	ND	ND	NT	NT	NT	**0.084 J**	**0.39**	**4**	NT	**0.11 J**	**0.042 J**	NT	NT	ND	NT	ND	**12 E**	**13**	NT	**0.062 J**	ND
Acenaphthylene	100	100	100	500	1000	ND	ND	**0.055 J**	ND	ND	ND	ND	NT	ND	ND	NT	NT	ND	NT	ND	ND	NT	NT	NT	**0.098 J**	**0.052 J**	**0.27**	NT	ND	**1.8**	NT	NT	ND	NT	ND	**2.5**	NT	**0.055 J**	ND
Acetophenone	NV	NV	NV	NV	NV	ND	**0.064 J**	ND	ND	ND	ND	ND	NT	ND	ND	NT	NT	ND	NT	ND	ND	NT	NT	NT	ND	ND	ND	NT	**0.036 J**	**0.18 J**	NT	NT	ND	NT	ND	**0.12 J**	NT	NT	ND	ND
Anthracene	100	100	100	500	1000	**0.13**	ND	**1.5**	**9.1**	ND	**1.2**	**0.41 J**	NT	**1.1 J**	**0.94**	NT	NT	ND	NT	**0.041 J**	ND	NT	NT	NT	**0.36**	**0.79**	**7.8**	NT	**0.23**	**2**	NT	NT	ND	NT	ND	**7.5**	NT	**0.12 J**	ND
Benzo(a)anthracene	1	1	1	5.6	11	**0.25**	**0.064 J**	**2.7**	**10**	**0.022 J**	**1.5**	**0.75**	NT	**0.59 J**	**0.3 J**	NT	NT	**0.028 J**	NT	**0.18**	**0.46 J**	NT	NT	NT	**0.92**	**1.5**	**14 E**	**33**	**0.53**	**7.4**	NT	NT	ND	NT	**0.13**	**6.3**	NT	NT	**0.28**	**0.066 J**
Benzo(a)pyrene	1	1	1	1	1.1	**0.21**	ND	**2.4**	**9.3**	ND	**0.96**	**0.53 J**	NT	3.7 U	ND	NT	NT	ND	NT	**0.24**	**0.52 J**	NT	NT	NT	**1**	**1.5**	**14 E**	**32**	**0.48**	**6.6**	NT	NT	ND	NT	**0.097 J**	**4.2**	NT	NT	**0.4**	**0.047 J**
Benzo(b)fluoranthene	1	1	1	5.6	11	**0.25**	**0.066 J**	**3.5**	**11**	ND	**1.4**	**0.64**	NT	2.8 U	ND	NT	NT	ND	NT	**0.41**	**0.76**	NT	NT	NT	**1.5**	**1.7**	**17 E**	**37**	**0.59**	**11 E**	**11**	NT	ND	NT	**0.18**	**6.2**	NT	NT	**0.38**	**0.064 J**
Benzo(ghi)perylene	100	100	100	500	1000	**0.13 J**	**0.034 J**	**1.5**	**5.3**	ND	**0.58 J**	**0.28 J**	NT	ND	ND	NT	NT	ND	NT	**0.28**	**0.56 J**	NT	NT	NT	**0.64**	**0.83**	**7.1**	NT	**0.27**	**3.8**	NT	NT	ND	NT	**0.086J**	**1.5**	NT	NT	**0.36**	**0.033 J**
Benzo(k)fluoranthene	0.8	1	3.9	56	110	**0.095 J**	ND	**1**	**3.7**	ND	**0.38 J**	**0.23 J**	NT	2.8 U	ND	NT	NT	ND	NT	**0.12**	**0.31 J**	NT	NT	NT	**0.46**	**0.66**	**5.5**	NT	**0.2**	**2.4**	NT	NT	ND	NT	**0.045 J**	**2**	NT	NT	**0.13 J**	ND
Biphenyl	NV	NV	NV	NV	NV	ND	ND	**0.27 J**	**0.34 J**	ND	ND	ND	NT	ND	ND	NT	NT	ND	NT	ND	ND	NT	NT	NT	**0.025 J**	**0.065 J**	**0.35 J**	NT	**0.029 J**	**0.029 J**	NT	NT	ND	NT	ND	**2**	NT	NT	ND	ND
Carbazole	NV	NV	NV	NV	NV	**0.064 J**	ND	**0.7**	**4.5**	ND	ND	ND	NT	ND	ND	NT	NT	ND	NT	**0.024 J**	ND	NT	NT	NT	**0.16J**	**0.49**	**4.9**	NT	**0.09 J**	**0.1 J**	NT	NT	ND	NT	ND	**2.5**	NT	**0.069 J**	ND
Chrysene	1	1	3.9	56	110	**0.24**	**0.14**	**2.5**	**9.3**	**0.024 J**	**2**	**0.9**	NT	**1.1 J**	**0.78**	NT	NT	**0.023 J**	NT	**0.25**	**0.59**	NT	NT	NT	**1.2**	**1.4**	**12 E**	**28**	**0.61**	**6.9**	NT	NT	ND	NT	**0.31**	**6.4**	NT	NT	**0.33**	**0.064 J**
Dibenzo(a,h)anthracene	0.33	0.33	0.33	0.56	1.1	**0.033 J**	ND	**0.4**	**1.4**	ND	**0.16 J**	0.56 U	NT	2.8 U	0.57 U	NT	NT	ND	NT	**0.057 J**	**0.13 J**	NT	NT	NT	**0.22**	**0.21**	**2**	NT	**0.08 J**	**1**	NT	NT	ND	NT	ND	**0.6**	NT	**0.094 J**	ND
Dibenzofuran	7	14	59	350	1000	**0.031 J**	**0.034 J**	**0.96**	**3.2**	ND	**0.51 J**	**0.21 J**	NT	ND	ND	NT	NT	ND	NT	ND	ND	NT	NT	NT	**0.11 J**	**0.34**	**3.1**	NT	**0.11 J**	**0.12 J**	NT	NT	ND	NT	**0.028 J**	**10 E**	**13**	NT	**0.041 J**	**0.026 J**
Fluoranthene	100	100	100	500	1000	**0.55**	**0.073 J**	**5.9**	**25**	**0.036 J**	**3.4**	**1.4**	NT	**0.69 J**	**0.54 J**	NT	NT	**0.036 J**	NT	**0.44**	**1.1**	NT	NT	NT	**1.3**	**3.9**	**24 E**	**81**	**1.2**	**11 E**	**10**	NT	ND	NT	**0.23**	**20 E**	**26**	NT	**0.6**	**0.096 J**
Fluorene	30	100	100	500	1000	**0.048 J**	ND	**1.3**	**6.2**	ND	**1.4**	**0.7 J**	NT	**1.4 J**	**0.9 J**	NT	NT	ND	NT	ND	ND	NT	NT	NT	**0.12 J**	**0.51**	**4.5**	NT	**0.11 J**	**0.09 J**	NT	NT	ND	NT	ND	**13 E**	**15**	NT	**0.071 J**	ND
Hexachlorobenzene	0.33	0.33	1.2	6	12	ND	ND	ND	0.62 U	ND	0.56 U	0.56 U	NT	2.8 U	0.57 U	NT	NT	ND	NT	ND	0.55 U	NT	NT	NT	ND	ND	ND	NT	ND	ND	NT	NT	ND	NT	ND	ND	NT	NT	ND	ND
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.5	5.6	11	**0.14 J**	**0.028 J**	**1.8**	**6.4**	ND	**0.65 J**	**0.28 J**	NT	3.7 U	0.76 U	NT	NT	ND	NT	**0.26**	**0.55 J**	NT	NT	NT	**0.73**	**0.96**	**8.3 E**	**22**	**0.3**	**5**	NT	NT	ND	NT	**0.079 J**	**2**	NT	NT	**0.31**	**0.034 J**
Naphthalene	12	100	100	500	1000	**0.05 J**	**0.2**	**2.5**	**2.5**	ND	**0.44 J**	**0.13 J**	NT	ND	ND	NT	NT	**0.028 J**	NT	**0.034 J**	**0.17 J**	NT	NT	NT	**0.25**	**0.48**	**2.2**	NT	**0.2**	**0.46**	NT	NT	ND	NT	**0.087 J**	**15 E**	**19**	NT	**0.1 J**	**0.1 J**
Pentachlorophenol	0.8	2.4	6.7	6.7	55	ND	ND	ND	0.82 U	ND	ND	ND	NT	3.7 U	ND	NT	NT	ND	NT	ND	ND	NT	NT	NT	ND	ND	ND	NT	ND	ND	NT	NT	ND	NT	ND	ND	NT	NT	ND	ND
Phenanthrene	100	100	100	500	1000	**0.55**	**0.18**	**5**	**31**	**0.038 J**	**2**	**0.54 J**	NT	**3.9**	**2.9**	NT	NT	**0.032 J**	NT	**0.16**	**0.57**	NT	NT	NT	**0.98**	**3.4**	**22 E**	**67**	**1.1**	**0.91**	NT	NT	ND	NT	**0.2**	**24 E**	**34**	NT	**0.44**	**0.1 J**
Phenol	0.33	100	100	500	1000	ND	ND	ND	1 U	ND	0.94 U	0.94 U	NT	**0.75 J**	0.94 U	NT	NT	ND	NT	ND	0.91 U	NT	NT	NT	ND	ND	**0.066 J**	NT	ND	ND	NT	NT	ND	NT	**0.98**	NT	NT	ND	ND
Pyrene	100	100	100	500	1000	**0.47**	**0.094 J**	**4.6**	**19**	**0.03 J**	**3.3**	**1.4**	NT	**1.1 J**	**0.85**	NT	NT	**0.034 J**	NT	**0.38**	**0.92**	NT	NT	NT	**1.1**	**3**	**22 E**	**65**	**0.97**	**12 E**	**11**	NT	ND	NT	**0.23**	**17 E**	**19**	NT	**0.61**	**0.084 J**
Metals Analysis (mg/kg)																																							
Aluminum, Total	NV	NV	NV	NV	NV	**4010**	**2990**	**3240**	**3380**	**3560**	**5050**	NT	**2580**	NT	NT	NT	NT	**5340**	NT	**7990**	NT	NT	NT	NT	**1960**	**6440**	**4590**	NT	**4120**	**3780**	NT	**6670**	NT	**9390**	NT	**4430**	NT	NT	NT	**3620**
Antimony, Total	NV	NV	NV	NV	NV	ND	ND	ND	ND	ND	ND	NT	ND	NT	NT	NT	NT	ND	NT	ND	NT	NT	NT	NT	**1.58 J**	**1.66 J**	**1.15 J**	NT	**2.5 J**	**3.4 J**	NT	**1.61 J**	NT	**2.42 J**	NT	**3.76 J**	NT	NT	NT	**1.85 J**
Arsenic, Total	13	16	16	16	16	**16**	**16.1**	**8.5**	**3.07**	**6.63**	**6.53**	NT	**31.9**	NT	NT	NT	NT	**4.03**	NT	**5.73**	NT	NT	NT	NT	**9.92**	**9.32**	**7.5**	NT	**14.7**	**12.3**	NT	**75.4**	NT	**19.5**	NT	**9.22**	NT	NT	NT	**7.4**
Barium, Total	350	350	400	400	10000	**37.4**	**33.1**	**29.5**	**24.2**	**28.8**	**35.7**	NT	**83.8**	NT	NT	NT	NT	**30.1**	NT	**130**	NT	NT	NT	NT	**30.9**	**60.3**	**55.9**	NT	**39.8**	**49**	NT	**86.8**	NT	**128**	NT	**40**	NT	NT	NT	**34.8**
Beryllium, Total	7.2	14	72	590	2700	**0.261 J**	**0.396 J**	**0.309 J**	**0.136 J**	**0.188 J**	**0.251 J**	NT	**0.194 J**	NT	NT	NT	NT	**0.254 J**	NT	**1.11**	NT	NT	NT	NT	**0.221 J**	**0.376 J**	**0.292 J**	NT	**0.381 J**	**0.4 J**	NT	**0.916**	NT	**1.4**	NT	**0.518**	NT	NT	NT	**0.172 J**
Cadmium, Total	2.5	2.5	4.3	9.3	60	ND	ND	**0.14 J**	ND	ND	ND	NT	**0.158 J**	NT	NT	NT	NT	ND	NT	ND	NT	NT	NT	NT	**0.336 J**	**0.969**	**0.823 J**	NT	**0.807 J**	**0.846 J**	NT	**0.411 J**	NT	**0.733 J**	NT	**0.453 J**	NT	NT	NT	**0.768 J**
Calcium, Total	NV	NV	NV	NV	NV	**18000**	**5880**	**21700**	**128000**	**16100**	**22200**	NT	**5390**	NT	NT	NT	NT	**16100**	NT	**180000**	NT	NT	NT	NT	**108000**	**13800**	**29400**	NT	**6690**	**9530**	NT	**31400**	NT	**41500**	NT	**4880**	NT	NT	NT	**16900**
Chromium, Total	NV	NV	NV	NV	NV	**17.7**	**6.66**	**6.63**	**5.39**	**7.88**	**7.56**	NT	**29.9**	NT	NT	NT	NT	**6.64**	NT	**11.2**	NT	NT	NT	NT	**4.52**	**13.1**	**9.72**	NT	**14.7**	**8.34**	NT	**5.93**	NT	**10.8**	NT	**8.14**	NT	NT	NT	**11.8**
Cobalt, Total	NV	NV	NV	NV	NV	**10**	**5.4**	**3.88**	**2.02**	**4.52**	**3.76**	NT	**12.2**	NT	NT	NT	NT	**34.3**	NT	**2.01**	NT	NT	NT	NT	**2.98**	**6.13**	**3.28**	NT	**6.15**	**5.67**	NT	**3.48**	NT	**2.3**	NT	**4.76**	NT	NT	NT	**4.78**
Copper, Total	50	270	270	270	10000	**23.9**	**24.3**	**20.4**	**3.59**	**13.1**	**4.78**	NT	**142**	NT	NT	NT	NT	**5.91**	NT	**19.9**	NT	NT	NT	NT	**26.2**	**22.8**	**24.8**	NT	**20.1**	**49.6**	NT	**12.2**	NT	**16.9**	NT	**94.6**	NT	NT	NT	**15.2**
Iron, Total	NV	NV	NV	NV	NV	**102000**	**18900**	**16300**	**6070**	**14500**	**10200**	NT	**271000**	NT	NT	NT	NT	**9590**	NT	**17200**	NT	NT	NT	NT	**12300**	**37700**	**16300**	NT	**56600**	**36600**	NT	**16800**	NT	**33100**	NT	**19400**	NT	NT	NT	**33500**
Lead, Total	63	400	400	1000	3900	**67.9**	**25.7**	**65.2**	**7.32**	**23.3**	**11.6**	NT	**34.6**	NT	NT	NT	NT	**27.5**	NT	**38.1**	NT	NT	NT	NT	**20.4**	**122**	**75.4**	NT	**457**	**57.4**	NT	**20.4**	NT	**40.6**	NT	**46.2**	NT	NT	NT	**34**
Magnesium, Total	NV	NV	NV	NV	NV	**4140**	**698**	**2560**	**3770**	**2280**	**3200**	NT	**575**	NT	NT	NT	NT	**2440**	NT	**7350**	NT	NT	NT	NT	**2460**	**1660**	**3160**	NT	**1120**	**1780**	NT	**3090**	NT	**4370**	NT	**1020**	NT	NT	NT	**1670**
Manganese, Total	1600	2000	2000	10000	10000	**1440**	**211**	**262**	**175**	**214**	**198**	NT	**1050**	NT	NT	NT	NT	**313**	NT	**1300**	NT	NT	NT	NT	**160**	**1100**	**330**	NT	**558**	**574**	NT	**959**	NT	**1700**	NT	**250**	NT	NT	NT	**903**
Mercury, Total	0.18	0.81	0.81	2.8	5.7	ND	**0.08**	**2.39**	**0.246**	ND	ND	NT	ND	NT	NT	NT	NT	ND	NT	ND	NT	NT	NT	NT	**0.094**	**0.121**	**16.3**	NT	**0.052 J**	**0.077**	NT	ND	NT	**0.052 J**	NT	ND	NT	NT	NT	**0.103**
Nickel, Total	30	140	310	310	10000	**10.1**	**10.3**	**8.47**	**3.66**	**6.34**	**8.26**	NT	**29.6**	NT	NT	NT	NT	**6.5**	NT	**5.6**	NT	NT	NT	NT	**7.59**	**11**	**8.73**	NT	**16.3**	**10.4**	NT	**6.38**	NT	**3.77**	NT	**11.8**	NT	NT	NT	**8.49**
Potassium, Total	NV	NV	NV	NV	NV	**739**	**377**	**274**	**456**	**535**	**686**	NT	**770**	NT	NT	NT	NT	**770**	NT	**657**	NT	NT	NT	NT	**200 J**	**428**	**430**	NT	**392**	**323**	NT	**535**	NT	**632**	NT	**562**	NT	NT	NT	**403**
Selenium, Total	3.9	36	180	1500	6800	**0.575 J**	**0.986 J**	**0.777 J**	ND	**0.314 J**	**0.355 J**	NT	**0.44 J**	NT	NT	NT	NT	**0.254 J**	NT	**1.07 J**	NT	NT	NT	NT	ND	**1.06 J**	ND	NT	**0.754 J**	**0.576 J**	NT	**0.83 J**	NT	**1.33 J**	NT	**0.796 J**	NT	NT	NT	**0.58 J**
Silver, Total	2	36	180	1500	6800	ND	ND	ND	ND	ND	ND	NT	**0.264 J**	NT	NT	NT	NT	ND	NT	ND	NT	NT	NT	NT	ND	ND	ND	NT	ND	ND	NT	ND	NT	ND	NT	ND	NT	NT	NT	ND
Sodium, Total	NV	NV	NV	NV	NV	**423**	**426**	**74.1 J**	**115 J**	**92.7 J**	**109 J**	NT	**77 J**	NT	NT	NT	NT	**128 J**	NT	**396**	NT	NT	NT	NT	**67 J**	**129 J**	**101 J**	NT	**92.8 J**	**128 J**	NT	**360**	NT	**269**	NT	**206**	NT	NT	NT	**218**
Thallium, Total	NV	NV	NV	NV	NV	**3.12**	**0.528 J**	**0.515 J**	**0.533 J**	**0.358 J**	ND	NT	**3.42**	NT	NT	NT	NT	**0.544 J**	NT	**1.94**	NT	NT	NT	NT	ND	ND	ND	NT	ND	ND	NT	ND	NT	ND	NT	**1.17 J**	NT	ND	NT	ND
Vanadium, Total	NV	NV	NV	NV	NV	**17.7**	**8.26**	**9.51**	**6.81**	**8.07**	**11.3**	NT	**5.07**	NT	NT	NT	NT	**11.2**	NT	**8.9**	NT	NT	NT	NT	**8.27**	**27.9**	**12.9**	NT	**29.8**	**16.6**	NT	**10.6**	NT	**6.63**	NT	**12.7**	NT	NT	NT	**26.3**
Zinc, Total	109	2200	10000	10000	10000	**36.9**	**35.6**	**445**	**25.7**	**30.2**	**37.4**	NT	**69.8**	NT	NT	NT	NT	**19.8**	NT	**50.9**	NT	NT	NT	NT	**109**	**176**	**293**	NT	**58.1**	**65.1**	NT	**43.8**	NT	**58.3**	NT	**40.8**	NT	NT	NT	**86.5**
Polychlorinated Biphenyls (PCBs) Analysis via EPA Method 8082 (mg/kg)																																							
Aroclor 1254	0.1	1	1	1	25	NT	NT	ND	NT	NT	ND	NT	NT	ND	NT	NT	NT	NT	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	ND	NT	NT	ND	NT	NT	NT	NT	**0.013 J**	ND
Aroclor 1268	0.1	1	1	1	25	NT	NT	**0.00694 J**	NT	NT	ND	NT	NT	ND	NT	NT	NT	NT	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	ND	NT	NT	ND	NT	NT	NT	NT	ND	ND
PCBs, Total	0.1	1	1	1	25	NT	NT	**0.00694 J**	NT	NT	ND	NT	NT	ND	NT	NT	NT	NT	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	ND	NT	NT	ND	NT	NT	NT	NT	**0.013 J**	ND

Notes:

1. Analytical testing performed by Alpha Analytical. Compounds detected in one or more samples are presented in this table. Refer to Appendix for the full analytical report.
2. mg/kg = parts per million.
3. ND = not detected; NT = not tested; NV = no value.
4. Analytical results compared to NYSDEC 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (SCOs); Table 375-6.8(a): Unrestricted Use SCOs and Table 375-6.8(b): Restricted Use SCOs.
5. J = Estimated value. The target analyte is below the reporting limit (RL), but above the method dectection limit (MDL).
6. R = Analytical results are from sample re-analysis.
7. U = Analytical results are below laboratory detection limits. Result is reported because laboratory detection limit is greater than applicable SCO.
8. E = Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
9. Shading indicates:
   - exceeds UUSCO - Unrestricted Use Soil Cleanup Objective
   - exceeds RUSCO - Restricted Use Residential Soil Cleanup Objective
   - exceeds RRUSCO - Restricted Use Restricted-Residential Soil Cleanup Objective
   - exceeds CUSCO - Resrticted Use Commercial Soil Cleanup Objective
   - exceeds IUSCO - Restricted Use Indistrial Soil Cleanup Objective
   - Laboratory detection limit is greater than SCO due to sample dilution.

Table 2
Historical Groundwater Monitoring and Sampling Data Summary
MOD-PAC CORP.

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	GW Elevation (ft)	1,1-Dichloroethene (µg/L)	2-Butanone (µg/L)	Acetone (µg/L)	Benzene (µg/L)	cis-1,2-Dichloroethene (µg/L)	trans-1,2-Dichloroethene (µg/L)	Trichloroethene (µg/L)	Vinyl chloride (µg/L)	Total VOCs (µg/L)	% Increase/ Decrease TCE
	NY-TOGS-GA (µg/L)				5	50	50	1	5	5	5	2		
MW - 3	2/5/18	600.71	5.05	595.66	ND	ND	ND	ND	**80**	**14**	**280**	**13**	**387.0**	**Baseline**
	Potassium Permanganete Pilot Study June 27, 2019 - June 28, 2019													
	7/16/19	600.71	NG	NG	ND	**3.10 J**	**38**	ND	ND	ND	ND	ND	**43.4**	-100.00
	Potassium Permanganete Injections October 1, 2019 - October 10, 2019													
	10/24/2019*	600.71	NG	NG	ND	ND	<20	<1	**30**	**3**	**220**	<1	**253.0**	-21.43
	4/15/20	600.71	5.54	595.17	ND	ND	**6.40 J**	ND	**57**	**7.3**	**370 JH**	**3.7**	**444.4**	**32.14**
	4/14/21	600.71	5.98	594.73	**0.88 J**	ND	ND	ND	**82**	**8.8**	**340**	**5.6**	**440.5**	**21.43**
	7/1/21	600.71	6.30	594.41	**2.0**	ND	ND	**0.41 J**	**140**	**16**	**400**	**8.1**	**566.5**	**42.86**
	11/19/21	600.71	5.30	595.41	**0.77 J**	ND	ND	ND	**43**	**4 J**	**340**	**2.9**	**390.7**	**21.43**
	1/12/22	600.71	5.70	595.01	**0.86**	ND	ND	**0.16 J**	**57**	**3.3**	**190**	**3.5**	**254.8**	-32.14
	4/5/22	600.71	5.65	595.06	**0.44 J**	ND	ND	ND	**46**	**5.1 J**	**280**	**2.3 J**	**333.8**	0.00
	7/6/22	600.71	5.91	594.80	**0.48 J**	ND	ND	ND	**74**	**6.2**	**240**	**3.7**	**324.4**	-14.29
	10/7/22	600.71	6.03	594.68	**0.76 J**	**6.50 J**	**7.60 J**	**0.34 J**	**92**	**6.5**	**350**	**7.2**	**470.9**	**25.00**
	1/5/23	600.71	4.70	596.01	**0.24 J**	ND	ND	ND	**29**	**1.5 J**	**170 R1**	**0.55 J**	**201.3**	-39.29
	4/6/23	600.71	5.35	595.36	ND	ND	ND	ND	**17 J**	**0.92 J**	**120 J**	**0.41 J**	**138.3**	-57.14
	7/25/23	600.71	NG	NG	NT	NT	NT	NT	NT	NT	NT	NT	NT	N/A
	10/3/23	600.71	6.30	594.41	ND	ND	ND	ND	**99**	**8.3 J**	**400**	**4.8**	**512.1**	**42.86**
	1/12/24	600.71	5.28	595.43	**0.35 J**	ND	ND	ND	**66**	**5.4**	**330**	**1.7 J**	**403.5**	**17.86**
	4/9/24	600.71	5.62	595.09	**0.41 J**	ND	ND	ND	**54**	**4.9 J**	**300**	**1.9 J**	**361.2**	**7.14**
MW - 11	2/5/18	600.41	4.66	595.75	ND	**2.3 J**	**9.4**	**0.16 J**	**3.1**	**2.9**	**40**	**5.6**	**64.56**	**Baseline**
	Potassium Permanganete Pilot Study June 27, 2019 - June 28, 2019													
	7/16/19	600.41	NG	NG	**0.35 J**	ND	**4.5 J**	ND	**14**	**25**	**20**	**9.8**	**73.65**	-50.00
	Potassium Permanganete Injections October 1, 2019 - October 10, 2019													
	10/24/2019*	600.41	NG	NG	ND	**150 J**	**920**	ND	<10	<10	**16**	ND	**1086.0**	-60.00
	4/15/20	600.41	5.27	595.14	ND	**2.2 J**	**11**	**0.21 J**	**7**	**10**	**45 JH**	**9**	**84.4**	**12.50**
	4/14/21	600.41	5.74	594.67	ND	ND	**ND**	ND	**8**	**9.4**	**16**	**5.7**	**39.1**	-60.00
	7/1/21	600.41	6.00	594.41	**0.35 J**	ND	ND	**0.25 J**	**13**	**17**	**47**	**10**	**87.6**	**17.50**
	11/19/21	600.41	5.15	595.26	**0.27 J**	ND	ND	**0.25 J**	**17**	**30**	**32**	**7.8**	**87.3**	-20.00
	1/12/22	600.41	5.45	594.96	**0.31 J**	ND	ND	**0.20 J**	**11**	**19**	**22**	**6.2**	**58.7**	-45.00
	4/5/22	600.41	5.45	594.96	**0.27 J**	ND	ND	**0.17 J**	**9.8**	**15**	**24**	**9.7**	**58.9**	-40.00
	7/6/22	600.41	5.63	594.78	**0.36 J**	ND	**3.6 J**	**0.22 J**	**15**	**20**	**27**	**10**	**76.2**	-32.50
	10/7/22	600.41	5.80	594.61	ND	ND	ND	**0.22 J**	**13**	**15**	**34**	**7.2**	**69.4**	-15.00
	1/5/23	600.41	4.73	595.68	**0.25 J**	ND	ND	**0.16 J**	**11**	**16**	**31**	**9.4**	**67.8**	-22.50
	4/6/23	600.41	4.60	595.81	**0.39 J**	ND	ND	ND	**10 J**	**16**	**19 J**	**10**	**55.4**	-52.50
	7/25/23	600.41	5.60	594.81	**0.22 J**	ND	**2.5 J**	**0.2 J**	**12**	**17**	**23**	**17**	**71.9**	-42.50
	10/3/23	600.41	6.05	594.36	ND	ND	**5.7**	ND	**11**	**12**	**12**	**8.5**	**49.2**	-70.00
	1/12/24	600.41	5.34	595.07	**0.22 J**	ND	ND	ND	**11**	**13**	**12**	**8.7**	**44.9**	-70.00
	4/9/24	600.41	5.58	594.83	**0.52**	ND	**2.4 J**	**0.17 J**	**12**	**18**	**29**	**12**	**74.1**	-27.50
MW - 12	2/5/18	600.50	4.52	595.98	ND	ND	**2.2 J**	ND	ND	ND	**0.44 J**	ND 9	**2.64**	**Baseline**
	Potassium Permanganete Pilot Study June 27, 2019 - June 28, 2019													
	7/16/19	600.50	NG	NG	ND	ND	**3 J**	ND	ND	ND	ND	ND	**3.0**	-100.00
	Potassium Permanganete Injections October 1, 2019 - October 10, 2019													
	10/24/2019*	600.50	NG	NG	ND	ND	<200	ND	ND	ND	ND	ND	ND	-100.00
	4/15/20	600.50	4.41	596.09	ND	ND	**11**	ND	ND	ND	ND	ND	**11.0**	-100.00
	4/14/21	600.50	4.86	595.64	ND	ND	ND	ND	ND	ND	ND	ND	ND	-100.00
	7/1/21	600.50	5.35	595.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	-100.00
	11/19/21	600.50	4.10	596.40	ND	ND	ND	ND	ND	ND	ND	ND	ND	-100.00
	1/12/22	600.50	4.58	595.92	ND	ND	ND	ND	ND	ND	ND	ND	ND	-100.00
	4/5/22	600.50	4.41	596.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	-100.00
	7/6/22	600.50	4.10	596.40	ND	ND	ND	ND	ND	ND	ND	ND	ND	-100.00
	10/7/22	600.50	5.04	595.46	ND	ND	ND	ND	ND	ND	ND	ND	ND	-100.00
	1/5/23	600.50	3.54	596.96	ND	ND	ND	ND	ND	ND	ND	ND	ND	-100.00
	4/6/23	600.50	3.76	596.74	ND	ND	ND	ND	ND	ND	ND	ND	ND	-100.00
	7/25/23	600.50	4.71	595.79	ND	ND	ND	ND	ND	ND	**0.20 J**	ND	**0.2**	-54.55
	10/3/23	600.50	5.39	595.11	ND	ND	ND	ND	ND	ND	**0.18 J**	ND	**0.2**	-59.09
	1/12/24	600.50	4.14	596.36	ND	ND	ND	ND	ND	ND	ND	ND	ND	-100.00
	4/9/24	600.50	4.41	596.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	-100.00
MW - 13	2/5/18	600.31	4.44	595.87	**1**	ND	ND	ND	**180**	**4.1**	**160**	**25**	**371.3**	**Baseline**
	Potassium Permanganete Pilot Study June 27, 2019 - June 28, 2019													
	7/16/19	600.31	NG	NG	**1.20 J**	ND	ND	ND	**400**	**3.9 J**	**78**	**56**	**539.1**	-51.25
	Potassium Permanganete Injections October 1, 2019 - October 10, 2019													
	10/24/2019*	600.31	NG	NG	<1	ND	**28**	ND	**97**	**2**	**240**	**2**	**369.0**	**50.00**
	4/15/20	600.31	3.70	596.61	**0.73**	ND	**3.2 J**	ND	**200**	**4.4**	**140 JH**	**55**	**403.3**	-12.50
	4/14/21	600.31	4.13	596.18	**0.69**	ND	ND	ND	**150**	**1.7 J**	**95**	**70**	**317.4**	-40.63
	7/1/21	600.31	4.60	595.71	**1.5**	ND	ND	**0.18 J**	**210**	**3.9**	**150**	**88**	**453.6**	-6.25
	11/19/21	600.31	3.30	597.01	**0.45 J**	ND	ND	ND	**50**	ND	**73**	**20**	**143.5**	-54.38
	1/12/22	600.31	3.85	596.46	**1.1**	ND	ND	ND	**140**	**1.8 J**	**74**	**54**	**270.9**	-53.75
	4/5/22	600.31	3.80	596.51	**0.9**	ND	ND	ND	**130**	**1.8 J**	**59**	**75**	**266.7**	-63.13
	7/6/22	600.31	4.11	596.20	**0.73**	ND	ND	ND	**110**	**1.7 J**	**89**	**51**	**252.4**	-44.38
	10/7/22	600.31	5.66	594.65	**0.53**	**1.9 J**	ND	ND	**85**	**1.2 J**	**72**	**39**	**199.6**	-55.00
	1/5/23	600.31	2.62	597.69	**0.19 J**	ND	ND	ND	**40**	ND	**35**	**6**	**81.2**	-78.13
	4/6/23	600.31	3.10	597.21	**0.22 J**	ND	ND	ND	**42 J**	ND	**32 J**	**15**	**89.2**	-80.00
	7/25/23	600.31	3.98	596.33	**0.55**	ND	ND	ND	**89**	**1.3 J**	**90**	**35**	**215.9**	-43.75
	10/3/23	600.31	6.70	593.61	**0.55**	ND	ND	ND	**90**	**1.1 J**	**71**	**35**	**197.7**	-55.63
	1/12/24	600.31	3.11	597.20	**0.18 J**	ND	ND	ND	**35**	ND	**36**	**9.1**	**80.3**	-77.50
	4/9/24	600.31	3.66	596.65	**0.3 J**	ND	ND	ND	**55**	**0.7 J**	**43**	**22**	**121.0**	-73.13

Notes:

1. NG = Not Gauged; NT = Not Tested; ND = Non-Detect; J = Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs). ; H = The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection;
2. Water Levels measured from top of riser
3. Blue Shading = Result exceeds NY-TOGS-GA for TCE
4. **RED BOLDED** = Percent increase of TCE from Baseline
5. **BLUE BOLDED** = Result changed as a result of data validation.
6. Data Validation was not preformed on the following sample dates: 7/16/19 (sampled by others), 10/24/19 (sampled by others), 7/1/21, 11/19/21, 1/12/22.
7. 10/24/2019 data analyzed by eurofins Lancaster Labratories Environmental, all other data analyzed by Alpha Analyitical
8. QA/QC Results not included on this table, please see full analyitical report.

Environmental Advantage

TABLE 3

FILL MATERIAL SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

							SAMPLE ID:	SB-01-2FT			SB-03-2FT			SB-04-2FT			SB-05-5FT			SB-06-3FT			SB-07-3FT		
							LAB ID:	L2427942-01			L2428242-09			L2427942-05			L2427942-03			L2428242-01			L2428242-07		
							COLLECTION DATE:	5/20/2024			5/21/2024			5/20/2024			5/20/2024			5/21/2024			5/21/2024		
							SAMPLE DEPTH:	2 FT			2 FT			2 FT			5 FT			3 FT			3 FT		
							SAMPLE MATRIX:	HFM			HFM			HFM			HFM			HFM			HFM		
	NY-UNRES	NY-RESGW	NY-RESR	NY-RESRR	NY-RESC	NY-RESI																			
ANALYTE	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS BY EPA 5035																									
Methylene chloride	0.05	0.05	51	100	500	1000	ND		0.0037	ND		0.28	ND		0.0051	ND		0.005	ND		0.003	ND		0.003
1,1-Dichloroethane	0.27	0.27	19	26	240	480	ND		0.00074	ND		0.056	ND		0.001	ND		0.001	ND		0.0006	ND		0.0006
Chloroform	0.37	0.37	10	49	350	700	ND		0.0011	0.027	J	0.084	ND		0.0015	ND		0.0015	ND		0.0009	ND		0.0009
Carbon tetrachloride	0.76	0.76	1.4	2.4	22	44	ND		0.00074	ND		0.056	ND		0.001	ND		0.001	ND		0.0006	ND		0.0006
Tetrachloroethene	1.3	1.3	5.5	19	150	300	0.00043		0.00037	0.023	J	0.028	ND		0.00051	ND		0.0005	ND		0.0003	ND		0.0003
Chlorobenzene	1.1	1.1	100	100	500	1000	ND		0.00037	ND		0.028	ND		0.00051	ND		0.0005	ND		0.0003	ND		0.0003
1,2-Dichloroethane	0.02	0.02	2.3	3.1	30	60	ND		0.00074	ND		0.056	ND		0.001	ND		0.001	ND		0.0006	ND		0.0006
1,1,1-Trichloroethane	0.68	0.68	100	100	500	1000	ND		0.00037	ND		0.028	ND		0.00051	ND		0.0005	ND		0.0003	ND		0.0003
Benzene	0.06	0.06	2.9	4.8	44	89	ND		0.00037	ND		0.028	0.0012		0.00051	0.00019	J	0.0005	ND		0.0003	ND		0.0003
Toluene	0.7	0.7	100	100	500	1000	ND		0.00074	0.05	J	0.056	ND		0.001	ND		0.001	ND		0.0006	ND		0.0006
Ethylbenzene	1	1	30	41	390	780	ND		0.00074	ND		0.056	ND		0.001	ND		0.001	ND		0.0006	ND		0.0006
Vinyl chloride	0.02	0.02	0.21	0.9	13	27	ND		0.00074	ND		0.056	0.0019		0.001	0.01		0.001	ND		0.0006	ND		0.0006
1,1-Dichloroethene	0.33	0.33	100	100	500	1000	ND		0.00074	ND		0.056	ND		0.001	ND		0.001	ND		0.0006	ND		0.0006
trans-1,2-Dichloroethene	0.19	0.19	100	100	500	1000	ND		0.0011	0.0083	J	0.084	ND		0.0015	0.00093	J	0.0015	ND		0.0009	ND		0.0009
Trichloroethene	0.47	0.47	10	21	200	400	0.0041		0.00037	12		0.028	ND		0.00051	0.0053		0.0005	ND		0.0003	0.0005		0.0003
1,2-Dichlorobenzene	1.1	1.1	100	100	500	1000	ND		0.0015	ND		0.11	ND		0.002	ND		0.002	ND		0.0012	ND		0.0012
1,3-Dichlorobenzene	2.4	2.4	17	49	280	560	ND		0.0015	ND		0.11	ND		0.002	ND		0.002	ND		0.0012	ND		0.0012
1,4-Dichlorobenzene	1.8	1.8	9.8	13	130	250	ND		0.0015	ND		0.11	ND		0.002	ND		0.002	ND		0.0012	ND		0.0012
Methyl tert butyl ether	0.93	0.93	62	100	500	1000	ND		0.0015	ND		0.11	ND		0.002	ND		0.002	ND		0.0012	ND		0.0012
p/m-Xylene	NA	NA	NA	NA	NA	NA	ND		0.0015	ND		0.11	ND		0.002	ND		0.002	ND		0.0012	ND		0.0012
o-Xylene	NA	NA	NA	NA	NA	NA	ND		0.00074	ND		0.056	ND		0.001	ND		0.001	ND		0.0006	ND		0.0006
cis-1,2-Dichloroethene	0.25	0.25	59	100	500	1000	ND		0.00074	0.052	J	0.056	ND		0.001	0.0042		0.001	ND		0.0006	ND		0.0006
Acetone	0.05	0.05	100	100	500	1000	ND		0.0074	ND		0.56	0.009	J	0.01	0.055		0.01	ND		0.006	ND		0.006
2-Butanone	0.12	0.12	100	100	500	1000	ND		0.0074	ND		0.56	0.0024	J	0.01	0.011		0.01	ND		0.006	ND		0.006
n-Butylbenzene	12	12	100	100	500	1000	ND		0.00074	ND		0.056	ND		0.001	ND		0.001	ND		0.0006	ND		0.0006
sec-Butylbenzene	11	11	100	100	500	1000	ND		0.00074	ND		0.056	ND		0.001	ND		0.001	ND		0.0006	ND		0.0006
tert-Butylbenzene	5.9	5.9	100	100	500	1000	ND		0.0015	ND		0.11	ND		0.002	ND		0.002	ND		0.0012	ND		0.0012
n-Propylbenzene	3.9	3.9	100	100	500	1000	ND		0.00074	ND		0.056	ND		0.001	ND		0.001	ND		0.0006	ND		0.0006
1,3,5-Trimethylbenzene	8.4	8.4	47	52	190	380	ND		0.0015	ND		0.11	ND		0.002	ND		0.002	ND		0.0012	ND		0.0012
1,2,4-Trimethylbenzene	3.6	3.6	47	52	190	380	ND		0.0015	ND		0.11	ND		0.002	ND		0.002	ND		0.0012	ND		0.0012
1,4-Dioxane	0.1	0.1	9.8	13	130	250	ND		0.059	ND		4.5	ND		0.081	ND		0.08	ND		0.048	ND		0.048
SEMIVOLATILE ORGANICS BY GC/MS																									
Acenaphthene	20	98	100	100	500	1000	ND		0.17	0.13	J	0.18	0.068	J	0.14	ND		0.15	ND		0.15	ND		0.14
Hexachlorobenzene	0.33	3.2	0.33	1.2	6	12	ND		0.12	ND		0.13	ND		0.11	ND		0.11	ND		0.12	ND		0.11
Fluoranthene	100	1000	100	100	500	1000	0.13		0.12	1.7		0.13	0.09	J	0.11	ND		0.11	0.047	J	0.12	0.07	J	0.11
Naphthalene	12	12	100	100	500	1000	ND		0.21	0.096	J	0.22	0.3		0.18	ND		0.19	0.045	J	0.19	ND		0.18
Benzo(a)anthracene	1	1	1	1	5.6	11	0.072	J	0.12	0.74		0.13	0.064	J	0.11	ND		0.11	0.034	J	0.12	0.036	J	0.11
Benzo(a)pyrene	1	22	1	1	1	1.1	0.059	J	0.17	0.71		0.18	0.047	J	0.14	ND		0.15	ND		0.15	ND		0.14
Benzo(b)fluoranthene	1	1.7	1	1	5.6	11	0.078	J	0.12	0.89		0.13	0.072	J	0.11	ND		0.11	0.053	J	0.12	0.049	J	0.11
Benzo(k)fluoranthene	0.8	1.7	1	3.9	56	110	ND		0.12	0.36		0.13	ND		0.11	ND		0.11	ND		0.12	ND		0.11
Chrysene	1	1	1	3.9	56	110	0.063	J	0.12	0.7		0.13	0.081	J	0.11	ND		0.11	0.038	J	0.12	0.034	J	0.11
Acenaphthylene	100	107	100	100	500	1000	ND		0.17	ND		0.18	ND		0.14	ND		0.15	ND		0.15	ND		0.14
Anthracene	100	1000	100	100	500	1000	ND		0.12	0.28		0.13	ND		0.11	ND		0.11	ND		0.12	ND		0.11
Benzo(ghi)perylene	100	1000	100	100	500	1000	0.033	J	0.17	0.44		0.18	0.055	J	0.14	ND		0.15	0.03	J	0.15	0.026	J	0.14
Fluorene	30	386	100	100	500	1000	ND		0.21	0.14	J	0.22	0.02	J	0.18	ND		0.19	ND		0.19	ND		0.18
Phenanthrene	100	1000	100	100	500	1000	0.094	J	0.12	1.2		0.13	0.1	J	0.11	ND		0.11	0.041	J	0.12	0.046	J	0.11
Dibenzo(a,h)anthracene	0.33	1000	0.33	0.33	0.56	1.1	ND		0.12	0.11	J	0.13	ND		0.11	ND		0.11	ND		0.12	ND		0.11
Indeno(1,2,3-cd)pyrene	0.5	8.2	0.5	0.5	5.6	11	0.034	J	0.17	0.44		0.18	0.038	J	0.14	ND		0.15	0.027	J	0.15	0.026	J	0.14
Pyrene	100	1000	100	100	500	1000	0.1	J	0.12	1.3		0.13	0.081	J	0.11	ND		0.11	0.042	J	0.12	0.059	J	0.11
Dibenzofuran	7	210	14	59	350	1000	ND		0.21	0.089	J	0.22	0.033	J	0.18	ND		0.19	ND		0.19	ND		0.18
Pentachlorophenol	0.8	0.8	2.4	6.7	6.7	55	ND		0.17	ND		0.18	ND		0.14	ND		0.15	ND		0.15	ND		0.14
Phenol	0.33	0.33	100	100	500	1000	ND		0.21	ND		0.22	ND		0.18	ND		0.19	ND		0.19	ND		0.18
2-Methylphenol	0.33	0.33	100	100	500	1000	ND		0.21	ND		0.22	ND		0.18	ND		0.19	ND		0.19	ND		0.18
3-Methylphenol/4-Methylphenol	0.33	0.33	34	100	500	1000	ND		0.3	ND		0.32	ND		0.26	ND		0.27	ND		0.28	ND		0.26
1,4-Dioxane	0.1	0.1	9.8	13	130	250	ND		0.031	ND		0.033	ND		0.027	ND		0.028	ND		0.029	ND		0.027

TABLE 3

FILL MATERIAL SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

						SAMPLE ID:	SB-01-2FT			SB-03-2FT			SB-04-2FT			SB-05-5FT			SB-06-3FT			SB-07-3FT		
						LAB ID:	L2427942-01			L2428242-09			L2427942-05			L2427942-03			L2428242-01			L2428242-07		
						COLLECTION DATE:	5/20/2024			5/21/2024			5/20/2024			5/20/2024			5/21/2024			5/21/2024		
						SAMPLE DEPTH:	2 FT			2 FT			2 FT			5 FT			3 FT			3 FT		
						SAMPLE MATRIX:	HFM			HFM			HFM			HFM			HFM			HFM		
	NY-UNRES	**NY-RESGW**	**NY-RESR**	**NY-RESRR**	**NY-RESC**	**NY-RESI**																		
ANALYTE	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
CHLORINATED HERBICIDES BY GC																								
2,4,5-TP (Silvex)	3.8	3.8	58	100	500	1000	-		-	ND		0.225	ND		0.179	-		-	-		-	-		-
ORGANOCHLORINE PESTICIDES BY GC																								
Delta-BHC	0.04	0.25	100	100	500	1000	-		-	ND		0.00206	ND		0.00167	-		-	-		-	-		-
Lindane	0.1	0.1	0.28	1.3	9.2	23	-		-	ND		0.000858	ND		0.000696	-		-	-		-	-		-
Alpha-BHC	0.02	0.02	0.097	0.48	3.4	6.8	-		-	ND		0.000858	ND		0.000696	-		-	-		-	-		-
Beta-BHC	0.036	0.09	0.072	0.36	3	14	-		-	ND		0.00206	ND		0.00167	-		-	-		-	-		-
Heptachlor	0.042	0.38	0.42	2.1	15	29	-		-	ND		0.00103	ND		0.000835	-		-	-		-	-		-
Aldrin	0.005	0.19	0.019	0.097	0.68	1.4	-		-	ND		0.00206	ND		0.00167	-		-	-		-	-		-
Endrin	0.014	0.06	2.2	11	89	410	-		-	ND		0.000858	ND		0.000696	-		-	-		-	-		-
Dieldrin	0.005	0.1	0.039	0.2	1.4	2.8	-		-	ND		0.00129	ND		0.00104	-		-	-		-	-		-
4,4'-DDE	0.0033	17	1.8	8.9	62	120	-		-	ND		0.00206	ND		0.00167	-		-	-		-	-		-
4,4'-DDD	0.0033	14	2.6	13	92	180	-		-	ND		0.00206	ND		0.00167	-		-	-		-	-		-
4,4'-DDT	0.0033	136	1.7	7.9	47	94	-		-	ND		0.00206	ND		0.00167	-		-	-		-	-		-
Endosulfan I	2.4	102	4.8	24	200	920	-		-	ND		0.00206	ND		0.00167	-		-	-		-	-		-
Endosulfan II	2.4	102	4.8	24	200	920	-		-	ND		0.00206	ND		0.00167	-		-	-		-	-		-
Endosulfan sulfate	2.4	1000	4.8	24	200	920	-		-	ND		0.000858	ND		0.000696	-		-	-		-	-		-
cis-Chlordane	0.094	2.9	0.91	4.2	24	47	-		-	ND		0.00257	ND		0.00209	-		-	-		-	-		-
POLYCHLORINATED BIPHENYLS BY GC																								
Aroclor 1016	0.1	3.2	1	1	1	25	ND		0.0612	ND		0.0669	ND		0.0525	ND		0.0528	ND		0.0536	ND		0.0511
Aroclor 1221	0.1	3.2	1	1	1	25	ND		0.0612	ND		0.0669	ND		0.0525	ND		0.0528	ND		0.0536	ND		0.0511
Aroclor 1232	0.1	3.2	1	1	1	25	ND		0.0612	ND		0.0669	ND		0.0525	ND		0.0528	ND		0.0536	ND		0.0511
Aroclor 1242	0.1	3.2	1	1	1	25	ND		0.0612	ND		0.0669	ND		0.0525	ND		0.0528	ND		0.0536	ND		0.0511
Aroclor 1248	0.1	3.2	1	1	1	25	ND		0.0612	ND		0.0669	ND		0.0525	ND		0.0528	ND		0.0536	ND		0.0511
Aroclor 1254	0.1	3.2	1	1	1	25	0.0442	JIP	0.0612	0.0802		0.0669	ND		0.0525	ND		0.0528	ND		0.0536	ND		0.0511
Aroclor 1260	0.1	3.2	1	1	1	25	0.028	JP	0.0612	0.0977		0.0669	ND		0.0525	ND		0.0528	ND		0.0536	ND		0.0511
Aroclor 1262	0.1	3.2	1	1	1	25	ND		0.0612	ND		0.0669	ND		0.0525	ND		0.0528	ND		0.0536	ND		0.0511
Aroclor 1268	0.1	3.2	1	1	1	25	ND		0.0612	0.105		0.0669	ND		0.0525	ND		0.0528	0.127		0.0536	ND		0.0511
PCBs, Total	0.1	3.2	1	1	1	25	0.1	J	0.0612	0.283		0.0669	ND		0.0525	ND		0.0528	0.127		0.0536	ND		0.0511
DIESEL RANGE ORGANICS																								
DRO (C10-C28)	NA	NA	NA	NA	NA	NA	72	J	81	1000		220	77		35	54		37	23	J	37	5.5	J	35
GASOLINE RANGE ORGANICS																								
Gasoline Range Organics	NA	NA	NA	NA	NA	NA	ND		1.5	3.4		1.9	7.3		2.4	2.5		2	ND		1.1	ND		2.6
TOTAL METALS																								
Arsenic, Total	13	16	16	16	16	16	12.9		0.969	21.4		2.14	5.83		0.877	6.66		0.873	20		1.81	2.21		0.834
Barium, Total	350	820	350	400	400	10000	131		0.969	118		2.14	66.7		0.877	96.6		0.873	151		1.81	13.1		0.834
Beryllium, Total	7.2	47	14	72	590	2700	0.578		0.484	0.601	J	1.07	0.634		0.439	0.686		0.436	0.256	J	0.903	0.096	J	0.417
Cadmium, Total	2.5	7.5	2.5	4.3	9.3	60	1.75		0.969	5.18		2.14	0.207	J	0.877	0.173	J	0.873	4.62		1.81	ND		0.834
Chromium, Total	NA	NA	NA	NA	NA	NA	19.4		0.969	41.8		2.14	17.4		0.877	19.8		0.873	20.4		1.81	3.92		0.834
Copper, Total	50	1720	270	270	270	10000	61.9		0.969	105		2.14	11.6		0.877	21.7		0.873	103		1.81	2.67		0.834
Lead, Total	63	450	400	400	1000	3900	119		4.84	341		10.7	28.6		4.39	13		4.36	554		9.03	17.9		4.17
Manganese, Total	1600	2000	2000	2000	10000	10000	813		0.969	572		2.14	357		0.877	343		0.873	1300		1.81	171		0.834
Mercury, Total	0.18	0.73	0.81	0.81	2.8	5.7	28.2		0.787	7.41		1.05	ND		0.081	ND		0.072	0.125		0.08	ND		0.087
Nickel, Total	30	130	140	310	310	10000	26.1		2.42	43.9		5.35	14.7		2.19	25.6		2.18	153		4.52	3.44		2.08
Selenium, Total	3.9	4	36	180	1500	6800	ND		1.94	1.27	J	4.28	0.343	J	1.75	ND		1.74	0.618	J	3.61	0.385	J	1.67
Silver, Total	2	8.3	36	180	1500	6800	0.287	J	0.484	ND		1.07	ND		0.439	ND		0.436	0.558	J	0.903	ND		0.417
Zinc, Total	109	2480	2200	10000	10000	10000	1150		4.84	1540		10.7	57.8		4.39	58		4.36	988		9.03	13.4		4.17
GENERAL CHEMISTRY																								
Chromium, Trivalent	30	NA	36	180	1500	6800	19.4		1.01	41.8		2.14	17.4		0.878	19.8		0.911	20.4		1.81	3.92		0.854
Solids, Total	NA	NA	NA	NA	NA	NA	79.4		0.1	73.5		0.1	91.1		0.1	87.8		0.1	85.9		0.1	93.7		0.1
Cyanide, Total	27	40	27	27	27	10000	ND		1.2	0.83	J	1.2	ND		1.1	ND		1	ND		1.1	ND		1
Chromium, Hexavalent	1	800	22	110	400	800	ND		1.01	ND		1.09	ND		0.878	ND		0.911	ND		0.931	ND		0.854

TABLE 3

FILL MATERIAL SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

						SAMPLE ID:	SB-01-2FT			SB-03-2FT			SB-04-2FT			SB-05-5FT			SB-06-3FT			SB-07-3FT		
						LAB ID:	L2427942-01			L2428242-09			L2427942-05			L2427942-03			L2428242-01			L2428242-07		
						COLLECTION DATE:	5/20/2024			5/21/2024			5/20/2024			5/20/2024			5/21/2024			5/21/2024		
						SAMPLE DEPTH:	2 FT			2 FT			2 FT			5 FT			3 FT			3 FT		
						SAMPLE MATRIX:	HFM			HFM			HFM			HFM			HFM			HFM		
	NY-UNRES	**NY-RESGW**	**NY-RESR**	**NY-RESRR**	**NY-RESC**	**NY-RESI**																
ANALYTE	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
PERFLUORINATED ALKYL ACIDS BY EPA 1633																								
Perfluorobutanoic Acid (PFBA)	NA	NA	NA	NA	NA	NA	ND		0.000753	ND		0.000789	ND		0.00076	ND		0.000756	ND		0.000797	ND		0.000792
Perfluoropentanoic Acid (PFPeA)	NA	NA	NA	NA	NA	NA	0.000063	J	0.000376	0.000075	J	0.000394	ND		0.00038	ND		0.000378	0.000073	J	0.000399	ND		0.000396
Perfluorobutanesulfonic Acid (PFBS)	NA	NA	NA	NA	NA	NA	ND		0.000188	ND		0.000197	ND		0.00019	ND		0.000189	ND		0.000199	ND		0.000198
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2F	NA	NA	NA	NA	NA	NA	ND		0.000753	ND		0.000789	ND		0.00076	ND		0.000756	ND		0.000797	ND		0.000792
Perfluorohexanoic Acid (PFHxA)	NA	NA	NA	NA	NA	NA	0.000069	J	0.000188	0.000062	J	0.000197	ND		0.00019	ND		0.000189	0.000067	J	0.000199	ND		0.000198
Perfluoropentanesulfonic Acid (PFPeS)	NA	NA	NA	NA	NA	NA	ND		0.000188	ND		0.000197	ND		0.00019	ND		0.000189	ND		0.000199	ND		0.000198
Perfluoroheptanoic Acid (PFHpA)	NA	NA	NA	NA	NA	NA	0.000028	J	0.000188	0.000039	J	0.000197	ND		0.00019	ND		0.000189	0.000027	J	0.000199	ND		0.000198
Perfluorohexanesulfonic Acid (PFHxS)	NA	NA	NA	NA	NA	NA	ND		0.000188	ND		0.000197	ND		0.00019	ND		0.000189	0.000181	J	0.000199	ND		0.000198
Perfluorooctanoic Acid (PFOA)	0.00066	0.0008	0.0066	0.033	0.5	0.6	0.000102	J	0.000188	0.000128	J	0.000197	ND		0.00019	ND		0.000189	0.000169	J	0.000199	ND		0.000198
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2F	NA	NA	NA	NA	NA	NA	ND		0.000753	ND		0.000789	ND		0.00076	ND		0.000756	ND		0.000797	ND		0.000792
Perfluoroheptanesulfonic Acid (PFHpS)	NA	NA	NA	NA	NA	NA	ND		0.000188	ND		0.000197	ND		0.00019	ND		0.000189	ND		0.000199	ND		0.000198
Perfluorononanoic Acid (PFNA)	NA	NA	NA	NA	NA	NA	0.000075	J	0.000188	0.000093	J	0.000197	ND		0.00019	ND		0.000189	ND		0.000199	0.000189	J	0.000198
Perfluorooctanesulfonic Acid (PFOS)	0.00088	0.001	0.0088	0.044	0.44	0.44	0.000565		0.000188	0.000894		0.000197	0.000078	J	0.00019	ND		0.000189	ND		0.000199	0.000378		0.000198
Perfluorodecanoic Acid (PFDA)	NA	NA	NA	NA	NA	NA	0.000123	J	0.000188	0.000153	J	0.000197	ND		0.00019	ND		0.000189	ND		0.000199	ND		0.000198
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2F	NA	NA	NA	NA	NA	NA	ND		0.000753	ND		0.000789	ND		0.00076	ND		0.000756	ND		0.000797	ND		0.000792
Perfluorononanesulfonic Acid (PFNS)	NA	NA	NA	NA	NA	NA	ND		0.000188	ND		0.000197	ND		0.00019	ND		0.000189	ND		0.000199	ND		0.000198
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NA	NA	NA	NA	NA	NA	ND		0.000188	ND		0.000197	ND		0.00019	ND		0.000189	ND		0.000199	ND		0.000198
Perfluoroundecanoic Acid (PFUnA)	NA	NA	NA	NA	NA	NA	0.000065	J	0.000188	0.000058	J	0.000197	ND		0.00019	ND		0.000189	ND		0.000199	ND		0.000198
Perfluorodecanesulfonic Acid (PFDS)	NA	NA	NA	NA	NA	NA	ND		0.000188	ND		0.000197	ND		0.00019	ND		0.000189	ND		0.000199	ND		0.000198
Perfluorooctanesulfonamide (PFOSA)	NA	NA	NA	NA	NA	NA	ND		0.000188	ND		0.000197	ND		0.00019	ND		0.000189	ND		0.000199	ND		0.000198
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (N	NA	NA	NA	NA	NA	NA	ND		0.000188	ND		0.000197	ND		0.00019	ND		0.000189	ND		0.000199	ND		0.000198
Perfluorododecanoic Acid (PFDoA)	NA	NA	NA	NA	NA	NA	0.000109	J	0.000188	0.000052	J	0.000197	ND		0.00019	ND		0.000189	ND		0.000199	ND		0.000198
Perfluorotridecanoic Acid (PFTrDA)	NA	NA	NA	NA	NA	NA	ND		0.000188	ND		0.000197	ND		0.00019	ND		0.000189	ND		0.000199	ND		0.000198
Perfluorotetradecanoic Acid (PFTeDA)	NA	NA	NA	NA	NA	NA	ND		0.000188	ND		0.000197	ND		0.00019	ND		0.000189	ND		0.000199	ND		0.000198
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA	NA	NA	NA	NA	NA	NA	ND		0.000753	ND		0.000789	ND		0.00076	ND		0.000756	ND		0.000797	ND		0.000792
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NA	NA	NA	NA	NA	NA	ND		0.000753	ND		0.000789	ND		0.00076	ND		0.000756	ND		0.000797	ND		0.000792
Perfluorododecanesulfonic Acid (PFDoS)	NA	NA	NA	NA	NA	NA	ND		0.000188	ND		0.000197	ND		0.00019	ND		0.000189	ND		0.000199	ND		0.000198
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Ac	NA	NA	NA	NA	NA	NA	ND		0.000753	ND		0.000789	ND		0.00076	ND		0.000756	ND		0.000797	ND		0.000792
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic	NA	NA	NA	NA	NA	NA	ND		0.000753	ND		0.000789	ND		0.00076	ND		0.000756	ND		0.000797	ND		0.000792
N-Methyl Perfluorooctane Sulfonamide (NMeFOS	NA	NA	NA	NA	NA	NA	ND		0.000188	ND		0.000197	ND		0.00019	ND		0.000189	ND		0.000199	ND		0.000198
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	NA	NA	NA	NA	NA	NA	ND		0.000188	ND		0.000197	ND		0.00019	ND		0.000189	ND		0.000199	ND		0.000198
N-Methyl Perfluorooctanesulfonamido Ethanol (NM	NA	NA	NA	NA	NA	NA	ND		0.00188	ND		0.00197	ND		0.0019	ND		0.00189	ND		0.00199	ND		0.00198
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEt	NA	NA	NA	NA	NA	NA	ND		0.00188	ND		0.00197	ND		0.0019	ND		0.00189	ND		0.00199	ND		0.00198
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	NA	NA	NA	NA	NA	NA	ND		0.000376	ND		0.000394	ND		0.00038	ND		0.000378	ND		0.000399	ND		0.000396
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	NA	NA	NA	NA	NA	NA	ND		0.000376	ND		0.000394	ND		0.00038	ND		0.000378	ND		0.000399	ND		0.000396
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA	NA	NA	NA	NA	NA	NA	ND		0.000376	ND		0.000394	ND		0.00038	ND		0.000378	ND		0.000399	ND		0.000396
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	NA	NA	NA	NA	NA	NA	ND		0.000376	ND		0.000394	ND		0.00038	ND		0.000378	ND		0.000399	ND		0.000396
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	NA	NA	NA	NA	NA	NA	ND		0.000941	ND		0.000986	ND		0.00095	ND		0.000944	ND		0.000997	ND		0.00099
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	NA	NA	NA	NA	NA	NA	ND		0.00471	ND		0.00493	ND		0.00475	ND		0.00472	ND		0.00498	ND		0.00495
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	NA	NA	NA	NA	NA	NA	ND		0.00471	ND		0.00493	ND		0.00475	ND		0.00472	ND		0.00498	ND		0.00495

* Comparison is not performed on parameters with non-numeric criteria.

NY-UNRES: New York NYCRR Part 375 New York Unrestricted use Criteria Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
NY-RESR: New York NYCRR Part 375 Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
NY-RESRR: New York NYCRR Part 375 Restricted-Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
NY-RESC: New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
NY-RESI: New York NYCRR Part 375 Industrial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.

TABLE 3

FILL MATERIAL SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

						SAMPLE ID:	SB-08-3FT			DUP-B			SB-09-3FT			SB-10-2FT			SB-11-2FT			SB-12-2F		
						LAB ID:	L2428514-04			L2428514-05			L2428514-06			L2428242-04			L2428514-12			L2428514-03		
						COLLECTION DATE:	5/22/2024			5/22/2024			5/22/2024			5/21/2024			5/22/2024			5/22/2024		
						SAMPLE DEPTH:	3 FT						3 FT			2 FT			2 FT			2 FT		
						SAMPLE MATRIX:	HFM			HFM			HFM			HFM			HFM			HFM		
	NY-UNRES	**NY-RESGW**	**NY-RESR**	**NY-RESRR**	**NY-RESC**	**NY-RESI**																		
ANALYTE	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS BY EPA 5035																								
Methylene chloride	0.05	0.05	51	100	500	1000	ND		0.34	ND		0.33	ND		0.013	ND		0.0023	ND		0.0051	ND		0.0054
1,1-Dichloroethane	0.27	0.27	19	26	240	480	ND		0.069	ND		0.067	ND		0.0026	ND		0.00047	ND		0.001	ND		0.0011
Chloroform	0.37	0.37	10	49	350	700	ND		0.1	ND		0.1	ND		0.0039	ND		0.0007	ND		0.0015	ND		0.0016
Carbon tetrachloride	0.76	0.76	1.4	2.4	22	44	ND		0.069	ND		0.067	ND		0.0026	ND		0.00047	ND		0.001	ND		0.0011
Tetrachloroethene	1.3	1.3	5.5	19	150	300	ND		0.034	ND		0.033	ND		0.0013	ND		0.00023	ND		0.00051	ND		0.00054
Chlorobenzene	1.1	1.1	100	100	500	1000	ND		0.034	ND		0.033	ND		0.0013	ND		0.00023	ND		0.00051	ND		0.00054
1,2-Dichloroethane	0.02	0.02	2.3	3.1	30	60	ND		0.069	ND		0.067	ND		0.0026	ND		0.00047	ND		0.001	ND		0.0011
1,1,1-Trichloroethane	0.68	0.68	100	100	500	1000	ND		0.034	ND		0.033	ND		0.0013	ND		0.00023	ND		0.00051	ND		0.00054
Benzene	0.06	0.06	2.9	4.8	44	89	ND		0.034	ND		0.033	ND		0.0013	0.0001	J	0.00023	ND		0.00051	ND		0.00054
Toluene	0.7	0.7	100	100	500	1000	ND		0.069	ND		0.067	ND		0.0026	ND		0.00047	ND		0.001	ND		0.0011
Ethylbenzene	1	1	30	41	390	780	ND		0.069	ND		0.067	ND		0.0026	ND		0.00047	ND		0.001	ND		0.0011
Vinyl chloride	0.02	0.02	0.21	0.9	13	27	ND		0.069	ND		0.067	ND		0.0026	0.012		0.00047	ND		0.001	ND		0.0011
1,1-Dichloroethene	0.33	0.33	100	100	500	1000	ND		0.069	ND		0.067	ND		0.0026	0.00034	J	0.00047	ND		0.001	ND		0.0011
trans-1,2-Dichloroethene	0.19	0.19	100	100	500	1000	0.011	J	0.1	0.029	J	0.1	ND		0.0039	0.014		0.0007	ND		0.0015	ND		0.0016
Trichloroethene	0.47	0.47	10	21	200	400	5.6		0.034	7.2		0.033	0.001	J	0.0013	0.029		0.00023	0.011		0.00051	ND		0.00054
1,2-Dichlorobenzene	1.1	1.1	100	100	500	1000	ND		0.14	ND		0.13	ND		0.0052	ND		0.00094	ND		0.002	ND		0.0021
1,3-Dichlorobenzene	2.4	2.4	17	49	280	560	ND		0.14	ND		0.13	ND		0.0052	ND		0.00094	ND		0.002	ND		0.0021
1,4-Dichlorobenzene	1.8	1.8	9.8	13	130	250	ND		0.14	ND		0.13	ND		0.0052	ND		0.00094	ND		0.002	ND		0.0021
Methyl tert butyl ether	0.93	0.93	62	100	500	1000	ND		0.14	ND		0.13	ND		0.0052	ND		0.00094	ND		0.002	ND		0.0021
p/m-Xylene	NA	NA	NA	NA	NA	NA	0.049	J	0.14	ND		0.13	ND		0.0052	ND		0.00094	ND		0.002	ND		0.0021
o-Xylene	NA	NA	NA	NA	NA	NA	ND		0.069	ND		0.067	ND		0.0026	ND		0.00047	ND		0.001	ND		0.0011
cis-1,2-Dichloroethene	0.25	0.25	59	100	500	1000	0.012	J	0.069	0.038	J	0.067	ND		0.0026	0.045		0.00047	ND		0.001	ND		0.0011
Acetone	0.05	0.05	100	100	500	1000	ND		0.69	ND		0.67	0.013	J	0.026	0.0022	J	0.0047	0.0059	J	0.01	0.0072	J	0.011
2-Butanone	0.12	0.12	100	100	500	1000	ND		0.69	ND		0.67	ND		0.026	ND		0.0047	ND		0.01	ND		0.011
n-Butylbenzene	12	12	100	100	500	1000	ND		0.069	ND		0.067	ND		0.0026	ND		0.00047	ND		0.001	ND		0.0011
sec-Butylbenzene	11	11	100	100	500	1000	ND		0.069	ND		0.067	ND		0.0026	ND		0.00047	ND		0.001	ND		0.0011
tert-Butylbenzene	5.9	5.9	100	100	500	1000	ND		0.14	ND		0.13	ND		0.0052	ND		0.00094	ND		0.002	ND		0.0021
n-Propylbenzene	3.9	3.9	100	100	500	1000	ND		0.069	ND		0.067	ND		0.0026	ND		0.00047	ND		0.001	ND		0.0011
1,3,5-Trimethylbenzene	8.4	8.4	47	52	190	380	ND		0.14	ND		0.13	ND		0.0052	ND		0.00094	ND		0.002	ND		0.0021
1,2,4-Trimethylbenzene	3.6	3.6	47	52	190	380	ND		0.14	ND		0.13	ND		0.0052	ND		0.00094	ND		0.002	ND		0.0021
1,4-Dioxane	0.1	0.1	9.8	13	130	250	ND		5.5	ND		5.4	ND		0.21	ND		0.037	ND		0.082	ND		0.086
SEMIVOLATILE ORGANICS BY GC/MS																								
Acenaphthene	20	98	100	100	500	1000	0.33		0.16	2.7		1.6	0.47	J	0.73	ND		0.16	ND		0.15	0.084	J	0.16
Hexachlorobenzene	0.33	3.2	0.33	1.2	6	12	ND		0.12	ND		1.2	ND		0.55	ND		0.12	ND		0.11	ND		0.12
Fluoranthene	100	1000	100	100	500	1000	4.7		0.12	26		1.2	17		0.55	0.68		0.12	0.25		0.11	1.4		0.12
Naphthalene	12	12	100	100	500	1000	0.28		0.2	3.9		2	0.5	J	0.92	ND		0.2	0.084	J	0.19	0.053	J	0.2
Benzo(a)anthracene	1	1	1	1	5.6	11	2.3		0.12	12		1.2	8.4		0.55	0.32		0.12	0.14		0.11	0.64		0.12
Benzo(a)pyrene	1	22	1	1	1	1.1	1.8		0.16	8.9		1.6	6.8		0.73	0.32		0.16	0.12	J	0.15	0.5		0.16
Benzo(b)fluoranthene	1	1.7	1	1	5.6	11	2.4		0.12	11		1.2	9.4		0.55	0.45		0.12	0.17		0.11	0.67		0.12
Benzo(k)fluoranthene	0.8	1.7	1	3.9	56	110	0.64		0.12	3.9		1.2	2.4		0.55	0.14		0.12	0.056	J	0.11	0.18		0.12
Chrysene	1	1	1	3.9	56	110	2.1		0.12	11		1.2	7.4		0.55	0.33		0.12	0.13		0.11	0.59		0.12
Acenaphthylene	100	107	100	100	500	1000	0.16		0.16	ND		1.6	0.48	J	0.73	ND		0.16	ND		0.15	0.045	J	0.16
Anthracene	100	1000	100	100	500	1000	0.9		0.12	7.6		1.2	2.7		0.55	0.052	J	0.12	ND		0.11	0.23		0.12
Benzo(ghi)perylene	100	1000	100	100	500	1000	1		0.16	4.7		1.6	4.2		0.73	0.21		0.16	0.081	J	0.15	0.29		0.16
Fluorene	30	386	100	100	500	1000	0.43		0.2	3.5		2	0.63	J	0.92	ND		0.2	ND		0.19	0.12	J	0.2
Phenanthrene	100	1000	100	100	500	1000	3.6		0.12	27		1.2	8.4		0.55	0.2		0.12	0.17		0.11	0.91		0.12
Dibenzo(a,h)anthracene	0.33	1000	0.33	0.33	0.56	1.1	0.3		0.12	1.4		1.2	1.1		0.55	0.051	J	0.12	0.024	J	0.11	0.084	J	0.12
Indeno(1,2,3-cd)pyrene	0.5	8.2	0.5	0.5	5.6	11	1.1		0.16	5.1		1.6	4.5		0.73	0.19		0.16	0.082	J	0.15	0.31		0.16
Pyrene	100	1000	100	100	500	1000	3.9		0.12	21		1.2	13		0.55	0.57		0.12	0.2		0.11	1.1		0.12
Dibenzofuran	7	210	14	59	350	1000	0.24		0.2	1.8	J	2	0.48	J	0.92	ND		0.2	0.023	J	0.19	0.056	J	0.2
Pentachlorophenol	0.8	0.8	2.4	6.7	6.7	55	ND		0.16	ND		1.6	ND		0.73	ND		0.16	ND		0.15	ND		0.16
Phenol	0.33	0.33	100	100	500	1000	ND		0.2	ND		2	ND		0.92	ND		0.2	ND		0.19	ND		0.2
2-Methylphenol	0.33	0.33	100	100	500	1000	ND		0.2	ND		2	ND		0.92	ND		0.2	ND		0.19	ND		0.2
3-Methylphenol/4-Methylphenol	0.33	0.33	34	100	500	1000	ND		0.29	ND		2.9	ND		1.3	ND		0.29	ND		0.27	ND		0.29
1,4-Dioxane	0.1	0.1	9.8	13	130	250	ND		0.03	ND		0.3	ND		0.14	ND		0.03	ND		0.028	ND		0.03

TABLE 3

FILL MATERIAL SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

						SAMPLE ID:	SB-08-3FT			DUP-B			SB-09-3FT			SB-10-2FT			SB-11-2FT			SB-12-2F		
						LAB ID:	L2428514-04			L2428514-05			L2428514-06			L2428242-04			L2428514-12			L2428514-03		
						COLLECTION DATE:	5/22/2024			5/22/2024			5/22/2024			5/21/2024			5/22/2024			5/22/2024		
						SAMPLE DEPTH:	3 FT						3 FT			2 FT			2 FT			2 FT		
						SAMPLE MATRIX:	HFM			HFM			HFM			HFM			HFM			HFM		
	NY-UNRES	**NY-RESGW**	**NY-RESR**	**NY-RESRR**	**NY-RESC**	**NY-RESI**																		
ANALYTE	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
CHLORINATED HERBICIDES BY GC																								
2,4,5-TP (Silvex)	3.8	3.8	58	100	500	1000	-		-	-		-	-		-	-		-	-		-	ND		0.198
ORGANOCHLORINE PESTICIDES BY GC																								
Delta-BHC	0.04	0.25	100	100	500	1000	-		-	-		-	-		-	-		-	-		-	ND		0.00188
Lindane	0.1	0.1	0.28	1.3	9.2	23	-		-	-		-	-		-	-		-	-		-	ND		0.000785
Alpha-BHC	0.02	0.02	0.097	0.48	3.4	6.8	-		-	-		-	-		-	-		-	-		-	ND		0.000785
Beta-BHC	0.036	0.09	0.072	0.36	3	14	-		-	-		-	-		-	-		-	-		-	ND		0.00188
Heptachlor	0.042	0.38	0.42	2.1	15	29	-		-	-		-	-		-	-		-	-		-	ND		0.000942
Aldrin	0.005	0.19	0.019	0.097	0.68	1.4	-		-	-		-	-		-	-		-	-		-	ND		0.00188
Endrin	0.014	0.06	2.2	11	89	410	-		-	-		-	-		-	-		-	-		-	ND		0.000785
Dieldrin	0.005	0.1	0.039	0.2	1.4	2.8	-		-	-		-	-		-	-		-	-		-	ND		0.00118
4,4'-DDE	0.0033	17	1.8	8.9	62	120	-		-	-		-	-		-	-		-	-		-	ND		0.00188
4,4'-DDD	0.0033	14	2.6	13	92	180	-		-	-		-	-		-	-		-	-		-	ND		0.00188
4,4'-DDT	0.0033	136	1.7	7.9	47	94	-		-	-		-	-		-	-		-	-		-	ND		0.00188
Endosulfan I	2.4	102	4.8	24	200	920	-		-	-		-	-		-	-		-	-		-	ND		0.00188
Endosulfan II	2.4	102	4.8	24	200	920	-		-	-		-	-		-	-		-	-		-	ND		0.00188
Endosulfan sulfate	2.4	1000	4.8	24	200	920	-		-	-		-	-		-	-		-	-		-	ND		0.000785
cis-Chlordane	0.094	2.9	0.91	4.2	24	47	-		-	-		-	-		-	-		-	-		-	ND		0.00236
POLYCHLORINATED BIPHENYLS BY GC																								
Aroclor 1016	0.1	3.2	1	1	1	25	ND		0.058	ND		0.0566	ND		0.0516	ND		0.061	ND		0.0536	ND		0.0574
Aroclor 1221	0.1	3.2	1	1	1	25	ND		0.058	ND		0.0566	ND		0.0516	ND		0.061	ND		0.0536	ND		0.0574
Aroclor 1232	0.1	3.2	1	1	1	25	ND		0.058	ND		0.0566	ND		0.0516	ND		0.061	ND		0.0536	ND		0.0574
Aroclor 1242	0.1	3.2	1	1	1	25	ND		0.058	ND		0.0566	ND		0.0516	ND		0.061	ND		0.0536	ND		0.0574
Aroclor 1248	0.1	3.2	1	1	1	25	ND		0.058	ND		0.0566	ND		0.0516	ND		0.061	ND		0.0536	ND		0.0574
Aroclor 1254	0.1	3.2	1	1	1	25	ND		0.058	ND		0.0566	0.0177	J	0.0516	0.0246	J	0.061	ND		0.0536	ND		0.0574
Aroclor 1260	0.1	3.2	1	1	1	25	ND		0.058	ND		0.0566	0.0266	J	0.0516	ND		0.061	ND		0.0536	ND		0.0574
Aroclor 1262	0.1	3.2	1	1	1	25	ND		0.058	ND		0.0566	ND		0.0516	ND		0.061	ND		0.0536	ND		0.0574
Aroclor 1268	0.1	3.2	1	1	1	25	ND		0.058	ND		0.0566	ND		0.0516	ND		0.061	0.0161	J	0.0536	ND		0.0574
PCBs, Total	0.1	3.2	1	1	1	25	ND		0.058	ND		0.0566	0.0443	J	0.0516	0.0246	J	0.061	0.0161	J	0.0536	ND		0.0574
DIESEL RANGE ORGANICS																								
DRO (C10-C28)	NA	NA	NA	NA	NA	NA	120		40	95		40	290		36	55		40	64		37	220		39
GASOLINE RANGE ORGANICS																								
Gasoline Range Organics	NA	NA	NA	NA	NA	NA	2.4	J	2.8	2.8		2.8	4.3		3.3	3.1		2	2.5		2.5	ND		2.4
TOTAL METALS																								
Arsenic, Total	13	16	16	16	16	16	11.2		0.946	6.03		0.959	8.16		0.848	5.24		1.92	9.73		1.71	6.06		0.95
Barium, Total	350	820	350	400	400	10000	257		0.946	195		0.959	75.5		0.848	69.9		1.92	232		1.71	133		0.95
Beryllium, Total	7.2	47	14	72	590	2700	0.215	J	0.473	0.289	J	0.479	0.473		0.424	1.3		0.962	0.204	J	0.857	0.088	J	0.475
Cadmium, Total	2.5	7.5	2.5	4.3	9.3	60	0.595	J	0.946	0.365	J	0.959	0.305	J	0.848	ND		1.92	0.532	J	1.71	2.28		0.95
Chromium, Total	NA	NA	NA	NA	NA	NA	17.8		0.946	13.6		0.959	7.62		0.848	10.4		1.92	15.9		1.71	11.3		0.95
Copper, Total	50	1720	270	270	270	10000	57.5		0.946	46.2		0.959	96.7		0.848	12.8		1.92	50		1.71	44		0.95
Lead, Total	63	450	400	400	1000	3900	126		4.73	85.2		4.79	44.9		4.24	33.2		9.62	112		8.57	111		4.75
Manganese, Total	1600	2000	2000	2000	10000	10000	602		0.946	962		0.959	434		0.848	550		1.92	548		1.71	177		0.95
Mercury, Total	0.18	0.73	0.81	0.81	2.8	5.7	0.079		0.078	0.051	J	0.079	ND		0.07	ND		0.084	ND		0.072	0.241		0.078
Nickel, Total	30	130	140	310	310	10000	16.1		2.36	13.2		2.4	8.61		2.12	9.12		4.81	13.2		4.29	10.4		2.38
Selenium, Total	3.9	4	36	180	1500	6800	0.392	J	1.89	ND		1.92	ND		1.7	1.38	J	3.85	ND		3.43	0.383	J	1.9
Silver, Total	2	8.3	36	180	1500	6800	0.422	J	0.473	ND		0.479	ND		0.424	ND		0.962	ND		0.857	2.09		0.475
Zinc, Total	109	2480	2200	10000	10000	10000	415		4.73	233		4.79	93		4.24	54.6		9.62	369		8.57	322		4.75
GENERAL CHEMISTRY																								
Chromium, Trivalent	30	NA	36	180	1500	6800	17.8		0.986	13.6		0.98	7.62		0.887	10.4		1.92	15.9		1.71	11.3		0.971
Solids, Total	NA	NA	NA	NA	NA	NA	81.1		0.1	81.6		0.1	90.2		0.1	81		0.1	87.9		0.1	82.4		0.1
Cyanide, Total	27	40	27	27	27	10000	ND		1.1	ND		1.2	ND		1	ND		1.1	ND		1.1	ND		1.1
Chromium, Hexavalent	1	800	22	110	400	800	ND		0.986	ND		0.98	ND		0.887	ND		0.988	ND		0.91	ND		0.971

TABLE 3

FILL MATERIAL SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

						SAMPLE ID:	SB-08-3FT			DUP-B			SB-09-3FT			SB-10-2FT			SB-11-2FT			SB-12-2F		
						LAB ID:	L2428514-04			L2428514-05			L2428514-06			L2428242-04			L2428514-12			L2428514-03		
						COLLECTION DATE:	5/22/2024			5/22/2024			5/22/2024			5/21/2024			5/22/2024			5/22/2024		
						SAMPLE DEPTH:	3 FT						3 FT			2 FT			2 FT			2 FT		
						SAMPLE MATRIX:	HFM			HFM			HFM			HFM			HFM			HFM		
	NY-UNRES	**NY-RESGW**	**NY-RESR**	**NY-RESRR**	**NY-RESC**	**NY-RESI**																		
ANALYTE	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
PERFLUORINATED ALKYL ACIDS BY EPA 1633																								
Perfluorobutanoic Acid (PFBA)	NA	NA	NA	NA	NA	NA	ND		0.000715	ND		0.000732	0.000066	J	0.000789	ND		0.000789	ND		0.00076	ND		0.000732
Perfluoropentanoic Acid (PFPeA)	NA	NA	NA	NA	NA	NA	0.000104	J	0.000357	0.000096	J	0.000366	0.000185	J	0.000394	ND		0.000394	ND		0.00038	ND		0.000366
Perfluorobutanesulfonic Acid (PFBS)	NA	NA	NA	NA	NA	NA	ND		0.000179	ND		0.000183	ND		0.000197	ND		0.000197	ND		0.00019	ND		0.000183
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2F	NA	NA	NA	NA	NA	NA	ND		0.000715	ND		0.000732	ND		0.000789	ND		0.000789	ND		0.00076	ND		0.000732
Perfluorohexanoic Acid (PFHxA)	NA	NA	NA	NA	NA	NA	0.000055	J	0.000179	0.000053	J	0.000183	0.000089	J	0.000197	ND		0.000197	ND		0.00019	ND		0.000183
Perfluoropentanesulfonic Acid (PFPeS)	NA	NA	NA	NA	NA	NA	ND		0.000179	ND		0.000183	ND		0.000197	ND		0.000197	ND		0.00019	ND		0.000183
Perfluoroheptanoic Acid (PFHpA)	NA	NA	NA	NA	NA	NA	0.000069	J	0.000179	0.000059	J	0.000183	0.000082	J	0.000197	ND		0.000197	0.000026	J	0.00019	ND		0.000183
Perfluorohexanesulfonic Acid (PFHxS)	NA	NA	NA	NA	NA	NA	0.000067	J	0.000179	0.000062	J	0.000183	0.000075	J	0.000197	ND		0.000197	ND		0.00019	ND		0.000183
Perfluorooctanoic Acid (PFOA)	0.00066	0.0008	0.0066	0.033	0.5	0.6	ND		0.000179	ND		0.000183	0.000181	J	0.000197	ND		0.000197	0.000147	J	0.00019	ND		0.000183
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2F	NA	NA	NA	NA	NA	NA	ND		0.000715	ND		0.000732	ND		0.000789	ND		0.000789	ND		0.00076	ND		0.000732
Perfluoroheptanesulfonic Acid (PFHpS)	NA	NA	NA	NA	NA	NA	ND		0.000179	ND		0.000183	ND		0.000197	ND		0.000197	ND		0.00019	ND		0.000183
Perfluorononanoic Acid (PFNA)	NA	NA	NA	NA	NA	NA	0.000177	J	0.000179	0.000189		0.000183	ND		0.000197	ND		0.000197	ND		0.00019	ND		0.000183
Perfluorooctanesulfonic Acid (PFOS)	0.00088	0.001	0.0088	0.044	0.44	0.44	0.00114		0.000179	0.00103		0.000183	0.000911		0.000197	0.000305		0.000197	0.000338		0.00019	ND		0.000183
Perfluorodecanoic Acid (PFDA)	NA	NA	NA	NA	NA	NA	ND		0.000179	ND		0.000183	ND		0.000197	ND		0.000197	ND		0.00019	ND		0.000183
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2F	NA	NA	NA	NA	NA	NA	ND		0.000715	ND		0.000732	ND		0.000789	ND		0.000789	ND		0.00076	ND		0.000732
Perfluorononanesulfonic Acid (PFNS)	NA	NA	NA	NA	NA	NA	ND		0.000179	ND		0.000183	ND		0.000197	ND		0.000197	ND		0.00019	ND		0.000183
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NA	NA	NA	NA	NA	NA	ND		0.000179	ND		0.000183	ND		0.000197	ND		0.000197	ND		0.00019	ND		0.000183
Perfluoroundecanoic Acid (PFUnA)	NA	NA	NA	NA	NA	NA	ND		0.000179	ND		0.000183	0.000057	JF	0.000197	ND		0.000197	ND		0.00019	ND		0.000183
Perfluorodecanesulfonic Acid (PFDS)	NA	NA	NA	NA	NA	NA	ND		0.000179	ND		0.000183	ND		0.000197	0.000085	J	0.000197	ND		0.00019	ND		0.000183
Perfluorooctanesulfonamide (PFOSA)	NA	NA	NA	NA	NA	NA	ND		0.000179	ND		0.000183	ND		0.000197	ND		0.000197	ND		0.00019	ND		0.000183
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (N	NA	NA	NA	NA	NA	NA	ND		0.000179	ND		0.000183	ND		0.000197	0.000269		0.000197	ND		0.00019	ND		0.000183
Perfluorododecanoic Acid (PFDoA)	NA	NA	NA	NA	NA	NA	ND		0.000179	ND		0.000183	ND		0.000197	ND		0.000197	ND		0.00019	ND		0.000183
Perfluorotridecanoic Acid (PFTrDA)	NA	NA	NA	NA	NA	NA	ND		0.000179	ND		0.000183	ND		0.000197	ND		0.000197	ND		0.00019	ND		0.000183
Perfluorotetradecanoic Acid (PFTeDA)	NA	NA	NA	NA	NA	NA	ND		0.000179	ND		0.000183	ND		0.000197	ND		0.000197	ND		0.00019	ND		0.000183
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA	NA	NA	NA	NA	NA	NA	ND		0.000715	ND		0.000732	ND		0.000789	ND		0.000789	ND		0.00076	ND		0.000732
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NA	NA	NA	NA	NA	NA	ND		0.000715	ND		0.000732	ND		0.000789	ND		0.000789	ND		0.00076	ND		0.000732
Perfluorododecanesulfonic Acid (PFDoS)	NA	NA	NA	NA	NA	NA	ND		0.000179	ND		0.000183	ND		0.000197	ND		0.000197	ND		0.00019	ND		0.000183
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Ac	NA	NA	NA	NA	NA	NA	ND		0.000715	ND		0.000732	ND		0.000789	ND		0.000789	ND		0.00076	ND		0.000732
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic	NA	NA	NA	NA	NA	NA	ND		0.000715	ND		0.000732	ND		0.000789	ND		0.000789	ND		0.00076	ND		0.000732
N-Methyl Perfluorooctane Sulfonamide (NMeFOS	NA	NA	NA	NA	NA	NA	ND		0.000179	ND		0.000183	ND		0.000197	ND		0.000197	ND		0.00019	ND		0.000183
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	NA	NA	NA	NA	NA	NA	ND		0.000179	ND		0.000183	ND		0.000197	ND		0.000197	ND		0.00019	ND		0.000183
N-Methyl Perfluorooctanesulfonamido Ethanol (NM	NA	NA	NA	NA	NA	NA	ND		0.00179	ND		0.00183	ND		0.00197	ND		0.00197	ND		0.0019	ND		0.00183
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEt	NA	NA	NA	NA	NA	NA	ND		0.00179	ND		0.00183	ND		0.00197	ND		0.00197	ND		0.0019	ND		0.00183
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	NA	NA	NA	NA	NA	NA	ND		0.000357	ND		0.000366	ND		0.000394	ND		0.000394	ND		0.00038	ND		0.000366
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	NA	NA	NA	NA	NA	NA	ND		0.000357	ND		0.000366	ND		0.000394	ND		0.000394	ND		0.00038	ND		0.000366
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA	NA	NA	NA	NA	NA	NA	ND		0.000357	ND		0.000366	ND		0.000394	ND		0.000394	ND		0.00038	ND		0.000366
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	NA	NA	NA	NA	NA	NA	ND		0.000357	ND		0.000366	ND		0.000394	ND		0.000394	ND		0.00038	ND		0.000366
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	NA	NA	NA	NA	NA	NA	ND		0.000894	ND		0.000914	ND		0.000986	ND		0.000986	ND		0.00095	ND		0.000915
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	NA	NA	NA	NA	NA	NA	ND		0.00447	ND		0.00457	ND		0.00493	ND		0.00493	ND		0.00475	ND		0.00458
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	NA	NA	NA	NA	NA	NA	ND		0.00447	ND		0.00457	ND		0.00493	ND		0.00493	ND		0.00475	ND		0.00458

* Comparison is not performed on parameters with non-numeric criteria.

NY-UNRES: New York NYCRR Part 375 New York Unrestricted use Criteria Criteria per 6 NYCRR Part 375 Environmental Remediation Progr
NY-RESR: New York NYCRR Part 375 Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediati
NY-RESRR: New York NYCRR Part 375 Restricted-Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmen
NY-RESC: New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remedia
NY-RESI: New York NYCRR Part 375 Industrial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation

TABLE 3

FILL MATERIAL SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

						SAMPLE ID:	SB-13-2FT			SB-14-1FT			SB-15-2FT			SB-16-1FT			SB-17-2FT			SB-18-2FT			SB-19-3FT		
						LAB ID:	L2428514-11			L2428242-11			L2428242-12			L2428242-13			L2428514-08			L2428514-09			L2428729-01		
						COLLECTION DATE:	5/22/2024			5/21/2024			5/21/2024			5/21/2024			5/22/2024			5/22/2024			5/23/2024		
						SAMPLE DEPTH:	2 FT			1 FT			2 FT			1 FT			2 FT			2 FT			3 FT		
						SAMPLE MATRIX:	HFM			HFM			HFM			HFM			HFM			HFM			HFM		
	NY-UNRES	**NY-RESGW**	**NY-RESR**	**NY-RESRR**	**NY-RESC**	**NY-RESI**																				
ANALYTE	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS BY EPA 5035																										
Methylene chloride	0.05	0.05	51	100	500	1000	ND		0.0065	ND		0.0087	ND		0.0054	ND		0.012	ND		0.0034	ND		0.008	ND		0.0043
1,1-Dichloroethane	0.27	0.27	19	26	240	480	ND		0.0013	ND		0.0017	ND		0.0011	ND		0.0025	ND		0.00069	ND		0.0016	ND		0.00086
Chloroform	0.37	0.37	10	49	350	700	ND		0.0019	ND		0.0026	ND		0.0016	ND		0.0038	ND		0.001	ND		0.0024	ND		0.0013
Carbon tetrachloride	0.76	0.76	1.4	2.4	22	44	ND		0.0013	ND		0.0017	ND		0.0011	ND		0.0025	ND		0.00069	ND		0.0016	ND		0.00086
Tetrachloroethene	1.3	1.3	5.5	19	150	300	ND		0.00065	ND		0.00087	0.0011		0.00054	ND		0.0012	ND		0.00034	ND		0.0008	ND		0.00043
Chlorobenzene	1.1	1.1	100	100	500	1000	ND		0.00065	ND		0.00087	ND		0.00054	ND		0.0012	ND		0.00034	ND		0.0008	ND		0.00043
1,2-Dichloroethane	0.02	0.02	2.3	3.1	30	60	ND		0.0013	ND		0.0017	ND		0.0011	ND		0.0025	ND		0.00069	ND		0.0016	ND		0.00086
1,1,1-Trichloroethane	0.68	0.68	100	100	500	1000	ND		0.00065	ND		0.00087	ND		0.00054	ND		0.0012	ND		0.00034	ND		0.0008	ND		0.00043
Benzene	0.06	0.06	2.9	4.8	44	89	ND		0.00065	ND		0.00087	ND		0.00054	ND		0.0012	ND		0.00034	ND		0.0008	ND		0.00043
Toluene	0.7	0.7	100	100	500	1000	ND		0.0013	ND		0.0017	ND		0.0011	ND		0.0025	ND		0.00069	ND		0.0016	ND		0.00086
Ethylbenzene	1	1	30	41	390	780	ND		0.0013	ND		0.0017	0.00027	J	0.0011	ND		0.0025	ND		0.00069	ND		0.0016	ND		0.00086
Vinyl chloride	0.02	0.02	0.21	0.9	13	27	ND		0.0013	ND		0.0017	ND		0.0011	ND		0.0025	ND		0.00069	ND		0.0016	ND		0.00086
1,1-Dichloroethene	0.33	0.33	100	100	500	1000	ND		0.0013	ND		0.0017	ND		0.0011	ND		0.0025	ND		0.00069	ND		0.0016	ND		0.00086
trans-1,2-Dichloroethene	0.19	0.19	100	100	500	1000	ND		0.0019	ND		0.0026	ND		0.0016	ND		0.0038	ND		0.001	ND		0.0024	ND		0.0013
Trichloroethene	0.47	0.47	10	21	200	400	ND		0.00065	ND		0.00087	ND		0.00054	ND		0.0012	ND		0.00034	ND		0.0008	ND		0.00043
1,2-Dichlorobenzene	1.1	1.1	100	100	500	1000	ND		0.0026	ND		0.0035	ND		0.0022	ND		0.005	ND		0.0014	ND		0.0032	ND		0.0017
1,3-Dichlorobenzene	2.4	2.4	17	49	280	560	ND		0.0026	ND		0.0035	ND		0.0022	ND		0.005	ND		0.0014	ND		0.0032	ND		0.0017
1,4-Dichlorobenzene	1.8	1.8	9.8	13	130	250	ND		0.0026	ND		0.0035	ND		0.0022	ND		0.005	ND		0.0014	ND		0.0032	ND		0.0017
Methyl tert butyl ether	0.93	0.93	62	100	500	1000	ND		0.0026	ND		0.0035	ND		0.0022	ND		0.005	ND		0.0014	ND		0.0032	ND		0.0017
p/m-Xylene	NA	NA	NA	NA	NA	NA	ND		0.0026	ND		0.0035	ND		0.0022	ND		0.005	ND		0.0014	ND		0.0032	ND		0.0017
o-Xylene	NA	NA	NA	NA	NA	NA	ND		0.0013	ND		0.0017	0.00033	J	0.0011	ND		0.0025	ND		0.00069	ND		0.0016	ND		0.00086
cis-1,2-Dichloroethene	0.25	0.25	59	100	500	1000	ND		0.0013	ND		0.0017	ND		0.0011	ND		0.0025	ND		0.00069	ND		0.0016	ND		0.00086
Acetone	0.05	0.05	100	100	500	1000	ND		0.013	ND		0.017	ND		0.011	ND		0.025	ND		0.0069	ND		0.016	ND		0.0086
2-Butanone	0.12	0.12	100	100	500	1000	ND		0.013	ND		0.017	ND		0.011	ND		0.025	ND		0.0069	ND		0.016	ND		0.0086
n-Butylbenzene	12	12	100	100	500	1000	ND		0.0013	ND		0.0017	ND		0.0011	ND		0.0025	ND		0.00069	ND		0.0016	ND		0.00086
sec-Butylbenzene	11	11	100	100	500	1000	ND		0.0013	ND		0.0017	ND		0.0011	ND		0.0025	ND		0.00069	ND		0.0016	ND		0.00086
tert-Butylbenzene	5.9	5.9	100	100	500	1000	ND		0.0026	ND		0.0035	ND		0.0022	ND		0.005	ND		0.0014	ND		0.0032	ND		0.0017
n-Propylbenzene	3.9	3.9	100	100	500	1000	ND		0.0013	ND		0.0017	0.00023	J	0.0011	ND		0.0025	ND		0.00069	ND		0.0016	ND		0.00086
1,3,5-Trimethylbenzene	8.4	8.4	47	52	190	380	ND		0.0026	ND		0.0035	ND		0.0022	ND		0.005	ND		0.0014	ND		0.0032	ND		0.0017
1,2,4-Trimethylbenzene	3.6	3.6	47	52	190	380	ND		0.0026	ND		0.0035	0.00037	J	0.0022	ND		0.005	ND		0.0014	ND		0.0032	ND		0.0017
1,4-Dioxane	0.1	0.1	9.8	13	130	250	ND		0.1	ND		0.14	ND		0.086	ND		0.2	ND		0.055	ND		0.13	ND		0.068
SEMIVOLATILE ORGANICS BY GC/MS																										
Acenaphthene	20	98	100	100	500	1000	ND		0.16	ND		0.17	1.3		0.14	0.15	J	0.16	ND		0.14	1.9		0.15	ND		0.18
Hexachlorobenzene	0.33	3.2	0.33	1.2	6	12	ND		0.12	ND		0.13	ND		0.11	ND		0.12	ND		0.1	ND		0.12	ND		0.13
Fluoranthene	100	1000	100	100	500	1000	0.1	J	0.12	0.068	J	0.13	7.6	E	0.11	2.4		0.12	0.033	J	0.1	10	E	0.12	0.04	J	0.13
Naphthalene	12	12	100	100	500	1000	ND		0.2	ND		0.21	1.8		0.18	0.42		0.19	ND		0.17	2.4		0.19	ND		0.22
Benzo(a)anthracene	1	1	1	1	5.6	11	0.054	J	0.12	0.089	J	0.13	3.3		0.11	2.1		0.12	ND		0.1	5		0.12	ND		0.13
Benzo(a)pyrene	1	22	1	1	1	1.1	ND		0.16	0.11	J	0.17	3		0.14	2.8		0.16	ND		0.14	4		0.15	ND		0.18
Benzo(b)fluoranthene	1	1.7	1	1	5.6	11	0.056	J	0.12	0.18		0.13	3.8		0.11	4.3		0.12	ND		0.1	4.8		0.12	ND		0.13
Benzo(k)fluoranthene	0.8	1.7	1	3.9	56	110	ND		0.12	0.056	J	0.13	1.4		0.11	1.1		0.12	ND		0.1	1.6		0.12	ND		0.13
Chrysene	1	1	1	3.9	56	110	0.051	J	0.12	0.089	J	0.13	3.3		0.11	2.3		0.12	ND		0.1	4.2		0.12	ND		0.13
Acenaphthylene	100	107	100	100	500	1000	ND		0.16	ND		0.17	0.12	J	0.14	0.78		0.16	ND		0.14	0.19		0.15	ND		0.18
Anthracene	100	1000	100	100	500	1000	ND		0.12	ND		0.13	1.7		0.11	0.55		0.12	ND		0.1	3.8		0.12	ND		0.13
Benzo(ghi)perylene	100	1000	100	100	500	1000	0.024	J	0.16	0.064	J	0.17	1.8		0.14	1.2		0.16	ND		0.14	2.4		0.15	ND		0.18
Fluorene	30	386	100	100	500	1000	ND		0.2	ND		0.21	1.3		0.18	0.14	J	0.19	ND		0.17	1.7		0.19	ND		0.22
Phenanthrene	100	1000	100	100	500	1000	0.09	J	0.12	0.029	J	0.13	8.6	E	0.11	0.96		0.12	0.022	J	0.1	9.9	E	0.12	0.036	J	0.13
Dibenzo(a,h)anthracene	0.33	1000	0.33	0.33	0.56	1.1	ND		0.12	ND		0.13	0.45		0.11	0.43		0.12	ND		0.1	0.65		0.12	ND		0.13
Indeno(1,2,3-cd)pyrene	0.5	8.2	0.5	0.5	5.6	11	ND		0.16	0.066	J	0.17	1.7		0.14	1.4		0.16	ND		0.14	2.5		0.15	ND		0.18
Pyrene	100	1000	100	100	500	1000	0.079	J	0.12	0.079	J	0.13	6.1		0.11	3.4		0.12	0.029	J	0.1	8.4	E	0.12	0.034	J	0.13
Dibenzofuran	7	210	14	59	350	1000	ND		0.2	ND		0.21	1.1		0.18	0.15	J	0.19	ND		0.17	1.3		0.19	ND		0.22
Pentachlorophenol	0.8	0.8	2.4	6.7	6.7	55	ND		0.16	ND		0.17	ND		0.14	ND		0.16	ND		0.14	ND		0.15	ND		0.18
Phenol	0.33	0.33	100	100	500	1000	ND		0.2	ND		0.21	ND		0.18	ND		0.19	ND		0.17	ND		0.19	ND		0.22
2-Methylphenol	0.33	0.33	100	100	500	1000	ND		0.2	ND		0.21	ND		0.18	ND		0.19	ND		0.17	0.07	J	0.19	ND		0.22
3-Methylphenol/4-Methylphenol	0.33	0.33	34	100	500	1000	ND		0.29	ND		0.3	0.051	J	0.26	0.032	J	0.28	ND		0.25	0.19	J	0.28	ND		0.32
1,4-Dioxane	0.1	0.1	9.8	13	130	250	ND		0.03	ND		0.032	ND		0.027	ND		0.029	ND		0.026	ND		0.029	ND		0.033

TABLE 3

FILL MATERIAL SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

						SAMPLE ID:	SB-13-2FT			SB-14-1FT			SB-15-2FT			SB-16-1FT			SB-17-2FT			SB-18-2FT			SB-19-3FT		
						LAB ID:	L2428514-11			L2428242-11			L2428242-12			L2428242-13			L2428514-08			L2428514-09			L2428729-01		
						COLLECTION DATE:	5/22/2024			5/21/2024			5/21/2024			5/21/2024			5/22/2024			5/22/2024			5/23/2024		
						SAMPLE DEPTH:	2 FT			1 FT			2 FT			1 FT			2 FT			2 FT			3 FT		
						SAMPLE MATRIX:	HFM			HFM			HFM			HFM			HFM			HFM			HFM		
	NY-UNRES	**NY-RESGW**	**NY-RESR**	**NY-RESRR**	**NY-RESC**	**NY-RESI**																						
ANALYTE	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
CHLORINATED HERBICIDES BY GC																												
2,4,5-TP (Silvex)	3.8	3.8	58	100	500	1000	-		-	ND		0.209	-		-	-	-	-	-	-	-	-	-	-	-	-	-
ORGANOCHLORINE PESTICIDES BY GC																												
Delta-BHC	0.04	0.25	100	100	500	1000	-		-	ND		0.00201	-		-	-	-	-	-	-	-	-	-	-	-	-	-
Lindane	0.1	0.1	0.28	1.3	9.2	23	-		-	ND		0.000838	-		-	-	-	-	-	-	-	-	-	-	-	-	-
Alpha-BHC	0.02	0.02	0.097	0.48	3.4	6.8	-		-	ND		0.000838	-		-	-	-	-	-	-	-	-	-	-	-	-	-
Beta-BHC	0.036	0.09	0.072	0.36	3	14	-		-	ND		0.00201	-		-	-	-	-	-	-	-	-	-	-	-	-	-
Heptachlor	0.042	0.38	0.42	2.1	15	29	-		-	ND		0.00101	-		-	-	-	-	-	-	-	-	-	-	-	-	-
Aldrin	0.005	0.19	0.019	0.097	0.68	1.4	-		-	ND		0.00201	-		-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0.014	0.06	2.2	11	89	410	-		-	ND		0.000838	-		-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.005	0.1	0.039	0.2	1.4	2.8	-		-	ND		0.00126	-		-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033	17	1.8	8.9	62	120	-		-	ND		0.00201	-		-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDD	0.0033	14	2.6	13	92	180	-		-	ND		0.00201	-		-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033	136	1.7	7.9	47	94	-		-	ND		0.00201	-		-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan I	2.4	102	4.8	24	200	920	-		-	ND		0.00201	-		-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan II	2.4	102	4.8	24	200	920	-		-	ND		0.00201	-		-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan sulfate	2.4	1000	4.8	24	200	920	-		-	ND		0.000838	-		-	-	-	-	-	-	-	-	-	-	-	-	-
cis-Chlordane	0.094	2.9	0.91	4.2	24	47	-		-	ND		0.00252	-		-	-	-	-	-	-	-	-	-	-	-	-	-
POLYCHLORINATED BIPHENYLS BY GC																												
Aroclor 1016	0.1	3.2	1	1	1	25	ND		0.058	ND		0.0614	ND		0.0515	ND		0.054	ND		0.051	ND		0.0573	ND		0.0663
Aroclor 1221	0.1	3.2	1	1	1	25	ND		0.058	ND		0.0614	ND		0.0515	ND		0.054	ND		0.051	ND		0.0573	ND		0.0663
Aroclor 1232	0.1	3.2	1	1	1	25	ND		0.058	ND		0.0614	ND		0.0515	ND		0.054	ND		0.051	ND		0.0573	ND		0.0663
Aroclor 1242	0.1	3.2	1	1	1	25	ND		0.058	ND		0.0614	ND		0.0515	ND		0.054	ND		0.051	ND		0.0573	ND		0.0663
Aroclor 1248	0.1	3.2	1	1	1	25	ND		0.058	ND		0.0614	ND		0.0515	ND		0.054	ND		0.051	ND		0.0573	ND		0.0663
Aroclor 1254	0.1	3.2	1	1	1	25	ND		0.058	ND		0.0614	ND		0.0515	ND		0.054	ND		0.051	ND		0.0573	ND		0.0663
Aroclor 1260	0.1	3.2	1	1	1	25	ND		0.058	ND		0.0614	ND		0.0515	ND		0.054	ND		0.051	ND		0.0573	ND		0.0663
Aroclor 1262	0.1	3.2	1	1	1	25	ND		0.058	ND		0.0614	ND		0.0515	ND		0.054	ND		0.051	ND		0.0573	ND		0.0663
Aroclor 1268	0.1	3.2	1	1	1	25	ND		0.058	0.00772	J	0.0614	ND		0.0515	0.0369	J	0.054	ND		0.051	0.0382	J	0.0573	ND		0.0663
PCBs, Total	0.1	3.2	1	1	1	25	ND		0.058	0.00772	J	0.0614	ND		0.0515	0.0369	J	0.054	ND		0.051	0.0382	J	0.0573	ND		0.0663
DIESEL RANGE ORGANICS																												
DRO (C10-C28)	NA	NA	NA	NA	NA	NA	9.4	J	40	17	J	42	59		36	340		38	5.8	J	34	130		38	14	J	42
GASOLINE RANGE ORGANICS																												
Gasoline Range Organics	NA	NA	NA	NA	NA	NA	ND		3.6	ND		6.6	ND		2.4	ND		3.5	ND		2.3	3.8	J	4.5	ND		2.3
TOTAL METALS																												
Arsenic, Total	13	16	16	16	16	16	6.72		0.959	5.27		1.03	6.82		0.888	13		1.82	1.99		0.81	8.63		0.909	4.69		1.06
Barium, Total	350	820	350	400	400	10000	34.7		0.959	104		1.03	62.5		0.888	48		1.82	5.7		0.81	42.5		0.909	107		1.06
Beryllium, Total	7.2	47	14	72	590	2700	0.246	J	0.48	1.3		0.516	0.428	J	0.444	0.74	J	0.909	0.074	J	0.405	0.299	J	0.454	0.661		0.528
Cadmium, Total	2.5	7.5	2.5	4.3	9.3	60	0.211	J	0.959	0.729	J	1.03	0.611	J	0.888	0.266	J	1.82	ND		0.81	0.267	J	0.909	0.111	J	1.06
Chromium, Total	NA	NA	NA	NA	NA	NA	10.6		0.959	22.8		1.03	17.4		0.888	11.5		1.82	1.86		0.81	8.6		0.909	16.4		1.06
Copper, Total	50	1720	270	270	270	10000	10.6		0.959	27.2		1.03	22.4		0.888	46.2		1.82	1.75		0.81	49.5		0.909	14.6		1.06
Lead, Total	63	450	400	400	1000	3900	22		4.8	24		5.16	16.5		4.44	24.1		9.09	7.93		4.05	47.2		4.54	10.9		5.28
Manganese, Total	1600	2000	2000	2000	10000	10000	350		0.959	774		1.03	581		0.888	447		1.82	92.5		0.81	282		0.909	499		1.06
Mercury, Total	0.18	0.73	0.81	0.81	2.8	5.7	ND		0.077	0.587		0.102	ND		0.081	ND		0.091	ND		0.067	ND		0.075	ND		0.085
Nickel, Total	30	130	140	310	310	10000	8.14		2.4	37		2.58	23.9		2.22	14.9		4.54	1.7	J	2.02	13.2		2.27	17.4		2.64
Selenium, Total	3.9	4	36	180	1500	6800	0.438	J	1.92	0.406	J	2.06	ND		1.78	0.618	J	3.64	ND		1.62	0.535	J	1.82	ND		2.11
Silver, Total	2	8.3	36	180	1500	6800	ND		0.48	ND		0.516	ND		0.444	ND		0.909	ND		0.405	ND		0.454	ND		0.528
Zinc, Total	109	2480	2200	10000	10000	10000	44.2		4.8	154		5.16	48.9		4.44	35.7		9.09	18.2		4.05	52		4.54	45.9		5.28
GENERAL CHEMISTRY																												
Chromium, Trivalent	30	NA	36	180	1500	6800	10.6		0.979	22.8		1.04	17.4		0.89	11.5		1.82	1.86		0.847	8.6		0.938	15.9	J	1.07
Solids, Total	NA	NA	NA	NA	NA	NA	81.7		0.1	77.1		0.1	89.9		0.1	85.4		0.1	94.4		0.1	85.3		0.1	74.7		0.1
Cyanide, Total	27	40	27	27	27	10000	ND		1.1	ND		1.2	ND		1	0.45	J	1.1	ND		1	ND		1.1	ND		1.3
Chromium, Hexavalent	1	800	22	110	400	800	ND		0.979	ND		1.04	ND		0.89	ND		0.937	ND		0.847	ND		0.938	0.482	J	1.07

TABLE 3

FILL MATERIAL SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

						SAMPLE ID:	SB-13-2FT			SB-14-1FT			SB-15-2FT			SB-16-1FT			SB-17-2FT			SB-18-2FT			SB-19-3FT		
						LAB ID:	L2428514-11			L2428242-11			L2428242-12			L2428242-13			L2428514-08			L2428514-09			L2428729-01		
						COLLECTION DATE:	5/22/2024			5/21/2024			5/21/2024			5/21/2024			5/22/2024			5/22/2024			5/23/2024		
						SAMPLE DEPTH:	2 FT			1 FT			2 FT			1 FT			2 FT			2 FT			3 FT		
						SAMPLE MATRIX:	HFM			HFM			HFM			HFM			HFM			HFM			HFM		
	NY-UNRES	**NY-RESGW**	**NY-RESR**	**NY-RESRR**	**NY-RESC**	**NY-RESI**																				
ANALYTE	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
PERFLUORINATED ALKYL ACIDS BY EPA 1633																											
Perfluorobutanoic Acid (PFBA)	NA	NA	NA	NA	NA	NA	0.000063	J	0.000738	ND		0.00079	ND		0.000783	ND		0.000788	ND		0.000695	ND		0.000722	ND		0.00074
Perfluoropentanoic Acid (PFPeA)	NA	NA	NA	NA	NA	NA	ND		0.000369	ND		0.000395	ND		0.000392	ND		0.000394	ND		0.000347	ND		0.000361	ND		0.00037
Perfluorobutanesulfonic Acid (PFBS)	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2F	NA	NA	NA	NA	NA	NA	ND		0.000738	ND		0.00079	ND		0.000783	ND		0.000788	ND		0.000695	ND		0.000722	ND		0.00074
Perfluorohexanoic Acid (PFHxA)	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
Perfluoropentanesulfonic Acid (PFPeS)	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
Perfluoroheptanoic Acid (PFHpA)	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
Perfluorohexanesulfonic Acid (PFHxS)	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
Perfluorooctanoic Acid (PFOA)	0.00066	0.0008	0.0066	0.033	0.5	0.6	0.000071	J	0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	0.000074	J	0.000181	ND		0.000185
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2F	NA	NA	NA	NA	NA	NA	ND		0.000738	ND		0.00079	ND		0.000783	ND		0.000788	ND		0.000695	ND		0.000722	ND		0.00074
Perfluoroheptanesulfonic Acid (PFHpS)	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
Perfluorononanoic Acid (PFNA)	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
Perfluorooctanesulfonic Acid (PFOS)	0.00088	0.001	0.0088	0.044	0.44	0.44	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
Perfluorodecanoic Acid (PFDA)	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2F	NA	NA	NA	NA	NA	NA	ND		0.000738	ND		0.00079	ND		0.000783	ND		0.000788	ND		0.000695	ND		0.000722	ND		0.00074
Perfluorononanesulfonic Acid (PFNS)	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
N-Methyl Perfluorooctanesulfonamidoacetic Acid (	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
Perfluoroundecanoic Acid (PFUnA)	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
Perfluorodecanesulfonic Acid (PFDS)	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
Perfluorooctanesulfonamide (PFOSA)	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (N	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
Perfluorododecanoic Acid (PFDoA)	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
Perfluorotridecanoic Acid (PFTrDA)	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
Perfluorotetradecanoic Acid (PFTeDA)	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA	NA	NA	NA	NA	NA	NA	ND		0.000738	ND		0.00079	ND		0.000783	ND		0.000788	ND		0.000695	ND		0.000722	ND		0.00074
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NA	NA	NA	NA	NA	NA	ND		0.000738	ND		0.00079	ND		0.000783	ND		0.000788	ND		0.000695	ND		0.000722	ND		0.00074
Perfluorododecanesulfonic Acid (PFDoS)	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Ac	NA	NA	NA	NA	NA	NA	ND		0.000738	ND		0.00079	ND		0.000783	ND		0.000788	ND		0.000695	ND		0.000722	ND		0.00074
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic	NA	NA	NA	NA	NA	NA	ND		0.000738	ND		0.00079	ND		0.000783	ND		0.000788	ND		0.000695	ND		0.000722	ND		0.00074
N-Methyl Perfluorooctane Sulfonamide (NMeFOS	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	NA	NA	NA	NA	NA	NA	ND		0.000185	ND		0.000197	ND		0.000196	ND		0.000197	ND		0.000174	ND		0.000181	ND		0.000185
N-Methyl Perfluorooctanesulfonamido Ethanol (NM	NA	NA	NA	NA	NA	NA	ND		0.00185	ND		0.00197	ND		0.00196	ND		0.00197	ND		0.00174	ND		0.00181	ND		0.00185
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEt	NA	NA	NA	NA	NA	NA	ND		0.00185	ND		0.00197	ND		0.00196	ND		0.00197	ND		0.00174	ND		0.00181	ND		0.00185
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	NA	NA	NA	NA	NA	NA	ND		0.000369	ND		0.000395	ND		0.000392	ND		0.000394	ND		0.000347	ND		0.000361	ND		0.00037
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	NA	NA	NA	NA	NA	NA	ND		0.000369	ND		0.000395	ND		0.000392	ND		0.000394	ND		0.000347	ND		0.000361	ND		0.00037
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA	NA	NA	NA	NA	NA	NA	ND		0.000369	ND		0.000395	ND		0.000392	ND		0.000394	ND		0.000347	ND		0.000361	ND		0.00037
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	NA	NA	NA	NA	NA	NA	ND		0.000369	ND		0.000395	ND		0.000392	ND		0.000394	ND		0.000347	ND		0.000361	ND		0.00037
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	NA	NA	NA	NA	NA	NA	ND		0.000923	ND		0.000987	ND		0.000979	ND		0.000986	ND		0.000868	ND		0.000903	ND		0.000924
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	NA	NA	NA	NA	NA	NA	ND		0.00462	ND		0.00494	ND		0.0049	ND		0.00493	ND		0.00434	ND		0.00452	ND		0.00462
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	NA	NA	NA	NA	NA	NA	ND		0.00462	ND		0.00494	ND		0.0049	ND		0.00493	ND		0.00434	ND		0.00452	ND		0.00462

* Comparison is not performed on parameters with non-numeric criteria.

NY-UNRES: New York NYCRR Part 375 New York Unrestricted use Criteria Criteria per 6 NYCRR Part 375 Environmental Remediation Progr
NY-RESR: New York NYCRR Part 375 Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediati
NY-RESRR: New York NYCRR Part 375 Restricted-Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmen
NY-RESC: New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remedia
NY-RESI: New York NYCRR Part 375 Industrial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation

TABLE 4

NATIVE SOIL SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

						SAMPLE ID:	SB-01-6FT			SB-03-7FT			SB-04-7FT			SB-05-8FT			SB-06-7FT			DUP-A		
						LAB ID:	L2427942-02			L2428242-06			L2427942-06			L2427942-04			L2428242-02			L2428242-03		
						COLLECTION DATE:	5/20/2024			5/21/2024			5/20/2024			5/20/2024			5/21/2024			5/21/2024		
						SAMPLE DEPTH:	6 FT			7 FT			7 FT			8 FT			7 FT					
						SAMPLE MATRIX:	NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL		
	NY-UNRES	**NY-RESGW**	**NY-RESR**	**NY-RESRR**	**NY-RESC**	**NY-RESI**																		
ANALYTE	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS BY EPA 5035																								
Methylene chloride	0.05	0.05	51	100	500	1000	ND		0.005	ND		0.0048	ND		0.004	ND		0.0046	ND		0.005	ND		0.005
1,1-Dichloroethane	0.27	0.27	19	26	240	480	ND		0.001	ND		0.00095	ND		0.0008	ND		0.00091	ND		0.00099	ND		0.00099
Chloroform	0.37	0.37	10	49	350	700	ND		0.0015	ND		0.0014	ND		0.0012	ND		0.0014	ND		0.0015	ND		0.0015
Carbon tetrachloride	0.76	0.76	1.4	2.4	22	44	ND		0.001	ND		0.00095	ND		0.0008	ND		0.00091	ND		0.00099	ND		0.00099
Tetrachloroethene	1.3	1.3	5.5	19	150	300	ND		0.0005	ND		0.00048	ND		0.0004	ND		0.00046	ND		0.0005	ND		0.0005
Chlorobenzene	1.1	1.1	100	100	500	1000	ND		0.0005	ND		0.00048	ND		0.0004	ND		0.00046	ND		0.0005	ND		0.0005
1,2-Dichloroethane	0.02	0.02	2.3	3.1	30	60	ND		0.001	ND		0.00095	ND		0.0008	ND		0.00091	ND		0.00099	ND		0.00099
1,1,1-Trichloroethane	0.68	0.68	100	100	500	1000	ND		0.0005	ND		0.00048	ND		0.0004	ND		0.00046	ND		0.0005	ND		0.0005
Benzene	0.06	0.06	2.9	4.8	44	89	ND		0.0005	ND		0.00048	ND		0.0004	ND		0.00046	ND		0.0005	ND		0.0005
Toluene	0.7	0.7	100	100	500	1000	ND		0.001	ND		0.00095	ND		0.0008	ND		0.00091	ND		0.00099	ND		0.00099
Ethylbenzene	1	1	30	41	390	780	ND		0.001	ND		0.00095	ND		0.0008	ND		0.00091	ND		0.00099	ND		0.00099
Vinyl chloride	0.02	0.02	0.21	0.9	13	27	ND		0.001	ND		0.00095	0.00091		0.0008	0.00077	J	0.00091	ND		0.00099	ND		0.00099
1,1-Dichloroethene	0.33	0.33	100	100	500	1000	ND		0.001	ND		0.00095	ND		0.0008	ND		0.00091	ND		0.00099	ND		0.00099
trans-1,2-Dichloroethene	0.19	0.19	100	100	500	1000	ND		0.0015	0.0007	J	0.0014	ND		0.0012	ND		0.0014	ND		0.0015	ND		0.0015
Trichloroethene	0.47	0.47	10	21	200	400	ND		0.0005	0.00027	J	0.00048	ND		0.0004	ND		0.00046	ND		0.0005	ND		0.0005
1,2-Dichlorobenzene	1.1	1.1	100	100	500	1000	ND		0.002	ND		0.0019	ND		0.0016	ND		0.0018	ND		0.002	ND		0.002
1,3-Dichlorobenzene	2.4	2.4	17	49	280	560	ND		0.002	ND		0.0019	ND		0.0016	ND		0.0018	ND		0.002	ND		0.002
1,4-Dichlorobenzene	1.8	1.8	9.8	13	130	250	ND		0.002	ND		0.0019	ND		0.0016	ND		0.0018	ND		0.002	ND		0.002
Methyl tert butyl ether	0.93	0.93	62	100	500	1000	ND		0.002	ND		0.0019	ND		0.0016	ND		0.0018	ND		0.002	ND		0.002
p/m-Xylene	NA	NA	NA	NA	NA	NA	ND		0.002	ND		0.0019	ND		0.0016	ND		0.0018	ND		0.002	ND		0.002
o-Xylene	NA	NA	NA	NA	NA	NA	ND		0.001	ND		0.00095	ND		0.0008	ND		0.00091	ND		0.00099	ND		0.00099
cis-1,2-Dichloroethene	0.25	0.25	59	100	500	1000	ND		0.001	0.0074		0.00095	0.00045	J	0.0008	0.0014		0.00091	ND		0.00099	ND		0.00099
Acetone	0.05	0.05	100	100	500	1000	ND		0.01	0.0068	J	0.0095	0.034		0.008	0.0092		0.0091	0.02		0.0099	0.0056	J	0.0099
2-Butanone	0.12	0.12	100	100	500	1000	ND		0.01	ND		0.0095	ND		0.008	ND		0.0091	0.0039	J	0.0099	ND		0.0099
n-Butylbenzene	12	12	100	100	500	1000	ND		0.001	ND		0.00095	ND		0.0008	ND		0.00091	ND		0.00099	ND		0.00099
sec-Butylbenzene	11	11	100	100	500	1000	ND		0.001	ND		0.00095	ND		0.0008	ND		0.00091	ND		0.00099	ND		0.00099
tert-Butylbenzene	5.9	5.9	100	100	500	1000	ND		0.002	ND		0.0019	ND		0.0016	ND		0.0018	ND		0.002	ND		0.002
n-Propylbenzene	3.9	3.9	100	100	500	1000	ND		0.001	ND		0.00095	ND		0.0008	ND		0.00091	ND		0.00099	ND		0.00099
1,3,5-Trimethylbenzene	8.4	8.4	47	52	190	380	ND		0.002	ND		0.0019	ND		0.0016	ND		0.0018	ND		0.002	ND		0.002
1,2,4-Trimethylbenzene	3.6	3.6	47	52	190	380	ND		0.002	ND		0.0019	ND		0.0016	ND		0.0018	ND		0.002	ND		0.002
1,4-Dioxane	0.1	0.1	9.8	13	130	250	ND		0.08	ND		0.076	ND		0.064	ND		0.073	ND		0.08	ND		0.08
SEMIVOLATILE ORGANICS BY GC/MS																								
Acenaphthene	20	98	100	100	500	1000	ND		0.16	ND		0.16	ND		0.16	ND		0.15	ND		0.16	ND		0.16
Hexachlorobenzene	0.33	3.2	0.33	1.2	6	12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Fluoranthene	100	1000	100	100	500	1000	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Naphthalene	12	12	100	100	500	1000	ND		0.19	ND		0.19	ND		0.2	ND		0.19	ND		0.2	ND		0.2
Benzo(a)anthracene	1	1	1	1	5.6	11	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Benzo(a)pyrene	1	22	1	1	1	1.1	ND		0.16	ND		0.16	ND		0.16	ND		0.15	ND		0.16	ND		0.16
Benzo(b)fluoranthene	1	1.7	1	1	5.6	11	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Benzo(k)fluoranthene	0.8	1.7	1	3.9	56	110	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Chrysene	1	1	1	3.9	56	110	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Acenaphthylene	100	107	100	100	500	1000	ND		0.16	ND		0.16	ND		0.16	ND		0.15	ND		0.16	ND		0.16
Anthracene	100	1000	100	100	500	1000	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Benzo(ghi)perylene	100	1000	100	100	500	1000	ND		0.16	ND		0.16	ND		0.16	ND		0.15	ND		0.16	ND		0.16
Fluorene	30	386	100	100	500	1000	ND		0.19	ND		0.19	ND		0.2	ND		0.19	ND		0.2	ND		0.2
Phenanthrene	100	1000	100	100	500	1000	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Dibenzo(a,h)anthracene	0.33	1000	0.33	0.33	0.56	1.1	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Indeno(1,2,3-cd)pyrene	0.5	8.2	0.5	0.5	5.6	11	ND		0.16	ND		0.16	ND		0.16	ND		0.15	ND		0.16	ND		0.16
Pyrene	100	1000	100	100	500	1000	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Dibenzofuran	7	210	14	59	350	1000	ND		0.19	ND		0.19	ND		0.2	ND		0.19	ND		0.2	ND		0.2
Pentachlorophenol	0.8	0.8	2.4	6.7	6.7	55	ND		0.16	ND		0.16	ND		0.16	ND		0.15	ND		0.16	ND		0.16
Phenol	0.33	0.33	100	100	500	1000	ND		0.19	ND		0.19	ND		0.2	ND		0.19	ND		0.2	ND		0.2
2-Methylphenol	0.33	0.33	100	100	500	1000	ND		0.19	ND		0.19	ND		0.2	ND		0.19	ND		0.2	ND		0.2
3-Methylphenol/4-Methylphenol	0.33	0.33	34	100	500	1000	ND		0.28	ND		0.28	ND		0.28	ND		0.28	ND		0.28	ND		0.29
1,4-Dioxane	0.1	0.1	9.8	13	130	250	ND		0.029	ND		0.029	ND		0.029	ND		0.029	ND		0.03	ND		0.03

TABLE 4

NATIVE SOIL SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

							SAMPLE ID:	SB-01-6FT			SB-03-7FT			SB-04-7FT			SB-05-8FT			SB-06-7FT			DUP-A		
							LAB ID:	L2427942-02			L2428242-06			L2427942-06			L2427942-04			L2428242-02			L2428242-03		
							COLLECTION DATE:	5/20/2024			5/21/2024			5/20/2024			5/20/2024			5/21/2024			5/21/2024		
							SAMPLE DEPTH:	6 FT			7 FT			7 FT			8 FT			7 FT					
							SAMPLE MATRIX:	NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL		
	NY-UNRES	NY-RESGW	NY-RESR	NY-RESRR	NY-RESC	NY-RESI																			
ANALYTE	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
CHLORINATED HERBICIDES BY GC																								
2,4,5-TP (Silvex)	3.8	3.8	58	100	500	1000	-		-	-		-	ND		0.196	-		-	-		-	-		-
ORGANOCHLORINE PESTICIDES BY GC																								
Delta-BHC	0.04	0.25	100	100	500	1000	-		-	-		-	ND		0.00181	-		-	-		-	-		-
Lindane	0.1	0.1	0.28	1.3	9.2	23	-		-	-		-	ND		0.000753	-		-	-		-	-		-
Alpha-BHC	0.02	0.02	0.097	0.48	3.4	6.8	-		-	-		-	ND		0.000753	-		-	-		-	-		-
Beta-BHC	0.036	0.09	0.072	0.36	3	14	-		-	-		-	ND		0.00181	-		-	-		-	-		-
Heptachlor	0.042	0.38	0.42	2.1	15	29	-		-	-		-	ND		0.000903	-		-	-		-	-		-
Aldrin	0.005	0.19	0.019	0.097	0.68	1.4	-		-	-		-	ND		0.00181	-		-	-		-	-		-
Endrin	0.014	0.06	2.2	11	89	410	-		-	-		-	ND		0.000753	-		-	-		-	-		-
Dieldrin	0.005	0.1	0.039	0.2	1.4	2.8	-		-	-		-	ND		0.00113	-		-	-		-	-		-
4,4'-DDE	0.0033	17	1.8	8.9	62	120	-		-	-		-	ND		0.00181	-		-	-		-	-		-
4,4'-DDD	0.0033	14	2.6	13	92	180	-		-	-		-	ND		0.00181	-		-	-		-	-		-
4,4'-DDT	0.0033	136	1.7	7.9	47	94	-		-	-		-	ND		0.00181	-		-	-		-	-		-
Endosulfan I	2.4	102	4.8	24	200	920	-		-	-		-	ND		0.00181	-		-	-		-	-		-
Endosulfan II	2.4	102	4.8	24	200	920	-		-	-		-	ND		0.00181	-		-	-		-	-		-
Endosulfan sulfate	2.4	1000	4.8	24	200	920	-		-	-		-	ND		0.000753	-		-	-		-	-		-
cis-Chlordane	0.094	2.9	0.91	4.2	24	47	-		-	-		-	ND		0.00226	-		-	-		-	-		-
POLYCHLORINATED BIPHENYLS BY GC																								
Aroclor 1016	0.1	3.2	1	1	1	25	ND		0.0573	ND		0.0551	ND		0.0574	ND		0.0567	ND		0.0575	ND		0.0586
Aroclor 1221	0.1	3.2	1	1	1	25	ND		0.0573	ND		0.0551	ND		0.0574	ND		0.0567	ND		0.0575	ND		0.0586
Aroclor 1232	0.1	3.2	1	1	1	25	ND		0.0573	ND		0.0551	ND		0.0574	ND		0.0567	ND		0.0575	ND		0.0586
Aroclor 1242	0.1	3.2	1	1	1	25	ND		0.0573	ND		0.0551	ND		0.0574	ND		0.0567	ND		0.0575	ND		0.0586
Aroclor 1248	0.1	3.2	1	1	1	25	ND		0.0573	ND		0.0551	ND		0.0574	ND		0.0567	ND		0.0575	ND		0.0586
Aroclor 1254	0.1	3.2	1	1	1	25	ND		0.0573	ND		0.0551	ND		0.0574	ND		0.0567	ND		0.0575	ND		0.0586
Aroclor 1260	0.1	3.2	1	1	1	25	ND		0.0573	ND		0.0551	ND		0.0574	ND		0.0567	ND		0.0575	ND		0.0586
Aroclor 1262	0.1	3.2	1	1	1	25	ND		0.0573	ND		0.0551	ND		0.0574	ND		0.0567	ND		0.0575	ND		0.0586
Aroclor 1268	0.1	3.2	1	1	1	25	ND		0.0573	ND		0.0551	ND		0.0574	ND		0.0567	ND		0.0575	ND		0.0586
PCBs, Total	0.1	3.2	1	1	1	25	ND		0.0573	ND		0.0551	ND		0.0574	ND		0.0567	ND		0.0575	ND		0.0586
TOTAL METALS																								
Arsenic, Total	13	16	16	16	16	16	6.57		0.916	4.52		1.81	5.34		0.924	2.37		0.904	4.62		0.94	4.8		0.96
Barium, Total	350	820	350	400	400	10000	142		0.916	141		1.81	116		0.924	40.6		0.904	131		0.94	160		0.96
Beryllium, Total	7.2	47	14	72	590	2700	0.655		0.458	0.478	J	0.906	0.565		0.462	0.678		0.452	0.889		0.47	0.629		0.48
Cadmium, Total	2.5	7.5	2.5	4.3	9.3	60	0.229	J	0.916	0.195	J	1.81	0.247	J	0.924	0.155	J	0.904	0.104	J	0.94	0.233	J	0.96
Chromium, Total	NA	NA	NA	NA	NA	NA	19.9		0.916	17.7		1.81	18.8		0.924	22.5		0.904	24.7		0.94	20.4		0.96
Copper, Total	50	1720	270	270	270	10000	24		0.916	17.9		1.81	23		0.924	19.9		0.904	26.8		0.94	22.2		0.96
Lead, Total	63	450	400	400	1000	3900	11.1		4.58	8.82	J	9.06	10.8		4.62	9.45		4.52	12.2		4.7	11.3		4.8
Manganese, Total	1600	2000	2000	2000	10000	10000	603		0.916	474		1.81	551		0.924	317		0.904	479		0.94	531		0.96
Mercury, Total	0.18	0.73	0.81	0.81	2.8	5.7	ND		0.08	ND		0.087	ND		0.087	ND		0.084	ND		0.078	ND		0.092
Nickel, Total	30	130	140	310	310	10000	27.4		2.29	21.8		4.53	23.9		2.31	28.5		2.26	33.9		2.35	29		2.4
Selenium, Total	3.9	4	36	180	1500	6800	ND		1.83	ND		3.62	ND		1.85	ND		1.81	ND		1.88	ND		1.92
Silver, Total	2	8.3	36	180	1500	6800	ND		0.458	ND		0.906	ND		0.462	ND		0.452	ND		0.47	ND		0.48
Zinc, Total	109	2480	2200	10000	10000	10000	65.9		4.58	64.2		9.06	62.4		4.62	73.2		4.52	83.8		4.7	70.5		4.8
GENERAL CHEMISTRY																								
Chromium, Trivalent	30	NA	36	180	1500	6800	19.9		0.958	17.7		1.81	18.8		0.957	22.5		0.936	24.7		0.976	20.4		0.985
Solids, Total	NA	NA	NA	NA	NA	NA	83.5		0.1	84.4		0.1	83.6		0.1	85.5		0.1	82		0.1	81.2		0.1
Cyanide, Total	27	40	27	27	27	10000	ND		1.2	ND		1.1	12		1.2	ND		1.1	ND		1.1	ND		1.2
Chromium, Hexavalent	1	800	22	110	400	800	ND		0.958	ND		0.948	ND		0.957	ND		0.936	ND		0.976	ND		0.985

TABLE 4

NATIVE SOIL SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

						SAMPLE ID:	SB-01-6FT			SB-03-7FT			SB-04-7FT			SB-05-8FT			SB-06-7FT			DUP-A		
						LAB ID:	L2427942-02			L2428242-06			L2427942-06			L2427942-04			L2428242-02			L2428242-03		
						COLLECTION DATE:	5/20/2024			5/21/2024			5/20/2024			5/20/2024			5/21/2024			5/21/2024		
						SAMPLE DEPTH:	6 FT			7 FT			7 FT			8 FT			7 FT					
						SAMPLE MATRIX:	NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL		
	NY-UNRES	**NY-RESGW**	**NY-RESR**	**NY-RESRR**	**NY-RESC**	**NY-RESI**																		
ANALYTE	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
PERFLUORINATED ALKYL ACIDS BY EPA 1633																								
Perfluorobutanoic Acid (PFBA)	NA	NA	NA	NA	NA	NA	ND		0.000796	ND		0.000795	ND		0.000756	ND		0.000796	ND		0.000792	ND		0.000792
Perfluoropentanoic Acid (PFPeA)	NA	NA	NA	NA	NA	NA	ND		0.000398	ND		0.000398	ND		0.000378	ND		0.000398	ND		0.000396	ND		0.000396
Perfluorobutanesulfonic Acid (PFBS)	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2	NA	NA	NA	NA	NA	NA	ND		0.000796	ND		0.000795	ND		0.000756	ND		0.000796	ND		0.000792	ND		0.000792
Perfluorohexanoic Acid (PFHxA)	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
Perfluoropentanesulfonic Acid (PFPeS)	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
Perfluoroheptanoic Acid (PFHpA)	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
Perfluorohexanesulfonic Acid (PFHxS)	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
Perfluorooctanoic Acid (PFOA)	0.00066	NA	0.0066	0.033	0.5	0.6	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2	NA	NA	NA	NA	NA	NA	ND		0.000796	ND		0.000795	ND		0.000756	ND		0.000796	ND		0.000792	ND		0.000792
Perfluoroheptanesulfonic Acid (PFHpS)	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
Perfluorononanoic Acid (PFNA)	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
Perfluorooctanesulfonic Acid (PFOS)	0.00088	NA	0.0088	0.044	0.44	0.44	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
Perfluorodecanoic Acid (PFDA)	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2	NA	NA	NA	NA	NA	NA	ND		0.000796	ND		0.000795	ND		0.000756	ND		0.000796	ND		0.000792	ND		0.000792
Perfluorononanesulfonic Acid (PFNS)	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
N-Methyl Perfluorooctanesulfonamidoacetic Ac	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
Perfluoroundecanoic Acid (PFUnA)	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
Perfluorodecanesulfonic Acid (PFDS)	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
Perfluorooctanesulfonamide (PFOSA)	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
Perfluorododecanoic Acid (PFDoA)	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
Perfluorotridecanoic Acid (PFTrDA)	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
Perfluorotetradecanoic Acid (PFTeDA)	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
Hexafluoropropylene Oxide Dimer Acid (HFPO-	NA	NA	NA	NA	NA	NA	ND		0.000796	ND		0.000795	ND		0.000756	ND		0.000796	ND		0.000792	ND		0.000792
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NA	NA	NA	NA	NA	NA	ND		0.000796	ND		0.000795	ND		0.000756	ND		0.000796	ND		0.000792	ND		0.000792
Perfluorododecanesulfonic Acid (PFDoS)	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic	NA	NA	NA	NA	NA	NA	ND		0.000796	ND		0.000795	ND		0.000756	ND		0.000796	ND		0.000792	ND		0.000792
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfo	NA	NA	NA	NA	NA	NA	ND		0.000796	ND		0.000795	ND		0.000756	ND		0.000796	ND		0.000792	ND		0.000792
N-Methyl Perfluorooctane Sulfonamide (NMeF	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
N-Ethyl Perfluorooctane Sulfonamide (NEtFOS	NA	NA	NA	NA	NA	NA	ND		0.000199	ND		0.000199	ND		0.000189	ND		0.000199	ND		0.000198	ND		0.000198
N-Methyl Perfluorooctanesulfonamido Ethanol	NA	NA	NA	NA	NA	NA	ND		0.00199	ND		0.00199	ND		0.00189	ND		0.00199	ND		0.00198	ND		0.00198
N-Ethyl Perfluorooctanesulfonamido Ethanol (N	NA	NA	NA	NA	NA	NA	ND		0.00199	ND		0.00199	ND		0.00189	ND		0.00199	ND		0.00198	ND		0.00198
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	NA	NA	NA	NA	NA	NA	ND		0.000398	ND		0.000398	ND		0.000378	ND		0.000398	ND		0.000396	ND		0.000396
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	NA	NA	NA	NA	NA	NA	ND		0.000398	ND		0.000398	ND		0.000378	ND		0.000398	ND		0.000396	ND		0.000396
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEE	NA	NA	NA	NA	NA	NA	ND		0.000398	ND		0.000398	ND		0.000378	ND		0.000398	ND		0.000396	ND		0.000396
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	NA	NA	NA	NA	NA	NA	ND		0.000398	ND		0.000398	ND		0.000378	ND		0.000398	ND		0.000396	ND		0.000396
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	NA	NA	NA	NA	NA	NA	ND		0.000995	ND		0.000994	ND		0.000945	ND		0.000994	ND		0.00099	ND		0.00099
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA	NA	NA	NA	NA	NA	NA	ND		0.00497	ND		0.00497	ND		0.00472	ND		0.00497	ND		0.00495	ND		0.00495
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	NA	NA	NA	NA	NA	NA	ND		0.00497	ND		0.00497	ND		0.00472	ND		0.00497	ND		0.00495	ND		0.00495

* Comparison is not performed on parameters with non-numeric criteria.

NY-UNRES: New York NYCRR Part 375 New York Unrestricted use Criteria Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
NY-RESR: New York NYCRR Part 375 Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
NY-RESRR: New York NYCRR Part 375 Restricted-Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
NY-RESC: New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
NY-RESI: New York NYCRR Part 375 Industrial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.

TABLE 4

NATIVE SOIL SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

						SAMPLE ID:	SB-07-7FT			SB-08-7FT			SB-09-7FT			SB-10-4FT			SB-11-7FT			SB-12-8FT		
						LAB ID:	L2428242-08			L2428514-01			L2428514-07			L2428242-05			L2428514-13			L2428514-14		
						COLLECTION DATE:	5/21/2024			5/22/2024			5/22/2024			5/21/2024			5/22/2024			5/22/2024		
						SAMPLE DEPTH:	7 FT			7 FT			7 FT			4 FT			11 FT			8 FT		
						SAMPLE MATRIX:	NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL		
	NY-UNRES	**NY-RESGW**	**NY-RESR**	**NY-RESRR**	**NY-RESC**	**NY-RESI**																		
ANALYTE	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS BY EPA 5035																								
Methylene chloride	0.05	0.05	51	100	500	1000	ND		0.0062	ND		0.0036	ND		0.0062	ND		0.0055	ND		0.0044	ND		0.0048
1,1-Dichloroethane	0.27	0.27	19	26	240	480	ND		0.0012	ND		0.00071	ND		0.0012	ND		0.0011	ND		0.00088	ND		0.00095
Chloroform	0.37	0.37	10	49	350	700	ND		0.0019	ND		0.0011	ND		0.0019	ND		0.0016	ND		0.0013	ND		0.0014
Carbon tetrachloride	0.76	0.76	1.4	2.4	22	44	ND		0.0012	ND		0.00071	ND		0.0012	ND		0.0011	ND		0.00088	ND		0.00095
Tetrachloroethene	1.3	1.3	5.5	19	150	300	ND		0.00062	ND		0.00036	ND		0.00062	ND		0.00055	ND		0.00044	ND		0.00048
Chlorobenzene	1.1	1.1	100	100	500	1000	ND		0.00062	ND		0.00036	ND		0.00062	ND		0.00055	ND		0.00044	ND		0.00048
1,2-Dichloroethane	0.02	0.02	2.3	3.1	30	60	ND		0.0012	ND		0.00071	ND		0.0012	ND		0.0011	ND		0.00088	ND		0.00095
1,1,1-Trichloroethane	0.68	0.68	100	100	500	1000	ND		0.00062	ND		0.00036	ND		0.00062	ND		0.00055	ND		0.00044	ND		0.00048
Benzene	0.06	0.06	2.9	4.8	44	89	ND		0.00062	ND		0.00036	ND		0.00062	ND		0.00055	ND		0.00044	ND		0.00048
Toluene	0.7	0.7	100	100	500	1000	ND		0.0012	ND		0.00071	ND		0.0012	ND		0.0011	ND		0.00088	ND		0.00095
Ethylbenzene	1	1	30	41	390	780	ND		0.0012	ND		0.00071	ND		0.0012	ND		0.0011	ND		0.00088	ND		0.00095
Vinyl chloride	0.02	0.02	0.21	0.9	13	27	ND		0.0012	ND		0.00071	ND		0.0012	0.017		0.0011	ND		0.00088	ND		0.00095
1,1-Dichloroethene	0.33	0.33	100	100	500	1000	ND		0.0012	ND		0.00071	ND		0.0012	0.0078		0.0011	ND		0.00088	ND		0.00095
trans-1,2-Dichloroethene	0.19	0.19	100	100	500	1000	ND		0.0019	ND		0.0011	ND		0.0019	0.0031		0.0016	ND		0.0013	ND		0.0014
Trichloroethene	0.47	0.47	10	21	200	400	0.0024		0.00062	ND		0.00036	ND		0.00062	0.31		0.00055	ND		0.00044	ND		0.00048
1,2-Dichlorobenzene	1.1	1.1	100	100	500	1000	ND		0.0025	ND		0.0014	ND		0.0025	ND		0.0022	ND		0.0018	ND		0.0019
1,3-Dichlorobenzene	2.4	2.4	17	49	280	560	ND		0.0025	ND		0.0014	ND		0.0025	ND		0.0022	ND		0.0018	ND		0.0019
1,4-Dichlorobenzene	1.8	1.8	9.8	13	130	250	ND		0.0025	ND		0.0014	ND		0.0025	ND		0.0022	ND		0.0018	ND		0.0019
Methyl tert butyl ether	0.93	0.93	62	100	500	1000	ND		0.0025	ND		0.0014	ND		0.0025	ND		0.0022	ND		0.0018	ND		0.0019
p/m-Xylene	NA	NA	NA	NA	NA	NA	ND		0.0025	ND		0.0014	ND		0.0025	ND		0.0022	ND		0.0018	ND		0.0019
o-Xylene	NA	NA	NA	NA	NA	NA	ND		0.0012	ND		0.00071	ND		0.0012	ND		0.0011	ND		0.00088	ND		0.00095
cis-1,2-Dichloroethene	0.25	0.25	59	100	500	1000	ND		0.0012	ND		0.00071	ND		0.0012	0.084		0.0011	0.00017	J	0.00088	ND		0.00095
Acetone	0.05	0.05	100	100	500	1000	0.01	J	0.012	0.013		0.0071	0.044		0.012	ND		0.011	ND		0.0088	ND		0.0095
2-Butanone	0.12	0.12	100	100	500	1000	ND		0.012	ND		0.0071	0.012		0.012	ND		0.011	ND		0.0088	ND		0.0095
n-Butylbenzene	12	12	100	100	500	1000	ND		0.0012	ND		0.00071	ND		0.0012	ND		0.0011	ND		0.00088	ND		0.00095
sec-Butylbenzene	11	11	100	100	500	1000	ND		0.0012	ND		0.00071	ND		0.0012	ND		0.0011	ND		0.00088	ND		0.00095
tert-Butylbenzene	5.9	5.9	100	100	500	1000	ND		0.0025	ND		0.0014	ND		0.0025	ND		0.0022	ND		0.0018	ND		0.0019
n-Propylbenzene	3.9	3.9	100	100	500	1000	ND		0.0012	ND		0.00071	ND		0.0012	ND		0.0011	ND		0.00088	ND		0.00095
1,3,5-Trimethylbenzene	8.4	8.4	47	52	190	380	ND		0.0025	ND		0.0014	ND		0.0025	ND		0.0022	ND		0.0018	ND		0.0019
1,2,4-Trimethylbenzene	3.6	3.6	47	52	190	380	ND		0.0025	ND		0.0014	ND		0.0025	ND		0.0022	ND		0.0018	ND		0.0019
1,4-Dioxane	0.1	0.1	9.8	13	130	250	ND		0.1	ND		0.057	ND		0.1	ND		0.088	ND		0.071	ND		0.076
SEMIVOLATILE ORGANICS BY GC/MS																								
Acenaphthene	20	98	100	100	500	1000	ND		0.16	ND		0.16	ND		0.18	ND		0.17	ND		0.15	ND		0.16
Hexachlorobenzene	0.33	3.2	0.33	1.2	6	12	ND		0.12	ND		0.12	ND		0.14	ND		0.13	ND		0.11	ND		0.12
Fluoranthene	100	1000	100	100	500	1000	ND		0.12	ND		0.12	ND		0.14	ND		0.13	ND		0.11	ND		0.12
Naphthalene	12	12	100	100	500	1000	ND		0.2	ND		0.2	ND		0.23	ND		0.22	ND		0.19	ND		0.2
Benzo(a)anthracene	1	1	1	1	5.6	11	ND		0.12	ND		0.12	ND		0.14	ND		0.13	ND		0.11	ND		0.12
Benzo(a)pyrene	1	22	1	1	1	1.1	ND		0.16	ND		0.16	ND		0.18	ND		0.17	ND		0.15	ND		0.16
Benzo(b)fluoranthene	1	1.7	1	1	5.6	11	ND		0.12	ND		0.12	ND		0.14	ND		0.13	ND		0.11	ND		0.12
Benzo(k)fluoranthene	0.8	1.7	1	3.9	56	110	ND		0.12	ND		0.12	ND		0.14	ND		0.13	ND		0.11	ND		0.12
Chrysene	1	1	1	3.9	56	110	ND		0.12	ND		0.12	ND		0.14	ND		0.13	ND		0.11	ND		0.12
Acenaphthylene	100	107	100	100	500	1000	ND		0.16	ND		0.16	ND		0.18	ND		0.17	ND		0.15	ND		0.16
Anthracene	100	1000	100	100	500	1000	ND		0.12	ND		0.12	ND		0.14	ND		0.13	ND		0.11	ND		0.12
Benzo(ghi)perylene	100	1000	100	100	500	1000	ND		0.16	ND		0.16	ND		0.18	ND		0.17	ND		0.15	ND		0.16
Fluorene	30	386	100	100	500	1000	ND		0.2	ND		0.2	ND		0.23	ND		0.22	ND		0.19	ND		0.2
Phenanthrene	100	1000	100	100	500	1000	ND		0.12	ND		0.12	ND		0.14	ND		0.13	ND		0.11	ND		0.12
Dibenzo(a,h)anthracene	0.33	1000	0.33	0.33	0.56	1.1	ND		0.12	ND		0.12	ND		0.14	ND		0.13	ND		0.11	ND		0.12
Indeno(1,2,3-cd)pyrene	0.5	8.2	0.5	0.5	5.6	11	ND		0.16	ND		0.16	ND		0.18	ND		0.17	ND		0.15	ND		0.16
Pyrene	100	1000	100	100	500	1000	ND		0.12	ND		0.12	ND		0.14	ND		0.13	ND		0.11	ND		0.12
Dibenzofuran	7	210	14	59	350	1000	ND		0.2	ND		0.2	ND		0.23	ND		0.22	ND		0.19	ND		0.2
Pentachlorophenol	0.8	0.8	2.4	6.7	6.7	55	ND		0.16	ND		0.16	ND		0.18	ND		0.17	ND		0.15	ND		0.16
Phenol	0.33	0.33	100	100	500	1000	ND		0.2	ND		0.2	ND		0.23	ND		0.22	ND		0.19	ND		0.2
2-Methylphenol	0.33	0.33	100	100	500	1000	ND		0.2	ND		0.2	ND		0.23	ND		0.22	ND		0.19	ND		0.2
3-Methylphenol/4-Methylphenol	0.33	0.33	34	100	500	1000	ND		0.28	ND		0.3	ND		0.33	ND		0.31	ND		0.27	ND		0.28
1,4-Dioxane	0.1	0.1	9.8	13	130	250	ND		0.029	ND		0.031	ND		0.035	ND		0.032	ND		0.028	ND		0.03

TABLE 4

NATIVE SOIL SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

						SAMPLE ID:	SB-07-7FT			SB-08-7FT			SB-09-7FT			SB-10-4FT			SB-11-7FT			SB-12-8FT		
						LAB ID:	L2428242-08			L2428514-01			L2428514-07			L2428242-05			L2428514-13			L2428514-14		
						COLLECTION DATE:	5/21/2024			5/22/2024			5/22/2024			5/21/2024			5/22/2024			5/22/2024		
						SAMPLE DEPTH:	7 FT			7 FT			7 FT			4 FT			11 FT			8 FT		
						SAMPLE MATRIX:	NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL		
	NY-UNRES	NY-RESGW	NY-RESR	NY-RESRR	NY-RESC	NY-RESI																		
ANALYTE	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
CHLORINATED HERBICIDES BY GC																								
2,4,5-TP (Silvex)	3.8	3.8	58	100	500	1000	-		-	ND		0.205	-		-	-		-	-		-	-		-
ORGANOCHLORINE PESTICIDES BY GC																								
Delta-BHC	0.04	0.25	100	100	500	1000	-		-	ND		0.00191	-		-	-		-	-		-	-		-
Lindane	0.1	0.1	0.28	1.3	9.2	23	-		-	ND		0.000797	-		-	-		-	-		-	-		-
Alpha-BHC	0.02	0.02	0.097	0.48	3.4	6.8	-		-	ND		0.000797	-		-	-		-	-		-	-		-
Beta-BHC	0.036	0.09	0.072	0.36	3	14	-		-	ND		0.00191	-		-	-		-	-		-	-		-
Heptachlor	0.042	0.38	0.42	2.1	15	29	-		-	ND		0.000956	-		-	-		-	-		-	-		-
Aldrin	0.005	0.19	0.019	0.097	0.68	1.4	-		-	ND		0.00191	-		-	-		-	-		-	-		-
Endrin	0.014	0.06	2.2	11	89	410	-		-	ND		0.000797	-		-	-		-	-		-	-		-
Dieldrin	0.005	0.1	0.039	0.2	1.4	2.8	-		-	ND		0.0012	-		-	-		-	-		-	-		-
4,4'-DDE	0.0033	17	1.8	8.9	62	120	-		-	ND		0.00191	-		-	-		-	-		-	-		-
4,4'-DDD	0.0033	14	2.6	13	92	180	-		-	ND		0.00191	-		-	-		-	-		-	-		-
4,4'-DDT	0.0033	136	1.7	7.9	47	94	-		-	ND		0.00191	-		-	-		-	-		-	-		-
Endosulfan I	2.4	102	4.8	24	200	920	-		-	ND		0.00191	-		-	-		-	-		-	-		-
Endosulfan II	2.4	102	4.8	24	200	920	-		-	ND		0.00191	-		-	-		-	-		-	-		-
Endosulfan sulfate	2.4	1000	4.8	24	200	920	-		-	ND		0.000797	-		-	-		-	-		-	-		-
cis-Chlordane	0.094	2.9	0.91	4.2	24	47	-		-	ND		0.00239	-		-	-		-	-		-	-		-
POLYCHLORINATED BIPHENYLS BY GC																								
Aroclor 1016	0.1	3.2	1	1	1	25	ND		0.0551	ND		0.0581	ND		0.0696	ND		0.0624	ND		0.056	ND		0.0566
Aroclor 1221	0.1	3.2	1	1	1	25	ND		0.0551	ND		0.0581	ND		0.0696	ND		0.0624	ND		0.056	ND		0.0566
Aroclor 1232	0.1	3.2	1	1	1	25	ND		0.0551	ND		0.0581	ND		0.0696	ND		0.0624	ND		0.056	ND		0.0566
Aroclor 1242	0.1	3.2	1	1	1	25	ND		0.0551	ND		0.0581	ND		0.0696	ND		0.0624	ND		0.056	ND		0.0566
Aroclor 1248	0.1	3.2	1	1	1	25	ND		0.0551	ND		0.0581	ND		0.0696	ND		0.0624	ND		0.056	ND		0.0566
Aroclor 1254	0.1	3.2	1	1	1	25	ND		0.0551	ND		0.0581	ND		0.0696	ND		0.0624	ND		0.056	ND		0.0566
Aroclor 1260	0.1	3.2	1	1	1	25	ND		0.0551	ND		0.0581	ND		0.0696	ND		0.0624	ND		0.056	ND		0.0566
Aroclor 1262	0.1	3.2	1	1	1	25	ND		0.0551	ND		0.0581	ND		0.0696	ND		0.0624	ND		0.056	ND		0.0566
Aroclor 1268	0.1	3.2	1	1	1	25	ND		0.0551	ND		0.0581	ND		0.0696	ND		0.0624	ND		0.056	ND		0.0566
PCBs, Total	0.1	3.2	1	1	1	25	ND		0.0551	ND		0.0581	ND		0.0696	ND		0.0624	ND		0.056	ND		0.0566
TOTAL METALS																								
Arsenic, Total	13	16	16	16	16	16	0.9	J	0.938	6.53		0.971	6.26		2.22	5.64		1.04	4.7		0.88	4.49		0.964
Barium, Total	350	820	350	400	400	10000	45.4		0.938	99.3		0.971	100		2.22	154		1.04	55.8		0.88	88.9		0.964
Beryllium, Total	7.2	47	14	72	590	2700	0.466	J	0.469	0.959		0.485	1.01	J	1.11	1.04		0.521	0.338	J	0.44	0.496		0.482
Cadmium, Total	2.5	7.5	2.5	4.3	9.3	60	0.287	J	0.938	0.18	J	0.971	0.508	J	2.22	0.228	J	1.04	0.121	J	0.88	0.175	J	0.964
Chromium, Total	NA	NA	NA	NA	NA	NA	18.3		0.938	24.8		0.971	21.2		2.22	28.1		1.04	15		0.88	20.3		0.964
Copper, Total	50	1720	270	270	270	10000	14.5		0.938	19.4		0.971	10.7		2.22	27.4		1.04	18.2		0.88	21.6		0.964
Lead, Total	63	450	400	400	1000	3900	11.1		4.69	11.1		4.85	18.8		11.1	14.6		5.21	8.97		4.4	11.3		4.82
Manganese, Total	1600	2000	2000	2000	10000	10000	396		0.938	256		0.971	3370		2.22	584		1.04	328		0.88	338		0.964
Mercury, Total	0.18	0.73	0.81	0.81	2.8	5.7	ND		0.093	ND		0.078	0.065	J	0.091	ND		0.09	ND		0.073	ND		0.077
Nickel, Total	30	130	140	310	310	10000	23.2		2.34	31.8		2.43	16.7		5.56	43		2.6	20		2.2	26		2.41
Selenium, Total	3.9	4	36	180	1500	6800	ND		1.88	0.828	J	1.94	1.08	J	4.45	0.352	J	2.08	ND		1.76	ND		1.93
Silver, Total	2	8.3	36	180	1500	6800	ND		0.469	ND		0.485	ND		1.11	ND		0.521	ND		0.44	ND		0.482
Zinc, Total	109	2480	2200	10000	10000	10000	78.9		4.69	72.8		4.85	92.3		11.1	84		5.21	58.6		4.4	72.6		4.82
GENERAL CHEMISTRY																								
Chromium, Trivalent	30	NA	36	180	1500	6800	18.3		0.947	24.8		0.996	21.2		2.22	28.1		1.04	15		0.923	20.3		0.979
Solids, Total	NA	NA	NA	NA	NA	NA	84.5		0.1	80.3		0.1	70.2		0.1	76.7		0.1	86.7		0.1	81.7		0.1
Cyanide, Total	27	40	27	27	27	10000	ND		1.1	ND		1.1	ND		1.4	ND		1.2	ND		1.1	ND		1.2
Chromium, Hexavalent	1	800	22	110	400	800	ND		0.947	ND		0.996	ND		1.14	ND		1.04	ND		0.923	ND		0.979

TABLE 4

NATIVE SOIL SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

						SAMPLE ID:	SB-07-7FT			SB-08-7FT			SB-09-7FT			SB-10-4FT			SB-11-7FT			SB-12-8FT		
						LAB ID:	L2428242-08			L2428514-01			L2428514-07			L2428242-05			L2428514-13			L2428514-14		
						COLLECTION DATE:	5/21/2024			5/22/2024			5/22/2024			5/21/2024			5/22/2024			5/22/2024		
						SAMPLE DEPTH:	7 FT			7 FT			7 FT			4 FT			11 FT			8 FT		
						SAMPLE MATRIX:	NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL		
	NY-UNRES	**NY-RESGW**	**NY-RESR**	**NY-RESRR**	**NY-RESC**	**NY-RESI**																		
ANALYTE	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
PERFLUORINATED ALKYL ACIDS BY EPA 1633																								
Perfluorobutanoic Acid (PFBA)	NA	NA	NA	NA	NA	NA	ND		0.000792	ND		0.000758	ND		0.000753	ND		0.000789	ND		0.00071	ND		0.000794
Perfluoropentanoic Acid (PFPeA)	NA	NA	NA	NA	NA	NA	ND		0.000396	ND		0.000379	ND		0.000376	ND		0.000394	ND		0.000355	ND		0.000397
Perfluorobutanesulfonic Acid (PFBS)	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2	NA	NA	NA	NA	NA	NA	ND		0.000792	ND		0.000758	ND		0.000753	ND		0.000789	ND		0.00071	ND		0.000794
Perfluorohexanoic Acid (PFHxA)	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
Perfluoropentanesulfonic Acid (PFPeS)	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
Perfluoroheptanoic Acid (PFHpA)	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
Perfluorohexanesulfonic Acid (PFHxS)	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
Perfluorooctanoic Acid (PFOA)	0.00066	NA	0.0066	0.033	0.5	0.6	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2	NA	NA	NA	NA	NA	NA	ND		0.000792	ND		0.000758	ND		0.000753	ND		0.000789	ND		0.00071	ND		0.000794
Perfluoroheptanesulfonic Acid (PFHpS)	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
Perfluorononanoic Acid (PFNA)	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
Perfluorooctanesulfonic Acid (PFOS)	0.00088	NA	0.0088	0.044	0.44	0.44	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
Perfluorodecanoic Acid (PFDA)	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2	NA	NA	NA	NA	NA	NA	ND		0.000792	ND		0.000758	ND		0.000753	ND		0.000789	ND		0.00071	ND		0.000794
Perfluorononanesulfonic Acid (PFNS)	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
N-Methyl Perfluorooctanesulfonamidoacetic Ac	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
Perfluoroundecanoic Acid (PFUnA)	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
Perfluorodecanesulfonic Acid (PFDS)	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
Perfluorooctanesulfonamide (PFOSA)	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
Perfluorododecanoic Acid (PFDoA)	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
Perfluorotridecanoic Acid (PFTrDA)	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
Perfluorotetradecanoic Acid (PFTeDA)	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
Hexafluoropropylene Oxide Dimer Acid (HFPO-	NA	NA	NA	NA	NA	NA	ND		0.000792	ND		0.000758	ND		0.000753	ND		0.000789	ND		0.00071	ND		0.000794
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NA	NA	NA	NA	NA	NA	ND		0.000792	ND		0.000758	ND		0.000753	ND		0.000789	ND		0.00071	ND		0.000794
Perfluorododecanesulfonic Acid (PFDoS)	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic	NA	NA	NA	NA	NA	NA	ND		0.000792	ND		0.000758	ND		0.000753	ND		0.000789	ND		0.00071	ND		0.000794
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfo	NA	NA	NA	NA	NA	NA	ND		0.000792	ND		0.000758	ND		0.000753	ND		0.000789	ND		0.00071	ND		0.000794
N-Methyl Perfluorooctane Sulfonamide (NMeF	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
N-Ethyl Perfluorooctane Sulfonamide (NEtFOS	NA	NA	NA	NA	NA	NA	ND		0.000198	ND		0.00019	ND		0.000188	ND		0.000197	ND		0.000177	ND		0.000198
N-Methyl Perfluorooctanesulfonamido Ethanol	NA	NA	NA	NA	NA	NA	ND		0.00198	ND		0.0019	ND		0.00188	ND		0.00197	ND		0.00177	ND		0.00198
N-Ethyl Perfluorooctanesulfonamido Ethanol (N	NA	NA	NA	NA	NA	NA	ND		0.00198	ND		0.0019	ND		0.00188	ND		0.00197	ND		0.00177	ND		0.00198
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	NA	NA	NA	NA	NA	NA	ND		0.000396	ND		0.000379	ND		0.000376	ND		0.000394	ND		0.000355	ND		0.000397
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	NA	NA	NA	NA	NA	NA	ND		0.000396	ND		0.000379	ND		0.000376	ND		0.000394	ND		0.000355	ND		0.000397
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEE	NA	NA	NA	NA	NA	NA	ND		0.000396	ND		0.000379	ND		0.000376	ND		0.000394	ND		0.000355	ND		0.000397
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	NA	NA	NA	NA	NA	NA	ND		0.000396	ND		0.000379	ND		0.000376	ND		0.000394	ND		0.000355	ND		0.000397
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	NA	NA	NA	NA	NA	NA	ND		0.000989	ND		0.000948	ND		0.000941	ND		0.000986	ND		0.000887	ND		0.000992
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA	NA	NA	NA	NA	NA	NA	ND		0.00495	ND		0.00474	ND		0.0047	ND		0.00493	ND		0.00444	ND		0.00496
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	NA	NA	NA	NA	NA	NA	ND		0.00495	ND		0.00474	ND		0.0047	ND		0.00493	ND		0.00444	ND		0.00496

* Comparison is not performed on parameters with non-numeric criteria.

NY-UNRES: New York NYCRR Part 375 New York Unrestricted use Criteria Criteria per 6 NYCRR Part 375 Environmental Remedi
NY-RESR: New York NYCRR Part 375 Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental
NY-RESRR: New York NYCRR Part 375 Restricted-Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Er
NY-RESC: New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmenta
NY-RESI: New York NYCRR Part 375 Industrial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Re

TABLE 4

NATIVE SOIL SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

						SAMPLE ID:	SB-13-7FT			SB-14-3FT			SB-15-4FT			SB-16-3FT			SB-18-7FT			SB-19-7FT		
						LAB ID:	L2428514-02			L2428242-15			L2428242-10			L2428242-14			L2428514-10			L2428729-02		
						COLLECTION DATE:	5/22/2024			5/21/2024			5/21/2024			5/21/2024			5/22/2024			5/23/2024		
						SAMPLE DEPTH:	7 FT			3 FT			4 FT			3 FT			7 FT			7 FT		
						SAMPLE MATRIX:	NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL		
	NY-UNRES	**NY-RESGW**	**NY-RESR**	**NY-RESRR**	**NY-RESC**	**NY-RESI**																		
ANALYTE	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS BY EPA 5035																								
Methylene chloride	0.05	0.05	51	100	500	1000	ND		0.0046	ND		0.0053	ND		0.0049	ND		0.0047	ND		0.0062	-	-	-
1,1-Dichloroethane	0.27	0.27	19	26	240	480	ND		0.00093	ND		0.0011	ND		0.00098	ND		0.00095	ND		0.0012	-	-	-
Chloroform	0.37	0.37	10	49	350	700	ND		0.0014	ND		0.0016	ND		0.0015	ND		0.0014	ND		0.0018	-	-	-
Carbon tetrachloride	0.76	0.76	1.4	2.4	22	44	ND		0.00093	ND		0.0011	ND		0.00098	ND		0.00095	ND		0.0012	-	-	-
Tetrachloroethene	1.3	1.3	5.5	19	150	300	ND		0.00046	ND		0.00053	ND		0.00049	ND		0.00047	ND		0.00062	-	-	-
Chlorobenzene	1.1	1.1	100	100	500	1000	ND		0.00046	ND		0.00053	ND		0.00049	ND		0.00047	ND		0.00062	-	-	-
1,2-Dichloroethane	0.02	0.02	2.3	3.1	30	60	ND		0.00093	ND		0.0011	ND		0.00098	ND		0.00095	ND		0.0012	-	-	-
1,1,1-Trichloroethane	0.68	0.68	100	100	500	1000	ND		0.00046	ND		0.00053	ND		0.00049	ND		0.00047	ND		0.00062	-	-	-
Benzene	0.06	0.06	2.9	4.8	44	89	ND		0.00046	ND		0.00053	ND		0.00049	ND		0.00047	ND		0.00062	-	-	-
Toluene	0.7	0.7	100	100	500	1000	ND		0.00093	ND		0.0011	ND		0.00098	ND		0.00095	ND		0.0012	-	-	-
Ethylbenzene	1	1	30	41	390	780	ND		0.00093	ND		0.0011	ND		0.00098	ND		0.00095	ND		0.0012	-	-	-
Vinyl chloride	0.02	0.02	0.21	0.9	13	27	ND		0.00093	ND		0.0011	ND		0.00098	ND		0.00095	ND		0.0012	-	-	-
1,1-Dichloroethene	0.33	0.33	100	100	500	1000	ND		0.00093	ND		0.0011	ND		0.00098	ND		0.00095	ND		0.0012	-	-	-
trans-1,2-Dichloroethene	0.19	0.19	100	100	500	1000	ND		0.0014	ND		0.0016	ND		0.0015	ND		0.0014	ND		0.0018	-	-	-
Trichloroethene	0.47	0.47	10	21	200	400	ND		0.00046	ND		0.00053	ND		0.00049	ND		0.00047	ND		0.00062	-	-	-
1,2-Dichlorobenzene	1.1	1.1	100	100	500	1000	ND		0.0018	ND		0.0021	ND		0.002	ND		0.0019	ND		0.0025	-	-	-
1,3-Dichlorobenzene	2.4	2.4	17	49	280	560	ND		0.0018	ND		0.0021	ND		0.002	ND		0.0019	ND		0.0025	-	-	-
1,4-Dichlorobenzene	1.8	1.8	9.8	13	130	250	ND		0.0018	ND		0.0021	ND		0.002	ND		0.0019	ND		0.0025	-	-	-
Methyl tert butyl ether	0.93	0.93	62	100	500	1000	ND		0.0018	ND		0.0021	ND		0.002	ND		0.0019	ND		0.0025	-	-	-
p/m-Xylene	NA	NA	NA	NA	NA	NA	ND		0.0018	ND		0.0021	ND		0.002	ND		0.0019	ND		0.0025	-	-	-
o-Xylene	NA	NA	NA	NA	NA	NA	ND		0.00093	ND		0.0011	ND		0.00098	ND		0.00095	ND		0.0012	-	-	-
cis-1,2-Dichloroethene	0.25	0.25	59	100	500	1000	ND		0.00093	ND		0.0011	ND		0.00098	ND		0.00095	ND		0.0012	-	-	-
Acetone	0.05	0.05	100	100	500	1000	ND		0.0093	ND		0.011	ND		0.0098	0.0046	J	0.0095	ND		0.012	-	-	-
2-Butanone	0.12	0.12	100	100	500	1000	ND		0.0093	ND		0.011	ND		0.0098	ND		0.0095	ND		0.012	-	-	-
n-Butylbenzene	12	12	100	100	500	1000	ND		0.00093	ND		0.0011	ND		0.00098	ND		0.00095	ND		0.0012	-	-	-
sec-Butylbenzene	11	11	100	100	500	1000	ND		0.00093	ND		0.0011	ND		0.00098	ND		0.00095	ND		0.0012	-	-	-
tert-Butylbenzene	5.9	5.9	100	100	500	1000	ND		0.0018	ND		0.0021	ND		0.002	ND		0.0019	ND		0.0025	-	-	-
n-Propylbenzene	3.9	3.9	100	100	500	1000	ND		0.00093	ND		0.0011	ND		0.00098	ND		0.00095	ND		0.0012	-	-	-
1,3,5-Trimethylbenzene	8.4	8.4	47	52	190	380	ND		0.0018	ND		0.0021	ND		0.002	ND		0.0019	ND		0.0025	-	-	-
1,2,4-Trimethylbenzene	3.6	3.6	47	52	190	380	ND		0.0018	ND		0.0021	ND		0.002	ND		0.0019	ND		0.0025	-	-	-
1,4-Dioxane	0.1	0.1	9.8	13	130	250	ND		0.074	ND		0.086	ND		0.078	ND		0.076	ND		0.099	-	-	-
SEMIVOLATILE ORGANICS BY GC/MS																								
Acenaphthene	20	98	100	100	500	1000	ND		0.16	ND		0.17	ND		0.16	ND		0.16	ND		0.15	ND		0.16
Hexachlorobenzene	0.33	3.2	0.33	1.2	6	12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Fluoranthene	100	1000	100	100	500	1000	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Naphthalene	12	12	100	100	500	1000	ND		0.2	ND		0.21	ND		0.2	ND		0.2	ND		0.19	ND		0.2
Benzo(a)anthracene	1	1	1	1	5.6	11	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Benzo(a)pyrene	1	22	1	1	1	1.1	ND		0.16	ND		0.17	ND		0.16	ND		0.16	ND		0.15	ND		0.16
Benzo(b)fluoranthene	1	1.7	1	1	5.6	11	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Benzo(k)fluoranthene	0.8	1.7	1	3.9	56	110	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Chrysene	1	1	1	3.9	56	110	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Acenaphthylene	100	107	100	100	500	1000	ND		0.16	ND		0.17	ND		0.16	ND		0.16	ND		0.15	ND		0.16
Anthracene	100	1000	100	100	500	1000	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Benzo(ghi)perylene	100	1000	100	100	500	1000	ND		0.16	ND		0.17	ND		0.16	ND		0.16	ND		0.15	ND		0.16
Fluorene	30	386	100	100	500	1000	ND		0.2	ND		0.21	ND		0.2	ND		0.2	ND		0.19	ND		0.2
Phenanthrene	100	1000	100	100	500	1000	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Dibenzo(a,h)anthracene	0.33	1000	0.33	0.33	0.56	1.1	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Indeno(1,2,3-cd)pyrene	0.5	8.2	0.5	0.5	5.6	11	ND		0.16	ND		0.17	ND		0.16	ND		0.16	ND		0.15	ND		0.16
Pyrene	100	1000	100	100	500	1000	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12
Dibenzofuran	7	210	14	59	350	1000	ND		0.2	ND		0.21	ND		0.2	ND		0.2	ND		0.19	ND		0.2
Pentachlorophenol	0.8	0.8	2.4	6.7	6.7	55	ND		0.16	ND		0.17	ND		0.16	ND		0.16	ND		0.15	ND		0.16
Phenol	0.33	0.33	100	100	500	1000	ND		0.2	ND		0.21	ND		0.2	ND		0.2	ND		0.19	ND		0.2
2-Methylphenol	0.33	0.33	100	100	500	1000	ND		0.2	ND		0.21	ND		0.2	ND		0.2	ND		0.19	ND		0.2
3-Methylphenol/4-Methylphenol	0.33	0.33	34	100	500	1000	ND		0.28	ND		0.3	ND		0.29	ND		0.28	ND		0.28	ND		0.28
1,4-Dioxane	0.1	0.1	9.8	13	130	250	ND		0.029	ND		0.031	ND		0.031	ND		0.03	ND		0.029	ND		0.029

TABLE 4

NATIVE SOIL SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

							SAMPLE ID:	SB-13-7FT			SB-14-3FT			SB-15-4FT			SB-16-3FT			SB-18-7FT			SB-19-7FT		
							LAB ID:	L2428514-02			L2428242-15			L2428242-10			L2428242-14			L2428514-10			L2428729-02		
							COLLECTION DATE:	5/22/2024			5/21/2024			5/21/2024			5/21/2024			5/22/2024			5/23/2024		
							SAMPLE DEPTH:	7 FT			3 FT			4 FT			3 FT			7 FT			7 FT		
							SAMPLE MATRIX:	NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL		
	NY-UNRES	NY-RESGW	NY-RESR	NY-RESRR	NY-RESC	NY-RESI																			
ANALYTE	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
CHLORINATED HERBICIDES BY GC																								
2,4,5-TP (Silvex)	3.8	3.8	58	100	500	1000	ND		0.196	-		-	ND		0.202	-	-	-	-	-	-	-	-	-
ORGANOCHLORINE PESTICIDES BY GC																								
Delta-BHC	0.04	0.25	100	100	500	1000	ND		0.00181	-		-	ND		0.0019	-	-	-	-	-	-	-	-	-
Lindane	0.1	0.1	0.28	1.3	9.2	23	ND		0.000755	-		-	ND		0.000792	-	-	-	-	-	-	-	-	-
Alpha-BHC	0.02	0.02	0.097	0.48	3.4	6.8	ND		0.000755	-		-	ND		0.000792	-	-	-	-	-	-	-	-	-
Beta-BHC	0.036	0.09	0.072	0.36	3	14	ND		0.00181	-		-	ND		0.0019	-	-	-	-	-	-	-	-	-
Heptachlor	0.042	0.38	0.42	2.1	15	29	ND		0.000906	-		-	ND		0.00095	-	-	-	-	-	-	-	-	-
Aldrin	0.005	0.19	0.019	0.097	0.68	1.4	ND		0.00181	-		-	ND		0.0019	-	-	-	-	-	-	-	-	-
Endrin	0.014	0.06	2.2	11	89	410	ND		0.000755	-		-	ND		0.000792	-	-	-	-	-	-	-	-	-
Dieldrin	0.005	0.1	0.039	0.2	1.4	2.8	ND		0.00113	-		-	ND		0.00119	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033	17	1.8	8.9	62	120	ND		0.00181	-		-	ND		0.0019	-	-	-	-	-	-	-	-	-
4,4'-DDD	0.0033	14	2.6	13	92	180	ND		0.00181	-		-	ND		0.0019	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033	136	1.7	7.9	47	94	ND		0.00181	-		-	ND		0.0019	-	-	-	-	-	-	-	-	-
Endosulfan I	2.4	102	4.8	24	200	920	ND		0.00181	-		-	ND		0.0019	-	-	-	-	-	-	-	-	-
Endosulfan II	2.4	102	4.8	24	200	920	ND		0.00181	-		-	ND		0.0019	-	-	-	-	-	-	-	-	-
Endosulfan sulfate	2.4	1000	4.8	24	200	920	ND		0.000755	-		-	ND		0.000792	-	-	-	-	-	-	-	-	-
cis-Chlordane	0.094	2.9	0.91	4.2	24	47	ND		0.00226	-		-	ND		0.00238	-	-	-	-	-	-	-	-	-
POLYCHLORINATED BIPHENYLS BY GC																								
Aroclor 1016	0.1	3.2	1	1	1	25	ND		0.055	ND		0.0603	ND		0.0578	ND		0.0558	ND		0.0558	ND		0.0578
Aroclor 1221	0.1	3.2	1	1	1	25	ND		0.055	ND		0.0603	ND		0.0578	ND		0.0558	ND		0.0558	ND		0.0578
Aroclor 1232	0.1	3.2	1	1	1	25	ND		0.055	ND		0.0603	ND		0.0578	ND		0.0558	ND		0.0558	ND		0.0578
Aroclor 1242	0.1	3.2	1	1	1	25	ND		0.055	ND		0.0603	ND		0.0578	ND		0.0558	ND		0.0558	ND		0.0578
Aroclor 1248	0.1	3.2	1	1	1	25	ND		0.055	ND		0.0603	ND		0.0578	ND		0.0558	ND		0.0558	ND		0.0578
Aroclor 1254	0.1	3.2	1	1	1	25	ND		0.055	ND		0.0603	ND		0.0578	ND		0.0558	ND		0.0558	ND		0.0578
Aroclor 1260	0.1	3.2	1	1	1	25	ND		0.055	ND		0.0603	ND		0.0578	ND		0.0558	ND		0.0558	ND		0.0578
Aroclor 1262	0.1	3.2	1	1	1	25	ND		0.055	ND		0.0603	ND		0.0578	ND		0.0558	ND		0.0558	ND		0.0578
Aroclor 1268	0.1	3.2	1	1	1	25	ND		0.055	ND		0.0603	ND		0.0578	ND		0.0558	ND		0.0558	ND		0.0578
PCBs, Total	0.1	3.2	1	1	1	25	ND		0.055	ND		0.0603	ND		0.0578	ND		0.0558	ND		0.0558	ND		0.0578
TOTAL METALS																								
Arsenic, Total	13	16	16	16	16	16	4.56		0.899	4.92		1.01	2.95		0.975	2.7		0.949	4.72		0.904	3.68		0.914
Barium, Total	350	820	350	400	400	10000	106		0.899	194		1.01	188		0.975	91		0.949	80.8		0.904	110		0.914
Beryllium, Total	7.2	47	14	72	590	2700	0.466		0.45	0.791		0.507	0.65		0.487	0.577		0.475	0.43	J	0.452	0.603		0.457
Cadmium, Total	2.5	7.5	2.5	4.3	9.3	60	0.171	J	0.899	0.276	J	1.01	0.287	J	0.975	0.313	J	0.949	0.186	J	0.904	0.137	J	0.914
Chromium, Total	NA	NA	NA	NA	NA	NA	20.1		0.899	22.9		1.01	19.9		0.975	19		0.949	18.9		0.904	18.7		0.914
Copper, Total	50	1720	270	270	270	10000	21.8		0.899	25.1		1.01	21.6		0.975	19.9		0.949	23.3		0.904	20.8		0.914
Lead, Total	63	450	400	400	1000	3900	11.9		4.5	11.8		5.07	12.4		4.87	11.4		4.75	12.2		4.52	11		4.57
Manganese, Total	1600	2000	2000	2000	10000	10000	430		0.899	475		1.01	607		0.975	562		0.949	374		0.904	471		0.914
Mercury, Total	0.18	0.73	0.81	0.81	2.8	5.7	ND		0.075	ND		0.096	ND		0.094	ND		0.093	ND		0.075	ND		0.075
Nickel, Total	30	130	140	310	310	10000	28.9		2.25	36.2		2.54	33.8		2.44	30		2.37	25.3		2.26	23.7		2.29
Selenium, Total	3.9	4	36	180	1500	6800	ND		1.8	0.441	J	2.03	ND		1.95	0.351	J	1.9	ND		1.81	ND		1.83
Silver, Total	2	8.3	36	180	1500	6800	ND		0.45	ND		0.507	ND		0.487	ND		0.475	ND		0.452	ND		0.457
Zinc, Total	109	2480	2200	10000	10000	10000	68.6		4.5	66.9		5.07	62.5		4.87	62.8		4.75	78.8		4.52	63.6		4.57
GENERAL CHEMISTRY																								
Chromium, Trivalent	30	NA	36	180	1500	6800	20.1		0.951	22.9		1.02	19.9		0.991	19		0.959	18.9		0.954	18.7		0.942
Solids, Total	NA	NA	NA	NA	NA	NA	84.1		0.1	78.1		0.1	80.7		0.1	83.4		0.1	83.9		0.1	84.9		0.1
Cyanide, Total	27	40	27	27	27	10000	ND		1.1	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.1
Chromium, Hexavalent	1	800	22	110	400	800	ND		0.951	ND		1.02	ND		0.991	ND		0.959	ND		0.954	ND		0.942

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						LAB ID:	L2428514-02			L2428242-15			L2428242-10			L2428242-14			L2428514-10			L2428729-02		
						COLLECTION DATE:	5/22/2024			5/21/2024			5/21/2024			5/21/2024			5/22/2024			5/23/2024		
						SAMPLE DEPTH:	7 FT			3 FT			4 FT			3 FT			7 FT			7 FT		
						SAMPLE MATRIX:	NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL			NATIVE SOIL		
	NY-UNRES	**NY-RESGW**	**NY-RESR**	**NY-RESRR**	**NY-RESC**	**NY-RESI**																		
ANALYTE	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
PERFLUORINATED ALKYL ACIDS BY EPA 1633																								
Perfluorobutanoic Acid (PFBA)	NA	NA	NA	NA	NA	NA	ND		0.000726	ND		0.00079	ND		0.000793	ND		0.000793	ND		0.000754	ND		0.000761
Perfluoropentanoic Acid (PFPeA)	NA	NA	NA	NA	NA	NA	ND		0.000363	ND		0.000395	ND		0.000396	ND		0.000396	ND		0.000377	ND		0.00038
Perfluorobutanesulfonic Acid (PFBS)	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2	NA	NA	NA	NA	NA	NA	ND		0.000726	ND		0.00079	ND		0.000793	ND		0.000793	ND		0.000754	ND		0.000761
Perfluorohexanoic Acid (PFHxA)	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
Perfluoropentanesulfonic Acid (PFPeS)	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
Perfluoroheptanoic Acid (PFHpA)	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
Perfluorohexanesulfonic Acid (PFHxS)	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
Perfluorooctanoic Acid (PFOA)	0.00066	NA	0.0066	0.033	0.5	0.6	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2	NA	NA	NA	NA	NA	NA	ND		0.000726	ND		0.00079	ND		0.000793	ND		0.000793	ND		0.000754	ND		0.000761
Perfluoroheptanesulfonic Acid (PFHpS)	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
Perfluorononanoic Acid (PFNA)	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
Perfluorooctanesulfonic Acid (PFOS)	0.00088	NA	0.0088	0.044	0.44	0.44	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
Perfluorodecanoic Acid (PFDA)	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2	NA	NA	NA	NA	NA	NA	ND		0.000726	ND		0.00079	ND		0.000793	ND		0.000793	ND		0.000754	ND		0.000761
Perfluorononanesulfonic Acid (PFNS)	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
N-Methyl Perfluorooctanesulfonamidoacetic Ac	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
Perfluoroundecanoic Acid (PFUnA)	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
Perfluorodecanesulfonic Acid (PFDS)	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
Perfluorooctanesulfonamide (PFOSA)	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
Perfluorododecanoic Acid (PFDoA)	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
Perfluorotridecanoic Acid (PFTrDA)	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
Perfluorotetradecanoic Acid (PFTeDA)	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
Hexafluoropropylene Oxide Dimer Acid (HFPO-	NA	NA	NA	NA	NA	NA	ND		0.000726	ND		0.00079	ND		0.000793	ND		0.000793	ND		0.000754	ND		0.000761
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NA	NA	NA	NA	NA	NA	ND		0.000726	ND		0.00079	ND		0.000793	ND		0.000793	ND		0.000754	ND		0.000761
Perfluorododecanesulfonic Acid (PFDoS)	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic	NA	NA	NA	NA	NA	NA	ND		0.000726	ND		0.00079	ND		0.000793	ND		0.000793	ND		0.000754	ND		0.000761
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfo	NA	NA	NA	NA	NA	NA	ND		0.000726	ND		0.00079	ND		0.000793	ND		0.000793	ND		0.000754	ND		0.000761
N-Methyl Perfluorooctane Sulfonamide (NMeF	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
N-Ethyl Perfluorooctane Sulfonamide (NEtFOS	NA	NA	NA	NA	NA	NA	ND		0.000182	ND		0.000198	ND		0.000198	ND		0.000198	ND		0.000188	ND		0.00019
N-Methyl Perfluorooctanesulfonamido Ethanol	NA	NA	NA	NA	NA	NA	ND		0.00182	ND		0.00198	ND		0.00198	ND		0.00198	ND		0.00188	ND		0.0019
N-Ethyl Perfluorooctanesulfonamido Ethanol (N	NA	NA	NA	NA	NA	NA	ND		0.00182	ND		0.00198	ND		0.00198	ND		0.00198	ND		0.00188	ND		0.0019
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	NA	NA	NA	NA	NA	NA	ND		0.000363	ND		0.000395	ND		0.000396	ND		0.000396	ND		0.000377	ND		0.00038
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	NA	NA	NA	NA	NA	NA	ND		0.000363	ND		0.000395	ND		0.000396	ND		0.000396	ND		0.000377	ND		0.00038
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEE	NA	NA	NA	NA	NA	NA	ND		0.000363	ND		0.000395	ND		0.000396	ND		0.000396	ND		0.000377	ND		0.00038
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	NA	NA	NA	NA	NA	NA	ND		0.000363	ND		0.000395	ND		0.000396	ND		0.000396	ND		0.000377	ND		0.00038
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	NA	NA	NA	NA	NA	NA	ND		0.000908	ND		0.000988	ND		0.000991	ND		0.000991	ND		0.000943	ND		0.000951
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA	NA	NA	NA	NA	NA	NA	ND		0.00454	ND		0.00494	ND		0.00496	ND		0.00495	ND		0.00471	ND		0.00476
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	NA	NA	NA	NA	NA	NA	ND		0.00454	ND		0.00494	ND		0.00496	ND		0.00495	ND		0.00471	ND		0.00476

* Comparison is not performed on parameters with non-numeric criteria.

NY-UNRES: New York NYCRR Part 375 New York Unrestricted use Criteria Criteria per 6 NYCRR Part 375 Environmental Remedi
NY-RESR: New York NYCRR Part 375 Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental
NY-RESRR: New York NYCRR Part 375 Restricted-Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Er
NY-RESC: New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmenta
NY-RESI: New York NYCRR Part 375 Industrial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Re

TABLE 5

GROUNDWATER SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

	SAMPLE ID:	MW-01			DUP-A			MW-02			MW-03			MW-04			MW-05		
	COLLECTION DATE:	6/24/2024			6/24/2024			6/25/2024			6/25/2024			6/24/2024			6/24/2024		
	SAMPLE MATRIX:	GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER		
	NY-AWQS																		
ANALYTE	(ug/l)	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOCs																			
Methylene chloride	5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
1,1-Dichloroethane	5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
Chloroform	7	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
Carbon tetrachloride	5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
1,2-Dichloropropane	1	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Dibromochloromethane	50	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
1,1,2-Trichloroethane	1	ND		1.5	ND		1.5	ND		1.5	ND		1.5	ND		1.5	ND		1.5
Tetrachloroethene	5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
Chlorobenzene	5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
Trichlorofluoromethane	5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
1,2-Dichloroethane	0.6	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
1,1,1-Trichloroethane	5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
Bromodichloromethane	50	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
trans-1,3-Dichloropropene	0.4	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
cis-1,3-Dichloropropene	0.4	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
Bromoform	50	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
1,1,2,2-Tetrachloroethane	5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
Benzene	1	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
Toluene	5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
Ethylbenzene	5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
Chloromethane	NA	ND		2.5	ND		2.5	1.5	J	2.5	1.4	J	2.5	ND		2.5	ND		2.5
Bromomethane	5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
Vinyl chloride	2	ND		1	ND		1	ND		1	0.4	J	1	0.24	J	1	ND		1
Chloroethane	5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
1,1-Dichloroethene	5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
trans-1,2-Dichloroethene	5	ND		2.5	ND		2.5	ND		2.5	2.1	J	2.5	ND		2.5	ND		2.5
Trichloroethene	5	5.4		0.5	3.2		0.5	14		0.5	7.2		0.5	0.94		0.5	ND		0.5
1,2-Dichlorobenzene	3	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
1,3-Dichlorobenzene	3	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
1,4-Dichlorobenzene	3	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
Methyl tert butyl ether	10	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
p/m-Xylene	5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
o-Xylene	5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
cis-1,2-Dichloroethene	5	5.1		2.5	3.8		2.5	2.2	J	2.5	9.3		2.5	8.2		2.5	ND		2.5
Styrene	5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
Dichlorodifluoromethane	5	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
Acetone	50	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
Carbon disulfide	60	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
2-Butanone	50	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
4-Methyl-2-pentanone	NA	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
2-Hexanone	50	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
Bromochloromethane	5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
1,2-Dibromoethane	0.0006	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
1,2-Dibromo-3-chloropropane	0.04	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
Isopropylbenzene	5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
1,2,3-Trichlorobenzene	5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
1,2,4-Trichlorobenzene	5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
Methyl Acetate	NA	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
Cyclohexane	NA	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10
1,4-Dioxane	NA	ND		250	ND		250	ND		250	ND		250	ND		250	ND		250
Freon-113	5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5	ND		2.5
Methyl cyclohexane	NA	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10

TABLE 5

GROUNDWATER SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

	SAMPLE ID:	MW-01			DUP-A			MW-02			MW-03			MW-04			MW-05		
	COLLECTION DATE:	6/24/2024			6/24/2024			6/25/2024			6/25/2024			6/24/2024			6/24/2024		
	SAMPLE MATRIX:	GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER		
	NY-AWQS																		
ANALYTE	(ug/l)	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
1,4 DIOXANE BY 8270E-SIM																			
1,4-Dioxane	NA	ND		0.15	ND		0.15	ND		0.15	ND		0.144	0.685		0.156	ND		0.144
SVOCs BY GC/MS																			
Bis(2-chloroethyl)ether	1	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
3,3'-Dichlorobenzidine	5	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
2,4-Dinitrotoluene	5	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
2,6-Dinitrotoluene	5	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
4-Chlorophenyl phenyl ether	NA	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
4-Bromophenyl phenyl ether	NA	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
Bis(2-chloroisopropyl)ether	5	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
Bis(2-chloroethoxy)methane	5	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
Hexachlorocyclopentadiene	5	ND		20	ND		20	ND		20	ND		20	ND		20	ND		20
Isophorone	50	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
Nitrobenzene	0.4	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
NDPA/DPA	50	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
n-Nitrosodi-n-propylamine	NA	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
Bis(2-ethylhexyl)phthalate	5	ND		3	ND		3	ND		3	ND		3	ND		3	ND		3
Butyl benzyl phthalate	50	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
Di-n-butylphthalate	50	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
Di-n-octylphthalate	50	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
Diethyl phthalate	50	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
Dimethyl phthalate	50	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
Biphenyl	NA	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
4-Chloroaniline	5	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
2-Nitroaniline	5	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
3-Nitroaniline	5	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
4-Nitroaniline	5	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
Dibenzofuran	NA	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
1,2,4,5-Tetrachlorobenzene	5	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10
Acetophenone	NA	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
2,4,6-Trichlorophenol	NA	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
p-Chloro-m-cresol	NA	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
2-Chlorophenol	NA	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
2,4-Dichlorophenol	1	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
2,4-Dimethylphenol	50	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
2-Nitrophenol	NA	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10
4-Nitrophenol	NA	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10
2,4-Dinitrophenol	10	ND		20	ND		20	ND		20	ND		20	ND		20	ND		20
4,6-Dinitro-o-cresol	NA	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10
Phenol	1	ND		5	ND		5	ND		5	0.82	J	5	ND		5	ND		5
2-Methylphenol	NA	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
3-Methylphenol/4-Methylphenol	NA	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
2,4,5-Trichlorophenol	NA	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
Carbazole	NA	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
Atrazine	7.5	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10
Benzaldehyde	NA	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
Caprolactam	NA	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10
2,3,4,6-Tetrachlorophenol	NA	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
SVOCs BY GC/MS-SIM																			
Acenaphthene	20	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1
2-Chloronaphthalene	10	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2
Fluoranthene	50	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1
Hexachlorobutadiene	0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
Naphthalene	10	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1
Benzo(a)anthracene	0.002	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1
Benzo(a)pyrene	0	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1
Benzo(b)fluoranthene	0.002	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1
Benzo(k)fluoranthene	0.002	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1
Chrysene	0.002	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1
Acenaphthylene	NA	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1
Anthracene	50	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1
Benzo(ghi)perylene	NA	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1
Fluorene	50	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1
Phenanthrene	50	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1
Dibenzo(a,h)anthracene	NA	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1
Indeno(1,2,3-cd)pyrene	0.002	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1
Pyrene	50	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1
2-Methylnaphthalene	NA	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1	ND		0.1
Pentachlorophenol	1	ND		0.8	ND		0.8	ND		0.8	ND		0.8	ND		0.8	ND		0.8
Hexachlorobenzene	0.04	ND		0.8	ND		0.8	ND		0.8	ND		0.8	ND		0.8	ND		0.8
Hexachloroethane	5	ND		0.8	ND		0.8	ND		0.8	ND		0.8	ND		0.8	ND		0.8

TABLE 5

GROUNDWATER SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

	SAMPLE ID:	MW-01			DUP-A			MW-02			MW-03			MW-04			MW-05		
	COLLECTION DATE:	6/24/2024			6/24/2024			6/25/2024			6/25/2024			6/24/2024			6/24/2024		
	SAMPLE MATRIX:	GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER		
	NY-AWQS																		
ANALYTE	**(ug/l)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
HERBICIDES																			
2,4-D	50	-		-	-		-	ND		10	-	-	-	-	-	-	-	-	-
2,4,5-T	35	-		-	-		-	ND		2	-	-	-	-	-	-	-	-	-
2,4,5-TP (Silvex)	NA	-		-	-		-	ND		2	-	-	-	-	-	-	-	-	-
PESTICIDES																			
Delta-BHC	0.04	-		-	-		-	ND		0.014	-	-	-	-	-	-	-	-	-
Lindane	0.05	-		-	-		-	ND		0.014	-	-	-	-	-	-	-	-	-
Alpha-BHC	0.01	-		-	-		-	ND		0.014	-	-	-	-	-	-	-	-	-
Beta-BHC	0.04	-		-	-		-	ND		0.014	-	-	-	-	-	-	-	-	-
Heptachlor	0.04	-		-	-		-	ND		0.014	-	-	-	-	-	-	-	-	-
Aldrin	0	-		-	-		-	ND		0.014	-	-	-	-	-	-	-	-	-
Heptachlor epoxide	0.03	-		-	-		-	ND		0.014	-	-	-	-	-	-	-	-	-
Endrin	0	-		-	-		-	ND		0.029	-	-	-	-	-	-	-	-	-
Endrin aldehyde	5	-		-	-		-	ND		0.029	-	-	-	-	-	-	-	-	-
Endrin ketone	5	-		-	-		-	ND		0.029	-	-	-	-	-	-	-	-	-
Dieldrin	0.004	-		-	-		-	ND		0.029	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.2	-		-	-		-	ND		0.029	-	-	-	-	-	-	-	-	-
4,4'-DDD	0.3	-		-	-		-	ND		0.029	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.2	-		-	-		-	ND		0.029	-	-	-	-	-	-	-	-	-
Endosulfan I	NA	-		-	-		-	ND		0.014	-	-	-	-	-	-	-	-	-
Endosulfan II	NA	-		-	-		-	ND		0.029	-	-	-	-	-	-	-	-	-
Endosulfan sulfate	NA	-		-	-		-	ND		0.029	-	-	-	-	-	-	-	-	-
Methoxychlor	35	-		-	-		-	ND		0.143	-	-	-	-	-	-	-	-	-
Toxaphene	0.06	-		-	-		-	ND		0.143	-	-	-	-	-	-	-	-	-
cis-Chlordane	NA	-		-	-		-	ND		0.014	-	-	-	-	-	-	-	-	-
trans-Chlordane	NA	-		-	-		-	ND		0.014	-	-	-	-	-	-	-	-	-
Chlordane	0.05	-		-	-		-	ND		0.143	-	-	-	-	-	-	-	-	-
POLYCHLORINATED BIPHENYLS																			
Aroclor 1016	0.09	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071
Aroclor 1221	0.09	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071
Aroclor 1232	0.09	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071
Aroclor 1242	0.09	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071
Aroclor 1248	0.09	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071
Aroclor 1254	0.09	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071
Aroclor 1260	0.09	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071
Aroclor 1262	0.09	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071
Aroclor 1268	0.09	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071
PCBs, Total	NA	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071	ND		0.071

TABLE 5

GROUNDWATER SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

	SAMPLE ID:	MW-01			DUP-A			MW-02			MW-03			MW-04			MW-05		
	COLLECTION DATE:	6/24/2024			6/24/2024			6/25/2024			6/25/2024			6/24/2024			6/24/2024		
	SAMPLE MATRIX:	GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER		
	NY-AWQS																		
ANALYTE	(ug/l)	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
DISSOLVED METALS																			
Aluminum, Dissolved	NA	4.26	J	10	8.09	J	10	177		10	30.8		10	10.4		10	9.16	J	10
Antimony, Dissolved	3	0.59	J	4	1.67	J	4	ND		4	ND		4	0.45	J	4	0.81	J	4
Arsenic, Dissolved	25	0.62		0.5	1		0.5	0.66	J	1	3.13		1	0.72		0.5	0.98		0.5
Barium, Dissolved	1000	47.92		0.5	46.05		0.5	99.66		0.5	85.06		0.5	59.93		0.5	57.48		0.5
Beryllium, Dissolved	3	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
Cadmium, Dissolved	5	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2
Calcium, Dissolved	NA	230000		100	276000		100	176000		100	58900		100	89400		100	66200		100
Chromium, Dissolved	50	0.22	J	1	0.25	J	1	0.51	J	1	ND		1	ND		1	ND		1
Cobalt, Dissolved	NA	0.51		0.5	0.55		0.5	0.2	J	0.5	0.61		0.5	0.53		0.5	0.99		0.5
Copper, Dissolved	200	5.2		1	8.24		1	3.58		1	1.78		1	5.97		1	4.3		1
Iron, Dissolved	300	ND		50	ND		50	191		50	31.9	J	50	ND		50	24.8	J	50
Lead, Dissolved	25	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Magnesium, Dissolved	35000	287000		700	340000		700	264000		700	30000		70	188000		700	137000		700
Manganese, Dissolved	300	239.5		1	318.8		1	42.53		1	258.4		1	122.2		1	77.74		1
Mercury, Dissolved	0.7	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2
Nickel, Dissolved	100	1.38	J	2	1.62	J	2	1.73	J	2	1.44	J	2	9.6		2	2.13		2
Potassium, Dissolved	NA	14900		100	16900		100	11200		100	5200		100	10300		100	6810		100
Selenium, Dissolved	10	5.85		5	6.99		5	2.15	J	5	ND		5	ND		5	ND		5
Silver, Dissolved	50	ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4
Sodium, Dissolved	20000	151000		100	185000		100	118000		100	83400		100	188000		100	63100		100
Thallium, Dissolved	0.5	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Vanadium, Dissolved	NA	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
Zinc, Dissolved	2000	24.37		10	43.79		10	13.39		10	10.2		10	9.5	J	10	10.56		10
TOTAL METALS																			
Aluminum, Total	NA	43.8		10	171		10	2280		10	266		10	238		10	42.9		10
Antimony, Total	3	ND		4	0.52	J	4	ND		4	ND		4	ND		4	ND		4
Arsenic, Total	25	0.81		0.5	0.82		0.5	1.89		0.5	3.5		0.5	1.01		0.5	1.06		0.5
Barium, Total	1000	54.82		0.5	45.58		0.5	113.8		0.5	95.66		0.5	71.3		0.5	66.48		0.5
Beryllium, Total	3	ND		0.5	ND		0.5	0.12	J	0.5	ND		0.5	ND		0.5	ND		0.5
Cadmium, Total	5	0.06	J	0.2	0.06	J	0.2	ND		0.2	ND		0.2	0.06	J	0.2	ND		0.2
Calcium, Total	NA	240000		100	276000		100	178000		100	57800		100	72900		100	52200		100
Chromium, Total	50	0.56	J	1	0.77	J	1	3.72		1	0.64	J	1	1.01		1	0.4	J	1
Cobalt, Total	NA	0.85		0.5	1.14		0.5	2.02		0.5	0.8		0.5	1.17		0.5	1.06		0.5
Copper, Total	200	5.83		1	7.91		1	7.36		1	2.94		1	8.28		1	4.73		1
Iron, Total	300	49.9	J	50	210		50	3900		50	453		50	564		50	66.3		50
Lead, Total	25	ND		1	0.6	J	1	4.63		1	0.62	J	1	0.78	J	1	ND		1
Magnesium, Total	35000	297000		280	384000		280	246000		280	29500		70	173000		140	135000		140
Manganese, Total	300	298.9		1	433.8		1	121.5		1	282.8		1	133.1		1	92.92		1
Mercury, Total	0.7	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2
Nickel, Total	100	2		2	1.81	J	2	6.09		2	1.9	J	2	13.96		2	2.3		2
Potassium, Total	NA	15800		100	17900		100	11400		100	5180		100	9790		100	6900		100
Selenium, Total	10	6.4		5	7.76		5	3.27	J	5	ND		5	ND		5	ND		5
Silver, Total	50	ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4
Sodium, Total	20000	183000		100	202000		100	110000		100	82300		100	213000		100	71300		100
Thallium, Total	0.5	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Vanadium, Total	NA	ND		5	ND		5	5.52		5	ND		5	ND		5	ND		5
Zinc, Total	2000	28.7		10	37.35		10	29.24		10	13.26		10	11.82		10	14.59		10
GENERAL CHEMISTRY																			
Cyanide, Total	200	-		-	-		-	ND		5	-	-	-	-	-	-	-	-	-
Cyanide, Dissolved	NA	-		-	-		-	ND		5	-	-	-	-	-	-	-	-	-
Chromium, Hexavalent	50	-		-	-		-	ND		10	-	-	-	-	-	-	-	-	-
Chromium, Hexavalent (Unfiltered)	NA	-		-	-		-	ND		10	-	-	-	-	-	-	-	-	-

TABLE 5

GROUNDWATER SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

	SAMPLE ID:	MW-01			DUP-A			MW-02			MW-03			MW-04			MW-05		
	COLLECTION DATE:	6/24/2024			6/24/2024			6/25/2024			6/24/2024			6/24/2024			6/24/2024		
	SAMPLE MATRIX:	GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER		
	NY-AWQS																		
ANALYTE	(ug/l)	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
PERFLUORINATED ALKYL ACIDS																			
Perfluorobutanoic Acid (PFBA)	NA	0.00732		0.00597	0.00827		0.0061	0.00791		0.00619	0.015		0.00612	0.00509	J	0.0062	0.00333	J	0.00602
Perfluoropentanoic Acid (PFPeA)	NA	0.00797		0.00301	0.00732		0.00301	0.0021	J	0.00309	0.0452		0.00306	0.0033		0.0031	0.000956	J	0.00301
Perfluorobutanesulfonic Acid (PFBS)	NA	0.00154		0.00151	0.00134	J	0.0015	0.00135	J	0.00155	0.00161		0.00153	ND		0.00155	ND		0.0015
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	NA	ND		0.00603	ND		0.00601	ND		0.00619	ND		0.00612	ND		0.0062	ND		0.00602
Perfluorohexanoic Acid (PFHxA)	NA	0.012		0.00151	0.0115		0.0015	0.00454		0.00155	0.0246		0.00153	0.0045		0.00155	0.00181		0.0015
Perfluoropentanesulfonic Acid (PFPeS)	NA	ND		0.00151	ND		0.0015	ND		0.00155	0.000704	J	0.00153	ND		0.00155	ND		0.0015
Perfluoroheptanoic Acid (PFHpA)	NA	0.0028		0.00151	0.00258		0.0015	0.00166		0.00155	0.0201		0.00153	0.0022		0.00155	ND		0.0015
Perfluorohexanesulfonic Acid (PFHxS)	NA	ND		0.00151	ND		0.0015	0.00145	J	0.00155	0.00548		0.00153	0.000605	J	0.00155	ND		0.0015
Perfluorooctanoic Acid (PFOA)	0.0067	0.00494		0.00151	0.00447		0.0015	0.0052		0.00155	0.0148		0.00153	0.00529		0.00155	0.00126	J	0.0015
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	NA	ND		0.00603	ND		0.00601	ND		0.00619	0.0282		0.00612	ND		0.0062	ND		0.00602
Perfluoroheptanesulfonic Acid (PFHpS)	NA	ND		0.00151	ND		0.0015	ND		0.00155	ND		0.00153	ND		0.00155	ND		0.0015
Perfluorononanoic Acid (PFNA)	NA	0.00058	J	0.00151	0.000556	J	0.0015	0.000951	J	0.00155	0.0116		0.00153	0.00069	J	0.00155	ND		0.0015
Perfluorooctanesulfonic Acid (PFOS)	0.0027	0.00131	J	0.00151	0.00094	J	0.0015	0.00247		0.00155	0.0077		0.00153	0.00384		0.00155	ND		0.0015
Perfluorodecanoic Acid (PFDA)	NA	ND		0.00151	ND		0.0015	ND		0.00155	ND		0.00153	ND		0.00155	ND		0.0015
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	NA	ND		0.00603	ND		0.00601	ND		0.00619	ND		0.00612	ND		0.0062	ND		0.00602
Perfluorononanesulfonic Acid (PFNS)	NA	ND		0.00151	ND		0.0015	ND		0.00155	ND		0.00153	ND		0.00155	ND		0.0015
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NA	ND		0.00151	ND		0.0015	ND		0.00155	ND		0.00153	ND		0.00155	ND		0.0015
Perfluoroundecanoic Acid (PFUnA)	NA	ND		0.00151	ND		0.0015	ND		0.00155	ND		0.00153	ND		0.00155	ND		0.0015
Perfluorodecanesulfonic Acid (PFDS)	NA	ND		0.00151	ND		0.0015	ND		0.00155	ND		0.00153	ND		0.00155	ND		0.0015
Perfluorooctanesulfonamide (PFOSA)	NA	ND		0.00151	ND		0.0015	ND		0.00155	ND		0.00153	0.000551	JF	0.00155	ND		0.0015
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NA	ND		0.00151	ND		0.0015	ND		0.00155	ND		0.00153	ND		0.00155	ND		0.0015
Perfluorododecanoic Acid (PFDoA)	NA	ND		0.00151	ND		0.0015	ND		0.00155	ND		0.00153	ND		0.00155	ND		0.0015
Perfluorotridecanoic Acid (PFTrDA)	NA	ND		0.00151	ND		0.0015	ND		0.00155	ND		0.00153	ND		0.00155	ND		0.0015
Perfluorotetradecanoic Acid (PFTeDA)	NA	ND		0.00151	ND		0.0015	ND		0.00155	ND		0.00153	ND		0.00155	ND		0.0015
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	NA	ND		0.00603	ND		0.00601	ND		0.00619	ND		0.00612	ND		0.0062	ND		0.00602
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NA	ND		0.00603	ND		0.00601	ND		0.00619	ND		0.00612	ND		0.0062	ND		0.00602
Perfluorododecanesulfonic Acid (PFDoS)	NA	ND		0.00151	ND		0.0015	ND		0.00155	ND		0.00153	ND		0.00155	ND		0.0015
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NA	ND		0.00603	ND		0.00601	ND		0.00619	ND		0.00612	ND		0.0062	ND		0.00602
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS	NA	ND		0.00603	ND		0.00601	ND		0.00619	ND		0.00612	ND		0.0062	ND		0.00602
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	NA	ND		0.00151	ND		0.0015	ND		0.00155	ND		0.00153	ND		0.00155	ND		0.0015
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	NA	ND		0.00151	ND		0.0015	ND		0.00155	ND		0.00153	ND		0.00155	ND		0.0015
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	NA	ND		0.0151	ND		0.015	ND		0.0155	ND		0.0153	ND		0.0155	ND		0.015
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	NA	ND		0.0151	ND		0.015	ND		0.0155	ND		0.0153	ND		0.0155	ND		0.015
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	NA	ND		0.00301	ND		0.00301	ND		0.00309	ND		0.00306	ND		0.0031	ND		0.00301
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	NA	ND		0.00301	ND		0.00301	ND		0.00309	ND		0.00306	ND		0.0031	ND		0.00301
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	NA	ND		0.00301	ND		0.00301	ND		0.00309	ND		0.00306	ND		0.0031	ND		0.00301
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	NA	ND		0.00301	ND		0.00301	ND		0.00309	ND		0.00306	ND		0.0031	ND		0.00301
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	NA	ND		0.00754	ND		0.00752	ND		0.00774	ND		0.00765	ND		0.00776	ND		0.00753
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	NA	ND		0.0377	ND		0.0376	ND		0.0387	ND		0.0383	ND		0.0388	ND		0.0376
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	NA	ND		0.0377	ND		0.0376	ND		0.0387	ND		0.0383	ND		0.0388	ND		0.0376

* Comparison is not performed on parameters with non-numeric criteria.

NY-AWQS: New York TOGS 111 Ambient Water Quality Standards criteria reflects all addendum to criteria through June 2004.

TABLE 6A

Soil Vapor Data Summary
Matrix A
1803 Elmwood Avenue BCP - C915394
City of Buffalo, New York

		SAMPLE ID:	SSV-01-20240510			IA-01-20240510			SSV-02-20240510			IA-02-20240510			SSV-03-20240510			IA-03-20240510			OA-01-20240510		
		COLLECTION DATE:	5/10/2024			5/10/2024			5/10/2024			5/10/2024			5/10/2024			5/10/2024			5/10/2024		
		SAMPLE MATRIX:	SOIL VAPOR			AIR			SOIL VAPOR			AIR			SOIL VAPOR			AIR			AIR		
	NY-IAC-A	NY-SSC-A																					
ANALYTE	**(ug/m3)**	**(ug/m3)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS IN AIR																							
1,1-Dichloroethene		6	ND		0.59	-		-	ND		0.59	-		-	ND		0.59	-		-	-		-
cis-1,2-Dichloroethene		6	ND		0.59	-		-	ND		0.59	-		-	ND		0.59	-		-	-		-
Carbon tetrachloride		6	ND		0.94	-		-	ND		0.94	-		-	ND		0.94	-		-	-		-
Trichloroethene		6	***270***		32	-		-	1.1		0.81	-		-	ND		0.81	-		-	-		-
VOLATILE ORGANICS IN AIR BY SIM																							
1,1-Dichloroethene	0.2		-		-	ND		0.16	-		-	ND		0.16	-		-	ND		0.16	ND		0.16
cis-1,2-Dichloroethene	0.2		-		-	ND		0.16	-		-	ND		0.16	-		-	ND		0.16	ND		0.16
Carbon tetrachloride	0.2		-		-	**0.44**		0.19	-		-	**0.44**		0.19	-		-	**0.5**		0.19	**0.5**		0.19
Trichloroethene	0.2		-		-	**0.59**		0.16	-		-	ND		0.16	-		-	**0.21**		0.16	**0.21**		0.16

ND = Analyte was not detected at the reporting limit

NY-IAC-A: New York DOH Matrix A Indoor Air Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.

NY-SSC-A: New York DOH Matrix A Sub-slab Vapor Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.

Bold = Concentration above NY-IAC-A only (No further action)

Bold & *Italicized* = Concentration above NY-SSC-A only (No further action)

Concentration above both NY-IAC-A and NY-SSC-A (Monitor or Mitigate)

TABLE 6B

Soil Vapor Data Summary
Matrix B
1803 Elmwood Avenue BCP - C915394
City of Buffalo, New York

		SAMPLE ID:	SSV-01-20240510			IA-01-20240510			SSV-02-20240510			IA-02-20240510			SSV-03-20240510			IA-03-20240510			OA-01-20240510		
		COLLECTION DATE:	5/10/2024			5/10/2024			5/10/2024			5/10/2024			5/10/2024			5/10/2024			5/10/2024		
		SAMPLE MATRIX:	SOIL VAPOR			AIR			SOIL VAPOR			AIR			SOIL VAPOR			AIR			AIR		
	NY-IAC-B	NY-SSC-B																					
ANALYTE	**(ug/m3)**	**(ug/m3)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS IN AIR																							
Methylene chloride		100	1.4		0.52	-		-	1.2		0.52	-		-	1.5		0.52	-		-	-		-
1,1,1-Trichloroethane		100	ND		0.82	-		-	3.9		0.82	-		-	ND		0.82	-		-	-		-
Tetrachloroethene		100	0.75	J	1	-		-	7.4		1	-		-	ND		1	-		-	-		-
VOLATILE ORGANICS IN AIR BY SIM																							
Methylene chloride	3		-		-	1.1		0.52	-		-	1.2		0.52	-		-	1.6		0.52	1.6		0.52
1,1,1-Trichloroethane	3		-		-	ND		0.82	-		-	ND		0.82	-		-	ND		0.82	ND		0.82
Tetrachloroethene	3		-		-	ND		1	-		-	ND		1	-		-	ND		1	ND		1

ND = Analyte was not detected at the reporting limit

NY-IAC-B: New York DOH Matrix B Indoor Air Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.

NY-SSC-B: New York DOH Matrix B Sub-slab Vapor Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.

Bold = Concentration above NY-IAC-B only (No further action)

Bold & *Italicized* = Concentration above NY-SSC-B only (No further action)

Concentration above both NY-IAC-B and NY-SSC-B (Monitor or Mitigate)

TABLE 6C

Soil Vapor Data Summary
Matrix C
1803 Elmwood Avenue BCP - C915394
City of Buffalo, New York

		SAMPLE ID:	SSV-01-20240510			IA-01-20240510			SSV-02-20240510			IA-02-20240510			SSV-03-20240510			IA-03-20240510			OA-01-20240510		
		COLLECTION DATE:	5/10/2024			5/10/2024			5/10/2024			5/10/2024			5/10/2024			5/10/2024			5/10/2024		
		SAMPLE MATRIX:	SOIL VAPOR			AIR			SOIL VAPOR			AIR			SOIL VAPOR			AIR			AIR		
	NY-IAC-C	NY-SSC-C																					
ANALYTE	**(ug/m3)**	**(ug/m3)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS IN AIR																							
Vinyl chloride		6	ND		0.38	-		-	ND		0.38	-		-	ND		0.38	-		-	-	-	-
VOLATILE ORGANICS IN AIR BY SIM																							
Vinyl chloride	0.2		-		-	ND		0.1	-		-	ND		0.1	-		-	ND		0.1	ND		0.1

ND = Analyte was not detected at the reporting limit

NY-IAC-C: New York DOH Matrix C Indoor Air Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.

NY-SSC-C: New York DOH Matrix C Sub-slab Vapor Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.

Bold = Concentration above NY-IAC-C only (No further action)

Bold & *Italicized* = Concentration above NY-SSC-C only (No further action)

Concentration above both NY-IAC-C and NY-SSC-C (Monitor or Mitigate)

TABLE 6D

Soil Vapor Data Summary
Matrix D
1803 Elmwood Avenue BCP - C915394
City of Buffalo, New York

		SAMPLE ID:	SSV-01-20240510			IA-01-20240510			SSV-02-20240510			IA-02-20240510			SSV-03-20240510			IA-03-20240510			OA-01-20240510		
		COLLECTION DATE:	5/10/2024			5/10/2024			5/10/2024			5/10/2024			5/10/2024			5/10/2024			5/10/2024		
		SAMPLE MATRIX:	SOIL VAPOR			AIR			SOIL VAPOR			AIR			SOIL VAPOR			AIR			AIR		
ANALYTE	NY-IAC-D (ug/m3)	NY-SSC-D (ug/m3)	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS IN AIR																							
Benzene		60	4.4		0.48	-		-	16		4.8	-		-	ND		0.48	-		-	-		-
Ethylbenzene		60	0.74		0.65	-		-	23		6.5	-		-	ND		0.65	-		-	-		-
Naphthalene		60	-		-	-		-	-		-	-		-	-		-	-		-	-		-
Cyclohexane		60	25		0.52	-		-	13		5.2	-		-	ND		0.52	-		-	-		-
Isooctane (2,2,4-Trimethylpentane)		60	ND		0.7	-		-	ND		0.7	-		-	ND		0.7	-		-	-		-
1,2,4-Trimethylbenzene		60	0.69	J	0.74	-		-	ND		0.74	-		-	0.84		0.74	-		-	-		-
1,3,5-Trimethylbenzene		60	ND		0.74	-		-	ND		0.74	-		-	ND		0.74	-		-	-		-
o-Xylene		60	1.1		0.65	-		-	22		6.5	-		-	0.52	J	0.65	-		-	-		-
VOLATILE ORGANICS IN AIR BY SIM																							
Benzene	2		-		-	ND		0.48	-		-	0.35	J	0.48	-		-	0.32	J	0.48	ND		0.48
Ethylbenzene	2		-		-	ND		0.65	-		-	ND		0.65	-		-	ND		0.65	ND		0.65
Naphthalene	2		-		-	-		-	-		-	-		-	-		-	-		-	-		-
Cyclohexane	2		-		-	ND		0.52	-		-	ND		0.52	-		-	ND		0.52	ND		0.52
Isooctane (2,2,4-Trimethylpentane)	2		-		-	ND		0.7	-		-	0.51	J	0.7	-		-	1.3		0.7	ND		0.7
1,2,4-Trimethylbenzene	2		-		-	ND		0.74	-		-	0.59	J	0.74	-		-	0.54	J	0.74	ND		0.74
1,3,5-Trimethylbenzene	2		-		-	ND		0.74	-		-	ND		0.74	-		-	ND		0.74	ND		0.74
o-Xylene	2		-		-	ND		0.65	-		-	ND		0.65	-		-	0.52	J	0.65	0.48	J	0.65

ND = Analyte was not detected at the reporting limit

J = Analyte detected below quantitation limits

NY-IAC-D: New York DOH Matrix D Indoor Air Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, February 2024.

NY-SSC-D: New York DOH Matrix D Sub-slab Vapor Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, February 2024.

Bold = Concentration above NY-IAC-D only (No further action)

Bold & *Italicized* = Concentration above NY-SSC-D only (No further action)

Concentration above both NY-IAC-D and NY-SSC-D (Monitor or Mitigate)

TABLE 6E

Soil Vapor Data Summary
Matrix E
1803 Elmwood Avenue BCP - C915394
City of Buffalo, New York

ANALYTE	NY-IAC-E (ug/m3)	NY-SSC-E (ug/m3)	SAMPLE ID:	SSV-01-20240510			IA-01-20240510			SSV-02-20240510			IA-02-20240510			SSV-03-20240510			IA-03-20240510			OA-01-20240510		
			COLLECTION DATE:	5/10/2024			5/10/2024			5/10/2024			5/10/2024			5/10/2024			5/10/2024			5/10/2024		
			SAMPLE MATRIX:	SOIL VAPOR			AIR			SOIL VAPOR			AIR			SOIL VAPOR			AIR			AIR		
				Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS IN AIR																								
m&p-Xylene		200		3		1.3	-		-	82		13	-		-	1.5		1.3	-		-	-		-
Heptane		200		14		6.1	-		-	32		6.1	-		-	120		25	-		-	-		-
Hexane		200		16		5.3	-		-	37		5.3	-		-	***530***		48	-		-	-		-
VOLATILE ORGANICS IN AIR BY SIM																								
m&p-Xylene	6			-		-	ND		1.3	-		-	0.61	J	1.3	-		-	1.3	J	1.3	1.1	J	1.3
Heptane	6			-		-	ND		0.61	-		-	ND		0.61	-		-	0.61		0.61	ND		0.61
Hexane	6			-		-	ND		0.53	-		-	0.35	J	0.53	-		-	1.7		0.53	0.88		0.53

ND = Analyte was not detected at the reporting limit

J = Analyte detected below quantitation limits

m&p-Xylene were analyzed together for this comparison.

NY-IAC-E: New York DOH Matrix E Indoor Air Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, February 2024.

NY-SSC-E: New York DOH Matrix E Sub-slab Vapor Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, February 2024.

Bold = Concentration above NY-IAC-E only (No further action)

Bold & *Italicized* = Concentration above NY-SSC-E only (No further action)

Concentration above both NY-IAC-E and NY-SSC-E (Monitor or Mitigate)

TABLE 6F

Soil Vapor Data Summary
Matrix F
1803 Elmwood Avenue BCP - C915394
City of Buffalo, New York

		SAMPLE ID:	SSV-01-20240510			IA-01-20240510			SSV-02-20240510			IA-02-20240510			SSV-03-20240510			IA-03-20240510			OA-01-20240510		
		COLLECTION DATE:	5/10/2024			5/10/2024			5/10/2024			5/10/2024			5/10/2024			5/10/2024			5/10/2024		
		SAMPLE MATRIX:	SOIL VAPOR			AIR			SOIL VAPOR			AIR			SOIL VAPOR			AIR			AIR		
	NY-IAC-F	NY-SSC-F																					
ANALYTE	**(ug/m3)**	**(ug/m3)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS IN AIR																							
Toluene		300	5.4		0.57	-		-	83		23	-		-	ND		0.57	-		-	-		-
VOLATILE ORGANICS IN AIR BY SIM																							
Toluene	10		-		-	1.1		0.57	-		-	1.4		0.57	-		-	2.6		0.57	2		0.57

ND = Analyte was not detected at the reporting limit

J = Analyte detected below quantitation limits

NY-IAC-F: New York DOH Matrix F Indoor Air Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, February 2024.

NY-SSC-F: New York DOH Matrix F Sub-slab Vapor Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, February 2024.

Bold = Concentration above NY-IAC-F only (No further action)

Bold & *Italicized* = Concentration above NY-SSC-F only (No further action)

Concentration above both NY-IAC-F and NY-SSC-F (Monitor or Mitigate)

TABLE 7

CONCRETE SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

					SAMPLE ID:	CONCRETE-001			C-01-20240717			C-02-20240717			C-03-20240717			DUP-A-20240717		
					LAB ID:	L2031763-01			L2440109-01			L2440109-02			L2440109-03			L2440109-04		
					COLLECTION DATE:	7/28/2020			7/17/2024			7/17/2024			7/17/2024			7/17/2024		
					SAMPLE DEPTH:	CONCRETE SURFACE			CONCRETE SURFACE			CONCRETE SURFACE			CONCRETE SURFACE			CONCRETE SURFACE		
					SAMPLE MATRIX:	CONCRETE			CONCRETE			CONCRETE			CONCRETE			CONCRETE		
	NY-UNRES	**NY-RESR**	**NY-RESRR**	**NY-RESC**	**NY-RESI**	**PREVIOUS SAMPLE**														
ANALYTE	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
POLYCHLORINATED BIPHENYLS BY GC																				
Aroclor 1016	0.1	1	1	1	25	ND		0.0948	ND		0.0946	ND		0.0876	ND		0.0967	ND		0.0955
Aroclor 1221	0.1	1	1	1	25	ND		0.0948	ND		0.0946	ND		0.0876	ND		0.0967	ND		0.0955
Aroclor 1232	0.1	1	1	1	25	ND		0.0948	ND		0.0946	ND		0.0876	ND		0.0967	ND		0.0955
Aroclor 1242	0.1	1	1	1	25	ND		0.0948	0.247		0.0946	0.051	J	0.0876	ND		0.0967	ND		0.0955
Aroclor 1248	0.1	1	1	1	25	0.917		0.0948	ND		0.0946	ND		0.0876	ND		0.0967	ND		0.0955
Aroclor 1254	0.1	1	1	1	25	0.714		0.0948	0.506		0.0946	0.128		0.0876	0.0398	J	0.0967	0.149		0.0955
Aroclor 1260	0.1	1	1	1	25	0.122		0.0948	0.615		0.0946	0.173		0.0876	ND		0.0967	0.0797	J	0.0955
Aroclor 1262	0.1	1	1	1	25	ND		0.0948	ND		0.0946	ND		0.0876	ND		0.0967	ND		0.0955
Aroclor 1268	0.1	1	1	1	25	ND		0.0948	0.379		0.0946	0.0585	J	0.0876	ND		0.0967	0.0339	J	0.0955
PCBs, Total	0.1	1	1	1	25	1.75		0.0948	1.75		0.0946	0.411	J	0.0876	0.0398	J	0.0967	0.263	J	0.0955

* Comparison is not performed on parameters with non-numeric criteria.

NY-RESC: New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
NY-RESI: New York NYCRR Part 375 Industrial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
NY-RESR: New York NYCRR Part 375 Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
NY-RESRR: New York NYCRR Part 375 Restricted-Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
NY-UNRES: New York NYCRR Part 375 New York Unrestricted use Criteria Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.

TABLE 7

CONCRETE SAMPLING RESULTS
1803 ELMWOOD AVENUE BCP - C915394
CITY OF BUFFALO, NEW YORK

					SAMPLE ID:	C-04-20240717			C-05-20240717			C-06-20240717			C-07-20240717			C-08-20240717		
					LAB ID:	L2440109-05			L2440109-06			L2440109-07			L2440109-08			L2440109-09		
					COLLECTION DATE:	7/17/2024			7/17/2024			7/17/2024			7/17/2024			7/17/2024		
					SAMPLE DEPTH:	CONCRETE SURFACE			CONCRETE SURFACE			CONCRETE SURFACE			CONCRETE SURFACE			CONCRETE SURFACE		
					SAMPLE MATRIX:	CONCRETE			CONCRETE			CONCRETE			CONCRETE			CONCRETE		
	NY-UNRES	**NY-RESR**	**NY-RESRR**	**NY-RESC**	**NY-RESI**															
ANALYTE	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
POLYCHLORINATED BIPHENYLS BY GC																				
Aroclor 1016	0.1	1	1	1	25	ND		0.0934	ND		0.0935	ND		0.0974	ND		0.101	ND		0.103
Aroclor 1221	0.1	1	1	1	25	ND		0.0934	ND		0.0935	ND		0.0974	ND		0.101	ND		0.103
Aroclor 1232	0.1	1	1	1	25	ND		0.0934	ND		0.0935	ND		0.0974	ND		0.101	ND		0.103
Aroclor 1242	0.1	1	1	1	25	0.039	J	0.0934	ND		0.0935	0.0164	JIP	0.0974	0.0638	J	0.101	ND		0.103
Aroclor 1248	0.1	1	1	1	25	ND		0.0934	ND		0.0935	ND		0.0974	ND		0.101	ND		0.103
Aroclor 1254	0.1	1	1	1	25	0.248	IP	0.0934	0.319		0.0935	0.0911	J	0.0974	0.154		0.101	0.118		0.103
Aroclor 1260	0.1	1	1	1	25	0.418		0.0934	0.238		0.0935	0.143		0.0974	0.125		0.101	0.182		0.103
Aroclor 1262	0.1	1	1	1	25	ND		0.0934	ND		0.0935	ND		0.0974	ND		0.101	ND		0.103
Aroclor 1268	0.1	1	1	1	25	0.463		0.0934	0.156		0.0935	0.194		0.0974	0.048	J	0.101	0.0969	J	0.103
PCBs, Total	0.1	1	1	1	25	1.17	J	0.0934	0.713		0.0935	0.488	J	0.0974	0.391	J	0.101	0.397	J	0.103

* Comparison is not performed on parameters with non-numeric criteria.

NY-RESC: New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Envir
NY-RESI: New York NYCRR Part 375 Industrial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environr
NY-RESR: New York NYCRR Part 375 Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Enviro
NY-RESRR: New York NYCRR Part 375 Restricted-Residential Criteria, New York Restricted use Criteria per 6 NYCRR Pa
NY-UNRES: New York NYCRR Part 375 New York Unrestricted use Criteria Criteria per 6 NYCRR Part 375 Environmenta

Appendix A
Previous Soil Boring Logs

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB1

Project Name & Location: MPC Phase II 1803 Elmwood
EA Representative: E. Bedzold
Project Number:
Start Date: 10/12 End Date: 10/12
Type of Drill Rig: Track
GW Depth While Drilling: NWD
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-5	48	Concrete	
1				Black f/c sand, tr. Silt, tr. Gravel, moist (FILL)	0
				Red/Brown clay & silt tr. f/c sand, tr. Gravel, moist (FILL)	
2					0
				Red/Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist	
3					0
4					
	2	5-10	60		0
5					
6					0
7					0
8					0
9					0
10					0
				Bottom of boring 10' bg	
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes: Reworked clay from 1-2.5' bg ✓ * Sample (0.5-1.5')

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB2

Project Name & Location: MPC ph. II ESA 1803 Elmwood Ave
EA Representative: E. Bedrosian
Project Number: 01306
Start Date: 10/12 End Date: 10/12
Type of Drill Rig: Track
GW Depth While Drilling: 1'
Drilling Contractor: Matrix
GW Depth at Completion: 1'
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
				Concrete	
1	1	0.5-2.5	18	Brown f/c sand, little Si. lt. tr. Gravel, saturated. (FILL)	0.2
2				Gradesto... DK Brown, little Gravel,	0.2
3				Refusal encountered @ 2.5' bg	0.2
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB3

Project Name & Location: MPC Ph. II ESA 1803 Elmwood
EA Representative: E. Bedrosian
Project Number: 01306
Start Date: 10/12 End Date: 10/12
Type of Drill Rig: Track
GW Depth While Drilling: NWD
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
				Concrete	
1	1	0.5-5	50	Dk Brown f/c sand, little cinders, little silt, tr. Gravel, moist (FILL)	0
2				Red/Brown Clay & Silt, tr. f/c sand, tr. Gravel, moist (FILL)	0
3					0
4					0
5	2	5-10	52	Red/Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist	0
6					0
7					0
8					0
9					0
10					0
11				Bottom of Boring 10' bg	
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes: * Sample (0.5-1.5') ✓

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB4

Project Name & Location: MPC ph. II ESA 1803 Elmwood
EA Representative: E. Betzold
Project Number: 01306
Start Date: 10/12
End Date: 10/12
Type of Drill Rig: Track
GW Depth While Drilling: NWD
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
				Concrete	
1	1	0.5-5	40	DK. Brown f/c sand, little cinders, tr. Gravel, moist (FILL)	1.2
2					1.2
3					1.2
4					1.2
5	2	5-10	60	Red/Brown Clay & Silt, tr. f/c sand, tr. Gravel, moist (FILL)	1.2
6				Red/Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist	0
7					0
8					0
9					0
10					0
11				Bottom of Boring 10' bg	
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes: √ Completed outside of O'Connell buildings within former rail tracks.
* Sample 0.5-4 for SVOC, Metals, VOC

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB5

Project Name & Location: MPC ph. II ESA
EA Representative: E. Betzold
Project Number: 01306
Start Date: 10/12 End Date: 10/12
Type of Drill Rig: Track
GW Depth While Drilling: NWWD
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1			Asphalt concrete	0.5
2				Refusal encountered at 1.5' bg	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes: Refusal Presumed to be caused by former building footer or floor.

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB6

Project Name & Location: _____ EA Representative: _____

Project Number: _____

Start Date: _____ End Date: _____ Type of Drill Rig: _____

GW Depth While Drilling: _____ Drilling Contractor: _____

GW Depth at Completion: _____ Sampler Type: _____

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1				Same as SB5	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes: Refusal at 1.5' bg

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB7

Project Name & Location: MPC ph. II ESA 1803 Elmwood
EA Representative: E. Betzold
Project Number: 01306
Start Date: 10/12
End Date: 10/12
Type of Drill Rig: Track
GW Depth While Drilling: 3'
Drilling Contractor: Matrix
GW Depth at Completion: 3'
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0.5-5	36	Asphalt Dk Brown f/c sand, some cinders, tr. silt, tr. Gravel, moist	1
2					1
3				Grades to... wet. Grades to... Saturated	1
4					
5	2	5-10	54		1
6				Red/Brown clay & silt, tr. f/c sand, tr. Gravel, moist (FILL) Red/Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist.	1 0
7					0
8					0
9					0
10	3	10-14	48		0
11					0
12					0
13					0
14				Bottom of Boring 14' bg	0
15					
16					
18					
20					
22					
24					

Notes: * Sample 0.5-4' SVOC, Metals

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB8

Project Name & Location: Ph. II ESA 1803 Elmwood Ave
Project Number: 01306
EA Representative: E. Betzold
Start Date: 10/12 End Date: 10/12
Type of Drill Rig: Track
GW Depth While Drilling: 2.5'
Drilling Contractor: Matrix
GW Depth at Completion: 2.5'
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
				Asphalt	
1	1	0.5-5	40	DK, Brown f/c sand, little cinders, little silt, tr. Gravel, moist (FILL)	2
2					2
				Gradesto.., Saturated, tr. cinders.	
3					0
4					0
5	2	5-7	12	Gradesto.. little Gravel	3
6					3
7				Gradesto.. and wood.	3
				Refusal encountered at 7'	
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes: Sample (5-7') SVOC, VOC, Metals

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB9

Project Name & Location: MPC Ph. IIESA 1803 Elmwood
EA Representative: E. Betzold
Project Number: 01306
Start Date: 10/12
End Date: 10/12
Type of Drill Rig: Track
GW Depth While Drilling: NWWD
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
				Concrete	
1	1	0.5-5	48	Black f/c sand, little Silt, tr. Cinders, tr. Gravel, moist (FILL)	4
2				Gradesto.. little Brick	4
3				Gradesto... tr. Brick	
4				Red/Brown clay & silt, tr. f/c sand, tr. Gravel, moist. (FILL)	4
5	2	5-10	50	Red/Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist	0
6					0
7					0
8					0
9					0
10	3	10-14	54		0
11					0
12					0
13					0
14					0
15				Bottom of Boring 14' bg	
16					
18					
20					
22					
24					

Notes: Sample 0.5-3' for VOC, SVOC, Metals

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB10

Project Name & Location: MPC Ph. II ESA 1803 Elmwood Ave
EA Representative: E. Betzold
Project Number: 01306
Start Date: 10/12
End Date: 10/12
Type of Drill Rig: Track
GW Depth While Drilling: NWWD
Drilling Contractor: Martin
GW Depth at Completion: NWAC
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-5	54	Brown f/c sand and Gravel, little silt, moist (FILL)	
1				Gradesto... and Clay & Silt.	0
2				Brown clay & Silt, tr. f/c sand, tr. Gravel, moist. (FILL)	0
3				Black f/c sand, little concrete, little Silt, tr. Gravel, moist (FILL)	0
4				Brown clay & Silt, tr. f/c sand, tr. Gravel, moist (FILL)	0
5	2	5-10	40	Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist.	0
6					0
7					0
8					0
9					0
10					0
11				Bottom of Boring 10' bg	
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB11

Project Name & Location: MPC ph. II ESA 1803 Elmwood Ave
EA Representative: E. Betzold
Project Number: 01306
Start Date: 10/12 End Date: 10/12
Type of Drill Rig: Track
GW Depth While Drilling: NWWD
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-5	48	Brown clay & silt, some Gravel,	0
1					
2					1
3				Black f/c sand, some Coal cinder, little silt, tr. Gravel, odor, moist	1
4					1
5	2	5-10	48		1
6				Brown clay & silt, little f/c sand, tr. Gravel, moist.	1
7				Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist	0
8					0
9				Gradesto... Red/Brown	0
10					
11				Bottom of Boring 10' bg	
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes: ✓ Sample 2.5-5' for VOC, SVOC, Metals Diesel odor noted

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB12

Project Name & Location: MPC Ph. II ESA 1803 Elmwood Ave
EA Representative: E Betzold
Project Number: 01306
Start Date: 10/12 End Date: 10/12
Type of Drill Rig: Track
GW Depth While Drilling: 4'
Drilling Contractor: Matrix
GW Depth at Completion: NrAC
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-5	40	Red/Brown clay & Silt, tr. f/c sand, tr. Gravel, moist. (FILL)	0
1				Grades to... tr. Concrete	
2				Grades to... some Black f/c sand, tr. Brick	0
3				Black f/c sand, some cinders, little silt, tr. Gravel, moist (FILL)	
4				Grades to... odor, Stained, wet	3
5	2	5-10	48	Brown clay & Silt, tr. f/c sand, tr. Gravel, moist. (FILL)	3
6				Red/Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist.	0
7					0
8					0
9					0
10					0
11				Bottom of Boring 10' bg	
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes: Sampled 2.5 - 3.5' - Metals
3.5 - 4.5' - VOC, SVOC PCBs

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB13

Project Name & Location: MPC Ph.II ESA
EA Representative: E. Betzold
Project Number: 01306
Start Date: 10/12 End Date: 10/12
Type of Drill Rig: Track
GW Depth While Drilling: 4'
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-5	36	Brown f/c sand, some Gravel, little Silt, moist (FILL)	0
1				Grades to... Dk Brown, some cinders, tr slag.	0
2					2
3					2
4				Grades to... tr. Cinders, Saturated.	2
5	2	5-10	52		0
6				Brown clay & Silt, little f/c sand, tr. Gravel, moist (FILL)	0
7				Red/Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist	0
8					0
9					0
10					0
11				Bottom of Boring 10' bg	
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes: Sampled 2-4, Metals, SVOCs, VOCs

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB14

Project Name & Location: MPC Ph. II ESA 1803 Elmwood
EA Representative: E. Bertold
Project Number: 01306
Start Date: 10/12
End Date: 10/12
Type of Drill Rig: Track
GW Depth While Drilling: NWWD
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-5	48	Brown clay & silt, tr. f/c sand,	0
1				Concrete	
2				DK Brown f/c sand, little silt, tr. Gravel, moist.	0
3				Brown clay & silt, tr. f/c sand, tr. Gravel, moist (FILL)	0
4				Red/Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist	0
5					0
6				Bottom of Boring 5' bg	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB15

Project Name & Location: MPC Ph II ESA, 803 Elmwood Ave
EA Representative: E. Betzold
Project Number: 01306
Start Date: 10/12
End Date: 10/12
Type of Drill Rig: Track
GW Depth While Drilling: NWWD
Drilling Contractor: Modern
GW Depth at Completion: NWAC
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-5	40	Gray Gravel and f/c sand, some Asphalt, moist (FILL)	0
1				DK Brown f/c Sand, some cinders, tr. Gravel, tr. Silt, moist (FILL)	0
2					
3				Brown clay & Silt, tr. f/c sand, tr. Gravel, moist (FILL)	0
4				Red/Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist.	0
5	2	5-10	60		0
6					0
7					0
8					0
9					0
10					0
11				Bottom of Boring 10' bg	
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes: Sampled 1-2.5' for Metals, SVOCs

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB16

Project Name & Location: MPC Ph. II ESA 1803 Elmwood Ave
EA Representative: E. Betzold
Project Number: 01306
Start Date: 10/12
End Date: 10/12
Type of Drill Rig: Track
GW Depth While Drilling: 0.5'
Drilling Contractor: Matrix
GW Depth at Completion:
Sampler Type:

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
				Asphalt	
1	1	0.5 - 5	40	Gray sub-base Gravel, wet (FILL)	2
				Red/Brown clay & Silt	
2				Red/Brown CLAY & SILT, tr. F/C Sand, tr. Gravel, moist	0
3					0
4					0
5	2	5-10	52		0
6					0
7					0
8					0
9					0
10					0
				Bottom of Boring 10 'bg	
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB17

Project Name & Location: MPC Ph. II ESA 1803 Elmwood Ave
EA Representative: C Bedzdl
Project Number: 01306
Start Date: 10/12 End Date: 10/12
Type of Drill Rig: Track
GW Depth While Drilling:
Drilling Contractor: Matrix
GW Depth at Completion:
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1				
1	1	0.5-5	48	Asphalt Gray Sub-base Gravel, moist (FILL)	0
2					0
				Red/Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist	
3					0
4					0
5	2	5-10	60		0
6					0
7					0
8					0
9					0
10				BOTTOM OF BORING 10' BGS	
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB18

Project Name & Location: MRC Ph. II ESA, 1803 Elmwood Ave
EA Representative: E. Bertold
Project Number: 01306
Start Date: 10/12
End Date: 10/12
Type of Drill Rig: Track
GW Depth While Drilling: NWD
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
				Concrete	
1	1	1-5	52	DK Brown f/c sand, little silt,	0.1
2				Red/Brown clay & silt, little f/c sand, tr. Gravel, most. (fill)	0.1
3				Red/Brown CLAY & SILT, tr. f/c sand, tr. Gravel, most.	0
4					0
5	2	5-10	60		0
6					0
7					0
8					0
9					0
10				Bottom of Boring 10' bg	0
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes: Potentially Sample 1-2' bg for SVOC, Metals

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB19

Project Name & Location: MRC Ph. II ESA / 803 Elmwood Ave
EA Representative: E. Bedrosold
Project Number: 01306
Start Date: 10/13
End Date: 10/13
Type of Drill Rig: Track
GW Depth While Drilling: NWWD
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
				Concrete	
1	1	0.5-5	50	Brown f/c sand, little Silt, little Brick, tr. Cinders, moist (fill)	0.4
2				Grades to... little concrete	
3				Red/Brown clay & Silt, tr. f/c sand, tr Gravel, tr. Cinders, moist (fill)	0.4
4				Grades to... no cinders	0.4
5	2	5-10	60	Red/Brown CLAY & SILT, tr. f/c sand, tr Gravel, moist,	0
6					0
7					0
8					0
9					0
10				Bottom of Boring 10' bg	0
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes: Sample 0.5-5 for VOC, SVOC, Metals

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB20

Project Name & Location: MPC Ph. IIESA
Project Number: 01306
Start Date: 10/13 End Date: 10/13
GW Depth While Drilling: NWWD
GW Depth at Completion: NWAC

EA Representative: E. Betzold
Type of Drill Rig: Track
Drilling Contractor: Matrix
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0.5-5	24	Concrete Dk Brown f/c sand, little Silt, tr. Gravel, moist (FILL) Red/Brown clay & Silt, tr. f/c Sand, tr. Gravel, moist. (FILL)	0 0
2				Red/Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist.	0
3					0
4					0
5	2	5-10	60		0
6					0
7					0
8					0
9					0
10				Bottom of Boring 10' bg	0
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: SB21

Project Name & Location: MPC Ph. II ESA 1803 Elmwood Ave
EA Representative: E. Betzold
Project Number: 01306
Start Date: 10/13 End Date: 10/13
Type of Drill Rig: Track
GW Depth While Drilling: NWWD
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
				Concrete	
1	1	1-5	40	Brick	2
				DK Brown f/c sand, little silt, tr. Gravel, moist (FILL)	
2				Brown clay & silt, little f/c sand, tr Gravel, moist (FILL)	1
3				Red/Brown CLAY & SILT, tr f/c sand, tr. Gravel, moist	1
4					0
5	2	5-10	54		0
6					0
7					0
8					0
9					0
10	3	10-14			0
11					0
12					0
13				Grades to... plastic like clay	0
14					0
15				Bottom of Borng 14' bg	
16					
18					
20					
22					
24					

Notes: * Sample 1-1.5' for VOC, SVOC, Metals

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: SB22

Project Name & Location: MPC PhII ESA 1803 Elmwood
EA Representative: E. Bedrosian
Project Number: 01306
Start Date: 10/13
End Date: 10/13
Type of Drill Rig: Track
GW Depth While Drilling: 4'
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-5	48	Brown f/c sand, Some Gravel, little silt, moist (FILL)	
1				Grades to... little cinders	1
2				Grades to... Some cinders, little slag	1
3				Red/Brown clay & Silt, little f/c sand, tr. Gravel, moist (FILL)	1
4					0.5
5	2	5-10	40	Dk. Brown f/c sand, some cinders, little silt, tr. Gravel, saturated (FILL)	0.5
6				Brown Silt & clay little f/c sand, tr. Gravel, wet. (FILL)	0
7				Brown CLAY & SILT, Some f/c sand, little roots, tr. Gravel, moist	0
8				Grades to... tr. f/c sand, tr. roots	0
9					0
10	3	10-15	48	Grades to... Red/Brown.	0
11					0
12					0
13					0
14					0
15					0
				Bottom of Boring 15' bg	
16					
18					
20					
22					
24					

Notes: Sample (0.5-3') old topsoil layer @ 6' bg
SVOC Metals

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: SB 23

Project Name & Location: MPC Phase II ESA
Project Number: 01306
Start Date: 10/13 End Date: 10/13
GW Depth While Drilling: 2
GW Depth at Completion: NWAC

EA Representative: E. Betrold
Type of Drill Rig: Track
Drilling Contractor: Matrix
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
				Concrete	
1	1	0.5-5	24	Brown f/c sand, little silt, tr. Gravel, moist	0
2					0
				Grades to...wet	
3					0.5
				Grades to saturated	
4					1
5					15
				Bottom of Boring 5' bg	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes: Sampled for VOC 4.5-5'. It is assumed that a former utility pipe was encountered at 5' bg

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: SB24

Project Name & Location: MPC Ph. II ESA 1803 Elmwood Ave
Project Number: 01306
EA Representative: E. Betrold
Start Date: 10/13 End Date: 10/13
Type of Drill Rig: Track
GW Depth While Drilling: NWWD
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: ML

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0.5-5	48	Concrete Dk Brown f/c Sand	0
2					0
3				Brown clay & Silt, little f/c sand, tr. Gravel, moist (FILL)	0
4				Red/Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist	0
5	2	5-10	60"		0
6					0
7					0
8					0
9					0
10					0
11				Bottom of Boring 10' bg	
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: SB25

Project Name & Location: MPC Ph. II ESA 1803 Elmwood Ave
EA Representative: E. Betzold
Project Number: 01306
Start Date: 10/13 End Date: 10/13
Type of Drill Rig: Track
GW Depth While Drilling: 4'
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
				Asphalt	
1	1	0.5-5	40"	Gray Sub-base Gravel	0
				Dk Brown f/c sand, little silt, tr gravel, moist. (FILL)	
2					0
3					0
4				Brown silt & clay, little f/c sand, tr. Gravel, wet (FILL)	0
5	2	5-10	60		
				Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist	0
6					0
7					0
8					0
9					0
10					0
				Bottom of Boring 10' bg	
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Soil Boring
~~Test Pit~~ No: SB26

Project Name & Location: _____ EA Representative: _____

Project Number: _____

Date: _____ End Date: _____ Type of Excavator: _____

Contractor: _____

Sampler Type: _____

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
				Concrete
1				Refusal @ 15" bg
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				

Notes: No recovery. No apparent utilities encountered.

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of test pit completion. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB4a

Project Name & Location: MPC O'Connell Site Investigation April 2022
EA Representative: E. Betzold
Project Number: 1306
Start Date: 4/21/2022 End Date: 4/21/2022
Type of Drill Rig: Track Geoprobe
GW Depth While Drilling: 3
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: Geoprobe Macrocore

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)	Well Diagram/ Remarks
	1	0-5	36	Asphalt		
1				DK Brown f/c sand, some Gravel, little cinders, moist (FILL)	0	
				Grades to... some cinders		
2					0	
3				Grades to... tr cinders, tr. Gravel, wet.	0	
4					0	
	2	5-10	48		0	
5				Brown clay & silt, tr. f/c sand, tr. Gravel, moist (FILL)	0	
6				Red/Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist.	0	
7					0	
8					0	
9					0	
10				Bottom of Boring 10' bg	0	
11						
12						
13						
14						
15						
16						
18						
20						
22						
24						

Notes: Sample 0.5-2.5' Metals/SVOC completed 10' south of SB4.

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB7a

Project Name & Location: MPC O'Connell Site Investigation April 2022
EA Representative: E. Betzold
Project Number: 1306
Start Date: 4/21/2022 End Date: 4/21/2022
Type of Drill Rig: Track Geoprobe
GW Depth While Drilling: NWD
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: Geoprobe Macrocore

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)	Well Diagram/ Remarks
				Asphalt		
1	1	0.5-5	36	Brown Sub-base Gravel and f/c sand, moist (FILL)	0	
2				Grades to ... little concrete,	0	
				DK Brown f/c Sand, tr. Cinders, tr. Gravel, moist (FILL)	0	
3				Grades to ... Brown, no cinders,		
4				Grades to ... DK Brown Some cinders.	0.5	
				Grades to ... tr. Cinders.	0.5	
5	2	5-10	48			
6				Brown Clay & Silt, tr. f/c sand, tr. Gravel, moist	0	
				Red/Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist	0	
7						
8					0	
9					0	
10					0	
				Bottom of Boring 10' bg		
11						
12						
13						
14						
15						
16						
18						
20						
22						
24						

Notes: Completed 5' North of SB7.

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB8a

Project Name & Location: MPC O'Connell Site Investigation April 2022
EA Representative: E. Betzold
Project Number: 1306
Start Date: 4/21/2022 End Date: 4/21/2022
Type of Drill Rig: Track Geoprobe
GW Depth While Drilling: NWD
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: Geoprobe Macrocore

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)	Well Diagram/ Remarks
				Asphalt		
1	1	0.5-5	40	Brown subbase gravel, and f/c sand, little silt, moist (Fill)	0	
2					0	
3				DK Brown f/c sand, little cinders, tr. Gravel, tr. Silt, moist (Fill)	0	
4				Grades to ... tr. Cinders	0	
				Grades to ... little cinders		
5	2	5-10	48	Grades to ... tr. Cinders	0	
				Brown clay & silt, tr. f/c sand, tr. Gravel, moist (Fill)		
6				Red/Brown CLAY & silt, tr. f/c sand, tr. Gravel, moist,	0	
7					0	
8					0	
9					0	
10					0	
				Bottom of Boring 10' bg		
11						
12						
13						
14						
15						
16						
18						
20						
22						
24						

Notes: Completed 5' South of SB8

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB30

Project Name & Location: MPC O'Connell Site Investigation April 2022
EA Representative: E. Betzold
Project Number: 1306
Start Date: 4/21/2022 End Date: 4/21/2022
Type of Drill Rig: Track Geoprobe
GW Depth While Drilling: NWD
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: Geoprobe Macrocore

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)	Well Diagram/ Remarks
				Asphalt		
1	1	0.5-5	40	Brown sub-base Gravel, and f/c Sand, little silt, moist (Fill)	0	
2				DK. Brown f/c sand, some cinders, little silt, moist (Fill)	0	
3					0	
4				Grades to... tr. cinders.	0	
				Brown clay & silt, tr. f/c sand, tr. Gravel, moist (Fill)		
5	2	5-10	48	Brown CLAY & SILT, tr. f/c sand tr. Gravel, moist	0	
6					0	
7					0	
8					0	
9					0	
10					0	
				Bottom of Boring 10' bg		
11						
12						
13						
14						
15						
16						
18						
20						
22						
24						

Notes: Sample 1.5-3' for SVOC, Metals, PCBs

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB31

Project Name & Location: MPC O'Connell Site Investigation April 2022
EA Representative: E. Betzold
Project Number: 1306
Start Date: 4/21/2022 End Date: 4/21/2022
Type of Drill Rig: Track Geoprobe
GW Depth While Drilling: NWWD
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: Geoprobe Macrocore

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)	Well Diagram/ Remarks
1	1	0.5-5	40	Concrete Brown Sub-base Gravel, some f/c sand, moist (FILL)	0	
2				DK. Brown f/c sand, tr. Silt, tr. Gravel, tr. cinders, moist (FILL)	0	
3				Grades to... little cinders	0	
4					0	
5	2	5-10	40	Grades to ... tr. Cinders.	0	
6				Brown clay & silt, tr. f/c sand, tr. Gravel, moist (FILL) Red/Brown CLAY & SILT, tr. f/c sand, tr. Gravel, tr. roots, moist.	0	
7					0	
8					0	
9					0	
10				Bottom of Boring 10' bg	0	
11						
12						
13						
14						
15						
16						
18						
20						
22						
24						

Notes: possibly Sample (2-3.5') SVOC, Metals

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB32

Project Name & Location: MPC O'Connell Site Investigation April 2022
EA Representative: E. Betzold
Project Number: 1306
Start Date: 4/21/2022 End Date: 4/21/2022
Type of Drill Rig: Track Geoprobe
GW Depth While Drilling: 4.5'
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: Geoprobe Macrocore

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)	Well Diagram/ Remarks
	1	0-5'	30	Brown silt&clay, little f/c sand, little Gravel, moist (Fill)		
1				DkBrown f/c sand, tr. Gravel, tr. Silt, tr. Slag, moist (Fill)	0	
2				Grades to... little cinders		
3				Grades to... tr. cinders.	0	
4					0	
5	2	5-10	48	Grades to... wet.	0	
6				Grades to... saturated.	0	
7				Brown clay & silt, tr. f/c sand, tr. Gravel, moist (Fill)	0	
8				Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist.	0	
9					0	
10				Bottom of Boring 10' bg	0	
11						
12						
13						
14						
15						
16						
18						
20						
22						
24						

Notes: Sample (0.5-2') SVOC, Metals, PCBs

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB33

Project Name & Location: MPC O'Connell Site Investigation April 2022
EA Representative: E. Betzold
Project Number: 1306
Start Date: 4/21/2022 End Date: 4/21/2022
Type of Drill Rig: Track Geoprobe
GW Depth While Drilling: 5.5
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: Geoprobe Macrocore

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)	Well Diagram/ Remarks
1	1	0.5-5	40	Asphalt Brown s/b base Gravel, some f/c sand, little Slag, moist (fresh)	0	
2				Grades to... little Cinders	0	
3				Grades to... some cinders	0	
4				Grades to... little cinders.	72 72	
5	2	5-10	40	Grades to ... tr. Cinders, wet	0	
6				Grades to... saturated.	0	
7					0	
8				Brown Clay & Silt, little f/c sand, tr Gravel, wet. Brown CLAY & SILT, little f/c sand, tr Gravel, moist.	0	
9					0	
10				Bottom of Boring 10' bg	0	
11						
12						
13						
14						
15						
16						
18						
20						
22						
24						

Notes: Sample 3.5-4.5 VOC SVOC
sample 0.5-3.5 Metals

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB34

Project Name & Location: MPC O'Connell Site Investigation April 2022
EA Representative: E. Betzold
Project Number: 1306
Start Date: 4/21/2022 End Date: 4/21/2022
Type of Drill Rig: Track Geoprobe
GW Depth While Drilling: 5'
Drilling Contractor: Matrix
GW Depth at Completion: NWD
Sampler Type: Geoprobe Macrocore

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)	Well Diagram/ Remarks
1	1	0.5-5	36	Asphalt Brown sub-base Gravel, little f/c sand, little silt, moist (FILL) Grades to... some f/c sand.	0	
2				Brown f/c sand, some cinders, little Gravel, little silt, moist (FILL)	6	
3				Dk. Brown f/c sand, tr. Gravel, tr. cinders, moist (FILL)	10	
4					10	
5	2	5-10	40	Grades to... wet.	0	
6				Brown clayey silt, little f/c sand, tr. Gravel, moist (FILL)	0	
7					0	
8				Brown CLAYEY SILT, little f/c sand, tr. Gravel, tr. Roots, moist.	0	
9					0	
10	3	10-15	48	Grades to... Red/Brown.	0	
11					0	
12					0	
13					0	
14					0	
15				Bottom of Borng 15' bg		
16						
18						
20						
22						
24						

Notes: Sample (2-3') metals
Sample (3-4') VOCs

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB35

Project Name & Location: MPC O'Connell Site Investigation April 2022
EA Representative: E. Betzold
Project Number: 1306
Start Date: 4/21/2022 End Date: 4/21/2022
Type of Drill Rig: Track Geoprobe
GW Depth While Drilling: NWD
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: Geoprobe Macrocore

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)	Well Diagram/ Remarks
1	-1	0.5-5	40	Asphalt Gray Sub-base Gravel, moist (Fill) Grades to... and f/c Sand, some Silt.	0	
2					0	
3				Brown f/c sand, some silt, tr. Gravel, moist (Fill)	0	
4				Brown Clay & silt, little f/c sand, tr. Gravel, moist (Fill)	0	
5	2	5-10	48		0	
6				Brown CLAY & SILT, little f/c Sand, tr Gravel, moist	0	
7				Grades to... Red/Brown, tr. f/c Sand.	0	
8					0	
9					0	
10					0	
11				Bottom of Boring 10' bg		
12						
13						
14						
15						
16						
18						
20						
22						
24						

Notes:

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB36

Project Name & Location: MPC O'Connell Site Investigation April 2022
EA Representative: E. Betzold
Project Number: 1306
Start Date: 4/21/2022 End Date: 4/21/2022
Type of Drill Rig: Track Geoprobe
GW Depth While Drilling: NWD
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: Geoprobe Macrocore

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)	Well Diagram/ Remarks
				Concrete		
1	1	0.5 - 5	40	Railroad tie Black f/c Sand, some cinders, little Gravel	1000 390	
2					390	
				Brown clay & silt, tr. f/c sand, tr. Gravel, moist (Fill)		
3					1	
				Red/Brown CLAY & SILT, tr. f/c sand, tr Gravel, moist		
4					0.5	
5	2	5-10	48		0	
					0	
6						
7					0	
8					0	
9					0	
10					0	
				Bottom of Boring 10' bgs		
11						
12						
13						
14						
15						
16						
18						
20						
22						
24						

Notes:

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB37

Project Name & Location: MPC O'Connell Site Investigation April 2022
EA Representative: E. Betzold
Project Number: 1306
Start Date: 4/21/2022 End Date: 4/21/2022
Type of Drill Rig: Track Geoprobe
GW Depth While Drilling: 4'
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: Geoprobe Macrocore

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)	Well Diagram/ Remarks
	1	0.5-5	36	Asphalt		
1				Gray Sub-base Gravel, moist (FILL)	4	
				Gradesto... and f/c sand, some Silt.		
2					3	
3					3	
				Brown Clayey Silt, some Gravel, little f/c sand, wet (FILL)		
4				Gradesto... and f/c sand.		
				Dk Brown f/c sand, little Gravel, Saturated (FILL)	0	
5	2	5-10	40		1	
6						
				Red/Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist	0	
7						
8					0	
9					0	
10					0	
				Bottom of Boring 10' bgs		
11						
12						
13						
14						
15						
16						
18						
20						
22						
24						

Notes: Sample SB37 0.5-5' for VOC

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB38

Project Name & Location: MPC O'Connell Site Investigation April 2022
EA Representative: E. Betzold
Project Number: 1306
Start Date: 4/21/2022 End Date: 4/21/2022
Type of Drill Rig: Track Geoprobe
GW Depth While Drilling: 5'
Drilling Contractor: Matrix
GW Depth at Completion: NMAC
Sampler Type: Geoprobe Macrocore

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)	Well Diagram/ Remarks
				Concrete		
1	1	0.5-5	12	Brown f/c sand, moist (FILL)	0	
2					0	
3					0	
4					0	
5	2	5-10	40	Grades to ... saturated	0	
6					0	
7					0	
8					0	
9					0	
10	3	10-13	12	Grades to ... odor, sheen.	0	
11					0	
12					0	
13					0	
14				Refusal encountered @ 13' bg		
15						
16						
18						
20						
22						
24						

Notes: Boring completed inside what appears to be a former pit, which was backfilled with sand. odor/sheen observed @ 10-13' bg. Sampled for SVOC/TCLPCBs

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB39

Project Name & Location: MPC O'Connell Site Investigation April 2022
EA Representative: E. Betzold
Project Number: 1306
Start Date: 4/21/2022 End Date: 4/21/2022
Type of Drill Rig: Track Geoprobe
GW Depth While Drilling: NWWD
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: Geoprobe Macrocore

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)	Well Diagram/ Remarks
				Concrete		
1	1	0.5-5	36	DK. Brown f/c Sand, some cinders, little Gravel, moist (FILL)	0	
2				Brown CLAY & SILT, tr. f/c sand, tr. Gravel, moist	0	
3					0	
4					0	
5	2	5-10'	40		0	
6					0	
7					0	
8					0	
9					0	
10				Bottom of Boring 10' bg	0	
11						
12						
13						
14						
15						
16						
18						
20						
22						
24						

Notes: Sample (0.5-1.5') Metals/SVOCs

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB40

Project Name & Location: MPC O'Connell Site Investigation April 2022
EA Representative: E. Betzold
Project Number: 1306
Start Date: 4/21/2022 End Date: 4/21/2022
Type of Drill Rig: Track Geoprobe
GW Depth While Drilling: NWD
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: Geoprobe Macrocore

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)	Well Diagram/ Remarks
1	1	0.5-5	40	Asphalt Gray Sub-base Gravel, some m-f/c sand, moist (Fill)	0	
2				Dk Brown f/c sand, some cinders, tr. Gravel, moist (Fill)	1	
3				Grades to ... little cinders.	1	
4					0	
5	2	5-10	48	Gray/Brown Clay & silt, tr. f/c Sand, tr. Gravel, moist	0	
6					0	
7					0	
8				Brown CLAY & SILT, little f/c sand, tr. Gravel, tr. roots, moist	0	
9				Grades to ... no roots.	0	
10					0	
11				Bottom of Boring to 10' bg		
12						
13						
14						
15						
16						
18						
20						
22						
24						

Notes: Sample 1.5-3.5' for SVOC/Metals

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

3636 N. Buffalo Road
Orchard Park, NY 14127
(716) 667-3130

Boring No: SB41

Project Name & Location: MPC O'Connell Site Investigation April 2022
EA Representative: E. Betzold
Project Number: 1306
Start Date: 4/21/2022 End Date: 4/21/2022
Type of Drill Rig: Track Geoprobe
GW Depth While Drilling: 2'
Drilling Contractor: Matrix
GW Depth at Completion: NWAC
Sampler Type: Geoprobe Macrocore

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)	Well Diagram/ Remarks
	1	0-5	40	Gravel, moist (FILL)	0	
1				Dk. Brown f/c Sand, some cinders, tr. Gravel, moist (FILL)	0	
2				Grades to... wet		
				Grades to... tr. cinders,	0	
3				Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist (FILL)		
4					0	
5	2	5-10	48		0	
6				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist (FILL)	0	
7					0	
8					0	
9					0	
10					0	
11				Bottom of Boring 10' bgs		
12						
13						
14						
15						
16						
18						
20						
22						
24						

Notes: possibly sample (1-2.5') for Metals / SVOCs

General Notes:
1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

Appendix B
RI Soil Boring Logs

C&S Engineers, Inc.
141 Elm Street, Suite 100
Buffalo, New York 14203
Phone: 716-847-1630
Fax: 716-847-1454

BORING LOG

Boring No.	**SB-01**
Sheet 1 of:	
Project No.:	S93.003.002
Surface Elev.:	
Datum:	
Start Date:	5/20/24
Finish Date:	
Inspector:	BW

Project Name:	1803 Elmwood Avenue BCP - RI								
Location:	1803 Elmwood Avenue, Buffalo, NY 14207								
Client:	1803-1807 Elmwood Avenue LLC								
Drilling Firm:	Matrix								
Groundwater		**Depth**	**Date & Time**	**Drill Rig:**	Geoprobe				
While Drilling:				**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:				**Sampler:**		**Other:**			
After Casing Removal:				**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
				0-12" gravel, stone, asphalt	
1				12-18" fill material consisting of sandy gravel mix, tan transitioning into dark	0 ppm
				brown, brick	
2	sample 2'			30 - 36 " fill consisting of sand, tan to brown, moist	
3					
4				3' return	
5					
				0-6" sand mix with clay	0 ppm
6	ative at 6'			6" - 60" native soil consisting of dense clay, dry	
7					
8					
9				5' return	
10					
				0-60" clay, brown, dense	0 ppm
11				Moist 0-12"	
				Dry 12-60"	
12					
13					
14					
15					
				End @ 15'	
16					
17					
18					
19					
20					
21					
22					
23					

C&S Engineers, Inc.	BORING LOG	Boring No.	SB-02A
141 Elm Street, Suite 100 Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454		Sheet 1 of:	
		Project No.:	S93.003.002

Project Name:	1803 Elmwood Avenue BCP - RI							Surface Elev.:	
Location:	1803 Elmwood Avenue, Buffalo, NY 14207							Datum:	
Client:	1803-1807 Elmwood Avenue LLC							Start Date:	5/20/24
Drilling Firm:	Matrix							Finish Date:	
Groundwater		Depth	Date & Time	Drill Rig:				Inspector:	
While Drilling:				Casing:		Rock Core:		Undist:	
Before Casing Removal:				Sampler:		Other:			
After Casing Removal:				Hammer:					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	c - coarse m - medium f - fine **MATERIAL DESCRIPTION** S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50% s - some - 20-35% l - little - 10-20% t - trace - 0-10%	**COMMENTS** (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
				2 trys	0 ppm
1				Refusal @ 2-3'	
2				10-12" gravel, concrete, asphalt	
				12 - 24" fill consisting of tan to black medium grain sand	
3				24 - 30 " gravel concrete	
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

C&S Engineers, Inc.
141 Elm Street, Suite 100
Buffalo, New York 14203
Phone: 716-847-1630
Fax: 716-847-1454

BORING LOG

Boring No.	**SB-02B**
Sheet 1 of:	
Project No.:	S93.003.002
Surface Elev.:	
Datum:	
Start Date:	5/21/24
Finish Date:	
Inspector:	

Project Name:	1803 Elmwood Avenue BCP - RI
Location:	1803 Elmwood Avenue, Buffalo, NY 14207
Client:	1803-1807 Elmwood Avenue LLC
Drilling Firm:	Matrix

Groundwater	Depth	Date & Time	Drill Rig:				Undist:
While Drilling:			**Casing:**		**Rock Core:**		
Before Casing Removal:			**Sampler:**		**Other:**		
After Casing Removal:			**Hammer:**				

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
					0 ppm 1100
1				Tried 4 spots around area, all reaching similar levels of refusal	
2					
3					
4					
5				Refusal at 2'	
					0 ppm
6					
7					
8					
9					
10					
					0 ppm
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23				No samples collected	

C&S Engineers, Inc.
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Buffalo, New York 14203
Phone: 716-847-1630
Fax: 716-847-1454

BORING LOG

Boring No.	**SB-03A**
Sheet 1 of:	
Project No.:	S93.003.002
Surface Elev.:	
Datum:	
Start Date:	5/21/24
Finish Date:	
Inspector:	

Project Name:	1803 Elmwood Avenue BCP - RI
Location:	1803 Elmwood Avenue, Buffalo, NY 14207
Client:	1803-1807 Elmwood Avenue LLC
Drilling Firm:	Matrix

Groundwater	Depth	Date & Time	Drill Rig:				
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**
Before Casing Removal:			**Sampler:**		**Other:**		
After Casing Removal:			**Hammer:**				

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

c - coarse
m - medium
f - fine

MATERIAL DESCRIPTION

S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey

a - and - 35-50%
s - some - 20-35%
l - little - 10-20%
t - trace - 0-10%

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
				0-6" gray stone and asphalt	0 ppm 945
1				6-18" fill, glass, asphalt, slag	
				18-30" fill consisting of sand, orange transitioning into black	
2					
3					
4					
5				2.5' return	
				Refusal @ 5-6' b/c concrete	0 ppm
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	**SB-03B**
Sheet 1 of:	
Project No.:	S93.003.002
Surface Elev.:	
Datum:	
Start Date:	5/21/24
Finish Date:	
Inspector:	

Project Name:	1803 Elmwood Avenue BCP - RI							
Location:	1803 Elmwood Avenue, Buffalo, NY 14207							
Client:	1803-1807 Elmwood Avenue LLC							
Drilling Firm:	Matrix							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

c - coarse
m - medium
f - fine

MATERIAL DESCRIPTION

S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey

a - and - 35-50%
s - some - 20-35%
l - little - 10-20%
t - trace - 0-10%

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
				0 - 6" gravel and asphalt pavement	0 ppm 1000
1				6-18" fill consisting of sand mix with gravel	
	Fill @ 2'			18-24" fill consisting of slag to red brick mix	
2				24-36" fill consisting of gravel with black sand mix	
3					
4					
5				3' return	
				0 -12" fill consisting of red brick mix with sandy rocks	0 ppm
6				12-60" native soil begins, clay, brown, dense	
7	tive @ 7'				
8					
9					
10				5' Return	
				0 - 60" dense, clay, brown	0 ppm
11				Exterior wet, interior dry and dense, likely wet soil	
12					
13					
14					
15				5' Return	
				0-12" dense clay, wet on outside	0 ppm
16					
17					
18					
19					
20				1' Return	
				20-25'	MW-01 was installed in this
21				0 - 60" - dense clay, wet exterior	borehole
22					
				Ends at 25'	
23					

C&S COMPANIES	C&S Engineers, Inc. 141 Elm Street, Suite 100 Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454	**BORING LOG**	*Boring No.*	**SB-04**
			Sheet 1 of:	
			Project No.:	S93.003.002

Project Name:	1803 Elmwood Avenue BCP - RI							***Surface Elev.:***	
Location:	1803 Elmwood Avenue, Buffalo, NY 14207							***Datum:***	
Client:	1803-1807 Elmwood Avenue LLC							***Start Date:***	
Drilling Firm:	Matrix							***Finish Date:***	
Groundwater		***Depth***	***Date & Time***	***Drill Rig:***				***Inspector:***	BW
While Drilling:				***Casing:***		***Rock Core:***		***Undist:***	
Before Casing Removal:				***Sampler:***		***Other:***			
After Casing Removal:				***Hammer:***					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	c - coarse m - medium f - fine **MATERIAL DESCRIPTION** S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50% s - some - 20-35% l - little - 10-20% t - trace - 0-10%	**COMMENTS** (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
				0-6" gravel and concrete cover, light gray	0 ppm
1				6-18" - black stone fill mix with black sand	
				18-24" fill consisting of black sand	1530
2	Sample at 2'			24-36" moist dense clay	
3					
4					
5				3' Return	
				0-4" black sand, chemical odor	
6				4-60" dense clay, brown with …	0 ppm
	Native sample at 7'				
7					1535
8					
9					
10				5' Return	0 ppm
				0-60" native soil consisting of dense clay, brown, native soil	
11					
12					
13					
14					
				5' return	
15				End @ 15'	
16					
17					
18					
19					
20					
21					
22					
23					

C&S COMPANIES	**C&S Engineers, Inc.** 141 Elm Street, Suite 100 Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454	**BORING LOG**	***Boring No.*** **SB-05** ***Sheet 1 of:*** ***Project No.:*** S93.003.002

Project Name:	1803 Elmwood Avenue BCP - RI							***Surface Elev.:***	
Location:	1803 Elmwood Avenue, Buffalo, NY 14207							***Datum:***	
Client:	1803-1807 Elmwood Avenue LLC							***Start Date:***	5/20/24
Drilling Firm:	Matrix							***Finish Date:***	
Groundwater		***Depth***	***Date & Time***	***Drill Rig:***				***Inspector:***	
While Drilling:				***Casing:***		***Rock Core:***		***Undist:***	
Before Casing Removal:				***Sampler:***		***Other:***			
After Casing Removal:				***Hammer:***					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
				0-12" concrete cover, stone, gray to black gravel, concrete	1420
1				12-30" - fill consisting of SAND coarse to medium grain, black, no odor	0.1 ppm
				30-36" clay, moist, brown to black, petroleum odor, no ppm	
2					
3					
4					
5	SB-05			3' Return	
	Fill			0-6" native soil consisting of dark brown to black silt clay mix; oily liquid in soil	0.2 ppm
6	at 5'			6-60" CLAY, brown, dense, dry	
7					
	SB-05				
8	Native				
	8'				
9					
10					
				0-60" dense, dry brown clay	
11					
12					
13					
14					
				5' return	
15				End @ 15'	
16					
17					
18					
19					
20					
21					
22					
23					

C&S Engineers, Inc.	BORING LOG	Boring No.	SB-06
141 Elm Street, Suite 100		Sheet 1 of:	
Buffalo, New York 14203		Project No.:	S93.003.002
Phone: 716-847-1630		Surface Elev.:	
Fax: 716-847-1454		Datum:	
		Start Date:	5/21/24
		Finish Date:	
		Inspector:	BW

Project Name:	1803 Elmwood Avenue BCP - RI							
Location:	1803 Elmwood Avenue, Buffalo, NY 14207							
Client:	1803-1807 Elmwood Avenue LLC							
Drilling Firm:	Matrix							
Groundwater	Depth	Date & Time	Drill Rig:					
While Drilling:			Casing:		Rock Core:		Undist:	
Before Casing Removal:			Sampler:		Other:			
After Casing Removal:			Hammer:					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
				0-8" asphalt, stone, concrete subbase	840
1				8-16" fill consisting of tan sand stone mix	0 ppm
				16-24" - fill consisting of black sand clay mix	
2				24-30" fill consisting of SLAG sand mix, dark brown to blue	
3' SB-06 Fill				30 - 42" fill consisting of black to brown sand fine grain	
3					
4					
5				3.5' return	
				0-6" black sand, fine	
6				6-12" brown sand mix with wet clay	
SB-06 Native 7'				12-48" native soil consisting of CLAY, dense	0 ppm
7	Dup 7				
8					
9					
10				4' return	
				0-60" CLAY, dense, brown, wet at 10'	0 ppm
11					
12					
13					
14					
15				5' return	
				Finish @ 15'	
16					
17					
18					
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	**SB-07**
Sheet 1 of:	
Project No.:	S93.003.002
Surface Elev.:	
Datum:	
Start Date:	5/21/24
Finish Date:	
Inspector:	BW

Project Name:	1803 Elmwood Avenue BCP - RI							
Location:	1803 Elmwood Avenue, Buffalo, NY 14207							
Client:	1803-1807 Elmwood Avenue LLC							
Drilling Firm:	Matrix							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1	Fill MS MSD 3'			0-6" concrete and black sand	0 ppm 1130
				6-12" gravel	
2				12-24" fill consisting of black sand, brick/angular rocks	
				24-42" fill consisting of black sand medium grain	
3					
4					
5				3.5' return	
	Native at 7'			0-18" moist black sand, medium grain, oily layer at bottom	0 ppm
6				18-36" native soil consisting of clay, brown, dense	
7					
8					
9					
10				3' return	
				0-60" CLAY, dense, dry, brown	0 ppm
11					
12					
13					
14					
15				5' return	
				0-60" CLAY, dense, brown	0 ppm
16					
17					MW-02 was installed in this
					borehole
18					
19					
20				5' return	
				End @ 20'	
21					
22					
23					

C&S Engineers, Inc.	BORING LOG	Boring No.	SB-08
141 Elm Street, Suite 100 Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454		Sheet 1 of:	
		Project No.:	S93.003.002

Project Name:	1803 Elmwood Avenue BCP - RI							**Surface Elev.:**	
Location:	1803 Elmwood Avenue, Buffalo, NY 14207							**Datum:**	
Client:	1803-1807 Elmwood Avenue LLC							**Start Date:**	5/22/24
Drilling Firm:	Matrix							**Finish Date:**	
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					**Inspector:**	
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**		
Before Casing Removal:			**Sampler:**		**Other:**				
After Casing Removal:			**Hammer:**						

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
				0-6" asphalt	0 ppm 8:45
1				6-18" clean rock subbase	
				18" demarcation layer	
2				18-48" fill consisting of black sand, mix w/ rock fill, trace brick	
	Fill			48-60" native soil consisting of clay, dry transitioning into wet	
3	Dup B				
	at 3'				
4					
5				hand auger 5'	
				0-48" CLAY, dense, top foot wet and gray to dry and brown	0 ppm
6					
7					
8					
9					
10				4' return probe	
				0-60" CLAY, dense, brown, dry	0 ppm
11					
12					
13					
14					
15					
				0-48" CLAY, brown, dense, dry	
16					
17					
18					
19					
20				4' return	
				End @ 20'	MW-03 was installed in this
21					borehole
22					
23					

C&S Engineers, Inc.	BORING LOG	Boring No.	SB-09
141 Elm Street, Suite 100		Sheet 1 of:	
Buffalo, New York 14203		Project No.:	S93.003.002
Phone: 716-847-1630		Surface Elev.:	
Fax: 716-847-1454		Datum:	
		Start Date:	5/22/24
		Finish Date:	
		Inspector:	

Project Name:	1803 Elmwood Avenue BCP - RI							
Location:	1803 Elmwood Avenue, Buffalo, NY 14207							
Client:	1803-1807 Elmwood Avenue LLC							
Drilling Firm:	Matrix							
Groundwater	Depth	Date & Time	Drill Rig:					
While Drilling:			Casing:		Rock Core:		Undist:	
Before Casing Removal:			Sampler:		Other:			
After Casing Removal:			Hammer:					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
				0-6" asphalt	0 ppm 930
1				6-18" stone subbase, clean fill	
				18" dermarcation layer	
2				18-36" maybe slag, fill mixed, blue color, no reading	
	Fill			36-42" extra material, gravel transitioning into native soil consisting of clay at 3.25'	
3	at 3'			42-60" CLAY, dense, brown, gray, dry	
			probe stick		
4			here		
5				hand auger to 3'	
				0 - 48" clay, dense but soft, gray to brown, slightly saturated	0 ppm
6					
7					
8					
9					
10				4' return	
				0-60" clay, dense, brown	
11					
12					
13					
14					
				5' return	
15				End @ 15'	
16					
17					
18					
19					
20					
21					
22					
23					

C&S Engineers, Inc.	BORING LOG	Boring No.	SB-10
141 Elm Street, Suite 100 Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454		Sheet 1 of:	
		Project No.:	S93.003.002

Project Name:	1803 Elmwood Avenue BCP - RI							**Surface Elev.:**	
Location:	1803 Elmwood Avenue, Buffalo, NY 14207							**Datum:**	
Client:	1803-1807 Elmwood Avenue LLC							**Start Date:**	5/21/24
Drilling Firm:	Matrix							**Finish Date:**	
Groundwater		**Depth**	**Date & Time**	**Drill Rig:**				**Inspector:**	
	While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
	Before Casing Removal:			**Sampler:**		**Other:**			
	After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-6" concrete	0 ppm 9:15
				6-24" stone subbase, gray to tan	
2	Fill at 2'			24-48" native soil consisting of dense clay, brown, dry	
3					
	Native at 4'				
4					
5				4' return	
				0-60" dense, dry, brown CLAY	0 ppm
6					
7					
8					
9					
10				5' return	
				0-60" CLAY, dense, brown	0 ppm
11					
12					
13					
14					
15				Ends @ 15' 5' Return	
16					
17					
18					
19					
20					
21					
22					
23					

C&S Engineers, Inc.	BORING LOG	Boring No.	SB-11
141 Elm Street, Suite 100 Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454		Sheet 1 of:	
		Project No.:	S93.003.002

Project Name:	1803 Elmwood Avenue BCP - RI							Surface Elev.:	
Location:	1803 Elmwood Avenue, Buffalo, NY 14207							Datum:	
Client:	1803-1807 Elmwood Avenue LLC							Start Date:	5/22/24
Drilling Firm:	Matrix							Finish Date:	
Groundwater		Depth	Date & Time	Drill Rig:				Inspector:	BW
While Drilling:				Casing:		Rock Core:		Undist:	
Before Casing Removal:				Sampler:		Other:			
After Casing Removal:				Hammer:					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1	Fill at 2'			0-6" concrete	0 ppm 1330
				6 - 24" subbase transitoning into black sand/brick/slag	
2				24-48" native soil consisting of CLAY, dense, brown	
3					
4					
5				4' return	
6	MS MSD Native at 7'			0-60" CLAY, dense, brown, dry	0 ppm
7					
8					
9					
10				5' return	
11				0-60" CLAY, dense, brown, dry	0 ppm
12					
13					
14					
15				5' return	
16				0-60" CLAY, dense, brown, dry	0 ppm
17					
18					
19					
20				5' return	
				End @ 20'	
21					MW-04 was installed in this
					borehole
22					
23					

C&S COMPANIES	**C&S Engineers, Inc.** 141 Elm Street, Suite 100 Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454	**BORING LOG**	***Boring No.*** **SB-12** ***Sheet 1 of:*** ***Project No.:*** S93.003.002

Project Name:	1803 Elmwood Avenue BCP - RI							***Surface Elev.:***	
Location:	1803 Elmwood Avenue, Buffalo, NY 14207							***Datum:***	
Client:	1803-1807 Elmwood Avenue LLC							***Start Date:***	
Drilling Firm:	Matrix							***Finish Date:***	
Groundwater		***Depth***	***Date & Time***	***Drill Rig:***				***Inspector:***	BW
While Drilling:				***Casing:***		***Rock Core:***		***Undist:***	
Before Casing Removal:				***Sampler:***		***Other:***			
After Casing Removal:				***Hammer:***					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	c - coarse m - medium f - fine **MATERIAL DESCRIPTION** S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50% s - some - 20-35% l - little - 10-20% t - trace - 0-10%	**COMMENTS** (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
				0-6" SAND, tan to brown	0 ppm 1430
1				6-12" stone, tan	
	Fill			12-36" fill consisting of SAND, black to brown, saturated, mixed in railroad tie	
2	at 2'				
3					
4					
5				3' return	
				0-12" fill consisting of a mix of sand and railroad ties, black sand, moist	0 ppm
6				12-60" CLAY, dense, brown	
7					
	Native				
8	at 8'				
9					
10				5' return	
				0-60" CLAY, dense, moist	0 ppm
11					
12					
13					
14					
				5' return	
15				End @ 15'	
					0 ppm
16					
17					
18					
19					
20					
21					
22					
23					

C&S Engineers, Inc.
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Buffalo, New York 14203
Phone: 716-847-1630
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BORING LOG

Boring No.	**SB-13**
Sheet 1 of:	
Project No.:	S93.003.002
Surface Elev.:	
Datum:	
Start Date:	
Finish Date:	
Inspector:	

Project Name:	1803 Elmwood Avenue BCP - RI
Location:	1803 Elmwood Avenue, Buffalo, NY 14207
Client:	1803-1807 Elmwood Avenue LLC
Drilling Firm:	Matrix

Groundwater	Depth	Date & Time	Drill Rig:				
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**
Before Casing Removal:			**Sampler:**		**Other:**		
After Casing Removal:			**Hammer:**				

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

c - coarse
m - medium
f - fine

a - and - 35-50%
s - some - 20-35%
l - little - 10-20%
t - trace - 0-10%

S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1	Fill at 2'			0-18" black sand mix w/ slag/rocks	0 ppm 1200
				18-42" native soil consisting of CLAY, dense, brown, dry	
2					
3					
4					
5				3.5' return	
6	Native at 7'			0-60" CLAY, dense, brown, dry	0 ppm
7					
8					
9					
10				5' return	
11				0-60" CLAY, dense, brown, dry	0 ppm
12					
13					
14					
15				5' return	
				End @ 15'	
16					
17					
18					
19					
20					
21					
22					
23					

C&S COMPANIES	C&S Engineers, Inc. 141 Elm Street, Suite 100 Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454	**BORING LOG**	***Boring No.***	**SB-14**
			Sheet 1 of:	
			Project No.:	S93.003.002

Project Name:	1803 Elmwood Avenue BCP - RI						***Surface Elev.:***	
Location:	1803 Elmwood Avenue, Buffalo, NY 14207						***Datum:***	
Client:	1803-1807 Elmwood Avenue LLC						***Start Date:***	5/21/24
Drilling Firm:	Matrix						***Finish Date:***	
Groundwater	***Depth***	***Date & Time***	***Drill Rig:***				***Inspector:***	
While Drilling:			***Casing:***		***Rock Core:***		***Undist:***	
Before Casing Removal:			***Sampler:***		***Other:***			
After Casing Removal:			***Hammer:***					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	c - coarse m - medium f - fine **MATERIAL DESCRIPTION** S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50% s - some - 20-35% l - little - 10-20% t - trace - 0-10%	**COMMENTS** (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
				0-6" concrete floor cover area	0 ppm 1500
1	1' Fill			6-12" Fill, slag, rocks, bricks, black sand	
2				12-48" native soil consisting of CLAY, dense, brown	
3	3'				
	Native				
4					
5				4' return	
				0-60" CLAY, dense, brown, dry	0 ppm
6					
7					
8					
9					
10				5' return	
				0-60" CLAY, dense, brown, dry	0 ppm
11					
12					
13					
14					
				5' return	
15				End @ 15'	
16					
17					
18					
19					
20					
21					
22					
23					

C&S COMPANIES	**C&S Engineers, Inc.** 141 Elm Street, Suite 100 Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454	**BORING LOG**	***Boring No.*** **SB-15** ***Sheet 1 of:*** ***Project No.:*** S93.003.002

Project Name:	1803 Elmwood Avenue BCP - RI							***Surface Elev.:***	
Location:	1803 Elmwood Avenue, Buffalo, NY 14207							***Datum:***	
Client:	1803-1807 Elmwood Avenue LLC							***Start Date:***	5/21/24
Drilling Firm:	Matrix							***Finish Date:***	
Groundwater		***Depth***	***Date & Time***	***Drill Rig:***				***Inspector:***	
While Drilling:				***Casing:***		***Rock Core:***		***Undist:***	
Before Casing Removal:				***Sampler:***		***Other:***			
After Casing Removal:				***Hammer:***					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	c - coarse m - medium f - fine **MATERIAL DESCRIPTION** S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50% s - some - 20-35% l - little - 10-20% t - trace - 0-10%	**COMMENTS** (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
				0-6" concrete floor cover area	0.0 ppm 1300
1				6-16" fill consisting of slag, brick, fill, black, brown, red	
				16-60" native soil consisting of clay, dense, brown	
2	Fill 2'				
3					
4	Native				
	4'				
5				5' return	
				0-60" dense CLAY, brown, dry	0 ppm
6					
7					
8					
9					
10				5' return	
				0-60" dense CLAY, brown, dry	0 ppm
11					
12					
13					
14					
				5' return	
15				End @ 15'	
16					
17					
18					
19					
20					
21					
22					
23					

C&S COMPANIES	C&S Engineers, Inc. 141 Elm Street, Suite 100 Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454	**BORING LOG**	***Boring No.***	**SB-16**
			Sheet 1 of:	
			Project No.:	S93.003.002

Project Name:	1803 Elmwood Avenue BCP - RI						***Surface Elev.:***		
Location:	1803 Elmwood Avenue, Buffalo, NY 14207						***Datum:***		
Client:	1803-1807 Elmwood Avenue LLC						***Start Date:***		
Drilling Firm:	Matrix						***Finish Date:***		
Groundwater	***Depth***	***Date & Time***	***Drill Rig:***				***Inspector:***		
While Drilling:			***Casing:***		***Rock Core:***		***Undist:***		
Before Casing Removal:			***Sampler:***		***Other:***				
After Casing Removal:			***Hammer:***						

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	c - coarse m - medium f - fine **MATERIAL DESCRIPTION** S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50% s - some - 20-35% l - little - 10-20% t - trace - 0-10%	**COMMENTS** (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
	Fill			0-6" concrete floor cover area	0 ppm 1340
1	at 1'			6-12" fill consisting of slag, brick, black	
	MS			12-60" native soil consisting of CLAY, dense, brown, dry	
2	MSD			Second	
				0-8" 2' of return railroad tie, fill	
3	Native			8-24" clay, dense, brown, dry	
	at 3'				
4					
5				5' return	
				0-60" clay, dense, brown, dry	0 ppm
6					
7					
8					
9					
10					
				0-60" clay, dense, brown, dry	0 ppm
11					
12					
13					
14					
15				5' return	
				0-60" clay, dense, brown, dry	0 ppm
16					
17					
18					
19					
				5' return	
20				End @ 20'	
					MW-05 was installed in this
21					borehole
22					
23					

C&S Engineers, Inc.
141 Elm Street, Suite 100
Buffalo, New York 14203
Phone: 716-847-1630
Fax: 716-847-1454

BORING LOG

Boring No.	**SB-17**
Sheet 1 of:	
Project No.:	S93.003.002
Surface Elev.:	
Datum:	
Start Date:	5/22/24
Finish Date:	
Inspector:	

Project Name:	1803 Elmwood Avenue BCP - RI
Location:	1803 Elmwood Avenue, Buffalo, NY 14207
Client:	1803-1807 Elmwood Avenue LLC
Drilling Firm:	Matrix

Groundwater	Depth	Date & Time	Drill Rig:				
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**
Before Casing Removal:			**Sampler:**		**Other:**		
After Casing Removal:			**Hammer:**				

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

c - coarse
m - medium
f - fine

MATERIAL DESCRIPTION

S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey

a - and - 35-50%
s - some - 20-35%
l - little - 10-20%
t - trace - 0-10%

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1	Fill at 2'			0-6" concrete Vault area	0 ppm
				6-20" void	
2				20"-13' sand, course grain, tan	
3				Sample was taken from vault at approx 2'	
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

C&S COMPANIES	**C&S Engineers, Inc.** 141 Elm Street, Suite 100 Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454	**BORING LOG**	***Boring No.*** **SB-18** ***Sheet 1 of:*** ***Project No.:*** S93.003.002

Project Name:	1803 Elmwood Avenue BCP - RI						***Surface Elev.:***	
Location:	1803 Elmwood Avenue, Buffalo, NY 14207						***Datum:***	
Client:	1803-1807 Elmwood Avenue LLC						***Start Date:***	5/22/24
Drilling Firm:	Matrix						***Finish Date:***	
Groundwater	***Depth***	***Date & Time***	***Drill Rig:***				***Inspector:***	
While Drilling:			***Casing:***		***Rock Core:***		***Undist:***	
Before Casing Removal:			***Sampler:***		***Other:***			
After Casing Removal:			***Hammer:***					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	c - coarse m - medium f - fine **MATERIAL DESCRIPTION** S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50% s - some - 20-35% l - little - 10-20% t - trace - 0-10%	**COMMENTS** (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
				0-6" black sand	0 ppm 1130
1				6-12" stone, brick, fill, orange chunks black matrix	
				12-24" fill consisting of black gravel	
2	Fill at 2'			24-42" native soil consisting of CLAY, dense, brown	
3					
4					
5				3.5' return	
				0-60" CLAY, dense, brown	0 ppm
6					
	Native at 7'				
7					
8					
9					
10					
				0-60" CLAY, dense, brown	0 ppm
11					
12					
13					
14					
15				End @ 15'	
16					
17					
18					
19					
20					
21					
22					
23					

C&S COMPANIES	**C&S Engineers, Inc.** 141 Elm Street, Suite 100 Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454	**BORING LOG**	***Boring No.*** **SB-19** ***Sheet 1 of:*** ***Project No.:*** S93.003.002

Project Name:	1803 Elmwood Avenue BCP - RI							***Surface Elev.:***	
Location:	1803 Elmwood Avenue, Buffalo, NY 14207							***Datum:***	
Client:	1803-1807 Elmwood Avenue LLC							***Start Date:***	5/23/24
Drilling Firm:	Matrix							***Finish Date:***	
Groundwater		***Depth***	***Date & Time***	***Drill Rig:***				***Inspector:***	
While Drilling:				***Casing:***		***Rock Core:***		***Undist:***	
Before Casing Removal:				***Sampler:***		***Other:***			
After Casing Removal:				***Hammer:***					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	c - coarse m - medium f - fine **MATERIAL DESCRIPTION** S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50% s - some - 20-35% l - little - 10-20% t - trace - 0-10%	**COMMENTS** (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-6" gravel, sand, concrete floor cover area	
				6-8" pieces of asphalt mixed in with fill consisting of black sand	
2				8-36" native soil consisting of dark brown clay and large angular gravel	0 ppm - 1 ft
					0 ppm - 2 ft
3	Fill X	3'			0.5 ppm 3 ft
4					
5					
6				0-4" brown clay and angular gravel	0 ppm
				4-60" dense, brown clay, dry	
7	Native 7' X				
8					
9					
10					
11				0-60" - dense brown clay, dry	0 ppm
12					
13					
14					
15				End @ 15'	35 ppm - 15 ft
16					
17					
18					
19					
20					
21					
22					
23					

Appendix C
Previous Groundwater Logs

Well Data Sheet

Date: 5/17/23
Job #: 01304
Well ID: SB116/MW3
Crew: CS/SM
Well Depth (TOR): 15.0
Well Depth (GS): 15.6
Initial Water Level (TOR): 5.80
Initial Water Level (GS): 5.40

Volume Calculation:
DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump
Initial Water Quality
Final Water Quality

SAMPLE RECORD

Date:
Time:
Crew:
Method:
Sample ID:
Water Quality:
pH:
Conductivity:
Temperature:
Turbidity:

Volume:
Analysis:
Chain of Custody #:
Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID HeadSpace 0.0
No Sampling - Monthly MW gauging

TOR= Top of Riser
GS= Ground Surface

Signature: Calli Snyder

Well Data Sheet

Date: 5/17/23
Job #: 01304
Well ID: SB172-MW-11
Crew: CS+SM
Well Depth (TOR): 15.05
Well Depth (GS): 15.88
Initial Water Level (TOR): 5.60
Initial Water Level (GS): 6.43

Volume Calculation:
DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump
Initial Water Quality
Final Water Quality

SAMPLE RECORD

Date:
Time:
Crew:
Method:
Sample ID:
Water Quality:
pH:
Conductivity:
Temperature:
Turbidity:

Volume:
Analysis:
Chain of Custody #:
Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Head Space 0.0ppm
NO Sampling Monthly MW gauging.

TOR= Top of Riser
GS= Ground Surface

Signature: Collin Snyder

Well Data Sheet

Date: 5/17/23

Job #: 01304

Well ID: MW-12

Crew: CS/SM

Well Depth (TOR): 14.7

Well Depth (GS): 15.2

Initial Water Level (TOR): 4.69

Initial Water Level (GS): 5.19

Volume Calculation:

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Head Space: 0.0 ppm
No Sampling Monthly MW gaging.

TOR= Top of Riser

GS= Ground Surface

Signature: Colli Snyder

Well Data Sheet

Date: 5/17/23 Job #: 01304

Well ID: SB173/mw-13

Crew: CS+SM

Well Depth (TOR): 14.23

Well Depth (GS): 14.93

Initial Water Level (TOR): 4.01

Initial Water Level (GS): 4.71

Volume Calculation:

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Head Space : 0.0ppm
No Sampling - Monthly MW gauging

TOR= Top of Riser

GS= Ground Surface

Signature: Collin Snyder

Well Data Sheet

Date: 5/17/23

Job #: 01304

Well ID: MW-14

Crew: CS/SM

Well Depth (TOR): 9.7

Well Depth (GS): 10.16

Initial Water Level (TOR): 5.53

Initial Water Level (GS): 5.99

Volume Calculation:

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Head Space 0.0 PPM
No Sampling - monthly MW gaging

TOR= Top of Riser

GS= Ground Surface

Signature: Colli Smeyers

Well Data Sheet

Date: 5/17/23

Job #: 01304

Well ID: MW-15

Crew: CS+SM

Well Depth (TOR): 10.42

Well Depth (GS): 10.72

Initial Water Level (TOR): 5.20

Initial Water Level (GS): 5.50

Volume Calculation:

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Head Space 0.0 PPM

No Sampling - Monthly MW gauging.

TOR= Top of Riser

GS= Ground Surface

Signature: Collin Snyder

Well Data Sheet

Date: 6/20/23 Job #: 01304

Well ID: MW-3

Crew: CS

Well Depth (TOR): 15.0

Well Depth (GS): 15.6

Initial Water Level (TOR): 7.18

Initial Water Level (GS):

Volume Calculation:

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Head Space 0.9
NO Sampling Monthly MW Gauging

TOR= Top of Riser

GS= Ground Surface

Signature: Collin Snyder

Well Data Sheet

Date: 6/20/23 Job #: 01304

Well ID: MW-11

Crew: CS

Well Depth (TOR): 5.94

Well Depth (GS):

Initial Water Level (TOR):

Initial Water Level (GS):

Volume Calculation:

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Head Space 0.5
NO Sampling Monthly MW Gauging

TOR= Top of Riser

GS= Ground Surface

Signature: Collin Snyder

Well Data Sheet

Date: 6/20/23 Job #: 01304

Well ID: MW-12

Crew: CS

Well Depth (TOR): 14.7

Well Depth (GS): 15.2

Initial Water Level (TOR): 5.20

Initial Water Level (GS):

Volume Calculation:

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Head Space 0.0
NO Sampling Monthly MW Gauging

TOR= Top of Riser

GS= Ground Surface

Signature: Collin Snyder

Well Data Sheet

Date: 6/20/23 Job #: 01304

Well ID: MW-13

Crew: CS

Well Depth (TOR): 14.23

Well Depth (GS): 14.93

Initial Water Level (TOR): 5.50

Initial Water Level (GS):

Volume Calculation:

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Head Space
NO Sampling Monthly MW Gauging

TOR= Top of Riser

GS= Ground Surface

Signature: Callin Sneyder

Well Data Sheet

Date: 6/20/23 Job #: 01304

Well ID: MW-14

Crew: CS

Well Depth (TOR): 9.7

Well Depth (GS): 10.16

Initial Water Level (TOR): 6.87

Initial Water Level (GS):

Volume Calculation:

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Head Space 1.0
NO Sampling Monthly MW Gauging

TOR= Top of Riser

GS= Ground Surface

Signature: Collin Snyder

Well Data Sheet

Date: 6/20/23 Job #: 01304

Well ID: MW-15

Crew: CS

Well Depth (TOR): 10.42

Well Depth (GS): 10.72

Initial Water Level (TOR): 5.52

Initial Water Level (GS):

Volume Calculation:

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Head Space 00
NO Sampling Monthly MW Gauging

TOR= Top of Riser

GS= Ground Surface

Signature: Collin Snyder

Well Data Sheet

Date: 07/25/23 Job #: 01304

Well ID: MW-3

Crew: CS, SM

Well Depth (TOR):

Well Depth (GS):

Initial Water Level (TOR):

Initial Water Level (GS):

Volume Calculation:

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: MW-3 inaccessible, Roll-off can ~~not~~ not be moved covering sampling well

TOR= Top of Riser

GS= Ground Surface

Signature:

Well Data Sheet

Date: 07/25/23 Job #: 01304

Well ID: SB172/MW-11

Crew: CS, SM

Well Depth (TOR): 15.05

Well Depth (GS): 15.88

Initial Water Level (TOR): 5.60

Initial Water Level (GS): 6.43

Volume Calculation: 15.05 - 5.60 · (0.041) = .38745

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity
10:10	.5G	7.07	2.98	23.15	2.3
11 16	1	7.08	3.29	22.21	1.1
11:27	1.5G	7.25	3.35	21.51	2.8

Purge Method: Bailer/Submersible Pump

Initial Water Quality Good

Final Water Quality

SAMPLE RECORD

Date: 07/25/23

Time: 11:25

Crew: CS SM

Method: Low flow

Sample ID: MW-11 07 25 23

Water Quality: Good

pH: 7.25

Conductivity: 3.35

Temperature: 21.51

Turbidity: 2.8

Volume: See Chain

Analysis: See Chain

Chain of Custody #: —

Sample Type: Grab

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: Headspace: 4.3 PPM
Collected duplicate sample

TOR= Top of Riser

GS= Ground Surface

Signature: Collin Smyth

Well Data Sheet

Date: 07/25/23 Job #: 01304

Well ID: MW-12

Crew: CS, SM

Well Depth (TOR): 14.7

Well Depth (GS): 15.2

Initial Water Level (TOR): 4.71

Initial Water Level (GS): 5.21

Volume Calculation: (14.7 - 4.71) · .041 = 0.40959

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity
10:07	.25G	6.35	1.22	23.71	54.8
10:14	.75G	6.34	.861	23.32	5.2
10:25	1.4G	6.45	.789	23.49	0.0

Purge Method: Bailer/(Submersible Pump)

Initial Water Quality Good

Final Water Quality Good

SAMPLE RECORD

Date: 07/25/23

Time: 10:26

Crew: CS SM

Method: Low flow

Sample ID: MW-12 (072523)

Water Quality: Good

pH: 6.45

Conductivity: .789

Temperature: 23.49

Turbidity: 0.0

Volume: See Chain

Analysis: See chain

Chain of Custody #: —

Sample Type: Grab

Diameter	Multiply by
(1")	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: Head Space: 6.0 PPM
Collected ms + msd Samples

TOR= Top of Riser

GS= Ground Surface

Signature: Collin Smeyla

Well Data Sheet

Date: 07/25/23 Job #: 01304

Well ID: SB 173 / MW-13

Crew: CS, SM

Well Depth (TOR): 14.23

Well Depth (GS): 14.93

Initial Water Level (TOR): 3.98

Initial Water Level (GS): 4.68

Volume Calculation: (14.23 - 3.98) · 0.041 = .42025

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity
0910	.3G	7.22	~~3.712~~	24.27	5.8
0916	1G	7.11	.528	24.64	0.0
0922	1.5G	6.96	.512	24.85	0.0

Purge Method: Bailer / Submersible Pump

Initial Water Quality fair

Final Water Quality Good

SAMPLE RECORD

Date: 07/25/23

Time: 0922

Crew: CS SM

Method: Low flow

Sample ID: MW-13 (072523)

Water Quality: Good

pH: 6.96

Conductivity: .512

Temperature: 24.85

Turbidity: 0.0

Volume: See Chain

Analysis: See chain

Chain of Custody #: —

Sample Type: Grab

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: Headspace: 268 PPM

TOR= Top of Riser

GS= Ground Surface

Signature: Collin Sneyder

Well Data Sheet

Date: 07/25/23
Job #: 01304
Well ID: MW-14
Crew: CS, SM
Well Depth (TOR): 9.7
Well Depth (GS): 10.16
Initial Water Level (TOR): 6.50
Initial Water Level (GS): 6.96

Volume Calculation:
DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump
Initial Water Quality
Final Water Quality

SAMPLE RECORD

Date: 07/25/23
Time:
Crew: CS SM
Method: Low flow
Sample ID:
Water Quality:
pH:
Conductivity:
Temperature:
Turbidity:

Volume: See Chain
Analysis: See Chain
Chain of Custody #: —
Sample Type: Grab

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: Head Space: 25.6 PPM
No Sample

TOR= Top of Riser
GS= Ground Surface

Signature: Calli Snyder

Well Data Sheet

Date: 07/25/23 Job #: 01304

Well ID: MW-15

Crew: CS, SM

Well Depth (TOR): 10.42

Well Depth (GS): 10.72

Initial Water Level (TOR): 5.21

Initial Water Level (GS): 5.5

Volume Calculation:

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date: 07/25/23

Time:

Crew: CS SM

Method: Low flow

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume: See Chain

Analysis: See Chain

Chain of Custody #: —

Sample Type: Grab

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: HeadSpace: 14.8 PPM
No Sample

TOR= Top of Riser

GS= Ground Surface

Signature: Callie Snyder

Well Data Sheet

Date: 08/17/23 Job #: 01304

Well ID: MW-3

Crew: CS

Well Depth (TOR): 150

Well Depth (GS): 156

Initial Water Level (TOR): 5.95

Initial Water Level (GS): 6.55

Volume Calculation:

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Head Space 2.8
No Sampling monthly MW gauging

TOR= Top of Riser

GS= Ground Surface

Signature: Callie Snyder

Well Data Sheet

Date: 08/17/23 Job #: 01304

Well ID: MW-11

Crew: CS

Well Depth (TOR): 15.05

Well Depth (GS): 15.88

Initial Water Level (TOR): ~~5.71~~ 5.74

Initial Water Level (GS): 6.57

Volume Calculation:

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Head Space 0.0

No Sampling monthly MW gauging

TOR= Top of Riser

GS= Ground Surface

Signature: Calli Snyder

Well Data Sheet

Date: 08/17/23 Job #: 01304

Well ID: MW-12

Crew: CS

Well Depth (TOR): 14.7

Well Depth (GS): 15.2

Initial Water Level (TOR): 9.99

Initial Water Level (GS): 5.44

Volume Calculation:

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Head Space 0.0

No Sampling monthly MW gauging

TOR= Top of Riser

GS= Ground Surface

Signature: Calli Snyder

Well Data Sheet

Date: 08/17/23 Job #: 01309

Well ID: MW-13

Crew: CS

Well Depth (TOR): 14.23

Well Depth (GS): 14.93

Initial Water Level (TOR): 9.20

Initial Water Level (GS): 4.90

Volume Calculation:

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Head Space 0.0

No Sampling monthly MW gauging

TOR= Top of Riser

GS= Ground Surface

Signature: Callie Snyder

Well Data Sheet

Date: 08/17/23 Job #: 01309

Well ID: MW-14

Crew: CS

Well Depth (TOR): 9.7

Well Depth (GS): 10.16

Initial Water Level (TOR): 6.78

Initial Water Level (GS): 7.24

Volume Calculation:

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Head Space 0.1
No Sampling monthly MW gauging

TOR= Top of Riser

GS= Ground Surface

Signature: Calli Snyder

Well Data Sheet

Date: 08/17/23 Job #: 01309

Well ID: MW-15

Crew: CS

Well Depth (TOR): 10.42

Well Depth (GS): 10.72

Initial Water Level (TOR): 5.34

Initial Water Level (GS): 5.64

Volume Calculation:

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Head Space 0.0

No Sampling monthly MW gauging

TOR= Top of Riser

GS= Ground Surface

Signature: Calla Snyder

Well Data Sheet

Date: 10/03/23
Job #: 01304
Well ID: SB17.6 / MW3
Crew: CS and RH
Well Depth (TOR): 15
Well Depth (GS): 13.6
Initial Water Level (TOR): 6.30
Initial Water Level (GS): 6.90

Volume Calculation: (15.0 - 6.30)(.163) = 1.42 gal
DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity
11:58	1 gal	7.24	1.13	24.43°C	5.8
12:13	2 gal	7.30	1.12	24.39	0.0
12:23	3 gal	7.40	1.12	24.36°C	1.8
12:33	4 gal	7.43	1.10	24.54	1.9
12:43	5 gal	7.44	1.10	24.91	0.0

Purge Method: Bailer/Submersible Pump
Initial Water Quality fair
Final Water Quality

SAMPLE RECORD

Date: 10/03/23
Time: 12:43
Crew: CS + RH
Method: Low flow
Sample ID: MW-3 (100323)
Water Quality: good
pH: 7.44
Conductivity: 1.10
Temperature: 24.91°C
Turbidity: 0.0

Volume: see chain
Analysis: "
Chain of Custody #: —
Sample Type: GRAB

Diameter	Multiply by
1"	0.041
(2")	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: Caps broken
1.6 PID headspace

TOR= Top of Riser
GS= Ground Surface

Signature:

Well Data Sheet

Date: 10/03/2023 Job #: 01304

Well ID: MW-11

Crew: CS and RH

Well Depth (TOR): 15.05

Well Depth (GS): 15.88

Initial Water Level (TOR): 6.05

Initial Water Level (GS): 6.88

Volume Calculation: (15.05 - 6.05)(.041) = .37 gal

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity
13:01	1/4	7.09	2.91	24.57°C	7.5
13:05	1/2	7.31	3.18	23.90°C	6.1
13:09	3/4	7.36	3.44	24.80°C	2.09
13:12	1	7.24	3.27	24.49	2.92

Purge Method: Bailer/(Submersible)Pump

Initial Water Quality good

Final Water Quality

SAMPLE RECORD

Date: 10/03/2023

Time: 13:17

Crew: RH and CS

Method: low flow

Sample ID: MW(1 (100323) + DUP

Water Quality: poor

pH: 7.24

Conductivity: 3.27

Temperature: 24.49

Turbidity: 2.92

Volume: 5ec chain

Analysis: "

Chain of Custody #: —

Sample Type: GRAB

Diameter	Multiply by
(1")	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: 1.8 PID headspace

TOR= Top of Riser

GS= Ground Surface

Signature:

Well Data Sheet

Date: 10/03/2023 Job #: 01304

Well ID: MW-12

Crew: CS + RH

Well Depth (TOR): 9.7

Well Depth (GS): 10.16

Initial Water Level (TOR): 5.39

Initial Water Level (GS): 5.85

Volume Calculation: (9.7 - 5.39)(.041) = .18

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity
11:05	1/4	7.18	1.16	23.95°C	88.6
11:09	1/2	7.22	.945	23.95°C	1.53
11.15	3/4	7.08	.900	23.89°C	72.6

Purge Method: Bailer/Submersible Pump

Initial Water Quality poor

Final Water Quality

SAMPLE RECORD

Date: 10/03/23

Time: 11.15

Crew: RH + CS

Method: low flow

Sample ID: MW-12 (100323)

Water Quality: fair

pH: 7.08

Conductivity: .900

Temperature: 23.89°C

Turbidity: 72.6

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: 0.0 PID headspace

TOR= Top of Riser

GS= Ground Surface

Signature:

Well Data Sheet

Date: 10/03/2023 Job #: 01304

Well ID: MW-13

Crew: CS + RH

Well Depth (TOR): 14.23

Well Depth (GS): 14.93

Initial Water Level (TOR): 6.70

Initial Water Level (GS): 7.53

Volume Calculation: (14.23 - 6.70)(.041) = .31

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity
10:10	1/4	7.09	1.07	24.12°C	117
10:13	1/2	7.26	.571	24.27°C	28.7
10:17	3/4	7.39	.493	24.41°C	6.8
10:21	1	7.45	.468	24.50°C	1.5

Purge Method: Bailer/(Submersible) Pump

Initial Water Quality Poor

Final Water Quality Fair

SAMPLE RECORD

Date: 10/03/23

Time: 10:27

Crew: CS and RH

Method: low flow

Sample ID: MW-13 (100323)

Water Quality: Fair

pH: 7.37

Conductivity: .498

Temperature: 24.82

Turbidity: 16.3

Volume: SEE CHAIN

Analysis: "

Chain of Custody #: —

Sample Type: GRAB

Diameter	Multiply by
(1")	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: .01 PID

TOR= Top of Riser

GS= Ground Surface

Signature:

Well Data Sheet

Date: 10/03/23 Job #: 01304

Well ID: MW-14

Crew: CS and RH

Well Depth (TOR): 14.7

Well Depth (GS): 15.2

Initial Water Level (TOR): 6.97

Initial Water Level (GS): 7.47

Volume Calculation: (14.7 - 6.97)(.041) = .32

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date: 10/03/23

Time:

Crew: CS + RH

Method: low flow

Sample ID: MW-12/04/0623 + MS + MSD

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume: SEE CHAIN

Analysis: "

Chain of Custody #: –

Sample Type: GRAB

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID headspace 0.0
well gauged, no sampling

TOR= Top of Riser

GS= Ground Surface

Signature:

Well Data Sheet

Date: 10/03/2023 Job #: 01304

Well ID: MW-15

Crew: CS + RH

Well Depth (TOR): 10.42

Well Depth (GS): 10.72

Initial Water Level (TOR): 5.64

Initial Water Level (GS): 5.94

Volume Calculation:

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: 0.0 PID headspace

TOR= Top of Riser

GS= Ground Surface

Signature:

Well Data Sheet

Date: 01/12/24 Job #: 013011

Well ID: SB2 16/ MW-3

Crew: RH CS

Well Depth (TOR): 15.0

Well Depth (GS): 15.6

Initial Water Level (TOR): 5.28

Initial Water Level (GS): 5.88

Volume Calculation: (15.0 - 5.28) x 0.163 = 1.584 (1.584 x 3 = 4.753)

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity
9:45	1 gal	7.45	1.58	14.59	27.70
10:06	3 gal	7.31	1.40	14.53	1.2
10:34	5 gal	7.30	1.32	14.76	0.0

Purge Method: Bailer/Submersible Pump

Initial Water Quality poor

Final Water Quality good

SAMPLE RECORD

Date: 01/12/24

Time: 10:34

Crew: RH, CS

Method: low flow

Sample ID: MW-3

Water Quality: good

pH: 7.30

Conductivity: 1.32

Temperature: 14.76

Turbidity: 0.0

Volume: see chain

Analysis: "

Chain of Custody #: -

Sample Type: Grab

Diameter	Multiply by
1"	0.041
(2")	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: headspace PID - 3 4 PPM

TOR= Top of Riser

GS= Ground Surface

Signature: Rylee Hooker

Well Data Sheet

Date: 01/12/24 Job #: 01304

Well ID: MW-11

Crew: RH CS

Well Depth (TOR): 15.05

Well Depth (GS): 15.88

Initial Water Level (TOR): 5.34

Initial Water Level (GS): 6.17

Volume Calculation: (15.05 - 5.34) x 0.041 = .39811

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity
10.54	.5 gal	7.39	2.51	12.73	29.2
11:04	.75 gal	7.37	2.39	12.97	55.56
11.14	1 gal	7.18	2.62	13.65	18.4

Purge Method: Bailer/Submersible Pump

Initial Water Quality good

Final Water Quality good

SAMPLE RECORD

Date: 01/12/24

Time: 11:14

Crew: RH, CS

Method: low flow

Sample ID: MW-11

Water Quality: good

pH: 7.18

Conductivity: 2.62

Temperature: 13.65

Turbidity: 18.4

Volume: see chain

Analysis: "

Chain of Custody #: -

Sample Type: Grab

Diameter	Multiply by
(1")	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: headspace PID - 0.7 PPM

TOR= Top of Riser

GS= Ground Surface

Signature: Rylee Hooker

MS and MSD

Well Data Sheet

Date: 01/12/24 Job #: 01304

Well ID: MW-12

Crew: RH CS

Well Depth (TOR): 14.7

Well Depth (GS): 15.2

Initial Water Level (TOR): 4.14

Initial Water Level (GS): 4.64

Volume Calculation: (14.7 - 4.14) x 0.041 = 0.4329

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity
11:50	1 gal	7.29	1.35	13.08	4.5
11:57	1.5 gal	7.28	1.37	13.12	0.0
12:04	2 gal	7.29	1.37	13.13	0.0

Purge Method: Bailer/Submersible Pump

Initial Water Quality good

Final Water Quality good

SAMPLE RECORD

Date: 01/12/24

Time: 12:04

Crew: RH CS

Method: low flow

Sample ID: MW-12

Water Quality: good

pH: 7.29

Conductivity: 1.37

Temperature: 13.13

Turbidity: 0.0

Volume: see chain

Analysis: "

Chain of Custody #: -

Sample Type: Grab

Diameter	Multiply by
(1")	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: headspace PID - 0.0

TOR= Top of Riser

GS= Ground Surface

Signature: Ryleu Hooker

Well Data Sheet

Date: 01/12/24 Job #: 01304

Well ID: MW-13

Crew: RH, CS

Well Depth (TOR): 14.23

Well Depth (GS): 14.93

Initial Water Level (TOR): 3.11

Initial Water Level (GS): 3.81

Volume Calculation: (14.23 - 3.11) × 0.041 = .4559

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity
12:35	1 gal	7.56	1.03	10.73	18.34
12:44	1.5 gal	7.67	1.08	10.63	6.2
12:52	2 gal	7.11	1.13	10.54	5.3

Purge Method: Bailer/Submersible Pump

Initial Water Quality fair

Final Water Quality good

SAMPLE RECORD

Date: 01/12/24

Time: 12:52

Crew: RH CS

Method: low flow

Sample ID: MW-13

Water Quality: good

pH: 7.11

Conductivity: 1.13

Temperature: 10.54

Turbidity: 5.3

Volume: see chain

Analysis: "

Chain of Custody #: –

Sample Type: Grab

Diameter	Multiply by
(1")	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: headspace PID - 0.0

TOR= Top of Riser

GS= Ground Surface

Signature: Rylee Hooker

Well Data Sheet

Date: 01/12/24
Job #: 01304
Well ID: MW-14
Crew: RH CS
Well Depth (TOR): 9.7
Well Depth (GS): 10.16
Initial Water Level (TOR): 6.25
Initial Water Level (GS): 6.71

Volume Calculation: NO SAMPLE
DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump
Initial Water Quality
Final Water Quality

SAMPLE RECORD

Date: 01/12/24
Time:
Crew:
Method:
Sample ID:
Water Quality:
pH:
Conductivity:
Temperature:
Turbidity:

Volume:
Analysis:
Chain of Custody #:
Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: headspace PID - 0.0

TOR= Top of Riser
GS= Ground Surface

Signature: Ryan Hooker

Well Data Sheet

Date: 01/12/24
Job #: 01304
Well ID: MW-15
Crew: RH, CS
Well Depth (TOR): 10.92
Well Depth (GS): 10.72
Initial Water Level (TOR): 5.05
Initial Water Level (GS): 5.25

Volume Calculation: NO SAMPLE
DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump
Initial Water Quality
Final Water Quality

SAMPLE RECORD

Date: 01/12/24
Time:
Crew:
Method:
Sample ID:
Water Quality:
pH:
Conductivity:
Temperature:
Turbidity:

Volume:
Analysis:
Chain of Custody #:
Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: headspace PID - 0.0

TOR= Top of Riser
GS= Ground Surface

Signature: Ryler Hooker

Well Data Sheet

Date: 4/9/24 Job #: 01304

Well ID: SB116/MW-3

Crew: RH, CS

Well Depth (TOR): 15.0

Well Depth (GS): 15.6

Initial Water Level (TOR): 5.62

Initial Water Level (GS): 6.22

Volume Calculation: (15.0 - 5.62) x 0.163 = 1.53

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity
10:37	2	6.32	1.36	15.13	13.1
10:46	3	6.37	1.31	15.69	9.1
10:57	4	6.38	1.27	15.86	0.0
11:08	5	6.41	1.26	16.03	0.0

Purge Method: Bailer/Submersible Pump

Initial Water Quality fair

Final Water Quality good

SAMPLE RECORD

Date: 4/9/24

Time: 11:08

Crew: RH, CS

Method: low flow

Sample ID: MW-3

Water Quality: good

pH: 6.41

Conductivity: 1.26

Temperature: 16.03

Turbidity: 0.0

Volume: See Chain

Analysis: "

Chain of Custody #: —

Sample Type: Grab

Diameter	Multiply by
1"	0.041
(2")	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Headspace = 2.1

TOR= Top of Riser

GS= Ground Surface

Signature: Ryan Hoskin

Well Data Sheet

Date: 4/9/24
Job #: 01304
Well ID: MW-11
Crew: RH, CS
Well Depth (TOR): 15.05
Well Depth (GS): 15.88
Initial Water Level (TOR): 5.58
Initial Water Level (GS): 6.41

Volume Calculation: (15.05 - 5.58) x 0.041 = 0.388
DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity
11:50	0.5	6.40	2.67	19.57	195
11:56	1	6.48	3.32	19.06	774
12:02	1.5	6.66	2.46	19.56	23.3
12:16	2	6.70	2.23	18.29	14.4

Purge Method: Bailer/Submersible Pump
Initial Water Quality poor
Final Water Quality good

SAMPLE RECORD

Date: 4/9/24
Time: 12:15
Crew: RH, CS
Method: low flow
Sample ID: MW-11
Water Quality: good
pH: 6.70
Conductivity: 2.23
Temperature: 18.29
Turbidity: 14.4

Volume: See chain
Analysis: "
Chain of Custody #: —
Sample Type: Grab

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Headspace = 0.8

TOR= Top of Riser
GS= Ground Surface

Signature: Ryan Hooker

Well Data Sheet

Date: 04/09/24 Job #: 01304

Well ID: MW-12

Crew: RH, CS

Well Depth (TOR): 14.7

Well Depth (GS): 15.2

Initial Water Level (TOR): 4.41

Initial Water Level (GS): 4.91

Volume Calculation: (14.7 - 4.41) x 0.041 = .4218

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity
1:40	0.5	6.57	1.08	21.86	20.8
1:51	1	6.609	1.17	20.51	0.0
1:59	1.5	6.76	1.22	20.27	0.0

Purge Method: Bailer/Submersible Pump

Initial Water Quality: fair

Final Water Quality: good

SAMPLE RECORD

Date: 4/9/24

Time: 13:59

Crew: RH, CS

Method: low flow

Sample ID: MW-12

Water Quality: good

pH: 6.76 J

Conductivity: 1.22

Temperature: 20.27

Turbidity: 0.0

Volume: See chain

Analysis: "

Chain of Custody #: —

Sample Type: Grab

Diameter	Multiply by
(1")	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: Headspace PID = 0.0

TOR= Top of Riser

GS= Ground Surface

Signature: Ryan Hoobler

Well Data Sheet

Date: 4/9/24
Job #: 01304
Well ID: MW-13
Crew: RH, CS
Well Depth (TOR): 14.23
Well Depth (GS): 14.93
Initial Water Level (TOR): 3.66
Initial Water Level (GS): 4.36

Volume Calculation: (14.23 - 3.66) × 0.041 = .433
DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity
2:30	.5	7.28	1.11	13.77	0.0
2:38	1	7.34	1.07	13.84	0.0
2:46	1.5	7.38	0.985	15.76	0.0

Purge Method: Bailer/~~Submersible Pump~~
Initial Water Quality good
Final Water Quality good

SAMPLE RECORD

Date: 4/9/24
Time: 14:46
Crew: RH, CS
Method: low flow
Sample ID: MW-13
Water Quality: good
pH: 7.38
Conductivity: 0.985
Temperature: 15.76
Turbidity: 0.0

Volume: See chain
Analysis: 11
Chain of Custody #: —
Sample Type: Grab

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Headspace - 0.0

TOR= Top of Riser
GS= Ground Surface

Signature: Ryan Hooker

Well Data Sheet

Date: 04/09/24 Job #: 01304

Well ID: MW-14

Crew: DH, CS

Well Depth (TOR): 9.7

Well Depth (GS): 10.16

Initial Water Level (TOR): 0.46

Initial Water Level (GS): 0.91

Volume Calculation: NO SAMPLE

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Headspace - 0.0

TOR= Top of Riser

GS= Ground Surface

Signature: Ryan Hooker

Well Data Sheet

Date: 4/9/24 Job #: 01304

Well ID: MW-15

Crew: RH, CS

Well Depth (TOR): 10.92

Well Depth (GS): 10.72

Initial Water Level (TOR): 5.13

Initial Water Level (GS): 4.93

Volume Calculation: NO SAMPLE

DTB-DTW*0.163=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments: PID Headspace - 0.0

TOR= Top of Riser

GS= Ground Surface

Signature: Ryder Hooker

Appendix D

RI Groundwater Sampling &

Well Construction Logs

C&S Engineers, Inc.
141 Elm Street, Suite 100
Buffalo, NY 14203
Phone: 716-847-1630
Fax: 315-455-9667
www.cscos.com

Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1803-1807 Elmwood Avenue LLC
Site Name: 1803 Elmwood Avenue BCP
Project No.: S93.003.002 - Groundwater Well Development
Field Staff: JAW

WELL DATA

Date	6/11/2024	
Time	1245	
Water meter utilized and date last calibrated	Horiba	
Well Number	MW-01	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	35.00	
Static Water Level (feet)	4.40	
H_2O Column (feet)	30.60	
Pump Intake (feet)	25.0-30.0	
Well Volume (gallons)	4.99	
Amount to Evacuate (gallons)	7.00	
Amount Evacuated (gallons)	7.00	

SAMPLE DATA

Sample Date		
Sample Time		
Sampler Initials		
Sample I.D.		
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☐ Yes ☑ No	ID:
EQ Blank Collected?	☐ Yes ☑ No	ID:
Comments: No Sample collected.		

FIELD READINGS

Date	Stabilization Criteria	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024
Time		1300	1305	1310	1315	1320	1325	1330	1335
Volume Extracted	gallons	1	1.5	2	2.5	3	3.5	4	4.5
Static Water Level (feet)	NA	10.4	12.1	13.7	14.5	16.3	17.3	18.2	19.3
pH (Std. Units)	+/-0.1	7.32	7.31	7.31	7.3	7.34	7.26	7.04	6.98
Conductivity (mS/cm)	3%	1.73	1.67	1.78	1.86	2.05	2.37	2.96	3.13
Turbidity (NTU)	10%	14.5	11.3	24.6	28.9	39.8	43.2	27.8	22.9
D.O. (mg/L)	10%	2.8	2.33	3.34	3.84	4.92	6.22	6.36	6.22
Temperature (ºC) (ºF)	3%	15.58	15.79	15.9	15.88	15.72	15.72	15.72	15.7
ORP[3](mV)	+/-10 mv	264	252	242	241	245	259	274	283
Appearance		C	C	C	C	C	C/ST	C	C
Free Product (Yes/No)		No	No	No	No	No	No	No	No
Odor		None	None	None	None	None	None	None	None

Date	Stabilization Criteria	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024			
Time		1340	1345	1350	1355	1400			
Volume Extracted	gallons	5	5.5	6	6.5	7			
Static Water Level (feet)	NA	20.2	20.7	20.6	20.8	20.8			
pH (Std. Units)	+/-0.1	7.01	7.02	7.07	6.98	6.98			
Conductivity (mS/cm)	3%	2.87	2.76	2.93	2.86	2.85			
Turbidity (NTU)	10%	27.6	32.9	34.9	24.3	10.3			
D.O. (mg/L)	10%	6.21	6.55	6.5	5.93	6			
Temperature (ºC) (ºF)	3%	15.7	15.76	15.99	15.9	15.83			
ORP[3](mV)	+/-10 mv	288	291	290	297	298			
Appearance		C	C	C	C	C			
Free Product (Yes/No)		No	No	No	No	No			
Odor		None	None	None	None	None			

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
Pump intake moved to 30.0 ft following 3.0 gallons.

C&S Engineers, Inc.
141 Elm Street, Suite 100
Buffalo, NY 14203
Phone: 716-847-1630
Fax: 315-455-9667
www.cscos.com

Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1803-1807 Elmwood Avenue LLC
Site Name: 1803 Elmwood Avenue BCP
Project No.: S93.003.002 - Groundwater Well Development
Field Staff: JAW

WELL DATA

Date	6/11/2024	
Time	1415	
Water meter utilized and date last calibrated	Horiba	
Well Number	MW-02	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	25.00	
Static Water Level (feet)	5.40	
H_2O Column (feet)	19.60	
Pump Intake (feet)	20.00	
Well Volume (gallons)	3.20	
Amount to Evacuate (gallons)	8.50	
Amount Evacuated (gallons)	8.50	

SAMPLE DATA

Sample Date		
Sample Time		
Sampler Initials		
Sample I.D.		
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☐ Yes ☑ No	ID:
EQ Blank Collected?	☐ Yes ☑ No	ID:
Comments: No Sample collected.		

FIELD READINGS

Date	Stabilization Criteria	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024
Time		1430	1435	1440	1445	1450	1455	1500	1505
Volume Extracted	gallons	1	1.5	2	2.5	3	3.5	4	4.5
Static Water Level (feet)	NA	10.9	11.4	11.7	12.5	13	13.5	14.3	15
pH (Std. Units)	+/-0.1	7.15	7.16	7.13	7.1	7.09	7.08	7.07	7.08
Conductivity (mS/cm)	3%	1.36	1.39	1.49	1.6	1.73	1.8	1.85	1.91
Turbidity (NTU)	10%	26.1	40.3	24.7	20.8	42.8	40.2	70.4	315
D.O. (mg/L)	10%	4.62	5.45	4.62	3.74	3.05	2.96	2.16	2.02
Temperature (ºC) (ºF)	3%	14.95	15.09	14.87	14.73	14.58	14.49	14.47	14.53
ORP[3](mV)	+/-10 mv	281	286	287	288	287	286	284	281
Appearance		C/ST	C/ST	C	C	C	C	ST	T
Free Product (Yes/No)		No	No	No	No	No	No	No	No
Odor		None	None	None	None	None	None	None	None

Date	Stabilization Criteria	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024
Time		1510	1515	1520	1525	1530	1535	1540	1545
Volume Extracted	gallons	5	5.5	6	6.5	7	7.5	8	8.5
Static Water Level (feet)	NA	15.2	16.5	17	17.2	17.4	17.7	17.9	18.1
pH (Std. Units)	+/-0.1	7.11	7.13	7.15	7.1	7.08	7.09	7.1	7.09
Conductivity (mS/cm)	3%	1.89	1.96	2.18	2.17	2.08	1.9	1.88	1.9
Turbidity (NTU)	10%	258	Flashing	Flashing	Flashing	Flashing	Flashing	Flashing	Flashing
D.O. (mg/L)	10%	1.69	3	3.53	3.3	3.2	3.22	3.19	3.07
Temperature (ºC) (ºF)	3%	14.58	14.56	14.62	14.65	14.64	14.56	14.56	14.56
ORP[3](mV)	+/-10 mv	280	279	282	283	285	286	284	285
Appearance		T	VT	T	T	ST	ST	ST	ST
Free Product (Yes/No)		No	No	No	No	No	No	No	No
Odor		None	None	None	None	None	None	None	None

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
Lowered pump intake to 22.0 ft after 4.5 gal and water quality became very turbid.
Pumped until water quality became less turbid.

C&S Engineers, Inc.
141 Elm Street, Suite 100
Buffalo, NY 14203
Phone: 716-847-1630
Fax: 315-455-9667
www.cscos.com

Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1803-1807 Elmwood Avenue LLC
Site Name: 1803 Elmwood Avenue BCP
Project No.: S93.003.002 - Groundwater Well Development
Field Staff: JAW

WELL DATA

Date	6/11/2024	
Time	1555	
Water meter utilized and date last calibrated	Horiba	
Well Number	MW-03	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	25.00	
Static Water Level (feet)	3.20	
H_2O Column (feet)	21.80	
Pump Intake (feet)	20.00	
Well Volume (gallons)	3.56	
Amount to Evacuate (gallons)	7.00	
Amount Evacuated (gallons)	7.00	

SAMPLE DATA

Sample Date		
Sample Time		
Sampler Initials		
Sample I.D.		
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☐ Yes ☑ No	ID:
EQ Blank Collected?	☐ Yes ☑ No	ID:
Comments: No Sample collected.		

FIELD READINGS

Date	Stabilization Criteria	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024
Time		1640	1645	1650	1655	1700	1705	1710	1715
Volume Extracted	gallons	3.5	4	4.5	5	5.5	6	6.5	7
Static Water Level (feet)	NA	11.1	11.1	11	11.1	11.2	11.6	12.1	12.3
pH (Std. Units)	+/-0.1	7.08	7.11	7.15	7.14	7.12	7.11	7.12	7.12
Conductivity (mS/cm)	3%	0.961	0.949	1	1.03	1.06	1.08	1.08	1.09
Turbidity (NTU)	10%	47.1	37.4	51.9	37.6	20.2	18.6	36.2	50.1
D.O. (mg/L)	10%	3.24	4.52	5.27	5.28	5.22	5.16	5.24	5.39
Temperature (ºC) (ºF)	3%	15.41	15.52	15.47	15.27	15.18	15.12	15.11	15.1
ORP[3](mV)	+/-10 mv	193	192	203	211	216	224	232	233
Appearance		C	C	C	C	C	C	C	C
Free Product (Yes/No)		No	No	No	No	No	No	No	No
Odor		None	None	None	None	None	None	None	None

Date	Stabilization Criteria								
Time									
Volume Extracted	gallons								
Static Water Level (feet)	NA								
pH (Std. Units)	+/-0.1								
Conductivity (mS/cm)	3%								
Turbidity (NTU)	10%								
D.O. (mg/L)	10%								
Temperature (ºC) (ºF)	3%								
ORP[3](mV)	+/-10 mv								
Appearance									
Free Product (Yes/No)									
Odor									

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
Data lost prior to 3.5 gallons pumped.
Parameter stabilization continued; pH ranged from 7.08 to 7.11; water quality started C/ST moved to C.

C&S Engineers, Inc.
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Buffalo, NY 14203
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Fax: 315-455-9667
www.cscos.com

Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1803-1807 Elmwood Avenue LLC
Site Name: 1803 Elmwood Avenue BCP
Project No.: S93.003.002 - Groundwater Well Development
Field Staff: JAW

WELL DATA

Date	6/11/2024	
Time	900	
Water meter utilized and date last calibrated	Horiba	
Well Number	MW-04	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	30.00	
Static Water Level (feet)	5.50	
H_2O Column (feet)	24.50	
Pump Intake (feet)	25.00	
Well Volume (gallons)	4.00	
Amount to Evacuate (gallons)	6.50	
Amount Evacuated (gallons)	6.50	

SAMPLE DATA

Sample Date		
Sample Time		
Sampler Initials		
Sample I.D.		
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☐ Yes ☑ No	ID:
EQ Blank Collected?	☐ Yes ☑ No	ID:

Comments: No Sample collected.

FIELD READINGS

Date	Stabilization Criteria	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024
Time		955	1000	1005	1010	1015	1020	1025	1030
Volume Extracted	gallons	2.5	2.75	3	3.5	4	4.5	5	5.5
Static Water Level (feet)	NA	15.6	15.7	15.7	16	17.3	16.7	16.8	17
pH (Std. Units)	+/-0.1	6.77	6.73	6.7	6.67	6.64	6.62	6.62	6.62
Conductivity (mS/cm)	3%	2.57	2.54	2.53	2.47	2.46	2.48	2.49	2.49
Turbidity (NTU)	10%	20.9	12.2	7.58	4.95	2.71	5.07	6.41	5.5
D.O. (mg/L)	10%	6.57	6.1	6.03	5.75	5.76	5.71	5.41	5.13
Temperature (ºC) (ºF)	3%	13.26	13.26	13.28	13.18	13.14	13.18	13.31	13.28
ORP[3](mV)	+/-10 mv	271	273	276	280	283	285	287	289
Appearance		C	C	C	C	C	C	C	C
Free Product (Yes/No)		No	No	No	No	No	No	No	No
Odor		None	None	None	None	None	None	None	None

Date	Stabilization Criteria	6/11/2024	6/11/2024						
Time		1035	1040						
Volume Extracted	gallons	6	6.5						
Static Water Level (feet)	NA	17.2	17.4						
pH (Std. Units)	+/-0.1	6.61	6.6						
Conductivity (mS/cm)	3%	2.5	2.5						
Turbidity (NTU)	10%	7.08	7.92						
D.O. (mg/L)	10%	4.67	4.31						
Temperature (ºC) (ºF)	3%	13.26	13.26						
ORP[3](mV)	+/-10 mv	289	289						
Appearance		C	C						
Free Product (Yes/No)		No	No						
Odor		None	None						

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
Very slow recharge.
2 gallons pumped prior to this data but experienced equipment issues.

C&S Engineers, Inc.
141 Elm Street, Suite 100
Buffalo, NY 14203
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Fax: 315-455-9667
www.cscos.com

Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1803-1807 Elmwood Avenue LLC
Site Name: 1803 Elmwood Avenue BCP
Project No.: S93.003.002 - Groundwater Well Development
Field Staff: JAW

WELL DATA

Date	6/11/2024	
Time	1100	
Water meter utilized and date last calibrated	Horiba	
Well Number	MW-05	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	35.00	
Static Water Level (feet)	10.60	
H_2O Column (feet)	24.40	
Pump Intake (feet)	25.0-28.0	
Well Volume (gallons)	3.98	
Amount to Evacuate (gallons)	6.00	
Amount Evacuated (gallons)	6.00	

SAMPLE DATA

Sample Date		
Sample Time		
Sampler Initials		
Sample I.D.		
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☐ Yes ☑ No	ID:
EQ Blank Collected?	☐ Yes ☑ No	ID:
Comments: No Sample collected.		

FIELD READINGS

Date	Stabilization Criteria	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024	6/11/2024
Time		1120	1125	1130	1135	1140	1145	1150	1155
Volume Extracted	gallons	1	1.5	2	2.5	3	3.5	4	4.5
Static Water Level (feet)	NA	15.2	16.5	17.7	18.6	19.6	20.5	20.6	20.65
pH (Std. Units)	+/-0.1	6.56	6.56	6.55	6.56	6.58	6.61	6.69	6.72
Conductivity (mS/cm)	3%	1.56	1.55	1.58	1.6	1.63	1.66	1.69	1.65
Turbidity (NTU)	10%	18.3	23.3	16.8	15.1	13.4	15.5	61.1	32.3
D.O. (mg/L)	10%	3.88	3.03	3.09	3.27	3.75	5.08	6.42	5.83
Temperature (ºC) (ºF)	3%	15.2	15.23	15.26	15.29	15.31	15.37	15.41	15.41
ORP[3](mV)	+/-10 mv	305	301	298	295	292	291	300	301
Appearance		C	C	C	C	C	C	C/ST	C
Free Product (Yes/No)		No	No	No	No	No	No	No	No
Odor		None	None	None	None	None	None	None	None

Date	Stabilization Criteria	6/11/2024	6/11/2024	6/11/2024					
Time		1200	1205	1210					
Volume Extracted	gallons	5	5.5	6					
Static Water Level (feet)	NA	20.65	20.6	20.6					
pH (Std. Units)	+/-0.1	6.78	6.82	6.83					
Conductivity (mS/cm)	3%	1.63	1.63	1.64					
Turbidity (NTU)	10%	5.47	3.22	2.68					
D.O. (mg/L)	10%	5.48	5.34	5.23					
Temperature (ºC) (ºF)	3%	15.42	15.41	15.41					
ORP[3](mV)	+/-10 mv	302	302	303					
Appearance		C	C	C					
Free Product (Yes/No)		No	No	No					
Odor		None	None	None					

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
Very slow recharge.
DO & Turbidity jumped after 3 gallons and moving the tubing down to ~28.0 ft.

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1803-1807 Elmwood Avenue LLC
Site Name: 1803 Elmwood Avenue BCP
Project No.: S93.003.002 - Groundwater Sampling
Field Staff: JAW

WELL DATA

Date	6/24/2024	
Time	1345	
Water meter utilized and date last calibrated	Horiba	
Well Number	MW-01	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	35.00	
Static Water Level (feet)	4.70	
H_2O Column (feet)	30.30	
Pump Intake (feet)	15.0-20.0	
Well Volume (gallons)	4.94	
Amount to Evacuate (gallons)	7.00	
Amount Evacuated (gallons)	7.00	

SAMPLE DATA

Sample Date	6/24/2024	
Sample Time	1505	
Sampler Initials	JAW	
Sample I.D.	MW-01-20240624	
Dupe Collected?	☑ Yes ☐ No	ID: DUP-A-20240624
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☐ Yes ☑ No	ID:
EQ Blank Collected?	☐ Yes ☑ No	ID:
Comments DUP-A		

FIELD READINGS

Date	Stabilization Criteria	6/24/2024	6/24/2024	6/24/2024	6/24/2024	6/24/2024	6/24/2024	6/24/2024	6/24/2024
Time		1405	1410	1415	1420	1425	1430	1435	1440
Volume Extracted	gallons	1	1.5	2	2.5	3	3.5	4	4.5
Static Water Level (feet)	NA	10.2	11.9	13.5	15.2	17.1	18.2	19.1	19.1
pH (Std. Units)	+/-0.1	7.63	7.62	7.62	7.43	7.42	7.41	7.34	7.32
Conductivity (mS/cm)	3%	1.36	1.43	1.58	2.65	2.72	2.77	3.06	3.34
Turbidity (NTU)	10%	1.13	0.91	9.14	5.42	5.96	11.5	14.7	9.85
D.O. (mg/L)	10%	2.77	2.72	4.52	8.15	7.25	7.1	7.11	7.1
Temperature (ºC) (ºF)	3%	18.98	19.14	19.24	18.02	17.58	17.5	16.94	17.64
ORP[3](mV)	+/-10 mv	255	253	234	245	252	255	262	268
Appearance		C	C	C	C	C	C	C	C
Free Product (Yes/No)		No	No	No	No	No	No	No	No
Odor		None	None	None	None	None	None	None	None

Date	Stabilization Criteria	6/24/2024	6/24/2024	6/24/2024	6/24/2024	6/24/2024			
Time		1445	1450	1455	1500	1505			
Volume Extracted	gallons	5	5.5	6	6.5	7			
Static Water Level (feet)	NA	20.8	20.7	20.8	20.9	20.9			
pH (Std. Units)	+/-0.1	7.18	7.17	7.18	7.19	7.2			
Conductivity (mS/cm)	3%	3.65	4.06	3.15	3.08	3.06			
Turbidity (NTU)	10%	7.18	8.23	7.65	3.9	2.98			
D.O. (mg/L)	10%	6.57	7.95	4.34	4.3	4.29			
Temperature (ºC) (ºF)	3%	17.43	17.96	18.03	18.02	17.99			
ORP[3](mV)	+/-10 mv	273	276	278	278	279			
Appearance		C	C	C	C	C			
Free Product (Yes/No)		No	No	No	No	No			
Odor		None	None	None	None	None			

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
DUP-A Collected.
Pump intake dropped to 20 feet after 2 gal; speed reduced after 4.5 gal.

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1803-1807 Elmwood Avenue LLC
Site Name: 1803 Elmwood Avenue BCP
Project No.: S93.003.002 - Groundwater Sampling
Field Staff: JAW

WELL DATA

Date	6/25/2024	
Time	945	
Water meter utilized and date last calibrated	Horiba	
Well Number	MW-02	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	25.00	
Static Water Level (feet)	5.50	
H_2O Column (feet)	19.50	
Pump Intake (feet)	15.00	
Well Volume (gallons)	3.18	
Amount to Evacuate (gallons)	3.00	
Amount Evacuated (gallons)	3.00	

SAMPLE DATA

Sample Date	6/25/2024	
Sample Time	1020	
Sampler Initials	JAW	
Sample I.D.	MW-02-20240625	
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☐ Yes ☑ No	ID:
EQ Blank Collected?	☐ Yes ☑ No	ID:
Comments		

FIELD READINGS

Date	Stabilization Criteria	6/25/2024	6/25/2024	6/25/2024	6/25/2024	6/25/2024			
Time		1000	1005	1010	1015	1020			
Volume Extracted	gallons	1	1.5	2	2.5	3			
Static Water Level (feet)	NA	10.9	11.4	11.8	12.3	12.6			
pH (Std. Units)	+/-0.1	7.31	7.33	7.34	7.34	7.34			
Conductivity (mS/cm)	3%	2.51	2.39	2.42	2.44	2.47			
Turbidity (NTU)	10%	1.25	15.1	13.7	14.2	5.24			
D.O. (mg/L)	10%	6.56	6.29	6.44	6.52	6.47			
Temperature (ºC) (ºF)	3%	15.61	15.94	16.13	16.09	15.88			
ORP[3](mV)	+/-10 mv	316	318	318	319	320			
Appearance		C	C	C	C	C			
Free Product (Yes/No)		No	No	No	No	No			
Odor		None	None	None	None	None			

Date	Stabilization Criteria								
Time									
Volume Extracted	gallons								
Static Water Level (feet)	NA								
pH (Std. Units)	+/-0.1								
Conductivity (mS/cm)	3%								
Turbidity (NTU)	10%								
D.O. (mg/L)	10%								
Temperature (ºC) (ºF)	3%								
ORP[3](mV)	+/-10 mv								
Appearance									
Free Product (Yes/No)									
Odor									

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1803-1807 Elmwood Avenue LLC
Site Name: 1803 Elmwood Avenue BCP
Project No.: S93.003.002 - Groundwater Sampling
Field Staff: JAW

WELL DATA

Date	6/25/2024	
Time	1120	
Water meter utilized and date last calibrated	Horiba	
Well Number	MW-03	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	25.00	
Static Water Level (feet)	3.20	
H_2O Column (feet)	21.80	
Pump Intake (feet)	15.00	
Well Volume (gallons)	3.56	
Amount to Evacuate (gallons)	3.50	
Amount Evacuated (gallons)	3.50	

SAMPLE DATA

Sample Date	6/25/2024	
Sample Time	1210	
Sampler Initials	JAW	
Sample I.D.	MW-03-20240625	
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☐ Yes ☑ No	ID:
EQ Blank Collected?	☐ Yes ☑ No	ID:
Comments		

FIELD READINGS

	Stabilization Criteria								
Date		6/25/2024	6/25/2024	6/25/2024	6/25/2024	6/25/2024	6/25/2024		
Time		1145	1150	1155	1200	1205	1210		
Volume Extracted	gallons	1	1.5	2	2.5	3	3.5		
Static Water Level (feet)	NA	7.2	8	8.6	9.4	10.1	10.7		
pH (Std. Units)	+/-0.1	7.49	7.46	7.44	7.43	7.42	7.41		
Conductivity (mS/cm)	3%	0.92	0.922	0.924	0.924	0.92	0.917		
Turbidity (NTU)	10%	27.1	24.5	12.1	9.12	12.7	20.2		
D.O. (mg/L)	10%	1.13	1.03	1.01	1.02	1.05	1.1		
Temperature (ºC) (ºF)	3%	17.13	17.25	17.27	17.24	17.33	17.31		
ORP[3](mV)	+/-10 mv	198	187	181	177	173	170		
Appearance		C	C	C	C	C	C		
Free Product (Yes/No)		No	No	No	No	No	No		
Odor		None	None	None	None	None	None		

	Stabilization Criteria								
Date									
Time									
Volume Extracted	gallons								
Static Water Level (feet)	NA								
pH (Std. Units)	+/-0.1								
Conductivity (mS/cm)	3%								
Turbidity (NTU)	10%								
D.O. (mg/L)	10%								
Temperature (ºC) (ºF)	3%								
ORP[3](mV)	+/-10 mv								
Appearance									
Free Product (Yes/No)									
Odor									

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1803-1807 Elmwood Avenue LLC
Site Name: 1803 Elmwood Avenue BCP
Project No.: S93.003.002 - Groundwater Sampling
Field Staff: JAW

WELL DATA

Date	6/24/2024	
Time	945	
Water meter utilized and date last calibrated	Horiba	
Well Number	MW-04	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	30.00	
Static Water Level (feet)	5.50	
H_2O Column (feet)	24.50	
Pump Intake (feet)	20.00	
Well Volume (gallons)	4.00	
Amount to Evacuate (gallons)	3.50	
Amount Evacuated (gallons)	3.50	

SAMPLE DATA

Sample Date	6/24/2024	
Sample Time	1020	
Sampler Initials	JAW	
Sample I.D.	MW-04-20240624	
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☑ Yes ☐ No	ID: MW-04-MS-20240624
MSD Collected?	☑ Yes ☐ No	ID: MW-04-MSD-20240624
Trip Blank Collected?	☐ Yes ☑ No	ID:
EQ Blank Collected?	☐ Yes ☑ No	ID:
Comments		

FIELD READINGS

	Stabilization Criteria								
Date		6/24/2024	6/24/2024	6/24/2024	6/24/2024	6/24/2024	6/24/2024		
Time		955	1000	1005	1010	1015	1020		
Volume Extracted	gallons	1	1.5	2	2.5	3	3.5		
Static Water Level (feet)	NA	9.8	10.9	12.4	13.5	14.7	15.8		
pH (Std. Units)	+/-0.1	7.4	7.33	7.23	7.18	7.14	7.1		
Conductivity (mS/cm)	3%	2.4	2.42	2.44	2.45	2.45	2.5		
Turbidity (NTU)	10%	1.53	1.54	1.54	1.86	1.89	2.05		
D.O. (mg/L)	10%	3.7	3.62	3.48	3.43	3.4	3.46		
Temperature (ºC) (ºF)	3%	14.32	14.3	14.31	14.38	14.38	14.27		
ORP[3](mV)	+/-10 mv	237	240	244	247	249	252		
Appearance		C	C	C	C	C	C		
Free Product (Yes/No)		No	No	No	No	No	No		
Odor		None	None	None	None	None	None		

	Stabilization Criteria								
Date									
Time									
Volume Extracted	gallons								
Static Water Level (feet)	NA								
pH (Std. Units)	+/-0.1								
Conductivity (mS/cm)	3%								
Turbidity (NTU)	10%								
D.O. (mg/L)	10%								
Temperature (ºC) (ºF)	3%								
ORP[3](mV)	+/-10 mv								
Appearance									
Free Product (Yes/No)									
Odor									

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
MS/MSD Collected.

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1803-1807 Elmwood Avenue LLC
Site Name: 1803 Elmwood Avenue BCP
Project No.: S93.003.002 - Groundwater Sampling
Field Staff: JAW

WELL DATA

Date	6/24/2024	
Time	1145	
Water meter utilized and date last calibrated	Horiba	
Well Number	MW-05	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	35.00	
Static Water Level (feet)	5.40	
H_2O Column (feet)	29.60	
Pump Intake (feet)	20.00	
Well Volume (gallons)	4.83	
Amount to Evacuate (gallons)	3.50	
Amount Evacuated (gallons)	3.50	

SAMPLE DATA

Sample Date	6/24/2024	
Sample Time	1225	
Sampler Initials	JAW	
Sample I.D.	MW-05-20240624	
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☐ Yes ☑ No	ID:
EQ Blank Collected?	☐ Yes ☑ No	ID:
Comments		

FIELD READINGS

Date	Stabilization Criteria	6/24/2024	6/24/2024	6/24/2024	6/24/2024	6/24/2024	6/24/2024		
Time		1200	1205	1210	1215	1220	1225		
Volume Extracted	gallons	1	1.5	2	2.5	3	3.5		
Static Water Level (feet)	NA	9.7	10.7	11.2	11.9	12.8	13.3		
pH (Std. Units)	+/-0.1	7.42	7.38	7.36	7.35	7.35	7.35		
Conductivity (mS/cm)	3%	1.54	1.55	1.57	1.57	1.57	1.57		
Turbidity (NTU)	10%	1.49	1.62	1.96	2.7	2.82	2.94		
D.O. (mg/L)	10%	2.08	1.89	1.86	1.82	1.82	1.84		
Temperature (ºC) (ºF)	3%	16.88	16.51	16.37	16.28	16.25	16.44		
ORP[3](mV)	+/-10 mv	244	242	241	239	236	232		
Appearance		C	C	C	C	C	C		
Free Product (Yes/No)		No	No	No	No	No	No		
Odor		None	None	None	None	None	None		

Date	Stabilization Criteria								
Time									
Volume Extracted	gallons								
Static Water Level (feet)	NA								
pH (Std. Units)	+/-0.1								
Conductivity (mS/cm)	3%								
Turbidity (NTU)	10%								
D.O. (mg/L)	10%								
Temperature (ºC) (ºF)	3%								
ORP[3](mV)	+/-10 mv								
Appearance									
Free Product (Yes/No)									
Odor									

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments

C&S COMPANIES

C&S Engineers, Inc.
141 Elm Street, Suite 100
Buffalo, New York 14203
Phone: 716-847-1630
Fax: 716-847-1454

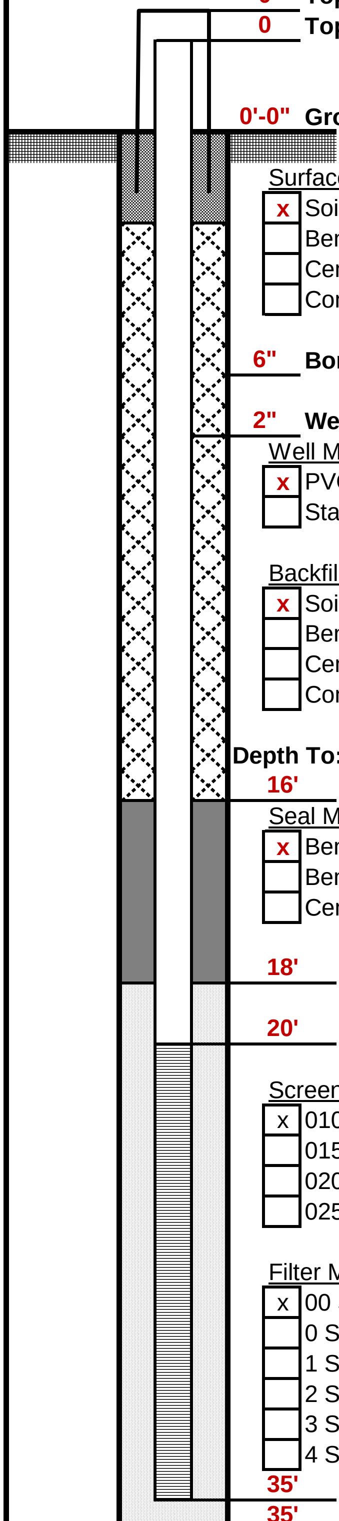
GROUNDWATER OBSERVATION WELL CONSTRUCTION LOG

Well No.	**MW-01**
Project No.:	S93.003.002
Surface Elev.:	
Datum:	
Start Date:	5/23/24
Finish Date:	
Inspector:	JAW
Casing:	

Project Name:	1803 Elmwood Avenue BCP - RI
Location:	1803 Elmwood Avenue, Buffalo, NY 14207
Client:	1803-1807 Elmwood Avenue LLC
Drilling Firm:	Matrix
Drill Rig:	

Notes: (provide description of observation well location, method of construction, development method and any other information)

1300 - Start, 1600 - End



0 **Top Protective Casing**

0 **Top of Riser**

0'-0" **Ground Surface**

Surface Backfill Material
- [x] Soil Cuttings
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [ ] Concrete

6" **Bore Hole Diameter**

2" **Well Diameter**

Well Material
- [x] PVC
- [ ] Stainless Steel

Backfill Material
- [x] Soil Cuttings
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [ ] Concrete

Depth To:

16' **Top of Seal**

Seal Material
- [x] Bentonite Chips/Pellets
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout

18' **Top of Filter Pack**

20' **Top of Screen**

Screen Slot Size
- [x] 010 in
- [ ] 015 in
- [ ] 020 in
- [ ] 025 in

Filter Material
- [x] 00 Sand Pack
- [ ] 0 Sand Pack
- [ ] 1 Sand Pack
- [ ] 2 Sand Pack
- [ ] 3 Sand Pack
- [ ] 4 Sand Pack

35' **Bottom of Screen**

35' **Bottom of Bore Hole**

Groundwater Measurement Data

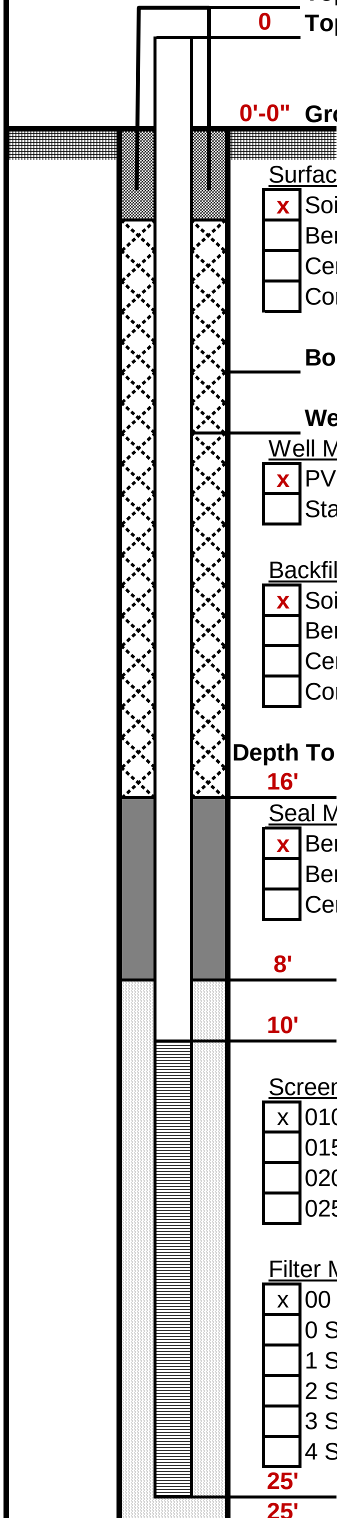
Date	Time	Depth to Water	Water Elevation	Tide Status

C&S COMPANIES	C&S Engineers, Inc. 141 Elm Street, Suite 100 Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454	# GROUNDWATER OBSERVATION WELL CONSTRUCTION LOG	***Well No.***	**MW-02**
			Project No.:	S93.003.002
			Surface Elev.:	

Project Name:	1803 Elmwood Avenue BCP - RI	***Datum:***	
Location:	1803 Elmwood Avenue, Buffalo, NY 14207	***Start Date:***	5/24/24
Client:	1803-1807 Elmwood Avenue LLC	***Finish Date:***	
Drilling Firm:	Matrix	***Inspector:***	BW
Drill Rig:		***Casing:***	

Notes: (provide description of observation well location, method of construction, development method and any other information)

Start - 1145, End - 1500



0 **Top Protective Casing**

0 **Top of Riser**

0'-0" **Ground Surface**

Surface Backfill Material
- [x] Soil Cuttings
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [ ] Concrete

Bore Hole Diameter

Well Diameter

Well Material
- [x] PVC
- [ ] Stainless Steel

Backfill Material
- [x] Soil Cuttings
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [ ] Concrete

Depth To:

16' **Top of Seal**

Seal Material
- [x] Bentonite Chips/Pellets
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout

8' **Top of Filter Pack**

10' **Top of Screen**

Screen Slot Size
- [x] 010 in
- [ ] 015 in
- [ ] 020 in
- [ ] 025 in

Filter Material
- [x] 00 Sand Pack
- [ ] 0 Sand Pack
- [ ] 1 Sand Pack
- [ ] 2 Sand Pack
- [ ] 3 Sand Pack
- [ ] 4 Sand Pack

25' **Bottom of Screen**

25' **Bottom of Bore Hole**

Groundwater Measurement Data

Date	Time	Depth to Water	Water Elevation	Tide Status

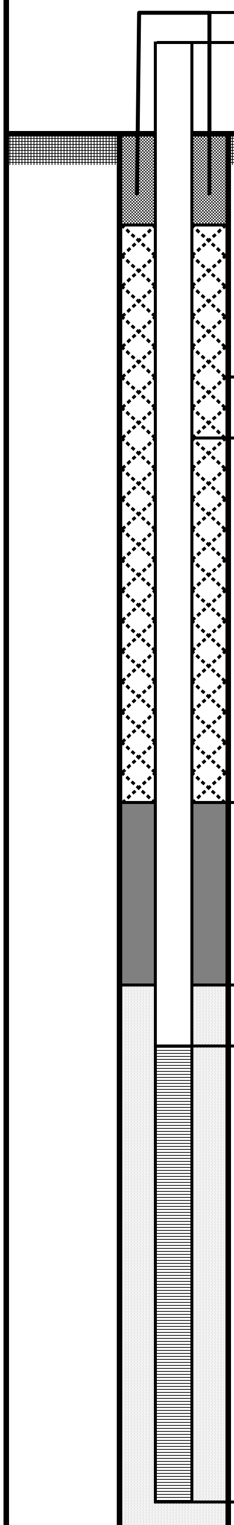
C&S Engineers, Inc.
141 Elm Street, Suite 100
Buffalo, New York 14203
Phone: 716-847-1630
Fax: 716-847-1454

GROUNDWATER OBSERVATION WELL CONSTRUCTION LOG

		Well No.	**MW-03**
		Project No.:	S93.003.002
		Surface Elev.:	
Project Name:	1803 Elmwood Avenue BCP - RI	***Datum:***	
Location:	1803 Elmwood Avenue, Buffalo, NY 14207	***Start Date:***	5/30/24
Client:	1803-1807 Elmwood Avenue LLC	***Finish Date:***	
Drilling Firm:	Matrix	***Inspector:***	JAW
Drill Rig:	Geoprobe 7822DT	***Casing:***	

Notes: (provide description of observation well location, method of construction, development method and any other information)

9:00 Start, 11:30 end



0 **Top Protective Casing**

0 **Top of Riser**

0'-0" **Ground Surface**

Surface Backfill Material
- [x] Soil Cuttings
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [ ] Concrete

6" **Bore Hole Diameter**

2" **Well Diameter**

Well Material
- [x] PVC
- [ ] Stainless Steel

Backfill Material
- [x] Soil Cuttings
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [ ] Concrete

Depth To:

6' **Top of Seal**

Seal Material
- [x] Bentonite Chips/Pellets
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout

8' **Top of Filter Pack**

10' **Top of Screen**

Screen Slot Size
- [x] 010 in
- [ ] 015 in
- [ ] 020 in
- [ ] 025 in

Filter Material
- [x] 00 Sand Pack
- [ ] 0 Sand Pack
- [ ] 1 Sand Pack
- [ ] 2 Sand Pack
- [ ] 3 Sand Pack
- [ ] 4 Sand Pack

25' **Bottom of Screen**

25' **Bottom of Bore Hole**

Groundwater Measurement Data

Date	Time	Depth to Water	Water Elevation	Tide Status

C&S COMPANIES

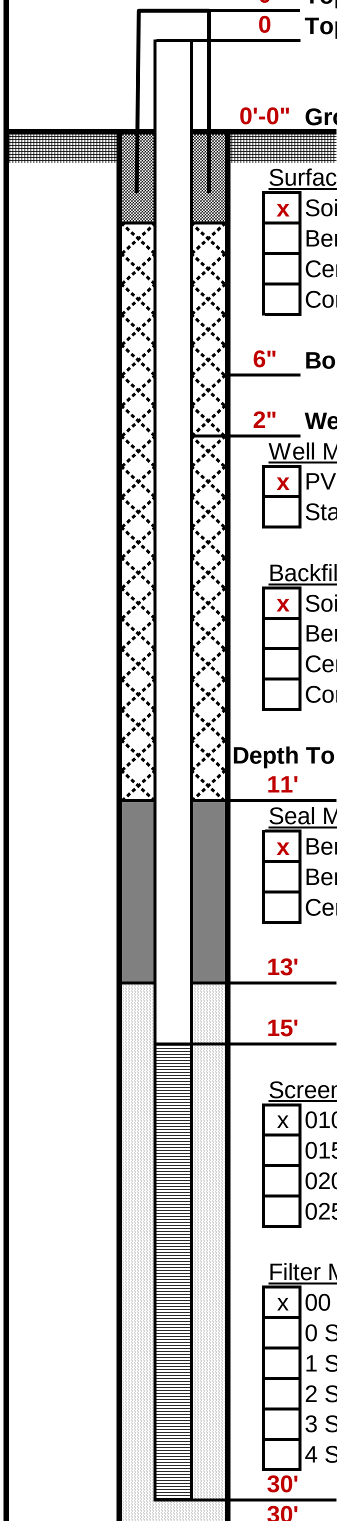
C&S Engineers, Inc.
141 Elm Street, Suite 100
Buffalo, New York 14203
Phone: 716-847-1630
Fax: 716-847-1454

GROUNDWATER OBSERVATION WELL CONSTRUCTION LOG

		Well No.	**MW-04**
		Project No.:	S93.003.002
		Surface Elev.:	
Project Name:	1803 Elmwood Avenue BCP - RI	***Datum:***	
Location:	1803 Elmwood Avenue, Buffalo, NY 14207	***Start Date:***	5/23/24
Client:	1803-1807 Elmwood Avenue LLC	***Finish Date:***	
Drilling Firm:	Matrix	***Inspector:***	JAW
Drill Rig:		***Casing:***	

Notes: (provide description of observation well location, method of construction, development method and any other information)

0830 - Start, 1130 - End



0 **Top Protective Casing**

0 **Top of Riser**

0'-0" **Ground Surface**

Surface Backfill Material
- [x] Soil Cuttings
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [ ] Concrete

6" **Bore Hole Diameter** 4.25" inside

2" **Well Diameter**

Well Material
- [x] PVC
- [ ] Stainless Steel

Backfill Material
- [x] Soil Cuttings
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [ ] Concrete

Depth To:

11' **Top of Seal**

Seal Material
- [x] Bentonite Chips/Pellets
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout

13' **Top of Filter Pack**

15' **Top of Screen**

Screen Slot Size
- [x] 010 in
- [ ] 015 in
- [ ] 020 in
- [ ] 025 in

Filter Material
- [x] 00 Sand Pack
- [ ] 0 Sand Pack
- [ ] 1 Sand Pack
- [ ] 2 Sand Pack
- [ ] 3 Sand Pack
- [ ] 4 Sand Pack

30' **Bottom of Screen**

30' **Bottom of Bore Hole**

Groundwater Measurement Data

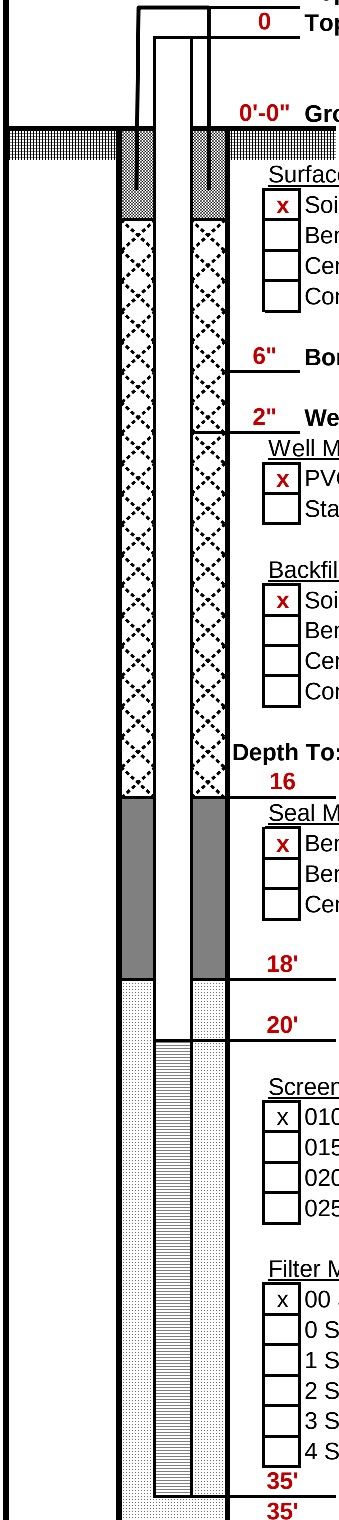
Date	Time	Depth to Water	Water Elevation	Tide Status

C&S COMPANIES	C&S Engineers, Inc. 141 Elm Street, Suite 100 Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454	GROUNDWATER OBSERVATION WELL CONSTRUCTION LOG	*Well No.*	MW-05
			Project No.:	S93.003.002
			Surface Elev.:	

Project Name:	1803 Elmwood Avenue BCP - RI	***Datum:***	
Location:	1803 Elmwood Avenue, Buffalo, NY 14207	***Start Date:***	5/24/24
Client:	1803-1807 Elmwood Avenue LLC	***Finish Date:***	
Drilling Firm:	Matrix	***Inspector:***	BW
Drill Rig:		***Casing:***	

Notes: (provide description of observation well location, method of construction, development method and any other information)

8:35 - Start, 11:00 - End



0 **Top Protective Casing**

0 **Top of Riser**

0'-0" **Ground Surface**

Surface Backfill Material
- [x] Soil Cuttings
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [ ] Concrete

6" **Bore Hole Diameter**

2" **Well Diameter**

Well Material
- [x] PVC
- [ ] Stainless Steel

Backfill Material
- [x] Soil Cuttings
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [ ] Concrete

Depth To:

16 **Top of Seal**

Seal Material
- [x] Bentonite Chips/Pellets
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout

18' **Top of Filter Pack**

20' **Top of Screen**

Screen Slot Size
- [x] 010 in
- [ ] 015 in
- [ ] 020 in
- [ ] 025 in

Filter Material
- [x] 00 Sand Pack
- [ ] 0 Sand Pack
- [ ] 1 Sand Pack
- [ ] 2 Sand Pack
- [ ] 3 Sand Pack
- [ ] 4 Sand Pack

35' **Bottom of Screen**

35' **Bottom of Bore Hole**

Groundwater Measurement Data

Date	Time	Depth to Water	Water Elevation	Tide Status

Appendix E

Data Usability Summary Reports &

Category B Deliverables

DATA USABILITY SUMMARY REPORT (DUSR)

1803 Elmwood Ave. BCP RI
Buffalo, NY
Project #: S93.003.002

SDG: 2405024
7 Air Samples

Prepared for:

C&S Companies
141 Elm Street, Suite 100
Buffalo, NY 14203
Attention: Jesse Alt-Winzig

July 2024

EDU *Environmental Data Usability 10028 Deer Park Dr. Dansville, NY 14437 585-991-9156*

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4.0	GUIDANCE DOCUMENTS AND DATA REVIEW CRITERIA	2
5.0	DATA VALIDATION QUALIFIERS	3
6.0	RESULTS OF THE DATA REVIEW	4
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APPENDIX B Laboratory QC Documentation
APPENDIX C Validator Qualifications

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REVIEWER'S NARRATIVE
C&S Companies SDG 2405024 – 1803 Elmwood Ave. BCP RI

The data associated with this Sample Delivery Groups (SDG) 2405024, analyzed by Centek Laboratoies, LLC, Syracuse, NY ave been reviewed in accordance with assessment criteria provided by the New York State Department of Environmental Conservation following the review procedures provided in the USEPA Functional Guidelines for evaluating organic and inorganic data.

All analytical results reported by the laboratory are considered valid and acceptable except results that have been qualified as rejected, "R". Results qualified as estimated "J", or as non-detects, "U", are considered usable for the purpose of evaluating water and/or soil quality. However, these qualifiers indicate that the accuracy and/or precision of the analytical result is questionable. A summary of all data that have been qualified and the reasons for qualification are provided in the following data usability summary report (DUSR).

Two facts should be noted by all data users. First, the "R" qualifier means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Values qualified with an "R" should not appear on the final data tables because they cannot be relied upon, even as the last resort. Second, no analyte concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data, but any value potentially contains error.

Reviewer's Signature: Michael K. Perry Date: 7/16/2024

Michael K. Perry
Chemist

1.0 EVENT SUMMARY

SITE:	1803 Elmwood Ave. BCP RI Buffalo, NY Project #: S93.003.002
SAMPLING DATEs:	May 10, 2024
SAMPLE TYPE:	7 air samples
LABORATORY:	Centek Laboratories, LLC Syracuse, NY 13206
SDG No.:	SDG 2405024

2.0 INTRODUCTION

This data usability summary report (DUSR) was prepared in accordance with guidance provided by the New York State Department of Environmental Conservation (NYSDEC). The DUSR is based on a review and evaluation of the laboratory analytical data package. Specifically, the NYSDEC guidance recommends review and evaluation of the following elements of the data package:

- Completeness of the data package as defined under the requirements of the NYSDEC Analytical Services Protocols (ASP) Category B or the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) deliverables,
- Compliance with established analyte holding times,
- Adherence to quality control (QC) limits and specifications for blanks, instrument tuning and calibration, surrogate recoveries, spike recoveries, laboratory duplicate analyses, and other QC criteria,
- Adherence to established analytical protocols,
- Conformance of data summary sheets with raw analytical data, and
- Use of correct data qualifiers.

Data deficiencies, analytical protocol deviations, and quality control problems identified using the review criteria above and their effect on the analytical results are discussed in this report.

3.0 SAMPLE AND ANALYSIS SUMMARY

The data package consists of analytical results for seven air samples collected on May 10, 2024. These samples were analyzed for TO-15 Volatile Organic Compounds (VOCs).

All analyses were performed by Centek Laboratories, LLC, Syracuse, NY and analyzed as SDG 2405024. The analytical results were provided in NYSDEC ASP Category B format, which includes all raw analytical data and laboratory QC data.

4.0 GUIDANCE DOCUMENTS AND DATA REVIEW CRITERIA

The guidance documents appropriate for reviewing laboratory quality control (QC) data and assigning data qualifiers (flags) to analytical results were selected from those listed in Table 4-1. The QC limits established in the documents applicable to this data review were used to assess the quality of the analytical results. In some cases, however, QC limits established internally by the laboratory were taken into account to determine data quality.

The QC criteria considered for assessing the usability of the reported analytical results provided for each analyte type (i.e. VOCs, SVOCs, metals, etc.) are listed in Table 4-2. These criteria may vary with the analytical method utilized by the laboratory. These criteria comply with the guidance recommended in Section 2.0 above.

5.0 DATA VALIDATION QUALIFIERS

The letter qualifiers (flags) used to define data usability are described briefly below. These letters are assigned by the data validator to analytical results having questionable accuracy and/or precision as determined by reviewing the laboratory QC data associated with the analytical results.

TABLE 4-1

Guidance Used For Validating Laboratory Analytical Data

Analyte Group	Guidance	Date
Metals (ICP-AES)	USEPA SOP HW-3a, Rev. 1	September 2016
Metals (Hg & CN)	USEPA SOP HW-3c, Rev. 1	September 2016
Volatile Organic Compounds (by Methods 8260B & 8260C)	USEPA SOP HW-24, Rev. 4	September 2014
Semi-Volatile Organic Compounds (by Method 8270D)	USEPA SOP HW-22 Rev. 5	December 2010
Pesticides (by Method 8181B)	USEPA SOP HW-44, Rev. 1.1	December 2010
Chlorinated Herbicides (by Method 8151A)	USEPA SOP HW-17, Rev. 3.1	December 2010
Polychlorinated Biphenyls (PCBs)	USEPA SOP HW-37A, Rev. 0	June 2015
Volatile Organic Compounds (Air) (by Method TO-15)	USEPA SOP HW-31, Rev. 6	September 2016
Per- and PolyFluoroAlkyl Substances (PFAS)	* NYSDEC ** US Dept. of Defense	January 2021 November 2022
Radiological Analysis		
Uranium	USEPA Method 908.0	June 1999
Radium-226	USEPA Method 903.1	1980
General Chemistry Parameters	per NYSDEC ASP	July 2005

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

** Data Validation Guidelines Module 6: Data Validatioin Procedures for Per- and Polyfluoroalkyl Substances Analysis by QSM Table B-24

TABLE 4-2

QUALITY CONTROL CRITERIA USED FOR VALIDATING LABORATORY ANALYTICAL DATA

VOCs	SVOCs	Pesticides/PCBs	Metals	Gen Chemistry	PFAS
Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg
Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation
Holding Time	Holding Time	Holding Time	Holding Time	Holding Times	Holding Time
System Monitoring Compounds	Surrogate Recoveries	Surrogate Recoveries	Initial/Continuing Calibration	Calibration	Instr Performance Check
Lab Control Sample	Lab Control Sample	Matrix Spikes	CRDL Standards	Lab Control Samples	Initial Calibration
Matrix Spikes	Matrix Spikes	Blanks	Blanks	Blanks	Continuing Calibration
Blanks	Blanks	Instrument Calibration & Verification	Interference Check Sample	Spike Recoveries	Blanks
Instrument Tuning	Instrument Tuning	Comparison of duplicate GC column results	Spike Recoveries	Lab Duplicates	Surrogates
Internal Standards	Internal Standards	Analyte ID	Lab Duplicate		Lab Fortified Blank
Initial Calibration	Initial Calibration	Lab Qualifiers	Lab Control Sample		Matrix Spikes
Continuing Calibration	Continuing Calibration	Field Duplicate	ICP Serial Dilutions		Internal Standards
Lab Qualifiers	Lab Qualifiers		Lab Qualifiers		
Field Duplicate	Field Duplicate		Field Duplicate		

Method TO-15 (Air)	Radiological (U and Ra)
Completeness of Pkg	Completeness of Pkg
Sample Preservation	Sample Preservation
Holding Time	Holding Time
Canister Certification	Sample Specific Yield
Instrument Tuning	Required Detection Limit
Initial Calibration and Instrument Performance	Laboratory Control Sample
	Matrix Spikes
Daily Calibration	Method Blank
Blanks	Instrument Calibration
Lab Control Sample	
Field Duplicate	

The laboratory may also use various letters and symbols to flag analytical results generated when QC limits were exceeded. The meanings of these flags may differ from those used by the independent data validator. Those used by the laboratory are provided with the analytical results.

NOTE: The assignment of data qualifiers by the data reviewer (validator) to laboratory analytical results should not necessarily be interpreted by the data user as a measure of laboratory ability or proficiency. Rather, the qualifiers are intended to provide a measure of data accuracy and precision to the data user, which, for example, may provide a level of confidence in determining whether or not standards or cleanup objectives have been met.

U The analyte was analyzed for but was not detected at or above the sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the *approximate* concentration of the analyte in the sample. (The magnitude of any ± value associated with the result is not determined by data validation).

J+ The result is an estimated quantity and may be biased high.

J- The result is an estimated quantity and may be biased low.

UJ The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R The sample result is rejected (i.e., is unusable) due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

The validated analytical results are attached to this report. Validation qualifiers (flags) are indicated in red print. Data sheets having qualified data are signed and dated by the data reviewer.

6.0 RESULTS OF THE DATA REVIEW

The results of the data review are summarized in Table 6-1. The table lists the samples where QC criteria were found to exceed acceptable limits and the actions taken to qualify the associated analytical results.

7.0 TOTAL USABLE DATA

For SDG 2405024, seven samples were analyzed and results were reported for 448 analytes. Even though some results were flagged with a "J" as estimated, all results (100 %) are considered usable. See the summary table for the analyses that have been rejected and qualified and the associated QC reasons.

Table 6-1 TO-15 VOCs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
SSV-02-20240510 SSV-02-20240510-10X	All detected analytes	J detects	Sur rec for BFB > QC limit	Data are estimated
SSV-03-20240510	Freon 11 Freon 12 Methyl ethyl ketone Methylene chloride	J detects	Int Std Area for IS1 and IS2 > QC limit	Data are estimated

ACRONYMS

BSP	Blank Spike
CCAL	Continuing Calibration
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
%D	Percent Difference
ICAL	Initial Calibration
ICB	Initial Calibration Blank
IS	Internal Standard
LCS	Laboratory Control Sample
MS/MSD	Matrix Spike/Matrix Spike Duplicate
QA	Quality Assurance
QC	Quality Control
%R	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
%RSD	Percent Relative Standard Deviation
TAL	Target Analyte List (metals)
TCL	Target Compound List (organics)

Appendix A

Validated Analytical Results

Centek Laboratories
A Division of SanAir Technologies Laboratory
SanAir Technologies Laboratory

SanAir Technologies DBA Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
TEL: (315) 431-9730
Website: CentekLabs.us

Jesse Alt-Winzig
C & S Engineers, Inc.
141 Elm St., Suite 100
Buffalo, NY 14203
TEL: (716) 847-1630
FAX: (315) 455-9667

RE: 1803 Elmwood Ave. - BCP-RI

Order No.: 2405024

Dear Jesse Alt-Winzig:

I certify that this data package is in compliance with the terms and conditions of the Contract, both technically and for completeness. Release of the data contained in this hardcopy data package and/or in the computer readable data submitted has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objective except as indicated in the case narrative. All samples were received and analyzed within the EPA recommended holding times.

Test results are not Method Blank (MB) corrected for contamination.

Centek/SanAir Laboratories is distinctively qualified to meet your needs for precise and timely volatile organic compound analysis. We perform all analyses according to EPA, NIOSH or OSHA-approved analytical methods. Centek Laboratories is dedicated to providing quality analyses and exceptional customer service. Samples were analyzed using the methods outlined in the following references:
Compendium of Methods for the Determination of Toxic Organic Compounds, Compendium Method TO-15, January 1999.
Centek/SanAir Laboratories SOP TS-80

Analytical results relate to samples as received at laboratory.

We do our best to make our reporting format clear and understandable and hope you are thoroughly satisfied with our services.
Please contact your client service representative at (315) 431-9730 or myself, if you would like any additional information regarding this report.

This report cannot be reproduced except in its entirety, without prior written authorization.

Original

Centek Laboratories
A Division of SanAir Technologies Laboratory

SanAir Technologies DBA Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
TEL: (315) 431-9730
Website: CentekLabs.us

Case Narrative

WO#: 2405024
Date: 6/6/2024

CLIENT: C & S Engineers, Inc.
Project: 1803 Elmwood Ave. - BCP-RI

All documents contain the SanAir Technologies DBA Centek Laboratories Work Order Number assigned to this report.

Samples were analyzed using the methods outlined in the following references:
Centek Laboratories, LLC SOP TS-80
Compendium of Methods for the Determination of Toxic Organic Compounds, Compendium Method TO-15, January 1999

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objective except as indicated in the corrective action report(s). All samples were received and analyzed within the EPA recommended holding times. Test results are not Method Blank (MB) corrected for contamination.

NYSDEC ASP samples:
Canisters should be evacuated to a reading of less than or equal to 50 millitorr prior to shipment to sampling personnel. The vacuum in the canister will be field checked prior to sampling, and must read 28" of Hg (±2", vacuum, absolute) before a sample can be collected. After the sample has been collected, the pressure of the canister will be read and recorded again, and must be 5" of Hg (±1", vacuum, absolute) for the sample to be valid. Once received at the laboratory, the canister vacuum should be confirmed to be 5" of Hg,±1". Please record and report the pressure/vacuum of received canisters on the sample receipt paperwork. A pressure/vacuum reading should also be taken just prior to the withdrawal of sample from the canister, and recorded on the sample preparation log sheet. All regulators are calibrated to meet these requirements before they leave the laboratory. However, due to environmental conditions and use of the equipment Centek cannot guarantee that these criteria can always be achieved.

Any comments or problems with the analytical events associated with this report are noted below.
See Corrective Action: [224] Surrogate did not meet criteria.
See Corrective Action: [225] IS was high and did not meet criteria.

SanAir Technologies DBA Centek Laboratories

Corrective Action Report

Date Initiated:	15-May-24	**Initiated By:**	Derek Areson	**CAR ID:**	224
MainID Type:	Department			**Department:**	MSVOA
Instrument ID:	HP5975 MSD6			**Run ID:**	
Analyst:	Derek Areson			**Batch ID:**	
Client ID:	C&S - Buffalo			**WorkOrder:**	2405024

Corrective Action Description

CAR Summary: Surrogate did not meet criteria.

Description of Nonconformance: Surrogate recovery was high and did not meet the criteria for sample 2405024-003A and dilution 2405024-003A 10X, however the surrogate recovery for 2405024-003A 40X was within designated parameters.

Description of Corrective Action: 40X dilution sample was analyzed with criteria being met. Internal standards of sample and dilutions show consistency between initial and diluted concentrations. No biases shown in results. Due to matrix being in a canister it is difficult to see any signs of problems. All sets of data submitted.

Performed By: Derek Areson **Completion Date:** 15-May-24

Client Notification

Client Notification Required: No **Notified By:**

Comment:

Quality Assurance Review

Nonconformance Type: Deficiency

Further Action required by QA: No corrective action taken at this time. If results continue to be outside established limits then recalibrate system. All sets of data submitted.

Approval and Closure

Technical Director / Deputy Tech. Dir.: William Dobbin — Close Date: 05-Jun-24

QA Officer Approval: Russell Pellegrino — QA Date: 13-May-24

Last Updated BY: Derek Areson Updated: 06-Jun-2024 8:41 AM Reported: 06-Jun-2024 8:42 AM

SanAir Technologies DBA Centek Laboratories

Corrective Action Report

Date Initiated:	15-May-24	**Initiated By:**	Derek Areson	**CAR ID:**	225
MainID Type:	Department			**Department:**	MSVOA
Instrument ID:	HP5975 MSD6			**Run ID:**	
Analyst:	Derek Areson			**Batch ID:**	
Client ID:	C&S - Buffalo			**WorkOrder:**	2405024

Corrective Action Description

CAR Summary: IS was high and did not meet criteria.

Description of Nonconformance: IS was high and did not meet criteria for sample 2405024-005A.

Description of Corrective Action: Sample was analyzed further as dilutions with criteria being met. Due to matrix being in a canister it is difficult to see any signs of problems. All sets of data submitted.

Performed By: Derek Areson **Completion Date:** 15-May-24

Client Notification

Client Notification Required: No **Notified By:**

Comment:

Quality Assurance Review

Nonconformance Type: Deficiency

Further Action required by QA: No corrective action taken at this time. All sets of data submitted.

Approval and Closure

Technical Director / Deputy Tech. Dir.: William Dobbin **Close Date:** 05-Jun-24

QA Officer Approval: Russell Pellegrino **QA Date:** 13-May-24

Last Updated BY: Derek Areson Updated: 06-Jun-2024 8:42 AM Reported: 06-Jun-2024 8:42 AM

Centek/SanAir Technologies Laboratory - Chain of Custody

Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
SanAir Technologies Laboratory
315-431-9730
www.CentekLabs.us
Vapor Intrusion & IAQ

Site Name: 1803 Elmwood Avenue
Project: 1803 Elmwood Avenue BCP-RI
PO#: 593.003,002
Quote # Q- SP
Canister Order #: 368

Detection Limit	Report Level
☐ 5ppbv	☐ Level I
☐ 1ug/M3	☐ Level II
☒ 1ug/M3 + 0.2 NYS	☒ Cat "B" Like
☐	☐

TAT Turnaround Time:	Check One	Rush TAT Surcharge %	Due Date:
5 Business Days	☒	0%	
4 Business Days	☐	25%	
3 Business Days	☐	50%	
2 Business Days	☐	75%	
*Next Day by 5pm	☐	100%	
*Next Day by Noon	☐	150%	
*Same Day	☐	200%	

*For Same and Next Day TAT Please Notify Lab

Company: C+S Engineers
Report to:
Address: 141 Elm Street, Suite 100
City, State, Zip Buffalo, NY 14203
Email: jalt winzig@CSCOS.com
Phone: (716) 847-1630

Company: Check Here If Same: ☒
Invoice to:
Address:
City, State, Zip
Email:
Phone:

Sample ID	Date Sampled	Canister Number	Regulator Number	Analysis Request	Field Vacuum Start / Stop	Labs Vacuum** Rec'd/Analysis	Comments
SSV-01-20240510	5/10/2024	1213	1422	TO-15	31.0 / 7.5	-7 / -7	Sub-Slab 11:00am
IA-01-20240510		750	1419		27.8 / 4.8	-5 / -5	Indoor 11:00am
SSV-02-20240510		744	1345		29.5 / 6.9	-7 / -7	Sub-Slab 11:30am
IA-02-20240510	85	~~1219~~ 85	1420		28.7 / 4.1	-4 / -4	Indoor 11:30am
SSV-03-20240510	1219	~~1348~~ 1219	1445		27.0 / 0.0	-1 / -1	Sub-Slab 1200pm
IA-03-20240510	1348	~~1214~~ 1348	1346		28.2 / 4.5	-5 / -5	Indoor 12:00pm
OA-01-20240510	↓	1214	1343	↓	28.2 / 1.8	-1 / -1	Outdoor 12:15pm
					/	/	
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Chain of Custody	Print Name	Signature	Date/Time	Courier: CIRCLE ONE
Sampled by:	Jesse Alt-Winzig (C+S)	Jesse Alt-Winzig	5/10/2024 1400	FedEx UPS Pickup/Dropoff
Relinquished by:	Jesse Alt-Winzig (C+S)	Jesse Alt-Winzig	5/10/2024 1400	**For LAB USE ONLY
Received at Lab by:	R. PELLEGRINO		5/13/24	Work Order # 2405024

***Chain of Custody must be completed in full. Lack of any missing information will affect your Turn Around Times (TAT)

*** By signing Centek/SanAir Labs Chain of Custody, you are accepting the Terms and Conditions listed on the reverse side.

Centek/SanAir laboratories

Centek Laboratories
A Division of SanAir Technologies Laboratory
SanAir

SanAir Technologies DBA Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
TEL: (315) 431-9730

Workorder Sample Summary

WO#: **2405024**

15-May-24

CLIENT: C & S Engineers, Inc.
Project: 1803 Elmwood Ave. - BCP-RI

Lab SampleID	Client Sample ID	TDTube	CanisterID	FlowCon ID	Equip ID	Date Collected	Date Received	Matrix
2405024-001	SSV-01-20240510		6 L Suma Can-3927 VI - 1213	Time-Set Reg-1567 IAQ - 1422		5/10/2024	5/13/2024	Air
2405024-002	IA-01-20240510		6 L Suma Can-4560 VI - 0750	Time-Set Reg-2517 IAQ - 1419		5/10/2024	5/13/2024	Air
2405024-003	SSV-02-20240510		6 L Suma Can-6059 VI - 0744	Time-Set Reg-1566 IAQ - 1345		5/10/2024	5/13/2024	Air
2405024-004	IA-02-20240510		6 L Suma Can - 851 VI - 0851	Time-Set Reg-2430 IAQ - 1420		5/10/2024	5/13/2024	Air
2405024-005	SSV-03-20240510		6 L Suma Can-5665 VI - 1219	Time-Set Reg-2194 IAQ - 1445		5/10/2024	5/13/2024	Air
2405024-006	IA-03-20240510		6 L Suma Can-6630 VI - 1348	Time-Set Reg-1042 IAQ - 1346		5/10/2024	5/13/2024	Air
2405024-007	OA-01-20240510		6 L Suma Can-0329 VI - 1214	Time-Set Reg-2195 IAQ - 1343		5/10/2024	5/13/2024	Air

Original

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SanAir
SanAir Technologies DBA Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
TEL: (315) 431-9730
Website: CentekLabs.us

Sample Receipt Checklist

Client Name: C&S - Buffalo

Work Order Number 2405024

ID	Description	Type
6 L Suma Can-4560 VI - 07		Canisters
6 L Suma Can-5665 VI - 12		Canisters
6 L Suma Can-6059 VI - 07		Canisters
6 L Suma Can-6127 VI - 12		Canisters
6 L Suma Can-6630 VI - 13		Canisters
Helium Leak Detector- - 167	Helium Leak Detector- - 1679	Equipments
Time-Set Reg-1042 IAQ - 1		Flow Controller
Time-Set Reg-1566 IAQ - 1		Flow Controller
Time-Set Reg-1567 IAQ - 1		Flow Controller
Time-Set Reg-2191 IAQ - 1		Flow Controller
Time-Set Reg-2194 IAQ - 1		Flow Controller
Time-Set Reg-2195 IAQ - 1		Flow Controller
Time-Set Reg-2430 IAQ - 1		Flow Controller
Time-Set Reg-2517 IAQ - 1		Flow Controller

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client Contacted? ☐ Yes ☐ No ☑ NA Person Contacted: Comments:

Contact Mode: ☐ Phone: ☐ Fax: ☐ Email: ☐ In Person:

Client Instructions:

Date Contacted: Contacted By:

Regarding:

CorrectiveAction:

Sample Details

SampID	ClientSampID	ContainerID	Type	Org pH	Temp.	ReptNo	Cooler No	Comments
2405024-001A	SSV-01-20240510	6 L Suma Can-3927 VI - 1213	Canister					
2405024-002A	IA-01-20240510	6 L Suma Can-4560 VI - 0750	Canister					
2405024-003A	SSV-02-20240510	6 L Suma Can-6059 VI - 0744	Canister					
2405024-004A	IA-02-20240510	6 L Suma Can - 851 VI - 0851	Canister					
2405024-005A	SSV-03-20240510	6 L Suma Can-5665 VI - 1219	Canister					
2405024-006A	IA-03-20240510	6 L Suma Can-6630 VI - 1348	Canister					
2405024-007A	OA-01-20240510	6 L Suma Can-0329 VI - 1214	Canister					

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Container Order Report

Container Order #: 368

15-May-24

CLIENT:	C & S Engineers, Inc.	**Submitted By**	Russell Pellegrino
Contact:	Jesse Alt-Winzig	**Ship Date:**	5/6/2024
Contact Email:	JAltWinzig@cscos.com	**VIA:**	UPS Ground
Address:	141 Elm St., Suite 100	**Tracking No:**	1Z81WF480341686093
	Buffalo, NY, US, 14203	**Due Date:**	5/7/2024
Phone:	(716) 847-1630	**Quote ID:**	

Qty	TestCode	TEST(s)	Bottle Code	Matrix	Remarks
4	0.20_NYS	1ug/m3 w/ 0.2ug/M3 CT-TCE-VC-DCE-	MC1000CC	Air	
4	1ugM3_TO15	1ug/M3 by Method TO15	MC1000CC	Air	

Equipment Name	Equipment Type	Barcode #
6 L Suma Can - 851 VI - 0851	Canister1	851
6 L Suma Can-0329 VI - 1214	Canister1	1214
6 L Suma Can-3927 VI - 1213	Canister1	1213
6 L Suma Can-4560 VI - 0750	Canister1	750
6 L Suma Can-5665 VI - 1219	Canister1	1219
6 L Suma Can-6059 VI - 0744	Canister1	744
6 L Suma Can-6127 VI - 1215	Canister1	1215
6 L Suma Can-6630 VI - 1348	Canister1	1348
Helium Leak Detector- - 1679	Equipment	1679
Time-Set Reg-2430 IAQ - 1420	FlowController	1420
Time-Set Reg-1042 IAQ - 1346	FlowController	1346
Time-Set Reg-2195 IAQ - 1343	FlowController	1343
Time-Set Reg-2517 IAQ - 1419	FlowController	1419
Time-Set Reg-1567 IAQ - 1422	FlowController	1422
Time-Set Reg-2194 IAQ - 1445	FlowController	1445
Time-Set Reg-1566 IAQ - 1345	FlowController	1345
Time-Set Reg-2191 IAQ - 1448	FlowController	1448

Comment 8 6L @ 24hr + He detector

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

ANALYTICAL RESULTS

Centek Laboratories
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SanAir Technologies
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143 Midler Park Drive
Syracuse, NY 13206
TEL: (315) 431-9730
Website: www.CentekLabs.us

Analytical Report

(consolidated)

WO#: 2405024

Date Reported:

CLIENT: C & S Engineers, Inc.
Lab Order: 2405024
Project: 1803 Elmwood Ave. - BCP-RI
Lab ID: 2405024-001

Client Sample ID: SSV-01-20240510
TagNo:
Collection Date: 5/10/2024
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
FIELD PARAMETERS				FLD				Analyst:
FieldSampler	Jesse							
Lab Vacuum In	-7		"Hg					
Lab Vacuum Out	-30		"Hg					

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
1UG/M3 BY METHOD TO15				TO-15				Analyst: DA
1,1,1-Trichloroethane	< 0.15	0.15	ppbV	<0.82	0.82	U	1	5/13/2024 9:07:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 9:07:00 PM
1,1,2-Trichloroethane	< 0.15	0.15	ppbV	<0.82	0.82	U	1	5/13/2024 9:07:00 PM
1,1-Dichloroethane	< 0.15	0.15	ppbV	<0.61	0.61	U	1	5/13/2024 9:07:00 PM
1,1-Dichloroethene	< 0.15	0.15	ppbV	<0.59	0.59	U	1	5/13/2024 9:07:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15	ppbV	<1.1	1.1	U	1	5/13/2024 9:07:00 PM
1,2,4-Trimethylbenzene	0.14	0.15	ppbV	0.69	0.74	J	1	5/13/2024 9:07:00 PM
1,2-Dibromoethane	< 0.15	0.15	ppbV	<1.2	1.2	U	1	5/13/2024 9:07:00 PM
1,2-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 9:07:00 PM
1,2-Dichloroethane	< 0.15	0.15	ppbV	<0.61	0.61	U	1	5/13/2024 9:07:00 PM
1,2-Dichloropropane	< 0.15	0.15	ppbV	<0.69	0.69	U	1	5/13/2024 9:07:00 PM
1,3,5-Trimethylbenzene	< 0.15	0.15	ppbV	<0.74	0.74	U	1	5/13/2024 9:07:00 PM
1,3-butadiene	< 0.15	0.15	ppbV	<0.33	0.33	U	1	5/13/2024 9:07:00 PM
1,3-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 9:07:00 PM
1,4-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 9:07:00 PM
1,4-Dioxane	< 0.30	0.30	ppbV	<1.1	1.1	U	1	5/13/2024 9:07:00 PM
2,2,4-trimethylpentane	< 0.15	0.15	ppbV	<0.7	0.7	U	1	5/13/2024 9:07:00 PM
4-ethyltoluene	< 0.15	0.15	ppbV	<0.74	0.74	U	1	5/13/2024 9:07:00 PM
Acetone	28	12	ppbV	67	29		40	5/13/2024 11:54:00 PM
Allyl chloride	< 0.15	0.15	ppbV	<0.47	0.47	U	1	5/13/2024 9:07:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Limit
U	Samples with CalcVal < MDL
E	Value above quantitation range
N	Tentatively identified compounds
R	RPD outside accepted recovery limits
SC	Sub-Contracted
J	Analyte detected below quantitation limits

Original

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Analytical Report

(consolidated)

WO#: **2405024**

Date Reported:

CLIENT: C & S Engineers, Inc.
Client Sample ID: SSV-01-20240510

Lab Order: 2405024
TagNo:

Project: 1803 Elmwood Ave. - BCP-RI
Collection Date: 5/10/2024

Lab ID: 2405024-001
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
1UG/M3 BY METHOD TO15				**TO-15**				Analyst: **DA**
Benzene	1.4	0.15	ppbV	4.4	0.48		1	5/13/2024 9:07:00 PM
Benzyl chloride	< 0.15	0.15	ppbV	<0.86	0.86	U	1	5/13/2024 9:07:00 PM
Bromodichloromethane	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 9:07:00 PM
Bromoform	< 0.15	0.15	ppbV	<1.6	1.6	U	1	5/13/2024 9:07:00 PM
Bromomethane	< 0.15	0.15	ppbV	<0.58	0.58	U	1	5/13/2024 9:07:00 PM
Carbon disulfide	16	1.5	ppbV	51	4.7		10	5/13/2024 11:14:00 PM
Carbon tetrachloride	< 0.15	0.15	ppbV	<0.94	0.94	U	1	5/13/2024 9:07:00 PM
Chlorobenzene	< 0.15	0.15	ppbV	<0.69	0.69	U	1	5/13/2024 9:07:00 PM
Chloroethane	0.29	0.15	ppbV	0.77	0.4		1	5/13/2024 9:07:00 PM
Chloroform	0.24	0.15	ppbV	1.2	0.73		1	5/13/2024 9:07:00 PM
Chloromethane	< 0.15	0.15	ppbV	<0.31	0.31	U	1	5/13/2024 9:07:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15	ppbV	<0.59	0.59	U	1	5/13/2024 9:07:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15	ppbV	<0.68	0.68	U	1	5/13/2024 9:07:00 PM
Cyclohexane	7.2	0.15	ppbV	25	0.52		1	5/13/2024 9:07:00 PM
Dibromochloromethane	< 0.15	0.15	ppbV	<1.3	1.3	U	1	5/13/2024 9:07:00 PM
Ethyl acetate	< 0.15	0.15	ppbV	<0.54	0.54	U	1	5/13/2024 9:07:00 PM
Ethylbenzene	0.17	0.15	ppbV	0.74	0.65		1	5/13/2024 9:07:00 PM
Freon 11	0.28	0.15	ppbV	1.6	0.84		1	5/13/2024 9:07:00 PM
Freon 113	< 0.15	0.15	ppbV	<1.1	1.1	U	1	5/13/2024 9:07:00 PM
Freon 114	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 9:07:00 PM
Freon 12	6.7	1.5	ppbV	33	7.4		10	5/13/2024 11:14:00 PM
Heptane	3.4	1.5	ppbV	14	6.1		10	5/13/2024 11:14:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15	ppbV	<1.6	1.6	U	1	5/13/2024 9:07:00 PM
Hexane	4.4	1.5	ppbV	16	5.3		10	5/13/2024 11:14:00 PM
Isopropyl alcohol	< 0.15	0.15	ppbV	<0.37	0.37	U	1	5/13/2024 9:07:00 PM
m&p-Xylene	0.69	0.30	ppbV	3	1.3		1	5/13/2024 9:07:00 PM
Methyl Butyl Ketone	< 0.30	0.30	ppbV	<1.2	1.2	U	1	5/13/2024 9:07:00 PM
Methyl Ethyl Ketone	2.9	3.0	ppbV	8.6	8.8	J	10	5/13/2024 11:14:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Limit
U	Samples with CalcVal < MDL.
E	Value above quantitation range
N	Tentatively identified compounds
R	RPD outside accepted recovery limits
SC	Sub-Contracted
J	Analyte detected below quantitation limits

Original

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SanAir

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Analytical Report

(consolidated)

WO#: **2405024**

Date Reported:

CLIENT: C & S Engineers, Inc.
Lab Order: 2405024
Project: 1803 Elmwood Ave. - BCP-RI
Lab ID: 2405024-001

Client Sample ID: SSV-01-20240510
TagNo:
Collection Date: 5/10/2024
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
1UG/M3 BY METHOD TO15				**TO-15**				Analyst: **DA**
Methyl Isobutyl Ketone	< 0.30	0.30	ppbV	<1.2	1.2	U	1	5/13/2024 9:07:00 PM
Methyl tert-butyl ether	< 0.15	0.15	ppbV	<0.54	0.54	U	1	5/13/2024 9:07:00 PM
Methylene chloride	0.39	0.15	ppbV	1.4	0.52		1	5/13/2024 9:07:00 PM
o-Xylene	0.26	0.15	ppbV	1.1	0.65		1	5/13/2024 9:07:00 PM
Propylene	< 0.15	0.15	ppbV	<0.26	0.26	U	1	5/13/2024 9:07:00 PM
Styrene	< 0.15	0.15	ppbV	<0.64	0.64	U	1	5/13/2024 9:07:00 PM
Tetrachloroethylene	0.11	0.15	ppbV	0.75	1	J	1	5/13/2024 9:07:00 PM
Tetrahydrofuran	< 0.15	0.15	ppbV	<0.44	0.44	U	1	5/13/2024 9:07:00 PM
Toluene	1.4	0.15	ppbV	5.4	0.57		1	5/13/2024 9:07:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	<0.59	0.59	U	1	5/13/2024 9:07:00 PM
trans-1,3-Dichloropropene	< 0.15	0.15	ppbV	<0.68	0.68	U	1	5/13/2024 9:07:00 PM
Trichloroethene	50	6.0	ppbV	270	32		40	5/13/2024 11:54:00 PM
Vinyl acetate	< 0.15	0.15	ppbV	<0.53	0.53	U	1	5/13/2024 9:07:00 PM
Vinyl Bromide	< 0.15	0.15	ppbV	<0.66	0.66	U	1	5/13/2024 9:07:00 PM
Vinyl chloride	< 0.15	0.15	ppbV	<0.38	0.38	U	1	5/13/2024 9:07:00 PM
Surr: Bromofluorobenzene	90.0	70-130	%Rec				1	5/13/2024 9:07:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Limit
U	Samples with CalcVal < MDL
E	Value above quantitation range
N	Tentatively identified compounds
R	RPD outside accepted recovery limits
SC	Sub-Contracted
J	Analyte detected below quantitation limits

Original

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Website: www.CentekLabs.us

Analytical Report

(consolidated)

WO#: **2405024**

Date Reported:

CLIENT: C & S Engineers, Inc.
Client Sample ID: IA-01-20240510
Lab Order: 2405024
TagNo:
Project: 1803 Elmwood Ave. - BCP-RI
Collection Date: 5/10/2024
Lab ID: 2405024-002
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
FIELD PARAMETERS				FLD				Analyst:
FieldSampler	Jesse							
Lab Vacuum In	-5		"Hg					
Lab Vacuum Out	-30		"Hg					

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE				TO-15				Analyst: DA
1,1,1-Trichloroethane	< 0.15	0.15	ppbV	<0.82	0.82	U	1	5/13/2024 6:16:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 6:16:00 PM
1,1,2-Trichloroethane	< 0.15	0.15	ppbV	<0.82	0.82	U	1	5/13/2024 6:16:00 PM
1,1-Dichloroethane	< 0.15	0.15	ppbV	<0.61	0.61	U	1	5/13/2024 6:16:00 PM
1,1-Dichloroethene	< 0.040	0.040	ppbV	<0.16	0.16	U	1	5/13/2024 6:16:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15	ppbV	<1.1	1.1	U	1	5/13/2024 6:16:00 PM
1,2,4-Trimethylbenzene	< 0.15	0.15	ppbV	<0.74	0.74	U	1	5/13/2024 6:16:00 PM
1,2-Dibromoethane	< 0.15	0.15	ppbV	<1.2	1.2	U	1	5/13/2024 6:16:00 PM
1,2-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 6:16:00 PM
1,2-Dichloroethane	< 0.15	0.15	ppbV	<0.61	0.61	U	1	5/13/2024 6:16:00 PM
1,2-Dichloropropane	< 0.15	0.15	ppbV	<0.69	0.69	U	1	5/13/2024 6:16:00 PM
1,3,5-Trimethylbenzene	< 0.15	0.15	ppbV	<0.74	0.74	U	1	5/13/2024 6:16:00 PM
1,3-butadiene	< 0.15	0.15	ppbV	<0.33	0.33	U	1	5/13/2024 6:16:00 PM
1,3-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 6:16:00 PM
1,4-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 6:16:00 PM
1,4-Dioxane	< 0.30	0.30	ppbV	<1.1	1.1	U	1	5/13/2024 6:16:00 PM
2,2,4-trimethylpentane	< 0.15	0.15	ppbV	<0.7	0.7	U	1	5/13/2024 6:16:00 PM
4-ethyltoluene	< 0.15	0.15	ppbV	<0.74	0.74	U	1	5/13/2024 6:16:00 PM
Acetone	2.7	3.0	ppbV	6.4	7.1	J	10	5/14/2024 3:16:00 AM
Allyl chloride	< 0.15	0.15	ppbV	<0.47	0.47	U	1	5/13/2024 6:16:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Limit
U	Samples with CalcVal < MDL
E	Value above quantitation range
N	Tentatively identified compounds
R	RPD outside accepted recovery limits
SC	Sub-Contracted
J	Analyte detected below quantitation limits

Original

Centek Laboratories
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SanAir Technologies Laboratory

SanAir Technologies DBA Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
TEL: (315) 431-9730
Website: www.CentekLabs.us

Analytical Report

(consolidated)

WO#: **2405024**

Date Reported:

CLIENT: C & S Engineers, Inc.
Client Sample ID: IA-01-20240510
Lab Order: 2405024
TagNo:
Project: 1803 Elmwood Ave. - BCP-RI
Collection Date: 5/10/2024
Lab ID: 2405024-002
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE				**TO-15**				Analyst: DA
Benzene	< 0.15	0.15	ppbV	<0.48	0.48	U	1	5/13/2024 6:16:00 PM
Benzyl chloride	< 0.15	0.15	ppbV	<0.86	0.86	U	1	5/13/2024 6:16:00 PM
Bromodichloromethane	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 6:16:00 PM
Bromoform	< 0.15	0.15	ppbV	<1.6	1.6	U	1	5/13/2024 6:16:00 PM
Bromomethane	< 0.15	0.15	ppbV	<0.58	0.58	U	1	5/13/2024 6:16:00 PM
Carbon disulfide	< 0.15	0.15	ppbV	<0.47	0.47	U	1	5/13/2024 6:16:00 PM
Carbon tetrachloride	0.070	0.030	ppbV	0.44	0.19		1	5/13/2024 6:16:00 PM
Chlorobenzene	< 0.15	0.15	ppbV	<0.69	0.69	U	1	5/13/2024 6:16:00 PM
Chloroethane	< 0.15	0.15	ppbV	<0.4	0.4	U	1	5/13/2024 6:16:00 PM
Chloroform	< 0.15	0.15	ppbV	<0.73	0.73	U	1	5/13/2024 6:16:00 PM
Chloromethane	0.43	0.15	ppbV	0.89	0.31		1	5/13/2024 6:16:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040	ppbV	<0.16	0.16	U	1	5/13/2024 6:16:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15	ppbV	<0.68	0.68	U	1	5/13/2024 6:16:00 PM
Cyclohexane	< 0.15	0.15	ppbV	<0.52	0.52	U	1	5/13/2024 6:16:00 PM
Dibromochloromethane	< 0.15	0.15	ppbV	<1.3	1.3	U	1	5/13/2024 6:16:00 PM
Ethyl acetate	< 0.15	0.15	ppbV	<0.54	0.54	U	1	5/13/2024 6:16:00 PM
Ethylbenzene	< 0.15	0.15	ppbV	<0.65	0.65	U	1	5/13/2024 6:16:00 PM
Freon 11	0.23	0.15	ppbV	1.3	0.84		1	5/13/2024 6:16:00 PM
Freon 113	< 0.15	0.15	ppbV	<1.1	1.1	U	1	5/13/2024 6:16:00 PM
Freon 114	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 6:16:00 PM
Freon 12	0.49	0.15	ppbV	2.4	0.74		1	5/13/2024 6:16:00 PM
Heptane	< 0.15	0.15	ppbV	<0.61	0.61	U	1	5/13/2024 6:16:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15	ppbV	<1.6	1.6	U	1	5/13/2024 6:16:00 PM
Hexane	< 0.15	0.15	ppbV	<0.53	0.53	U	1	5/13/2024 6:16:00 PM
Isopropyl alcohol	1.6	0.15	ppbV	4.1	0.37		1	5/13/2024 6:16:00 PM
m&p-Xylene	< 0.30	0.30	ppbV	<1.3	1.3	U	1	5/13/2024 6:16:00 PM
Methyl Butyl Ketone	< 0.30	0.30	ppbV	<1.2	1.2	U	1	5/13/2024 6:16:00 PM
Methyl Ethyl Ketone	0.21	0.30	ppbV	0.62	0.88	J	1	5/13/2024 6:16:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
RL	Reporting Limit	SC	Sub-Contracted
U	Samples with CalcVal < MDL	J	Analyte detected below quantitation limits

Original

Centek Laboratories
A Division of SanAir Technologies Laboratory
SanAir
SanAir Technologies DBA Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
TEL: (315) 431-9730
Website: www.CentekLabs.us

Analytical Report

(consolidated)

WO#: 2405024

Date Reported:

CLIENT: C & S Engineers, Inc.
Client Sample ID: IA-01-20240510
Lab Order: 2405024
TagNo:
Project: 1803 Elmwood Ave. - BCP-RI
Collection Date: 5/10/2024
Lab ID: 2405024-002
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE				**TO-15**				Analyst: DA
Methyl Isobutyl Ketone	< 0.30	0.30	ppbV	<1.2	1.2	U	1	5/13/2024 6:16:00 PM
Methyl tert-butyl ether	< 0.15	0.15	ppbV	<0.54	0.54	U	1	5/13/2024 6:16:00 PM
Methylene chloride	0.32	0.15	ppbV	1.1	0.52		1	5/13/2024 6:16:00 PM
o-Xylene	< 0.15	0.15	ppbV	<0.65	0.65	U	1	5/13/2024 6:16:00 PM
Propylene	< 0.15	0.15	ppbV	<0.26	0.26	U	1	5/13/2024 6:16:00 PM
Styrene	< 0.15	0.15	ppbV	<0.64	0.64	U	1	5/13/2024 6:16:00 PM
Tetrachloroethylene	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 6:16:00 PM
Tetrahydrofuran	< 0.15	0.15	ppbV	<0.44	0.44	U	1	5/13/2024 6:16:00 PM
Toluene	0.28	0.15	ppbV	1.1	0.57		1	5/13/2024 6:16:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	<0.59	0.59	U	1	5/13/2024 6:16:00 PM
trans-1,3-Dichloropropene	< 0.15	0.15	ppbV	<0.68	0.68	U	1	5/13/2024 6:16:00 PM
Trichloroethene	0.11	0.030	ppbV	0.59	0.16		1	5/13/2024 6:16:00 PM
Vinyl acetate	< 0.15	0.15	ppbV	<0.53	0.53	U	1	5/13/2024 6:16:00 PM
Vinyl Bromide	< 0.15	0.15	ppbV	<0.66	0.66	U	1	5/13/2024 6:16:00 PM
Vinyl chloride	< 0.040	0.040	ppbV	<0.1	0.1	U	1	5/13/2024 6:16:00 PM
Surr: Bromofluorobenzene	97.0	70-130	%Rec				1	5/13/2024 6:16:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Limit
U	Samples with CalcVal < MDL
E	Value above quantitation range
N	Tentatively identified compounds
R	RPD outside accepted recovery limits
SC	Sub-Contracted
J	Analyte detected below quantitation limits

Original

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SanAir Technologies DBA Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
TEL: (315) 431-9730
Website: www.CentekLabs.us

Analytical Report

(consolidated)

WO#: **2405024**

Date Reported:

CLIENT: C & S Engineers, Inc.
Lab Order: 2405024
Project: 1803 Elmwood Ave. - BCP-RI
Lab ID: 2405024-003

Client Sample ID: SSV-02-20240510
TagNo:
Collection Date: 5/10/2024
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
FIELD PARAMETERS				FLD				Analyst:
FieldSampler	Jesse							
Lab Vacuum In	-7		"Hg					
Lab Vacuum Out	-30		"Hg					

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed	
1UG/M3 BY METHOD TO15				TO-15				Analyst: DA	
1,1,1-Trichloroethane	0.72	0.15	ppbV	3.9	0.82		1	5/13/2024 9:51:00 PM	J
1,1,2,2-Tetrachloroethane	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 9:51:00 PM	
1,1,2-Trichloroethane	< 0.15	0.15	ppbV	<0.82	0.82	U	1	5/13/2024 9:51:00 PM	
1,1-Dichloroethane	< 0.15	0.15	ppbV	<0.61	0.61	U	1	5/13/2024 9:51:00 PM	
1,1-Dichloroethene	< 0.15	0.15	ppbV	<0.59	0.59	U	1	5/13/2024 9:51:00 PM	
1,2,4-Trichlorobenzene	< 0.15	0.15	ppbV	<1.1	1.1	U	1	5/13/2024 9:51:00 PM	
1,2,4-Trimethylbenzene	< 0.15	0.15	ppbV	<0.74	0.74	U	1	5/13/2024 9:51:00 PM	
1,2-Dibromoethane	< 0.15	0.15	ppbV	<1.2	1.2	U	1	5/13/2024 9:51:00 PM	
1,2-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 9:51:00 PM	
1,2-Dichloroethane	< 0.15	0.15	ppbV	<0.61	0.61	U	1	5/13/2024 9:51:00 PM	
1,2-Dichloropropane	< 0.15	0.15	ppbV	<0.69	0.69	U	1	5/13/2024 9:51:00 PM	
1,3,5-Trimethylbenzene	< 0.15	0.15	ppbV	<0.74	0.74	U	1	5/13/2024 9:51:00 PM	
1,3-butadiene	< 0.15	0.15	ppbV	<0.33	0.33	U	1	5/13/2024 9:51:00 PM	
1,3-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 9:51:00 PM	
1,4-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 9:51:00 PM	
1,4-Dioxane	< 0.30	0.30	ppbV	<1.1	1.1	U	1	5/13/2024 9:51:00 PM	
2,2,4-trimethylpentane	< 0.15	0.15	ppbV	<0.7	0.7	U	1	5/13/2024 9:51:00 PM	
4-ethyltoluene	< 0.15	0.15	ppbV	<0.74	0.74	U	1	5/13/2024 9:51:00 PM	
Acetone	64	12	ppbV	150	29		40	5/14/2024 1:15:00 AM	
Allyl chloride	< 0.15	0.15	ppbV	<0.47	0.47	U	1	5/13/2024 9:51:00 PM	

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Limit
U	Samples with CalcVal < MDL
E	Value above quantitation range
N	Tentatively identified compounds
R	RPD outside accepted recovery limits
SC	Sub-Contracted
J	Analyte detected below quantitation limits

Original

MKP 7/16/2024

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SanAir
SanAir Technologies DBA Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
TEL: (315) 431-9730
Website: www.CentekLabs.us

Analytical Report

(consolidated)

WO#: 2405024

Date Reported:

CLIENT: C & S Engineers, Inc.
Lab Order: 2405024
Project: 1803 Elmwood Ave. - BCP-RI
Lab ID: 2405024-003

Client Sample ID: SSV-02-20240510
TagNo:
Collection Date: 5/10/2024
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed	
1UG/M3 BY METHOD TO15				TO-15				Analyst: DA	
Benzene	4.9	1.5	ppbV	16	4.8		10	5/14/2024 12:35:00 AM	J
Benzyl chloride	< 0.15	0.15	ppbV	<0.86	0.86	U	1	5/13/2024 9:51:00 PM	
Bromodichloromethane	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 9:51:00 PM	
Bromoform	< 0.15	0.15	ppbV	<1.6	1.6	U	1	5/13/2024 9:51:00 PM	
Bromomethane	< 0.15	0.15	ppbV	<0.58	0.58	U	1	5/13/2024 9:51:00 PM	
Carbon disulfide	4.0	1.5	ppbV	12	4.7		10	5/14/2024 12:35:00 AM	J
Carbon tetrachloride	< 0.15	0.15	ppbV	<0.94	0.94	U	1	5/13/2024 9:51:00 PM	
Chlorobenzene	< 0.15	0.15	ppbV	<0.69	0.69	U	1	5/13/2024 9:51:00 PM	
Chloroethane	0.15	0.15	ppbV	0.4	0.4		1	5/13/2024 9:51:00 PM	J
Chloroform	< 0.15	0.15	ppbV	<0.73	0.73	U	1	5/13/2024 9:51:00 PM	
Chloromethane	0.11	0.15	ppbV	0.23	0.31	J	1	5/13/2024 9:51:00 PM	J
cis-1,2-Dichloroethene	< 0.15	0.15	ppbV	<0.59	0.59	U	1	5/13/2024 9:51:00 PM	
cis-1,3-Dichloropropene	< 0.15	0.15	ppbV	<0.68	0.68	U	1	5/13/2024 9:51:00 PM	
Cyclohexane	3.7	1.5	ppbV	13	5.2		10	5/14/2024 12:35:00 AM	J
Dibromochloromethane	< 0.15	0.15	ppbV	<1.3	1.3	U	1	5/13/2024 9:51:00 PM	
Ethyl acetate	< 0.15	0.15	ppbV	<0.54	0.54	U	1	5/13/2024 9:51:00 PM	
Ethylbenzene	5.4	1.5	ppbV	23	6.5		10	5/14/2024 12:35:00 AM	J
Freon 11	0.28	0.15	ppbV	1.6	0.84		1	5/13/2024 9:51:00 PM	J
Freon 113	< 0.15	0.15	ppbV	<1.1	1.1	U	1	5/13/2024 9:51:00 PM	
Freon 114	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 9:51:00 PM	
Freon 12	0.91	0.15	ppbV	4.5	0.74		1	5/13/2024 9:51:00 PM	J
Heptane	7.7	1.5	ppbV	32	6.1		10	5/14/2024 12:35:00 AM	J
Hexachloro-1,3-butadiene	< 0.15	0.15	ppbV	<1.6	1.6	U	1	5/13/2024 9:51:00 PM	
Hexane	10	1.5	ppbV	37	5.3		10	5/14/2024 12:35:00 AM	J
Isopropyl alcohol	< 0.15	0.15	ppbV	<0.37	0.37	U	1	5/13/2024 9:51:00 PM	
m&p-Xylene	19	3.0	ppbV	82	13		10	5/14/2024 12:35:00 AM	J
Methyl Butyl Ketone	0.76	0.30	ppbV	3.1	1.2		1	5/13/2024 9:51:00 PM	J
Methyl Ethyl Ketone	7.8	3.0	ppbV	23	8.8		10	5/14/2024 12:35:00 AM	J

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Limit
U	Samples with CalcVal < MDL
E	Value above quantitation range
N	Tentatively identified compounds
R	RPD outside accepted recovery limits
SC	Sub-Contracted
J	Analyte detected below quantitation limits

Original

MKP 7/16/2024

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SanAir Technologies

SanAir Technologies DBA Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
TEL: (315) 431-9730
Website: www.CentekLabs.us

Analytical Report

(consolidated)

WO#: **2405024**

Date Reported:

CLIENT: C & S Engineers, Inc.
Lab Order: 2405024
Project: 1803 Elmwood Ave. - BCP-RI
Lab ID: 2405024-003

Client Sample ID: SSV-02-20240510
TagNo:
Collection Date: 5/10/2024
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed	
1UG/M3 BY METHOD TO15				**TO-15**				Analyst: DA	
Methyl Isobutyl Ketone	0.64	0.30	ppbV	2.6	1.2		1	5/13/2024 9:51:00 PM	J
Methyl tert-butyl ether	< 0.15	0.15	ppbV	<0.54	0.54	U	1	5/13/2024 9:51:00 PM	
Methylene chloride	0.35	0.15	ppbV	1.2	0.52		1	5/13/2024 9:51:00 PM	J
o-Xylene	5.0	1.5	ppbV	22	6.5		10	5/14/2024 12:35:00 AM	J
Propylene	< 0.15	0.15	ppbV	<0.26	0.26	U	1	5/13/2024 9:51:00 PM	
Styrene	1.0	0.15	ppbV	4.4	0.64		1	5/13/2024 9:51:00 PM	J
Tetrachloroethylene	1.1	0.15	ppbV	7.4	1		1	5/13/2024 9:51:00 PM	J
Tetrahydrofuran	< 0.15	0.15	ppbV	<0.44	0.44	U	1	5/13/2024 9:51:00 PM	
Toluene	22	6.0	ppbV	83	23		40	5/14/2024 1:15:00 AM	
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	<0.59	0.59	U	1	5/13/2024 9:51:00 PM	
trans-1,3-Dichloropropene	< 0.15	0.15	ppbV	<0.68	0.68	U	1	5/13/2024 9:51:00 PM	
Trichloroethene	0.20	0.15	ppbV	1.1	0.81		1	5/13/2024 9:51:00 PM	J
Vinyl acetate	< 0.15	0.15	ppbV	<0.53	0.53	U	1	5/13/2024 9:51:00 PM	
Vinyl Bromide	< 0.15	0.15	ppbV	<0.66	0.66	U	1	5/13/2024 9:51:00 PM	
Vinyl chloride	< 0.15	0.15	ppbV	<0.38	0.38	U	1	5/13/2024 9:51:00 PM	
Surr: Bromofluorobenzene	1150	70-130	%Rec			S	1	5/13/2024 9:51:00 PM	

MKP 7/16/2024

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Limit
U	Samples with CalcVal < MDL
E	Value above quantitation range
N	Tentatively identified compounds
R	RPD outside accepted recovery limits
SC	Sub-Contracted
J	Analyte detected below quantitation limits

Original

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SanAir Technologies DBA Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
TEL: (315) 431-9730
Website: www.CentekLabs.us

Analytical Report

(consolidated)

WO#: **2405024**

Date Reported:

CLIENT: C & S Engineers, Inc.
Lab Order: 2405024
Project: 1803 Elmwood Ave. - BCP-RI
Lab ID: 2405024-004

Client Sample ID: IA-02-20240510
TagNo:
Collection Date: 5/10/2024
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
FIELD PARAMETERS				FLD				Analyst:
FieldSampler	Jesse							
Lab Vacuum In	-4		"Hg					
Lab Vacuum Out	-30		"Hg					

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE				TO-15				Analyst: DA
1,1,1-Trichloroethane	< 0.15	0.15	ppbV	<0.82	0.82	U	1	5/13/2024 6:59:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 6:59:00 PM
1,1,2-Trichloroethane	< 0.15	0.15	ppbV	<0.82	0.82	U	1	5/13/2024 6:59:00 PM
1,1-Dichloroethane	< 0.15	0.15	ppbV	<0.61	0.61	U	1	5/13/2024 6:59:00 PM
1,1-Dichloroethene	< 0.040	0.040	ppbV	<0.16	0.16	U	1	5/13/2024 6:59:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15	ppbV	<1.1	1.1	U	1	5/13/2024 6:59:00 PM
1,2,4-Trimethylbenzene	0.12	0.15	ppbV	0.59	0.74	J	1	5/13/2024 6:59:00 PM
1,2-Dibromoethane	< 0.15	0.15	ppbV	<1.2	1.2	U	1	5/13/2024 6:59:00 PM
1,2-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 6:59:00 PM
1,2-Dichloroethane	< 0.15	0.15	ppbV	<0.61	0.61	U	1	5/13/2024 6:59:00 PM
1,2-Dichloropropane	< 0.15	0.15	ppbV	<0.69	0.69	U	1	5/13/2024 6:59:00 PM
1,3,5-Trimethylbenzene	< 0.15	0.15	ppbV	<0.74	0.74	U	1	5/13/2024 6:59:00 PM
1,3-butadiene	< 0.15	0.15	ppbV	<0.33	0.33	U	1	5/13/2024 6:59:00 PM
1,3-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 6:59:00 PM
1,4-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 6:59:00 PM
1,4-Dioxane	< 0.30	0.30	ppbV	<1.1	1.1	U	1	5/13/2024 6:59:00 PM
2,2,4-trimethylpentane	0.11	0.15	ppbV	0.51	0.7	J	1	5/13/2024 6:59:00 PM
4-ethyltoluene	< 0.15	0.15	ppbV	<0.74	0.74	U	1	5/13/2024 6:59:00 PM
Acetone	3.2	3.0	ppbV	7.6	7.1		10	5/14/2024 3:57:00 AM
Allyl chloride	< 0.15	0.15	ppbV	<0.47	0.47	U	1	5/13/2024 6:59:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Limit
U	Samples with CalcVal < MDL
E	Value above quantitation range
N	Tentatively identified compounds
R	RPD outside accepted recovery limits
SC	Sub-Contracted
J	Analyte detected below quantitation limits

Original

Centek Laboratories
A Division of SanAir Technologies Laboratory
SanAir

SanAir Technologies DBA Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
TEL: (315) 431-9730
Website: www.CentekLabs.us

Analytical Report

(consolidated)

WO#: **2405024**

Date Reported:

CLIENT: C & S Engineers, Inc.
Lab Order: 2405024
Project: 1803 Elmwood Ave. - BCP-RI
Lab ID: 2405024-004

Client Sample ID: 1A-02-20240510
TagNo:
Collection Date: 5/10/2024
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE				**TO-15**				**Analyst: DA**
Benzene	0.11	0.15	ppbV	0.35	0.48	J	1	5/13/2024 6:59:00 PM
Benzyl chloride	< 0.15	0.15	ppbV	<0.86	0.86	U	1	5/13/2024 6:59:00 PM
Bromodichloromethane	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 6:59:00 PM
Bromoform	< 0.15	0.15	ppbV	<1.6	1.6	U	1	5/13/2024 6:59:00 PM
Bromomethane	< 0.15	0.15	ppbV	<0.58	0.58	U	1	5/13/2024 6:59:00 PM
Carbon disulfide	< 0.15	0.15	ppbV	<0.47	0.47	U	1	5/13/2024 6:59:00 PM
Carbon tetrachloride	0.070	0.030	ppbV	0.44	0.19		1	5/13/2024 6:59:00 PM
Chlorobenzene	< 0.15	0.15	ppbV	<0.69	0.69	U	1	5/13/2024 6:59:00 PM
Chloroethane	< 0.15	0.15	ppbV	<0.4	0.4	U	1	5/13/2024 6:59:00 PM
Chloroform	< 0.15	0.15	ppbV	<0.73	0.73	U	1	5/13/2024 6:59:00 PM
Chloromethane	0.44	0.15	ppbV	0.91	0.31		1	5/13/2024 6:59:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040	ppbV	<0.16	0.16	U	1	5/13/2024 6:59:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15	ppbV	<0.68	0.68	U	1	5/13/2024 6:59:00 PM
Cyclohexane	< 0.15	0.15	ppbV	<0.52	0.52	U	1	5/13/2024 6:59:00 PM
Dibromochloromethane	< 0.15	0.15	ppbV	<1.3	1.3	U	1	5/13/2024 6:59:00 PM
Ethyl acetate	< 0.15	0.15	ppbV	<0.54	0.54	U	1	5/13/2024 6:59:00 PM
Ethylbenzene	< 0.15	0.15	ppbV	<0.65	0.65	U	1	5/13/2024 6:59:00 PM
Freon 11	0.23	0.15	ppbV	1.3	0.84		1	5/13/2024 6:59:00 PM
Freon 113	< 0.15	0.15	ppbV	<1.1	1.1	U	1	5/13/2024 6:59:00 PM
Freon 114	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 6:59:00 PM
Freon 12	0.51	0.15	ppbV	2.5	0.74		1	5/13/2024 6:59:00 PM
Heptane	< 0.15	0.15	ppbV	<0.61	0.61	U	1	5/13/2024 6:59:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15	ppbV	<1.6	1.6	U	1	5/13/2024 6:59:00 PM
Hexane	0.10	0.15	ppbV	0.35	0.53	J	1	5/13/2024 6:59:00 PM
Isopropyl alcohol	2.5	1.5	ppbV	6.1	3.7		10	5/14/2024 3:57:00 AM
m&p-Xylene	0.14	0.30	ppbV	0.61	1.3	J	1	5/13/2024 6:59:00 PM
Methyl Butyl Ketone	< 0.30	0.30	ppbV	<1.2	1.2	U	1	5/13/2024 6:59:00 PM
Methyl Ethyl Ketone	0.22	0.30	ppbV	0.65	0.88	J	1	5/13/2024 6:59:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
RL	Reporting Limit	SC	Sub-Contracted
U	Samples with CalcVal < MDL	J	Analyte detected below quantitation limits

Original

Centek Laboratories
A Division of SanAir Technologies Laboratory
SanAir Technologies
SanAir Technologies DBA Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
TEL: (315) 431-9730
Website: www.CentekLabs.us

Analytical Report

(consolidated)

WO#: **2405024**

Date Reported:

CLIENT: C & S Engineers, Inc.
Client Sample ID: IA-02-20240510
Lab Order: 2405024
TagNo:
Project: 1803 Elmwood Ave. - BCP-RI
Collection Date: 5/10/2024
Lab ID: 2405024-004
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE				**TO-15**				Analyst: DA
Methyl Isobutyl Ketone	< 0.30	0.30	ppbV	<1.2	1.2	U	1	5/13/2024 6:59:00 PM
Methyl tert-butyl ether	< 0.15	0.15	ppbV	<0.54	0.54	U	1	5/13/2024 6:59:00 PM
Methylene chloride	0.34	0.15	ppbV	1.2	0.52		1	5/13/2024 6:59:00 PM
o-Xylene	< 0.15	0.15	ppbV	<0.65	0.65	U	1	5/13/2024 6:59:00 PM
Propylene	< 0.15	0.15	ppbV	<0.26	0.26	U	1	5/13/2024 6:59:00 PM
Styrene	< 0.15	0.15	ppbV	<0.64	0.64	U	1	5/13/2024 6:59:00 PM
Tetrachloroethylene	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 6:59:00 PM
Tetrahydrofuran	< 0.15	0.15	ppbV	<0.44	0.44	U	1	5/13/2024 6:59:00 PM
Toluene	0.38	0.15	ppbV	1.4	0.57		1	5/13/2024 6:59:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	<0.59	0.59	U	1	5/13/2024 6:59:00 PM
trans-1,3-Dichloropropene	< 0.15	0.15	ppbV	<0.68	0.68	U	1	5/13/2024 6:59:00 PM
Trichloroethene	< 0.030	0.030	ppbV	<0.16	0.16	U	1	5/13/2024 6:59:00 PM
Vinyl acetate	< 0.15	0.15	ppbV	<0.53	0.53	U	1	5/13/2024 6:59:00 PM
Vinyl Bromide	< 0.15	0.15	ppbV	<0.66	0.66	U	1	5/13/2024 6:59:00 PM
Vinyl chloride	< 0.040	0.040	ppbV	<0.1	0.1	U	1	5/13/2024 6:59:00 PM
Surr: Bromofluorobenzene	98.0	70-130	%Rec				1	5/13/2024 6:59:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
RL	Reporting Limit	SC	Sub-Contracted
U	Samples with CalcVal < MDL	J	Analyte detected below quantitation limits

Original

Centek Laboratories
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SanAir Technologies Laboratory

SanAir Technologies DBA Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
TEL: (315) 431-9730
Website: www.CentekLabs.us

Analytical Report

(consolidated)

WO#: **2405024**

Date Reported:

CLIENT: C & S Engineers, Inc.
Client Sample ID: SSV-03-20240510
Lab Order: 2405024
TagNo:
Project: 1803 Elmwood Ave. - BCP-RI
Collection Date: 5/10/2024
Lab ID: 2405024-005
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
FIELD PARAMETERS				FLD				Analyst:
FieldSampler	Jesse							
Lab Vacuum In	-1		"Hg					
Lab Vacuum Out	-30		"Hg					

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
1UG/M3 BY METHOD TO15				TO-15				Analyst: DA
1,1,1-Trichloroethane	< 0.15	0.15	ppbV	<0.82	0.82	U	1	5/13/2024 10:33:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 10:33:00 PM
1,1,2-Trichloroethane	< 0.15	0.15	ppbV	<0.82	0.82	U	1	5/13/2024 10:33:00 PM
1,1-Dichloroethane	< 0.15	0.15	ppbV	<0.61	0.61	U	1	5/13/2024 10:33:00 PM
1,1-Dichloroethene	< 0.15	0.15	ppbV	<0.59	0.59	U	1	5/13/2024 10:33:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15	ppbV	<1.1	1.1	U	1	5/13/2024 10:33:00 PM
1,2,4-Trimethylbenzene	0.17	0.15	ppbV	0.84	0.74		1	5/13/2024 10:33:00 PM
1,2-Dibromoethane	< 0.15	0.15	ppbV	<1.2	1.2	U	1	5/13/2024 10:33:00 PM
1,2-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 10:33:00 PM
1,2-Dichloroethane	< 0.15	0.15	ppbV	<0.61	0.61	U	1	5/13/2024 10:33:00 PM
1,2-Dichloropropane	< 0.15	0.15	ppbV	<0.69	0.69	U	1	5/13/2024 10:33:00 PM
1,3,5-Trimethylbenzene	< 0.15	0.15	ppbV	<0.74	0.74	U	1	5/13/2024 10:33:00 PM
1,3-butadiene	< 0.15	0.15	ppbV	<0.33	0.33	U	1	5/13/2024 10:33:00 PM
1,3-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 10:33:00 PM
1,4-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 10:33:00 PM
1,4-Dioxane	< 0.30	0.30	ppbV	<1.1	1.1	U	1	5/13/2024 10:33:00 PM
2,2,4-trimethylpentane	< 0.15	0.15	ppbV	<0.7	0.7	U	1	5/13/2024 10:33:00 PM
4-ethyltoluene	< 0.15	0.15	ppbV	<0.74	0.74	U	1	5/13/2024 10:33:00 PM
Acetone	23	12	ppbV	54	29		40	5/14/2024 2:35:00 AM
Allyl chloride	< 0.15	0.15	ppbV	<0.47	0.47	U	1	5/13/2024 10:33:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Limit
U	Samples with CalcVal < MDL
E	Value above quantitation range
N	Tentatively identified compounds
R	RPD outside accepted recovery limits
SC	Sub-Contracted
J	Analyte detected below quantitation limits

Original

Centek Laboratories
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SanAir Technologies Laboratory

SanAir Technologies DBA Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
TEL: (315) 431-9730
Website: www.CentekLabs.us

Analytical Report

(consolidated)

WO#: **2405024**

Date Reported:

CLIENT: C & S Engineers, Inc.
Lab Order: 2405024
Project: 1803 Elmwood Ave. - BCP-RI
Lab ID: 2405024-005

Client Sample ID: SSV-03-20240510
TagNo:
Collection Date: 5/10/2024
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed	
1UG/M3 BY METHOD TO15				**TO-15**				Analyst: **DA**	
Benzene	< 0.15	0.15	ppbV	<0.48	0.48	U	1	5/13/2024 10:33:00 PM	
Benzyl chloride	< 0.15	0.15	ppbV	<0.86	0.86	U	1	5/13/2024 10:33:00 PM	
Bromodichloromethane	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 10:33:00 PM	
Bromoform	< 0.15	0.15	ppbV	<1.6	1.6	U	1	5/13/2024 10:33:00 PM	
Bromomethane	< 0.15	0.15	ppbV	<0.58	0.58	U	1	5/13/2024 10:33:00 PM	
Carbon disulfide	3.9	1.5	ppbV	12	4.7		10	5/14/2024 1:55:00 AM	
Carbon tetrachloride	< 0.15	0.15	ppbV	<0.94	0.94	U	1	5/13/2024 10:33:00 PM	
Chlorobenzene	< 0.15	0.15	ppbV	<0.69	0.69	U	1	5/13/2024 10:33:00 PM	
Chloroethane	< 0.15	0.15	ppbV	<0.4	0.4	U	1	5/13/2024 10:33:00 PM	
Chloroform	< 0.15	0.15	ppbV	<0.73	0.73	U	1	5/13/2024 10:33:00 PM	
Chloromethane	< 0.15	0.15	ppbV	<0.31	0.31	U	1	5/13/2024 10:33:00 PM	
cis-1,2-Dichloroethene	< 0.15	0.15	ppbV	<0.59	0.59	U	1	5/13/2024 10:33:00 PM	
cis-1,3-Dichloropropene	< 0.15	0.15	ppbV	<0.68	0.68	U	1	5/13/2024 10:33:00 PM	
Cyclohexane	< 0.15	0.15	ppbV	<0.52	0.52	U	1	5/13/2024 10:33:00 PM	
Dibromochloromethane	< 0.15	0.15	ppbV	<1.3	1.3	U	1	5/13/2024 10:33:00 PM	
Ethyl acetate	< 0.15	0.15	ppbV	<0.54	0.54	U	1	5/13/2024 10:33:00 PM	
Ethylbenzene	< 0.15	0.15	ppbV	<0.65	0.65	U	1	5/13/2024 10:33:00 PM	
Freon 11	0.24	0.15	ppbV	1.3	0.84		1	5/13/2024 10:33:00 PM	J
Freon 113	< 0.15	0.15	ppbV	<1.1	1.1	U	1	5/13/2024 10:33:00 PM	
Freon 114	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 10:33:00 PM	
Freon 12	0.49	0.15	ppbV	2.4	0.74		1	5/13/2024 10:33:00 PM	J
Heptane	29	6.0	ppbV	120	25		40	5/14/2024 2:35:00 AM	
Hexachloro-1,3-butadiene	< 0.15	0.15	ppbV	<1.6	1.6	U	1	5/13/2024 10:33:00 PM	
Hexane	150	14	ppbV	530	48		90	5/14/2024 1:44:00 PM	
Isopropyl alcohol	< 0.15	0.15	ppbV	<0.37	0.37	U	1	5/13/2024 10:33:00 PM	
m&p-Xylene	0.34	0.30	ppbV	1.5	1.3		1	5/13/2024 10:33:00 PM	
Methyl Butyl Ketone	< 0.30	0.30	ppbV	<1.2	1.2	U	1	5/13/2024 10:33:00 PM	
Methyl Ethyl Ketone	5.9	3.0	ppbV	17	8.8		10	5/14/2024 1:55:00 AM	J

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Limit
U	Samples with CalcVal < MDL
E	Value above quantitation range
N	Tentatively identified compounds
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SC	Sub-Contracted
J	Analyte detected below quantitation limits

Original

MKP 7/16/2024

Centek Laboratories
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SanAir Technologies Laboratory

SanAir Technologies DBA Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
TEL: (315) 431-9730
Website: www.CentekLabs.us

Analytical Report

(consolidated)

WO#: **2405024**

Date Reported:

CLIENT: C & S Engineers, Inc.
Lab Order: 2405024
Project: 1803 Elmwood Ave. - BCP-RI
Lab ID: 2405024-005

Client Sample ID: SSV-03-20240510
TagNo:
Collection Date: 5/10/2024
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed	
1UG/M3 BY METHOD TO15				**TO-15**				Analyst: **DA**	
Methyl Isobutyl Ketone	< 0.30	0.30	ppbV	<1.2	1.2	U	1	5/13/2024 10:33:00 PM	
Methyl tert-butyl ether	< 0.15	0.15	ppbV	<0.54	0.54	U	1	5/13/2024 10:33:00 PM	
Methylene chloride	0.43	0.15	ppbV	1.5	0.52		1	5/13/2024 10:33:00 PM	J
o-Xylene	0.12	0.15	ppbV	0.52	0.65	J	1	5/13/2024 10:33:00 PM	
Propylene	< 0.15	0.15	ppbV	<0.26	0.26	U	1	5/13/2024 10:33:00 PM	
Styrene	< 0.15	0.15	ppbV	<0.64	0.64	U	1	5/13/2024 10:33:00 PM	
Tetrachloroethylene	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 10:33:00 PM	
Tetrahydrofuran	< 0.15	0.15	ppbV	<0.44	0.44	U	1	5/13/2024 10:33:00 PM	
Toluene	< 0.15	0.15	ppbV	<0.57	0.57	U	1	5/13/2024 10:33:00 PM	
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	<0.59	0.59	U	1	5/13/2024 10:33:00 PM	
trans-1,3-Dichloropropene	< 0.15	0.15	ppbV	<0.68	0.68	U	1	5/13/2024 10:33:00 PM	
Trichloroethene	< 0.15	0.15	ppbV	<0.81	0.81	U	1	5/13/2024 10:33:00 PM	
Vinyl acetate	< 0.15	0.15	ppbV	<0.53	0.53	U	1	5/13/2024 10:33:00 PM	
Vinyl Bromide	< 0.15	0.15	ppbV	<0.66	0.66	U	1	5/13/2024 10:33:00 PM	
Vinyl chloride	< 0.15	0.15	ppbV	<0.38	0.38	U	1	5/13/2024 10:33:00 PM	
Surr: Bromofluorobenzene	100	70-130	%Rec				1	5/13/2024 10:33:00 PM	

MKP 7/16/2024

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Limit
U	Samples with CalcVal < MDL
E	Value above quantitation range
N	Tentatively identified compounds
R	RPD outside accepted recovery limits
SC	Sub-Contracted
J	Analyte detected below quantitation limits

Original

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143 Midler Park Drive
Syracuse, NY 13206
TEL: (315) 431-9730
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Analytical Report

(consolidated)

WO#: **2405024**

Date Reported:

CLIENT: C & S Engineers, Inc.
Lab Order: 2405024
Project: 1803 Elmwood Ave. - BCP-RI
Lab ID: 2405024-006

Client Sample ID: IA-03-20240510
TagNo:
Collection Date: 5/10/2024
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
FIELD PARAMETERS				FLD				Analyst:
FieldSampler	Jesse							
Lab Vacuum In	-5		"Hg					
Lab Vacuum Out	-30		"Hg					

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE				TO-15				Analyst: DA
1,1,1-Trichloroethane	< 0.15	0.15	ppbV	<0.82	0.82	U	1	5/13/2024 7:41:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 7:41:00 PM
1,1,2-Trichloroethane	< 0.15	0.15	ppbV	<0.82	0.82	U	1	5/13/2024 7:41:00 PM
1,1-Dichloroethane	< 0.15	0.15	ppbV	<0.61	0.61	U	1	5/13/2024 7:41:00 PM
1,1-Dichloroethene	< 0.040	0.040	ppbV	<0.16	0.16	U	1	5/13/2024 7:41:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15	ppbV	<1.1	1.1	U	1	5/13/2024 7:41:00 PM
1,2,4-Trimethylbenzene	0.11	0.15	ppbV	0.54	0.74	J	1	5/13/2024 7:41:00 PM
1,2-Dibromoethane	< 0.15	0.15	ppbV	<1.2	1.2	U	1	5/13/2024 7:41:00 PM
1,2-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 7:41:00 PM
1,2-Dichloroethane	< 0.15	0.15	ppbV	<0.61	0.61	U	1	5/13/2024 7:41:00 PM
1,2-Dichloropropane	< 0.15	0.15	ppbV	<0.69	0.69	U	1	5/13/2024 7:41:00 PM
1,3,5-Trimethylbenzene	< 0.15	0.15	ppbV	<0.74	0.74	U	1	5/13/2024 7:41:00 PM
1,3-butadiene	< 0.15	0.15	ppbV	<0.33	0.33	U	1	5/13/2024 7:41:00 PM
1,3-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 7:41:00 PM
1,4-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 7:41:00 PM
1,4-Dioxane	< 0.30	0.30	ppbV	<1.1	1.1	U	1	5/13/2024 7:41:00 PM
2,2,4-trimethylpentane	0.28	0.15	ppbV	1.3	0.7		1	5/13/2024 7:41:00 PM
4-ethyltoluene	< 0.15	0.15	ppbV	<0.74	0.74	U	1	5/13/2024 7:41:00 PM
Acetone	3.6	3.0	ppbV	8.6	7.1		10	5/14/2024 4:38:00 AM
Allyl chloride	< 0.15	0.15	ppbV	<0.47	0.47	U	1	5/13/2024 7:41:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Limit
U	Samples with CalcVal < MDL
E	Value above quantitation range
N	Tentatively identified compounds
R	RPD outside accepted recovery limits
SC	Sub-Contracted
J	Analyte detected below quantitation limits

Original

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SanAir
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Syracuse, NY 13206
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Website: www.CentekLabs.us

Analytical Report

(consolidated)

WO#: 2405024

Date Reported:

CLIENT: C & S Engineers, Inc.
Lab Order: 2405024
Project: 1803 Elmwood Ave. - BCP-RI
Lab ID: 2405024-006

Client Sample ID: IA-03-20240510
TagNo:
Collection Date: 5/10/2024
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE				**TO-15**				Analyst: DA
Benzene	0.10	0.15	ppbV	0.32	0.48	J	1	5/13/2024 7:41:00 PM
Benzyl chloride	< 0.15	0.15	ppbV	<0.86	0.86	U	1	5/13/2024 7:41:00 PM
Bromodichloromethane	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 7:41:00 PM
Bromoform	< 0.15	0.15	ppbV	<1.6	1.6	U	1	5/13/2024 7:41:00 PM
Bromomethane	< 0.15	0.15	ppbV	<0.58	0.58	U	1	5/13/2024 7:41:00 PM
Carbon disulfide	< 0.15	0.15	ppbV	<0.47	0.47	U	1	5/13/2024 7:41:00 PM
Carbon tetrachloride	0.080	0.030	ppbV	0.5	0.19		1	5/13/2024 7:41:00 PM
Chlorobenzene	< 0.15	0.15	ppbV	<0.69	0.69	U	1	5/13/2024 7:41:00 PM
Chloroethane	< 0.15	0.15	ppbV	<0.4	0.4	U	1	5/13/2024 7:41:00 PM
Chloroform	< 0.15	0.15	ppbV	<0.73	0.73	U	1	5/13/2024 7:41:00 PM
Chloromethane	0.43	0.15	ppbV	0.89	0.31		1	5/13/2024 7:41:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040	ppbV	<0.16	0.16	U	1	5/13/2024 7:41:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15	ppbV	<0.68	0.68	U	1	5/13/2024 7:41:00 PM
Cyclohexane	< 0.15	0.15	ppbV	<0.52	0.52	U	1	5/13/2024 7:41:00 PM
Dibromochloromethane	< 0.15	0.15	ppbV	<1.3	1.3	U	1	5/13/2024 7:41:00 PM
Ethyl acetate	0.80	0.15	ppbV	2.9	0.54		1	5/13/2024 7:41:00 PM
Ethylbenzene	< 0.15	0.15	ppbV	<0.65	0.65	U	1	5/13/2024 7:41:00 PM
Freon 11	0.22	0.15	ppbV	1.2	0.84		1	5/13/2024 7:41:00 PM
Freon 113	< 0.15	0.15	ppbV	<1.1	1.1	U	1	5/13/2024 7:41:00 PM
Freon 114	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 7:41:00 PM
Freon 12	0.48	0.15	ppbV	2.4	0.74		1	5/13/2024 7:41:00 PM
Heptane	0.15	0.15	ppbV	0.61	0.61		1	5/13/2024 7:41:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15	ppbV	<1.6	1.6	U	1	5/13/2024 7:41:00 PM
Hexane	0.48	0.15	ppbV	1.7	0.53		1	5/13/2024 7:41:00 PM
Isopropyl alcohol	1.9	0.15	ppbV	4.7	0.37		1	5/13/2024 7:41:00 PM
m&p-Xylene	0.29	0.30	ppbV	1.3	1.3	J	1	5/13/2024 7:41:00 PM
Methyl Butyl Ketone	< 0.30	0.30	ppbV	<1.2	1.2	U	1	5/13/2024 7:41:00 PM
Methyl Ethyl Ketone	0.50	0.30	ppbV	1.5	0.88		1	5/13/2024 7:41:00 PM

Qualifiers:

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ND	Not Detected at the Reporting Limit
RL	Reporting Limit
U	Samples with CalcVal < MDL
E	Value above quantitation range
N	Tentatively identified compounds
R	RPD outside accepted recovery limits
SC	Sub-Contracted
J	Analyte detected below quantitation limits

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Website: www.CentekLabs.us

Analytical Report

(consolidated)

WO#: **2405024**

Date Reported:

CLIENT: C & S Engineers, Inc.
Lab Order: 2405024
Project: 1803 Elmwood Ave. - BCP-RI
Lab ID: 2405024-006

Client Sample ID: IA-03-20240510
TagNo:
Collection Date: 5/10/2024
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE				**TO-15**				Analyst: DA
Methyl Isobutyl Ketone	< 0.30	0.30	ppbV	<1.2	1.2	U	1	5/13/2024 7:41:00 PM
Methyl tert-butyl ether	< 0.15	0.15	ppbV	<0.54	0.54	U	1	5/13/2024 7:41:00 PM
Methylene chloride	0.45	0.15	ppbV	1.6	0.52		1	5/13/2024 7:41:00 PM
o-Xylene	0.12	0.15	ppbV	0.52	0.65	J	1	5/13/2024 7:41:00 PM
Propylene	< 0.15	0.15	ppbV	<0.26	0.26	U	1	5/13/2024 7:41:00 PM
Styrene	0.11	0.15	ppbV	0.47	0.64	J	1	5/13/2024 7:41:00 PM
Tetrachloroethylene	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 7:41:00 PM
Tetrahydrofuran	< 0.15	0.15	ppbV	<0.44	0.44	U	1	5/13/2024 7:41:00 PM
Toluene	0.70	0.15	ppbV	2.6	0.57		1	5/13/2024 7:41:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	<0.59	0.59	U	1	5/13/2024 7:41:00 PM
trans-1,3-Dichloropropene	< 0.15	0.15	ppbV	<0.68	0.68	U	1	5/13/2024 7:41:00 PM
Trichloroethene	0.040	0.030	ppbV	0.21	0.16		1	5/13/2024 7:41:00 PM
Vinyl acetate	< 0.15	0.15	ppbV	<0.53	0.53	U	1	5/13/2024 7:41:00 PM
Vinyl Bromide	< 0.15	0.15	ppbV	<0.66	0.66	U	1	5/13/2024 7:41:00 PM
Vinyl chloride	< 0.040	0.040	ppbV	<0.1	0.1	U	1	5/13/2024 7:41:00 PM
Surr: Bromofluorobenzene	96.0	70-130	%Rec				1	5/13/2024 7:41:00 PM

Qualifiers:

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H	Holding times for preparation or analysis exceeded
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RL	Reporting Limit
U	Samples with CalcVal < MDL
E	Value above quantitation range
N	Tentatively identified compounds
R	RPD outside accepted recovery limits
SC	Sub-Contracted
J	Analyte detected below quantitation limits

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Website: www.CentekLabs.us

Analytical Report

(consolidated)

WO#: 2405024

Date Reported:

CLIENT: C & S Engineers, Inc.
Lab Order: 2405024
Project: 1803 Elmwood Ave. - BCP-RI
Lab ID: 2405024-007

Client Sample ID: OA-01-20240510
TagNo:
Collection Date: 5/10/2024
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
FIELD PARAMETERS				FLD				Analyst:
FieldSampler	Jesse							
Lab Vacuum In	-1		"Hg					
Lab Vacuum Out	-30		"Hg					

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE				TO-15				Analyst: DA
1,1,1-Trichloroethane	< 0.15	0.15	ppbV	<0.82	0.82	U	1	5/13/2024 8:24:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 8:24:00 PM
1,1,2-Trichloroethane	< 0.15	0.15	ppbV	<0.82	0.82	U	1	5/13/2024 8:24:00 PM
1,1-Dichloroethane	< 0.15	0.15	ppbV	<0.61	0.61	U	1	5/13/2024 8:24:00 PM
1,1-Dichloroethene	< 0.040	0.040	ppbV	<0.16	0.16	U	1	5/13/2024 8:24:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15	ppbV	<1.1	1.1	U	1	5/13/2024 8:24:00 PM
1,2,4-Trimethylbenzene	< 0.15	0.15	ppbV	<0.74	0.74	U	1	5/13/2024 8:24:00 PM
1,2-Dibromoethane	< 0.15	0.15	ppbV	<1.2	1.2	U	1	5/13/2024 8:24:00 PM
1,2-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 8:24:00 PM
1,2-Dichloroethane	< 0.15	0.15	ppbV	<0.61	0.61	U	1	5/13/2024 8:24:00 PM
1,2-Dichloropropane	< 0.15	0.15	ppbV	<0.69	0.69	U	1	5/13/2024 8:24:00 PM
1,3,5-Trimethylbenzene	< 0.15	0.15	ppbV	<0.74	0.74	U	1	5/13/2024 8:24:00 PM
1,3-butadiene	< 0.15	0.15	ppbV	<0.33	0.33	U	1	5/13/2024 8:24:00 PM
1,3-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 8:24:00 PM
1,4-Dichlorobenzene	< 0.15	0.15	ppbV	<0.9	0.9	U	1	5/13/2024 8:24:00 PM
1,4-Dioxane	< 0.30	0.30	ppbV	<1.1	1.1	U	1	5/13/2024 8:24:00 PM
2,2,4-trimethylpentane	< 0.15	0.15	ppbV	<0.7	0.7	U	1	5/13/2024 8:24:00 PM
4-ethyltoluene	< 0.15	0.15	ppbV	<0.74	0.74	U	1	5/13/2024 8:24:00 PM
Acetone	2.9	3.0	ppbV	6.9	7.1	J	10	5/14/2024 5:18:00 AM
Allyl chloride	< 0.15	0.15	ppbV	<0.47	0.47	U	1	5/13/2024 8:24:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Limit
U	Samples with CalcVal < MDL
E	Value above quantitation range
N	Tentatively identified compounds
R	RPD outside accepted recovery limits
SC	Sub-Contracted
J	Analyte detected below quantitation limits

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Website: www.CentekLabs.us

Analytical Report

(consolidated)

WO#: 2405024

Date Reported:

CLIENT: C & S Engineers, Inc.
Client Sample ID: OA-01-20240510
Lab Order: 2405024
TagNo:
Project: 1803 Elmwood Ave. - BCP-RI
Collection Date: 5/10/2024
Lab ID: 2405024-007
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE				**TO-15**				Analyst: DA
Benzene	< 0.15	0.15	ppbV	<0.48	0.48	U	1	5/13/2024 8:24:00 PM
Benzyl chloride	< 0.15	0.15	ppbV	<0.86	0.86	U	1	5/13/2024 8:24:00 PM
Bromodichloromethane	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 8:24:00 PM
Bromoform	< 0.15	0.15	ppbV	<1.6	1.6	U	1	5/13/2024 8:24:00 PM
Bromomethane	< 0.15	0.15	ppbV	<0.58	0.58	U	1	5/13/2024 8:24:00 PM
Carbon disulfide	< 0.15	0.15	ppbV	<0.47	0.47	U	1	5/13/2024 8:24:00 PM
Carbon tetrachloride	0.080	0.030	ppbV	0.5	0.19		1	5/13/2024 8:24:00 PM
Chlorobenzene	< 0.15	0.15	ppbV	<0.69	0.69	U	1	5/13/2024 8:24:00 PM
Chloroethane	< 0.15	0.15	ppbV	<0.4	0.4	U	1	5/13/2024 8:24:00 PM
Chloroform	< 0.15	0.15	ppbV	<0.73	0.73	U	1	5/13/2024 8:24:00 PM
Chloromethane	0.47	0.15	ppbV	0.97	0.31		1	5/13/2024 8:24:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040	ppbV	<0.16	0.16	U	1	5/13/2024 8:24:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15	ppbV	<0.68	0.68	U	1	5/13/2024 8:24:00 PM
Cyclohexane	< 0.15	0.15	ppbV	<0.52	0.52	U	1	5/13/2024 8:24:00 PM
Dibromochloromethane	< 0.15	0.15	ppbV	<1.3	1.3	U	1	5/13/2024 8:24:00 PM
Ethyl acetate	0.68	0.15	ppbV	2.5	0.54		1	5/13/2024 8:24:00 PM
Ethylbenzene	< 0.15	0.15	ppbV	<0.65	0.65	U	1	5/13/2024 8:24:00 PM
Freon 11	0.23	0.15	ppbV	1.3	0.84		1	5/13/2024 8:24:00 PM
Freon 113	< 0.15	0.15	ppbV	<1.1	1.1	U	1	5/13/2024 8:24:00 PM
Freon 114	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 8:24:00 PM
Freon 12	0.52	0.15	ppbV	2.6	0.74		1	5/13/2024 8:24:00 PM
Heptane	< 0.15	0.15	ppbV	<0.61	0.61	U	1	5/13/2024 8:24:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15	ppbV	<1.6	1.6	U	1	5/13/2024 8:24:00 PM
Hexane	0.25	0.15	ppbV	0.88	0.53		1	5/13/2024 8:24:00 PM
Isopropyl alcohol	0.56	0.15	ppbV	1.4	0.37		1	5/13/2024 8:24:00 PM
m&p-Xylene	0.26	0.30	ppbV	1.1	1.3	J	1	5/13/2024 8:24:00 PM
Methyl Butyl Ketone	< 0.30	0.30	ppbV	<1.2	1.2	U	1	5/13/2024 8:24:00 PM
Methyl Ethyl Ketone	0.43	0.30	ppbV	1.3	0.88		1	5/13/2024 8:24:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
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ND	Not Detected at the Reporting Limit
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Website: www.CentekLabs.us

Analytical Report

(consolidated)

WO#: **2405024**

Date Reported:

CLIENT: C & S Engineers, Inc.
Client Sample ID: OA-01-20240510
Lab Order: 2405024
TagNo:
Project: 1803 Elmwood Ave. - BCP-RI
Collection Date: 5/10/2024
Lab ID: 2405024-007
Matrix: AIR

Analyses	Result	RL	Units	Result (ug/M3)	RL (ug/M3)	Qual	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE				**TO-15**				Analyst: **DA**
Methyl Isobutyl Ketone	< 0.30	0.30	ppbV	<1.2	1.2	U	1	5/13/2024 8:24:00 PM
Methyl tert-butyl ether	< 0.15	0.15	ppbV	<0.54	0.54	U	1	5/13/2024 8:24:00 PM
Methylene chloride	0.47	0.15	ppbV	1.6	0.52		1	5/13/2024 8:24:00 PM
o-Xylene	0.11	0.15	ppbV	0.48	0.65	J	1	5/13/2024 8:24:00 PM
Propylene	< 0.15	0.15	ppbV	<0.26	0.26	U	1	5/13/2024 8:24:00 PM
Styrene	0.10	0.15	ppbV	0.43	0.64	J	1	5/13/2024 8:24:00 PM
Tetrachloroethylene	< 0.15	0.15	ppbV	<1	1	U	1	5/13/2024 8:24:00 PM
Tetrahydrofuran	< 0.15	0.15	ppbV	<0.44	0.44	U	1	5/13/2024 8:24:00 PM
Toluene	0.53	0.15	ppbV	2	0.57		1	5/13/2024 8:24:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	<0.59	0.59	U	1	5/13/2024 8:24:00 PM
trans-1,3-Dichloropropene	< 0.15	0.15	ppbV	<0.68	0.68	U	1	5/13/2024 8:24:00 PM
Trichloroethene	0.040	0.030	ppbV	0.21	0.16		1	5/13/2024 8:24:00 PM
Vinyl acetate	< 0.15	0.15	ppbV	<0.53	0.53	U	1	5/13/2024 8:24:00 PM
Vinyl Bromide	< 0.15	0.15	ppbV	<0.66	0.66	U	1	5/13/2024 8:24:00 PM
Vinyl chloride	< 0.040	0.040	ppbV	<0.1	0.1	U	1	5/13/2024 8:24:00 PM
Surr: Bromofluorobenzene	90.0	70-130	%Rec				1	5/13/2024 8:24:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
RL	Reporting Limit	SC	Sub-Contracted
U	Samples with CalcVal < MDL	J	Analyte detected below quantitation limits

Original

Appendix B

Laboratory QC Documentation

GC/MS QA-QC Check Report

Tune File : C:\msdchem\1\data\AV051301.D
Tune Time : 13 May 2024 8:31 am

Daily Calibration File : C:\msdchem\1\data\AV051304.D

		(BFB)	(IS1)	(IS2)	(IS3)
			35705	208064	203309
File	Sample	Surrogate Recovery %	Internal Standard Responses		
AV051305.D	ALCS1UG-051324	95	39138	225723	222071
AV051306.D	ALCS1UGD-051324	95	40435	241000	230813
AV051307.D	AMB1UG-051324	95	41359	237953	222356
AV051313.D	2405024-002A	97	43781	239598	221091
AV051314.D	2405024-004A	98	41984	240479	211479
AV051315.D	2405024-006A	96	44336	249128	231855
AV051316.D	2405024-007A	90	41780	242714	232471
AV051317.D	2405024-001A	90	45287	262219	261162
AV051318.D	2405024-003A	1149*	44914	260611	247733
AV051319.D	2405024-005A	100	58967*	347255*	300157
AV051320.D	2405024-001A 10X	91	54245	324392	281721
AV051321.D	2405024-001A 40X	86	50533	298996	227732
AV051322.D	2405024-003A 10X	253*	51739	296623	270611
AV051323.D	2405024-003A 40X	114	45300	268924	246160
AV051324.D	2405024-005A 10X	90	49648	288409	264345
AV051325.D	2405024-005A 40X	83	49178	282280	262017
AV051326.D	2405024-002A 10X	95	46363	271904	253082
AV051327.D	2405024-004A 10X	88	46840	262616	237936
AV051328.D	2405024-006A 10X	88	45463	262262	248266

GC/MS-Whole Air Calculations

Relative Response Factor (RRF)

$$RRF = \frac{Ax * Cis}{Ais * Cx}$$

where: Ax = area of the characteristic ion for the compound being measured
Ais = area of the characteristic ion for the specific internal standard of the compound being measured
Cx = concentration of the compound being measured (ppbv)
Cis = concentration of the internal standard (ppbv)

Percent Relative Standard Deviation (%RSD)

$$\% RSD = \frac{\text{Standard deviation of RRF values} * 100}{\text{mean RRF}}$$

Percent Difference (%D)

$$\% D = \frac{(RRFc - \text{mean RRFi}) * 100}{\text{mean RRFi}}$$

where: RRFc = relative response factor from the continuing calibration
mean RRFi = mean relative response factor from the initial calibration

Sample Calculations

$$ppbv = \frac{Ax * Is * Df}{Ais * RRF}$$

where: Ax = area of the characteristic ion for the compound being measured
Ais = area of the characteristic ion for the specific internal standard of the compound being measured
Is = Concentration of the internal standard injected (ppbv)
RRF= relative response factor for the compound being measured
Df = Dilution factor

Appendix C

Validator Qualifications

KENNETH R. APPLIN
Geochemist/Data Validator

Ph.D., Geochemistry and Mineralogy, The Pennsylvania State University

M.S., Geochemistry and Mineralogy, The Pennsylvania State University

B.A., Geological Sciences, SUNY at Geneseo, NY

Dr. Applin has over 35 years of experience working with the geochemistry of natural waters. His prior experience includes working as an Assistant Professor of Geology at the University of Missouri-Columbia and as Chief Hydrogeologist and Geochemist with a leading engineering firm in Rochester, NY. In 1993, he established KR Applin and Associates, a small consulting business that focuses on the geochemistry of natural waters, especially as applied to problems involving the contamination of groundwater and surface water.

Dr. Applin is also an experienced analytical data validator and has provided data validation services since 1994 to a variety of clients performing brownfield cleanup projects, hazardous waste remediation, groundwater monitoring at solid waste facilities, and other projects requiring third-party data validation. Dr. Applin has several years of hands-on experience with the laboratory analysis of natural waters and has successfully completed the USEPA Region II certification courses for performing inorganic and organic analytical data validation.

MICHAEL K. PERRY
Chemist/Data Validator

B.S. Chemistry, Georgia State University, Atlanta, GA

A.A.S., Chemical Technology, Alfred State College, Alfred, NY

Mr. Perry has over 30 years of experience in the analytical laboratory business. During his early career, he spent several years as a laboratory analyst performing the analysis of soil, water, and air samples for inorganic and organic chemical parameters. During his last 20 years in the environmental laboratory business, he managed and directed two major analytical laboratories in Rochester, NY. His management responsibilities included oversight of the daily operations of the lab, staff training and supervision, the selection, purchase, and maintenance of analytical instruments, the introduction of new laboratory methods, analytical quality assurance and quality control, data acquisition and management, and other business-related activities.

Mr. Perry has an extensive working knowledge of the methods and procedures used for sampling and analyzing both inorganic and organic analytes in soil, water, and air. He is an accomplished laboratory chemist and is familiar with the analytical methods and procedures established under the USEPA Contract Laboratory Protocols (CLP), the NYSDEC Analytical Services Protocols (ASP), and the NYSDOH Environmental Laboratory Approval Program (ELAP).

DATA USABILITY SUMMARY REPORT (DUSR)

1803 Elmwood Ave. BCP RI
Buffalo, NY
Project #: S93.003.002

SDG: L2427942
6 Soil Samples

Prepared for:

C&S Companies
141 Elm Street, Suite 100
Buffalo, NY 14203
Attention: Jesse Alt-Winzig

July 2024

EDU *Environmental Data Usability 10028 Deer Park Dr. Dansville, NY 14437 585-991-9156*

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REVIEWER'S NARRATIVE
C&S Companies SDG L2427942 – 1803 Elmwood Ave. BCP RI

The data associated with this Sample Delivery Group (SDG) L2427942, analyzed by Alpha Analytical, Westborough, MA have been reviewed in accordance with assessment criteria provided by the New York State Department of Environmental Conservation following the review procedures provided in the USEPA Functional Guidelines for evaluating organic and inorganic data.

All analytical results reported by the laboratory are considered valid and acceptable except results that have been qualified as rejected, "R". Results qualified as estimated "J", or as non-detects, "U", are considered usable for the purpose of evaluating water and/or soil quality. However, these qualifiers indicate that the accuracy and/or precision of the analytical result is questionable. A summary of all data that have been qualified and the reasons for qualification are provided in the following data usability summary report (DUSR).

Two facts should be noted by all data users. First, the "R" qualifier means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Values qualified with an "R" should not appear on the final data tables because they cannot be relied upon, even as the last resort. Second, no analyte concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data, but any value potentially contains error.

Reviewer's Signature: Michael K. Perry Date: 7/18/2024

Michael K. Perry
Chemist

1.0 EVENT SUMMARY

SITE:	1803 Elmwood Ave. BCP RI Buffalo, NY Project #: S93.003.002
SAMPLING DATE:	May 20, 2024
SAMPLE TYPE:	6 soil samples
LABORATORY:	Alpha Analytical Westborough, MA
SDG No.:	L2427942

2.0 INTRODUCTION

This data usability summary report (DUSR) was prepared in accordance with guidance provided by the New York State Department of Environmental Conservation (NYSDEC). The DUSR is based on a review and evaluation of the laboratory analytical data package. Specifically, the NYSDEC guidance recommends review and evaluation of the following elements of the data package:

- Completeness of the data package as defined under the requirements of the NYSDEC Analytical Services Protocols (ASP) Category B or the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) deliverables,
- Compliance with established analyte holding times,
- Adherence to quality control (QC) limits and specifications for blanks, instrument tuning and calibration, surrogate recoveries, spike recoveries, laboratory duplicate analyses, and other QC criteria,
- Adherence to established analytical protocols,
- Conformance of data summary sheets with raw analytical data, and
- Use of correct data qualifiers.

Data deficiencies, analytical protocol deviations, and quality control problems identified using the review criteria above and their effect on the analytical results are discussed in this report.

3.0 SAMPLE AND ANALYSIS SUMMARY

The data package consists of analytical results for 6 soil samples collected on May 20, 2024. These samples were analyzed for Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), TPH-GRO, Herbicides, PCBs, Pesticides, TPH-DRO, PFASs, Metals (ICP and Hg), Total Cyanide (TCN), and Hexavalent Chromium (Cr+6).

All laboratory analyses were submitted to Alpha Analytical, Westborough, MA and analyzed as SDG L2427942. The analytical results were provided in NYSDEC ASP Category B format, which includes all raw analytical data and laboratory QC data.

4.0 GUIDANCE DOCUMENTS AND DATA REVIEW CRITERIA

The guidance documents appropriate for reviewing laboratory quality control (QC) data and assigning data qualifiers (flags) to analytical results were selected from those listed in Table 4-1. The QC limits established in the documents applicable to this data review were used to assess the quality of the analytical results. In some cases, however, QC limits established internally by the laboratory were taken into account to determine data quality.

The QC criteria considered for assessing the usability of the reported analytical results provided for each analyte type (i.e. VOCs, SVOCs, metals, etc.) are listed in Table 4-2. These criteria may vary with the analytical method utilized by the laboratory. These criteria comply with the guidance recommended in Section 2.0 above.

5.0 DATA VALIDATION QUALIFIERS

The letter qualifiers (flags) used to define data usability are described briefly below. These letters are assigned by the data validator to analytical results having questionable accuracy and/or precision as determined by reviewing the laboratory QC data associated with the analytical results.

TABLE 4-1

Guidance Used For Validating Laboratory Analytical Data

Analyte Group	Guidance	Date
Metals (ICP-AES)	USEPA SOP HW-3a, Rev. 1	September 2016
Metals (Hg & CN)	USEPA SOP HW-3c, Rev. 1	September 2016
Volatile Organic Compounds (by Methods 8260B & 8260C)	USEPA SOP HW-24, Rev. 4	September 2014
Semi-Volatile Organic Compounds (by Method 8270D)	USEPA SOP HW-22 Rev. 5	December 2010
Pesticides (by Method 8181B)	USEPA SOP HW-44, Rev. 1.1	December 2010
Chlorinated Herbicides (by Method 8151A)	USEPA SOP HW-17, Rev. 3.1	December 2010
Polychlorinated Biphenyls (PCBs)	USEPA SOP HW-37A, Rev. 0	June 2015
Volatile Organic Compounds (Air) (by Method TO-15)	USEPA SOP HW-31, Rev. 6	September 2016
Per- and PolyFluoroAlkyl Substances (PFAS)	* NYSDEC ** US Dept. of Defense	January 2021 November 2022
Radiological Analysis		
Uranium	USEPA Method 908.0	June 1999
Radium-226	USEPA Method 903.1	1980
General Chemistry Parameters	per NYSDEC ASP	July 2005

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

** Data Validation Guidelines Module 6: Data Validatioin Procedures for Per- and Polyfluoroalkyl Substances Analysis by QSM Table B-24

TABLE 4-2

QUALITY CONTROL CRITERIA USED FOR VALIDATING LABORATORY ANALYTICAL DATA

VOCs	SVOCs	Pesticides/PCBs	Metals	Gen Chemistry	PFAS
Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg
Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation
Holding Time	Holding Time	Holding Time	Holding Time	Holding Times	Holding Time
System Monitoring Compounds	Surrogate Recoveries	Surrogate Recoveries	Initial/Continuing Calibration	Calibration	Instr Performance Check
Lab Control Sample	Lab Control Sample	Matrix Spikes	CRDL Standards	Lab Control Samples	Initial Calibration
Matrix Spikes	Matrix Spikes	Blanks	Blanks	Blanks	Continuing Calibration
Blanks	Blanks	Instrument Calibration & Verification	Interference Check Sample	Spike Recoveries	Blanks
Instrument Tuning	Instrument Tuning	Comparison of duplicate GC column results	Spike Recoveries	Lab Duplicates	Surrogates
Internal Standards	Internal Standards	Analyte ID	Lab Duplicate		Lab Fortified Blank
Initial Calibration	Initial Calibration	Lab Qualifiers	Lab Control Sample		Matrix Spikes
Continuing Calibration	Continuing Calibration	Field Duplicate	ICP Serial Dilutions		Internal Standards
Lab Qualifiers	Lab Qualifiers		Lab Qualifiers		
Field Duplicate	Field Duplicate		Field Duplicate		

Method TO-15 (Air)	Radiological (U and Ra)
Completeness of Pkg	Completeness of Pkg
Sample Preservation	Sample Preservation
Holding Time	Holding Time
Canister Certification	Sample Specific Yield
Instrument Tuning	Required Detection Limit
Initial Calibration and Instrument Performance	Laboratory Control Sample
	Matrix Spikes
Daily Calibration	Method Blank
Blanks	Instrument Calibration
Lab Control Sample	
Field Duplicate	

The laboratory may also use various letters and symbols to flag analytical results generated when QC limits were exceeded. The meanings of these flags may differ from those used by the independent data validator. Those used by the laboratory are provided with the analytical results.

NOTE: The assignment of data qualifiers by the data reviewer (validator) to laboratory analytical results should not necessarily be interpreted by the data user as a measure of laboratory ability or proficiency. Rather, the qualifiers are intended to provide a measure of data accuracy and precision to the data user, which, for example, may provide a level of confidence in determining whether or not standards or cleanup objectives have been met.

U The analyte was analyzed for but was not detected at or above the sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the *approximate* concentration of the analyte in the sample. (The magnitude of any ± value associated with the result is not determined by data validation).

J+ The result is an estimated quantity and may be biased high.

J- The result is an estimated quantity and may be biased low.

UJ The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R The sample result is rejected (i.e., is unusable) due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

The validated analytical results are attached to this report. Validation qualifiers (flags) are indicated in red print. Data sheets having qualified data are signed and dated by the data reviewer.

6.0 RESULTS OF THE DATA REVIEW

The results of the data review are summarized in Tables 6-1 through 6-10. The tables list the samples where QC criteria were found to exceed acceptable limits and the actions taken to qualify the associated analytical results.

7.0 TOTAL USABLE DATA

For SDG L2427942, 6 samples were analyzed and results were reported for 758 analytes. Six results were rejected. Even though some results were flagged with a "J" as estimated, all other results (99.2 %) are considered usable. See the summary table for the analyses that have been rejected and qualified and the associated QC reasons.

Table 6-1 VOCs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
All samples	1,4-Dioxane	J detects R non-detects	ICAL RF < 0.005	Since all results are non-detect, the results are rejected
All samples	Methylene chloride Vinyl chloride 1,1-Dichloroethene trans-1,2-Dichloroethene 2-Butanone	J detects UJ non-detects	CCV % D > QC limit and/or LCS rec < QC limit	Data are estimated

Table 6-2 SVOCs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
SB-01-2FT-20240520 SB-05-5FT-20240520 SB-04-2FT-20240520 SB-04-7FT-20240520	1,4-Dioxane	J detects UJ non-detects	LCS rec < QC limit	Data are estimated

Table 6-3 TPH-GRO

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-4 Herbicides

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-5 PCBs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
SB-01-2FT-20240520	PCB 1254 PCB 1260	J detects	2nd column confirmation > 25 %	Data are estimated

Table 6-6 Pesticides

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-7 TPH-DRO

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-8 PFASs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-9 ICP Metals and Mercury

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-10 TCN and CR+6

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

ACRONYMS

BSP	Blank Spike
CCAL	Continuing Calibration
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
%D	Percent Difference
ICAL	Initial Calibration
ICB	Initial Calibration Blank
IS	Internal Standard
LCS	Laboratory Control Sample
MS/MSD	Matrix Spike/Matrix Spike Duplicate
QA	Quality Assurance
QC	Quality Control
%R	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
%RSD	Percent Relative Standard Deviation
TAL	Target Analyte List (metals)
TCL	Target Compound List (organics)

Appendix A

Validated Analytical Results

www.alphalab.com



Alpha Analytical

Laboratory Code: 11148

SDG Number: L2427942

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Project Name: 1803 ELMWOOD AVENUE BCP
Project Number: S93.003.002

Lab Number: L2427942
Report Date: 06/06/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2427942-01	SB-01-2FT-20240520	SOIL	Not Specified	05/20/24 13:15	05/20/24
L2427942-02	SB-01-6FT-20240520	SOIL	Not Specified	05/20/24 13:20	05/20/24
L2427942-03	SB-05-5FT-20240520	SOIL	Not Specified	05/20/24 14:40	05/20/24
L2427942-04	SB-05-8FT-20240520	SOIL	Not Specified	05/20/24 14:45	05/20/24
L2427942-05	SB-04-2FT-20240520	SOIL	Not Specified	05/20/24 15:30	05/20/24
L2427942-06	SB-04-7FT-20240520	SOIL	Not Specified	05/20/24 15:35	05/20/24

Case Narrative (continued)

Report Submission

June 06, 2024: This final report includes the results of all requested analyses.

May 30, 2024: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Perfluorinated Alkyl Acids by 1633

The WG1929578-2 LCS recovery, associated with L2427942-01 through -06, is above the acceptance criteria for nonafluoro-3,6-dioxaheptanoic acid (nfdha) (161%); however, the associated samples are non-detect to the RL for this target analyte. The results of the original analysis are reported.

Pesticides

L2427942-05: The internal standard (IS) response for 1-bromo-2-nitrobenzene (416%) was above the acceptance criteria on column A; however, the sample was not re-analyzed due to obvious interferences. The surrogate recoveries are outside the method acceptance criteria for 2,4,5,6-tetrachloro-m-xylene (21%) and decachlorobiphenyl (19%) due to interference with the Internal Standard.

Total Metals

L2427942-01 through -06: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by the sample matrix.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Report Date: 06/06/24

Title: Technical Director/Representative

NEW YORK CHAIN OF CUSTODY

ALPHA

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 2

Date Rec'd in Lab: 5/21/24

ALPHA Job #: L2427942

Client Information
Client: CTS Engineers
Address: 141 Elm Street, Suite 100 Buffalo, NY 14203
Phone: (716) 847-1630
Fax:
Email: jaltwinzig@CTSCOS.com

Project Information
Project Name: 1803 Elmwood Avenue BCP
Project Location:
Project # S93.003.002
(Use Project name as Project #)
Project Manager: Jesse Alt-Winzig
ALPHAQuote #:

Turn-Around Time
Standard [X] Due Date:
Rush (only if pre approved) [ ] # of Days:

Deliverables
[ ] ASP-A [X] ASP-B
[X] EQuIS (1 File) [ ] EQuIS (4 File)
[ ] Other

Billing Information
[X] Same as Client Info
PO #

Regulatory Requirement
[ ] NY TOGS [X] NY Part 375
[ ] AWQ Standards [ ] NY CP-51
[ ] NY Restricted Use [ ] Other
[ ] NY Unrestricted Use
[ ] NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
[ ] NJ [X] NY
[ ] Other:

These samples have been previously analyzed by Alpha [ ]

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
[ ] Done
[ ] Lab to do
Preservation
[ ] Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	1,4-Dioxane - Sim Analysis (1633)	Total Hg (Fish/Meats)	A2-1633	TS	NYTCL-8260 HLW	NYTCL-8260 HLW	TPH-GRO	Sample Specific Comments	Total Bottle
27942-01	SB-01-2ft-20240520	5/20/2024	1315	S	BW	X	X	X	X	X	X	X		8
02	SB-01-6ft-20240520	5/20/2024	1320	S	BW	X	X	X	X	X	X	X		7
03	SB-05-5ft-20240520	5/20/2024	1440	S	BW	X	X	X	X	X	X	X		8
04	SB-05-8ft-20240520	5/20/2024	1445	S	BW	X	X	X	X	X	X	X		7

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	6	G	P	P	V	V	5V	
Preservative	A	A	A	A	H_2O	F	A	

Relinquished By:	Date/Time	Received By:	Date/Time
	5/20/24 1630	PACE	5/20/24 1630
PACE	5/20/24 1630		5/21/24 110

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

NEW YORK CHAIN OF CUSTODY

ALPHA

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 2 of 2

Date Rec'd in Lab: 5/21/24

ALPHA Job #: L2427942

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: 1803 Elmwood Avenue BCP
Project Location:
Project #: S93.003.002
(Use Project name as Project #) ☐
Project Manager: Jesse Alt-Winzig
ALPHAQuote #:

Turn-Around Time

Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Client Information

Client: C&S Engineers
Address: 141 Elm Street, Suite 100 Buffalo, NY 14203
Phone: (716) 847-1630
Fax:
Email: jaltwinzig@cscos.com

Deliverables

☐ ASP-A ☒ ASP-B
☒ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information

☒ Same as Client Info
PO #

Regulatory Requirement

☐ NY TOGS ☒ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☒ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	HEXCR	Herb-1PA, NYTCL-8081, TCL A2-1,4 Dioxane, 8082, 8270 SIM	Total Hg Metals	A2-1633	TS	NYTCL-8260 HLW	TPH-GRO	Sample Specific Comments	Total Bottle
27942-05	SB-04-2ft-20240520	5/20/2024	1530	SO	BW	X	X	X	X	X	X	X		9
06	SB-04-7ft-20240520	5/20/2024	1535	SO	BW	X	X	X	X	X	X	X		8

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	G	G	G	P	P	V	V
Preservative	A	A	A	A	A	H_2O F	A

Relinquished By:	Date/Time	Received By:	Date/Time
	5/20/24 1630		5/20/24 1630
PACE	5/20/24 1630		5/21/24 110

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

GC/MS 8260
Analysis

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-01	Date Collected	: 05/20/24 13:15
Client ID	: SB-01-2FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/23/24 17:11
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V10240523A17	Instrument ID	: VOA110
Sample Amount	: 8.5 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 79
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	3.7	1.7	U	UJ
75-34-3	1,1-Dichloroethane	ND	0.74	0.11	U	
67-66-3	Chloroform	ND	1.1	0.10	U	
56-23-5	Carbon tetrachloride	ND	0.74	0.17	U	
127-18-4	Tetrachloroethene	0.43	0.37	0.14		
108-90-7	Chlorobenzene	ND	0.37	0.09	U	
107-06-2	1,2-Dichloroethane	ND	0.74	0.19	U	
71-55-6	1,1,1-Trichloroethane	ND	0.37	0.12	U	
71-43-2	Benzene	ND	0.37	0.12	U	
108-88-3	Toluene	ND	0.74	0.40	U	
100-41-4	Ethylbenzene	ND	0.74	0.10	U	
75-01-4	Vinyl chloride	ND	0.74	0.25	U	UJ
75-35-4	1,1-Dichloroethene	ND	0.74	0.18	U	UJ
156-60-5	trans-1,2-Dichloroethene	ND	1.1	0.10	U	UJ
79-01-6	Trichloroethene	4.1	0.37	0.10		
95-50-1	1,2-Dichlorobenzene	ND	1.5	0.11	U	
541-73-1	1,3-Dichlorobenzene	ND	1.5	0.11	U	
106-46-7	1,4-Dichlorobenzene	ND	1.5	0.13	U	
1634-04-4	Methyl tert butyl ether	ND	1.5	0.15	U	
179601-23-1	p/m-Xylene	ND	1.5	0.42	U	
95-47-6	o-Xylene	ND	0.74	0.22	U	
156-59-2	cis-1,2-Dichloroethene	ND	0.74	0.13	U	
67-64-1	Acetone	ND	7.4	3.6	U	
78-93-3	2-Butanone	ND	7.4	1.6	U	UJ
104-51-8	n-Butylbenzene	ND	0.74	0.12	U	

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Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-01	Date Collected	: 05/20/24 13:15
Client ID	: SB-01-2FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/23/24 17:11
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V10240523A17	Instrument ID	: VOA110
Sample Amount	: 8.5 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 79
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	0.74	0.11	U	
98-06-6	tert-Butylbenzene	ND	1.5	0.09	U	
103-65-1	n-Propylbenzene	ND	0.74	0.13	U	
108-67-8	1,3,5-Trimethylbenzene	ND	1.5	0.14	U	
95-63-6	1,2,4-Trimethylbenzene	ND	1.5	0.25	U	
123-91-1	1,4-Dioxane	ND	59	26.	U	R

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Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-02	Date Collected	: 05/20/24 13:20
Client ID	: SB-01-6FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/23/24 17:38
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V10240523A18	Instrument ID	: VOA110
Sample Amount	: 6.0 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 84
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	5.0	2.3	U	UJ
75-34-3	1,1-Dichloroethane	ND	1.0	0.14	U	
67-66-3	Chloroform	ND	1.5	0.14	U	
56-23-5	Carbon tetrachloride	ND	1.0	0.23	U	
127-18-4	Tetrachloroethene	ND	0.50	0.20	U	
108-90-7	Chlorobenzene	ND	0.50	0.13	U	
107-06-2	1,2-Dichloroethane	ND	1.0	0.26	U	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.17	U	
71-43-2	Benzene	ND	0.50	0.16	U	
108-88-3	Toluene	ND	1.0	0.54	U	
100-41-4	Ethylbenzene	ND	1.0	0.14	U	
75-01-4	Vinyl chloride	ND	1.0	0.33	U	UJ
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	U	UJ
156-60-5	trans-1,2-Dichloroethene	ND	1.5	0.14	U	UJ
79-01-6	Trichloroethene	ND	0.50	0.14	U	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.14	U	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.15	U	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.17	U	
1634-04-4	Methyl tert butyl ether	ND	2.0	0.20	U	
179601-23-1	p/m-Xylene	ND	2.0	0.56	U	
95-47-6	o-Xylene	ND	1.0	0.29	U	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.17	U	
67-64-1	Acetone	ND	10	4.8	U	
78-93-3	2-Butanone	ND	10	2.2	U	UJ
104-51-8	n-Butylbenzene	ND	1.0	0.17	U	

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Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-02	Date Collected	: 05/20/24 13:20
Client ID	: SB-01-6FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/23/24 17:38
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V10240523A18	Instrument ID	: VOA110
Sample Amount	: 6.0 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 84
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	1.0	0.14	U	
98-06-6	tert-Butylbenzene	ND	2.0	0.12	U	
103-65-1	n-Propylbenzene	ND	1.0	0.17	U	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.19	U	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.33	U	
123-91-1	1,4-Dioxane	ND	80	35.	U	R

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Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-03	Date Collected	: 05/20/24 14:40
Client ID	: SB-05-5FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/23/24 18:05
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V10240523A19	Instrument ID	: VOA110
Sample Amount	: 5.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 88
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	5.0	2.3	U	UJ
75-34-3	1,1-Dichloroethane	ND	1.0	0.14	U	
67-66-3	Chloroform	ND	1.5	0.14	U	
56-23-5	Carbon tetrachloride	ND	1.0	0.23	U	
127-18-4	Tetrachloroethene	ND	0.50	0.20	U	
108-90-7	Chlorobenzene	ND	0.50	0.13	U	
107-06-2	1,2-Dichloroethane	ND	1.0	0.26	U	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.17	U	
71-43-2	Benzene	0.19	0.50	0.16	J	
108-88-3	Toluene	ND	1.0	0.54	U	
100-41-4	Ethylbenzene	ND	1.0	0.14	U	
75-01-4	Vinyl chloride	10	1.0	0.33		J
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	U	UJ
156-60-5	trans-1,2-Dichloroethene	0.93	1.5	0.14	J	J
79-01-6	Trichloroethene	5.3	0.50	0.14		
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.14	U	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.15	U	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.17	U	
1634-04-4	Methyl tert butyl ether	ND	2.0	0.20	U	
179601-23-1	p/m-Xylene	ND	2.0	0.56	U	
95-47-6	o-Xylene	ND	1.0	0.29	U	
156-59-2	cis-1,2-Dichloroethene	4.2	1.0	0.17		
67-64-1	Acetone	55	10	4.8		
78-93-3	2-Butanone	11	10	2.2		J
104-51-8	n-Butylbenzene	ND	1.0	0.17	U	

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Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-03	Date Collected	: 05/20/24 14:40
Client ID	: SB-05-5FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/23/24 18:05
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V10240523A19	Instrument ID	: VOA110
Sample Amount	: 5.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 88
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	1.0	0.14	U	
98-06-6	tert-Butylbenzene	ND	2.0	0.12	U	
103-65-1	n-Propylbenzene	ND	1.0	0.17	U	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.19	U	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.33	U	
123-91-1	1,4-Dioxane	~~ND~~	80	35.	U	R

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Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-04	Date Collected	: 05/20/24 14:45
Client ID	: SB-05-8FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/23/24 18:33
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V10240523A20	Instrument ID	: VOA110
Sample Amount	: 6.4 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 86
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	4.6	2.1	U	UJ
75-34-3	1,1-Dichloroethane	ND	0.91	0.13	U	
67-66-3	Chloroform	ND	1.4	0.13	U	
56-23-5	Carbon tetrachloride	ND	0.91	0.21	U	
127-18-4	Tetrachloroethene	ND	0.46	0.18	U	
108-90-7	Chlorobenzene	ND	0.46	0.12	U	
107-06-2	1,2-Dichloroethane	ND	0.91	0.23	U	
71-55-6	1,1,1-Trichloroethane	ND	0.46	0.15	U	
71-43-2	Benzene	ND	0.46	0.15	U	
108-88-3	Toluene	ND	0.91	0.50	U	
100-41-4	Ethylbenzene	ND	0.91	0.13	U	
75-01-4	Vinyl chloride	0.77	0.91	0.31	J	J
75-35-4	1,1-Dichloroethene	ND	0.91	0.22	U	UJ
156-60-5	trans-1,2-Dichloroethene	ND	1.4	0.12	U	UJ
79-01-6	Trichloroethene	ND	0.46	0.12	U	
95-50-1	1,2-Dichlorobenzene	ND	1.8	0.13	U	
541-73-1	1,3-Dichlorobenzene	ND	1.8	0.14	U	
106-46-7	1,4-Dichlorobenzene	ND	1.8	0.16	U	
1634-04-4	Methyl tert butyl ether	ND	1.8	0.18	U	
179601-23-1	p/m-Xylene	ND	1.8	0.51	U	
95-47-6	o-Xylene	ND	0.91	0.26	U	
156-59-2	cis-1,2-Dichloroethene	1.4	0.91	0.16		
67-64-1	Acetone	9.2	9.1	4.4		
78-93-3	2-Butanone	ND	9.1	2.0	U	UJ
104-51-8	n-Butylbenzene	ND	0.91	0.15	U	

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Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-04	Date Collected	: 05/20/24 14:45
Client ID	: SB-05-8FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/23/24 18:33
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V10240523A20	Instrument ID	: VOA110
Sample Amount	: 6.4 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 86
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	0.91	0.13	U	
98-06-6	tert-Butylbenzene	ND	1.8	0.11	U	
103-65-1	n-Propylbenzene	ND	0.91	0.16	U	
108-67-8	1,3,5-Trimethylbenzene	ND	1.8	0.18	U	
95-63-6	1,2,4-Trimethylbenzene	ND	1.8	0.30	U	
123-91-1	1,4-Dioxane	ND	73	32.	U	R

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Results Summary
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Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-05	Date Collected	: 05/20/24 15:30
Client ID	: SB-04-2FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/23/24 19:00
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V10240523A21	Instrument ID	: VOA110
Sample Amount	: 5.4 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 91
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	5.1	2.3	U	UJ
75-34-3	1,1-Dichloroethane	ND	1.0	0.15	U	
67-66-3	Chloroform	ND	1.5	0.14	U	
56-23-5	Carbon tetrachloride	ND	1.0	0.23	U	
127-18-4	Tetrachloroethene	ND	0.51	0.20	U	
108-90-7	Chlorobenzene	ND	0.51	0.13	U	
107-06-2	1,2-Dichloroethane	ND	1.0	0.26	U	
71-55-6	1,1,1-Trichloroethane	ND	0.51	0.17	U	
71-43-2	Benzene	1.2	0.51	0.17		
108-88-3	Toluene	ND	1.0	0.55	U	
100-41-4	Ethylbenzene	ND	1.0	0.14	U	
75-01-4	Vinyl chloride	1.9	1.0	0.34		J
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	U	UJ
156-60-5	trans-1,2-Dichloroethene	ND	1.5	0.14	U	UJ
79-01-6	Trichloroethene	ND	0.51	0.14	U	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.14	U	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.15	U	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.17	U	
1634-04-4	Methyl tert butyl ether	ND	2.0	0.20	U	
179601-23-1	p/m-Xylene	ND	2.0	0.57	U	
95-47-6	o-Xylene	ND	1.0	0.29	U	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.18	U	
67-64-1	Acetone	9.0	10	4.9	J	
78-93-3	2-Butanone	2.4	10	2.2	J	J
104-51-8	n-Butylbenzene	ND	1.0	0.17	U	

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Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-05	Date Collected	: 05/20/24 15:30
Client ID	: SB-04-2FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/23/24 19:00
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V10240523A21	Instrument ID	: VOA110
Sample Amount	: 5.4 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 91
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	1.0	0.15	U	
98-06-6	tert-Butylbenzene	ND	2.0	0.12	U	
103-65-1	n-Propylbenzene	ND	1.0	0.17	U	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	U	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.34	U	
123-91-1	1,4-Dioxane	~~ND~~	81	36.	U	R

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Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-06	Date Collected	: 05/20/24 15:35
Client ID	: SB-04-7FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/23/24 19:27
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V10240523A22	Instrument ID	: VOA110
Sample Amount	: 7.5 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 84
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	4.0	1.8	U	UJ
75-34-3	1,1-Dichloroethane	ND	0.80	0.12	U	
67-66-3	Chloroform	ND	1.2	0.11	U	
56-23-5	Carbon tetrachloride	ND	0.80	0.18	U	
127-18-4	Tetrachloroethene	ND	0.40	0.16	U	
108-90-7	Chlorobenzene	ND	0.40	0.10	U	
107-06-2	1,2-Dichloroethane	ND	0.80	0.20	U	
71-55-6	1,1,1-Trichloroethane	ND	0.40	0.13	U	
71-43-2	Benzene	ND	0.40	0.13	U	
108-88-3	Toluene	ND	0.80	0.43	U	
100-41-4	Ethylbenzene	ND	0.80	0.11	U	
75-01-4	Vinyl chloride	0.91	0.80	0.27		J
75-35-4	1,1-Dichloroethene	ND	0.80	0.19	U	UJ
156-60-5	trans-1,2-Dichloroethene	ND	1.2	0.11	U	UJ
79-01-6	Trichloroethene	ND	0.40	0.11	U	
95-50-1	1,2-Dichlorobenzene	ND	1.6	0.12	U	
541-73-1	1,3-Dichlorobenzene	ND	1.6	0.12	U	
106-46-7	1,4-Dichlorobenzene	ND	1.6	0.14	U	
1634-04-4	Methyl tert butyl ether	ND	1.6	0.16	U	
179601-23-1	p/m-Xylene	ND	1.6	0.45	U	
95-47-6	o-Xylene	ND	0.80	0.23	U	
156-59-2	cis-1,2-Dichloroethene	0.45	0.80	0.14	J	
67-64-1	Acetone	34	8.0	3.8		
78-93-3	2-Butanone	ND	8.0	1.8	U	UJ
104-51-8	n-Butylbenzene	ND	0.80	0.13	U	

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-06	Date Collected	: 05/20/24 15:35
Client ID	: SB-04-7FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/23/24 19:27
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V10240523A22	Instrument ID	: VOA110
Sample Amount	: 7.5 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 84
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	0.80	0.12	U	
98-06-6	tert-Butylbenzene	ND	1.6	0.09	U	
103-65-1	n-Propylbenzene	ND	0.80	0.14	U	
108-67-8	1,3,5-Trimethylbenzene	ND	1.6	0.15	U	
95-63-6	1,2,4-Trimethylbenzene	ND	1.6	0.27	U	
123-91-1	1,4-Dioxane	~~ND~~	64	28.	U	R

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Semivolatiles Data- Method 8270

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-01	Date Collected	: 05/20/24 13:15
Client ID	: SB-01-2FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/24/24 12:59
Sample Matrix	: SOIL	Date Extracted	: 05/23/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 27942-01	Analyst	: SZ
Sample Amount	: 30.18 g	Instrument ID	: SV109
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 79
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	ND	170	22.	U
118-74-1	Hexachlorobenzene	ND	120	23.	U
206-44-0	Fluoranthene	130	120	24.	
91-20-3	Naphthalene	ND	210	25.	U
56-55-3	Benzo(a)anthracene	72	120	23.	J
50-32-8	Benzo(a)pyrene	59	170	51.	J
205-99-2	Benzo(b)fluoranthene	78	120	35.	J
207-08-9	Benzo(k)fluoranthene	ND	120	33.	U
218-01-9	Chrysene	63	120	22.	J
208-96-8	Acenaphthylene	ND	170	32.	U
120-12-7	Anthracene	ND	120	41.	U
191-24-2	Benzo(ghi)perylene	33	170	24.	J
86-73-7	Fluorene	ND	210	20.	U
85-01-8	Phenanthrene	94	120	25.	J
53-70-3	Dibenzo(a,h)anthracene	ND	120	24.	U
193-39-5	Indeno(1,2,3-cd)pyrene	34	170	29.	J
129-00-0	Pyrene	100	120	21.	J
132-64-9	Dibenzofuran	ND	210	20.	U
87-86-5	Pentachlorophenol	ND	170	46.	U
108-95-2	Phenol	ND	210	32.	U
95-48-7	2-Methylphenol	ND	210	32.	U
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	300	33.	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-01	Date Collected	: 05/20/24 13:15
Client ID	: SB-01-2FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/24/24 12:59
Sample Matrix	: SOIL	Date Extracted	: 05/23/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 27942-01	Analyst	: SZ
Sample Amount	: 30.18 g	Instrument ID	: SV109
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 79
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	31	9.6	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-02	Date Collected	: 05/20/24 13:20
Client ID	: SB-01-6FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/25/24 16:04
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 27942-02	Analyst	: LJG
Sample Amount	: 30.8 g	Instrument ID	: BUFFY
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	ND	160	20.	U
118-74-1	Hexachlorobenzene	ND	120	22.	U
206-44-0	Fluoranthene	ND	120	22.	U
91-20-3	Naphthalene	ND	190	24.	U
56-55-3	Benzo(a)anthracene	ND	120	22.	U
50-32-8	Benzo(a)pyrene	ND	160	47.	U
205-99-2	Benzo(b)fluoranthene	ND	120	33.	U
207-08-9	Benzo(k)fluoranthene	ND	120	31.	U
218-01-9	Chrysene	ND	120	20.	U
208-96-8	Acenaphthylene	ND	160	30.	U
120-12-7	Anthracene	ND	120	38.	U
191-24-2	Benzo(ghi)perylene	ND	160	23.	U
86-73-7	Fluorene	ND	190	19.	U
85-01-8	Phenanthrene	ND	120	24.	U
53-70-3	Dibenzo(a,h)anthracene	ND	120	22.	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	160	27.	U
129-00-0	Pyrene	ND	120	19.	U
132-64-9	Dibenzofuran	ND	190	18.	U
87-86-5	Pentachlorophenol	ND	160	43.	U
108-95-2	Phenol	ND	190	29.	U
95-48-7	2-Methylphenol	ND	190	30.	U
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	280	30.	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-02	**Date Collected**	: 05/20/24 13:20
Client ID	: SB-01-6FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/25/24 16:04
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 1
Lab File ID	: 27942-02	**Analyst**	: LJG
Sample Amount	: 30.8 g	**Instrument ID**	: BUFFY
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	29	8.9	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-03	Date Collected	: 05/20/24 14:40
Client ID	: SB-05-5FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/24/24 13:23
Sample Matrix	: SOIL	Date Extracted	: 05/23/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 27942-03	Analyst	: SZ
Sample Amount	: 30.58 g	Instrument ID	: SV109
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 88
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	ND	150	19.	U
118-74-1	Hexachlorobenzene	ND	110	21.	U
206-44-0	Fluoranthene	ND	110	21.	U
91-20-3	Naphthalene	ND	190	23.	U
56-55-3	Benzo(a)anthracene	ND	110	21.	U
50-32-8	Benzo(a)pyrene	ND	150	45.	U
205-99-2	Benzo(b)fluoranthene	ND	110	31.	U
207-08-9	Benzo(k)fluoranthene	ND	110	30.	U
218-01-9	Chrysene	ND	110	19.	U
208-96-8	Acenaphthylene	ND	150	29.	U
120-12-7	Anthracene	ND	110	36.	U
191-24-2	Benzo(ghi)perylene	ND	150	22.	U
86-73-7	Fluorene	ND	190	18.	U
85-01-8	Phenanthrene	ND	110	23.	U
53-70-3	Dibenzo(a,h)anthracene	ND	110	22.	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	150	26.	U
129-00-0	Pyrene	ND	110	18.	U
132-64-9	Dibenzofuran	ND	190	18.	U
87-86-5	Pentachlorophenol	ND	150	41.	U
108-95-2	Phenol	ND	190	28.	U
95-48-7	2-Methylphenol	ND	190	29.	U
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	270	29.	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-03	Date Collected	: 05/20/24 14:40
Client ID	: SB-05-5FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/24/24 13:23
Sample Matrix	: SOIL	Date Extracted	: 05/23/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 27942-03	Analyst	: SZ
Sample Amount	: 30.58 g	Instrument ID	: SV109
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 88
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	28	8.6	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-04	Date Collected	: 05/20/24 14:45
Client ID	: SB-05-8FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/25/24 14:53
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 27942-04	Analyst	: LJG
Sample Amount	: 30.34 g	Instrument ID	: BUFFY
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 86
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	ND	150	20.	U
118-74-1	Hexachlorobenzene	ND	120	22.	U
206-44-0	Fluoranthene	ND	120	22.	U
91-20-3	Naphthalene	ND	190	23.	U
56-55-3	Benzo(a)anthracene	ND	120	22.	U
50-32-8	Benzo(a)pyrene	ND	150	47.	U
205-99-2	Benzo(b)fluoranthene	ND	120	32.	U
207-08-9	Benzo(k)fluoranthene	ND	120	31.	U
218-01-9	Chrysene	ND	120	20.	U
208-96-8	Acenaphthylene	ND	150	30.	U
120-12-7	Anthracene	ND	120	38.	U
191-24-2	Benzo(ghi)perylene	ND	150	23.	U
86-73-7	Fluorene	ND	190	19.	U
85-01-8	Phenanthrene	ND	120	23.	U
53-70-3	Dibenzo(a,h)anthracene	ND	120	22.	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	150	27.	U
129-00-0	Pyrene	ND	120	19.	U
132-64-9	Dibenzofuran	ND	190	18.	U
87-86-5	Pentachlorophenol	ND	150	42.	U
108-95-2	Phenol	ND	190	29.	U
95-48-7	2-Methylphenol	ND	190	30.	U
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	280	30.	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-04	**Date Collected**	: 05/20/24 14:45
Client ID	: SB-05-8FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/25/24 14:53
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 1
Lab File ID	: 27942-04	**Analyst**	: LJG
Sample Amount	: 30.34 g	**Instrument ID**	: BUFFY
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	29	8.9	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-05	Date Collected	: 05/20/24 15:30
Client ID	: SB-04-2FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/24/24 13:46
Sample Matrix	: SOIL	Date Extracted	: 05/23/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 27942-05	Analyst	: SZ
Sample Amount	: 30.28 g	Instrument ID	: SV109
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 91
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	68	140	19.	J
118-74-1	Hexachlorobenzene	ND	110	20.	U
206-44-0	Fluoranthene	90	110	21.	J
91-20-3	Naphthalene	300	180	22.	
56-55-3	Benzo(a)anthracene	64	110	20.	J
50-32-8	Benzo(a)pyrene	47	140	44.	J
205-99-2	Benzo(b)fluoranthene	72	110	30.	J
207-08-9	Benzo(k)fluoranthene	ND	110	29.	U
218-01-9	Chrysene	81	110	19.	J
208-96-8	Acenaphthylene	ND	140	28.	U
120-12-7	Anthracene	ND	110	35.	U
191-24-2	Benzo(ghi)perylene	55	140	21.	J
86-73-7	Fluorene	20	180	18.	J
85-01-8	Phenanthrene	100	110	22.	J
53-70-3	Dibenzo(a,h)anthracene	ND	110	21.	U
193-39-5	Indeno(1,2,3-cd)pyrene	38	140	25.	J
129-00-0	Pyrene	81	110	18.	J
132-64-9	Dibenzofuran	33	180	17.	J
87-86-5	Pentachlorophenol	ND	140	40.	U
108-95-2	Phenol	ND	180	27.	U
95-48-7	2-Methylphenol	ND	180	28.	U
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	260	28.	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-05	Date Collected	: 05/20/24 15:30
Client ID	: SB-04-2FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/24/24 13:46
Sample Matrix	: SOIL	Date Extracted	: 05/23/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 27942-05	Analyst	: SZ
Sample Amount	: 30.28 g	Instrument ID	: SV109
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 91
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	27	8.3	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-06	Date Collected	: 05/20/24 15:35
Client ID	: SB-04-7FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/24/24 14:10
Sample Matrix	: SOIL	Date Extracted	: 05/23/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 27942-06	Analyst	: SZ
Sample Amount	: 30.65 g	Instrument ID	: SV109
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	ND	160	20.	U
118-74-1	Hexachlorobenzene	ND	120	22.	U
206-44-0	Fluoranthene	ND	120	22.	U
91-20-3	Naphthalene	ND	200	24.	U
56-55-3	Benzo(a)anthracene	ND	120	22.	U
50-32-8	Benzo(a)pyrene	ND	160	48.	U
205-99-2	Benzo(b)fluoranthene	ND	120	33.	U
207-08-9	Benzo(k)fluoranthene	ND	120	31.	U
218-01-9	Chrysene	ND	120	20.	U
208-96-8	Acenaphthylene	ND	160	30.	U
120-12-7	Anthracene	ND	120	38.	U
191-24-2	Benzo(ghi)perylene	ND	160	23.	U
86-73-7	Fluorene	ND	200	19.	U
85-01-8	Phenanthrene	ND	120	24.	U
53-70-3	Dibenzo(a,h)anthracene	ND	120	22.	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	160	27.	U
129-00-0	Pyrene	ND	120	19.	U
132-64-9	Dibenzofuran	ND	200	18.	U
87-86-5	Pentachlorophenol	ND	160	43.	U
108-95-2	Phenol	ND	200	29.	U
95-48-7	2-Methylphenol	ND	200	30.	U
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	280	30.	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-06	Date Collected	: 05/20/24 15:35
Client ID	: SB-04-7FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/24/24 14:10
Sample Matrix	: SOIL	Date Extracted	: 05/23/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 27942-06	Analyst	: SZ
Sample Amount	: 30.65 g	Instrument ID	: SV109
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	29	9.0	U	UJ

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Total Petroleum Hydrocarbons Gasoline Range Organics Analysis

No data validation qualifiers were added

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Results Summary
Form 1
Gasoline Range Organics

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-01	**Date Collected**	: 05/20/24 13:15
Client ID	: SB-01-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/24/24 19:33
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8015D(M)	**Analyst**	: BAD
Lab File ID	: P240523N27	**Instrument ID**	: PVPH
Sample Amount	: 0.2 g	**GC Column**	: RTX 502.2
Level	: LOW	**%Solids**	: 79
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	Gasoline Range Organics	ND	1500	890	U

Results Summary
Form 1
Gasoline Range Organics

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-03	**Date Collected**	: 05/20/24 14:40
Client ID	: SB-05-5FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/24/24 20:02
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8015D(M)	**Analyst**	: BAD
Lab File ID	: P240523N28	**Instrument ID**	: PVPH
Sample Amount	: 0.1 g	**GC Column**	: RTX 502.2
Level	: LOW	**%Solids**	: 88
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	Gasoline Range Organics	2500	2000	1200	

Results Summary
Form 1
Gasoline Range Organics

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-05	**Date Collected**	: 05/20/24 15:30
Client ID	: SB-04-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/24/24 20:32
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8015D(M)	**Analyst**	: BAD
Lab File ID	: P240523N29	**Instrument ID**	: PVPH
Sample Amount	: 0.1 g	**GC Column**	: RTX 502.2
Level	: LOW	**%Solids**	: 91
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	Gasoline Range Organics	7300	2400	1400	

GC Extractable Analysis
Herbicides

No data validation qualifiers were added

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Results Summary
Form 1
Chlorinated Herbicides by GC

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-05	**Date Collected**	: 05/20/24 15:30
Client ID	: SB-04-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/28/24 09:23
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8151A	**Dilution Factor**	: 1
Lab File ID	: 17240528a-03	**Analyst**	: MMG
Sample Amount	: 30.69 g	**Instrument ID**	: PEST17
Extraction Method	: EPA 8151A	**GC Column**	: STX-CLP1
Extract Volume	: 10000 uL	**%Solids**	: 91
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
93-72-1	2,4,5-TP (Silvex)	ND	179	4.76	U

Results Summary
Form 1
Chlorinated Herbicides by GC

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-06	**Date Collected**	: 05/20/24 15:35
Client ID	: SB-04-7FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/28/24 09:41
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8151A	**Dilution Factor**	: 1
Lab File ID	: 17240528a-04	**Analyst**	: MMG
Sample Amount	: 30.54 g	**Instrument ID**	: PEST17
Extraction Method	: EPA 8151A	**GC Column**	: STX-CLP1
Extract Volume	: 10000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
93-72-1	2,4,5-TP (Silvex)	ND	196	5.21	U

GC Extractable Analysis Polychlorinated Biphenyls (PCB)

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-01	Date Collected	: 05/20/24 13:15
Client ID	: SB-01-2FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 06/03/24 13:53
Sample Matrix	: SOIL	Date Extracted	: 06/02/24
Analytical Method	: 1,8082A	Dilution Factor	: 1
Lab File ID	: 21240603a-30	Analyst	: MEO
Sample Amount	: 10.29 g	Instrument ID	: PEST21
Extraction Method	: EPA 3546	GC Column	: CLP-Pesticide
Extract Volume	: 1000 uL	%Solids	: 79
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
12674-11-2	Aroclor 1016	ND	61.2	5.43	U	
11104-28-2	Aroclor 1221	ND	61.2	6.13	U	
11141-16-5	Aroclor 1232	ND	61.2	13.0	U	
53469-21-9	Aroclor 1242	ND	61.2	8.25	U	
12672-29-6	Aroclor 1248	ND	61.2	9.18	U	
11096-82-5	Aroclor 1260	28.0	61.2	11.3	JP	J
37324-23-5	Aroclor 1262	ND	61.2	7.77	U	
11100-14-4	Aroclor 1268	ND	61.2	6.34	U	
1336-36-3	PCBs, Total	100	61.2	5.43	J	

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Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-01	Date Collected	: 05/20/24 13:15
Client ID	: SB-01-2FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 06/03/24 13:53
Sample Matrix	: SOIL	Date Extracted	: 06/02/24
Analytical Method	: 1,8082A	Dilution Factor	: 1
Lab File ID	: 21240603a-30	Analyst	: MEO
Sample Amount	: 10.29 g	Instrument ID	: PEST21
Extraction Method	: EPA 3546	GC Column	: CLP-PesticideII
Extract Volume	: 1000 uL	%Solids	: 79
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
11097-69-1	Aroclor 1254	44.2	61.2	6.70	JIP	J

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Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-02	**Date Collected**	: 05/20/24 13:20
Client ID	: SB-01-6FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 06/03/24 14:00
Sample Matrix	: SOIL	**Date Extracted**	: 06/02/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 21240603a-31	**Analyst**	: MEO
Sample Amount	: 10.45 g	**Instrument ID**	: PEST21
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	57.3	5.09	U
11104-28-2	Aroclor 1221	ND	57.3	5.74	U
11141-16-5	Aroclor 1232	ND	57.3	12.1	U
53469-21-9	Aroclor 1242	ND	57.3	7.72	U
12672-29-6	Aroclor 1248	ND	57.3	8.60	U
11097-69-1	Aroclor 1254	ND	57.3	6.27	U
11096-82-5	Aroclor 1260	ND	57.3	10.6	U
37324-23-5	Aroclor 1262	ND	57.3	7.28	U
11100-14-4	Aroclor 1268	ND	57.3	5.94	U
1336-36-3	PCBs, Total	ND	57.3	5.09	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-03	**Date Collected**	: 05/20/24 14:40
Client ID	: SB-05-5FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 06/03/24 14:08
Sample Matrix	: SOIL	**Date Extracted**	: 06/02/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 21240603a-32	**Analyst**	: MEO
Sample Amount	: 10.79 g	**Instrument ID**	: PEST21
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	52.8	4.69	U
11104-28-2	Aroclor 1221	ND	52.8	5.29	U
11141-16-5	Aroclor 1232	ND	52.8	11.2	U
53469-21-9	Aroclor 1242	ND	52.8	7.11	U
12672-29-6	Aroclor 1248	ND	52.8	7.92	U
11097-69-1	Aroclor 1254	ND	52.8	5.77	U
11096-82-5	Aroclor 1260	ND	52.8	9.75	U
37324-23-5	Aroclor 1262	ND	52.8	6.70	U
11100-14-4	Aroclor 1268	ND	52.8	5.47	U
1336-36-3	PCBs, Total	ND	52.8	4.69	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-04	**Date Collected**	: 05/20/24 14:45
Client ID	: SB-05-8FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 06/03/24 14:15
Sample Matrix	: SOIL	**Date Extracted**	: 06/02/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 21240603a-33	**Analyst**	: MEO
Sample Amount	: 10.32 g	**Instrument ID**	: PEST21
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	56.7	5.03	U
11104-28-2	Aroclor 1221	ND	56.7	5.68	U
11141-16-5	Aroclor 1232	ND	56.7	12.0	U
53469-21-9	Aroclor 1242	ND	56.7	7.64	U
12672-29-6	Aroclor 1248	ND	56.7	8.50	U
11097-69-1	Aroclor 1254	ND	56.7	6.20	U
11096-82-5	Aroclor 1260	ND	56.7	10.5	U
37324-23-5	Aroclor 1262	ND	56.7	7.20	U
11100-14-4	Aroclor 1268	ND	56.7	5.87	U
1336-36-3	PCBs, Total	ND	56.7	5.03	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-05	**Date Collected**	: 05/20/24 15:30
Client ID	: SB-04-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/25/24 10:21
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 23240525a-12	**Analyst**	: MEO
Sample Amount	: 10.46 g	**Instrument ID**	: PEST23
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 91
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	52.5	4.66	U
11104-28-2	Aroclor 1221	ND	52.5	5.26	U
11141-16-5	Aroclor 1232	ND	52.5	11.1	U
53469-21-9	Aroclor 1242	ND	52.5	7.07	U
12672-29-6	Aroclor 1248	ND	52.5	7.87	U
11097-69-1	Aroclor 1254	ND	52.5	5.74	U
11096-82-5	Aroclor 1260	ND	52.5	9.70	U
37324-23-5	Aroclor 1262	ND	52.5	6.66	U
11100-14-4	Aroclor 1268	ND	52.5	5.44	U
1336-36-3	PCBs, Total	ND	52.5	4.66	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-06	**Date Collected**	: 05/20/24 15:35
Client ID	: SB-04-7FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/25/24 10:30
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 23240525a-13	**Analyst**	: MEO
Sample Amount	: 10.41 g	**Instrument ID**	: PEST23
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	57.4	5.10	U
11104-28-2	Aroclor 1221	ND	57.4	5.76	U
11141-16-5	Aroclor 1232	ND	57.4	12.2	U
53469-21-9	Aroclor 1242	ND	57.4	7.74	U
12672-29-6	Aroclor 1248	ND	57.4	8.62	U
11097-69-1	Aroclor 1254	ND	57.4	6.28	U
11096-82-5	Aroclor 1260	ND	57.4	10.6	U
37324-23-5	Aroclor 1262	ND	57.4	7.30	U
11100-14-4	Aroclor 1268	ND	57.4	5.95	U
1336-36-3	PCBs, Total	ND	57.4	5.10	U

GC Extractable Analysis
Pesticides

No data validation qualifiers were added

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Results Summary
Form 1
Organochlorine Pesticides by GC

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-05	Date Collected	: 05/20/24 15:30
Client ID	: SB-04-2FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/25/24 15:44
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8081B	Dilution Factor	: 1
Lab File ID	: 11240525a-34	Analyst	: PEG
Sample Amount	: 15.77 g	Instrument ID	: PEST11
Extraction Method	: EPA 3546	GC Column	: CLPPesticidesII
Extract Volume	: 1000 uL	%Solids	: 91
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
319-86-8	Delta-BHC	ND	1.67	0.327	U
58-89-9	Lindane	ND	0.696	0.311	U
319-84-6	Alpha-BHC	ND	0.696	0.198	U
319-85-7	Beta-BHC	ND	1.67	0.633	U
76-44-8	Heptachlor	ND	0.835	0.374	U
309-00-2	Aldrin	ND	1.67	0.588	U
72-20-8	Endrin	ND	0.696	0.285	U
60-57-1	Dieldrin	ND	1.04	0.522	U
72-55-9	4,4'-DDE	ND	1.67	0.386	U
72-54-8	4,4'-DDD	ND	1.67	0.596	U
50-29-3	4,4'-DDT	ND	1.67	1.34	U
959-98-8	Endosulfan I	ND	1.67	0.395	U
33213-65-9	Endosulfan II	ND	1.67	0.558	U
1031-07-8	Endosulfan sulfate	ND	0.696	0.331	U
5103-71-9	cis-Chlordane	ND	2.09	0.582	U

Results Summary
Form 1
Organochlorine Pesticides by GC

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-06	Date Collected	: 05/20/24 15:35
Client ID	: SB-04-7FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 05/25/24 15:56
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8081B	Dilution Factor	: 1
Lab File ID	: 11240525a-35	Analyst	: PEG
Sample Amount	: 15.89 g	Instrument ID	: PEST11
Extraction Method	: EPA 3546	GC Column	: CLPPesticides
Extract Volume	: 1000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
319-86-8	Delta-BHC	ND	1.81	0.354	U
58-89-9	Lindane	ND	0.753	0.336	U
319-84-6	Alpha-BHC	ND	0.753	0.214	U
319-85-7	Beta-BHC	ND	1.81	0.685	U
76-44-8	Heptachlor	ND	0.903	0.405	U
309-00-2	Aldrin	ND	1.81	0.636	U
72-20-8	Endrin	ND	0.753	0.309	U
60-57-1	Dieldrin	ND	1.13	0.564	U
72-55-9	4,4'-DDE	ND	1.81	0.418	U
72-54-8	4,4'-DDD	ND	1.81	0.644	U
50-29-3	4,4'-DDT	ND	1.81	1.45	U
959-98-8	Endosulfan I	ND	1.81	0.427	U
33213-65-9	Endosulfan II	ND	1.81	0.604	U
1031-07-8	Endosulfan sulfate	ND	0.753	0.358	U
5103-71-9	cis-Chlordane	ND	2.26	0.629	U

Total Petroleum Hydrocarbons Diesel Range Organics Analysis

No data validation qualifiers were added

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Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-01D	**Date Collected**	: 05/20/24 13:15
Client ID	: SB-01-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/25/24 15:48
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/24
Analytical Method	: 1,8015D(M)	**Dilution Factor**	: 2
Lab File ID	: P26240525A21	**Analyst**	: CRE
Sample Amount	: 15.51 g	**Instrument ID**	: PETRO26B
Extraction Method	: EPA 3546	**GC Column**	:
Extract Volume	: 1000 uL	**%Solids**	: 79
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	DRO (C10-C28)	72000	81000	4500	J

Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-03	**Date Collected**	: 05/20/24 14:40
Client ID	: SB-05-5FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/25/24 14:33
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/24
Analytical Method	: 1,8015D(M)	**Dilution Factor**	: 1
Lab File ID	: P26240525A17	**Analyst**	: CRE
Sample Amount	: 15.27 g	**Instrument ID**	: PETRO26B
Extraction Method	: EPA 3546	**GC Column**	:
Extract Volume	: 1000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	DRO (C10-C28)	54000	37000	2000	

Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-05	**Date Collected**	: 05/20/24 15:30
Client ID	: SB-04-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/25/24 15:10
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/24
Analytical Method	: 1,8015D(M)	**Dilution Factor**	: 1
Lab File ID	: P26240525A19	**Analyst**	: CRE
Sample Amount	: 15.58 g	**Instrument ID**	: PETRO26B
Extraction Method	: EPA 3546	**GC Column**	:
Extract Volume	: 1000 uL	**%Solids**	: 91
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	DRO (C10-C28)	77000	35000	1900	

PFAS via Draft Method 1633

No data validation qualifiers were added

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Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-01	Date Collected	: 05/20/24 13:15
Client ID	: SB-01-2FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 06/05/24 13:00
Sample Matrix	: SOIL	Date Extracted	: 06/04/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI05_240605_37	Analyst	: AC
Sample Amount	: 6.69 g	Instrument ID	: LCMS05
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: 79
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.753	0.047	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	0.063	0.376	0.053	J
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.188	0.041	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.753	0.076	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	0.069	0.188	0.044	J
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.188	0.022	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	0.028	0.188	0.022	J
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.188	0.056	U
335-67-1	Perfluorooctanoic Acid (PFOA)	0.102	0.188	0.049	J
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.753	0.264	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.188	0.035	U
375-95-1	Perfluorononanoic Acid (PFNA)	0.075	0.188	0.074	J
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	0.565	0.188	0.075	
335-76-2	Perfluorodecanoic Acid (PFDA)	0.123	0.188	0.071	J
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.753	0.364	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.188	0.040	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.188	0.094	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	0.065	0.188	0.048	J

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-01	**Date Collected**	: 05/20/24 13:15
Client ID	: SB-01-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 06/05/24 13:00
Sample Matrix	: SOIL	**Date Extracted**	: 06/04/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240605_37	**Analyst**	: AC
Sample Amount	: 6.69 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 79
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.188	0.030	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.188	0.041	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.188	0.078	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	0.109	0.188	0.038	J
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.188	0.050	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.188	0.100	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.753	0.093	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.753	0.138	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.188	0.036	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.753	0.184	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.753	0.157	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.188	0.094	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.188	0.105	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.88	0.236	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-01	**Date Collected**	: 05/20/24 13:15
Client ID	: SB-01-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 06/05/24 13:00
Sample Matrix	: SOIL	**Date Extracted**	: 06/04/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240605_37	**Analyst**	: AC
Sample Amount	: 6.69 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 79
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.88	0.480	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.376	0.038	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.376	0.029	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.376	0.078	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.376	0.090	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.941	0.136	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.71	0.475	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.71	1.66	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-02	**Date Collected**	: 05/20/24 13:20
Client ID	: SB-01-6FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 06/05/24 13:13
Sample Matrix	: SOIL	**Date Extracted**	: 06/04/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240605_38	**Analyst**	: AC
Sample Amount	: 6.02 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.796	0.050	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.398	0.056	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.199	0.043	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.796	0.080	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.199	0.046	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.199	0.023	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.199	0.023	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.199	0.059	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.199	0.052	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.796	0.278	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.199	0.037	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.199	0.078	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.199	0.079	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.199	0.075	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.796	0.385	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.199	0.042	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.199	0.100	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.199	0.051	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-02	**Date Collected**	: 05/20/24 13:20
Client ID	: SB-01-6FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 06/05/24 13:13
Sample Matrix	: SOIL	**Date Extracted**	: 06/04/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240605_38	**Analyst**	: AC
Sample Amount	: 6.02 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.199	0.032	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.199	0.043	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.199	0.082	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.199	0.041	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.199	0.053	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.199	0.106	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.796	0.098	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.796	0.146	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.199	0.038	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.796	0.195	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.796	0.166	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.199	0.100	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.199	0.111	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.99	0.249	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-02	Date Collected	: 05/20/24 13:20
Client ID	: SB-01-6FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 06/05/24 13:13
Sample Matrix	: SOIL	Date Extracted	: 06/04/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI05_240605_38	Analyst	: AC
Sample Amount	: 6.02 g	Instrument ID	: LCMS05
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.99	0.508	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.398	0.041	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.398	0.031	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.398	0.083	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.398	0.095	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.995	0.143	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.97	0.502	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.97	1.75	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-03	**Date Collected**	: 05/20/24 14:40
Client ID	: SB-05-5FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 06/05/24 13:25
Sample Matrix	: SOIL	**Date Extracted**	: 06/04/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240605_39	**Analyst**	: AC
Sample Amount	: 6.03 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.756	0.048	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.378	0.053	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.189	0.041	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.756	0.076	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.189	0.044	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.189	0.022	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.189	0.022	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.189	0.056	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.189	0.049	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.756	0.264	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.189	0.035	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.189	0.074	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.189	0.075	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.189	0.071	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.756	0.366	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.189	0.040	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.189	0.094	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.189	0.048	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-03	**Date Collected**	: 05/20/24 14:40
Client ID	: SB-05-5FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 06/05/24 13:25
Sample Matrix	: SOIL	**Date Extracted**	: 06/04/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240605_39	**Analyst**	: AC
Sample Amount	: 6.03 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.189	0.030	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.189	0.041	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.189	0.078	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.189	0.039	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.189	0.050	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.189	0.100	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.756	0.093	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.756	0.138	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.189	0.036	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.756	0.185	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.756	0.158	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.189	0.094	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.189	0.106	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.89	0.236	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-03	**Date Collected**	: 05/20/24 14:40
Client ID	: SB-05-5FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 06/05/24 13:25
Sample Matrix	: SOIL	**Date Extracted**	: 06/04/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240605_39	**Analyst**	: AC
Sample Amount	: 6.03 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.89	0.482	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.378	0.039	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.378	0.030	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.378	0.079	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.378	0.090	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.944	0.136	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.72	0.477	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.72	1.66	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-04	Date Collected	: 05/20/24 14:45
Client ID	: SB-05-8FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 06/05/24 13:38
Sample Matrix	: SOIL	Date Extracted	: 06/04/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI05_240605_40	Analyst	: AC
Sample Amount	: 5.88 g	Instrument ID	: LCMS05
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: 86
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.796	0.050	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.398	0.056	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.199	0.043	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.796	0.080	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.199	0.046	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.199	0.023	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.199	0.023	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.199	0.059	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.199	0.052	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.796	0.278	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.199	0.037	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.199	0.078	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.199	0.079	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.199	0.075	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.796	0.385	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.199	0.042	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.199	0.099	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.199	0.051	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-04	**Date Collected**	: 05/20/24 14:45
Client ID	: SB-05-8FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 06/05/24 13:38
Sample Matrix	: SOIL	**Date Extracted**	: 06/04/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240605_40	**Analyst**	: AC
Sample Amount	: 5.88 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.199	0.032	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.199	0.043	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.199	0.082	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.199	0.041	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.199	0.053	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.199	0.106	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.796	0.098	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.796	0.146	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.199	0.038	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.796	0.195	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.796	0.166	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.199	0.099	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.199	0.111	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.99	0.249	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-04	Date Collected	: 05/20/24 14:45
Client ID	: SB-05-8FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 06/05/24 13:38
Sample Matrix	: SOIL	Date Extracted	: 06/04/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI05_240605_40	Analyst	: AC
Sample Amount	: 5.88 g	Instrument ID	: LCMS05
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: 86
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.99	0.508	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.398	0.041	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.398	0.031	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.398	0.083	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.398	0.095	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.994	0.143	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.97	0.502	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.97	1.75	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-05	**Date Collected**	: 05/20/24 15:30
Client ID	: SB-04-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 06/05/24 13:51
Sample Matrix	: SOIL	**Date Extracted**	: 06/04/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240605_41	**Analyst**	: AC
Sample Amount	: 5.78 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 91
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.760	0.048	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.380	0.053	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.190	0.041	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.760	0.077	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.190	0.044	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.190	0.022	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.190	0.022	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.190	0.056	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.190	0.049	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.760	0.266	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.190	0.035	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.190	0.074	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	0.078	0.190	0.075	J
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.190	0.071	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.760	0.368	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.190	0.040	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.190	0.095	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.190	0.049	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-05	**Date Collected**	: 05/20/24 15:30
Client ID	: SB-04-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 06/05/24 13:51
Sample Matrix	: SOIL	**Date Extracted**	: 06/04/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240605_41	**Analyst**	: AC
Sample Amount	: 5.78 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 91
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.190	0.030	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.190	0.041	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.190	0.078	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.190	0.039	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.190	0.050	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.190	0.101	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.760	0.093	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.760	0.139	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.190	0.037	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.760	0.186	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.760	0.159	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.190	0.095	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.190	0.106	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.90	0.238	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-05	**Date Collected**	: 05/20/24 15:30
Client ID	: SB-04-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 06/05/24 13:51
Sample Matrix	: SOIL	**Date Extracted**	: 06/04/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240605_41	**Analyst**	: AC
Sample Amount	: 5.78 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 91
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.90	0.485	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.380	0.039	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.380	0.030	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.380	0.079	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.380	0.090	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.950	0.137	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.75	0.479	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.75	1.67	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-06	**Date Collected**	: 05/20/24 15:35
Client ID	: SB-04-7FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 06/05/24 14:04
Sample Matrix	: SOIL	**Date Extracted**	: 06/04/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240605_42	**Analyst**	: AC
Sample Amount	: 6.33 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.756	0.048	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.378	0.053	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.189	0.041	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.756	0.076	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.189	0.044	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.189	0.022	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.189	0.022	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.189	0.056	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.189	0.049	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.756	0.264	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.189	0.035	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.189	0.074	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.189	0.075	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.189	0.071	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.756	0.366	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.189	0.040	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.189	0.095	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.189	0.048	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-06	**Date Collected**	: 05/20/24 15:35
Client ID	: SB-04-7FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 06/05/24 14:04
Sample Matrix	: SOIL	**Date Extracted**	: 06/04/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240605_42	**Analyst**	: AC
Sample Amount	: 6.33 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.189	0.030	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.189	0.041	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.189	0.078	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.189	0.039	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.189	0.050	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.189	0.100	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.756	0.093	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.756	0.138	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.189	0.036	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.756	0.185	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.756	0.158	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.189	0.095	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.189	0.106	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.89	0.236	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2427942-06	Date Collected	: 05/20/24 15:35
Client ID	: SB-04-7FT-20240520	Date Received	: 05/20/24
Sample Location	:	Date Analyzed	: 06/05/24 14:04
Sample Matrix	: SOIL	Date Extracted	: 06/04/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI05_240605_42	Analyst	: AC
Sample Amount	: 6.33 g	Instrument ID	: LCMS05
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.89	0.482	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.378	0.039	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.378	0.030	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.378	0.079	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.378	0.090	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.945	0.136	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.72	0.477	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.72	1.66	U

Inorganic Data
(ICP Analysis)

No data validation qualifiers were added

MKP 7/18/2024

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-01	**Date Collected**	: 05/20/24 13:15
Client ID	: SB-01-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/25/24 13:09
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: MAM
Lab File ID	: WG1925654.pdf	**Instrument ID**	: TRACE8
Sample Amount	: 1.3g	**%Solids**	: 79
Digestion Method	: EPA 3050B	**Date Digested**	: 05/25/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	12.9	0.969	0.202	
7440-39-3	Barium, Total	131	0.969	0.168	
7440-41-7	Beryllium, Total	0.578	0.484	0.032	
7440-43-9	Cadmium, Total	1.75	0.969	0.095	
7440-47-3	Chromium, Total	19.4	0.969	0.093	
7440-50-8	Copper, Total	61.9	0.969	0.250	
7439-92-1	Lead, Total	119	4.84	0.260	
7439-96-5	Manganese, Total	813	0.969	0.154	
7440-02-0	Nickel, Total	26.1	2.42	0.234	
7782-49-2	Selenium, Total	ND	1.94	0.250	U
7440-22-4	Silver, Total	0.287	0.484	0.274	J
7440-66-6	Zinc, Total	1150	4.84	0.284	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-02	**Date Collected**	: 05/20/24 13:20
Client ID	: SB-01-6FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/25/24 13:13
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: MAM
Lab File ID	: WG1925654.pdf	**Instrument ID**	: TRACE8
Sample Amount	: 1.308g	**%Solids**	: 84
Digestion Method	: EPA 3050B	**Date Digested**	: 05/25/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	6.57	0.916	0.190	
7440-39-3	Barium, Total	142	0.916	0.159	
7440-41-7	Beryllium, Total	0.655	0.458	0.030	
7440-43-9	Cadmium, Total	0.229	0.916	0.090	J
7440-47-3	Chromium, Total	19.9	0.916	0.088	
7440-50-8	Copper, Total	24.0	0.916	0.236	
7439-92-1	Lead, Total	11.1	4.58	0.245	
7439-96-5	Manganese, Total	603	0.916	0.146	
7440-02-0	Nickel, Total	27.4	2.29	0.222	
7782-49-2	Selenium, Total	ND	1.83	0.236	U
7440-22-4	Silver, Total	ND	0.458	0.259	U
7440-66-6	Zinc, Total	65.9	4.58	0.268	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-03	**Date Collected**	: 05/20/24 14:40
Client ID	: SB-05-5FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/25/24 13:16
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: MAM
Lab File ID	: WG1925654.pdf	**Instrument ID**	: TRACE8
Sample Amount	: 1.305g	**%Solids**	: 88
Digestion Method	: EPA 3050B	**Date Digested**	: 05/25/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	6.66	0.873	0.182	
7440-39-3	Barium, Total	96.6	0.873	0.152	
7440-41-7	Beryllium, Total	0.686	0.436	0.029	
7440-43-9	Cadmium, Total	0.173	0.873	0.086	J
7440-47-3	Chromium, Total	19.8	0.873	0.084	
7440-50-8	Copper, Total	21.7	0.873	0.225	
7439-92-1	Lead, Total	13.0	4.36	0.234	
7439-96-5	Manganese, Total	343	0.873	0.139	
7440-02-0	Nickel, Total	25.6	2.18	0.211	
7782-49-2	Selenium, Total	ND	1.74	0.225	U
7440-22-4	Silver, Total	ND	0.436	0.247	U
7440-66-6	Zinc, Total	58.0	4.36	0.256	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-04	**Date Collected**	: 05/20/24 14:45
Client ID	: SB-05-8FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/25/24 13:20
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: MAM
Lab File ID	: WG1925654.pdf	**Instrument ID**	: TRACE8
Sample Amount	: 1.294g	**%Solids**	: 86
Digestion Method	: EPA 3050B	**Date Digested**	: 05/25/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	2.37	0.904	0.188	
7440-39-3	Barium, Total	40.6	0.904	0.157	
7440-41-7	Beryllium, Total	0.678	0.452	0.030	
7440-43-9	Cadmium, Total	0.155	0.904	0.089	J
7440-47-3	Chromium, Total	22.5	0.904	0.087	
7440-50-8	Copper, Total	19.9	0.904	0.233	
7439-92-1	Lead, Total	9.45	4.52	0.242	
7439-96-5	Manganese, Total	317	0.904	0.144	
7440-02-0	Nickel, Total	28.5	2.26	0.219	
7782-49-2	Selenium, Total	ND	1.81	0.233	U
7440-22-4	Silver, Total	ND	0.452	0.256	U
7440-66-6	Zinc, Total	73.2	4.52	0.265	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-05	**Date Collected**	: 05/20/24 15:30
Client ID	: SB-04-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/25/24 13:37
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: MAM
Lab File ID	: WG1925654.pdf	**Instrument ID**	: TRACE8
Sample Amount	: 1.251g	**%Solids**	: 91
Digestion Method	: EPA 3050B	**Date Digested**	: 05/25/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	5.83	0.877	0.182	
7440-39-3	Barium, Total	66.7	0.877	0.153	
7440-41-7	Beryllium, Total	0.634	0.439	0.029	
7440-43-9	Cadmium, Total	0.207	0.877	0.086	J
7440-47-3	Chromium, Total	17.4	0.877	0.084	
7440-50-8	Copper, Total	11.6	0.877	0.226	
7439-92-1	Lead, Total	28.6	4.39	0.235	
7439-96-5	Manganese, Total	357	0.877	0.140	
7440-02-0	Nickel, Total	14.7	2.19	0.212	
7782-49-2	Selenium, Total	0.343	1.75	0.226	J
7440-22-4	Silver, Total	ND	0.439	0.248	U
7440-66-6	Zinc, Total	57.8	4.39	0.257	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-06	**Date Collected**	: 05/20/24 15:35
Client ID	: SB-04-7FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/25/24 13:41
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: MAM
Lab File ID	: WG1925654.pdf	**Instrument ID**	: TRACE8
Sample Amount	: 1.295g	**%Solids**	: 84
Digestion Method	: EPA 3050B	**Date Digested**	: 05/25/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	5.34	0.924	0.192	
7440-39-3	Barium, Total	116	0.924	0.161	
7440-41-7	Beryllium, Total	0.565	0.462	0.031	
7440-43-9	Cadmium, Total	0.247	0.924	0.091	J
7440-47-3	Chromium, Total	18.8	0.924	0.089	
7440-50-8	Copper, Total	23.0	0.924	0.238	
7439-92-1	Lead, Total	10.8	4.62	0.248	
7439-96-5	Manganese, Total	551	0.924	0.147	
7440-02-0	Nickel, Total	23.9	2.31	0.224	
7782-49-2	Selenium, Total	ND	1.85	0.238	U
7440-22-4	Silver, Total	ND	0.462	0.261	U
7440-66-6	Zinc, Total	62.4	4.62	0.271	

Inorganic Data
(Mercury Analysis)

No data validation qualifiers were added

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Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-01	**Date Collected**	: 05/20/24 13:15
Client ID	: SB-01-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/25/24 14:21
Sample Matrix	: SOIL	**Dilution Factor**	: 10
Analytical Method	: 1,7471B	**Analyst**	: JWN
Lab File ID	: WG1925804.pdf	**Instrument ID**	: NIC4
Sample Amount	: 0.4g	**%Solids**	: 79
Digestion Method	: EPA 7471B	**Date Digested**	: 05/25/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	28.2	0.787	0.513	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-02	**Date Collected**	: 05/20/24 13:20
Client ID	: SB-01-6FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/25/24 13:25
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JWN
Lab File ID	: WG1925804.pdf	**Instrument ID**	: NIC4
Sample Amount	: 0.376g	**%Solids**	: 84
Digestion Method	: EPA 7471B	**Date Digested**	: 05/25/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.080	0.052	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-03	**Date Collected**	: 05/20/24 14:40
Client ID	: SB-05-5FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/25/24 13:29
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JWN
Lab File ID	: WG1925804.pdf	**Instrument ID**	: NIC4
Sample Amount	: 0.394g	**%Solids**	: 88
Digestion Method	: EPA 7471B	**Date Digested**	: 05/25/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.072	0.047	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-04	**Date Collected**	: 05/20/24 14:45
Client ID	: SB-05-8FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/25/24 13:32
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JWN
Lab File ID	: WG1925804.pdf	**Instrument ID**	: NIC4
Sample Amount	: 0.35g	**%Solids**	: 86
Digestion Method	: EPA 7471B	**Date Digested**	: 05/25/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.084	0.055	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-05	**Date Collected**	: 05/20/24 15:30
Client ID	: SB-04-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/25/24 13:35
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JWN
Lab File ID	: WG1925804.pdf	**Instrument ID**	: NIC4
Sample Amount	: 0.34g	**%Solids**	: 91
Digestion Method	: EPA 7471B	**Date Digested**	: 05/25/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.081	0.053	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-06	**Date Collected**	: 05/20/24 15:35
Client ID	: SB-04-7FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/25/24 13:38
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JWN
Lab File ID	: WG1925804.pdf	**Instrument ID**	: NIC4
Sample Amount	: 0.344g	**%Solids**	: 84
Digestion Method	: EPA 7471B	**Date Digested**	: 05/25/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.087	0.057	U

Trivalent Chromium Analysis

No data validation qualifiers were added

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Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-01	**Date Collected**	: 05/20/24 13:15
Client ID	: SB-01-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:35
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 79
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	19.4	1.01	0.202	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-02	**Date Collected**	: 05/20/24 13:20
Client ID	: SB-01-6FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:35
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 84
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	19.9	0.958	0.192	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-03	**Date Collected**	: 05/20/24 14:40
Client ID	: SB-05-5FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:35
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 88
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	19.8	0.911	0.182	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-04	**Date Collected**	: 05/20/24 14:45
Client ID	: SB-05-8FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:35
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 86
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	22.5	0.936	0.187	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-05	**Date Collected**	: 05/20/24 15:30
Client ID	: SB-04-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:35
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 91
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	17.4	0.878	0.176	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-06	**Date Collected**	: 05/20/24 15:35
Client ID	: SB-04-7FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:35
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 84
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	18.8	0.957	0.191	

Calculations of Trivalent Chromium

Calculate the concentration value based on results for Total Chromium and Hexavalent Chromium.

Aqueous samples:

$$mgCr^{+3}/L = \text{Total Cr (mg/l)} - Cr^{+6}\ (mg/l)$$

Soil samples:

$$mgCr^{+3}/Kg = \text{Total Cr (mg/Kg)} - Cr^{+6}\ (mg/Kg)$$

Cyanide Analysis

No data validation qualifiers were added

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Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-01	**Date Collected**	: 05/20/24 13:15
Client ID	: SB-01-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/28/24 12:13
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN052824-A1	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0307g	**%Solids**	: 79
Digestion Method	:	**Date Digested**	: 05/24/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.2	0.26	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-02	**Date Collected**	: 05/20/24 13:20
Client ID	: SB-01-6FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:19
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN052924-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0293g	**%Solids**	: 84
Digestion Method	:	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.2	0.25	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-03	**Date Collected**	: 05/20/24 14:40
Client ID	: SB-05-5FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/28/24 12:14
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN052824-A1	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0857g	**%Solids**	: 88
Digestion Method	:	**Date Digested**	: 05/24/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.0	0.22	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-04	**Date Collected**	: 05/20/24 14:45
Client ID	: SB-05-8FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:20
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN052924-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0371g	**%Solids**	: 86
Digestion Method	:	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.1	0.24	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-05	**Date Collected**	: 05/20/24 15:30
Client ID	: SB-04-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/28/24 12:15
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN052824-A1	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0306g	**%Solids**	: 91
Digestion Method	:	**Date Digested**	: 05/24/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.1	0.22	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-06	**Date Collected**	: 05/20/24 15:35
Client ID	: SB-04-7FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/28/24 16:35
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN052824-B1	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0396g	**%Solids**	: 84
Digestion Method	:	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	12	1.2	0.24	

Hexavalent Chromium Analysis

No data validation qualifiers were added

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Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-01	**Date Collected**	: 05/20/24 13:15
Client ID	: SB-01-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:35
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1926245.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5363g	**%Solids**	: 79
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	1.01	0.202	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-02	**Date Collected**	: 05/20/24 13:20
Client ID	: SB-01-6FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:35
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1926245.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5089g	**%Solids**	: 84
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.958	0.192	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-03	**Date Collected**	: 05/20/24 14:40
Client ID	: SB-05-5FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:35
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1926245.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5913g	**%Solids**	: 88
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.911	0.182	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-04	**Date Collected**	: 05/20/24 14:45
Client ID	: SB-05-8FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:35
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1926245.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5358g	**%Solids**	: 86
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.936	0.187	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-05	**Date Collected**	: 05/20/24 15:30
Client ID	: SB-04-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:35
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1926245.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5706g	**%Solids**	: 91
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.878	0.176	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-06	**Date Collected**	: 05/20/24 15:35
Client ID	: SB-04-7FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:35
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1926245.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.4619g	**%Solids**	: 84
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.957	0.191	U

Total Solids / Percent Moisture Analysis

No data validation qualifiers were added

MKP 7/18/2024

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-01	**Date Collected**	: 05/20/24 13:15
Client ID	: SB-01-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/21/24 12:33
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1923765.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 79
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**79.4**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-02	**Date Collected**	: 05/20/24 13:20
Client ID	: SB-01-6FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/21/24 12:33
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1923765.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 84
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**83.5**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-03	**Date Collected**	: 05/20/24 14:40
Client ID	: SB-05-5FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/21/24 12:33
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1923765.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 88
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**87.8**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-04	**Date Collected**	: 05/20/24 14:45
Client ID	: SB-05-8FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/21/24 12:33
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1923765.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 86
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**85.5**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-05	**Date Collected**	: 05/20/24 15:30
Client ID	: SB-04-2FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/21/24 12:33
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1923765.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 91
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**91.1**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2427942-06	**Date Collected**	: 05/20/24 15:35
Client ID	: SB-04-7FT-20240520	**Date Received**	: 05/20/24
Sample Location	:	**Date Analyzed**	: 05/21/24 12:33
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1923765.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 84
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**83.6**	**0.100**	**NA**	

Appendix B

Laboratory QC Documentation

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Matrix (Level)	: SOIL (LOW)		
LCS Sample ID	: WG1925061-3 **Analysis Date** : 05/23/24 10:22	**File ID**	: V10240523A02
LCSD Sample ID	: WG1925061-4 **Analysis Date** : 05/23/24 10:57	**File ID**	: V10240523A03

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Methylene chloride	40	31	77	40	26	66 Q	15	70-130	30
1,1-Dichloroethane	40	32	81	40	33	83	2	70-130	30
Chloroform	40	33	83	40	34	85	2	70-130	30
Carbon tetrachloride	40	33	82	40	33	83	1	70-130	30
Tetrachloroethene	40	39	97	40	40	99	2	70-130	30
Chlorobenzene	40	36	90	40	37	92	2	70-130	30
1,2-Dichloroethane	40	34	84	40	34	85	1	70-130	30
1,1,1-Trichloroethane	40	34	86	40	35	88	2	70-130	30
Benzene	40	34	84	40	35	86	2	70-130	30
Toluene	40	34	86	40	35	88	2	70-130	30
Ethylbenzene	40	36	89	40	36	91	2	70-130	30
Vinyl chloride	40	30	76	40	31	78	3	67-130	30
1,1-Dichloroethene	40	31	78	40	32	81	4	65-135	30
trans-1,2-Dichloroethene	40	36	90	40	26	65 Q	32 Q	70-130	30
Trichloroethene	40	36	90	40	36	89	1	70-130	30
1,2-Dichlorobenzene	40	36	91	40	38	96	5	70-130	30
1,3-Dichlorobenzene	40	36	91	40	38	95	4	70-130	30
1,4-Dichlorobenzene	40	37	91	40	38	94	3	70-130	30
Methyl tert butyl ether	40	35	87	40	31	77	12	66-130	30
p/m-Xylene	80	71	89	80	73	92	3	70-130	30
o-Xylene	80	71	89	80	73	91	2	70-130	30
cis-1,2-Dichloroethene	40	34	85	40	35	87	2	70-130	30
Acetone	40	33	82	40	22	54	41 Q	54-140	30
2-Butanone	40	32	80	40	31	78	3	70-130	30
n-Butylbenzene	40	35	86	40	36	89	3	70-130	30
sec-Butylbenzene	40	34	85	40	36	89	5	70-130	30

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: WG1925061-5	Date Collected	: NA
Client ID	: WG1925061-5BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/23/24 11:44
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V10240523A05	Instrument ID	: VOA110
Sample Amount	: 5.0 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: NA
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	5.0	2.3	U
75-34-3	1,1-Dichloroethane	ND	1.0	0.14	U
67-66-3	Chloroform	0.16	1.5	0.14	J
56-23-5	Carbon tetrachloride	ND	1.0	0.23	U
127-18-4	Tetrachloroethene	ND	0.50	0.20	U
108-90-7	Chlorobenzene	ND	0.50	0.13	U
107-06-2	1,2-Dichloroethane	ND	1.0	0.26	U
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.17	U
108-88-3	Toluene	ND	1.0	0.54	U
100-41-4	Ethylbenzene	ND	1.0	0.14	U
75-01-4	Vinyl chloride	ND	1.0	0.34	U
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	U
156-60-5	trans-1,2-Dichloroethene	ND	1.5	0.14	U
79-01-6	Trichloroethene	ND	0.50	0.14	U
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.14	U
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.15	U
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.17	U
1634-04-4	Methyl tert butyl ether	ND	2.0	0.20	U
179601-23-1	p/m-Xylene	ND	2.0	0.56	U
95-47-6	o-Xylene	ND	1.0	0.29	U
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.18	U
67-64-1	Acetone	ND	10	4.8	U
78-93-3	2-Butanone	ND	10	2.2	U
104-51-8	n-Butylbenzene	ND	1.0	0.17	U

Initial Calibration Summary
Form 6
Volatiles

Client	**: C&S Companies**	**Lab Number**	**: L2427942**
Project Name	**: 1803 ELMWOOD AVENUE BCP**	**Project Number**	**: S93.003.002**
Instrument ID	**: VOA110**	**Ical Ref**	**: ICAL21133**
Calibration dates	**: 05/15/24 20:51 05/16/24 01:23**		

Calibration Files

L0 =V10240515N03.D L1 =V10240515N05.D L1.5=V10240515N07.D L2 =V10240515N08.D L3 =V10240515N09.D

L4 =V10240515N10.D L6 =V10240515N11.D L7 =V10240515N12.D L8 =V10240515N13.D

		Compound	L0	L1	L1.5	L2	L3	L4	L6	L7	L8	Avg	%RSD
41)	TP	Benzene	0.785	0.812	0.992	0.892	0.860	0.878	0.889	0.853	0.897	0.873	6.71
42)	TP	Tertiary-Amyl Methyl Ether		0.620	0.748	0.657	0.660	0.706	0.719	0.711	0.737	0.695	6.39
43)	S	1,2-Dichloroethane-d4	0.283	0.281	0.287	0.285	0.281	0.288	0.281	0.291	0.294	0.286	1.66
44)	TP	1,2-Dichloroet		0.320	0.341	0.318	0.307	0.309	0.310	0.295	0.305	0.313	4.33
47)	TP	Methyl cyclohe		0.326	0.454	0.396	0.371	0.392	0.395	0.399	0.443	0.397	9.99
48)	TP	Trichloroethene	0.191	0.201	0.263	0.245	0.235	0.237	0.240	0.234	0.253	0.233	9.90
50)	TP	Dibromomethane		0.136	0.166	0.153	0.152	0.156	0.157	0.150	0.154	0.153	5.58
51)	TC	1,2-Dichloropr		0.204	0.266	0.230	0.220	0.230	0.231	0.221	0.228	0.229	7.57
53)	TP	2-Chloroethyl		0.120	0.141	0.140	0.142	0.152	0.156	0.151	0.153	0.144	7.99
54)	TP	Bromodichloromethane	0.313	0.273	0.353	0.321	0.305	0.322	0.325	0.314	0.327	0.317	6.65
57)	TP	1,4-Dioxane		0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003#	7.80
58)	TP	cis-1,3-Dichloropropene	0.369	0.329	0.404	0.375	0.374	0.382	0.387	0.372	0.386	0.375	5.41
59)	I	Chlorobenzene-d5	----------ISTD----------										
60)	S	Toluene-d8	1.248	1.254	1.251	1.246	1.258	1.243	1.212	1.216	1.195	1.236	1.81
61)	TC	Toluene		0.696	0.852	0.728	0.688	0.705	0.707	0.670	0.706	0.719	7.85
62)	TP	4-Methyl-2-pen		0.110	0.119	0.103	0.114	0.118	0.122	0.119	0.123	0.116	5.94
63)	TP	Tetrachloroethene	0.249	0.253	0.347	0.303	0.291	0.301	0.305	0.291	0.315	0.295	10.23
65)	TP	trans-1,3-Dich		0.349	0.440	0.433	0.428	0.444	0.446	0.428	0.441	0.426	7.48
67)	TP	Ethyl methacry		0.272	0.322	0.334	0.340	0.357	0.368	0.362	0.374	0.341	9.68
68)	TP	1,1,2-Trichlor		0.205	0.212	0.211	0.203	0.210	0.211	0.206	0.212	0.209	1.66
69)	TP	Chlorodibromomethane	0.247	0.264	0.310	0.287	0.297	0.314	0.319	0.310	0.318	0.296	8.67
70)	TP	1,3-Dichloropr		0.415	0.457	0.425	0.429	0.444	0.443	0.419	0.424	0.432	3.36
71)	TP	1,2-Dibromoethane	0.258	0.259	0.276	0.255	0.263	0.272	0.276	0.261	0.263	0.265	3.03
72)	TP	2-Hexanone		0.233	0.231	0.214	0.221	0.234	0.238	0.231	0.233	0.229	3.38
73)	TP	Chlorobenzene	0.716	0.752	0.942	0.824	0.800	0.830	0.827	0.797	0.835	0.814	7.69
74)	TC	Ethylbenzene		1.224	1.452	1.311	1.290	1.333	1.371	1.309	1.398	1.336	5.25
75)	TP	1,1,1,2-Tetrachloroethane	0.233	0.256	0.325	0.280	0.289	0.304	0.313	0.303	0.311	0.291	10.30
76)	TP	p/m Xylene	0.495	0.491	0.582	0.519	0.514	0.538	0.553	0.528	0.577	0.533	6.16
77)	TP	o Xylene	0.466	0.475	0.579	0.532	0.505	0.531	0.546	0.525	0.569	0.525	7.27
78)	TP	Styrene	0.783	0.758	0.898	0.845	0.874	0.929	0.975	0.955	1.047	0.896	10.33
79)	I	1,4-Dichlorobenzene-d4	----------ISTD----------										
80)	TP	Bromoform		0.308	0.373	0.348	0.340	0.380	0.417	0.426	0.438	0.379	12.07
82)	TP	Isopropylbenzene		2.127	2.808	2.417	2.306	2.426	2.494	2.431	2.579	2.448	8.07
83)	S	4-Bromofluorobenzene	0.832	0.807	0.840	0.827	0.815	0.818	0.801	0.794	0.777	0.812	2.44
84)	TP	Bromobenzene		0.586	0.725	0.663	0.637	0.654	0.667	0.647	0.668	0.656	5.88
85)	TP	n-Propylbenzene		2.352	3.159	2.842	2.670	2.804	2.856	2.766	2.959	2.801	8.29

Evaluate Continuing Calibration Report

Data Path : K:\VOA110\2024\240515N-ICAL\
Data File : V10240515N18.D
Acq On : 16 May 2024 3:38 am
Operator : VOA110:JIC
Sample : C8260STD40PPB
Misc : WG1921822,ICAL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 16 07:26:43 2024
Quant Method : K:\VOA110\2024\240515N-ICAL\V110_240515N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu May 16 07:25:15 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	100	0.00
2	TP	Dichlorodifluoromethane	0.285	0.306	-7.4	110	0.00
3	TP	Chloromethane	0.258	0.296	-14.7	124	0.00
4	TC	Vinyl chloride	0.314	0.347	-10.5	110	0.00
5	TP	Bromomethane	0.243	0.249	-2.5	116	0.00
6	TP	Chloroethane	0.242	0.259	-7.0	107	0.00
7	TP	Trichlorofluoromethane	0.544	0.573	-5.3	107	0.00
8	TP	Ethyl ether	0.200	0.212	-6.0	108	0.00
10	TC	1,1-Dichloroethene	0.296	0.300	-1.4	104	0.00
11	TP	Carbon disulfide	1.008	0.666	33.9#	69	0.00
12	TP	Freon-113	0.317	0.333	-5.0	108	0.00
14	TP	Acrolein	0.065	0.049	24.6#	74	0.00
15	TP	Methylene chloride	0.375	0.343	8.5	99	0.00
17	TP	Acetone	0.130	0.116	10.8	89	0.00
18	TP	trans-1,2-Dichloroethene	0.297	0.337	-13.5	101	0.00
19	TP	Methyl acetate	0.256	0.293	-14.5	97	0.00
20	TP	Methyl tert-butyl ether	0.833	0.706	15.2	94	0.00
21	TP	tert-Butyl alcohol	0.041	0.037	9.8	90	0.00
22	TP	Diisopropyl ether	0.751	0.736	2.0	97	0.00
23	TP	1,1-Dichloroethane	0.406	0.413	-1.7	104	0.00
24	TP	Halothane	0.171	0.180	-5.3	111	0.00
25	TP	Acrylonitrile	0.084	0.082	2.4	98	0.00
26	TP	Ethyl tert-butyl ether	0.724	0.686	5.2	93	0.00
27	TP	Vinyl acetate	0.563	0.448	20.4#	79	0.00
28	TP	cis-1,2-Dichloroethene	0.248	0.248	0.0	101	0.00
29	TP	2,2-Dichloropropane	0.334	0.332	0.6	104	0.00
30	TP	Bromochloromethane	0.128	0.121	5.5	98	0.00
31	TP	Cyclohexane	0.357	0.366	-2.5	105	0.00
32	TC	Chloroform	0.399	0.400	-0.3	101	0.00
33	TP	Ethyl acetate	0.305	0.272	10.8	94	0.00
34	TP	Carbon tetrachloride	0.321	0.331	-3.1	105	0.00
35	TP	Tetrahydrofuran	0.094	0.088	6.4	101	0.00
36	S	Dibromofluoromethane	0.262	0.259	1.1	99	0.00
37	TP	1,1,1-Trichloroethane	0.343	0.362	-5.5	105	0.00
39	TP	2-Butanone	0.136	0.126	7.4	96	0.00
40	TP	1,1-Dichloropropene	0.299	0.311	-4.0	105	0.00
41	TP	Benzene	0.873	0.877	-0.5	99	0.00
42	TP	tert-Amyl methyl ether	0.695	0.656	5.6	93	0.00
43	S	1,2-Dichloroethane-d4	0.286	0.281	1.7	97	0.00

Calibration Verification Summary
Form 7
Volatiles

Client	: C&S Companies		Lab Number	: L2427942	
Project Name	: 1803 ELMWOOD AVENUE BCP		Project Number	: S93.003.002	
Instrument ID	: VOA110		Calibration Date	: 05/23/24 10:22	
Lab File ID	: V10240523A02		Init. Calib. Date(s)	: 05/15/24	05/16/24
Sample No	: WG1925061-2		Init. Calib. Times	: 20:51	01:23
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
Fluorobenzene	1	1	-	0	20	109	0	
Dichlorodifluoromethane	0.285	0.221	-	22.5*	20	87	0	NT
Chloromethane	0.258	0.188	-	27.1*	20	86	0	NT
Vinyl chloride	0.314	0.238	-	24.2*	20	83	0	
Bromomethane	0.243	0.16	-	34.2*	20	82	0	NT
Chloroethane	0.242	0.192	-	20.7*	20	87	0	NT
Trichlorofluoromethane	0.544	0.427	-	21.5*	20	87	0	
Ethyl ether	0.2	0.16	-	20	20	90	0	
1,1-Dichloroethene	0.296	0.231	-	22*	20	88	0	
Carbon disulfide	1.008	0.759	-	24.7*	20	86	0	
Freon-113	0.317	0.252	-	20.5*	20	90	0	NT
Acrolein	0.065	0.053	-	18.5	20	87	-.01	
Methylene chloride	0.375	0.288	-	23.2*	20	91	0	
Acetone	0.13	0.106	-	18.5	20	90	0	
trans-1,2-Dichloroethene	0.297	0.266	-	10.4	20	88	0	
Methyl acetate	0.256	0.249	-	2.7	20	91	0	
Methyl tert-butyl ether	0.833	0.728	-	12.6	20	107	0	
tert-Butyl alcohol	0.041	0.037	-	9.8	20	96	0	
Diisopropyl ether	0.751	0.637	-	15.2	20	92	0	
1,1-Dichloroethane	0.406	0.328	-	19.2	20	91	0	
Halothane	0.171	0.147	-	14	20	99	-.01	
Acrylonitrile	0.084	0.068	-	19	20	90	0	
Ethyl tert-butyl ether	0.724	0.623	-	14	20	93	0	
Vinyl acetate	0.563	0.422	-	25*	20	82	0	NT
cis-1,2-Dichloroethene	0.248	0.211	-	14.9	20	95	0	
2,2-Dichloropropane	0.334	0.286	-	14.4	20	98	0	
Bromochloromethane	0.128	0.11	-	14.1	20	97	0	
Cyclohexane	0.357	0.28	-	21.6*	20	88	0	NT
Chloroform	0.399	0.332	-	16.8	20	92	0	
Ethyl acetate	0.305	0.246	-	19.3	20	93	0	
Carbon tetrachloride	0.321	0.263	-	18.1	20	92	0	
Tetrahydrofuran	0.094	0.072	-	23.4*	20	90	0	NT
Dibromofluoromethane	0.262	0.249	-	5	20	104	0	
1,1,1-Trichloroethane	0.343	0.295	-	14	20	94	0	
2-Butanone	0.136	0.108	-	20.6*	20	91	0	
1,1-Dichloropropene	0.299	0.246	-	17.7	20	91	0	
Benzene	0.873	0.736	-	15.7	20	92	0	
tert-Amyl methyl ether	0.695	0.604	-	13.1	20	94	0	
1,2-Dichloroethane-d4	0.286	0.275	-	3.8	20	104	0	
1,2-Dichloroethane	0.313	0.262	-	16.3	20	93	0	
Methyl cyclohexane	0.397	0.317	-	20.2*	20	89	0	NT
Trichloroethene	0.233	0.211	-	9.4	20	98	0	
Dibromomethane	0.153	0.134	-	12.4	20	94	0	

* Value outside of QC limits.

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: C&S Companies	**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Matrix (Level)	: SOIL (LOW)		
LCS Sample ID	: WG1924666-2 **Analysis Date** : 05/24/24 01:52	**File ID**	: 924666-2
LCSD Sample ID	: WG1924666-3 **Analysis Date** : 05/24/24 02:15	**File ID**	: 924666-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Acenaphthene	1300	810	62	1300	1100	85	31	31-137	50
Hexachlorobenzene	1300	910	69	1300	1200	94	31	40-140	50
Fluoranthene	1300	860	66	1300	1100	86	26	40-140	50
Naphthalene	1300	770	59	1300	1000	80	30	40-140	50
Benzo(a)anthracene	1300	810	62	1300	1000	80	25	40-140	50
Benzo(a)pyrene	1300	880	67	1300	1100	86	25	40-140	50
Benzo(b)fluoranthene	1300	860	66	1300	1200	91	32	40-140	50
Benzo(k)fluoranthene	1300	850	65	1300	1000	80	21	40-140	50
Chrysene	1300	790	60	1300	1000	78	26	40-140	50
Acenaphthylene	1300	890	68	1300	1200	89	27	40-140	50
Anthracene	1300	860	66	1300	1100	85	25	40-140	50
Benzo(ghi)perylene	1300	830	63	1300	1100	85	30	40-140	50
Fluorene	1300	840	64	1300	1100	85	28	40-140	50
Phenanthrene	1300	850	65	1300	1100	84	26	40-140	50
Dibenzo(a,h)anthracene	1300	830	64	1300	1100	84	27	40-140	50
Indeno(1,2,3-cd)pyrene	1300	810	62	1300	1100	82	28	40-140	50
Pyrene	1300	860	66	1300	1100	85	25	35-142	50
Dibenzofuran	1300	850	65	1300	1100	86	28	40-140	50
Pentachlorophenol	1300	870	67	1300	1100	88	27	17-109	50
Phenol	1300	800	62	1300	1100	83	29	26-90	50
2-Methylphenol	1300	810	62	1300	1100	81	27	30-130.	50
3-Methylphenol/4-Methylphenol	1300	850	65	1300	1100	87	29	30-130	50
1,4-Dioxane	1300	480	37 Q	1300	640	49	28	40-140	50

Identification Summary
Form 10
PCBs

Client	:	C&S Companies	Lab Number	:	L2427942
Project Name	:	1803 ELMWOOD AVENUE BCP	Project Number	:	S93.003.002
Lab Sample ID	:	L2427942-01			
Client ID	:	SB-01-2FT-20240520			
Date Analyzed (1)	:	06/03/24 13:53	Date Analyzed (2)	:	06/03/24 13:53
Instrument ID (1)	:	PEST21	Instrument ID (2)	:	PEST21
GC Column (1)	:	CLP-Pesticide	GC Column (2)	:	CLP-PesticideII

Analyte	Peak	RT	RT Window From	RT Window To	Concentration	Mean Concentration	%RPD	
AROCLOR 1254	1	2.25	-0.05	0.05	83.9			
	2	2.36	-0.05	0.05	50.8			
COLUMN 1	3	2.54	-0.05	0.05	105.			
	4	2.67	-0.05	0.05	48.5			
	5	0.00	0.00	0.00		72.1		
	1	2.63	-0.05	0.05	38.6			
	2	2.72	-0.05	0.05	28.5			
COLUMN 2	3	2.95	-0.05	0.05	74.6			
	4	3.06	-0.05	0.05	35.4			
	5	0.00	0.00	0.00		44.2	NC	48.0 %
AROCLOR 1260	1	0.00	2.56	2.66	0.			
	2	0.00	2.69	2.79	0.			
COLUMN 1	3	3.07	3.00	3.10	15.6			
	4	3.23	3.16	3.26	9.47			
	5	3.40	3.31	3.41	59.1	28.		
	1	0.00	2.98	3.08	0.			
	2	0.00	3.08	3.18	0.			
COLUMN 2	3	3.54	3.48	3.58	6.5			
	4	3.67	3.61	3.71	15.3			
	5	3.87	3.81	3.91	18.6	13.5J	NC	69.9 %

Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	Lab Number	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: WG1925622-1	Date Collected	: NA
Client ID	: WG1925622-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/25/24 10:48
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8015D(M)	Dilution Factor	: 1
Lab File ID	: P26240525A05	Analyst	: CRE
Sample Amount	: 15.45 g	Instrument ID	: PETRO26B
Extraction Method	: EPA 3546	GC Column	:
Extract Volume	: 1000 uL	%Solids	: NA
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
NONE	DRO (C10-C28)	2200	32000	1800	J

Laboratory Control Sample (Low Level) Summary
Form 3
Semivolatiles

Client	: C&S Companies			**Lab Number**	: L2427942
Project Name	: 1803 ELMWOOD AVENUE BCP			**Project Number**	: S93.003.002
Matrix (Level)	: SOIL ()				
LCS Sample ID	: WG1929578-2	**Analysis Date**	: 06/05/24 11:56	**File ID**	: SCI05_240605_32.wiff
LCSD Sample ID	:	**Analysis Date**	:	**File ID**	:

	Laboratory Control Sample (LOW)			Laboratory Control Duplicate (LOW)					
Parameter	**True (ng/g)**	**Found (ng/g)**	**%R**	**True (ng/g)**	**Found (ng/g)**	**%R**	**RPD**	**Recovery Limits**	**RPD Limit**
do Ethanol (NMeFOSE)									
N-Ethyl Perfluorooctanesulfonamid o Ethanol (NEtFOSE)	3.2	3.62	113				-	40-150	30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	0.64	0.795	124				-	40-150	30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	0.64	0.626	98				-	40-150	30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	0.57	0.574	101				-	40-150	30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	0.64	1.03	161 Q				-	40-150	30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	1.6	1.50	94				-	40-150	30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	8	8.12	102				-	40-150	30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	8	7.52	94				-	40-150	30

Calibration Verification Summary
Form 7
Semivolatiles

Client	: C&S Companies		Lab Number	: L2427942	
Project Name	: 1803 ELMWOOD AVENUE BCP		Project Number	: S93.003.002	
Instrument ID	: LCMS05		Calibration Date	: 06/05/24 11:17	
Lab File ID	: SCI05_240605_29		Init. Calib. Date(s)	: 04/11/24	04/11/24
Sample No	: WG1929790-10		Init. Calib. Times	: 16:21	18:03
Channel	:				

Compound	Concentration (ng/ml)	True Value (ng/ml)	% Recovery	QC Limits
Perfluorobutanoic Acid (PFBA)	9.450	10.000	94.5	70-130
Perfluoropentanoic Acid (PFPeA)	4.697	5.000	94	70-130
Perfluorobutanesulfonic Acid (PFBS)	2.120	2.217	95.6	70-130
Perfluorohexanoic Acid (PFHxA)	2.483	2.500	99.3	70-130
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	9.486	9.375	101.2	70-130
Perfluoropentanesulfonic Acid (PFPeS)	2.507	2.353	106.6	70-130
Perfluoroheptanoic Acid (PFHpA)	2.240	2.500	89.6	70-130
Perfluorohexanesulfonic Acid (PFHxS)	2.174	2.285	95.1	70-130
Perfluorooctanoic Acid (PFOA)	2.213	2.500	88.5	70-130
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	9.815	9.500	103.3	70-130
Perfluoroheptanesulfonic Acid (PFHpS)	2.227	2.382	93.5	70-130
Perfluorononanoic Acid (PFNA)	2.330	2.500	93.2	70-130
Perfluorooctanesulfonic Acid (PFOS)	2.073	2.320	89.3	70-130
Perfluorodecanoic Acid (PFDA)	2.172	2.500	86.9	70-130
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	10.059	9.600	104.8	70-130
Perfluorononanesulfonic Acid (PFNS)	2.361	2.405	98.2	70-130
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	2.514	2.500	100.6	70-130
Perfluoroundecanoic Acid (PFUnA)	2.261	2.500	90.4	70-130
Perfluorodecanesulfonic Acid (PFDS)	2.270	2.413	94.1	70-130
Perfluorooctanesulfonamide (PFOSA)	2.380	2.500	95.2	70-130
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	2.418	2.500	96.7	70-130
Perfluorododecanoic Acid (PFDoA)	2.486	2.500	99.4	70-130
Perfluorotridecanoic Acid (PFTrDA)	2.484	2.500	99.4	70-130
Perfluorotetradecanoic Acid (PFTeDA)	2.217	2.500	88.7	70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	9.241	10.000	92.4	70-130
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	9.547	9.450	101	70-130
Perfluorododecanesulfonic Acid (PFDoS)	2.035	2.425	83.9	70-130
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	9.743	9.350	104.2	70-130
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	10.060	9.450	106.5	70-130
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	2.574	2.500	102.9	70-130
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	2.335	2.500	93.4	70-130
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	24.711	25.000	98.8	70-130
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	27.250	25.000	109	70-130
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	5.302	5.000	106	70-130
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	4.434	5.000	88.7	70-130
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	4.219	4.450	94.8	70-130
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	6.770	5.000	135.4*	70-130
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	11.984	12.500	95.9	70-130
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	62.710	62.500	100.3	70-130
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	70.455	62.500	112.7	70-130
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	9.917	10.000	99.2	70-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	5.371	5.000	107.4	70-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	2.400	2.330	103	70-130

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: C&S Companies		Lab Number	: L2427942	
Project Name	: 1803 ELMWOOD AVENUE BCP		Project Number	: S93.003.002	
Instrument ID	: LCMS05		Calibration Date	: 06/05/24 14:55	
Lab File ID	: SCI05_240605_46		Init. Calib. Date(s)	: 04/11/24	04/11/24
Sample No	: WG1929790-12		Init. Calib. Times	: 16:21	18:03
Channel	:				

Compound	Concentration (ng/ml)	True Value (ng/ml)	% Recovery	QC Limits
Perfluorobutanoic Acid (PFBA)	9.286	10.000	92.9	70-130
Perfluoropentanoic Acid (PFPeA)	4.689	5.000	93.8	70-130
Perfluorobutanesulfonic Acid (PFBS)	2.025	2.217	91.3	70-130
Perfluorohexanoic Acid (PFHxA)	2.467	2.500	98.7	70-130
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	9.625	9.375	102.7	70-130
Perfluoropentanesulfonic Acid (PFPeS)	2.458	2.353	104.5	70-130
Perfluoroheptanoic Acid (PFHpA)	2.312	2.500	92.5	70-130
Perfluorohexanesulfonic Acid (PFHxS)	2.140	2.285	93.6	70-130
Perfluorooctanoic Acid (PFOA)	2.211	2.500	88.4	70-130
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	9.884	9.500	104	70-130
Perfluoroheptanesulfonic Acid (PFHpS)	2.151	2.382	90.3	70-130
Perfluorononanoic Acid (PFNA)	2.268	2.500	90.7	70-130
Perfluorooctanesulfonic Acid (PFOS)	1.947	2.320	83.9	70-130
Perfluorodecanoic Acid (PFDA)	2.323	2.500	92.9	70-130
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	9.566	9.600	99.7	70-130
Perfluorononanesulfonic Acid (PFNS)	2.322	2.405	96.5	70-130
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	2.285	2.500	91.4	70-130
Perfluoroundecanoic Acid (PFUnA)	2.356	2.500	94.3	70-130
Perfluorodecanesulfonic Acid (PFDS)	2.255	2.413	93.4	70-130
Perfluorooctanesulfonamide (PFOSA)	2.324	2.500	93	70-130
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	2.331	2.500	93.2	70-130
Perfluorododecanoic Acid (PFDoA)	2.413	2.500	96.5	70-130
Perfluorotridecanoic Acid (PFTrDA)	2.317	2.500	92.7	70-130
Perfluorotetradecanoic Acid (PFTeDA)	2.089	2.500	83.6	70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	9.530	10.000	95.3	70-130
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	9.576	9.450	101.3	70-130
Perfluorododecanesulfonic Acid (PFDoS)	2.010	2.425	82.9	70-130
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	10.351	9.350	110.7	70-130
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	10.223	9.450	108.2	70-130
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	2.572	2.500	102.9	70-130
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	2.322	2.500	92.9	70-130
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	24.814	25.000	99.3	70-130
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	25.731	25.000	102.9	70-130
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	5.436	5.000	108.7	70-130
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	4.430	5.000	88.6	70-130
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	4.281	4.450	96.2	70-130
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	6.741	5.000	134.8*	70-130
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	11.895	12.500	95.2	70-130
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	63.337	62.500	101.3	70-130
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	67.341	62.500	107.8	70-130
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	10.245	10.000	102.4	70-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	5.455	5.000	109.1	70-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	2.447	2.330	105	70-130

* Value outside of QC limits.

Appendix C

Validator Qualifications

KENNETH R. APPLIN
Geochemist/Data Validator

Ph.D., Geochemistry and Mineralogy, The Pennsylvania State University

M.S., Geochemistry and Mineralogy, The Pennsylvania State University

B.A., Geological Sciences, SUNY at Geneseo, NY

Dr. Applin has over 35 years of experience working with the geochemistry of natural waters. His prior experience includes working as an Assistant Professor of Geology at the University of Missouri-Columbia and as Chief Hydrogeologist and Geochemist with a leading engineering firm in Rochester, NY. In 1993, he established KR Applin and Associates, a small consulting business that focuses on the geochemistry of natural waters, especially as applied to problems involving the contamination of groundwater and surface water.

Dr. Applin is also an experienced analytical data validator and has provided data validation services since 1994 to a variety of clients performing brownfield cleanup projects, hazardous waste remediation, groundwater monitoring at solid waste facilities, and other projects requiring third-party data validation. Dr. Applin has several years of hands-on experience with the laboratory analysis of natural waters and has successfully completed the USEPA Region II certification courses for performing inorganic and organic analytical data validation.

MICHAEL K. PERRY
Chemist/Data Validator

B.S. Chemistry, Georgia State University, Atlanta, GA

A.A.S., Chemical Technology, Alfred State College, Alfred, NY

Mr. Perry has over 30 years of experience in the analytical laboratory business. During his early career, he spent several years as a laboratory analyst performing the analysis of soil, water, and air samples for inorganic and organic chemical parameters. During his last 20 years in the environmental laboratory business, he managed and directed two major analytical laboratories in Rochester, NY. His management responsibilities included oversight of the daily operations of the lab, staff training and supervision, the selection, purchase, and maintenance of analytical instruments, the introduction of new laboratory methods, analytical quality assurance and quality control, data acquisition and management, and other business-related activities.

Mr. Perry has an extensive working knowledge of the methods and procedures used for sampling and analyzing both inorganic and organic analytes in soil, water, and air. He is an accomplished laboratory chemist and is familiar with the analytical methods and procedures established under the USEPA Contract Laboratory Protocols (CLP), the NYSDEC Analytical Services Protocols (ASP), and the NYSDOH Environmental Laboratory Approval Program (ELAP).

DATA USABILITY SUMMARY REPORT (DUSR)

1803 Elmwood Ave. BCP RI
Buffalo, NY
Project #: S93.003.002

SDG: L2428242
15 Soil Samples

Prepared for:

C&S Companies
141 Elm Street, Suite 100
Buffalo, NY 14203
Attention: Jesse Alt-Winzig

July 2024

EDU *Environmental Data Usability 10028 Deer Park Dr. Dansville, NY 14437 585-991-9156*

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REVIEWER'S NARRATIVE
C&S Companies SDG L2428242 – 1803 Elmwood Ave. BCP RI

The data associated with this Sample Delivery Group (SDG) L2428242, analyzed by Alpha Analytical, Westborough, MA have been reviewed in accordance with assessment criteria provided by the New York State Department of Environmental Conservation following the review procedures provided in the USEPA Functional Guidelines for evaluating organic and inorganic data.

All analytical results reported by the laboratory are considered valid and acceptable except results that have been qualified as rejected, "R". Results qualified as estimated "J", or as non-detects, "U", are considered usable for the purpose of evaluating water and/or soil quality. However, these qualifiers indicate that the accuracy and/or precision of the analytical result is questionable. A summary of all data that have been qualified and the reasons for qualification are provided in the following data usability summary report (DUSR).

Two facts should be noted by all data users. First, the "R" qualifier means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Values qualified with an "R" should not appear on the final data tables because they cannot be relied upon, even as the last resort. Second, no analyte concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data, but any value potentially contains error.

Reviewer's Signature: Michael K. Perry Date: 7/19/2024

Michael K. Perry
Chemist

1.0 EVENT SUMMARY

SITE:	1803 Elmwood Ave. BCP RI Buffalo, NY Project #: S93.003.002
SAMPLING DATE:	May 21, 2024
SAMPLE TYPE:	15 soil samples
LABORATORY:	Alpha Analytical Westborough, MA
SDG No.:	L2428242

2.0 INTRODUCTION

This data usability summary report (DUSR) was prepared in accordance with guidance provided by the New York State Department of Environmental Conservation (NYSDEC). The DUSR is based on a review and evaluation of the laboratory analytical data package. Specifically, the NYSDEC guidance recommends review and evaluation of the following elements of the data package:

- Completeness of the data package as defined under the requirements of the NYSDEC Analytical Services Protocols (ASP) Category B or the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) deliverables,
- Compliance with established analyte holding times,
- Adherence to quality control (QC) limits and specifications for blanks, instrument tuning and calibration, surrogate recoveries, spike recoveries, laboratory duplicate analyses, and other QC criteria,
- Adherence to established analytical protocols,
- Conformance of data summary sheets with raw analytical data, and
- Use of correct data qualifiers.

Data deficiencies, analytical protocol deviations, and quality control problems identified using the review criteria above and their effect on the analytical results are discussed in this report.

3.0 SAMPLE AND ANALYSIS SUMMARY

The data package consists of analytical results for 15 soil samples collected on May 21, 2024. These samples were analyzed for Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), TPH-GRO, Herbicides, PCBs, Pesticides, TPH-DRO, PFASs, Metals (ICP and Hg), Total Cyanide (TCN), and Hexavalent Chromium (Cr+6).

All laboratory analyses were submitted to Alpha Analytical, Westborough, MA and analyzed as SDG L2428242. The analytical results were provided in NYSDEC ASP Category B format, which includes all raw analytical data and laboratory QC data.

4.0 GUIDANCE DOCUMENTS AND DATA REVIEW CRITERIA

The guidance documents appropriate for reviewing laboratory quality control (QC) data and assigning data qualifiers (flags) to analytical results were selected from those listed in Table 4-1. The QC limits established in the documents applicable to this data review were used to assess the quality of the analytical results. In some cases, however, QC limits established internally by the laboratory were taken into account to determine data quality.

The QC criteria considered for assessing the usability of the reported analytical results provided for each analyte type (i.e. VOCs, SVOCs, metals, etc.) are listed in Table 4-2. These criteria may vary with the analytical method utilized by the laboratory. These criteria comply with the guidance recommended in Section 2.0 above.

5.0 DATA VALIDATION QUALIFIERS

The letter qualifiers (flags) used to define data usability are described briefly below. These letters are assigned by the data validator to analytical results having questionable accuracy and/or precision as determined by reviewing the laboratory QC data associated with the analytical results.

TABLE 4-1

Guidance Used For Validating Laboratory Analytical Data

Analyte Group	Guidance	Date
Metals (ICP-AES)	USEPA SOP HW-3a, Rev. 1	September 2016
Metals (Hg & CN)	USEPA SOP HW-3c, Rev. 1	September 2016
Volatile Organic Compounds (by Methods 8260B & 8260C)	USEPA SOP HW-24, Rev. 4	September 2014
Semi-Volatile Organic Compounds (by Method 8270D)	USEPA SOP HW-22 Rev. 5	December 2010
Pesticides (by Method 8181B)	USEPA SOP HW-44, Rev. 1.1	December 2010
Chlorinated Herbicides (by Method 8151A)	USEPA SOP HW-17, Rev. 3.1	December 2010
Polychlorinated Biphenyls (PCBs)	USEPA SOP HW-37A, Rev. 0	June 2015
Volatile Organic Compounds (Air) (by Method TO-15)	USEPA SOP HW-31, Rev. 6	September 2016
Per- and PolyFluoroAlkyl Substances (PFAS)	* NYSDEC ** US Dept. of Defense	January 2021 November 2022
Radiological Analysis		
Uranium	USEPA Method 908.0	June 1999
Radium-226	USEPA Method 903.1	1980
General Chemistry Parameters	per NYSDEC ASP	July 2005

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

** Data Validation Guidelines Module 6: Data Validatioin Procedures for Per- and Polyfluoroalkyl Substances Analysis by QSM Table B-24

TABLE 4-2

QUALITY CONTROL CRITERIA USED FOR VALIDATING LABORATORY ANALYTICAL DATA

VOCs	SVOCs	Pesticides/PCBs	Metals	Gen Chemistry	PFAS
Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg
Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation
Holding Time	Holding Time	Holding Time	Holding Time	Holding Times	Holding Time
System Monitoring Compounds	Surrogate Recoveries	Surrogate Recoveries	Initial/Continuing Calibration	Calibration	Instr Performance Check
Lab Control Sample	Lab Control Sample	Matrix Spikes	CRDL Standards	Lab Control Samples	Initial Calibration
Matrix Spikes	Matrix Spikes	Blanks	Blanks	Blanks	Continuing Calibration
Blanks	Blanks	Instrument Calibration & Verification	Interference Check Sample	Spike Recoveries	Blanks
Instrument Tuning	Instrument Tuning	Comparison of duplicate GC column results	Spike Recoveries	Lab Duplicates	Surrogates
Internal Standards	Internal Standards	Analyte ID	Lab Duplicate		Lab Fortified Blank
Initial Calibration	Initial Calibration	Lab Qualifiers	Lab Control Sample		Matrix Spikes
Continuing Calibration	Continuing Calibration	Field Duplicate	ICP Serial Dilutions		Internal Standards
Lab Qualifiers	Lab Qualifiers		Lab Qualifiers		
Field Duplicate	Field Duplicate		Field Duplicate		

Method TO-15 (Air)	Radiological (U and Ra)
Completeness of Pkg	Completeness of Pkg
Sample Preservation	Sample Preservation
Holding Time	Holding Time
Canister Certification	Sample Specific Yield
Instrument Tuning	Required Detection Limit
Initial Calibration and Instrument Performance	Laboratory Control Sample
	Matrix Spikes
Daily Calibration	Method Blank
Blanks	Instrument Calibration
Lab Control Sample	
Field Duplicate	

The laboratory may also use various letters and symbols to flag analytical results generated when QC limits were exceeded. The meanings of these flags may differ from those used by the independent data validator. Those used by the laboratory are provided with the analytical results.

NOTE: The assignment of data qualifiers by the data reviewer (validator) to laboratory analytical results should not necessarily be interpreted by the data user as a measure of laboratory ability or proficiency. Rather, the qualifiers are intended to provide a measure of data accuracy and precision to the data user, which, for example, may provide a level of confidence in determining whether or not standards or cleanup objectives have been met.

U The analyte was analyzed for but was not detected at or above the sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the *approximate* concentration of the analyte in the sample. (The magnitude of any ± value associated with the result is not determined by data validation).

J+ The result is an estimated quantity and may be biased high.

J- The result is an estimated quantity and may be biased low.

UJ The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R The sample result is rejected (i.e., is unusable) due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

The validated analytical results are attached to this report. Validation qualifiers (flags) are indicated in red print. Data sheets having qualified data are signed and dated by the data reviewer.

6.0 RESULTS OF THE DATA REVIEW

The results of the data review are summarized in Tables 6-1 through 6-10. The tables list the samples where QC criteria were found to exceed acceptable limits and the actions taken to qualify the associated analytical results.

7.0 TOTAL USABLE DATA

For SDG L2428242, 15 samples were analyzed and results were reported for 1823 analytes. Fifteen results were rejected. Even though some results were flagged with a "J" as estimated, all other results (99.2 %) are considered usable. See the summary table for the analyses that have been rejected and qualified and the associated QC reasons.

Table 6-1 VOCs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
All samples	1,4-Dioxane	J detects R non-detects	ICAL RF < 0.005	Since all results are non-detect, the results are rejected
SB-07-3FT-20240521	Methylene chloride Chlorobenzene Ethylbenzene trans-1,2-Dichloroethene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene p/m-Xylene o-Xylene n-Butylbenzene sec-Butylbenzene n-Propybenzene 1,3,5-Trimethylbenzene 1,2,4-Trimethylbenzene	J detects UJ non-detects	MS rec < QC limit	Data are estimated
SB-07-3FT-20240521	Trichloroethene	J detects	MS rec > QC limit	Data are estimated
SB-16-1FT-20240521	Methylene chloride Tetrachloroethene Chlorobenzene Ethylbenzene trans-1,2-Dichloroethene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene	J detects UJ non-detects	MS rec < QC limit	Data are estimated

	p/m-Xylene o-Xylene n-Butylbenzene sec-Butylbenzene n-Propybenzene 1,3,5-Trimethylbenzene 1,2,4-Trimethylbenzene			
SB-06-3FT-20240521 SB-06-7FT-20240521 DUP-A-20240521 SB-10-2FT-20240521 SB-10-4FT-20240521 SB-03-7FT-20240521 SB-07-3FT-20240521 SB-07-7FT-20240521 SB-15-4FT-20240521 SB-16-1FT-20240521 SB-16-3FT-20240521	Methylene chloride Acetone trans-1,2-Dichloroethene MTBE	J detects UJ non-detects	CCV % D > QC limit and/or LCS rec < QC limit	Data are estimated
SB-14-1FT-20240521 SB-15-2FT-20240521 SB-14-3FT-20240521	Vinyl chloride	J detects UJ non-detects	CCV % D > QC limit	Data are estimated
SB-03-2FT-20240521	Acetone 2-Butanone	J detects UJ non-detects	CCV % D > QC limit	Data are estimated

Table 6-2 SVOCs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
All samples	Hexachlorobenzene Pentachlorophenol 1,4-Dioxane	J detects UJ non-detects	CCV % D > QC limit	Data are estimated

Table 6-3 TPH-GRO

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-4 Herbicides

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-5 PCBs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
SB-10-2FT-20240521	PCB 1254	J detects	2nd column confirmation > 25 %	Data are estimated

Table 6-6 Pesticides

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-7 TPH-DRO

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
SB-16-1FT-20240521	DRO	J detects UJ non-detects	MS rec < QC limit	Data are estimated
SB-7-3FT-20240521 SB-14-1FT-20240521	DRO	J detects	Analyte detected in method blank	Data are estimated

Table 6-8 PFASs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-9 ICP Metals and Mercury

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
SB-6-3FT-20240521	Ni	J detects UJ non-detects	MS rec < QC limit	Data are estimated
SB-6-3FT-20240521	Be, Cd, Pb, Ni, and Zn	J detects	RPD > 35%	Data are estimated
SB-16-1FT-20240521	Pb, Ni, and Zn	J+ detects	MS rec > QC limit	Data may be biased high

Table 6-10 TCN and CR+6

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

ACRONYMS

BSP	Blank Spike
CCAL	Continuing Calibration
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
%D	Percent Difference
ICAL	Initial Calibration
ICB	Initial Calibration Blank
IS	Internal Standard
LCS	Laboratory Control Sample
MS/MSD	Matrix Spike/Matrix Spike Duplicate
QA	Quality Assurance
QC	Quality Control
%R	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
%RSD	Percent Relative Standard Deviation
TAL	Target Analyte List (metals)
TCL	Target Compound List (organics)

Appendix A

Validated Analytical Results

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Alpha Analytical

Laboratory Code: 11148

SDG Number: L2428242

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Project Name: 1803 ELMWOOD AVENUE BCP
Project Number: S93.003.002

Lab Number: L2428242
Report Date: 06/11/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2428242-01	SB-06-3FT-20240521	SOIL	Not Specified	05/21/24 08:40	05/21/24
L2428242-02	SB-06-7FT-20240521	SOIL	Not Specified	05/21/24 08:45	05/21/24
L2428242-03	DUP-A-20240521	SOIL	Not Specified	05/21/24 08:45	05/21/24
L2428242-04	SB-10-2FT-20240521	SOIL	Not Specified	05/21/24 09:15	05/21/24
L2428242-05	SB-10-4FT-20240521	SOIL	Not Specified	05/21/24 09:20	05/21/24
L2428242-06	SB-03-7FT-20240521	SOIL	Not Specified	05/21/24 10:05	05/21/24
L2428242-07	SB-07-3FT-20240521	SOIL	Not Specified	05/21/24 11:30	05/21/24
L2428242-08	SB-07-7FT-20240521	SOIL	Not Specified	05/21/24 11:35	05/21/24
L2428242-09	SB-03-2FT-20240521	SOIL	Not Specified	05/21/24 10:00	05/21/24
L2428242-10	SB-15-4FT-20240521	SOIL	Not Specified	05/21/24 13:05	05/21/24
L2428242-11	SB-14-1FT-20240521	SOIL	Not Specified	05/21/24 15:00	05/21/24
L2428242-12	SB-15-2FT-20240521	SOIL	Not Specified	05/21/24 13:00	05/21/24
L2428242-13	SB-16-1FT-20240521	SOIL	Not Specified	05/21/24 14:45	05/21/24
L2428242-14	SB-16-3FT-20240521	SOIL	Not Specified	05/21/24 13:40	05/21/24
L2428242-15	SB-14-3FT-20240521	SOIL	Not Specified	05/21/24 15:05	05/21/24

Case Narrative (continued)

Report Submission
June 11, 2024: This final report includes the results of all requested analyses.
June 06, 2024: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Perfluorinated Alkyl Acids by 1633
L2428242-09: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

Semivolatile Organics
The WG1925649-6/-7 MS/MSD recoveries, performed on L2428242-13, are outside the acceptance criteria for fluoranthene (6%/0%), benzo(a)anthracene (MSD 0%), benzo(a)pyrene (0%/0%), benzo(b)fluoranthene (0%/0%), chrysene (MSD 0%), and pyrene (0%/0%). The unacceptable percent recoveries are attributed to the elevated concentrations of target compounds present in the native sample.

PCBs
The surrogate recoveries for the WG1925851-7 MSD, performed on L2428242-13, are outside the acceptance criteria for decachlorobiphenyl (156%/244%); however, the sample was not re-extracted due to coelution with obvious interferences.

Total Metals
L2428242-01 through -15: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by the sample matrix.
The WG1926333-3 MS recoveries for copper (13%), lead (31%), manganese (0%), and zinc (0%), performed on L2428242-01, do not apply because the sample concentrations are greater than four times the spike amounts added.

Case Narrative (continued)

The WG1926333-3 MS recovery, performed on L2428242-01, is outside the acceptance criteria for nickel (48%). A post digestion spike was performed and was within acceptance criteria.
The WG1926384-3/-4 MS/MSD recoveries for manganese (0%/46%), performed on L2428242-07, do not apply because the sample concentration is greater than four times the spike amount added.
The WG1926384-7/-8 MS/MSD recoveries, performed on L2428242-13, are outside the acceptance criteria for copper (MSD 153%), lead (MS 132%), nickel (126%/127%), and zinc (141%/136%). A post digestion spike was performed and was within acceptance criteria.
The WG1926384-7/-8 MS/MSD recoveries for manganese (62%/341%), performed on L2428242-13, do not apply because the sample concentration is greater than four times the spike amount added. The MS/MSD RPD for manganese (23%) is above the acceptance criteria.
The WG1926333-4 Laboratory Duplicate RPDs for arsenic (27%), barium (72%), cadmium (36%), chromium (33%), copper (28%), lead (41%), manganese (30%), nickel (39%), and zinc (37%), performed on L2428242-01, are outside the acceptance criteria. The elevated RPDs have been attributed to the non-homogeneous nature of the native sample.

Hexavalent Chromium
The WG1926519-4/-5 MS/MSD RPD for chromium, hexavalent (49%), performed on L2428242-07, is above the acceptance criteria.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom Report Date: 06/11/24

Title: Technical Director/Representative

NEW YORK CHAIN OF CUSTODY

ALPHA

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 3

Date Rec'd in Lab: 5/22/24

ALPHA Job #: L2428242

Client Information
Client: CTS Engineers
Address: 141 Elm Street, Suite 100 Buffalo, NY 14203
Phone: (716) 847-1630
Fax:
Email: jaltwinzig@ctsengineers.com

Project Information
Project Name: 1803 Elmwood Avenue BCP
Project Location:
Project #: S93.003.002
(Use Project name as Project #)
Project Manager: Jesse Alt-Winzig
ALPHAQuote #:

Turn-Around Time
Standard [X] Due Date:
Rush (only if pre approved) [ ] # of Days:

Deliverables
[ ] ASP-A [X] ASP-B
[X] EQuIS (1 File) [ ] EQuIS (4 File)
[ ] Other

Billing Information
[X] Same as Client Info
PO #

Regulatory Requirement
[ ] NY TOGS [X] NY Part 375
[ ] AWQ Standards [ ] NY CP-51
[ ] NY Restricted Use [ ] Other
[ ] NY Unrestricted Use
[ ] NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
[ ] NJ [X] NY
[ ] Other:

These samples have been previously analyzed by Alpha [ ]

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
[ ] Done
[ ] Lab to do
Preservation
[ ] Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	1,4-Dioxane-SIM, NYTCL-8260, TPH-GRO, 8270	Total Hg, Metals	1633	TS	NYTCL-8260 HLW	TPH-GRO			Sample Specific Comments	Total Bottle
28242 -01	SB-06-3ft-20240521	5/21/24	0840	S	BW	X	X	X	X	X	X			1	8
-02	SB-06-7ft-20240521		0845	S	BW	X	X	X	X	X				NO TPH	7
03	DUP-A-20240521		0845	S	BW	X	X	X	X	X				DUPLICATE - NO TPH	7
-04	SB-10-2ft-20240521		0915	S	BW	X	X	X	X	X	X				8
-05	SB-10-4ft-20240521		0920	S	BW	X	X	X	X	X				NO TPH	7
-06	SB-03-7ft-20240521		1005	S	BW	X	X	X	X	X				NO TPH	7
-07	SB-07-3ft-20240521		1130	S	BW	X	X	X	X	X	X				8
-07	SB-07-3ft-MS-20240521		1130	S	BW	X	X	X	X	X	X			Matrix Spike	8
-07	SB-07-3ft-MSD-20240521		1130	S	BW	X	X	X	X	X	X			Matrix Spike Dup.	8
-08	SB-07-7ft-20240521		1135	S	BW	X	X	X	X	X				NO TPH	7
					Container Type	G	G	P	P	V	V				
					Preservative	A	A	A	A	H2O F	A				

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
	5/21/24 16:15	PACE 05122124-0160	5/21/24 16:15

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

NEW YORK CHAIN OF CUSTODY

ALPHA

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

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Date Rec'd in Lab: 5122124

ALPHA Job #: L2428242

Client Information
Client: C+S Engineers
Address: 141 Elm Street, Suite 100 Buffalo, NY 14203
Phone: (716) 847-1630
Fax:
Email: jaltwinz@cscos.com

Project Information
Project Name: 1803 Elmwood Avenue BCP
Project Location: S93.003.027
Project #
(Use Project name as Project #) ☐
Project Manager: Jesse Altwinzy
ALPHAQuote #:

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☒ ASP-B
☒ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information
☒ Same as Client Info
PO #

Regulatory Requirement
☐ NY TOGS ☒ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☒ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	HEXCR	HERB-APA, NYTCL-8081 TCN, A2-1,4-Dioxane	NYTCL 8082, TPH-DRO NYTCL 8270	Total Hg, Metals	A2-1633	TS	NYTCL-8260HLW	TPH-GRO	Sample Specific Comments	Total Bottle
28242 -09	SB-03-2ft-20240521	5/21/24	1000	S	BW	X	X	X	X	X	X	X	X		9
-10	SB-15-4ft-20240521	5/21/24	1305	S	BW	X	X	X	X	X	X	X		No TPH	8
-11	SB-14-1ft-20240521	5/21/24	1500	S	BW	X	X	X	X	X	X	X	X		9

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	G	G	G	P	P	V	V	
Preservative	A	A	A	A	A	H_2O F	A	

Relinquished By:	Date/Time	Received By:	Date/Time
	5/21/24 16:15	PACE	5/21/24 16:15
PACE	5/21/24 16:15		

0512212 4-0110

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

NEW YORK CHAIN OF CUSTODY

ALPHA

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 3 of 3

Date Rec'd in Lab 5122124

ALPHA Job # L2428242

Client Information

Client: C+S Engineers
Address: 141 Elm Street, Suite 100
Buffalo NY 14203
Phone: (716) 847-1630
Fax:
Email: jaltwinzig@cscos.com

Project Information

Project Name: 1803 Elmwood Avenue BCP
Project Location:
Project # S93.003.002
(Use Project name as Project #) ☐
Project Manager: Jesse Alt-Winzig
ALPHAQuote #:

Turn-Around Time

Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ ASP-A ☒ ASP-B
☒ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information

☒ Same as Client Info
PO #

Regulatory Requirement

☐ NY TOGS ☒ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☒ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	8260-1,4-Dioxane-SIM, NYTCL-8082, TPH-DRO,8270	Total Hg, Metals	A2-1633	TS	NYTCL-8260 HLW	TPH-GRO			Sample Specific Comments	Total Bottle
28242 -12	SB-15-2ft-20240521	5/21/24	1300	S	BW	X	X	X	X	X	X				8
-13	SB-16-1ft-20240521	5/21/24	1445	S	BW	X	X	X	X	X	X				8
-13	SB-16-1ft-MS-20240521	5/21/24	1445	S	BW	X	X	X	X	X	X			Matrix Spike	8
-13	SB-16-1ft-MSD-20240521	5/21/24	1445	S	BW	X	X	X	X	X	X			Matrix Spike Dup.	8
-14	SB-16-3ft-20240521	5/21/24	1340	S	BW	X	X	X	X	X				No TPH	7
-15	SB-14-3ft-20240521	5/21/24	1505	S	BW	X	X	X	X	X				No TPH	7
Container Type						G	G	P	P	V	V				
Preservative						A	A	A	A	H_2O F	A				

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
	5/21/24 16:15	MH/ALPACE	5/21/24 16:15
2nd/C PACE	5/21/24 16:15		0512212416

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

GC/MS 8260
Analysis

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-01	Date Collected	: 05/21/24 08:40
Client ID	: SB-06-3FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 10:06
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A11	Instrument ID	: VOA127
Sample Amount	: 9.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 86
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	3.0	1.4	U	UJ
75-34-3	1,1-Dichloroethane	ND	0.60	0.09	U	
67-66-3	Chloroform	ND	0.90	0.08	U	
56-23-5	Carbon tetrachloride	ND	0.60	0.14	U	
127-18-4	Tetrachloroethene	ND	0.30	0.12	U	
108-90-7	Chlorobenzene	ND	0.30	0.08	U	
107-06-2	1,2-Dichloroethane	ND	0.60	0.15	U	
71-55-6	1,1,1-Trichloroethane	ND	0.30	0.10	U	
71-43-2	Benzene	ND	0.30	0.10	U	
108-88-3	Toluene	ND	0.60	0.32	U	
100-41-4	Ethylbenzene	ND	0.60	0.08	U	
75-01-4	Vinyl chloride	ND	0.60	0.20	U	
75-35-4	1,1-Dichloroethene	ND	0.60	0.14	U	
156-60-5	trans-1,2-Dichloroethene	ND	0.90	0.08	U	UJ
79-01-6	Trichloroethene	ND	0.30	0.08	U	
95-50-1	1,2-Dichlorobenzene	ND	1.2	0.09	U	
541-73-1	1,3-Dichlorobenzene	ND	1.2	0.09	U	
106-46-7	1,4-Dichlorobenzene	ND	1.2	0.10	U	
1634-04-4	Methyl tert butyl ether	ND	1.2	0.12	U	UJ
179601-23-1	p/m-Xylene	ND	1.2	0.34	U	
95-47-6	o-Xylene	ND	0.60	0.17	U	
156-59-2	cis-1,2-Dichloroethene	ND	0.60	0.10	U	
67-64-1	Acetone	ND	6.0	2.9	U	UJ
78-93-3	2-Butanone	ND	6.0	1.3	U	
104-51-8	n-Butylbenzene	ND	0.60	0.10	U	

MKP 7/19/2024

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-01	Date Collected	: 05/21/24 08:40
Client ID	: SB-06-3FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 10:06
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A11	Instrument ID	: VOA127
Sample Amount	: 9.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 86
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	0.60	0.09	U	
98-06-6	tert-Butylbenzene	ND	1.2	0.07	U	
103-65-1	n-Propylbenzene	ND	0.60	0.10	U	
108-67-8	1,3,5-Trimethylbenzene	ND	1.2	0.12	U	
95-63-6	1,2,4-Trimethylbenzene	ND	1.2	0.20	U	
123-91-1	1,4-Dioxane	ND	48	21.	U	R

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-02	Date Collected	: 05/21/24 08:45
Client ID	: SB-06-7FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 10:27
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A12	Instrument ID	: VOA127
Sample Amount	: 6.1 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 82
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	5.0	2.3	U	UJ
75-34-3	1,1-Dichloroethane	ND	0.99	0.14	U	
67-66-3	Chloroform	ND	1.5	0.14	U	
56-23-5	Carbon tetrachloride	ND	0.99	0.23	U	
127-18-4	Tetrachloroethene	ND	0.50	0.19	U	
108-90-7	Chlorobenzene	ND	0.50	0.13	U	
107-06-2	1,2-Dichloroethane	ND	0.99	0.26	U	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.17	U	
71-43-2	Benzene	ND	0.50	0.16	U	
108-88-3	Toluene	ND	0.99	0.54	U	
100-41-4	Ethylbenzene	ND	0.99	0.14	U	
75-01-4	Vinyl chloride	ND	0.99	0.33	U	
75-35-4	1,1-Dichloroethene	ND	0.99	0.24	U	
156-60-5	trans-1,2-Dichloroethene	ND	1.5	0.14	U	UJ
79-01-6	Trichloroethene	ND	0.50	0.14	U	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.14	U	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.15	U	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.17	U	
1634-04-4	Methyl tert butyl ether	ND	2.0	0.20	U	UJ
179601-23-1	p/m-Xylene	ND	2.0	0.56	U	
95-47-6	o-Xylene	ND	0.99	0.29	U	
156-59-2	cis-1,2-Dichloroethene	ND	0.99	0.17	U	
67-64-1	Acetone	20	9.9	4.8		J
78-93-3	2-Butanone	3.9	9.9	2.2	J	
104-51-8	n-Butylbenzene	ND	0.99	0.17	U	

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-02	Date Collected	: 05/21/24 08:45
Client ID	: SB-06-7FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 10:27
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A12	Instrument ID	: VOA127
Sample Amount	: 6.1 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 82
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	0.99	0.14	U	
98-06-6	tert-Butylbenzene	ND	2.0	0.12	U	
103-65-1	n-Propylbenzene	ND	0.99	0.17	U	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.19	U	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.33	U	
123-91-1	1,4-Dioxane	ND	80	35.	U	R

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-03	Date Collected	: 05/21/24 08:45
Client ID	: DUP-A-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 10:48
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A13	Instrument ID	: VOA127
Sample Amount	: 6.2 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 81
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	5.0	2.3	U	UJ
75-34-3	1,1-Dichloroethane	ND	0.99	0.14	U	
67-66-3	Chloroform	ND	1.5	0.14	U	
56-23-5	Carbon tetrachloride	ND	0.99	0.23	U	
127-18-4	Tetrachloroethene	ND	0.50	0.19	U	
108-90-7	Chlorobenzene	ND	0.50	0.13	U	
107-06-2	1,2-Dichloroethane	ND	0.99	0.26	U	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.17	U	
71-43-2	Benzene	ND	0.50	0.16	U	
108-88-3	Toluene	ND	0.99	0.54	U	
100-41-4	Ethylbenzene	ND	0.99	0.14	U	
75-01-4	Vinyl chloride	ND	0.99	0.33	U	
75-35-4	1,1-Dichloroethene	ND	0.99	0.24	U	
156-60-5	trans-1,2-Dichloroethene	ND	1.5	0.14	U	UJ
79-01-6	Trichloroethene	ND	0.50	0.14	U	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.14	U	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.15	U	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.17	U	
1634-04-4	Methyl tert butyl ether	ND	2.0	0.20	U	UJ
179601-23-1	p/m-Xylene	ND	2.0	0.56	U	
95-47-6	o-Xylene	ND	0.99	0.29	U	
156-59-2	cis-1,2-Dichloroethene	ND	0.99	0.17	U	
67-64-1	Acetone	5.6	9.9	4.8	J	J
78-93-3	2-Butanone	ND	9.9	2.2	U	
104-51-8	n-Butylbenzene	ND	0.99	0.17	U	

MKP 7/19/2024

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-03	Date Collected	: 05/21/24 08:45
Client ID	: DUP-A-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 10:48
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A13	Instrument ID	: VOA127
Sample Amount	: 6.2 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 81
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	0.99	0.14	U	
98-06-6	tert-Butylbenzene	ND	2.0	0.12	U	
103-65-1	n-Propylbenzene	ND	0.99	0.17	U	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.19	U	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.33	U	
123-91-1	1,4-Dioxane	ND	80	35.	U	R

MKP 7/19/2024

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-04	Date Collected	: 05/21/24 09:15
Client ID	: SB-10-2FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 11:09
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A14	Instrument ID	: VOA127
Sample Amount	: 13.2 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 81
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	2.3	1.1	U	UJ
75-34-3	1,1-Dichloroethane	ND	0.47	0.07	U	
67-66-3	Chloroform	ND	0.70	0.07	U	
56-23-5	Carbon tetrachloride	ND	0.47	0.11	U	
127-18-4	Tetrachloroethene	ND	0.23	0.09	U	
108-90-7	Chlorobenzene	ND	0.23	0.06	U	
107-06-2	1,2-Dichloroethane	ND	0.47	0.12	U	
71-55-6	1,1,1-Trichloroethane	ND	0.23	0.08	U	
71-43-2	Benzene	0.10	0.23	0.08	J	
108-88-3	Toluene	ND	0.47	0.25	U	
100-41-4	Ethylbenzene	ND	0.47	0.07	U	
75-01-4	Vinyl chloride	12	0.47	0.16		
75-35-4	1,1-Dichloroethene	0.34	0.47	0.11	J	
156-60-5	trans-1,2-Dichloroethene	14	0.70	0.06		J
79-01-6	Trichloroethene	29	0.23	0.06		
95-50-1	1,2-Dichlorobenzene	ND	0.94	0.07	U	
541-73-1	1,3-Dichlorobenzene	ND	0.94	0.07	U	
106-46-7	1,4-Dichlorobenzene	ND	0.94	0.08	U	
1634-04-4	Methyl tert butyl ether	ND	0.94	0.09	U	UJ
179601-23-1	p/m-Xylene	ND	0.94	0.26	U	
95-47-6	o-Xylene	ND	0.47	0.14	U	
156-59-2	cis-1,2-Dichloroethene	45	0.47	0.08		
67-64-1	Acetone	2.2	4.7	2.2	J	J
78-93-3	2-Butanone	ND	4.7	1.0	U	
104-51-8	n-Butylbenzene	ND	0.47	0.08	U	

MKP 7/19/2024

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-04	Date Collected	: 05/21/24 09:15
Client ID	: SB-10-2FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 11:09
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A14	Instrument ID	: VOA127
Sample Amount	: 13.2 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 81
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	0.47	0.07	U	
98-06-6	tert-Butylbenzene	ND	0.94	0.06	U	
103-65-1	n-Propylbenzene	ND	0.47	0.08	U	
108-67-8	1,3,5-Trimethylbenzene	ND	0.94	0.09	U	
95-63-6	1,2,4-Trimethylbenzene	ND	0.94	0.16	U	
123-91-1	1,4-Dioxane	~~ND~~	37	16.	U	R

MKP 7/19/2024

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-05	Date Collected	: 05/21/24 09:20
Client ID	: SB-10-4FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 11:30
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A15	Instrument ID	: VOA127
Sample Amount	: 6.0 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 77
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	5.5	2.5	U	UJ
75-34-3	1,1-Dichloroethane	ND	1.1	0.16	U	
67-66-3	Chloroform	ND	1.6	0.15	U	
56-23-5	Carbon tetrachloride	ND	1.1	0.25	U	
127-18-4	Tetrachloroethene	ND	0.55	0.21	U	
108-90-7	Chlorobenzene	ND	0.55	0.14	U	
107-06-2	1,2-Dichloroethane	ND	1.1	0.28	U	
71-55-6	1,1,1-Trichloroethane	ND	0.55	0.18	U	
71-43-2	Benzene	ND	0.55	0.18	U	
108-88-3	Toluene	ND	1.1	0.59	U	
100-41-4	Ethylbenzene	ND	1.1	0.15	U	
75-01-4	Vinyl chloride	17	1.1	0.37		
75-35-4	1,1-Dichloroethene	7.8	1.1	0.26		
156-60-5	trans-1,2-Dichloroethene	3.1	1.6	0.15		J
79-01-6	Trichloroethene	310	0.55	0.15		
95-50-1	1,2-Dichlorobenzene	ND	2.2	0.16	U	
541-73-1	1,3-Dichlorobenzene	ND	2.2	0.16	U	
106-46-7	1,4-Dichlorobenzene	ND	2.2	0.19	U	
1634-04-4	Methyl tert butyl ether	ND	2.2	0.22	U	UJ
179601-23-1	p/m-Xylene	ND	2.2	0.61	U	
95-47-6	o-Xylene	ND	1.1	0.32	U	
156-59-2	cis-1,2-Dichloroethene	84	1.1	0.19		
67-64-1	Acetone	ND	11	5.3	U	UJ
78-93-3	2-Butanone	ND	11	2.4	U	
104-51-8	n-Butylbenzene	ND	1.1	0.18	U	

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Results Summary
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Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-05	Date Collected	: 05/21/24 09:20
Client ID	: SB-10-4FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 11:30
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A15	Instrument ID	: VOA127
Sample Amount	: 6.0 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 77
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	1.1	0.16	U	
98-06-6	tert-Butylbenzene	ND	2.2	0.13	U	
103-65-1	n-Propylbenzene	ND	1.1	0.19	U	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	0.21	U	
95-63-6	1,2,4-Trimethylbenzene	ND	2.2	0.36	U	
123-91-1	1,4-Dioxane	ND	88	38.	U	R

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Results Summary
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Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-06	Date Collected	: 05/21/24 10:05
Client ID	: SB-03-7FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 11:51
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A16	Instrument ID	: VOA127
Sample Amount	: 6.2 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 84
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	4.8	2.2	U	UJ
75-34-3	1,1-Dichloroethane	ND	0.95	0.14	U	
67-66-3	Chloroform	ND	1.4	0.13	U	
56-23-5	Carbon tetrachloride	ND	0.95	0.22	U	
127-18-4	Tetrachloroethene	ND	0.48	0.19	U	
108-90-7	Chlorobenzene	ND	0.48	0.12	U	
107-06-2	1,2-Dichloroethane	ND	0.95	0.24	U	
71-55-6	1,1,1-Trichloroethane	ND	0.48	0.16	U	
71-43-2	Benzene	ND	0.48	0.16	U	
108-88-3	Toluene	ND	0.95	0.52	U	
100-41-4	Ethylbenzene	ND	0.95	0.13	U	
75-01-4	Vinyl chloride	ND	0.95	0.32	U	
75-35-4	1,1-Dichloroethene	ND	0.95	0.23	U	
156-60-5	trans-1,2-Dichloroethene	0.70	1.4	0.13	J	J
79-01-6	Trichloroethene	0.27	0.48	0.13	J	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.14	U	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.14	U	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.16	U	
1634-04-4	Methyl tert butyl ether	ND	1.9	0.19	U	UJ
179601-23-1	p/m-Xylene	ND	1.9	0.53	U	
95-47-6	o-Xylene	ND	0.95	0.28	U	
156-59-2	cis-1,2-Dichloroethene	7.4	0.95	0.17		
67-64-1	Acetone	6.8	9.5	4.6	J	J
78-93-3	2-Butanone	ND	9.5	2.1	U	
104-51-8	n-Butylbenzene	ND	0.95	0.16	U	

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Results Summary
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Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-06	Date Collected	: 05/21/24 10:05
Client ID	: SB-03-7FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 11:51
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A16	Instrument ID	: VOA127
Sample Amount	: 6.2 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 84
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	0.95	0.14	U	
98-06-6	tert-Butylbenzene	ND	1.9	0.11	U	
103-65-1	n-Propylbenzene	ND	0.95	0.16	U	
108-67-8	1,3,5-Trimethylbenzene	ND	1.9	0.18	U	
95-63-6	1,2,4-Trimethylbenzene	ND	1.9	0.32	U	
123-91-1	1,4-Dioxane	ND	76	33.	U	R

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Results Summary
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Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-07	Date Collected	: 05/21/24 11:30
Client ID	: SB-07-3FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 12:12
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A17	Instrument ID	: VOA127
Sample Amount	: 8.9 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 94
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	3.0	1.4	U	UJ
75-34-3	1,1-Dichloroethane	ND	0.60	0.09	U	
67-66-3	Chloroform	ND	0.90	0.08	U	
56-23-5	Carbon tetrachloride	ND	0.60	0.14	U	
127-18-4	Tetrachloroethene	ND	0.30	0.12	U	
108-90-7	Chlorobenzene	ND	0.30	0.08	U	UJ
107-06-2	1,2-Dichloroethane	ND	0.60	0.15	U	
71-55-6	1,1,1-Trichloroethane	ND	0.30	0.10	U	
71-43-2	Benzene	ND	0.30	0.10	U	
108-88-3	Toluene	ND	0.60	0.32	U	
100-41-4	Ethylbenzene	ND	0.60	0.08	U	UJ
75-01-4	Vinyl chloride	ND	0.60	0.20	U	
75-35-4	1,1-Dichloroethene	ND	0.60	0.14	U	
156-60-5	trans-1,2-Dichloroethene	ND	0.90	0.08	U	UJ
79-01-6	Trichloroethene	0.50	0.30	0.08		J
95-50-1	1,2-Dichlorobenzene	ND	1.2	0.09	U	UJ
541-73-1	1,3-Dichlorobenzene	ND	1.2	0.09	U	UJ
106-46-7	1,4-Dichlorobenzene	ND	1.2	0.10	U	UJ
1634-04-4	Methyl tert butyl ether	ND	1.2	0.12	U	UJ
179601-23-1	p/m-Xylene	ND	1.2	0.34	U	UJ
95-47-6	o-Xylene	ND	0.60	0.17	U	UJ
156-59-2	cis-1,2-Dichloroethene	ND	0.60	0.10	U	
67-64-1	Acetone	ND	6.0	2.9	U	UJ
78-93-3	2-Butanone	ND	6.0	1.3	U	
104-51-8	n-Butylbenzene	ND	0.60	0.10	U	UJ

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Results Summary
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Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-07	Date Collected	: 05/21/24 11:30
Client ID	: SB-07-3FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 12:12
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A17	Instrument ID	: VOA127
Sample Amount	: 8.9 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 94
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	0.60	0.09	U	UJ
98-06-6	tert-Butylbenzene	ND	1.2	0.07	U	
103-65-1	n-Propylbenzene	ND	0.60	0.10	U	UJ
108-67-8	1,3,5-Trimethylbenzene	ND	1.2	0.12	U	UJ
95-63-6	1,2,4-Trimethylbenzene	ND	1.2	0.20	U	UJ
123-91-1	1,4-Dioxane	~~ND~~	48	21.	U	R

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Results Summary
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Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-08	Date Collected	: 05/21/24 11:35
Client ID	: SB-07-7FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 12:33
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A18	Instrument ID	: VOA127
Sample Amount	: 4.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 85
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	6.2	2.8	U	UJ
75-34-3	1,1-Dichloroethane	ND	1.2	0.18	U	
67-66-3	Chloroform	ND	1.9	0.17	U	
56-23-5	Carbon tetrachloride	ND	1.2	0.29	U	
127-18-4	Tetrachloroethene	ND	0.62	0.24	U	
108-90-7	Chlorobenzene	ND	0.62	0.16	U	
107-06-2	1,2-Dichloroethane	ND	1.2	0.32	U	
71-55-6	1,1,1-Trichloroethane	ND	0.62	0.21	U	
71-43-2	Benzene	ND	0.62	0.21	U	
108-88-3	Toluene	ND	1.2	0.68	U	
100-41-4	Ethylbenzene	ND	1.2	0.18	U	
75-01-4	Vinyl chloride	ND	1.2	0.42	U	
75-35-4	1,1-Dichloroethene	ND	1.2	0.30	U	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.17	U	UJ
79-01-6	Trichloroethene	2.4	0.62	0.17		
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.18	U	
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.18	U	
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.21	U	
1634-04-4	Methyl tert butyl ether	ND	2.5	0.25	U	UJ
179601-23-1	p/m-Xylene	ND	2.5	0.70	U	
95-47-6	o-Xylene	ND	1.2	0.36	U	
156-59-2	cis-1,2-Dichloroethene	ND	1.2	0.22	U	
67-64-1	Acetone	10	12	6.0	J	J
78-93-3	2-Butanone	ND	12	2.8	U	
104-51-8	n-Butylbenzene	ND	1.2	0.21	U	

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Results Summary
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Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-08	Date Collected	: 05/21/24 11:35
Client ID	: SB-07-7FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 12:33
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A18	Instrument ID	: VOA127
Sample Amount	: 4.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 85
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	1.2	0.18	U	
98-06-6	tert-Butylbenzene	ND	2.5	0.15	U	
103-65-1	n-Propylbenzene	ND	1.2	0.21	U	
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.24	U	
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.42	U	
123-91-1	1,4-Dioxane	~~ND~~	100	44.	U	R

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Results Summary
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Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-09	Date Collected	: 05/21/24 10:00
Client ID	: SB-03-2FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/25/24 16:52
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V04240525A23	Instrument ID	: VOA104
Sample Amount	: 9.0 g	GC Column	: RTX-VMS
Level	: HIGH	%Solids	: 74
Extract Volume (MeOH)	: 5 ml	Injection Volume	: N/A

CAS NO.	Parameter	ug/Kg Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	280	130	U	
75-34-3	1,1-Dichloroethane	ND	56	8.1	U	
67-66-3	Chloroform	84 UJ 27	84	7.8	J	UJ
56-23-5	Carbon tetrachloride	ND	56	13.	U	
127-18-4	Tetrachloroethene	23	28	11.	J	
108-90-7	Chlorobenzene	ND	28	7.1	U	
107-06-2	1,2-Dichloroethane	ND	56	14.	U	
71-55-6	1,1,1-Trichloroethane	ND	28	9.4	U	
71-43-2	Benzene	ND	28	9.3	U	
108-88-3	Toluene	50	56	30.	J	
100-41-4	Ethylbenzene	ND	56	7.9	U	
75-01-4	Vinyl chloride	ND	56	19.	U	
75-35-4	1,1-Dichloroethene	ND	56	13.	U	
156-60-5	trans-1,2-Dichloroethene	8.3	84	7.7	J	
79-01-6	Trichloroethene	12000	28	7.7		
95-50-1	1,2-Dichlorobenzene	ND	110	8.1	U	
541-73-1	1,3-Dichlorobenzene	ND	110	8.3	U	
106-46-7	1,4-Dichlorobenzene	ND	110	9.6	U	
1634-04-4	Methyl tert butyl ether	ND	110	11.	U	
179601-23-1	p/m-Xylene	ND	110	31.	U	
95-47-6	o-Xylene	ND	56	16.	U	
156-59-2	cis-1,2-Dichloroethene	52	56	9.8	J	
67-64-1	Acetone	ND	560	270	U	UJ
78-93-3	2-Butanone	ND	560	120	U	UJ
104-51-8	n-Butylbenzene	ND	56	9.4	U	

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Results Summary
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Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-09	Date Collected	: 05/21/24 10:00
Client ID	: SB-03-2FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/25/24 16:52
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V04240525A23	Instrument ID	: VOA104
Sample Amount	: 9.0 g	GC Column	: RTX-VMS
Level	: HIGH	%Solids	: 74
Extract Volume (MeOH)	: 5 ml	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	56	8.2	U	
98-06-6	tert-Butylbenzene	ND	110	6.6	U	
103-65-1	n-Propylbenzene	ND	56	9.6	U	
108-67-8	1,3,5-Trimethylbenzene	ND	110	11.	U	
95-63-6	1,2,4-Trimethylbenzene	ND	110	19.	U	
123-91-1	1,4-Dioxane	ND	4500	2000	U	R

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Results Summary
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Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-10	Date Collected	: 05/21/24 13:05
Client ID	: SB-15-4FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 12:53
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A19	Instrument ID	: VOA127
Sample Amount	: 6.3 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 81
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	4.9	2.2	U	UJ
75-34-3	1,1-Dichloroethane	ND	0.98	0.14	U	
67-66-3	Chloroform	ND	1.5	0.14	U	
56-23-5	Carbon tetrachloride	ND	0.98	0.22	U	
127-18-4	Tetrachloroethene	ND	0.49	0.19	U	
108-90-7	Chlorobenzene	ND	0.49	0.12	U	
107-06-2	1,2-Dichloroethane	ND	0.98	0.25	U	
71-55-6	1,1,1-Trichloroethane	ND	0.49	0.16	U	
71-43-2	Benzene	ND	0.49	0.16	U	
108-88-3	Toluene	ND	0.98	0.53	U	
100-41-4	Ethylbenzene	ND	0.98	0.14	U	
75-01-4	Vinyl chloride	ND	0.98	0.33	U	
75-35-4	1,1-Dichloroethene	ND	0.98	0.23	U	
156-60-5	trans-1,2-Dichloroethene	ND	1.5	0.13	U	UJ
79-01-6	Trichloroethene	ND	0.49	0.13	U	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.14	U	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.14	U	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.17	U	
1634-04-4	Methyl tert butyl ether	ND	2.0	0.20	U	UJ
179601-23-1	p/m-Xylene	ND	2.0	0.55	U	
95-47-6	o-Xylene	ND	0.98	0.28	U	
156-59-2	cis-1,2-Dichloroethene	ND	0.98	0.17	U	
67-64-1	Acetone	ND	9.8	4.7	U	UJ
78-93-3	2-Butanone	ND	9.8	2.2	U	
104-51-8	n-Butylbenzene	ND	0.98	0.16	U	

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Results Summary
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Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-10	Date Collected	: 05/21/24 13:05
Client ID	: SB-15-4FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 12:53
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A19	Instrument ID	: VOA127
Sample Amount	: 6.3 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 81
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	0.98	0.14	U	
98-06-6	tert-Butylbenzene	ND	2.0	0.12	U	
103-65-1	n-Propylbenzene	ND	0.98	0.17	U	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.19	U	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.33	U	
123-91-1	1,4-Dioxane	ND	78	34.	U	R

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-11	Date Collected	: 05/21/24 15:00
Client ID	: SB-14-1FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/26/24 20:08
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V27240526A17	Instrument ID	: VOA127
Sample Amount	: 3.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 77
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	8.7	4.0	U	
75-34-3	1,1-Dichloroethane	ND	1.7	0.25	U	
67-66-3	Chloroform	ND	2.6	0.24	U	
56-23-5	Carbon tetrachloride	ND	1.7	0.40	U	
127-18-4	Tetrachloroethene	ND	0.87	0.34	U	
108-90-7	Chlorobenzene	ND	0.87	0.22	U	
107-06-2	1,2-Dichloroethane	ND	1.7	0.45	U	
71-55-6	1,1,1-Trichloroethane	ND	0.87	0.29	U	
71-43-2	Benzene	ND	0.87	0.29	U	
108-88-3	Toluene	ND	1.7	0.94	U	
100-41-4	Ethylbenzene	ND	1.7	0.24	U	
75-01-4	Vinyl chloride	ND	1.7	0.58	U	UJ
75-35-4	1,1-Dichloroethene	ND	1.7	0.41	U	
156-60-5	trans-1,2-Dichloroethene	ND	2.6	0.24	U	
79-01-6	Trichloroethene	ND	0.87	0.24	U	
95-50-1	1,2-Dichlorobenzene	ND	3.5	0.25	U	
541-73-1	1,3-Dichlorobenzene	ND	3.5	0.26	U	
106-46-7	1,4-Dichlorobenzene	ND	3.5	0.30	U	
1634-04-4	Methyl tert butyl ether	ND	3.5	0.35	U	
179601-23-1	p/m-Xylene	ND	3.5	0.97	U	
95-47-6	o-Xylene	ND	1.7	0.50	U	
156-59-2	cis-1,2-Dichloroethene	ND	1.7	0.30	U	
67-64-1	Acetone	ND	17	8.4	U	
78-93-3	2-Butanone	ND	17	3.8	U	
104-51-8	n-Butylbenzene	ND	1.7	0.29	U	

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-11	Date Collected	: 05/21/24 15:00
Client ID	: SB-14-1FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/26/24 20:08
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V27240526A17	Instrument ID	: VOA127
Sample Amount	: 3.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 77
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/Kg Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	1.7	0.25	U	
98-06-6	tert-Butylbenzene	ND	3.5	0.20	U	
103-65-1	n-Propylbenzene	ND	1.7	0.30	U	
108-67-8	1,3,5-Trimethylbenzene	ND	3.5	0.34	U	
95-63-6	1,2,4-Trimethylbenzene	ND	3.5	0.58	U	
123-91-1	1,4-Dioxane	ND	140	61.	U	R

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-12	Date Collected	: 05/21/24 13:00
Client ID	: SB-15-2FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/26/24 20:29
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V27240526A18	Instrument ID	: VOA127
Sample Amount	: 5.1 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 90
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	5.4	2.5	U	
75-34-3	1,1-Dichloroethane	ND	1.1	0.16	U	
67-66-3	Chloroform	ND	1.6	0.15	U	
56-23-5	Carbon tetrachloride	ND	1.1	0.25	U	
127-18-4	Tetrachloroethene	1.1	0.54	0.21		
108-90-7	Chlorobenzene	ND	0.54	0.14	U	
107-06-2	1,2-Dichloroethane	ND	1.1	0.28	U	
71-55-6	1,1,1-Trichloroethane	ND	0.54	0.18	U	
71-43-2	Benzene	ND	0.54	0.18	U	
108-88-3	Toluene	ND	1.1	0.59	U	
100-41-4	Ethylbenzene	0.27	1.1	0.15	J	
75-01-4	Vinyl chloride	ND	1.1	0.36	U	UJ
75-35-4	1,1-Dichloroethene	ND	1.1	0.26	U	
156-60-5	trans-1,2-Dichloroethene	ND	1.6	0.15	U	
79-01-6	Trichloroethene	ND	0.54	0.15	U	
95-50-1	1,2-Dichlorobenzene	ND	2.2	0.16	U	
541-73-1	1,3-Dichlorobenzene	ND	2.2	0.16	U	
106-46-7	1,4-Dichlorobenzene	ND	2.2	0.18	U	
1634-04-4	Methyl tert butyl ether	ND	2.2	0.22	U	
179601-23-1	p/m-Xylene	ND	2.2	0.60	U	
95-47-6	o-Xylene	0.33	1.1	0.31	J	
156-59-2	cis-1,2-Dichloroethene	ND	1.1	0.19	U	
67-64-1	Acetone	ND	11	5.2	U	
78-93-3	2-Butanone	ND	11	2.4	U	
104-51-8	n-Butylbenzene	ND	1.1	0.18	U	

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Results Summary
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Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-12	Date Collected	: 05/21/24 13:00
Client ID	: SB-15-2FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/26/24 20:29
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V27240526A18	Instrument ID	: VOA127
Sample Amount	: 5.1 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 90
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	1.1	0.16	U	
98-06-6	tert-Butylbenzene	ND	2.2	0.13	U	
103-65-1	n-Propylbenzene	0.23	1.1	0.18	J	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	0.21	U	
95-63-6	1,2,4-Trimethylbenzene	0.37	2.2	0.36	J	
123-91-1	1,4-Dioxane	~~ND~~	86	38.	U	R

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-13	Date Collected	: 05/21/24 14:45
Client ID	: SB-16-1FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 13:56
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A22	Instrument ID	: VOA127
Sample Amount	: 2.3 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 85
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	12	5.8	U	UJ
75-34-3	1,1-Dichloroethane	ND	2.5	0.36	U	
67-66-3	Chloroform	ND	3.8	0.35	U	
56-23-5	Carbon tetrachloride	ND	2.5	0.58	U	
127-18-4	Tetrachloroethene	ND	1.2	0.49	U	UJ
108-90-7	Chlorobenzene	ND	1.2	0.32	U	UJ
107-06-2	1,2-Dichloroethane	ND	2.5	0.64	U	
71-55-6	1,1,1-Trichloroethane	ND	1.2	0.42	U	
71-43-2	Benzene	ND	1.2	0.42	U	
108-88-3	Toluene	ND	2.5	1.4	U	
100-41-4	Ethylbenzene	ND	2.5	0.35	U	UJ
75-01-4	Vinyl chloride	ND	2.5	0.84	U	
75-35-4	1,1-Dichloroethene	ND	2.5	0.60	U	
156-60-5	trans-1,2-Dichloroethene	ND	3.8	0.34	U	UJ
79-01-6	Trichloroethene	ND	1.2	0.34	U	
95-50-1	1,2-Dichlorobenzene	ND	5.0	0.36	U	UJ
541-73-1	1,3-Dichlorobenzene	ND	5.0	0.37	U	UJ
106-46-7	1,4-Dichlorobenzene	ND	5.0	0.43	U	UJ
1634-04-4	Methyl tert butyl ether	ND	5.0	0.50	U	UJ
179601-23-1	p/m-Xylene	ND	5.0	1.4	U	UJ
95-47-6	o-Xylene	ND	2.5	0.73	U	UJ
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.44	U	
67-64-1	Acetone	ND	25	12.	U	UJ
78-93-3	2-Butanone	ND	25	5.6	U	
104-51-8	n-Butylbenzene	ND	2.5	0.42	U	UJ

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-13	Date Collected	: 05/21/24 14:45
Client ID	: SB-16-1FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 13:56
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A22	Instrument ID	: VOA127
Sample Amount	: 2.3 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 85
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	2.5	0.37	U	UJ
98-06-6	tert-Butylbenzene	ND	5.0	0.30	U	UJ
103-65-1	n-Propylbenzene	ND	2.5	0.43	U	UJ
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.48	U	UJ
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.84	U	UJ
123-91-1	1,4-Dioxane	ND	200	88.	U	R

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-14	Date Collected	: 05/21/24 13:40
Client ID	: SB-16-3FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 14:17
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A23	Instrument ID	: VOA127
Sample Amount	: 6.3 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 83
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	4.7	2.2	U	UJ
75-34-3	1,1-Dichloroethane	ND	0.95	0.14	U	
67-66-3	Chloroform	ND	1.4	0.13	U	
56-23-5	Carbon tetrachloride	ND	0.95	0.22	U	
127-18-4	Tetrachloroethene	ND	0.47	0.18	U	
108-90-7	Chlorobenzene	ND	0.47	0.12	U	
107-06-2	1,2-Dichloroethane	ND	0.95	0.24	U	
71-55-6	1,1,1-Trichloroethane	ND	0.47	0.16	U	
71-43-2	Benzene	ND	0.47	0.16	U	
108-88-3	Toluene	ND	0.95	0.51	U	
100-41-4	Ethylbenzene	ND	0.95	0.13	U	
75-01-4	Vinyl chloride	ND	0.95	0.32	U	
75-35-4	1,1-Dichloroethene	ND	0.95	0.22	U	
156-60-5	trans-1,2-Dichloroethene	ND	1.4	0.13	U	UJ
79-01-6	Trichloroethene	ND	0.47	0.13	U	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.14	U	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.14	U	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.16	U	
1634-04-4	Methyl tert butyl ether	ND	1.9	0.19	U	UJ
179601-23-1	p/m-Xylene	ND	1.9	0.53	U	
95-47-6	o-Xylene	ND	0.95	0.28	U	
156-59-2	cis-1,2-Dichloroethene	ND	0.95	0.16	U	
67-64-1	Acetone	4.6	9.5	4.6	J	J
78-93-3	2-Butanone	ND	9.5	2.1	U	
104-51-8	n-Butylbenzene	ND	0.95	0.16	U	

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-14	Date Collected	: 05/21/24 13:40
Client ID	: SB-16-3FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/24/24 14:17
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240524A23	Instrument ID	: VOA127
Sample Amount	: 6.3 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 83
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	0.95	0.14	U	
98-06-6	tert-Butylbenzene	ND	1.9	0.11	U	
103-65-1	n-Propylbenzene	ND	0.95	0.16	U	
108-67-8	1,3,5-Trimethylbenzene	ND	1.9	0.18	U	
95-63-6	1,2,4-Trimethylbenzene	ND	1.9	0.32	U	
123-91-1	1,4-Dioxane	~~ND~~	76	33.	U	R

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-15	Date Collected	: 05/21/24 15:05
Client ID	: SB-14-3FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/26/24 19:47
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V27240526A16	Instrument ID	: VOA127
Sample Amount	: 6.0 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 78
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	5.3	2.4	U	
75-34-3	1,1-Dichloroethane	ND	1.1	0.15	U	
67-66-3	Chloroform	ND	1.6	0.15	U	
56-23-5	Carbon tetrachloride	ND	1.1	0.24	U	
127-18-4	Tetrachloroethene	ND	0.53	0.21	U	
108-90-7	Chlorobenzene	ND	0.53	0.14	U	
107-06-2	1,2-Dichloroethane	ND	1.1	0.27	U	
71-55-6	1,1,1-Trichloroethane	ND	0.53	0.18	U	
71-43-2	Benzene	ND	0.53	0.18	U	
108-88-3	Toluene	ND	1.1	0.58	U	
100-41-4	Ethylbenzene	ND	1.1	0.15	U	
75-01-4	Vinyl chloride	ND	1.1	0.36	U	UJ
75-35-4	1,1-Dichloroethene	ND	1.1	0.25	U	
156-60-5	trans-1,2-Dichloroethene	ND	1.6	0.15	U	
79-01-6	Trichloroethene	ND	0.53	0.15	U	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.15	U	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.16	U	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.18	U	
1634-04-4	Methyl tert butyl ether	ND	2.1	0.21	U	
179601-23-1	p/m-Xylene	ND	2.1	0.60	U	
95-47-6	o-Xylene	ND	1.1	0.31	U	
156-59-2	cis-1,2-Dichloroethene	ND	1.1	0.19	U	
67-64-1	Acetone	ND	11	5.1	U	
78-93-3	2-Butanone	ND	11	2.4	U	
104-51-8	n-Butylbenzene	ND	1.1	0.18	U	

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-15	**Date Collected**	: 05/21/24 15:05
Client ID	: SB-14-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 19:47
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8260D	**Analyst**	: JIC
Lab File ID	: V27240526A16	**Instrument ID**	: VOA127
Sample Amount	: 6.0 g	**GC Column**	: RTX-VMS
Level	: LOW	**%Solids**	: 78
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg				
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**	
135-98-8	sec-Butylbenzene	ND	1.1	0.16	U	
98-06-6	tert-Butylbenzene	ND	2.1	0.13	U	
103-65-1	n-Propylbenzene	ND	1.1	0.18	U	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.21	U	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.36	U	
123-91-1	1,4-Dioxane	ND	86	38.	U	R

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Semivolatiles Data- Method 8270

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-01	Date Collected	: 05/21/24 08:40
Client ID	: SB-06-3FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 12:45
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-01	Analyst	: EK
Sample Amount	: 30.12 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 86
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	150	20.	U	
118-74-1	Hexachlorobenzene	ND	120	22.	U	UJ
206-44-0	Fluoranthene	47	120	22.	J	
91-20-3	Naphthalene	45	190	24.	J	
56-55-3	Benzo(a)anthracene	34	120	22.	J	
50-32-8	Benzo(a)pyrene	ND	150	47.	U	
205-99-2	Benzo(b)fluoranthene	53	120	32.	J	
207-08-9	Benzo(k)fluoranthene	ND	120	31.	U	
218-01-9	Chrysene	38	120	20.	J	
208-96-8	Acenaphthylene	ND	150	30.	U	
120-12-7	Anthracene	ND	120	38.	U	
191-24-2	Benzo(ghi)perylene	30	150	23.	J	
86-73-7	Fluorene	ND	190	19.	U	
85-01-8	Phenanthrene	41	120	23.	J	
53-70-3	Dibenzo(a,h)anthracene	ND	120	22.	U	
193-39-5	Indeno(1,2,3-cd)pyrene	27	150	27.	J	
129-00-0	Pyrene	42	120	19.	J	
132-64-9	Dibenzofuran	ND	190	18.	U	
87-86-5	Pentachlorophenol	ND	150	42.	U	UJ
108-95-2	Phenol	ND	190	29.	U	
95-48-7	2-Methylphenol	ND	190	30.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	280	30.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-01	Date Collected	: 05/21/24 08:40
Client ID	: SB-06-3FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 12:45
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-01	Analyst	: EK
Sample Amount	: 30.12 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 86
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	29	8.9	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-02	Date Collected	: 05/21/24 08:45
Client ID	: SB-06-7FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 13:09
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-02	Analyst	: EK
Sample Amount	: 30.75 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 82
GPC Cleanup	: N	Injection Volume	: 1 uL

CAS NO.	Parameter	ug/Kg Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	160	20.	U	
118-74-1	Hexachlorobenzene	ND	120	22.	U	UJ
206-44-0	Fluoranthene	ND	120	23.	U	
91-20-3	Naphthalene	ND	200	24.	U	
56-55-3	Benzo(a)anthracene	ND	120	22.	U	
50-32-8	Benzo(a)pyrene	ND	160	48.	U	
205-99-2	Benzo(b)fluoranthene	ND	120	33.	U	
207-08-9	Benzo(k)fluoranthene	ND	120	32.	U	
218-01-9	Chrysene	ND	120	21.	U	
208-96-8	Acenaphthylene	ND	160	31.	U	
120-12-7	Anthracene	ND	120	39.	U	
191-24-2	Benzo(ghi)perylene	ND	160	23.	U	
86-73-7	Fluorene	ND	200	19.	U	
85-01-8	Phenanthrene	ND	120	24.	U	
53-70-3	Dibenzo(a,h)anthracene	ND	120	23.	U	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	160	28.	U	
129-00-0	Pyrene	ND	120	20.	U	
132-64-9	Dibenzofuran	ND	200	19.	U	
87-86-5	Pentachlorophenol	ND	160	44.	U	UJ
108-95-2	Phenol	ND	200	30.	U	
95-48-7	2-Methylphenol	ND	200	31.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	280	31.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-02	Date Collected	: 05/21/24 08:45
Client ID	: SB-06-7FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 13:09
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-02	Analyst	: EK
Sample Amount	: 30.75 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 82
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	30	9.1	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-03	Date Collected	: 05/21/24 08:45
Client ID	: DUP-A-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 13:33
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-03	Analyst	: EK
Sample Amount	: 30.35 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 81
GPC Cleanup	: N	Injection Volume	: 1 uL

CAS NO.	Parameter	ug/Kg Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	160	21.	U	
118-74-1	Hexachlorobenzene	ND	120	23.	U	UJ
206-44-0	Fluoranthene	ND	120	23.	U	
91-20-3	Naphthalene	ND	200	25.	U	
56-55-3	Benzo(a)anthracene	ND	120	23.	U	
50-32-8	Benzo(a)pyrene	ND	160	50.	U	
205-99-2	Benzo(b)fluoranthene	ND	120	34.	U	
207-08-9	Benzo(k)fluoranthene	ND	120	32.	U	
218-01-9	Chrysene	ND	120	21.	U	
208-96-8	Acenaphthylene	ND	160	31.	U	
120-12-7	Anthracene	ND	120	40.	U	
191-24-2	Benzo(ghi)perylene	ND	160	24.	U	
86-73-7	Fluorene	ND	200	20.	U	
85-01-8	Phenanthrene	ND	120	25.	U	
53-70-3	Dibenzo(a,h)anthracene	ND	120	23.	U	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	160	28.	U	
129-00-0	Pyrene	ND	120	20.	U	
132-64-9	Dibenzofuran	ND	200	19.	U	
87-86-5	Pentachlorophenol	ND	160	45.	U	UJ
108-95-2	Phenol	ND	200	31.	U	
95-48-7	2-Methylphenol	ND	200	31.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	290	32.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-03	Date Collected	: 05/21/24 08:45
Client ID	: DUP-A-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 13:33
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-03	Analyst	: EK
Sample Amount	: 30.35 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 81
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	30	9.3	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-04	Date Collected	: 05/21/24 09:15
Client ID	: SB-10-2FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 13:58
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-04	Analyst	: EK
Sample Amount	: 30.75 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 81
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	160	21.	U	
118-74-1	Hexachlorobenzene	ND	120	22.	U	UJ
206-44-0	Fluoranthene	680	120	23.		
91-20-3	Naphthalene	ND	200	24.	U	
56-55-3	Benzo(a)anthracene	320	120	23.		
50-32-8	Benzo(a)pyrene	320	160	49.		
205-99-2	Benzo(b)fluoranthene	450	120	34.		
207-08-9	Benzo(k)fluoranthene	140	120	32.		
218-01-9	Chrysene	330	120	21.		
208-96-8	Acenaphthylene	ND	160	31.	U	
120-12-7	Anthracene	52	120	39.	J	
191-24-2	Benzo(ghi)perylene	210	160	24.		
86-73-7	Fluorene	ND	200	20.	U	
85-01-8	Phenanthrene	200	120	24.		
53-70-3	Dibenzo(a,h)anthracene	51	120	23.	J	
193-39-5	Indeno(1,2,3-cd)pyrene	190	160	28.		
129-00-0	Pyrene	570	120	20.		
132-64-9	Dibenzofuran	ND	200	19.	U	
87-86-5	Pentachlorophenol	ND	160	44.	U	UJ
108-95-2	Phenol	ND	200	30.	U	
95-48-7	2-Methylphenol	ND	200	31.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	290	31.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-04	Date Collected	: 05/21/24 09:15
Client ID	: SB-10-2FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 13:58
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-04	Analyst	: EK
Sample Amount	: 30.75 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 81
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	30	9.2	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-05	Date Collected	: 05/21/24 09:20
Client ID	: SB-10-4FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 14:22
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-05	Analyst	: EK
Sample Amount	: 30.29 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 77
GPC Cleanup	: N	Injection Volume	: 1 uL

CAS NO.	Parameter	ug/Kg Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	170	22.	U	
118-74-1	Hexachlorobenzene	ND	130	24.	U	UJ
206-44-0	Fluoranthene	ND	130	25.	U	
91-20-3	Naphthalene	ND	220	26.	U	
56-55-3	Benzo(a)anthracene	ND	130	24.	U	
50-32-8	Benzo(a)pyrene	ND	170	52.	U	
205-99-2	Benzo(b)fluoranthene	ND	130	36.	U	
207-08-9	Benzo(k)fluoranthene	ND	130	34.	U	
218-01-9	Chrysene	ND	130	22.	U	
208-96-8	Acenaphthylene	ND	170	33.	U	
120-12-7	Anthracene	ND	130	42.	U	
191-24-2	Benzo(ghi)perylene	ND	170	25.	U	
86-73-7	Fluorene	ND	220	21.	U	
85-01-8	Phenanthrene	ND	130	26.	U	
53-70-3	Dibenzo(a,h)anthracene	ND	130	25.	U	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	170	30.	U	
129-00-0	Pyrene	ND	130	21.	U	
132-64-9	Dibenzofuran	ND	220	20.	U	
87-86-5	Pentachlorophenol	ND	170	47.	U	UJ
108-95-2	Phenol	ND	220	32.	U	
95-48-7	2-Methylphenol	ND	220	33.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	310	34.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-05	Date Collected	: 05/21/24 09:20
Client ID	: SB-10-4FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 14:22
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-05	Analyst	: EK
Sample Amount	: 30.29 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 77
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	32	9.9	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-06	Date Collected	: 05/21/24 10:05
Client ID	: SB-03-7FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 14:46
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-06	Analyst	: EK
Sample Amount	: 30.52 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 1 uL

CAS NO.	Parameter	ug/Kg Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	160	20.	U	
118-74-1	Hexachlorobenzene	ND	120	22.	U	UJ
206-44-0	Fluoranthene	ND	120	22.	U	
91-20-3	Naphthalene	ND	190	24.	U	
56-55-3	Benzo(a)anthracene	ND	120	22.	U	
50-32-8	Benzo(a)pyrene	ND	160	47.	U	
205-99-2	Benzo(b)fluoranthene	ND	120	33.	U	
207-08-9	Benzo(k)fluoranthene	ND	120	31.	U	
218-01-9	Chrysene	ND	120	20.	U	
208-96-8	Acenaphthylene	ND	160	30.	U	
120-12-7	Anthracene	ND	120	38.	U	
191-24-2	Benzo(ghi)perylene	ND	160	23.	U	
86-73-7	Fluorene	ND	190	19.	U	
85-01-8	Phenanthrene	ND	120	24.	U	
53-70-3	Dibenzo(a,h)anthracene	ND	120	22.	U	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	160	27.	U	
129-00-0	Pyrene	ND	120	19.	U	
132-64-9	Dibenzofuran	ND	190	18.	U	
87-86-5	Pentachlorophenol	ND	160	43.	U	UJ
108-95-2	Phenol	ND	190	29.	U	
95-48-7	2-Methylphenol	ND	190	30.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	280	30.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-06	Date Collected	: 05/21/24 10:05
Client ID	: SB-03-7FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 14:46
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-06	Analyst	: EK
Sample Amount	: 30.52 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	29	8.9	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-07	Date Collected	: 05/21/24 11:30
Client ID	: SB-07-3FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 15:10
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-07	Analyst	: EK
Sample Amount	: 30.06 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 94
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	140	18.	U	
118-74-1	Hexachlorobenzene	ND	110	20.	U	UJ
206-44-0	Fluoranthene	70	110	20.	J	
91-20-3	Naphthalene	ND	180	22.	U	
56-55-3	Benzo(a)anthracene	36	110	20.	J	
50-32-8	Benzo(a)pyrene	ND	140	43.	U	
205-99-2	Benzo(b)fluoranthene	49	110	30.	J	
207-08-9	Benzo(k)fluoranthene	ND	110	28.	U	
218-01-9	Chrysene	34	110	18.	J	
208-96-8	Acenaphthylene	ND	140	27.	U	
120-12-7	Anthracene	ND	110	35.	U	
191-24-2	Benzo(ghi)perylene	26	140	21.	J	
86-73-7	Fluorene	ND	180	17.	U	
85-01-8	Phenanthrene	46	110	22.	J	
53-70-3	Dibenzo(a,h)anthracene	ND	110	20.	U	
193-39-5	Indeno(1,2,3-cd)pyrene	26	140	25.	J	
129-00-0	Pyrene	59	110	18.	J	
132-64-9	Dibenzofuran	ND	180	17.	U	
87-86-5	Pentachlorophenol	ND	140	39.	U	UJ
108-95-2	Phenol	ND	180	27.	U	
95-48-7	2-Methylphenol	ND	180	28.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	260	28.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-07	Date Collected	: 05/21/24 11:30
Client ID	: SB-07-3FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 15:10
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-07	Analyst	: EK
Sample Amount	: 30.06 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 94
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	27	8.2	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-08	Date Collected	: 05/21/24 11:35
Client ID	: SB-07-7FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 16:23
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-08	Analyst	: EK
Sample Amount	: 30.28 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 85
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	160	20.	U	
118-74-1	Hexachlorobenzene	ND	120	22.	U	UJ
206-44-0	Fluoranthene	ND	120	22.	U	
91-20-3	Naphthalene	ND	200	24.	U	
56-55-3	Benzo(a)anthracene	ND	120	22.	U	
50-32-8	Benzo(a)pyrene	ND	160	48.	U	
205-99-2	Benzo(b)fluoranthene	ND	120	33.	U	
207-08-9	Benzo(k)fluoranthene	ND	120	31.	U	
218-01-9	Chrysene	ND	120	20.	U	
208-96-8	Acenaphthylene	ND	160	30.	U	
120-12-7	Anthracene	ND	120	38.	U	
191-24-2	Benzo(ghi)perylene	ND	160	23.	U	
86-73-7	Fluorene	ND	200	19.	U	
85-01-8	Phenanthrene	ND	120	24.	U	
53-70-3	Dibenzo(a,h)anthracene	ND	120	22.	U	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	160	27.	U	
129-00-0	Pyrene	ND	120	19.	U	
132-64-9	Dibenzofuran	ND	200	18.	U	
87-86-5	Pentachlorophenol	ND	160	43.	U	UJ
108-95-2	Phenol	ND	200	30.	U	
95-48-7	2-Methylphenol	ND	200	30.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	280	31.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-08	Date Collected	: 05/21/24 11:35
Client ID	: SB-07-7FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 16:23
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-08	Analyst	: EK
Sample Amount	: 30.28 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 85
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	29	9.0	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-09	Date Collected	: 05/21/24 10:00
Client ID	: SB-03-2FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 16:47
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-09	Analyst	: EK
Sample Amount	: 30.83 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 74
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	130	180	23.	J	
118-74-1	Hexachlorobenzene	ND	130	25.	U	UJ
206-44-0	Fluoranthene	1700	130	25.		
91-20-3	Naphthalene	96	220	27.	J	
56-55-3	Benzo(a)anthracene	740	130	25.		
50-32-8	Benzo(a)pyrene	710	180	54.		
205-99-2	Benzo(b)fluoranthene	890	130	37.		
207-08-9	Benzo(k)fluoranthene	360	130	35.		
218-01-9	Chrysene	700	130	23.		
208-96-8	Acenaphthylene	ND	180	34.	U	
120-12-7	Anthracene	280	130	43.		
191-24-2	Benzo(ghi)perylene	440	180	26.		
86-73-7	Fluorene	140	220	21.	J	
85-01-8	Phenanthrene	1200	130	27.		
53-70-3	Dibenzo(a,h)anthracene	110	130	26.	J	
193-39-5	Indeno(1,2,3-cd)pyrene	440	180	31.		
129-00-0	Pyrene	1300	130	22.		
132-64-9	Dibenzofuran	89	220	21.	J	
87-86-5	Pentachlorophenol	ND	180	48.	U	UJ
108-95-2	Phenol	ND	220	33.	U	
95-48-7	2-Methylphenol	ND	220	34.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	320	34.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-09	Date Collected	: 05/21/24 10:00
Client ID	: SB-03-2FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 16:47
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-09	Analyst	: EK
Sample Amount	: 30.83 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 74
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	33	10.	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-10	Date Collected	: 05/21/24 13:05
Client ID	: SB-15-4FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 17:12
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-10	Analyst	: EK
Sample Amount	: 30.37 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 81
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	160	21.	U	
118-74-1	Hexachlorobenzene	ND	120	23.	U	UJ
206-44-0	Fluoranthene	ND	120	23.	U	
91-20-3	Naphthalene	ND	200	25.	U	
56-55-3	Benzo(a)anthracene	ND	120	23.	U	
50-32-8	Benzo(a)pyrene	ND	160	50.	U	
205-99-2	Benzo(b)fluoranthene	ND	120	34.	U	
207-08-9	Benzo(k)fluoranthene	ND	120	33.	U	
218-01-9	Chrysene	ND	120	21.	U	
208-96-8	Acenaphthylene	ND	160	31.	U	
120-12-7	Anthracene	ND	120	40.	U	
191-24-2	Benzo(ghi)perylene	ND	160	24.	U	
86-73-7	Fluorene	ND	200	20.	U	
85-01-8	Phenanthrene	ND	120	25.	U	
53-70-3	Dibenzo(a,h)anthracene	ND	120	24.	U	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	160	28.	U	
129-00-0	Pyrene	ND	120	20.	U	
132-64-9	Dibenzofuran	ND	200	19.	U	
87-86-5	Pentachlorophenol	ND	160	45.	U	UJ
108-95-2	Phenol	ND	200	31.	U	
95-48-7	2-Methylphenol	ND	200	32.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	290	32.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-10	Date Collected	: 05/21/24 13:05
Client ID	: SB-15-4FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 17:12
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-10	Analyst	: EK
Sample Amount	: 30.37 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 81
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	31	9.4	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-11	Date Collected	: 05/21/24 15:00
Client ID	: SB-14-1FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 17:36
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-11	Analyst	: EK
Sample Amount	: 30.54 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 77
GPC Cleanup	: N	Injection Volume	: 1 uL

CAS NO.	Parameter	ug/Kg Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	170	22.	U	
118-74-1	Hexachlorobenzene	ND	130	24.	U	UJ
206-44-0	Fluoranthene	68	130	24.	J	
91-20-3	Naphthalene	ND	210	26.	U	
56-55-3	Benzo(a)anthracene	89	130	24.	J	
50-32-8	Benzo(a)pyrene	110	170	52.	J	
205-99-2	Benzo(b)fluoranthene	180	130	36.		
207-08-9	Benzo(k)fluoranthene	56	130	34.	J	
218-01-9	Chrysene	89	130	22.	J	
208-96-8	Acenaphthylene	ND	170	33.	U	
120-12-7	Anthracene	ND	130	41.	U	
191-24-2	Benzo(ghi)perylene	64	170	25.	J	
86-73-7	Fluorene	ND	210	21.	U	
85-01-8	Phenanthrene	29	130	26.	J	
53-70-3	Dibenzo(a,h)anthracene	ND	130	24.	U	
193-39-5	Indeno(1,2,3-cd)pyrene	66	170	30.	J	
129-00-0	Pyrene	79	130	21.	J	
132-64-9	Dibenzofuran	ND	210	20.	U	
87-86-5	Pentachlorophenol	ND	170	47.	U	UJ
108-95-2	Phenol	ND	210	32.	U	
95-48-7	2-Methylphenol	ND	210	33.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	300	33.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-11	Date Collected	: 05/21/24 15:00
Client ID	: SB-14-1FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 17:36
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-11	Analyst	: EK
Sample Amount	: 30.54 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 77
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	32	9.8	U	UJ

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Results Summary
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Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-12	Date Collected	: 05/21/24 13:00
Client ID	: SB-15-2FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 18:00
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-12	Analyst	: JG
Sample Amount	: 30.86 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 90
GPC Cleanup	: N	Injection Volume	: 1 uL

CAS NO.	Parameter	ug/Kg Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	1300	140	19.		
118-74-1	Hexachlorobenzene	ND	110	20.	U	UJ
206-44-0	Fluoranthene	7600	110	21.	E	J
91-20-3	Naphthalene	1800	180	22.		
56-55-3	Benzo(a)anthracene	3300	110	20.		
50-32-8	Benzo(a)pyrene	3000	140	44.		
205-99-2	Benzo(b)fluoranthene	3800	110	30.		
207-08-9	Benzo(k)fluoranthene	1400	110	29.		
218-01-9	Chrysene	3300	110	19.		
208-96-8	Acenaphthylene	120	140	28.	J	
120-12-7	Anthracene	1700	110	35.		
191-24-2	Benzo(ghi)perylene	1800	140	21.		
86-73-7	Fluorene	1300	180	18.		
85-01-8	Phenanthrene	8600	110	22.	E	J
53-70-3	Dibenzo(a,h)anthracene	450	110	21.		
193-39-5	Indeno(1,2,3-cd)pyrene	1700	140	25.		
129-00-0	Pyrene	6100	110	18.		
132-64-9	Dibenzofuran	1100	180	17.		
87-86-5	Pentachlorophenol	ND	140	40.	U	UJ
108-95-2	Phenol	ND	180	27.	U	
95-48-7	2-Methylphenol	ND	180	28.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	51	260	28.	J	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-12	Date Collected	: 05/21/24 13:00
Client ID	: SB-15-2FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 18:00
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-12	Analyst	: JG
Sample Amount	: 30.86 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 90
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	27	8.3	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-12D	**Date Collected**	: 05/21/24 13:00
Client ID	: SB-15-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 13:32
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 10
Lab File ID	: 242-12D1	**Analyst**	: JG
Sample Amount	: 30.86 g	**Instrument ID**	: SV109
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
206-44-0	Fluoranthene	8100	1100	210	
85-01-8	Phenanthrene	9100	1100	220	

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-13	Date Collected	: 05/21/24 14:45
Client ID	: SB-16-1FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 18:24
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-13	Analyst	: JG
Sample Amount	: 30.16 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 85
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	150	160	20.	J	
118-74-1	Hexachlorobenzene	ND	120	22.	U	UJ
206-44-0	Fluoranthene	2400	120	22.		
91-20-3	Naphthalene	420	190	24.		
56-55-3	Benzo(a)anthracene	2100	120	22.		
50-32-8	Benzo(a)pyrene	2800	160	47.		
205-99-2	Benzo(b)fluoranthene	4300	120	33.		
207-08-9	Benzo(k)fluoranthene	1100	120	31.		
218-01-9	Chrysene	2300	120	20.		
208-96-8	Acenaphthylene	780	160	30.		
120-12-7	Anthracene	550	120	38.		
191-24-2	Benzo(ghi)perylene	1200	160	23.		
86-73-7	Fluorene	140	190	19.	J	
85-01-8	Phenanthrene	960	120	24.		
53-70-3	Dibenzo(a,h)anthracene	430	120	22.		
193-39-5	Indeno(1,2,3-cd)pyrene	1400	160	27.		
129-00-0	Pyrene	3400	120	19.		
132-64-9	Dibenzofuran	150	190	18.	J	
87-86-5	Pentachlorophenol	ND	160	43.	U	UJ
108-95-2	Phenol	ND	190	29.	U	
95-48-7	2-Methylphenol	ND	190	30.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	32	280	30.	J	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-13	Date Collected	: 05/21/24 14:45
Client ID	: SB-16-1FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 18:24
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-13	Analyst	: JG
Sample Amount	: 30.16 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 85
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	29	8.9	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-14	Date Collected	: 05/21/24 13:40
Client ID	: SB-16-3FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 19:37
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-14	Analyst	: JG
Sample Amount	: 30.32 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 83
GPC Cleanup	: N	Injection Volume	: 1 uL

CAS NO.	Parameter	ug/Kg Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	160	20.	U	
118-74-1	Hexachlorobenzene	ND	120	22.	U	UJ
206-44-0	Fluoranthene	ND	120	23.	U	
91-20-3	Naphthalene	ND	200	24.	U	
56-55-3	Benzo(a)anthracene	ND	120	22.	U	
50-32-8	Benzo(a)pyrene	ND	160	48.	U	
205-99-2	Benzo(b)fluoranthene	ND	120	33.	U	
207-08-9	Benzo(k)fluoranthene	ND	120	32.	U	
218-01-9	Chrysene	ND	120	20.	U	
208-96-8	Acenaphthylene	ND	160	30.	U	
120-12-7	Anthracene	ND	120	38.	U	
191-24-2	Benzo(ghi)perylene	ND	160	23.	U	
86-73-7	Fluorene	ND	200	19.	U	
85-01-8	Phenanthrene	ND	120	24.	U	
53-70-3	Dibenzo(a,h)anthracene	ND	120	23.	U	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	160	28.	U	
129-00-0	Pyrene	ND	120	20.	U	
132-64-9	Dibenzofuran	ND	200	19.	U	
87-86-5	Pentachlorophenol	ND	160	44.	U	UJ
108-95-2	Phenol	ND	200	30.	U	
95-48-7	2-Methylphenol	ND	200	31.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	280	31.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-14	Date Collected	: 05/21/24 13:40
Client ID	: SB-16-3FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 19:37
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-14	Analyst	: JG
Sample Amount	: 30.32 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 83
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	30	9.1	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-15	Date Collected	: 05/21/24 15:05
Client ID	: SB-14-3FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 20:01
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-15	Analyst	: JG
Sample Amount	: 30.65 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 78
GPC Cleanup	: N	Injection Volume	: 1 uL

CAS NO.	Parameter	ug/Kg Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	170	22.	U	
118-74-1	Hexachlorobenzene	ND	120	23.	U	UJ
206-44-0	Fluoranthene	ND	120	24.	U	
91-20-3	Naphthalene	ND	210	25.	U	
56-55-3	Benzo(a)anthracene	ND	120	24.	U	
50-32-8	Benzo(a)pyrene	ND	170	51.	U	
205-99-2	Benzo(b)fluoranthene	ND	120	35.	U	
207-08-9	Benzo(k)fluoranthene	ND	120	33.	U	
218-01-9	Chrysene	ND	120	22.	U	
208-96-8	Acenaphthylene	ND	170	32.	U	
120-12-7	Anthracene	ND	120	41.	U	
191-24-2	Benzo(ghi)perylene	ND	170	24.	U	
86-73-7	Fluorene	ND	210	20.	U	
85-01-8	Phenanthrene	ND	120	25.	U	
53-70-3	Dibenzo(a,h)anthracene	ND	120	24.	U	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	170	29.	U	
129-00-0	Pyrene	ND	120	21.	U	
132-64-9	Dibenzofuran	ND	210	20.	U	
87-86-5	Pentachlorophenol	ND	170	46.	U	UJ
108-95-2	Phenol	ND	210	32.	U	
95-48-7	2-Methylphenol	ND	210	32.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	300	33.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-15	Date Collected	: 05/21/24 15:05
Client ID	: SB-14-3FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 20:01
Sample Matrix	: SOIL	Date Extracted	: 05/24/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28242-15	Analyst	: JG
Sample Amount	: 30.65 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 78
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	31	9.6	U	UJ

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Total Petroleum Hydrocarbons Gasoline Range Organics Analysis

No data validation qualifiers were added

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Results Summary
Form 1
Gasoline Range Organics

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-01	**Date Collected**	: 05/21/24 08:40
Client ID	: SB-06-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 14:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8015D(M)	**Analyst**	: KJD
Lab File ID	: P240526A05	**Instrument ID**	: PVPH
Sample Amount	: 0.3 g	**GC Column**	: RTX 502.2
Level	: LOW	**%Solids**	: 86
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Gasoline Range Organics**	**ND**	**1100**	**630**	**U**

Results Summary
Form 1
Gasoline Range Organics

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-04	**Date Collected**	: 05/21/24 09:15
Client ID	: SB-10-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/23/24 22:16
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8015D(M)	**Analyst**	: BAD
Lab File ID	: P240523A27	**Instrument ID**	: PVPH
Sample Amount	: 0.2 g	**GC Column**	: RTX 502.2
Level	: LOW	**%Solids**	: 81
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	Gasoline Range Organics	3100	2000	1200	

Results Summary
Form 1
Gasoline Range Organics

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-07	**Date Collected**	: 05/21/24 11:30
Client ID	: SB-07-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/23/24 22:46
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8015D(M)	**Analyst**	: BAD
Lab File ID	: P240523A28	**Instrument ID**	: PVPH
Sample Amount	: 0.1 g	**GC Column**	: RTX 502.2
Level	: LOW	**%Solids**	: 94
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	Gasoline Range Organics	ND	2600	1500	U

Results Summary
Form 1
Gasoline Range Organics

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-09	**Date Collected**	: 05/21/24 10:00
Client ID	: SB-03-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/24/24 00:15
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8015D(M)	**Analyst**	: BAD
Lab File ID	: P240523A31	**Instrument ID**	: PVPH
Sample Amount	: 0.2 g	**GC Column**	: RTX 502.2
Level	: LOW	**%Solids**	: 74
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	Gasoline Range Organics	3400	1900	1100	

Results Summary
Form 1
Gasoline Range Organics

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-11	**Date Collected**	: 05/21/24 15:00
Client ID	: SB-14-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/24/24 05:13
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8015D(M)	**Analyst**	: BAD
Lab File ID	: P240523A41	**Instrument ID**	: PVPH
Sample Amount	: 0.05 g	**GC Column**	: RTX 502.2
Level	: LOW	**%Solids**	: 77
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Gasoline Range Organics**	**ND**	**6600**	**3800**	**U**

Results Summary
Form 1
Gasoline Range Organics

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-12	**Date Collected**	: 05/21/24 13:00
Client ID	: SB-15-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/24/24 00:44
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8015D(M)	**Analyst**	: BAD
Lab File ID	: P240523A32	**Instrument ID**	: PVPH
Sample Amount	: 0.1 g	**GC Column**	: RTX 502.2
Level	: LOW	**%Solids**	: 90
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	Gasoline Range Organics	ND	2400	1400	U

Results Summary
Form 1
Gasoline Range Organics

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-13	**Date Collected**	: 05/21/24 14:45
Client ID	: SB-16-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/24/24 01:14
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8015D(M)	**Analyst**	: BAD
Lab File ID	: P240523A33	**Instrument ID**	: PVPH
Sample Amount	: 0.08 g	**GC Column**	: RTX 502.2
Level	: LOW	**%Solids**	: 85
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Gasoline Range Organics**	**ND**	**3500**	**2000**	**U**

GC Extractable Analysis
Herbicides

No data validation qualifiers were added

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Results Summary
Form 1
Chlorinated Herbicides by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-09	**Date Collected**	: 05/21/24 10:00
Client ID	: SB-03-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:30
Sample Matrix	: SOIL	**Date Extracted**	: 05/27/24
Analytical Method	: 1,8151A	**Dilution Factor**	: 1
Lab File ID	: 17240528a-68	**Analyst**	: AKM
Sample Amount	: 30.28 g	**Instrument ID**	: PEST17
Extraction Method	: EPA 8151A	**GC Column**	: STX-CLP1
Extract Volume	: 10000 uL	**%Solids**	: 74
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
93-72-1	2,4,5-TP (Silvex)	ND	225	5.98	U

Results Summary
Form 1
Chlorinated Herbicides by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-10	**Date Collected**	: 05/21/24 13:05
Client ID	: SB-15-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 10:53
Sample Matrix	: SOIL	**Date Extracted**	: 05/27/24
Analytical Method	: 1,8151A	**Dilution Factor**	: 1
Lab File ID	: 17240528a-66	**Analyst**	: AKM
Sample Amount	: 30.65 g	**Instrument ID**	: PEST17
Extraction Method	: EPA 8151A	**GC Column**	: STX-CLP1
Extract Volume	: 10000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
93-72-1	2,4,5-TP (Silvex)	ND	202	5.38	U

Results Summary
Form 1
Chlorinated Herbicides by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-11	**Date Collected**	: 05/21/24 15:00
Client ID	: SB-14-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:11
Sample Matrix	: SOIL	**Date Extracted**	: 05/27/24
Analytical Method	: 1,8151A	**Dilution Factor**	: 1
Lab File ID	: 17240528a-67	**Analyst**	: AKM
Sample Amount	: 30.99 g	**Instrument ID**	: PEST17
Extraction Method	: EPA 8151A	**GC Column**	: STX-CLP1
Extract Volume	: 10000 uL	**%Solids**	: 77
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
93-72-1	2,4,5-TP (Silvex)	ND	209	5.57	U

GC Extractable Analysis Polychlorinated Biphenyls (PCB)

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-01	**Date Collected**	: 05/21/24 08:40
Client ID	: SB-06-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 19:53
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 19240526a-43	**Analyst**	: MEO
Sample Amount	: 10.86 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	53.6	4.76	U
11104-28-2	Aroclor 1221	ND	53.6	5.37	U
11141-16-5	Aroclor 1232	ND	53.6	11.4	U
53469-21-9	Aroclor 1242	ND	53.6	7.22	U
12672-29-6	Aroclor 1248	ND	53.6	8.04	U
11097-69-1	Aroclor 1254	ND	53.6	5.86	U
11096-82-5	Aroclor 1260	ND	53.6	9.90	U
37324-23-5	Aroclor 1262	ND	53.6	6.81	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-01	**Date Collected**	: 05/21/24 08:40
Client ID	: SB-06-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 19:53
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 19240526a-43	**Analyst**	: MEO
Sample Amount	: 10.86 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3546	**GC Column**	: CLP-PesticideII
Extract Volume	: 1000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
11100-14-4	Aroclor 1268	127	53.6	5.55	
1336-36-3	PCBs, Total	127	53.6	4.76	

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-02	**Date Collected**	: 05/21/24 08:45
Client ID	: SB-06-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 20:00
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 19240526a-44	**Analyst**	: MEO
Sample Amount	: 10.6 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	57.5	5.11	U
11104-28-2	Aroclor 1221	ND	57.5	5.76	U
11141-16-5	Aroclor 1232	ND	57.5	12.2	U
53469-21-9	Aroclor 1242	ND	57.5	7.75	U
12672-29-6	Aroclor 1248	ND	57.5	8.63	U
11097-69-1	Aroclor 1254	ND	57.5	6.29	U
11096-82-5	Aroclor 1260	ND	57.5	10.6	U
37324-23-5	Aroclor 1262	ND	57.5	7.30	U
11100-14-4	Aroclor 1268	ND	57.5	5.96	U
1336-36-3	PCBs, Total	ND	57.5	5.11	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-03	**Date Collected**	: 05/21/24 08:45
Client ID	: DUP-A-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 20:08
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 19240526a-45	**Analyst**	: MEO
Sample Amount	: 10.5 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	58.6	5.21	U
11104-28-2	Aroclor 1221	ND	58.6	5.88	U
11141-16-5	Aroclor 1232	ND	58.6	12.4	U
53469-21-9	Aroclor 1242	ND	58.6	7.90	U
12672-29-6	Aroclor 1248	ND	58.6	8.80	U
11097-69-1	Aroclor 1254	ND	58.6	6.42	U
11096-82-5	Aroclor 1260	ND	58.6	10.8	U
37324-23-5	Aroclor 1262	ND	58.6	7.45	U
11100-14-4	Aroclor 1268	ND	58.6	6.08	U
1336-36-3	PCBs, Total	ND	58.6	5.21	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-04	**Date Collected**	: 05/21/24 09:15
Client ID	: SB-10-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 20:16
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 19240526a-46	**Analyst**	: MEO
Sample Amount	: 10.12 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	61.0	5.42	U
11104-28-2	Aroclor 1221	ND	61.0	6.11	U
11141-16-5	Aroclor 1232	ND	61.0	12.9	U
53469-21-9	Aroclor 1242	ND	61.0	8.22	U
12672-29-6	Aroclor 1248	ND	61.0	9.15	U
11096-82-5	Aroclor 1260	ND	61.0	11.3	U
37324-23-5	Aroclor 1262	ND	61.0	7.75	U
11100-14-4	Aroclor 1268	ND	61.0	6.32	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-04	Date Collected	: 05/21/24 09:15
Client ID	: SB-10-2FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/26/24 20:16
Sample Matrix	: SOIL	Date Extracted	: 05/25/24
Analytical Method	: 1,8082A	Dilution Factor	: 1
Lab File ID	: 19240526a-46	Analyst	: MEO
Sample Amount	: 10.12 g	Instrument ID	: PEST19
Extraction Method	: EPA 3546	GC Column	: CLP-PesticideII
Extract Volume	: 1000 uL	%Solids	: 81
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
11097-69-1	Aroclor 1254	24.6	61.0	6.67	J	J
1336-36-3	PCBs, Total	24.6	61.0	5.42	J	

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Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-05	**Date Collected**	: 05/21/24 09:20
Client ID	: SB-10-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 20:24
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 19240526a-47	**Analyst**	: MEO
Sample Amount	: 10.45 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 77
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	62.4	5.54	U
11104-28-2	Aroclor 1221	ND	62.4	6.25	U
11141-16-5	Aroclor 1232	ND	62.4	13.2	U
53469-21-9	Aroclor 1242	ND	62.4	8.41	U
12672-29-6	Aroclor 1248	ND	62.4	9.36	U
11097-69-1	Aroclor 1254	ND	62.4	6.82	U
11096-82-5	Aroclor 1260	ND	62.4	11.5	U
37324-23-5	Aroclor 1262	ND	62.4	7.92	U
11100-14-4	Aroclor 1268	ND	62.4	6.46	U
1336-36-3	PCBs, Total	ND	62.4	5.54	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-06	**Date Collected**	: 05/21/24 10:05
Client ID	: SB-03-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 20:32
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 19240526a-48	**Analyst**	: MEO
Sample Amount	: 10.75 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	55.1	4.89	U
11104-28-2	Aroclor 1221	ND	55.1	5.52	U
11141-16-5	Aroclor 1232	ND	55.1	11.7	U
53469-21-9	Aroclor 1242	ND	55.1	7.43	U
12672-29-6	Aroclor 1248	ND	55.1	8.27	U
11097-69-1	Aroclor 1254	ND	55.1	6.03	U
11096-82-5	Aroclor 1260	ND	55.1	10.2	U
37324-23-5	Aroclor 1262	ND	55.1	7.00	U
11100-14-4	Aroclor 1268	ND	55.1	5.71	U
1336-36-3	PCBs, Total	ND	55.1	4.89	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-07	**Date Collected**	: 05/21/24 11:30
Client ID	: SB-07-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 18:50
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 19240526a-35	**Analyst**	: MEO
Sample Amount	: 10.44 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 94
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	51.1	4.54	U
11104-28-2	Aroclor 1221	ND	51.1	5.12	U
11141-16-5	Aroclor 1232	ND	51.1	10.8	U
53469-21-9	Aroclor 1242	ND	51.1	6.89	U
12672-29-6	Aroclor 1248	ND	51.1	7.67	U
11097-69-1	Aroclor 1254	ND	51.1	5.59	U
11096-82-5	Aroclor 1260	ND	51.1	9.44	U
37324-23-5	Aroclor 1262	ND	51.1	6.49	U
11100-14-4	Aroclor 1268	ND	51.1	5.30	U
1336-36-3	PCBs, Total	ND	51.1	4.54	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-08	**Date Collected**	: 05/21/24 11:35
Client ID	: SB-07-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 20:40
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 19240526a-49	**Analyst**	: MEO
Sample Amount	: 10.74 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	55.1	4.89	U
11104-28-2	Aroclor 1221	ND	55.1	5.52	U
11141-16-5	Aroclor 1232	ND	55.1	11.7	U
53469-21-9	Aroclor 1242	ND	55.1	7.43	U
12672-29-6	Aroclor 1248	ND	55.1	8.26	U
11097-69-1	Aroclor 1254	ND	55.1	6.03	U
11096-82-5	Aroclor 1260	ND	55.1	10.2	U
37324-23-5	Aroclor 1262	ND	55.1	7.00	U
11100-14-4	Aroclor 1268	ND	55.1	5.71	U
1336-36-3	PCBs, Total	ND	55.1	4.89	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-09	**Date Collected**	: 05/21/24 10:00
Client ID	: SB-03-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 20:48
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 19240526a-50	**Analyst**	: MEO
Sample Amount	: 10.17 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 74
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	66.9	5.94	U
11104-28-2	Aroclor 1221	ND	66.9	6.70	U
11141-16-5	Aroclor 1232	ND	66.9	14.2	U
53469-21-9	Aroclor 1242	ND	66.9	9.02	U
12672-29-6	Aroclor 1248	ND	66.9	10.0	U
11097-69-1	Aroclor 1254	80.2	66.9	7.32	
37324-23-5	Aroclor 1262	ND	66.9	8.50	U
11100-14-4	Aroclor 1268	105	66.9	6.93	

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-09	**Date Collected**	: 05/21/24 10:00
Client ID	: SB-03-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 20:48
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 19240526a-50	**Analyst**	: MEO
Sample Amount	: 10.17 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3546	**GC Column**	: CLP-PesticideII
Extract Volume	: 1000 uL	**%Solids**	: 74
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
11096-82-5	Aroclor 1260	97.7	66.9	12.4	
1336-36-3	PCBs, Total	283	66.9	5.94	

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-10	**Date Collected**	: 05/21/24 13:05
Client ID	: SB-15-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 20:55
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 19240526a-51	**Analyst**	: MEO
Sample Amount	: 10.71 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	57.8	5.14	U
11104-28-2	Aroclor 1221	ND	57.8	5.80	U
11141-16-5	Aroclor 1232	ND	57.8	12.3	U
53469-21-9	Aroclor 1242	ND	57.8	7.80	U
12672-29-6	Aroclor 1248	ND	57.8	8.68	U
11097-69-1	Aroclor 1254	ND	57.8	6.33	U
11096-82-5	Aroclor 1260	ND	57.8	10.7	U
37324-23-5	Aroclor 1262	ND	57.8	7.35	U
11100-14-4	Aroclor 1268	ND	57.8	5.99	U
1336-36-3	PCBs, Total	ND	57.8	5.14	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-11	**Date Collected**	: 05/21/24 15:00
Client ID	: SB-14-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 21:03
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 19240526a-52	**Analyst**	: MEO
Sample Amount	: 10.57 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 77
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	61.4	5.45	U
11104-28-2	Aroclor 1221	ND	61.4	6.15	U
11141-16-5	Aroclor 1232	ND	61.4	13.0	U
53469-21-9	Aroclor 1242	ND	61.4	8.27	U
12672-29-6	Aroclor 1248	ND	61.4	9.20	U
11097-69-1	Aroclor 1254	ND	61.4	6.71	U
11096-82-5	Aroclor 1260	ND	61.4	11.3	U
37324-23-5	Aroclor 1262	ND	61.4	7.79	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-11	**Date Collected**	: 05/21/24 15:00
Client ID	: SB-14-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 21:03
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 19240526a-52	**Analyst**	: MEO
Sample Amount	: 10.57 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3546	**GC Column**	: CLP-PesticideII
Extract Volume	: 1000 uL	**%Solids**	: 77
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
11100-14-4	Aroclor 1268	7.72	61.4	6.36	J
1336-36-3	PCBs, Total	7.72	61.4	5.45	J

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-12	**Date Collected**	: 05/21/24 13:00
Client ID	: SB-15-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 21:11
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 19240526a-53	**Analyst**	: MEO
Sample Amount	: 10.79 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	51.5	4.58	U
11104-28-2	Aroclor 1221	ND	51.5	5.16	U
11141-16-5	Aroclor 1232	ND	51.5	10.9	U
53469-21-9	Aroclor 1242	ND	51.5	6.95	U
12672-29-6	Aroclor 1248	ND	51.5	7.73	U
11097-69-1	Aroclor 1254	ND	51.5	5.64	U
11096-82-5	Aroclor 1260	ND	51.5	9.52	U
37324-23-5	Aroclor 1262	ND	51.5	6.55	U
11100-14-4	Aroclor 1268	ND	51.5	5.34	U
1336-36-3	PCBs, Total	ND	51.5	4.58	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-13	**Date Collected**	: 05/21/24 14:45
Client ID	: SB-16-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 19:13
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 19240526a-38	**Analyst**	: MEO
Sample Amount	: 10.84 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	54.0	4.80	U
11104-28-2	Aroclor 1221	ND	54.0	5.41	U
11141-16-5	Aroclor 1232	ND	54.0	11.4	U
53469-21-9	Aroclor 1242	ND	54.0	7.28	U
12672-29-6	Aroclor 1248	ND	54.0	8.10	U
11097-69-1	Aroclor 1254	ND	54.0	5.91	U
11096-82-5	Aroclor 1260	ND	54.0	9.98	U
37324-23-5	Aroclor 1262	ND	54.0	6.86	U
11100-14-4	Aroclor 1268	36.9	54.0	5.60	J
1336-36-3	PCBs, Total	36.9	54.0	4.80	J

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-14	**Date Collected**	: 05/21/24 13:40
Client ID	: SB-16-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 21:27
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 19240526a-55	**Analyst**	: MEO
Sample Amount	: 10.74 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 83
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	55.8	4.96	U
11104-28-2	Aroclor 1221	ND	55.8	5.59	U
11141-16-5	Aroclor 1232	ND	55.8	11.8	U
53469-21-9	Aroclor 1242	ND	55.8	7.52	U
12672-29-6	Aroclor 1248	ND	55.8	8.37	U
11097-69-1	Aroclor 1254	ND	55.8	6.11	U
11096-82-5	Aroclor 1260	ND	55.8	10.3	U
37324-23-5	Aroclor 1262	ND	55.8	7.09	U
11100-14-4	Aroclor 1268	ND	55.8	5.78	U
1336-36-3	PCBs, Total	ND	55.8	4.96	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-15	**Date Collected**	: 05/21/24 15:05
Client ID	: SB-14-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/26/24 21:19
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 19240526a-54	**Analyst**	: MEO
Sample Amount	: 10.62 g	**Instrument ID**	: PEST19
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 78
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	60.3	5.35	U
11104-28-2	Aroclor 1221	ND	60.3	6.04	U
11141-16-5	Aroclor 1232	ND	60.3	12.8	U
53469-21-9	Aroclor 1242	ND	60.3	8.13	U
12672-29-6	Aroclor 1248	ND	60.3	9.04	U
11097-69-1	Aroclor 1254	ND	60.3	6.59	U
11096-82-5	Aroclor 1260	ND	60.3	11.1	U
37324-23-5	Aroclor 1262	ND	60.3	7.66	U
11100-14-4	Aroclor 1268	ND	60.3	6.24	U
1336-36-3	PCBs, Total	ND	60.3	5.35	U

GC Extractable Analysis
Pesticides

No data validation qualifiers were added

MKP 7/19/2024

Results Summary
Form 1
Organochlorine Pesticides by GC

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-09	Date Collected	: 05/21/24 10:00
Client ID	: SB-03-2FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/27/24 16:50
Sample Matrix	: SOIL	Date Extracted	: 05/25/24
Analytical Method	: 1,8081B	Dilution Factor	: 1
Lab File ID	: 20240527a-45	Analyst	: MMG
Sample Amount	: 15.86 g	Instrument ID	: PEST20
Extraction Method	: EPA 3546	GC Column	: CLPPesticides
Extract Volume	: 1000 uL	%Solids	: 74
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
319-86-8	Delta-BHC	ND	2.06	0.403	U
58-89-9	Lindane	ND	0.858	0.383	U
319-84-6	Alpha-BHC	ND	0.858	0.244	U
319-85-7	Beta-BHC	ND	2.06	0.781	U
76-44-8	Heptachlor	ND	1.03	0.462	U
309-00-2	Aldrin	ND	2.06	0.725	U
72-20-8	Endrin	ND	0.858	0.352	U
60-57-1	Dieldrin	ND	1.29	0.643	U
72-55-9	4,4'-DDE	ND	2.06	0.476	U
72-54-8	4,4'-DDD	ND	2.06	0.734	U
50-29-3	4,4'-DDT	ND	2.06	1.66	U
959-98-8	Endosulfan I	ND	2.06	0.486	U
33213-65-9	Endosulfan II	ND	2.06	0.688	U
1031-07-8	Endosulfan sulfate	ND	0.858	0.408	U
5103-71-9	cis-Chlordane	ND	2.57	0.717	U

Results Summary
Form 1
Organochlorine Pesticides by GC

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-10	Date Collected	: 05/21/24 13:05
Client ID	: SB-15-4FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/27/24 17:03
Sample Matrix	: SOIL	Date Extracted	: 05/25/24
Analytical Method	: 1,8081B	Dilution Factor	: 1
Lab File ID	: 20240527a-46	Analyst	: MMG
Sample Amount	: 15.65 g	Instrument ID	: PEST20
Extraction Method	: EPA 3546	GC Column	: CLPPesticides
Extract Volume	: 1000 uL	%Solids	: 81
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
319-86-8	Delta-BHC	ND	1.90	0.372	U
58-89-9	Lindane	ND	0.792	0.354	U
319-84-6	Alpha-BHC	ND	0.792	0.225	U
319-85-7	Beta-BHC	ND	1.90	0.720	U
76-44-8	Heptachlor	ND	0.950	0.426	U
309-00-2	Aldrin	ND	1.90	0.669	U
72-20-8	Endrin	ND	0.792	0.325	U
60-57-1	Dieldrin	ND	1.19	0.594	U
72-55-9	4,4'-DDE	ND	1.90	0.439	U
72-54-8	4,4'-DDD	ND	1.90	0.678	U
50-29-3	4,4'-DDT	ND	1.90	1.53	U
959-98-8	Endosulfan I	ND	1.90	0.449	U
33213-65-9	Endosulfan II	ND	1.90	0.635	U
1031-07-8	Endosulfan sulfate	ND	0.792	0.377	U
5103-71-9	cis-Chlordane	ND	2.38	0.662	U

Results Summary
Form 1
Organochlorine Pesticides by GC

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-11	Date Collected	: 05/21/24 15:00
Client ID	: SB-14-1FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/27/24 17:15
Sample Matrix	: SOIL	Date Extracted	: 05/25/24
Analytical Method	: 1,8081B	Dilution Factor	: 1
Lab File ID	: 20240527a-47	Analyst	: MMG
Sample Amount	: 15.47 g	Instrument ID	: PEST20
Extraction Method	: EPA 3546	GC Column	: CLPPesticides
Extract Volume	: 1000 uL	%Solids	: 77
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
319-86-8	Delta-BHC	ND	2.01	0.394	U
58-89-9	Lindane	ND	0.838	0.375	U
319-84-6	Alpha-BHC	ND	0.838	0.238	U
319-85-7	Beta-BHC	ND	2.01	0.763	U
76-44-8	Heptachlor	ND	1.01	0.451	U
309-00-2	Aldrin	ND	2.01	0.708	U
72-20-8	Endrin	ND	0.838	0.344	U
60-57-1	Dieldrin	ND	1.26	0.629	U
72-55-9	4,4'-DDE	ND	2.01	0.465	U
72-54-8	4,4'-DDD	ND	2.01	0.718	U
50-29-3	4,4'-DDT	ND	2.01	1.62	U
959-98-8	Endosulfan I	ND	2.01	0.475	U
33213-65-9	Endosulfan II	ND	2.01	0.672	U
1031-07-8	Endosulfan sulfate	ND	0.838	0.399	U
5103-71-9	cis-Chlordane	ND	2.52	0.701	U

Total Petroleum Hydrocarbons Diesel Range Organics Analysis

Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-01	**Date Collected**	: 05/21/24 08:40
Client ID	: SB-06-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/28/24 12:50
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8015D(M)	**Dilution Factor**	: 1
Lab File ID	: P26240528A18	**Analyst**	: ALL
Sample Amount	: 15.7 g	**Instrument ID**	: PETRO26A
Extraction Method	: EPA 3546	**GC Column**	:
Extract Volume	: 1000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	DRO (C10-C28)	23000	37000	2000	J

Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-04	**Date Collected**	: 05/21/24 09:15
Client ID	: SB-10-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:20
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8015D(M)	**Dilution Factor**	: 1
Lab File ID	: P26240528A25	**Analyst**	: ALL
Sample Amount	: 15.44 g	**Instrument ID**	: PETRO26B
Extraction Method	: EPA 3546	**GC Column**	:
Extract Volume	: 1000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	DRO (C10-C28)	55000	40000	2200	

Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-07	Date Collected	: 05/21/24 11:30
Client ID	: SB-07-3FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 09:44
Sample Matrix	: SOIL	Date Extracted	: 05/25/24
Analytical Method	: 1,8015D(M)	Dilution Factor	: 1
Lab File ID	: P26240528A08	Analyst	: ALL
Sample Amount	: 15.22 g	Instrument ID	: PETRO26A
Extraction Method	: EPA 3546	GC Column	:
Extract Volume	: 1000 uL	%Solids	: 94
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
NONE	DRO (C10-C28)	5500	35000	1900	J	J

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Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-09D	**Date Collected**	: 05/21/24 10:00
Client ID	: SB-03-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 00:32
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8015D(M)	**Dilution Factor**	: 5
Lab File ID	: P1724052875	**Analyst**	: SR
Sample Amount	: 15.35 g	**Instrument ID**	: PETRO17B
Extraction Method	: EPA 3546	**GC Column**	:
Extract Volume	: 1000 uL	**%Solids**	: 74
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	DRO (C10-C28)	1000000	220000	12000	

Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-11	Date Collected	: 05/21/24 15:00
Client ID	: SB-14-1FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 11:36
Sample Matrix	: SOIL	Date Extracted	: 05/25/24
Analytical Method	: 1,8015D(M)	Dilution Factor	: 1
Lab File ID	: P26240528A14	Analyst	: ALL
Sample Amount	: 15.3 g	Instrument ID	: PETRO26A
Extraction Method	: EPA 3546	GC Column	:
Extract Volume	: 1000 uL	%Solids	: 77
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
NONE	DRO (C10-C28)	17000	42000	2300	J	J

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Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-12	**Date Collected**	: 05/21/24 13:00
Client ID	: SB-15-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:57
Sample Matrix	: SOIL	**Date Extracted**	: 05/25/24
Analytical Method	: 1,8015D(M)	**Dilution Factor**	: 1
Lab File ID	: P26240528A27	**Analyst**	: ALL
Sample Amount	: 15.21 g	**Instrument ID**	: PETRO26B
Extraction Method	: EPA 3546	**GC Column**	:
Extract Volume	: 1000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	DRO (C10-C28)	59000	36000	2000	

Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-13	Date Collected	: 05/21/24 14:45
Client ID	: SB-16-1FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/28/24 13:28
Sample Matrix	: SOIL	Date Extracted	: 05/25/24
Analytical Method	: 1,8015D(M)	Dilution Factor	: 1
Lab File ID	: P26240528A20	Analyst	: ALL
Sample Amount	: 15.59 g	Instrument ID	: PETRO26A
Extraction Method	: EPA 3546	GC Column	:
Extract Volume	: 1000 uL	%Solids	: 85
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
NONE	DRO (C10-C28)	340000	38000	2100	J

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PFAS via Draft Method 1633

No data validation qualifiers were added

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Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-01	**Date Collected**	: 05/21/24 08:40
Client ID	: SB-06-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 07:47
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_14	**Analyst**	: AC
Sample Amount	: 5.84 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.797	0.050	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	0.073	0.399	0.056	J
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.199	0.043	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.797	0.081	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	0.067	0.199	0.046	J
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.199	0.023	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	0.027	0.199	0.023	J
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	0.181	0.199	0.059	J
335-67-1	Perfluorooctanoic Acid (PFOA)	0.169	0.199	0.052	J
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.797	0.279	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.199	0.037	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.199	0.078	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.199	0.079	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.199	0.075	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.797	0.386	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.199	0.042	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.199	0.100	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.199	0.051	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-01	**Date Collected**	: 05/21/24 08:40
Client ID	: SB-06-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 07:47
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_14	**Analyst**	: AC
Sample Amount	: 5.84 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.199	0.032	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.199	0.043	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.199	0.082	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.199	0.041	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.199	0.053	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.199	0.106	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.797	0.098	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.797	0.146	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.199	0.038	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.797	0.195	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.797	0.167	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.199	0.100	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.199	0.112	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.99	0.250	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-01	**Date Collected**	: 05/21/24 08:40
Client ID	: SB-06-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 07:47
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_14	**Analyst**	: AC
Sample Amount	: 5.84 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.99	0.509	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.399	0.041	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.399	0.031	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.399	0.083	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.399	0.095	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.997	0.144	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.98	0.503	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.98	1.75	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-02	**Date Collected**	: 05/21/24 08:45
Client ID	: SB-06-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 08:00
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_15	**Analyst**	: AC
Sample Amount	: 6.16 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.792	0.050	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.396	0.055	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.198	0.043	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.792	0.080	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.198	0.046	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.198	0.023	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.198	0.023	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.198	0.059	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.198	0.052	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.792	0.277	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.198	0.036	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.198	0.078	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.198	0.078	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.198	0.074	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.792	0.383	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.198	0.042	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.198	0.099	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.198	0.051	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-02	**Date Collected**	: 05/21/24 08:45
Client ID	: SB-06-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 08:00
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_15	**Analyst**	: AC
Sample Amount	: 6.16 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.198	0.032	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.198	0.043	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.198	0.082	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.198	0.040	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.198	0.052	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.198	0.105	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.792	0.097	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.792	0.145	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.198	0.038	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.792	0.194	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.792	0.166	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.198	0.099	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.198	0.111	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.98	0.248	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-02	Date Collected	: 05/21/24 08:45
Client ID	: SB-06-7FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 06/11/24 08:00
Sample Matrix	: SOIL	Date Extracted	: 06/10/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI05_240611_15	Analyst	: AC
Sample Amount	: 6.16 g	Instrument ID	: LCMS05
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: 82
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.98	0.505	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.396	0.040	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.396	0.031	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.396	0.082	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.396	0.094	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.990	0.142	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.95	0.500	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.95	1.74	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-03	**Date Collected**	: 05/21/24 08:45
Client ID	: DUP-A-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 08:13
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_16	**Analyst**	: AC
Sample Amount	: 6.22 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.792	0.050	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.396	0.055	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.198	0.043	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.792	0.080	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.198	0.046	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.198	0.023	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.198	0.023	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.198	0.059	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.198	0.052	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.792	0.277	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.198	0.036	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.198	0.078	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.198	0.078	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.198	0.074	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.792	0.383	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.198	0.042	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.198	0.099	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.198	0.051	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-03	**Date Collected**	: 05/21/24 08:45
Client ID	: DUP-A-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 08:13
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_16	**Analyst**	: AC
Sample Amount	: 6.22 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.198	0.032	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.198	0.043	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.198	0.082	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.198	0.040	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.198	0.052	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.198	0.105	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.792	0.097	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.792	0.145	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.198	0.038	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.792	0.194	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.792	0.166	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.198	0.099	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.198	0.111	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.98	0.248	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-03	**Date Collected**	: 05/21/24 08:45
Client ID	: DUP-A-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 08:13
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_16	**Analyst**	: AC
Sample Amount	: 6.22 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.98	0.505	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.396	0.040	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.396	0.031	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.396	0.082	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.396	0.094	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.990	0.142	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.95	0.500	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.95	1.74	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-04	**Date Collected**	: 05/21/24 09:15
Client ID	: SB-10-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 08:25
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_17	**Analyst**	: AC
Sample Amount	: 6.26 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.789	0.050	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.394	0.055	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.197	0.043	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.789	0.080	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.197	0.046	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.197	0.023	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.197	0.023	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.197	0.058	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.197	0.051	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.789	0.276	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.197	0.036	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.197	0.077	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	0.305	0.197	0.078	
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.197	0.074	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.789	0.382	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.197	0.042	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.197	0.099	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.197	0.051	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-04	**Date Collected**	: 05/21/24 09:15
Client ID	: SB-10-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 08:25
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_17	**Analyst**	: AC
Sample Amount	: 6.26 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	0.085	0.197	0.032	J
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.197	0.043	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.269	0.197	0.081	
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.197	0.040	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.197	0.052	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.197	0.105	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.789	0.097	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.789	0.144	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.197	0.038	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.789	0.193	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.789	0.165	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.197	0.099	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.197	0.110	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.97	0.247	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-04	**Date Collected**	: 05/21/24 09:15
Client ID	: SB-10-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 08:25
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_17	**Analyst**	: AC
Sample Amount	: 6.26 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.97	0.503	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.394	0.040	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.394	0.031	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.394	0.082	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.394	0.094	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.986	0.142	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.93	0.498	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.93	1.74	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-05	**Date Collected**	: 05/21/24 09:20
Client ID	: SB-10-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 08:38
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_18	**Analyst**	: AC
Sample Amount	: 6.61 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 77
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.789	0.050	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.394	0.055	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.197	0.043	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.789	0.080	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.197	0.046	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.197	0.023	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.197	0.023	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.197	0.058	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.197	0.051	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.789	0.276	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.197	0.036	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.197	0.077	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.197	0.078	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.197	0.074	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.789	0.382	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.197	0.042	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.197	0.099	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.197	0.051	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-05	**Date Collected**	: 05/21/24 09:20
Client ID	: SB-10-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 08:38
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_18	**Analyst**	: AC
Sample Amount	: 6.61 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 77
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.197	0.032	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.197	0.043	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.197	0.081	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.197	0.040	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.197	0.052	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.197	0.105	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.789	0.097	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.789	0.144	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.197	0.038	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.789	0.193	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.789	0.165	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.197	0.099	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.197	0.110	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.97	0.247	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-05	**Date Collected**	: 05/21/24 09:20
Client ID	: SB-10-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 08:38
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_18	**Analyst**	: AC
Sample Amount	: 6.61 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 77
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.97	0.503	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.394	0.040	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.394	0.031	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.394	0.082	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.394	0.094	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.986	0.142	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.93	0.498	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.93	1.74	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-06	**Date Collected**	: 05/21/24 10:05
Client ID	: SB-03-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 08:51
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_19	**Analyst**	: AC
Sample Amount	: 5.96 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.795	0.050	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.398	0.056	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.199	0.043	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.795	0.080	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.199	0.046	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.199	0.023	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.199	0.023	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.199	0.059	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.199	0.052	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.795	0.278	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.199	0.037	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.199	0.078	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.199	0.079	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.199	0.075	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.795	0.385	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.199	0.042	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.199	0.099	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.199	0.051	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-06	**Date Collected**	: 05/21/24 10:05
Client ID	: SB-03-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 08:51
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_19	**Analyst**	: AC
Sample Amount	: 5.96 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.199	0.032	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.199	0.043	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.199	0.082	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.199	0.041	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.199	0.053	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.199	0.106	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.795	0.098	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.795	0.146	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.199	0.038	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.795	0.195	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.795	0.166	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.199	0.099	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.199	0.111	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.99	0.249	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-06	Date Collected	: 05/21/24 10:05
Client ID	: SB-03-7FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 06/11/24 08:51
Sample Matrix	: SOIL	Date Extracted	: 06/10/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI05_240611_19	Analyst	: AC
Sample Amount	: 5.96 g	Instrument ID	: LCMS05
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.99	0.507	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.398	0.041	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.398	0.031	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.398	0.083	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.398	0.095	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.994	0.143	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.97	0.502	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.97	1.75	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-07	**Date Collected**	: 05/21/24 11:30
Client ID	: SB-07-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 09:04
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_20	**Analyst**	: AC
Sample Amount	: 5.39 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 94
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.792	0.050	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.396	0.055	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.198	0.043	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.792	0.080	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.198	0.046	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.198	0.023	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.198	0.023	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.198	0.059	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.198	0.052	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.792	0.277	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.198	0.036	U
375-95-1	Perfluorononanoic Acid (PFNA)	0.189	0.198	0.078	J
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	0.378	0.198	0.078	
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.198	0.074	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.792	0.383	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.198	0.042	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.198	0.099	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.198	0.051	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-07	**Date Collected**	: 05/21/24 11:30
Client ID	: SB-07-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 09:04
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_20	**Analyst**	: AC
Sample Amount	: 5.39 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 94
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.198	0.032	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.198	0.043	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.198	0.082	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.198	0.040	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.198	0.052	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.198	0.105	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.792	0.097	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.792	0.145	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.198	0.038	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.792	0.194	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.792	0.166	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.198	0.099	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.198	0.111	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.98	0.248	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-07	**Date Collected**	: 05/21/24 11:30
Client ID	: SB-07-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 09:04
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_20	**Analyst**	: AC
Sample Amount	: 5.39 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 94
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.98	0.505	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.396	0.040	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.396	0.031	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.396	0.082	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.396	0.094	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.990	0.142	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.95	0.500	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.95	1.74	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-08	**Date Collected**	: 05/21/24 11:35
Client ID	: SB-07-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 09:42
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_23	**Analyst**	: AC
Sample Amount	: 5.98 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.792	0.050	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.396	0.055	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.198	0.043	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.792	0.080	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.198	0.046	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.198	0.023	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.198	0.023	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.198	0.059	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.198	0.051	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.792	0.277	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.198	0.036	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.198	0.078	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.198	0.078	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.198	0.074	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.792	0.383	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.198	0.042	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.198	0.099	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.198	0.051	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-08	**Date Collected**	: 05/21/24 11:35
Client ID	: SB-07-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 09:42
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_23	**Analyst**	: AC
Sample Amount	: 5.98 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.198	0.032	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.198	0.043	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.198	0.082	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.198	0.040	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.198	0.052	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.198	0.105	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.792	0.097	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.792	0.145	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.198	0.038	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.792	0.194	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.792	0.165	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.198	0.099	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.198	0.111	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.98	0.248	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-08	**Date Collected**	: 05/21/24 11:35
Client ID	: SB-07-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 09:42
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_23	**Analyst**	: AC
Sample Amount	: 5.98 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.98	0.505	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.396	0.040	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.396	0.031	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.396	0.082	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.396	0.094	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.989	0.142	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.95	0.499	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.95	1.74	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-09	**Date Collected**	: 05/21/24 10:00
Client ID	: SB-03-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 09:55
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_24	**Analyst**	: AC
Sample Amount	: 6.9 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 74
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.789	0.050	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	0.075	0.394	0.055	J
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.197	0.043	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.789	0.080	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	0.062	0.197	0.046	J
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.197	0.023	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	0.039	0.197	0.023	J
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.197	0.058	U
335-67-1	Perfluorooctanoic Acid (PFOA)	0.128	0.197	0.051	J
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.789	0.276	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.197	0.036	U
375-95-1	Perfluorononanoic Acid (PFNA)	0.093	0.197	0.077	J
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	0.894	0.197	0.078	
335-76-2	Perfluorodecanoic Acid (PFDA)	0.153	0.197	0.074	J
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.789	0.382	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.197	0.042	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.197	0.099	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	0.058	0.197	0.051	J

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-09	**Date Collected**	: 05/21/24 10:00
Client ID	: SB-03-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 09:55
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_24	**Analyst**	: AC
Sample Amount	: 6.9 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 74
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.197	0.032	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.197	0.043	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.197	0.081	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	0.052	0.197	0.040	J
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.197	0.052	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.197	0.105	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.789	0.097	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.789	0.144	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.197	0.038	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.789	0.193	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.789	0.165	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.197	0.099	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.197	0.110	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.97	0.247	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-09	**Date Collected**	: 05/21/24 10:00
Client ID	: SB-03-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 09:55
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_24	**Analyst**	: AC
Sample Amount	: 6.9 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 74
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.97	0.503	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.394	0.040	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.394	0.031	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.394	0.082	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.394	0.094	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.986	0.142	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.93	0.498	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.93	1.74	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-10	**Date Collected**	: 05/21/24 13:05
Client ID	: SB-15-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 10:07
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_25	**Analyst**	: AC
Sample Amount	: 6.25 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.793	0.050	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.396	0.056	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.198	0.043	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.793	0.080	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.198	0.046	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.198	0.023	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.198	0.023	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.198	0.059	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.198	0.052	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.793	0.278	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.198	0.037	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.198	0.078	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.198	0.079	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.198	0.075	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.793	0.384	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.198	0.042	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.198	0.099	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.198	0.051	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-10	**Date Collected**	: 05/21/24 13:05
Client ID	: SB-15-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 10:07
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_25	**Analyst**	: AC
Sample Amount	: 6.25 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.198	0.032	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.198	0.043	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.198	0.082	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.198	0.040	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.198	0.052	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.198	0.105	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.793	0.098	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.793	0.145	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.198	0.038	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.793	0.194	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.793	0.166	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.198	0.099	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.198	0.111	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.98	0.248	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-10	**Date Collected**	: 05/21/24 13:05
Client ID	: SB-15-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 10:07
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_25	**Analyst**	: AC
Sample Amount	: 6.25 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.98	0.506	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.396	0.040	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.396	0.031	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.396	0.083	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.396	0.094	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.991	0.143	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.96	0.500	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.96	1.74	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-11	**Date Collected**	: 05/21/24 15:00
Client ID	: SB-14-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 10:52
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_28	**Analyst**	: AC
Sample Amount	: 6.57 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 77
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.790	0.050	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.395	0.055	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.197	0.043	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.790	0.080	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.197	0.046	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.197	0.023	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.197	0.023	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.197	0.058	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.197	0.051	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.790	0.276	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.197	0.036	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.197	0.077	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.197	0.078	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.197	0.074	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.790	0.382	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.197	0.042	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.197	0.099	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.197	0.051	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-11	**Date Collected**	: 05/21/24 15:00
Client ID	: SB-14-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 10:52
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_28	**Analyst**	: AC
Sample Amount	: 6.57 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 77
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.197	0.032	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.197	0.043	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.197	0.081	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.197	0.040	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.197	0.052	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.197	0.105	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.790	0.097	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.790	0.144	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.197	0.038	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.790	0.193	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.790	0.165	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.197	0.099	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.197	0.110	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.97	0.247	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-11	**Date Collected**	: 05/21/24 15:00
Client ID	: SB-14-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 10:52
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_28	**Analyst**	: AC
Sample Amount	: 6.57 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 77
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.97	0.504	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.395	0.040	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.395	0.031	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.395	0.082	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.395	0.094	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.987	0.142	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.94	0.498	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.94	1.74	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-12	**Date Collected**	: 05/21/24 13:00
Client ID	: SB-15-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 11:05
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_29	**Analyst**	: AC
Sample Amount	: 5.68 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.783	0.049	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.392	0.055	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.196	0.042	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.783	0.079	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.196	0.045	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.196	0.023	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.196	0.023	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.196	0.058	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.196	0.051	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.783	0.274	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.196	0.036	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.196	0.077	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.196	0.078	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.196	0.074	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.783	0.379	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.196	0.042	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.196	0.098	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.196	0.050	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-12	**Date Collected**	: 05/21/24 13:00
Client ID	: SB-15-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 11:05
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_29	**Analyst**	: AC
Sample Amount	: 5.68 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.196	0.031	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.196	0.042	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.196	0.081	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.196	0.040	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.196	0.052	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.196	0.104	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.783	0.096	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.783	0.143	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.196	0.038	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.783	0.192	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.783	0.164	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.196	0.098	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.196	0.110	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.96	0.245	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-12	**Date Collected**	: 05/21/24 13:00
Client ID	: SB-15-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 11:05
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_29	**Analyst**	: AC
Sample Amount	: 5.68 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.96	0.500	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.392	0.040	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.392	0.031	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.392	0.082	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.392	0.093	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.979	0.141	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.90	0.494	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.90	1.72	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-13	**Date Collected**	: 05/21/24 14:45
Client ID	: SB-16-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 11:17
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_30	**Analyst**	: AC
Sample Amount	: 5.94 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.788	0.050	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.394	0.055	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.197	0.043	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.788	0.080	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.197	0.046	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.197	0.023	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.197	0.023	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.197	0.058	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.197	0.051	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.788	0.276	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.197	0.036	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.197	0.077	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.197	0.078	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.197	0.074	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.788	0.382	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.197	0.042	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.197	0.099	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.197	0.051	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-13	**Date Collected**	: 05/21/24 14:45
Client ID	: SB-16-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 11:17
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_30	**Analyst**	: AC
Sample Amount	: 5.94 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.197	0.032	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.197	0.043	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.197	0.081	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.197	0.040	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.197	0.052	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.197	0.105	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.788	0.097	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.788	0.144	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.197	0.038	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.788	0.193	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.788	0.165	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.197	0.099	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.197	0.110	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.97	0.247	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-13	**Date Collected**	: 05/21/24 14:45
Client ID	: SB-16-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 11:17
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_30	**Analyst**	: AC
Sample Amount	: 5.94 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.97	0.503	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.394	0.040	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.394	0.031	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.394	0.082	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.394	0.094	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.986	0.142	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.93	0.498	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.93	1.73	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-14	**Date Collected**	: 05/21/24 13:40
Client ID	: SB-16-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 11:56
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_33	**Analyst**	: AC
Sample Amount	: 6.05 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 83
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.793	0.050	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.396	0.056	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.198	0.043	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.793	0.080	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.198	0.046	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.198	0.023	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.198	0.023	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.198	0.059	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.198	0.052	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.793	0.277	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.198	0.037	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.198	0.078	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.198	0.079	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.198	0.075	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.793	0.384	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.198	0.042	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.198	0.099	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.198	0.051	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-14	**Date Collected**	: 05/21/24 13:40
Client ID	: SB-16-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 11:56
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_33	**Analyst**	: AC
Sample Amount	: 6.05 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 83
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.198	0.032	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.198	0.043	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.198	0.082	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.198	0.040	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.198	0.052	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.198	0.105	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.793	0.098	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.793	0.145	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.198	0.038	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.793	0.194	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.793	0.166	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.198	0.099	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.198	0.111	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.98	0.248	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-14	**Date Collected**	: 05/21/24 13:40
Client ID	: SB-16-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 11:56
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_33	**Analyst**	: AC
Sample Amount	: 6.05 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 83
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.98	0.506	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.396	0.040	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.396	0.031	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.396	0.082	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.396	0.094	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.991	0.143	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.95	0.500	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.95	1.74	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-15	**Date Collected**	: 05/21/24 15:05
Client ID	: SB-14-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 12:08
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_34	**Analyst**	: AC
Sample Amount	: 6.48 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 78
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.790	0.050	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.395	0.055	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.198	0.043	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.790	0.080	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.198	0.046	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.198	0.023	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.198	0.023	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.198	0.059	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.198	0.051	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.790	0.277	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.198	0.036	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.198	0.077	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.198	0.078	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.198	0.074	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.790	0.382	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.198	0.042	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.198	0.099	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.198	0.051	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-15	**Date Collected**	: 05/21/24 15:05
Client ID	: SB-14-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 12:08
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_34	**Analyst**	: AC
Sample Amount	: 6.48 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 78
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.198	0.032	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.198	0.043	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.198	0.081	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.198	0.040	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.198	0.052	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.198	0.105	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.790	0.097	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.790	0.145	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.198	0.038	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.790	0.194	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.790	0.165	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.198	0.099	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.198	0.111	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.98	0.247	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-15	**Date Collected**	: 05/21/24 15:05
Client ID	: SB-14-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/11/24 12:08
Sample Matrix	: SOIL	**Date Extracted**	: 06/10/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240611_34	**Analyst**	: AC
Sample Amount	: 6.48 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 78
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.98	0.504	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.395	0.040	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.395	0.031	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.395	0.082	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.395	0.094	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.988	0.142	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.94	0.499	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.94	1.74	U

Inorganic Data
(ICP Analysis)

Form 1
METALS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-01	Date Collected	: 05/21/24 08:40
Client ID	: SB-06-3FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/29/24 11:44
Sample Matrix	: SOIL	Dilution Factor	: 4
Analytical Method	: 1,6010D	Analyst	: DHL
Lab File ID	: WG1926743.pdf	Instrument ID	: TRACE7
Sample Amount	: 1.289g	%Solids	: 86
Digestion Method	: EPA 3050B	Date Digested	: 05/29/24

		mg/kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
7440-38-2	Arsenic, Total	20.0	1.81	0.376		
7440-39-3	Barium, Total	151	1.81	0.314		
7440-41-7	Beryllium, Total	0.256	0.903	0.060	J	J
7440-43-9	Cadmium, Total	4.62	1.81	0.177		J
7440-47-3	Chromium, Total	20.4	1.81	0.173		
7440-50-8	Copper, Total	103	1.81	0.466		
7439-92-1	Lead, Total	554	9.03	0.484		J
7439-96-5	Manganese, Total	1300	1.81	0.287		
7440-02-0	Nickel, Total	153	4.52	0.437		J
7782-49-2	Selenium, Total	0.618	3.61	0.466	J	
7440-22-4	Silver, Total	0.558	0.903	0.511	J	
7440-66-6	Zinc, Total	988	9.03	0.529		J

MKP 7/19/2024

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-02	**Date Collected**	: 05/21/24 08:45
Client ID	: SB-06-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 10:38
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: DHL
Lab File ID	: WG1926743.pdf	**Instrument ID**	: TRACE7
Sample Amount	: 1.298g	**%Solids**	: 82
Digestion Method	: EPA 3050B	**Date Digested**	: 05/29/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	4.62	0.940	0.195	
7440-39-3	Barium, Total	131	0.940	0.163	
7440-41-7	Beryllium, Total	0.889	0.470	0.031	
7440-43-9	Cadmium, Total	0.104	0.940	0.092	J
7440-47-3	Chromium, Total	24.7	0.940	0.090	
7440-50-8	Copper, Total	26.8	0.940	0.242	
7439-92-1	Lead, Total	12.2	4.70	0.252	
7439-96-5	Manganese, Total	479	0.940	0.149	
7440-02-0	Nickel, Total	33.9	2.35	0.227	
7782-49-2	Selenium, Total	ND	1.88	0.242	U
7440-22-4	Silver, Total	ND	0.470	0.266	U
7440-66-6	Zinc, Total	83.8	4.70	0.275	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-03	**Date Collected**	: 05/21/24 08:45
Client ID	: DUP-A-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 10:44
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: DHL
Lab File ID	: WG1926743.pdf	**Instrument ID**	: TRACE7
Sample Amount	: 1.283g	**%Solids**	: 81
Digestion Method	: EPA 3050B	**Date Digested**	: 05/29/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	4.80	0.960	0.200	
7440-39-3	Barium, Total	160	0.960	0.167	
7440-41-7	Beryllium, Total	0.629	0.480	0.032	
7440-43-9	Cadmium, Total	0.233	0.960	0.094	J
7440-47-3	Chromium, Total	20.4	0.960	0.092	
7440-50-8	Copper, Total	22.2	0.960	0.248	
7439-92-1	Lead, Total	11.3	4.80	0.257	
7439-96-5	Manganese, Total	531	0.960	0.153	
7440-02-0	Nickel, Total	29.0	2.40	0.232	
7782-49-2	Selenium, Total	ND	1.92	0.248	U
7440-22-4	Silver, Total	ND	0.480	0.272	U
7440-66-6	Zinc, Total	70.5	4.80	0.281	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-04	**Date Collected**	: 05/21/24 09:15
Client ID	: SB-10-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 12:36
Sample Matrix	: SOIL	**Dilution Factor**	: 4
Analytical Method	: 1,6010D	**Analyst**	: DHL
Lab File ID	: WG1926743.pdf	**Instrument ID**	: TRACE7
Sample Amount	: 1.283g	**%Solids**	: 81
Digestion Method	: EPA 3050B	**Date Digested**	: 05/29/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	5.24	1.92	0.400	
7440-39-3	Barium, Total	69.9	1.92	0.335	
7440-41-7	Beryllium, Total	1.30	0.962	0.064	
7440-43-9	Cadmium, Total	ND	1.92	0.189	U
7440-47-3	Chromium, Total	10.4	1.92	0.185	
7440-50-8	Copper, Total	12.8	1.92	0.496	
7439-92-1	Lead, Total	33.2	9.62	0.516	
7439-96-5	Manganese, Total	550	1.92	0.306	
7440-02-0	Nickel, Total	9.12	4.81	0.466	
7782-49-2	Selenium, Total	1.38	3.85	0.496	J
7440-22-4	Silver, Total	ND	0.962	0.545	U
7440-66-6	Zinc, Total	54.6	9.62	0.564	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-05	**Date Collected**	: 05/21/24 09:20
Client ID	: SB-10-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 10:55
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: DHL
Lab File ID	: WG1926743.pdf	**Instrument ID**	: TRACE7
Sample Amount	: 1.251g	**%Solids**	: 77
Digestion Method	: EPA 3050B	**Date Digested**	: 05/29/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	5.64	1.04	0.217	
7440-39-3	Barium, Total	154	1.04	0.181	
7440-41-7	Beryllium, Total	1.04	0.521	0.034	
7440-43-9	Cadmium, Total	0.228	1.04	0.102	J
7440-47-3	Chromium, Total	28.1	1.04	0.100	
7440-50-8	Copper, Total	27.4	1.04	0.269	
7439-92-1	Lead, Total	14.6	5.21	0.279	
7439-96-5	Manganese, Total	584	1.04	0.166	
7440-02-0	Nickel, Total	43.0	2.60	0.252	
7782-49-2	Selenium, Total	0.352	2.08	0.269	J
7440-22-4	Silver, Total	ND	0.521	0.295	U
7440-66-6	Zinc, Total	84.0	5.21	0.305	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-07	**Date Collected**	: 05/21/24 11:30
Client ID	: SB-07-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 20:02
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: TAA
Lab File ID	: WG1926743.pdf	**Instrument ID**	: TRACE7
Sample Amount	: 1.28g	**%Solids**	: 94
Digestion Method	: EPA 3050B	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	2.21	0.834	0.173	
7440-39-3	Barium, Total	13.1	0.834	0.145	
7440-41-7	Beryllium, Total	0.096	0.417	0.028	J
7440-43-9	Cadmium, Total	ND	0.834	0.082	U
7440-47-3	Chromium, Total	3.92	0.834	0.080	
7440-50-8	Copper, Total	2.67	0.834	0.215	
7439-92-1	Lead, Total	17.9	4.17	0.223	
7439-96-5	Manganese, Total	171	0.834	0.132	
7440-02-0	Nickel, Total	3.44	2.08	0.202	
7782-49-2	Selenium, Total	0.385	1.67	0.215	J
7440-22-4	Silver, Total	ND	0.417	0.236	U
7440-66-6	Zinc, Total	13.4	4.17	0.244	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-08	**Date Collected**	: 05/21/24 11:35
Client ID	: SB-07-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 23:03
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: TAA
Lab File ID	: WG1926743.pdf	**Instrument ID**	: TRACE7
Sample Amount	: 1.262g	**%Solids**	: 85
Digestion Method	: EPA 3050B	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	0.900	0.938	0.195	J
7440-39-3	Barium, Total	45.4	0.938	0.163	
7440-41-7	Beryllium, Total	0.466	0.469	0.031	J
7440-43-9	Cadmium, Total	0.287	0.938	0.092	J
7440-47-3	Chromium, Total	18.3	0.938	0.090	
7440-50-8	Copper, Total	14.5	0.938	0.242	
7439-92-1	Lead, Total	11.1	4.69	0.251	
7439-96-5	Manganese, Total	396	0.938	0.149	
7440-02-0	Nickel, Total	23.2	2.34	0.227	
7782-49-2	Selenium, Total	ND	1.88	0.242	U
7440-22-4	Silver, Total	ND	0.469	0.265	U
7440-66-6	Zinc, Total	78.9	4.69	0.275	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-10	**Date Collected**	: 05/21/24 13:05
Client ID	: SB-15-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 23:14
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: TAA
Lab File ID	: WG1926743.pdf	**Instrument ID**	: TRACE7
Sample Amount	: 1.271g	**%Solids**	: 81
Digestion Method	: EPA 3050B	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	2.95	0.975	0.203	
7440-39-3	Barium, Total	188	0.975	0.170	
7440-41-7	Beryllium, Total	0.650	0.487	0.032	
7440-43-9	Cadmium, Total	0.287	0.975	0.096	J
7440-47-3	Chromium, Total	19.9	0.975	0.094	
7440-50-8	Copper, Total	21.6	0.975	0.252	
7439-92-1	Lead, Total	12.4	4.87	0.261	
7439-96-5	Manganese, Total	607	0.975	0.155	
7440-02-0	Nickel, Total	33.8	2.44	0.236	
7782-49-2	Selenium, Total	ND	1.95	0.252	U
7440-22-4	Silver, Total	ND	0.487	0.276	U
7440-66-6	Zinc, Total	62.5	4.87	0.286	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-11	**Date Collected**	: 05/21/24 15:00
Client ID	: SB-14-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 23:20
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: TAA
Lab File ID	: WG1926743.pdf	**Instrument ID**	: TRACE7
Sample Amount	: 1.257g	**%Solids**	: 77
Digestion Method	: EPA 3050B	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	5.27	1.03	0.215	
7440-39-3	Barium, Total	104	1.03	0.180	
7440-41-7	Beryllium, Total	1.30	0.516	0.034	
7440-43-9	Cadmium, Total	0.729	1.03	0.101	J
7440-47-3	Chromium, Total	22.8	1.03	0.099	
7440-50-8	Copper, Total	27.2	1.03	0.266	
7439-92-1	Lead, Total	24.0	5.16	0.276	
7439-96-5	Manganese, Total	774	1.03	0.164	
7440-02-0	Nickel, Total	37.0	2.58	0.250	
7782-49-2	Selenium, Total	0.406	2.06	0.266	J
7440-22-4	Silver, Total	ND	0.516	0.292	U
7440-66-6	Zinc, Total	154	5.16	0.302	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-12	**Date Collected**	: 05/21/24 13:00
Client ID	: SB-15-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 23:25
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: TAA
Lab File ID	: WG1926743.pdf	**Instrument ID**	: TRACE7
Sample Amount	: 1.253g	**%Solids**	: 90
Digestion Method	: EPA 3050B	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	6.82	0.888	0.185	
7440-39-3	Barium, Total	62.5	0.888	0.154	
7440-41-7	Beryllium, Total	0.428	0.444	0.029	J
7440-43-9	Cadmium, Total	0.611	0.888	0.087	J
7440-47-3	Chromium, Total	17.4	0.888	0.085	
7440-50-8	Copper, Total	22.4	0.888	0.229	
7439-92-1	Lead, Total	16.5	4.44	0.238	
7439-96-5	Manganese, Total	581	0.888	0.141	
7440-02-0	Nickel, Total	23.9	2.22	0.215	
7782-49-2	Selenium, Total	ND	1.78	0.229	U
7440-22-4	Silver, Total	ND	0.444	0.251	U
7440-66-6	Zinc, Total	48.9	4.44	0.260	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-14	**Date Collected**	: 05/21/24 13:40
Client ID	: SB-16-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 23:31
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: TAA
Lab File ID	: WG1926743.pdf	**Instrument ID**	: TRACE7
Sample Amount	: 1.263g	**%Solids**	: 83
Digestion Method	: EPA 3050B	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	2.70	0.949	0.197	
7440-39-3	Barium, Total	91.0	0.949	0.165	
7440-41-7	Beryllium, Total	0.577	0.475	0.031	
7440-43-9	Cadmium, Total	0.313	0.949	0.093	J
7440-47-3	Chromium, Total	19.0	0.949	0.091	
7440-50-8	Copper, Total	19.9	0.949	0.245	
7439-92-1	Lead, Total	11.4	4.75	0.254	
7439-96-5	Manganese, Total	562	0.949	0.151	
7440-02-0	Nickel, Total	30.0	2.37	0.230	
7782-49-2	Selenium, Total	0.351	1.90	0.245	J
7440-22-4	Silver, Total	ND	0.475	0.269	U
7440-66-6	Zinc, Total	62.8	4.75	0.278	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-15	**Date Collected**	: 05/21/24 15:05
Client ID	: SB-14-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 23:36
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: TAA
Lab File ID	: WG1926743.pdf	**Instrument ID**	: TRACE7
Sample Amount	: 1.262g	**%Solids**	: 78
Digestion Method	: EPA 3050B	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	4.92	1.01	0.211	
7440-39-3	Barium, Total	194	1.01	0.176	
7440-41-7	Beryllium, Total	0.791	0.507	0.034	
7440-43-9	Cadmium, Total	0.276	1.01	0.099	J
7440-47-3	Chromium, Total	22.9	1.01	0.097	
7440-50-8	Copper, Total	25.1	1.01	0.262	
7439-92-1	Lead, Total	11.8	5.07	0.272	
7439-96-5	Manganese, Total	475	1.01	0.161	
7440-02-0	Nickel, Total	36.2	2.54	0.246	
7782-49-2	Selenium, Total	0.441	2.03	0.262	J
7440-22-4	Silver, Total	ND	0.507	0.287	U
7440-66-6	Zinc, Total	66.9	5.07	0.297	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-06	**Date Collected**	: 05/21/24 10:05
Client ID	: SB-03-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/30/24 13:31
Sample Matrix	: SOIL	**Dilution Factor**	: 4
Analytical Method	: 1,6010D	**Analyst**	: MAM
Lab File ID	: WG1927277.csv	**Instrument ID**	: TRACE4
Sample Amount	: 1.308g	**%Solids**	: 84
Digestion Method	: EPA 3050B	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	4.52	1.81	0.377	
7440-39-3	Barium, Total	141	1.81	0.315	
7440-41-7	Beryllium, Total	0.478	0.906	0.060	J
7440-43-9	Cadmium, Total	0.195	1.81	0.178	J
7440-47-3	Chromium, Total	17.7	1.81	0.174	
7440-50-8	Copper, Total	17.9	1.81	0.467	
7439-92-1	Lead, Total	8.82	9.06	0.486	J
7439-96-5	Manganese, Total	474	1.81	0.288	
7440-02-0	Nickel, Total	21.8	4.53	0.438	
7782-49-2	Selenium, Total	ND	3.62	0.467	U
7440-22-4	Silver, Total	ND	0.906	0.513	U
7440-66-6	Zinc, Total	64.2	9.06	0.531	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-09	**Date Collected**	: 05/21/24 10:00
Client ID	: SB-03-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/30/24 13:37
Sample Matrix	: SOIL	**Dilution Factor**	: 4
Analytical Method	: 1,6010D	**Analyst**	: MAM
Lab File ID	: WG1927277.csv	**Instrument ID**	: TRACE4
Sample Amount	: 1.272g	**%Solids**	: 74
Digestion Method	: EPA 3050B	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	21.4	2.14	0.445	
7440-39-3	Barium, Total	118	2.14	0.372	
7440-41-7	Beryllium, Total	0.601	1.07	0.071	J
7440-43-9	Cadmium, Total	5.18	2.14	0.210	
7440-47-3	Chromium, Total	41.8	2.14	0.205	
7440-50-8	Copper, Total	105	2.14	0.552	
7439-92-1	Lead, Total	341	10.7	0.573	
7439-96-5	Manganese, Total	572	2.14	0.340	
7440-02-0	Nickel, Total	43.9	5.35	0.518	
7782-49-2	Selenium, Total	1.27	4.28	0.552	J
7440-22-4	Silver, Total	ND	1.07	0.605	U
7440-66-6	Zinc, Total	1540	10.7	0.627	

Form 1
METALS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: L2428242-13	Date Collected	: 05/21/24 14:45
Client ID	: SB-16-1FT-20240521	Date Received	: 05/21/24
Sample Location	:	Date Analyzed	: 05/30/24 12:09
Sample Matrix	: SOIL	Dilution Factor	: 4
Analytical Method	: 1,6010D	Analyst	: MAM
Lab File ID	: WG1927277.csv	Instrument ID	: TRACE4
Sample Amount	: 1.288g	%Solids	: 85
Digestion Method	: EPA 3050B	Date Digested	: 05/28/24

		mg/kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
7440-38-2	Arsenic, Total	13.0	1.82	0.378		
7440-39-3	Barium, Total	48.0	1.82	0.316		
7440-41-7	Beryllium, Total	0.740	0.909	0.060	J	
7440-43-9	Cadmium, Total	0.266	1.82	0.178	J	
7440-47-3	Chromium, Total	11.5	1.82	0.174		
7440-50-8	Copper, Total	46.2	1.82	0.469		
7439-92-1	Lead, Total	24.1	9.09	0.487		J+
7439-96-5	Manganese, Total	447	1.82	0.289		
7440-02-0	Nickel, Total	14.9	4.54	0.440		J+
7782-49-2	Selenium, Total	0.618	3.64	0.469	J	
7440-22-4	Silver, Total	ND	0.909	0.514	U	
7440-66-6	Zinc, Total	35.7	9.09	0.533		J+

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Inorganic Data
(Mercury Analysis)

No data validation qualifiers were added

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Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-06	**Date Collected**	: 05/21/24 10:05
Client ID	: SB-03-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 13:02
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JTS
Lab File ID	: WG1926678.pdf	**Instrument ID**	: NIC2
Sample Amount	: 0.339g	**%Solids**	: 84
Digestion Method	: EPA 7471B	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.087	0.057	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-08	**Date Collected**	: 05/21/24 11:35
Client ID	: SB-07-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 12:33
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JTS
Lab File ID	: WG1926678.pdf	**Instrument ID**	: NIC2
Sample Amount	: 0.319g	**%Solids**	: 85
Digestion Method	: EPA 7471B	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.093	0.061	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-09	**Date Collected**	: 05/21/24 10:00
Client ID	: SB-03-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 13:06
Sample Matrix	: SOIL	**Dilution Factor**	: 10
Analytical Method	: 1,7471B	**Analyst**	: JTS
Lab File ID	: WG1926678.pdf	**Instrument ID**	: NIC2
Sample Amount	: 0.323g	**%Solids**	: 74
Digestion Method	: EPA 7471B	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	7.41	1.05	0.686	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-10	**Date Collected**	: 05/21/24 13:05
Client ID	: SB-15-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 12:42
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JTS
Lab File ID	: WG1926678.pdf	**Instrument ID**	: NIC2
Sample Amount	: 0.328g	**%Solids**	: 81
Digestion Method	: EPA 7471B	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.094	0.062	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-11	**Date Collected**	: 05/21/24 15:00
Client ID	: SB-14-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 12:46
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JTS
Lab File ID	: WG1926678.pdf	**Instrument ID**	: NIC2
Sample Amount	: 0.319g	**%Solids**	: 77
Digestion Method	: EPA 7471B	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	0.587	0.102	0.066	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-12	**Date Collected**	: 05/21/24 13:00
Client ID	: SB-15-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 12:49
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JTS
Lab File ID	: WG1926678.pdf	**Instrument ID**	: NIC2
Sample Amount	: 0.343g	**%Solids**	: 90
Digestion Method	: EPA 7471B	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.081	0.053	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-13	**Date Collected**	: 05/21/24 14:45
Client ID	: SB-16-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:36
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JTS
Lab File ID	: WG1926678.pdf	**Instrument ID**	: NIC2
Sample Amount	: 0.323g	**%Solids**	: 85
Digestion Method	: EPA 7471B	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.091	0.059	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-14	**Date Collected**	: 05/21/24 13:40
Client ID	: SB-16-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 12:52
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JTS
Lab File ID	: WG1926678.pdf	**Instrument ID**	: NIC2
Sample Amount	: 0.321g	**%Solids**	: 83
Digestion Method	: EPA 7471B	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.093	0.061	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-15	**Date Collected**	: 05/21/24 15:05
Client ID	: SB-14-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 12:56
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JTS
Lab File ID	: WG1926678.pdf	**Instrument ID**	: NIC2
Sample Amount	: 0.334g	**%Solids**	: 78
Digestion Method	: EPA 7471B	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.096	0.063	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-01	**Date Collected**	: 05/21/24 08:40
Client ID	: SB-06-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 07:55
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JWN
Lab File ID	: WG1926826.csv	**Instrument ID**	: NIC3
Sample Amount	: 0.365g	**%Solids**	: 86
Digestion Method	: EPA 7471B	**Date Digested**	: 05/29/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	0.125	0.080	0.052	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-02	**Date Collected**	: 05/21/24 08:45
Client ID	: SB-06-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 08:37
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JWN
Lab File ID	: WG1926826.csv	**Instrument ID**	: NIC3
Sample Amount	: 0.389g	**%Solids**	: 82
Digestion Method	: EPA 7471B	**Date Digested**	: 05/29/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.078	0.051	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-03	**Date Collected**	: 05/21/24 08:45
Client ID	: DUP-A-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 08:41
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JWN
Lab File ID	: WG1926826.csv	**Instrument ID**	: NIC3
Sample Amount	: 0.335g	**%Solids**	: 81
Digestion Method	: EPA 7471B	**Date Digested**	: 05/29/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.092	0.060	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-04	**Date Collected**	: 05/21/24 09:15
Client ID	: SB-10-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 08:44
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JWN
Lab File ID	: WG1926826.csv	**Instrument ID**	: NIC3
Sample Amount	: 0.369g	**%Solids**	: 81
Digestion Method	: EPA 7471B	**Date Digested**	: 05/29/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.084	0.055	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-05	**Date Collected**	: 05/21/24 09:20
Client ID	: SB-10-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 08:47
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JWN
Lab File ID	: WG1926826.csv	**Instrument ID**	: NIC3
Sample Amount	: 0.362g	**%Solids**	: 77
Digestion Method	: EPA 7471B	**Date Digested**	: 05/29/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.090	0.059	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-07	**Date Collected**	: 05/21/24 11:30
Client ID	: SB-07-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 16:07
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JWN
Lab File ID	: WG1926826.csv	**Instrument ID**	: NIC3
Sample Amount	: 0.306g	**%Solids**	: 94
Digestion Method	: EPA 7471B	**Date Digested**	: 05/29/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.087	0.057	U

Trivalent Chromium Analysis

No data validation qualifiers were added

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METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-01	**Date Collected**	: 05/21/24 08:40
Client ID	: SB-06-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 86
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	20.4	1.81	0.186	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-02	**Date Collected**	: 05/21/24 08:45
Client ID	: SB-06-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 82
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	24.7	0.976	0.195	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-03	**Date Collected**	: 05/21/24 08:45
Client ID	: DUP-A-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 81
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	20.4	0.985	0.197	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-04	**Date Collected**	: 05/21/24 09:15
Client ID	: SB-10-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 12:36
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 81
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	10.4	1.92	0.198	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-05	**Date Collected**	: 05/21/24 09:20
Client ID	: SB-10-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 77
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	28.1	1.04	0.209	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-06	**Date Collected**	: 05/21/24 10:05
Client ID	: SB-03-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/30/24 13:31
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 84
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	17.7	1.81	0.190	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-07	**Date Collected**	: 05/21/24 11:30
Client ID	: SB-07-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 20:02
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 94
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	3.92	0.854	0.171	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-08	**Date Collected**	: 05/21/24 11:35
Client ID	: SB-07-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 23:03
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 85
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	18.3	0.947	0.189	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-09	**Date Collected**	: 05/21/24 10:00
Client ID	: SB-03-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/30/24 13:37
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 74
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	41.8	2.14	0.218	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-10	**Date Collected**	: 05/21/24 13:05
Client ID	: SB-15-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 23:14
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 81
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	19.9	0.991	0.198	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-11	**Date Collected**	: 05/21/24 15:00
Client ID	: SB-14-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 23:20
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 77
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	22.8	1.04	0.208	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-12	**Date Collected**	: 05/21/24 13:00
Client ID	: SB-15-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 23:25
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 90
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	17.4	0.890	0.178	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-13	**Date Collected**	: 05/21/24 14:45
Client ID	: SB-16-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/06/24 09:38
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 85
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	11.5	1.82	0.187	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-14	**Date Collected**	: 05/21/24 13:40
Client ID	: SB-16-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 23:31
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 83
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	19.0	0.959	0.192	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-15	**Date Collected**	: 05/21/24 15:05
Client ID	: SB-14-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 23:36
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 78
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	22.9	1.02	0.205	

Calculations of Trivalent Chromium

Calculate the concentration value based on results for Total Chromium and Hexavalent Chromium.

Aqueous samples:

$mgCr^{+3}/L = \text{Total Cr (mg/l)} - Cr^{+6}\ (mg/l)$

Soil samples:

$mgCr^{+3}/Kg = \text{Total Cr (mg/Kg)} - Cr^{+6}\ (mg/Kg)$

Cyanide Analysis

No data validation qualifiers were added

MKP 7/19/2024

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-01	**Date Collected**	: 05/21/24 08:40
Client ID	: SB-06-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 12:10
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN052924-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0575g	**%Solids**	: 86
Digestion Method	:	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.1	0.23	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-02	**Date Collected**	: 05/21/24 08:45
Client ID	: SB-06-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 12:15
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN052924-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0848g	**%Solids**	: 82
Digestion Method	:	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.1	0.24	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-03	**Date Collected**	: 05/21/24 08:45
Client ID	: DUP-A-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/04/24 13:07
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060424-B	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0168g	**%Solids**	: 81
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.2	0.26	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-04	**Date Collected**	: 05/21/24 09:15
Client ID	: SB-10-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/04/24 13:08
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060424-B2	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0902g	**%Solids**	: 81
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.1	0.24	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-05	**Date Collected**	: 05/21/24 09:20
Client ID	: SB-10-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/04/24 13:09
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060424-B	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0916g	**%Solids**	: 77
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.2	0.25	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-06	**Date Collected**	: 05/21/24 10:05
Client ID	: SB-03-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/04/24 13:12
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060424-B	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0383g	**%Solids**	: 84
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.1	0.24	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-07	**Date Collected**	: 05/21/24 11:30
Client ID	: SB-07-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:56
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN052924-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0464g	**%Solids**	: 94
Digestion Method	:	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.0	0.22	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-08	**Date Collected**	: 05/21/24 11:35
Client ID	: SB-07-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/04/24 13:13
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060424-B	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0477g	**%Solids**	: 85
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.1	0.24	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-09	**Date Collected**	: 05/21/24 10:00
Client ID	: SB-03-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/04/24 13:14
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060424-B	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0969g	**%Solids**	: 74
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	0.83	1.2	0.26	J

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-10	**Date Collected**	: 05/21/24 13:05
Client ID	: SB-15-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:24
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN052924-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0412g	**%Solids**	: 81
Digestion Method	:	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.2	0.25	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-11	**Date Collected**	: 05/21/24 15:00
Client ID	: SB-14-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:33
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN052924-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0295g	**%Solids**	: 77
Digestion Method	:	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.2	0.27	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-12	**Date Collected**	: 05/21/24 13:00
Client ID	: SB-15-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:25
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN052924-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.057g	**%Solids**	: 90
Digestion Method	:	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.0	0.22	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-13	**Date Collected**	: 05/21/24 14:45
Client ID	: SB-16-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:26
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN052924-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0204g	**%Solids**	: 85
Digestion Method	:	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	0.45	1.1	0.24	J

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-14	**Date Collected**	: 05/21/24 13:40
Client ID	: SB-16-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:29
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN052924-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0118g	**%Solids**	: 83
Digestion Method	:	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.2	0.25	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-15	**Date Collected**	: 05/21/24 15:05
Client ID	: SB-14-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 12:01
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN052924-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0737g	**%Solids**	: 78
Digestion Method	:	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.2	0.25	U

Hexavalent Chromium Analysis

No data validation qualifiers were added

MKP 7/19/2024

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-01	**Date Collected**	: 05/21/24 08:40
Client ID	: SB-06-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: DTH
Lab File ID	: WG1926519.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5498g	**%Solids**	: 86
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.931	0.186	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-02	**Date Collected**	: 05/21/24 08:45
Client ID	: SB-06-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: DTH
Lab File ID	: WG1926519.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.4889g	**%Solids**	: 82
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.976	0.195	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-03	**Date Collected**	: 05/21/24 08:45
Client ID	: DUP-A-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: DTH
Lab File ID	: WG1926519.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5621g	**%Solids**	: 81
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.985	0.197	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-04	**Date Collected**	: 05/21/24 09:15
Client ID	: SB-10-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: DTH
Lab File ID	: WG1926519.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5118g	**%Solids**	: 81
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.988	0.198	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-05	**Date Collected**	: 05/21/24 09:20
Client ID	: SB-10-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: DTH
Lab File ID	: WG1926519.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5841g	**%Solids**	: 77
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	1.04	0.209	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-06	**Date Collected**	: 05/21/24 10:05
Client ID	: SB-03-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: DTH
Lab File ID	: WG1926519.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.4907g	**%Solids**	: 84
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.948	0.190	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-07	**Date Collected**	: 05/21/24 11:30
Client ID	: SB-07-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: DTH
Lab File ID	: WG1926519.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5644g	**%Solids**	: 94
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.854	0.171	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-08	**Date Collected**	: 05/21/24 11:35
Client ID	: SB-07-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: DTH
Lab File ID	: WG1926519.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5355g	**%Solids**	: 85
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.947	0.189	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-09	**Date Collected**	: 05/21/24 10:00
Client ID	: SB-03-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: DTH
Lab File ID	: WG1926519.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.4919g	**%Solids**	: 74
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	1.09	0.218	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-10	**Date Collected**	: 05/21/24 13:05
Client ID	: SB-15-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 11:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: DTH
Lab File ID	: WG1926519.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5021g	**%Solids**	: 81
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.991	0.198	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-11	**Date Collected**	: 05/21/24 15:00
Client ID	: SB-14-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 13:59
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: DTH
Lab File ID	: WG1926809.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5451g	**%Solids**	: 77
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	1.04	0.208	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-12	**Date Collected**	: 05/21/24 13:00
Client ID	: SB-15-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 13:59
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: DTH
Lab File ID	: WG1926809.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.4069g	**%Solids**	: 90
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.890	0.178	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-13	**Date Collected**	: 05/21/24 14:45
Client ID	: SB-16-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 06/06/24 09:38
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1929807.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5407g	**%Solids**	: 85
Digestion Method	: EPA 3060A	**Date Digested**	: 06/05/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.937	0.187	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-14	**Date Collected**	: 05/21/24 13:40
Client ID	: SB-16-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 13:59
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: DTH
Lab File ID	: WG1926809.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5651g	**%Solids**	: 83
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.959	0.192	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-15	**Date Collected**	: 05/21/24 15:05
Client ID	: SB-14-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/29/24 13:59
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: DTH
Lab File ID	: WG1926809.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.4166g	**%Solids**	: 78
Digestion Method	: EPA 3060A	**Date Digested**	: 05/28/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	1.02	0.205	U

Total Solids / Percent Moisture Analysis

No data validation qualifiers were added

MKP 7/19/2024

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-01	**Date Collected**	: 05/21/24 08:40
Client ID	: SB-06-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/22/24 12:08
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924332.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 86
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**85.9**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-02	**Date Collected**	: 05/21/24 08:45
Client ID	: SB-06-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/22/24 12:08
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924332.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 82
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**82.0**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-03	**Date Collected**	: 05/21/24 08:45
Client ID	: DUP-A-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/22/24 12:08
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924332.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 81
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**81.2**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-04	**Date Collected**	: 05/21/24 09:15
Client ID	: SB-10-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/22/24 12:08
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924332.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 81
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**81.0**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-05	**Date Collected**	: 05/21/24 09:20
Client ID	: SB-10-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/22/24 12:08
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924332.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 77
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**76.7**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-06	**Date Collected**	: 05/21/24 10:05
Client ID	: SB-03-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/22/24 12:08
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924332.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 84
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**84.4**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-07	**Date Collected**	: 05/21/24 11:30
Client ID	: SB-07-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/22/24 12:08
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924332.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 94
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**93.7**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-08	**Date Collected**	: 05/21/24 11:35
Client ID	: SB-07-7FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/22/24 12:08
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924332.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 85
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**84.5**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-09	**Date Collected**	: 05/21/24 10:00
Client ID	: SB-03-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/22/24 12:08
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924332.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 74
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**73.5**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-10	**Date Collected**	: 05/21/24 13:05
Client ID	: SB-15-4FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/22/24 12:08
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924332.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 81
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**80.7**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-11	**Date Collected**	: 05/21/24 15:00
Client ID	: SB-14-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/22/24 12:08
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924332.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 77
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**77.1**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-12	**Date Collected**	: 05/21/24 13:00
Client ID	: SB-15-2FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/22/24 12:08
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924332.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 90
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**89.9**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-13	**Date Collected**	: 05/21/24 14:45
Client ID	: SB-16-1FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/22/24 12:08
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924332.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 85
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**85.4**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-14	**Date Collected**	: 05/21/24 13:40
Client ID	: SB-16-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/22/24 12:08
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924332.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 83
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**83.4**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Lab ID	: L2428242-15	**Date Collected**	: 05/21/24 15:05
Client ID	: SB-14-3FT-20240521	**Date Received**	: 05/21/24
Sample Location	:	**Date Analyzed**	: 05/22/24 12:08
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924332.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 78
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**78.1**	**0.100**	**NA**	

Appendix B

Laboratory QC Documentation

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Matrix (Level)	: SOIL (LOW)		
LCS Sample ID	: WG1926353-3 **Analysis Date** : 05/24/24 06:49	**File ID**	: V27240524A02
LCSD Sample ID	: WG1926353-4 **Analysis Date** : 05/24/24 07:11	**File ID**	: V27240524A03

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Methylene chloride	40	30	74	40	27	68 Q	8	70-130	30
1,1-Dichloroethane	40	38	94	40	34	84	11	70-130	30
Chloroform	40	37	91	40	33	82	10	70-130	30
Carbon tetrachloride	40	34	84	40	28	71	17	70-130	30
Tetrachloroethene	40	41	103	40	35	88	16	70-130	30
Chlorobenzene	40	38	96	40	35	88	9	70-130	30
1,2-Dichloroethane	40	37	92	40	35	88	4	70-130	30
1,1,1-Trichloroethane	40	38	96	40	33	82	16	70-130	30
Benzene	40	38	96	40	34	84	13	70-130	30
Toluene	40	38	95	40	34	84	12	70-130	30
Ethylbenzene	40	38	95	40	34	85	11	70-130	30
Vinyl chloride	40	34	86	40	29	72	18	67-130	30
1,1-Dichloroethene	40	32	80	40	27	68	16	65-135	30
trans-1,2-Dichloroethene	40	31	76	40	27	67 Q	13	70-130	30
Trichloroethene	40	39	97	40	33	83	16	70-130	30
1,2-Dichlorobenzene	40	38	94	40	35	88	7	70-130	30
1,3-Dichlorobenzene	40	38	95	40	35	88	8	70-130	30
1,4-Dichlorobenzene	40	39	97	40	35	88	10	70-130	30
Methyl tert butyl ether	40	32	79	40	30	74	7	66-130	30
p/m-Xylene	80	80	100	80	71	89	12	70-130	30
o-Xylene	80	79	99	80	71	88	12	70-130	30
cis-1,2-Dichloroethene	40	38	94	40	34	85	10	70-130	30
Acetone	40	26	65	40	26	65	0	54-140	30
2-Butanone	40	33	81	40	32	81	0	70-130	30
n-Butylbenzene	40	37	93	40	32	81	14	70-130	30
sec-Butylbenzene	40	38	94	40	32	80	16	70-130	30

Matrix Spike Sample Summary
Form 3
Volatiles

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Client Sample ID	: SB-07-3FT-20240521	Matrix (Level)	: SOIL (LOW)
Lab Sample ID	: L2428242-07	Analysis Date	: 05/24/24 12:12
Matrix Spike	: WG1926353-6	MS Analysis Date	: 05/24/24 14:38
Matrix Spike Dup	: WG1926353-7	MSD Analysis Date	: 05/24/24 14:59

		Matrix Spike Sample				Matrix Spike Duplicate					
Parameter	Sample Conc. (ug/kg)	Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R		Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R		RPD	Recovery Limits	RPD Limit
Methylene chloride	ND	89.1	63	70		80.2	55	68	Q	13	70-130	30
1,1-Dichloroethane	ND	89.1	89	100		80.2	77	96		15	70-130	30
Chloroform	ND	89.1	80	90		80.2	69	86		14	70-130	30
Carbon tetrachloride	ND	89.1	76	85		80.2	64	80		17	70-130	30
Tetrachloroethene	ND	89.1	76	85		80.2	64	80		17	70-130	30
Chlorobenzene	ND	89.1	47	53	Q	80.2	46	57	Q	4	70-130	30
1,2-Dichloroethane	ND	89.1	70	79		80.2	63	79		10	70-130	30
1,1,1-Trichloroethane	ND	89.1	92	103		80.2	77	96		18	70-130	30
Benzene	ND	89.1	81	90		80.2	71	89		12	70-130	30
Toluene	ND	89.1	69	78		80.2	62	77		11	70-130	30
Ethylbenzene	ND	89.1	65	73		80.2	55	68	Q	16	70-130	30
Vinyl chloride	ND	89.1	92	103		80.2	78	97		17	67-130	30
1,1-Dichloroethene	ND	89.1	75	84		80.2	64	79		16	65-135	30
trans-1,2-Dichloroethene	ND	89.1	61	69	Q	80.2	54	67	Q	13	70-130	30
Trichloroethene	0.50	89.1	170	185	Q	80.2	130	161	Q	24	70-130	30
1,2-Dichlorobenzene	ND	89.1	31	34	Q	80.2	32	40	Q	4	70-130	30
1,3-Dichlorobenzene	ND	89.1	31	35	Q	80.2	33	41	Q	5	70-130	30
1,4-Dichlorobenzene	ND	89.1	27	30	Q	80.2	30	38	Q	13	70-130	30
Methyl tert butyl ether	ND	89.1	67	75		80.2	58	73		14	66-130	30
p/m-Xylene	ND	178	130	72		160	110	67	Q	17	70-130	30
o-Xylene	ND	178	130	71		160	110	67	Q	15	70-130	30
cis-1,2-Dichloroethene	ND	89.1	78	87		80.2	69	86		11	70-130	30

Matrix Spike Sample Summary
Form 3
Volatiles

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Client Sample ID	: SB-07-3FT-20240521	**Matrix (Level)**	: SOIL (LOW)
Lab Sample ID	: L2428242-07	**Analysis Date**	: 05/24/24 12:12
Matrix Spike	: WG1926353-6	**MS Analysis Date**	: 05/24/24 14:38
Matrix Spike Dup	: WG1926353-7	**MSD Analysis Date**	: 05/24/24 14:59

		Matrix Spike Sample			Matrix Spike Duplicate					
Parameter	**Sample Conc. (ug/kg)**	**Spike Added (ug/kg)**	**Spike Conc. (ug/kg)**	**%R**	**Spike Added (ug/kg)**	**Spike Conc. (ug/kg)**	**%R**	**RPD**	**Recovery Limits**	**RPD Limit**
Acetone	ND	89.1	59	66	80.2	50	62	17	54-140	30
2-Butanone	ND	89.1	65	73	80.2	57	71	13	70-130	30
n-Butylbenzene	ND	89.1	54	60 Q	80.2	43	54 Q	22	70-130	30
sec-Butylbenzene	ND	89.1	72	81	80.2	56	69 Q	26	70-130	30
tert-Butylbenzene	ND	89.1	81	91	80.2	63	78	25	70-130	30
n-Propylbenzene	ND	89.1	64	72	80.2	52	65 Q	19	70-130	30
1,3,5-Trimethylbenzene	ND	89.1	68	77	80.2	55	69 Q	21	70-130	30
1,2,4-Trimethylbenzene	ND	89.1	59	66 Q	80.2	50	63 Q	16	70-130	30
1,4-Dioxane	ND	4450	4400	99	4010	3800	94	15	65-136	30

Matrix Spike Sample Summary
Form 3
Volatiles

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Client Sample ID	: SB-16-1FT-20240521	Matrix (Level)	: SOIL (LOW)
Lab Sample ID	: L2428242-13	Analysis Date	: 05/24/24 13:56
Matrix Spike	: WG1926353-8	MS Analysis Date	: 05/24/24 15:20
Matrix Spike Dup	: WG1926353-9	MSD Analysis Date	: 05/24/24 15:41

		Matrix Spike Sample				Matrix Spike Duplicate						
Parameter	Sample Conc. (ug/kg)	Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R		Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R		RPD		Recovery Limits	RPD Limit
Methylene chloride	ND	133	85	64	Q	197	130	68	Q	45	Q	70-130	30
1,1-Dichloroethane	ND	133	130	94		197	210	104		48	Q	70-130	30
Chloroform	ND	133	110	84		197	190	94		49	Q	70-130	30
Carbon tetrachloride	ND	133	100	76		197	180	89		54	Q	70-130	30
Tetrachloroethene	ND	133	92	69	Q	197	200	102		75	Q	70-130	30
Chlorobenzene	ND	133	76	57	Q	197	150	78		68	Q	70-130	30
1,2-Dichloroethane	ND	133	100	77		197	170	84		46	Q	70-130	30
1,1,1-Trichloroethane	ND	133	120	92		197	210	105		52	Q	70-130	30
Benzene	ND	133	110	86		197	200	100		53	Q	70-130	30
Toluene	ND	133	98	73		197	190	97		65	Q	70-130	30
Ethylbenzene	ND	133	83	62	Q	197	190	94		76	Q	70-130	30
Vinyl chloride	ND	133	120	92		197	190	98		46	Q	67-130	30
1,1-Dichloroethene	ND	133	100	77		197	170	86		49	Q	65-135	30
trans-1,2-Dichloroethene	ND	133	82	62	Q	197	140	70		52	Q	70-130	30
Trichloroethene	ND	133	97	73		197	180	92		60	Q	70-130	30
1,2-Dichlorobenzene	ND	133	58	44	Q	197	120	62	Q	71	Q	70-130	30
1,3-Dichlorobenzene	ND	133	56	42	Q	197	130	65	Q	78	Q	70-130	30
1,4-Dichlorobenzene	ND	133	52	39	Q	197	110	58	Q	75	Q	70-130	30
Methyl tert butyl ether	ND	133	99	75		197	160	80		46	Q	66-130	30
p/m-Xylene	ND	266	160	62	Q	394	370	94		78	Q	70-130	30
o-Xylene	ND	266	170	63	Q	394	370	93		74	Q	70-130	30
cis-1,2-Dichloroethene	ND	133	100	77		197	170	86		49	Q	70-130	30

Matrix Spike Sample Summary
Form 3
Volatiles

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Client Sample ID	: SB-16-1FT-20240521	Matrix (Level)	: SOIL (LOW)
Lab Sample ID	: L2428242-13	Analysis Date	: 05/24/24 13:56
Matrix Spike	: WG1926353-8	MS Analysis Date	: 05/24/24 15:20
Matrix Spike Dup	: WG1926353-9	MSD Analysis Date	: 05/24/24 15:41

		Matrix Spike Sample				Matrix Spike Duplicate						
Parameter	Sample Conc. (ug/kg)	Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R		Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R	RPD		Recovery Limits	RPD Limit
Acetone	ND	133	81	61		197	140	69	50	Q	54-140	30
2-Butanone	ND	133	97	73		197	160	80	47	Q	70-130	30
n-Butylbenzene	ND	133	56	42	Q	197	180	90	104	Q	70-130	30
sec-Butylbenzene	ND	133	72	54	Q	197	220	110	101	Q	70-130	30
tert-Butylbenzene	ND	133	82	62	Q	197	230	117	95	Q	70-130	30
n-Propylbenzene	ND	133	70	53	Q	197	200	101	96	Q	70-130	30
1,3,5-Trimethylbenzene	ND	133	76	57	Q	197	210	104	92	Q	70-130	30
1,2,4-Trimethylbenzene	ND	133	72	54	Q	197	190	95	89	Q	70-130	30
1,4-Dioxane	ND	6650	6000	90		9860	8900	90	39	Q	65-136	30

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: WG1926353-5	Date Collected	: NA
Client ID	: WG1926353-5BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/24/24 07:53
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: LAC
Lab File ID	: V27240524A05	Instrument ID	: VOA127
Sample Amount	: 5.0 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: NA
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	2.3	5.0	2.3	J
75-34-3	1,1-Dichloroethane	ND	1.0	0.14	U
67-66-3	Chloroform	ND	1.5	0.14	U
56-23-5	Carbon tetrachloride	ND	1.0	0.23	U
127-18-4	Tetrachloroethene	ND	0.50	0.20	U
108-90-7	Chlorobenzene	ND	0.50	0.13	U
107-06-2	1,2-Dichloroethane	ND	1.0	0.26	U
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.17	U
108-88-3	Toluene	ND	1.0	0.54	U
100-41-4	Ethylbenzene	ND	1.0	0.14	U
75-01-4	Vinyl chloride	ND	1.0	0.34	U
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	U
156-60-5	trans-1,2-Dichloroethene	ND	1.5	0.14	U
79-01-6	Trichloroethene	ND	0.50	0.14	U
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.14	U
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.15	U
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.17	U
1634-04-4	Methyl tert butyl ether	ND	2.0	0.20	U
179601-23-1	p/m-Xylene	ND	2.0	0.56	U
95-47-6	o-Xylene	ND	1.0	0.29	U
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.18	U
67-64-1	Acetone	ND	10	4.8	U
78-93-3	2-Butanone	ND	10	2.2	U
104-51-8	n-Butylbenzene	ND	1.0	0.17	U

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: WG1926357-5	Date Collected	: NA
Client ID	: WG1926357-5BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/26/24 15:49
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V27240526A05	Instrument ID	: VOA127
Sample Amount	: 5.0 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: NA
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	5.0	2.3	U
75-34-3	1,1-Dichloroethane	ND	1.0	0.14	U
67-66-3	Chloroform	0.73	1.5	0.14	J
56-23-5	Carbon tetrachloride	ND	1.0	0.23	U
127-18-4	Tetrachloroethene	ND	0.50	0.20	U
108-90-7	Chlorobenzene	ND	0.50	0.13	U
107-06-2	1,2-Dichloroethane	ND	1.0	0.26	U
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.17	U
108-88-3	Toluene	ND	1.0	0.54	U
100-41-4	Ethylbenzene	ND	1.0	0.14	U
75-01-4	Vinyl chloride	ND	1.0	0.34	U
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	U
156-60-5	trans-1,2-Dichloroethene	ND	1.5	0.14	U
79-01-6	Trichloroethene	ND	0.50	0.14	U
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.14	U
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.15	U
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.17	U
1634-04-4	Methyl tert butyl ether	ND	2.0	0.20	U
179601-23-1	p/m-Xylene	ND	2.0	0.56	U
95-47-6	o-Xylene	ND	1.0	0.29	U
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.18	U
67-64-1	Acetone	ND	10	4.8	U
78-93-3	2-Butanone	ND	10	2.2	U
104-51-8	n-Butylbenzene	ND	1.0	0.17	U

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: WG1926972-5	Date Collected	: NA
Client ID	: WG1926972-5BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/25/24 08:42
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: TMH
Lab File ID	: V04240525A05	Instrument ID	: VOA104
Sample Amount	: 15.0 g	GC Column	: RTX-VMS
Level	: HIGH	%Solids	: NA
Extract Volume (MeOH)	: 15 ml	Injection Volume	: N/A

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	250	110	U
75-34-3	1,1-Dichloroethane	ND	50	7.2	U
67-66-3	Chloroform	39	75	7.0	J
56-23-5	Carbon tetrachloride	ND	50	12.	U
127-18-4	Tetrachloroethene	ND	25	9.8	U
108-90-7	Chlorobenzene	ND	25	6.4	U
107-06-2	1,2-Dichloroethane	ND	50	13.	U
71-55-6	1,1,1-Trichloroethane	ND	25	8.4	U
71-43-2	Benzene	ND	25	8.3	U
108-88-3	Toluene	ND	50	27.	U
100-41-4	Ethylbenzene	ND	50	7.0	U
75-01-4	Vinyl chloride	ND	50	17.	U
75-35-4	1,1-Dichloroethene	ND	50	12.	U
156-60-5	trans-1,2-Dichloroethene	ND	75	6.8	U
79-01-6	Trichloroethene	ND	25	6.8	U
95-50-1	1,2-Dichlorobenzene	ND	100	7.2	U
541-73-1	1,3-Dichlorobenzene	ND	100	7.4	U
106-46-7	1,4-Dichlorobenzene	ND	100	8.6	U
1634-04-4	Methyl tert butyl ether	ND	100	10.	U
179601-23-1	p/m-Xylene	ND	100	28.	U
95-47-6	o-Xylene	ND	50	14.	U
156-59-2	cis-1,2-Dichloroethene	ND	50	8.8	U
67-64-1	Acetone	ND	500	240	U
78-93-3	2-Butanone	ND	500	110	U
104-51-8	n-Butylbenzene	ND	50	8.4	U

Initial Calibration Summary
Form 6
Volatiles

Client	**: C&S Companies**	**Lab Number**	**: L2428242**
Project Name	**: 1803 ELMWOOD AVENUE BCP**	**Project Number**	**: S93.003.002**
Instrument ID	**: VOA127**	**Ical Ref**	**: ICAL20985**
Calibration dates	**: 03/26/24 23:31 03/27/24 02:38**		

Calibration Files

L0 =V27240326Q04.D L1 =V27240326Q05.D L1.5=V27240326Q07.D L2 =V27240326Q08.D L3 =V27240326Q09.D

L4 =V27240326Q10.D L6 =V27240326Q11.D L7 =V27240326Q12.D L8 =V27240326Q13.D

		Compound	L0	L1	L1.5	L2	L3	L4	L6	L7	L8	Avg	%RSD
41)	TP	Benzene	0.811	0.781	0.908	1.035	0.894	0.923	0.859	1.060	0.985	0.917	10.39
42)	TP	Tertiary-Amyl Methyl Ether		0.439	0.532	0.609	0.527	0.559	0.562	0.679	0.655	0.570	13.48
43)	S	1,2-Dichloroethane-d4	0.269	0.272	0.279	0.293	0.276	0.263	0.259	0.258	0.263	0.270	4.22
44)	TP	1,2-Dichloroet		0.251	0.296	0.361	0.288	0.299	0.279	0.328	0.306	0.301	10.89
47)	TP	Methyl cyclohe			0.365	0.380	0.344	0.402	0.394	0.522	0.482	0.413	15.75
48)	TP	Trichloroethene	0.207	0.181	0.240	0.295	0.248	0.254	0.238	0.311	0.281	0.251	16.44
50)	TP	Dibromomethane		0.102	0.131	0.167	0.137	0.141	0.132	0.154	0.146	0.139	13.61
51)	TC	1,2-Dichloropr		0.170	0.219	0.248	0.217	0.225	0.206	0.260	0.243	0.223	12.60
53)	TP	2-Chloroethyl			0.091	0.122	0.112	0.122	0.128	0.162	0.160	0.128	19.98
54)	TP	Bromodichloromethane	0.245	0.258	0.315	0.367	0.293	0.305	0.285	0.340	0.319	0.303	12.61
57)	TP	1,4-Dioxane		0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003#	10.73
58)	TP	cis-1,3-Dichloropropene	0.302	0.266	0.308	0.377	0.303	0.334	0.326	0.409	0.388	0.335	14.03
59)	I	Chlorobenzene-d5	----------ISTD----------										
60)	S	Toluene-d8	1.283	1.310	1.305	1.317	1.303	1.293	1.324	1.273	1.302	1.301	1.23
61)	TC	Toluene		0.599	0.721	0.848	0.736	0.795	0.735	0.884	0.813	0.766	11.62
62)	TP	4-Methyl-2-pen		0.102	0.092	0.083	0.090	0.100	0.103	0.120	0.121	0.101	13.38
63)	TP	Tetrachloroethene	0.293	0.283	0.344	0.352	0.316	0.347	0.319	0.386	0.358	0.333	9.91
65)	TP	trans-1,3-Dich		0.288	0.352	0.384	0.324	0.370	0.374	0.465	0.444	0.375	15.48
67)	TP	Ethyl methacry		0.237	0.269	0.282	0.252	0.284	0.303	0.374	0.366	0.296	16.91
68)	TP	1,1,2-Trichlor		0.193	0.236	0.226	0.195	0.210	0.193	0.228	0.222	0.213	8.15
69)	TP	Chlorodibromomethane	0.203	0.271	0.314	0.302	0.264	0.287	0.262	0.325	0.313	0.282	13.40
70)	TP	1,3-Dichloropr		0.354	0.389	0.449	0.406	0.412	0.392	0.465	0.448	0.414	8.95
71)	TP	1,2-Dibromoethane	0.189	0.249	0.243	0.276	0.235	0.251	0.243	0.288	0.278	0.250	11.76
72)	TP	2-Hexanone		0.163	0.187	0.194	0.149	0.172	0.182	0.211	0.211	0.184	11.86
73)	TP	Chlorobenzene	0.789	0.758	0.914	0.992	0.847	0.881	0.821	0.983	0.894	0.876	9.22
74)	TC	Ethylbenzene		1.226	1.440	1.506	1.359	1.516	1.429	1.747	1.642	1.483	10.90
75)	TP	1,1,1,2-Tetrachloroethane	0.298	0.230	0.310	0.337	0.290	0.303	0.287	0.355	0.334	0.305	12.04
76)	TP	p/m Xylene	0.469	0.403	0.552	0.578	0.535	0.609	0.565	0.680	0.635	0.558	15.02
77)	TP	o Xylene	0.410	0.451	0.536	0.579	0.531	0.586	0.551	0.665	0.624	0.548	14.52
78)	TP	Styrene	0.668	0.697	0.784	0.877	0.879	0.961	0.903	1.105	1.029	0.878	16.46
79)	I	1,4-Dichlorobenzene-d4	----------ISTD----------										
80)	TP	Bromoform		0.322	0.374	0.366	0.339	0.366	0.363	0.443	0.435	0.376	11.28
82)	TP	Isopropylbenzene		1.836	2.854	2.548	2.435	2.914	2.794	3.399	3.177	2.745	17.52
83)	S	4-Bromofluorobenzene	0.842	0.853	0.840	0.824	0.847	0.837	0.882	0.861	0.890	0.853	2.53
84)	TP	Bromobenzene		0.657	0.768	0.793	0.665	0.732	0.683	0.799	0.727	0.728	7.68
85)	TP	n-Propylbenzene		2.384	3.589	3.197	2.972	3.454	3.345	4.077	3.772	3.349	15.44

Initial Calibration Summary
Form 6
Volatiles

Client	**: C&S Companies**	**Lab Number**	**: L2428242**
Project Name	**: 1803 ELMWOOD AVENUE BCP**	**Project Number**	**: S93.003.002**
Instrument ID	**: VOA104**	**Ical Ref**	**: ICAL21038**
Calibration dates	**: 04/10/24 22:40 04/11/24 03:00**		

Calibration Files

0.5 =V04240410N03.D 1.0 =V04240410N05.D 2.0 =V04240410N07.D 4.0 =V04240410N08.D 20 =V04240410N09.D

40 =V04240410N10.D 100 =V04240410N11.D 200 =V04240410N12.D 300 =V04240410N13.D

	Compound	0.5	1.0	2.0	4.0	20	40	100	200	300	Avg	%RSD
41) TP	Benzene	0.850	0.811	1.112	1.093	1.137	1.089	0.981	1.021	0.970	1.007	11.52
42) TP	Tertiary-Amyl Methyl Ether		0.591	0.670	0.671	0.711	0.705	0.660	0.683	0.635	0.666	5.80
43) S	1,2-Dichloroethane-d4	0.248	0.260	0.259	0.259	0.245	0.239	0.243	0.242	0.238	0.248	3.62
44) TP	1,2-Dichloroet		0.307	0.370	0.354	0.387	0.368	0.343	0.356	0.332	0.352	7.06
47) TP	Methyl cyclohe		0.340	0.508	0.490	0.465	0.445	0.432	0.457	0.435	0.447	11.30
48) TP	Trichloroethene	0.272	0.266	0.325	0.329	0.325	0.315	0.286	0.289	0.281	0.299	8.32
50) TP	Dibromomethane		0.131	0.152	0.156	0.164	0.159	0.150	0.158	0.147	0.152	6.72
51) TC	1,2-Dichloropr		0.244	0.327	0.327	0.354	0.344	0.315	0.329	0.302	0.318	10.68
53) TP	2-Chloroethyl				0.132	0.167	0.170	0.167	0.177	0.161	0.162	9.63
54) TP	Bromodichloromethane	0.352	0.345	0.419	0.399	0.418	0.392	0.365	0.375	0.358	0.380	7.30
57) TP	1,4-Dioxane			0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002#	10.27
58) TP	cis-1,3-Dichloropropene	0.243	0.309	0.398	0.405	0.464	0.450	0.419	0.438	0.407	*L	0.9983
59) I	Chlorobenzene-d5	----------ISTD----------										
60) S	Toluene-d8	1.286	1.315	1.324	1.311	1.325	1.300	1.313	1.289	1.288	1.306	1.18
61) TC	Toluene		0.676	0.911	0.891	0.932	0.892	0.853	0.848	0.815	0.852	9.46
62) TP	4-Methyl-2-pen			0.092	0.100	0.125	0.124	0.125	0.127	0.116	0.115	12.07
63) TP	Tetrachloroethene	0.242	0.263	0.389	0.402	0.413	0.397	0.389	0.387	0.382	*L	0.9996
65) TP	trans-1,3-Dich		0.318	0.426	0.454	0.526	0.510	0.497	0.499	0.468	0.462	14.41
67) TP	Ethyl methacry			0.276	0.255	0.350	0.341	0.323	0.332	0.306	0.312	11.23
68) TP	1,1,2-Trichlor		0.237	0.253	0.244	0.265	0.255	0.243	0.247	0.230	0.247	4.42
69) TP	Chlorodibromomethane	0.258	0.293	0.349	0.382	0.413	0.395	0.375	0.386	0.368	0.358	14.12
70) TP	1,3-Dichloropr		0.362	0.420	0.446	0.490	0.480	0.450	0.467	0.435	0.444	9.02
71) TP	1,2-Dibromoethane	0.153	0.208	0.262	0.284	0.319	0.306	0.298	0.304	0.286	*L	0.9989
72) TP	2-Hexanone				0.112	0.204	0.209	0.217	0.236	0.212	*L	0.9975
73) TP	Chlorobenzene	0.712	0.772	1.001	1.004	1.067	1.002	0.967	0.969	0.926	0.936	12.51
74) TC	Ethylbenzene		1.382	1.657	1.751	1.797	1.747	1.616	1.571	1.542	1.633	8.34
75) TP	1,1,1,2-Tetrachloroethane	0.288	0.291	0.379	0.367	0.411	0.388	0.369	0.363	0.350	0.356	11.64
76) TP	p/m Xylene	0.451	0.496	0.663	0.666	0.677	0.640	0.596	0.580	0.549	0.591	13.53
77) TP	o Xylene	0.454	0.486	0.656	0.632	0.684	0.648	0.598	0.578	0.546	0.587	13.41
78) TP	Styrene	0.698	0.741	1.034	1.015	1.102	1.035	0.960	0.929	0.865	0.931	14.87
79) I	1,4-Dichlorobenzene-d4	----------ISTD----------										
80) TP	Bromoform		0.337	0.401	0.417	0.453	0.468	0.432	0.461	0.426	0.424	9.91
82) TP	Isopropylbenzene		2.195	3.180	3.078	3.274	3.225	3.037	3.154	3.059	3.025	11.42
83) S	4-Bromofluorobenzene	0.892	0.898	0.883	0.904	0.920	0.941	0.952	0.981	0.990	0.929	4.22
84) TP	Bromobenzene		0.563	0.726	0.772	0.864	0.870	0.821	0.856	0.821	0.787	13.07
85) TP	n-Propylbenzene		2.576	3.697	3.628	3.864	3.809	3.595	3.764	3.566	3.563	11.57

Calibration Verification Summary
Form 7
Volatiles

Client	: C&S Companies		Lab Number	: L2428242	
Project Name	: 1803 ELMWOOD AVENUE BCP		Project Number	: S93.003.002	
Instrument ID	: VOA127		Calibration Date	: 05/24/24 06:49	
Lab File ID	: V27240524A02		Init. Calib. Date(s)	: 03/26/24	03/27/24
Sample No	: WG1926353-2		Init. Calib. Times	: 23:31	02:38
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
Fluorobenzene	1	1	-	0	20	184	0	
Dichlorodifluoromethane	0.227	0.263	-	-15.9	20	208	0	
Chloromethane	0.295	0.244	-	17.3	20	155	0	
Vinyl chloride	40	34.271	-	14.3	20	159	0	
Bromomethane	0.27	0.178	-	34.1*	20	136	0	NT
Chloroethane	0.276	0.171	-	38*	20	123	0	NT
Trichlorofluoromethane	0.442	0.384	-	13.1	20	157	0	
Ethyl ether	0.127	0.105	-	17.3	20	159	0	
1,1-Dichloroethene	0.256	0.206	-	19.5	20	158	0	
Carbon disulfide	0.988	0.742	-	24.9*	20	139	0	NT
Freon-113	0.236	0.206	-	12.7	20	164	0	
Acrolein	40	37.37	-	6.6	20	187	0	
Methylene chloride	0.358	0.264	-	26.3*	20	153	0	
Acetone	40	26.025	-	34.9*	20	123	0	
trans-1,2-Dichloroethene	0.277	0.212	-	23.5*	20	147	0	
Methyl acetate	0.218	0.145	-	33.5*	20	130	0	NT
Methyl tert-butyl ether	0.753	0.593	-	21.2*	20	153	0	
tert-Butyl alcohol	0.055	0.034	-	38.2*	20	125	0	NT
Diisopropyl ether	0.714	0.758	-	-6.2	20	206	0	
1,1-Dichloroethane	0.429	0.403	-	6.1	20	173	0	
Halothane	0.167	0.145	-	13.2	20	162	0	
Acrylonitrile	0.085	0.074	-	12.9	20	168	0	
Ethyl tert-butyl ether	0.659	0.707	-	-7.3	20	201	.01	
Vinyl acetate	0.421	0.451	-	-7.1	20	208	0	
cis-1,2-Dichloroethene	0.252	0.236	-	6.3	20	181	0	
2,2-Dichloropropane	0.313	0.329	-	-5.1	20	190	0	
Bromochloromethane	0.138	0.133	-	3.6	20	186	0	
Cyclohexane	0.348	0.335	-	3.7	20	189	-.01	
Chloroform	0.423	0.386	-	8.7	20	173	0	
Ethyl acetate	0.221	0.206	-	6.8	20	175	0	
Carbon tetrachloride	40	33.693	-	15.8	20	170	0	
Tetrahydrofuran	0.061	0.049	-	19.7	20	154	0	
Dibromofluoromethane	0.248	0.239	-	3.6	20	187	0	
1,1,1-Trichloroethane	0.355	0.34	-	4.2	20	169	0	
2-Butanone	0.116	0.095	-	18.1	20	165	0	
1,1-Dichloropropene	40	39.462	-	1.3	20	177	-.01	
Benzene	0.917	0.877	-	4.4	20	175	0	
tert-Amyl methyl ether	0.57	0.625	-	-9.6	20	206	0	
1,2-Dichloroethane-d4	0.27	0.259	-	4.1	20	182	0	
1,2-Dichloroethane	0.301	0.278	-	7.6	20	171	0	
Methyl cyclohexane	0.413	0.404	-	2.2	20	185	0	
Trichloroethene	0.251	0.242	-	3.6	20	176	0	
Dibromomethane	0.139	0.138	-	0.7	20	180	0	

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: C&S Companies		Lab Number	: L2428242	
Project Name	: 1803 ELMWOOD AVENUE BCP		Project Number	: S93.003.002	
Instrument ID	: VOA104		Calibration Date	: 05/25/24 06:57	
Lab File ID	: V04240525A01		Init. Calib. Date(s)	: 04/10/24	04/11/24
Sample No	: WG1926972-2		Init. Calib. Times	: 22:40	03:00
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
Fluorobenzene	1	1	-	0	20	141	0	
Dichlorodifluoromethane	0.365	0.33	-	9.6	20	125	0	
Chloromethane	0.556	0.449	-	19.2	20	109	0	
Vinyl chloride	0.38	0.416	-	-9.5	20	148	0	
Bromomethane	0.18	0.218	-	-21.1*	20	165	0	NT
Chloroethane	0.171	0.195	-	-14	20	153	0	
Trichlorofluoromethane	0.392	0.441	-	-12.5	20	151	0	
Ethyl ether	0.12	0.123	-	-2.5	20	136	0	
1,1-Dichloroethene	0.258	0.272	-	-5.4	20	140	0	
Carbon disulfide	0.93	0.973	-	-4.6	20	143	0	
Freon-113	0.261	0.296	-	-13.4	20	152	0	
Acrolein	0.027	0.044	-	-63*	20	210	0	NT
Methylene chloride	0.306	0.299	-	2.3	20	140	0	
Acetone	0.06	0.045	-	25*	20	104	0	
trans-1,2-Dichloroethene	0.28	0.295	-	-5.4	20	139	0	
Methyl acetate	0.152	0.115	-	24.3*	20	102	0	NT
Methyl tert-butyl ether	0.642	0.633	-	1.4	20	131	0	
tert-Butyl alcohol	0.026	0.025	-	3.8	20	132	0	
Diisopropyl ether	1.163	0.995	-	14.4	20	112	0	
1,1-Dichloroethane	0.584	0.597	-	-2.2	20	133	0	
Halothane	0.222	0.228	-	-2.7	20	137	0	
Acrylonitrile	0.072	0.064	-	11.1	20	126	0	
Ethyl tert-butyl ether	0.975	0.982	-	-0.7	20	130	0	
Vinyl acetate	40	37.628	-	5.9	20	148	0	
cis-1,2-Dichloroethene	0.307	0.318	-	-3.6	20	135	0	
2,2-Dichloropropane	0.412	0.409	-	0.7	20	136	0	
Bromochloromethane	0.137	0.14	-	-2.2	20	136	0	
Cyclohexane	0.592	0.597	-	-0.8	20	141	0	
Chloroform	0.494	0.481	-	2.6	20	134	0	
Ethyl acetate	40	32.446	-	18.9	20	110	0	
Carbon tetrachloride	0.381	0.366	-	3.9	20	131	0	
Tetrahydrofuran	0.072	0.063	-	12.5	20	125	0	
Dibromofluoromethane	0.265	0.252	-	4.9	20	134	0	
1,1,1-Trichloroethane	0.416	0.42	-	-1	20	134	0	
2-Butanone	40	29.528	-	26.2*	20	101	0	
1,1-Dichloropropene	0.343	0.362	-	-5.5	20	135	0	
Benzene	1.007	1.085	-	-7.7	20	140	0	
tert-Amyl methyl ether	0.666	0.654	-	1.8	20	131	0	
1,2-Dichloroethane-d4	0.248	0.213	-	14.1	20	125	0	
1,2-Dichloroethane	0.352	0.322	-	8.5	20	123	0	
Methyl cyclohexane	0.447	0.467	-	-4.5	20	147	-.01	
Trichloroethene	0.299	0.295	-	1.3	20	132	0	
Dibromomethane	0.152	0.15	-	1.3	20	133	0	

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: C&S Companies		Lab Number	: L2428242	
Project Name	: 1803 ELMWOOD AVENUE BCP		Project Number	: S93.003.002	
Instrument ID	: VOA104		Calibration Date	: 05/25/24 06:57	
Lab File ID	: V04240525A01		Init. Calib. Date(s)	: 04/10/24	04/11/24
Sample No	: WG1926972-2		Init. Calib. Times	: 22:40	03:00
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
1,2-Dichloropropane	0.318	0.326	-	-2.5	20	133	0	
2-Chloroethyl vinyl ether	0.162	0.083	-	48.8*	20	69	0	NT
Bromodichloromethane	0.38	0.36	-	5.3	20	129	0	
1,4-Dioxane	0.00179	0.00204*	-	-14	20	149	0	
cis-1,3-Dichloropropene	40	41.127	-	-2.8	20	135	0	
Chlorobenzene-d5	1	1	-	0	20	145	0	
Toluene-d8	1.306	1.29	-	1.2	20	144	0	
Toluene	0.852	0.891	-	-4.6	20	144	0	
4-Methyl-2-pentanone	0.115	0.114	-	0.9	20	133	0	
Tetrachloroethene	40	42.777	-	-6.9	20	150	0	
trans-1,3-Dichloropropene	0.462	0.473	-	-2.4	20	134	0	
Ethyl methacrylate	0.312	0.312	-	0	20	132	0	
1,1,2-Trichloroethane	0.247	0.239	-	3.2	20	136	0	
Chlorodibromomethane	0.358	0.349	-	2.5	20	128	0	
1,3-Dichloropropane	0.444	0.455	-	-2.5	20	137	0	
1,2-Dibromoethane	40	38.8	-	3	20	135	0	
2-Hexanone	40	31.554	-	21.1*	20	114	0	
Chlorobenzene	0.936	1.008	-	-7.7	20	146	0	
Ethylbenzene	1.633	1.72	-	-5.3	20	142	0	
1,1,1,2-Tetrachloroethane	0.356	0.349	-	2	20	130	0	
p/m Xylene	0.591	0.631	-	-6.8	20	143	0	
o Xylene	0.587	0.62	-	-5.6	20	138	0	
Styrene	0.931	1.005	-	-7.9	20	140	0	
1,4-Dichlorobenzene-d4	1	1	-	0	20	144	0	
Bromoform	0.424	0.386	-	9	20	119	0	
Isopropylbenzene	3.025	3.282	-	-8.5	20	146	0	
4-Bromofluorobenzene	0.929	0.9	-	3.1	20	138	0	
Bromobenzene	0.787	0.844	-	-7.2	20	139	0	
n-Propylbenzene	3.563	3.87	-	-8.6	20	146	0	
1,4-Dichlorobutane	1.053	0.988	-	6.2	20	126	0	
1,1,2,2-Tetrachloroethane	0.673	0.676	-	-0.4	20	141	0	
4-Ethyltoluene	2.942	3.129	-	-6.4	20	140	0	
2-Chlorotoluene	2.132	2.187	-	-2.6	20	137	0	
1,3,5-Trimethylbenzene	2.616	2.798	-	-7	20	145	0	
1,2,3-Trichloropropane	0.476	0.466	-	2.1	20	137	0	
trans-1,4-Dichloro-2-buten	0.214	0.197	-	7.9	20	128	0	
4-Chlorotoluene	2.231	2.25	-	-0.9	20	139	0	
tert-Butylbenzene	2.186	2.333	-	-6.7	20	147	0	
1,2,4-Trimethylbenzene	2.561	2.772	-	-8.2	20	146	0	
sec-Butylbenzene	3.297	3.606	-	-9.4	20	153	0	
p-Isopropyltoluene	2.782	3.131	-	-12.5	20	154	0	
1,3-Dichlorobenzene	1.424	1.588	-	-11.5	20	148	0	
1,4-Dichlorobenzene	1.463	1.603	-	-9.6	20	150	0	

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: C&S Companies		Lab Number	: L2428242	
Project Name	: 1803 ELMWOOD AVENUE BCP		Project Number	: S93.003.002	
Instrument ID	: VOA127		Calibration Date	: 05/26/24 14:25	
Lab File ID	: V27240526A01		Init. Calib. Date(s)	: 03/26/24	03/27/24
Sample No	: WG1926357-2		Init. Calib. Times	: 23:31	02:38
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
Fluorobenzene	1	1	-	0	20	135	0	
Dichlorodifluoromethane	0.227	0.321	-	-41.4*	20	187	0	NT
Chloromethane	0.295	0.413	-	-40*	20	193	0	NT
Vinyl chloride	40	48.07	-	-20.2*	20	164	0	
Bromomethane	0.27	0.237	-	12.2	20	133	0	
Chloroethane	0.276	0.233	-	15.6	20	123	0	
Trichlorofluoromethane	0.442	0.455	-	-2.9	20	137	0	
Ethyl ether	0.127	0.125	-	1.6	20	138	0	
1,1-Dichloroethene	0.256	0.241	-	5.9	20	136	0	
Carbon disulfide	0.988	0.974	-	1.4	20	134	0	
Freon-113	0.236	0.243	-	-3	20	142	0	
Acrolein	40	42.961	-	-7.4	20	158	0	
Methylene chloride	0.358	0.313	-	12.6	20	134	0	
Acetone	40	33.624	-	15.9	20	115	0	
trans-1,2-Dichloroethene	0.277	0.247	-	10.8	20	126	0	
Methyl acetate	0.218	0.187	-	14.2	20	124	0	
Methyl tert-butyl ether	0.753	0.618	-	17.9	20	117	0	
tert-Butyl alcohol	0.055	0.033	-	40*	20	91	0	NT
Diisopropyl ether	0.714	0.977	-	-36.8*	20	195	-.01	NT
1,1-Dichloroethane	0.429	0.512	-	-19.3	20	162	0	
Halothane	0.167	0.173	-	-3.6	20	142	0	
Acrylonitrile	0.085	0.084	-	1.2	20	139	0	
Ethyl tert-butyl ether	0.659	0.715	-	-8.5	20	149	0	
Vinyl acetate	0.421	0.503	-	-19.5	20	170	0	
cis-1,2-Dichloroethene	0.252	0.247	-	2	20	139	-.01	
2,2-Dichloropropane	0.313	0.376	-	-20.1*	20	160	-.01	NT
Bromochloromethane	0.138	0.148	-	-7.2	20	152	0	
Cyclohexane	0.348	0.377	-	-8.3	20	157	-.01	
Chloroform	0.423	0.454	-	-7.3	20	149	-.01	
Ethyl acetate	0.221	0.221	-	0	20	138	0	
Carbon tetrachloride	40	38.027	-	4.9	20	141	-.01	
Tetrahydrofuran	0.061	0.059	-	3.3	20	135	0	
Dibromofluoromethane	0.248	0.249	-	-0.4	20	143	0	
1,1,1-Trichloroethane	0.355	0.382	-	-7.6	20	139	0	
2-Butanone	0.116	0.109	-	6	20	139	0	
1,1-Dichloropropene	40	41.47	-	-3.7	20	136	-.01	
Benzene	0.917	1.034	-	-12.8	20	152	0	
tert-Amyl methyl ether	0.57	0.582	-	-2.1	20	141	0	
1,2-Dichloroethane-d4	0.27	0.278	-	-3	20	143	0	
1,2-Dichloroethane	0.301	0.324	-	-7.6	20	147	0	
Methyl cyclohexane	0.413	0.411	-	0.5	20	138	0	
Trichloroethene	0.251	0.283	-	-12.7	20	151	0	
Dibromomethane	0.139	0.153	-	-10.1	20	147	0	

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: C&S Companies		Lab Number	: L2428242	
Project Name	: 1803 ELMWOOD AVENUE BCP		Project Number	: S93.003.002	
Instrument ID	: VOA127		Calibration Date	: 05/26/24 14:25	
Lab File ID	: V27240526A01		Init. Calib. Date(s)	: 03/26/24	03/27/24
Sample No	: WG1926357-2		Init. Calib. Times	: 23:31	02:38
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.223	0.259	-	-16.1	20	156	0
2-Chloroethyl vinyl ether	0.128	0.058	-	54.7*	20	64	0
Bromodichloromethane	0.303	0.311	-	-2.6	20	138	0
1,4-Dioxane	0.00297	0.00209*	-	29.6*	20	92	0
cis-1,3-Dichloropropene	0.335	0.363	-	-8.4	20	147	0
Chlorobenzene-d5	1	1	-	0	20	137	0
Toluene-d8	1.301	1.236	-	5	20	131	0
Toluene	0.766	0.817	-	-6.7	20	140	0
4-Methyl-2-pentanone	0.101	0.088	-	12.9	20	120	0
Tetrachloroethene	0.333	0.358	-	-7.5	20	141	0
trans-1,3-Dichloropropene	0.375	0.404	-	-7.7	20	149	0
Ethyl methacrylate	0.296	0.281	-	5.1	20	136	0
1,1,2-Trichloroethane	0.213	0.223	-	-4.7	20	145	0
Chlorodibromomethane	0.282	0.283	-	-0.4	20	135	0
1,3-Dichloropropane	0.414	0.441	-	-6.5	20	146	0
1,2-Dibromoethane	0.25	0.256	-	-2.4	20	139	0
2-Hexanone	0.184	0.161	-	12.5	20	127	0
Chlorobenzene	0.876	0.927	-	-5.8	20	144	0
Ethylbenzene	1.483	1.554	-	-4.8	20	140	0
1,1,1,2-Tetrachloroethane	0.305	0.31	-	-1.6	20	140	0
p/m Xylene	0.558	0.625	-	-12	20	140	0
o Xylene	0.548	0.596	-	-8.8	20	139	0
Styrene	0.878	1.03	-	-17.3	20	146	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	146	0
Bromoform	0.376	0.331	-	12	20	132	0
Isopropylbenzene	2.745	2.707	-	1.4	20	136	0
4-Bromofluorobenzene	0.853	0.808	-	5.3	20	141	0
Bromobenzene	0.728	0.722	-	0.8	20	144	0
n-Propylbenzene	3.349	3.343	-	0.2	20	141	0
1,4-Dichlorobutane	0.783	0.838	-	-7	20	163	0
1,1,2,2-Tetrachloroethane	0.684	0.621	-	9.2	20	134	0
4-Ethyltoluene	2.709	2.734	-	-0.9	20	139	0
2-Chlorotoluene	2.017	2.384	-	-18.2	20	169	0
1,3,5-Trimethylbenzene	2.391	2.468	-	-3.2	20	141	0
1,2,3-Trichloropropane	0.597	0.52	-	12.9	20	132	0
trans-1,4-Dichloro-2-buten	0.177	0.167	-	5.6	20	147	0
4-Chlorotoluene	2.011	2.085	-	-3.7	20	144	0
tert-Butylbenzene	2.063	2.014	-	2.4	20	137	0
1,2,4-Trimethylbenzene	2.278	2.366	-	-3.9	20	143	0
sec-Butylbenzene	3.106	3.158	-	-1.7	20	141	0
p-Isopropyltoluene	2.556	2.672	-	-4.5	20	144	0
1,3-Dichlorobenzene	1.401	1.471	-	-5	20	150	0
1,4-Dichlorobenzene	1.402	1.466	-	-4.6	20	151	0

NT

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: C&S Companies		Lab Number	: L2428242	
Project Name	: 1803 ELMWOOD AVENUE BCP		Project Number	: S93.003.002	
Instrument ID	: GCMS5		Calibration Date	: 05/28/24 09:45	
Lab File ID	: ABN0528		Init. Calib. Date(s)	: 02/06/24	02/06/24
Sample No	: WG1926431-3		Init. Calib. Times	: 06:45	15:13
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
Acenaphthylene	1.185	1.178	-	0.6	20	95	0	
2,6-Dinitrotoluene	0.168	0.207	-	-23.2*	20	105	0	NT
1,2-Dinitrobenzene	0.072	0.083	-	-15.3	20	100	0	
IS1_Acenaphthene-d10	1	1	-	0	20	100	0	
3-Nitroaniline	0.315	0.324	-	-2.9	20	97	0	
Acenaphthene	1.07	1.054	-	1.5	20	102	0	
2,4-Dinitrophenol	50	66.909	-	-33.8*	20	148	0	NT
Dibenzofuran	1.774	1.703	-	4	20	100	0	
2,4-Dinitrotoluene	0.384	0.44	-	-14.6	20	106	0	
4-Nitrophenol	0.204	0.187	-	8.3	20	87	0	
2,3,5,6-Tetrachlorophenol	0.389	0.456	-	-17.2	20	113	0	
2,3,4,6-Tetrachlorophenol	0.391	0.44	-	-12.5	20	111	0	
Diethyl phthalate	1.378	1.41	-	-2.3	20	104	0	
Fluorene	1.407	1.381	-	1.8	20	99	0	
4-Chlorophenyl phenyl ethe	0.692	0.704	-	-1.7	20	104	0	
4-Nitroaniline	0.332	0.33	-	0.6	20	91	0	
4,6-Dinitro-o-cresol	50	63.847	-	-27.7*	20	136	0	NT
NDPA/DPA	1.193	1.201	-	-0.7	20	102	0	
Azobenzene	1.067	0.884	-	17.2	20	84	0	
2,4,6-Tribromophenol	0.233	0.34	-	-45.9*	20	143	0	NT
4-Bromophenyl phenyl ether	0.455	0.512	-	-12.5	20	116	0	
Hexachlorobenzene	0.534	0.662	-	-24*	20	129	0	
Pentachlorophenol	0.32	0.432	-	-35*	20	123	0	
IS1_Phenanthrene-d10	1	1	-	0	20	104	0	
Phenanthrene	1.076	1.025	-	4.7	20	102	0	
Anthracene	1.071	1.058	-	1.2	20	103	0	
Carbazole	1.021	0.972	-	4.8	20	101	0	
Di-n-butylphthalate	1.102	1.163	-	-5.5	20	104	0	
Fluoranthene	1.251	1.267	-	-1.3	20	105	0	
Benzidine	0.805	0.837	-	-4	20	111	0	
Pyrene	1.341	1.32	-	1.6	20	102	0	
4-Terphenyl-d14	1.046	1.086	-	-3.8	20	108	0	
Butyl benzyl phthalate	0.489	0.563	-	-15.1	20	108	0	
IS1_Chrysene-d12	1	1	-	0	20	106	0	
Benzo(a)anthracene	1.342	1.278	-	4.8	20	102	0	
3,3'-Dichlorobenzidine	0.521	0.549	-	-5.4	20	109	0	
Chrysene	1.275	1.204	-	5.6	20	105	0	
Bis(2-ethylhexyl)phthalate	0.708	0.77	-	-8.8	20	106	0	
Di-n-octylphthalate	1.174	1.338	-	-14	20	107	0	
Benzo(b)fluoranthene	1.414	1.442	-	-2	20	111	0	
Benzo(k)fluoranthene	1.323	1.376	-	-4	20	108	0	
Benzo(a)pyrene	1.276	1.336	-	-4.7	20	110	0	
IS1_Perylene-d12	1	1	-	0	20	114	0	

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: C&S Companies		Lab Number	: L2428242	
Project Name	: 1803 ELMWOOD AVENUE BCP		Project Number	: S93.003.002	
Instrument ID	: GCMS5		Calibration Date	: 05/28/24 10:09	
Lab File ID	: APDP0528		Init. Calib. Date(s)	: 02/06/24	02/06/24
Sample No	: WG1926431-5		Init. Calib. Times	: 06:45	15:13
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
IS2_1,4-Dichlorobenzene-d4	1	1	-	0	20	114	-.02	
1,4-Dioxane	0.455	0.359	-	21.1*	20	94	-.03	
Benzaldehyde	0.959	0.327	-	65.9*	20	36	-.02	NT
n-Decane	1.304	1.341	-	-2.8	20	75	-.02	
Acetophenone	1.783	1.589	-	10.9	20	101	-.02	
m-Toluidine	1.746	1.248	-	28.5*	20	77	-.02	NT
2-Chloroaniline	1.72	1.643	-	4.5	20	107	-.02	
IS2_Naphthalene-d8	1	1	-	0	20	115	-.02	
a-Terpineol	0.267	0.207	-	22.5*	20	86	-.02	NT
3-Chloroaniline	0.13	0.096	-	26.2*	20	82	-.02	NT
2,6-Dichlorophenol	0.348	0.361	-	-3.7	20	115	-.02	
1-chloro-2-nitrobenzene	0.136	0.142	-	-4.4	20	113	-.02	
Caprolactam	0.16	0.126	-	21.3*	20	86	-.02	NT
1,2,4,5-Tetrachlorobenzene	0.45	0.477	-	-6	20	122	-.02	
Biphenyl	0.993	1.004	-	-1.1	20	115	-.02	
IS2_Acenaphthene-d10	1	1	-	0	20	127	-.02	
Dichloran	0.2	0.25	-	-25*	20	148	-.02	NT
Atrazine	0.437	0.477	-	-9.2	20	128	-.02	
Pentachloronitrobenzene	0.19	0.246	-	-29.5*	20	152	-.02	NT
IS2_Phenanthrene-d10	1	1	-	0	20	132	-.02	
n-Octadecane	0.344	0.257	-	25.3*	20	91	-.02	NT
Parathion	50	53.22	-	-6.4	20	145	-.02	
Diphenamid	0.536	0.55	-	-2.6	20	126	-.02	
3,3'-Dimethylbenzidine	0.807	0.665	-	17.6	20	93	-.02	

* Value outside of QC limits.

Matrix Spike Sample Summary
Form 3
PCBs

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Client Sample ID	: SB-16-1FT-20240521	Matrix (Level)	: SOIL (LOW)
Lab Sample ID	: L2428242-13	Analysis Date	: 05/26/24 19:13
Matrix Spike	: WG1925851-6	MS Analysis Date	: 05/26/24 19:21
Matrix Spike Dup	: WG1925851-7	MSD Analysis Date	: 05/26/24 19:29

		Matrix Spike Sample			Matrix Spike Duplicate					
Parameter	Sample Conc. (ug/kg)	Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R	Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Aroclor 1016	ND	346	258	75	352	304	86	16	40-140	50
Aroclor 1260	ND	346	237	69	352	1110	315 Q	130 Q	40-140	50

Identification Summary
Form 10
PCBs

Client	:	C&S Companies	**Lab Number**	:	L2428242
Project Name	:	1803 ELMWOOD AVENUE BCP	**Project Number**	:	S93.003.002
Lab Sample ID	:	L2428242-04			
Client ID	:	SB-10-2FT-20240521			
Date Analyzed (1)	:	05/26/24 20:16	**Date Analyzed (2)**	:	05/26/24 20:16
Instrument ID (1)	:	PEST19	**Instrument ID (2)**	:	PEST19
GC Column (1)	:	CLP-Pesticide	**GC Column (2)**	:	CLP-PesticideII

Analyte	Peak	RT	RT Window From	RT Window To	Concentration	Mean Concentration	%RPD	
AROCLOR 1254	1	2.45	-0.05	0.05	18.7			
	2	0.00	-0.05	0.05	0.			
COLUMN 1	3	2.73	-0.05	0.05	19.7			
	4	2.84	-0.05	0.05	17.9			
	5	0.00	-0.05	0.05	0.	18.8J		
	1	2.78	-0.05	0.05	34.8			
	2	0.00	-0.05	0.05	0.			
COLUMN 2	3	3.07	-0.05	0.05	16.8			
	4	3.18	-0.05	0.05	22.3			
	5	0.00	-0.05	0.05	0.	24.6J	NC	26.7 %

Matrix Spike Sample Summary
Form 3
Petroleum

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Client Sample ID	: SB-16-1FT-20240521	Matrix (Level)	: SOIL (LOW)
Lab Sample ID	: L2428242-13	Analysis Date	: 05/28/24 13:28
Matrix Spike	: WG1925909-5	MS Analysis Date	: 05/28/24 14:05
Matrix Spike Dup	: WG1925909-6	MSD Analysis Date	: 05/28/24 14:42

		Matrix Spike Sample			Matrix Spike Duplicate					
Parameter	Sample Conc. (ug/kg)	Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R	Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R		RPD	Recovery Limits	RPD Limit
DRO (C10-C28)	340000	77300	390000	65	75200	380000	53	Q	3	60-140	20

Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: WG1925909-1	Date Collected	: NA
Client ID	: WG1925909-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/28/24 09:07
Sample Matrix	: SOIL	Date Extracted	: 05/25/24
Analytical Method	: 1,8015D(M)	Dilution Factor	: 1
Lab File ID	: P26240528A06	Analyst	: ALL
Sample Amount	: 15.71 g	Instrument ID	: PETRO26A
Extraction Method	: EPA 3546	GC Column	:
Extract Volume	: 1000 uL	%Solids	: NA
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
NONE	DRO (C10-C28)	3500	32000	1800	J

Surrogate Recovery Summary
Form 2
Semivolatiles

Client: C&S Companies
Project Name: 1803 ELMWOOD AVENUE BCP

Lab Number: L2428242
Project Number: S93.003.002
Matrix: Soil

CLIENT ID (LAB SAMPLE NO.)	S8 ()	S9 ()	S10 ()	S11 ()	S12 ()	S13 ()	S14 ()
SB-06-3FT-20240521 (L2428242-01)	75	86	69	81	75	113	87
SB-06-7FT-20240521 (L2428242-02)	71	83	71	76	72	98	86
DUP-A-20240521 (L2428242-03)	74	75	68	75	74	90	82
SB-10-2FT-20240521 (L2428242-04)	75	81	72	86	83	113	79
SB-10-4FT-20240521 (L2428242-05)	70	80	70	73	74	104	72
SB-03-7FT-20240521 (L2428242-06)	74	80	71	78	72	101	88
SB-07-3FT-20240521 (L2428242-07)	71	80	69	75	68	107	90
SB-07-7FT-20240521 (L2428242-08)	77	83	74	81	77	116	94
SB-03-2FT-20240521 (L2428242-09)	71	87	72	73	65	178*	108
SB-15-4FT-20240521 (L2428242-10)	74	79	74	77	74	112	100
SB-14-1FT-20240521 (L2428242-11)	72	81	73	78	69	99	83
SB-15-2FT-20240521 (L2428242-12)	77	89	78	83	83	124	97
SB-16-1FT-20240521 (L2428242-13)	65	78	63	67	64	127	92
SB-16-3FT-20240521 (L2428242-14)	71	76	74	76	70	104	92
SB-14-3FT-20240521 (L2428242-15)	74	80	68	81	77	105	91
WG1931884-1BLANK	76	81	78	76	74	87	79
WG1931884-2LCS	74	80	73	78	77	90	80
WG1931884-3LCS	78	83	77	80	81	95	94
SB-07-3FT-20240521MS	78	83	72	83	79	111	92
SB-07-3FT-20240521MSD	76	80	72	81	73	109	90
SB-16-1FT-20240521MS	66	76	67	73	65	132	91
SB-16-1FT-20240521MSD	69	78	65	73	72	129	92

QC LIMITS

(20-150) S8 = PERFLUORO[13C8]OCTANOIC ACID (M8PFOA)
(20-150) S9 = 1H,1H,2H,2H-PERFLUORO[1,2-13C2]OCTANESULFONIC ACID (M2-6:2FTS)
(20-150) S10 = PERFLUORO[13C9]NONANOIC ACID (M9PFNA)
(20-150) S11 = PERFLUORO[13C8]OCTANESULFONIC ACID (M8PFOS)
(20-150) S12 = PERFLUORO[1,2,3,4,5,6-13C6]DECANOIC ACID (M6PFDA)
(20-150) S13 = 1H,1H,2H,2H-PERFLUORO[1,2-13C2]DECANESULFONIC ACID (M2-8:2FTS)
(20-150) S14 = N-DEUTERIOMETHYLPERFLUORO-1-OCTANESULFONAMIDOACETIC ACID (D3-NMEFOSAA)

*** Values outside of QC limits**

Form 1
METALS

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Lab ID	: WG1926333-1	Date Collected	: NA
Client ID	: WG1926333-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/29/24 09:04
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,6010D	Analyst	: DHL
Lab File ID	: WG1926743.pdf	Instrument ID	: TRACE7
Sample Amount	: 1.25g	%Solids	: NA
Digestion Method	: EPA 3050B	Date Digested	: 05/29/24

		mg/kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7440-38-2	Arsenic, Total	ND	0.400	0.083	U
7440-39-3	Barium, Total	ND	0.400	0.070	U
7440-41-7	Beryllium, Total	ND	0.200	0.013	U
7440-43-9	Cadmium, Total	ND	0.400	0.039	U
7440-47-3	Chromium, Total	0.047	0.400	0.038	J
7440-50-8	Copper, Total	ND	0.400	0.103	U
7439-92-1	Lead, Total	ND	2.00	0.107	U
7439-96-5	Manganese, Total	ND	0.400	0.064	U
7440-02-0	Nickel, Total	ND	1.00	0.097	U
7782-49-2	Selenium, Total	ND	0.800	0.103	U
7440-22-4	Silver, Total	ND	0.200	0.113	U
7440-66-6	Zinc, Total	ND	2.00	0.117	U

Form 5a
Matrix Spike

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Client Sample ID	: SB-06-3FT-20240521	**Matrix**	: SOIL
Lab Sample ID	: L2428242-01		
Matrix Spike	: WG1926333-3	**MS Analysis Date**	: 05/29/24 11:50
Matrix Spike Dup	:	**MSD Analysis Date**	:

		Matrix Spike Sample				Matrix Spike Duplicate						
Parameter	**Sample Conc. (mg/kg)**	**Spike Added (mg/kg)**	**Spike Conc. (mg/kg)**	**%R**		**Spike Added (mg/kg)**	**Spike Conc. (mg/kg)**	**%R**		**RPD**	**Recovery Limits**	**RPD Limit**
Arsenic, Total	20.0	11	29.5	86							75-125	20
Barium, Total	151	183	292	77							75-125	20
Beryllium, Total	0.256J	4.58	4.86	106							75-125	20
Cadmium, Total	4.62	4.86	8.50	80							75-125	20
Chromium, Total	20.4	18.3	34.1	75							75-125	20
Copper, Total	103	22.9	106	13	Q	+					75-125	20
Lead, Total	554	48.6	569	31	Q	+					75-125	20
Manganese, Total	1300	45.8	1170	0	Q	+					75-125	20
Nickel, Total	153	45.8	175	48	Q						75-125	20
Selenium, Total	0.618J	11	10.8	98							75-125	20
Silver, Total	0.558J	4.58	5.17	113							75-125	20
Zinc, Total	988	45.8	976	0	Q	+					75-125	20

+Sample amount detected > 4X spike amount added

Form 5a
Matrix Spike

Client	: C&S Companies	**Lab Number**	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	**Project Number**	: S93.003.002
Client Sample ID	: SB-07-3FT-20240521	**Matrix**	: SOIL
Lab Sample ID	: L2428242-07		
Matrix Spike	: WG1926384-3	**MS Analysis Date**	: 05/29/24 20:08
Matrix Spike Dup	: WG1926384-4	**MSD Analysis Date**	: 05/29/24 20:13

		Matrix Spike Sample				Matrix Spike Duplicate						
Parameter	Sample Conc. (mg/kg)	Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R		Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R		RPD	Recovery Limits	RPD Limit
Arsenic, Total	2.21	9.84	10.8	87		9.84	10.7	86		1	75-125	20
Barium, Total	13.1	164	174	98		164	181	102		4	75-125	20
Beryllium, Total	0.096J	4.1	4.07	99		4.1	4.19	102		3	75-125	20
Cadmium, Total	ND	4.34	4.36	100		4.35	4.40	101		1	75-125	20
Chromium, Total	3.92	16.4	18.4	88		16.4	19.9	97		8	75-125	20
Copper, Total	2.67	20.5	23.2	100		20.5	24.0	104		3	75-125	20
Lead, Total	17.9	43.4	61.9	101		43.5	60.1	97		3	75-125	20
Manganese, Total	171	41	160	0	Q	41	190	46	Q	17	75-125	20 +
Nickel, Total	3.44	41	43.0	96		41	44.5	100		3	75-125	20
Selenium, Total	0.385J	9.84	10.9	111		9.84	10.8	110		1	75-125	20
Silver, Total	ND	4.1	4.32	105		4.1	4.39	107		2	75-125	20
Zinc, Total	13.4	41	49.8	89		41	55.6	103		11	75-125	20

+Sample amount detected > 4X spike amount added

Form 5a
Matrix Spike

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Client Sample ID	: SB-16-1FT-20240521	Matrix	: SOIL
Lab Sample ID	: L2428242-13		
Matrix Spike	: WG1926384-7	MS Analysis Date	: 05/30/24 12:15
Matrix Spike Dup	: WG1926384-8	MSD Analysis Date	: 05/30/24 12:21

		Matrix Spike Sample			Matrix Spike Duplicate					
Parameter	Sample Conc. (mg/kg)	Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R	Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R	RPD	Recovery Limits	RPD Limit
Arsenic, Total	13.0	10.9	24.5	105	10.8	26.0	120	6	75-125	20
Barium, Total	48.0	182	230	100	180	242	107	5	75-125	20
Beryllium, Total	0.740J	4.54	5.26	116	4.51	5.46	121	4	75-125	20
Cadmium, Total	0.266J	4.81	5.28	110	4.78	5.40	113	2	75-125	20
Chromium, Total	11.5	18.2	31.5	110	18	34.1	125	8	75-125	20
Copper, Total	46.2	22.7	74.5	125	22.6	80.8	153 Q	8	75-125	20
Lead, Total	24.1	48.1	87.6	132 Q	47.8	82.6	122	6	75-125	20
Manganese, Total	447	45.4	475	62 Q	45.1	601	341 Q	23 Q	75-125	20 +
Nickel, Total	14.9	45.4	72.1	126 Q	45.1	72.2	127 Q	0	75-125	20
Selenium, Total	0.618J	10.9	9.91	91	10.8	11.3	104	13	75-125	20
Silver, Total	ND	4.54	4.90	108	4.51	5.09	113	4	75-125	20
Zinc, Total	35.7	45.4	99.9	141 Q	45.1	96.9	136 Q	3	75-125	20

+Sample amount detected > 4X spike amount added

Form 6
Lab Duplicates

Client	: C&S Companies		Lab Number	:	L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP		Project Number	:	S93.003.002
Client Sample ID	: SB-06-3FT-20240521		Matrix	:	SOIL
Lab Sample ID	: L2428242-01		Analysis Date	:	05/29/24 11:44
Dup Sample ID	: WG1926333-4		DUP Analysis Date	:	05/29/24 11:55

Parameter	Sample Concentration (mg/kg)	Duplicate Concentration (mg/kg)	RPD	RPD Limit
Arsenic, Total	20.0	15.3	27 Q	20
Barium, Total	151	71.4	72 Q	20
Beryllium, Total	0.256J	0.240J	NC	20
Cadmium, Total	4.62	3.21	36 Q	20
Chromium, Total	20.4	14.6	33 Q	20
Copper, Total	103	78.0	28 Q	20
Lead, Total	554	366	41 Q	20
Manganese, Total	1300	961	30 Q	20
Nickel, Total	153	103	39 Q	20
Selenium, Total	0.618J	0.946J	NC	20
Silver, Total	0.558J	ND	NC	20
Zinc, Total	988	678	37 Q	20

Form 5a
Matrix Spike

Client	: C&S Companies	Lab Number	: L2428242
Project Name	: 1803 ELMWOOD AVENUE BCP	Project Number	: S93.003.002
Client Sample ID	: SB-07-3FT-20240521	Matrix	: SOIL
Lab Sample ID	: L2428242-07		
Matrix Spike	: WG1926519-4	MS Analysis Date	: 05/29/24 11:45
Matrix Spike Dup	: WG1926519-5	MSD Analysis Date	: 05/29/24 11:45

		Matrix Spike Sample			Matrix Spike Duplicate					
Parameter	Sample Conc. (mg/kg)	Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R	Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R	RPD	Recovery Limits	RPD Limit
Chromium, Hexavalent	ND	1360	1370	101	947	833	88	49 Q	75-125	20

Appendix C

Validator Qualifications

KENNETH R. APPLIN
Geochemist/Data Validator

Ph.D., Geochemistry and Mineralogy, The Pennsylvania State University

M.S., Geochemistry and Mineralogy, The Pennsylvania State University

B.A., Geological Sciences, SUNY at Geneseo, NY

Dr. Applin has over 35 years of experience working with the geochemistry of natural waters. His prior experience includes working as an Assistant Professor of Geology at the University of Missouri-Columbia and as Chief Hydrogeologist and Geochemist with a leading engineering firm in Rochester, NY. In 1993, he established KR Applin and Associates, a small consulting business that focuses on the geochemistry of natural waters, especially as applied to problems involving the contamination of groundwater and surface water.

Dr. Applin is also an experienced analytical data validator and has provided data validation services since 1994 to a variety of clients performing brownfield cleanup projects, hazardous waste remediation, groundwater monitoring at solid waste facilities, and other projects requiring third-party data validation. Dr. Applin has several years of hands-on experience with the laboratory analysis of natural waters and has successfully completed the USEPA Region II certification courses for performing inorganic and organic analytical data validation.

MICHAEL K. PERRY
Chemist/Data Validator

B.S. Chemistry, Georgia State University, Atlanta, GA

A.A.S., Chemical Technology, Alfred State College, Alfred, NY

Mr. Perry has over 30 years of experience in the analytical laboratory business. During his early career, he spent several years as a laboratory analyst performing the analysis of soil, water, and air samples for inorganic and organic chemical parameters. During his last 20 years in the environmental laboratory business, he managed and directed two major analytical laboratories in Rochester, NY. His management responsibilities included oversight of the daily operations of the lab, staff training and supervision, the selection, purchase, and maintenance of analytical instruments, the introduction of new laboratory methods, analytical quality assurance and quality control, data acquisition and management, and other business-related activities.

Mr. Perry has an extensive working knowledge of the methods and procedures used for sampling and analyzing both inorganic and organic analytes in soil, water, and air. He is an accomplished laboratory chemist and is familiar with the analytical methods and procedures established under the USEPA Contract Laboratory Protocols (CLP), the NYSDEC Analytical Services Protocols (ASP), and the NYSDOH Environmental Laboratory Approval Program (ELAP).

DATA USABILITY SUMMARY REPORT (DUSR)

1803 Elmwood Ave. BCP RI
Buffalo, NY
Project #: S93.003.002

SDG: L2428514
14 Soil Samples and 1 Waste Characterization Sample

Prepared for:

C&S Companies
141 Elm Street, Suite 100
Buffalo, NY 14203
Attention: Jesse Alt-Winzig

July 2024

EDU *Environmental Data Usability 10028 Deer Park Dr. Dansville, NY 14437 585-991-9156*

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REVIEWER'S NARRATIVE
C&S Companies SDG L2428514 – 1803 Elmwood Ave. BCP RI

The data associated with this Sample Delivery Group (SDG) L2428514, analyzed by Alpha Analytical, Westborough, MA have been reviewed in accordance with assessment criteria provided by the New York State Department of Environmental Conservation following the review procedures provided in the USEPA Functional Guidelines for evaluating organic and inorganic data.

All analytical results reported by the laboratory are considered valid and acceptable except results that have been qualified as rejected, "R". Results qualified as estimated "J", or as non-detects, "U", are considered usable for the purpose of evaluating water and/or soil quality. However, these qualifiers indicate that the accuracy and/or precision of the analytical result is questionable. A summary of all data that have been qualified and the reasons for qualification are provided in the following data usability summary report (DUSR).

Two facts should be noted by all data users. First, the "R" qualifier means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Values qualified with an "R" should not appear on the final data tables because they cannot be relied upon, even as the last resort. Second, no analyte concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data, but any value potentially contains error.

Reviewer's Signature: Michael K. Perry Date: 7/22/2024

Michael K. Perry
Chemist

1.0 EVENT SUMMARY

SITE:	1803 Elmwood Ave. BCP RI Buffalo, NY Project #: S93.003.002
SAMPLING DATE:	May 22, 2024
SAMPLE TYPE:	14 soil samples and 1 waste characterization
LABORATORY:	Alpha Analytical Westborough, MA
SDG No.:	L2428514

2.0 INTRODUCTION

This data usability summary report (DUSR) was prepared in accordance with guidance provided by the New York State Department of Environmental Conservation (NYSDEC). The DUSR is based on a review and evaluation of the laboratory analytical data package. Specifically, the NYSDEC guidance recommends review and evaluation of the following elements of the data package:

- Completeness of the data package as defined under the requirements of the NYSDEC Analytical Services Protocols (ASP) Category B or the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) deliverables,
- Compliance with established analyte holding times,
- Adherence to quality control (QC) limits and specifications for blanks, instrument tuning and calibration, surrogate recoveries, spike recoveries, laboratory duplicate analyses, and other QC criteria,
- Adherence to established analytical protocols,
- Conformance of data summary sheets with raw analytical data, and
- Use of correct data qualifiers.

Data deficiencies, analytical protocol deviations, and quality control problems identified using the review criteria above and their effect on the analytical results are discussed in this report.

3.0 SAMPLE AND ANALYSIS SUMMARY

The data package consists of analytical results for 15 soil samples collected on May 22, 2024. Fourteen samples were analyzed for Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), TPH-GRO, Herbicides, PCBs, Pesticides, TPH-DRO, PFASs, Metals (ICP and Hg), Total Cyanide (TCN), and Hexavalent Chromium (Cr+6). One waste characteristic sample was analyzed for TCLP and RCI

All laboratory analyses were submitted to Alpha Analytical, Westborough, MA and analyzed as SDG L2428514. The analytical results were provided in NYSDEC ASP Category B format, which includes all raw analytical data and laboratory QC data.

4.0 GUIDANCE DOCUMENTS AND DATA REVIEW CRITERIA

The guidance documents appropriate for reviewing laboratory quality control (QC) data and assigning data qualifiers (flags) to analytical results were selected from those listed in Table 4-1. The QC limits established in the documents applicable to this data review were used to assess the quality of the analytical results. In some cases, however, QC limits established internally by the laboratory were taken into account to determine data quality.

The QC criteria considered for assessing the usability of the reported analytical results provided for each analyte type (i.e. VOCs, SVOCs, metals, etc.) are listed in Table 4-2. These criteria may vary with the analytical method utilized by the laboratory. These criteria comply with the guidance recommended in Section 2.0 above.

5.0 DATA VALIDATION QUALIFIERS

The letter qualifiers (flags) used to define data usability are described briefly below. These letters are assigned by the data validator to analytical results having questionable accuracy and/or precision as determined by reviewing the laboratory QC data associated with the analytical results.

TABLE 4-1

Guidance Used For Validating Laboratory Analytical Data

Analyte Group	Guidance	Date
Metals (ICP-AES)	USEPA SOP HW-3a, Rev. 1	September 2016
Metals (Hg & CN)	USEPA SOP HW-3c, Rev. 1	September 2016
Volatile Organic Compounds (by Methods 8260B & 8260C)	USEPA SOP HW-24, Rev. 4	September 2014
Semi-Volatile Organic Compounds (by Method 8270D)	USEPA SOP HW-22 Rev. 5	December 2010
Pesticides (by Method 8181B)	USEPA SOP HW-44, Rev. 1.1	December 2010
Chlorinated Herbicides (by Method 8151A)	USEPA SOP HW-17, Rev. 3.1	December 2010
Polychlorinated Biphenyls (PCBs)	USEPA SOP HW-37A, Rev. 0	June 2015
Volatile Organic Compounds (Air) (by Method TO-15)	USEPA SOP HW-31, Rev. 6	September 2016
Per- and PolyFluoroAlkyl Substances (PFAS)	* NYSDEC ** US Dept. of Defense	January 2021 November 2022
Radiological Analysis		
Uranium	USEPA Method 908.0	June 1999
Radium-226	USEPA Method 903.1	1980
General Chemistry Parameters	per NYSDEC ASP	July 2005

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

** Data Validation Guidelines Module 6: Data Validatioin Procedures for Per- and Polyfluoroalkyl Substances Analysis by QSM Table B-24

TABLE 4-2

QUALITY CONTROL CRITERIA USED FOR VALIDATING LABORATORY ANALYTICAL DATA

VOCs	SVOCs	Pesticides/PCBs	Metals	Gen Chemistry	PFAS
Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg
Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation
Holding Time	Holding Time	Holding Time	Holding Time	Holding Times	Holding Time
System Monitoring Compounds	Surrogate Recoveries	Surrogate Recoveries	Initial/Continuing Calibration	Calibration	Instr Performance Check
Lab Control Sample	Lab Control Sample	Matrix Spikes	CRDL Standards	Lab Control Samples	Initial Calibration
Matrix Spikes	Matrix Spikes	Blanks	Blanks	Blanks	Continuing Calibration
Blanks	Blanks	Instrument Calibration & Verification	Interference Check Sample	Spike Recoveries	Blanks
Instrument Tuning	Instrument Tuning	Comparison of duplicate GC column results	Spike Recoveries	Lab Duplicates	Surrogates
Internal Standards	Internal Standards	Analyte ID	Lab Duplicate		Lab Fortified Blank
Initial Calibration	Initial Calibration	Lab Qualifiers	Lab Control Sample		Matrix Spikes
Continuing Calibration	Continuing Calibration	Field Duplicate	ICP Serial Dilutions		Internal Standards
Lab Qualifiers	Lab Qualifiers		Lab Qualifiers		
Field Duplicate	Field Duplicate		Field Duplicate		

Method TO-15 (Air)	Radiological (U and Ra)
Completeness of Pkg	Completeness of Pkg
Sample Preservation	Sample Preservation
Holding Time	Holding Time
Canister Certification	Sample Specific Yield
Instrument Tuning	Required Detection Limit
Initial Calibration and Instrument Performance	Laboratory Control Sample
	Matrix Spikes
Daily Calibration	Method Blank
Blanks	Instrument Calibration
Lab Control Sample	
Field Duplicate	

The laboratory may also use various letters and symbols to flag analytical results generated when QC limits were exceeded. The meanings of these flags may differ from those used by the independent data validator. Those used by the laboratory are provided with the analytical results.

NOTE: The assignment of data qualifiers by the data reviewer (validator) to laboratory analytical results should not necessarily be interpreted by the data user as a measure of laboratory ability or proficiency. Rather, the qualifiers are intended to provide a measure of data accuracy and precision to the data user, which, for example, may provide a level of confidence in determining whether or not standards or cleanup objectives have been met.

U The analyte was analyzed for but was not detected at or above the sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the *approximate* concentration of the analyte in the sample. (The magnitude of any ± value associated with the result is not determined by data validation).

J+ The result is an estimated quantity and may be biased high.

J- The result is an estimated quantity and may be biased low.

UJ The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R The sample result is rejected (i.e., is unusable) due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

The validated analytical results are attached to this report. Validation qualifiers (flags) are indicated in red print. Data sheets having qualified data are signed and dated by the data reviewer.

6.0 RESULTS OF THE DATA REVIEW

The results of the data review are summarized in Tables 6-1 through 6-11. The tables list the samples where QC criteria were found to exceed acceptable limits and the actions taken to qualify the associated analytical results.

7.0 TOTAL USABLE DATA

For SDG L2428514, 15 samples were analyzed and results were reported for 1774 analytes. Fourteen results were rejected. Even though some results were flagged with a "J" as estimated, all other results (99.2 %) are considered usable. See the summary table for the analyses that have been rejected and qualified and the associated QC reasons.

The laboratory may also use various letters and symbols to flag analytical results generated when QC limits were exceeded. The meanings of these flags may differ from those used by the independent data validator. Those used by the laboratory are provided with the analytical results.

NOTE: The assignment of data qualifiers by the data reviewer (validator) to laboratory analytical results should not necessarily be interpreted by the data user as a measure of laboratory ability or proficiency. Rather, the qualifiers are intended to provide a measure of data accuracy and precision to the data user, which, for example, may provide a level of confidence in determining whether or not standards or cleanup objectives have been met.

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J+ The result is an estimated quantity and may be biased high.

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R The sample result is rejected (i.e., is unusable) due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

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Table 6-1 VOCs and TCLP VOCs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
All soil samples	1,4-Dioxane	J detects R non-detects	ICAL RF < 0.005	Since all results are non-detect, the results are rejected
SB-11-7FT-20240522	All analytes	J detects UJ non-detects	MS rec < QC limit	Data are estimated
All soil samples	Acetone 1,2-Dichloroethane	J detects UJ non-detects	CCV % D > QC limit and/or LCS rec < QC limit	Data are estimated
SB-11-2FT-20240522	1,1-Dichloroethane Chloroform	J detects UJ non-detects	CCV % D > QC limit	Data are estimated
WC-01-20240522	2-Butanone	J detects UJ non-detects	CCV % D > QC limit	Data are estimated
SB-11-2FT-20240522 SB-11-2FT-20240522RE	Toluene Trichloroethene o-Xylene	J detects	Lab dup RPD > QC limit	Data are estimated

Table 6-2 SVOCs and TCLP SVOCs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
WC-01-20240522	Pyridine	J detects UJ non-detects	CCV % D > QC limit	Data are estimated
All soil samples except DUP-B-20240522	Pentachlorophenol	J detects UJ non-detects	CCV % D > QC limit	Data are estimated
SB-08-3FT-20240522 DUP-B-20240522	All PAHs except Acenanaphthylene	J detects	Field Dup % RPD > 100 %	Data are estimated

Table 6-3 TPH-GRO

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-4 Herbicides and TCLP Herbicides

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-5 PCBs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-6 Pesticides and TCLP Pesticides

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-7 TPH-DRO

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
SB-17-2FT-20240522 SB-13-2FT-20240522	DRO	J detects	Analyte detected in method blank	Data are estimated

Table 6-8 PFASs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-9 ICP Metals and Mercury

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
SB-08-3FT-20240522 DUP-B-20240522	As and Zn	J detects	Field Dup % RPD > 50 %	Data are estimated
SB-11-7FT-20240522	Ba	J- detects UJ non-detects	MS rec < QC limit	Data may be biased low

Table 6-10 TCN and CR+6

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-11 RCI

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

ACRONYMS

BSP	Blank Spike
CCAL	Continuing Calibration
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
%D	Percent Difference
ICAL	Initial Calibration
ICB	Initial Calibration Blank
IS	Internal Standard
LCS	Laboratory Control Sample
MS/MSD	Matrix Spike/Matrix Spike Duplicate
QA	Quality Assurance
QC	Quality Control
%R	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
%RSD	Percent Relative Standard Deviation
TAL	Target Analyte List (metals)
TCL	Target Compound List (organics)

Appendix A

Validated Analytical Results

www.alphalab.com



Alpha Analytical

Laboratory Code: 11148

SDG Number: L2428514

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Project Name: 1803 ELMWOOD AVENUE BCP-RI
Project Number: S93.003.002

Lab Number: L2428514
Report Date: 06/11/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2428514-01	SB-08-7FT. 20240522	SOIL	Not Specified	05/22/24 10:15	05/22/24
L2428514-02	SB-13-7FT. 20240522	SOIL	Not Specified	05/22/24 12:05	05/22/24
L2428514-03	SB-12-2FT. 20240522	SOIL	Not Specified	05/22/24 14:30	05/22/24
L2428514-04	SB-08-3FT. 20240522	SOIL	Not Specified	05/22/24 08:45	05/22/24
L2428514-05	DUP-B-20240522	SOIL	Not Specified	05/22/24 08:45	05/22/24
L2428514-06	SB-09-3FT. 20240522	SOIL	Not Specified	05/22/24 08:30	05/22/24
L2428514-07	SB-09-7FT. 20240522	SOIL	Not Specified	05/22/24 10:40	05/22/24
L2428514-08	SB-17-2FT. 20240522	SOIL	Not Specified	05/22/24 11:20	05/22/24
L2428514-09	SB-18-2FT. 20240522	SOIL	Not Specified	05/22/24 11:30	05/22/24
L2428514-10	SB-18-7FT. 20240522	SOIL	Not Specified	05/22/24 11:35	05/22/24
L2428514-11	SB-13-2FT. 20240522	SOIL	Not Specified	05/22/24 12:00	05/22/24
L2428514-12	SB-11-2FT. 20240522	SOIL	Not Specified	05/22/24 13:30	05/22/24
L2428514-13	SB-11-7FT. 20240522	SOIL	Not Specified	05/22/24 13:35	05/22/24
L2428514-14	SB-12-8FT. 20240522	SOIL	Not Specified	05/22/24 14:35	05/22/24
L2428514-15	WC-01-20240522	SOIL	Not Specified	05/22/24 13:30	05/22/24

Case Narrative (continued)

Report Submission
June 11, 2024: This final report includes the results of all requested analyses.
June 05, 2024: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt
The analyses performed were specified by the client.

Volatile Organics
L2428514-12: The sample was analyzed as a High Level Methanol based upon screen results. The sample was then analyzed as a Low Level in order to achieve lower reporting limits. The results of both analyses are reported. Differences were noted between the results of the analyses which have been attributed to vial discrepancies.

Semivolatile Organics
L2428514-05D and -06D: The sample has elevated detection limits due to the dilution required by the sample matrix.

Pesticides
L2428514-03: The internal standard (IS) response for 1-bromo-2-nitrobenzene (1379%) was above the acceptance criteria on column A; however, the sample was not re-analyzed due to obvious interferences. Since the IS response was above method criteria, all associated compounds reported from this column are considered to have a potentially low bias. The surrogate recoveries are outside the method acceptance criteria for 2,4,5,6-tetrachloro-m-xylene (19%) and decachlorobiphenyl (0%) due to interference with the Internal Standard.

Case Narrative (continued)

Total Metals

L2428514-01 through -14: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by the sample matrix.

The WG1926919-4 MSD recovery, performed on L2428514-13, is outside the acceptance criteria for barium (66%). A post digestion spike was performed and was within acceptance criteria.

The WG1926919-3/-4 MS/MSD recoveries for manganese (202%/204%), performed on L2428514-13, do not apply because the sample concentration is greater than four times the spike amount added.

The WG1926919-3/-4 MS/MSD RPD for barium (24%), performed on L2428514-13, is above the acceptance criteria.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Report Date: 06/11/24

Title: Technical Director/Representative

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 4

Date Rec'd in Lab: 5/23/24

ALPHA Job #: L2428514

Project Information
Project Name: 1803 Elmwood Avenue BCP-RI
Project Location:
Project # S93,003.002
(Use Project name as Project #) ☐
Project Manager: Jesse Alt-Winzig
ALPHAQuote #:

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Client Information
Client: CTS Engineers
Address: 141 Elm Street, Suite 100
Buffalo, NY, 14203
Phone:
Fax:
Email: jalt-winzig@ctsecos.com

Deliverables
☐ ASP-A ☒ ASP-B
☒ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☒ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☒ Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☒ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	HEXCR	HERB-APP, NYTCL pest, TCN, AZ-1,4 Dioxane, NYTCL 8081, 1TPHORO, NYTCL 8270	Total Hg, Metals	AZ-Hg 33	TS	NYTCL 8260 HLW	TPH-GRO	Sample Specific Comments	Total Bottle
28514-01	SB-08-7ft-20240522	5/22/2024	1015	S	BW	X	X	X	X	X	X	X		NO TPH	8
-02	SB-13-7ft-20240522	5/22/2024	1205	S	BW	X	X	X	X	X	X	X		NO TPH	8
-03	SB-12-2ft-20240522	5/22/2024	1430	S	BW	X	X	X	X	X	X	X	X		9

Container Type: G G G G P P V V
Preservative: A A A A A A H_2O F A

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
	5/22/24 15:30	C. Pace	5-22-24 15:30
C. Pace	5.27.24 15:48		5/23 1500

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

5/23 MW

NEW YORK CHAIN OF CUSTODY

ALPHA

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FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 2 of 4

Date Rec'd in Lab: 5/23/24

ALPHA Job #: L2422851 4

Client Information
Client: CES Engineers
Address: 141 Elm Street, Suite 100
Phone:
Fax:
Email: jgilfwinzig@cscos.com

Project Information
Project Name: 1803 Elmwood Avenue BCP-RI
Project Location:
Project #: S93.003.002
(Use Project name as Project #)
Project Manager: Jesse Alt Winzig
ALPHAQuote #:

Turn-Around Time
Standard [X] Due Date:
Rush (only if pre approved) [ ] # of Days:

These samples have been previously analyzed by Alpha [ ]

Other project specific requirements/comments:

Please specify Metals or TAL.

Deliverables
[ ] ASP-A [X] ASP-B
[X] EQuIS (1 File) [ ] EQuIS (4 File)
[ ] Other

Regulatory Requirement
[ ] NY TOGS [X] NY Part 375
[ ] AWQ Standards [ ] NY CP-51
[ ] NY Restricted Use [ ] Other
[ ] NY Unrestricted Use
[ ] NYC Sewer Discharge

Billing Information
[X] Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
[ ] NJ [X] NY
[ ] Other:

ANALYSIS

Sample Filtration
[ ] Done
[ ] Lab to do
Preservation
[ ] Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	AL-1,4-Dioxane-8260 NYTCL-8082, TPH-DRO	Total Hg, Metals	A2-1633	TS	NYTCL 8260 HWW	TPH-GRO			Sample Specific Comments	Total Bottle
28514-04	SB-08-3ft-20240522	5/22/2024	0845	S	BW	X	X	X	X	X	X				8
-05	DUP-B-20240522	5/22/2024	0845	S	BW	X	X	X	X	X	X			DUPLICATE	8
-06	SB-09-3ft-20240522	5/22/2024	0830	S	BW	X	X	X	X	X	X				8
-07	SB-09-7ft-20240522	5/22/2024	1040	S	BW	X	X	X	X	X				No TPH	7
-08	SB-17-2ft-20240522	5/22/2024	1120	S	BW	X	X	X	X	X	X				8
-09	SB-18-2ft-20240522	5/22/2024	1130	S	BW	X	X	X	X	X	X				8
-10	SB-18-7ft-20240522	5/22/2024	1135	S	BW	X	X	X	X	X				No TPH	7
-11	SB-13-2ft-20240522	5/22/2024	1200	S	BW	X	X	X	X	X	X				8

Container Type	G	G	P	P	V	V		
Preservative	A	A	A	A	H_2O F	A		

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
	5/22/24	C. Quigley Pace	5.22.24 15:30
C. Quigley Pace	5.22.24 15:48		5/23 150

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

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NEW YORK CHAIN OF CUSTODY

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FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 3 of 4

Date Rec'd in Lab: 5/23/24

ALPHA Job #: L2428514

Client Information
Client: CES Engineers
Address: 141 Elm Street, Suite 100
Phone:
Fax:
Email: jallwin@cescos.com

Project Information
Project Name: 1803 Elmwood Avenue BCP-RI
Project Location:
Project # 593.003.002
(Use Project name as Project #) ☐
Project Manager: Jesse Allwin
ALPHAQuote #:

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☒ ASP-B
☒ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☒ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☒ Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☒ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	8260-1,4-Dioxane SIM	NYTCL-8260, TPH-GRO	Total Hg, Metals	8260-1633	TS	NYTCL 8266 HLD	TPH-GRO			Sample Specific Comments	Total Bottle
28514-12	SB-11-2ft-20240522	5/22/2024	1330	S	BW	X	X	X	X	X	X					2
-13	SB-11-7ft-20240522	5/22/2024	1335	S	BW	X	X	X	X	X					NO TPH	7
↓	SB-11-7ft-MS-20240522	5/22/2024	1335	S	BW	X	X	X	X	X					Matrix Spike No TPH	7
	SB-11-7ft-MSD-20240522	5/22/2024	1335	S	BW	X	X	X	X	X					Matrix Spike Dup No TPH	7
-14	SB-12-8ft-20240522	5/22/2024	1435	S	BW	X	X	X	X	X					NO TPH	7

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	G	G	P	P	V	V			
Preservative	A	A	A	A	H_2O F	A			

Relinquished By:	Date/Time	Received By:	Date/Time
	5/22/24 1534	C. Gaughey Place	5-22-24 15:30
C. Gaughey Place	5-22-24 15:48		5/23/24 1510

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

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Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 4

Date Rec'd in Lab: 5/23/24

ALPHA Job #: L2428514

Client Information
Client: CTS Engineers
Address: 141 Elm Street, Suite 100 Buffalo, NY, 14203
Phone:
Fax:
Email: Jwinzig@CTSCOS.com

Project Information
Project Name: 1803 Elmwood Avenue BCP-RI
Project Location:
Project #: 593.003.002
(Use Project name as Project #)
Project Manager: Jesse AH Winzig
ALPHAQuote #:

Turn-Around Time
Standard: X Due Date:
Rush (only if pre approved): ☐ # of Days:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

Deliverables
☐ ASP-A ☒ ASP-B
☒ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☒ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☒ Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☒ NY
☐ Other:

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Reads PM TCLP Metals HERB-TCLP PEST-TCLP	Reuton TGNST-1030 TCLP-ABN	TS	TCLP-VOA TCLPEX 2HE					Sample Specific Comments	Total Bottles
28514-15	WC-01-20240522	5/22/24	1330	Soil	BW	X	X	X	X					Waste characterization	3

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Container Type	G	G	P	V				
Preservative	A	A	A	A				

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
C. Quigley Pace	5-22-24 15:30	C. Quigley Pace	5-22-24 15:30
C. Quigley Pace	5-22-24 15:48		5/23/24
			5/23

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

GC/MS TCLP 8260
Analysis

Results Summary
Form 1
TCLP Volatiles by EPA 1311

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-15	Date Collected	: 05/22/24 13:30
Client ID	: WC-01-20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/30/24 10:05
Sample Matrix	: SOIL	Dilution Factor	: 10
Analytical Method	: 1,8260D	Analyst	: MCM
Lab File ID	: VQ240530A15	Instrument ID	: QUIMBY
Sample Amount	: 1.0 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: 90
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
67-66-3	Chloroform	ND	7.5	2.2	U	
56-23-5	Carbon tetrachloride	ND	5.0	1.3	U	
127-18-4	Tetrachloroethene	ND	5.0	1.8	U	
108-90-7	Chlorobenzene	ND	5.0	1.8	U	
107-06-2	1,2-Dichloroethane	ND	5.0	1.3	U	
71-43-2	Benzene	ND	5.0	1.6	U	
75-01-4	Vinyl chloride	ND	10	0.71	U	
75-35-4	1,1-Dichloroethene	ND	5.0	1.7	U	
79-01-6	Trichloroethene	ND	5.0	1.8	U	
106-46-7	1,4-Dichlorobenzene	ND	25	1.9	U	
78-93-3	2-Butanone	ND	50	19.	U	UJ

MKP 7/22/2024

GC/MS 8260
Analysis

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-01	Date Collected	: 05/22/24 10:15
Client ID	: SB-08-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 16:31
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A06	Instrument ID	: VOA123
Sample Amount	: 8.8 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 80
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	3.6	1.6	U	
75-34-3	1,1-Dichloroethane	ND	0.71	0.10	U	
67-66-3	Chloroform	ND	1.1	0.10	U	
56-23-5	Carbon tetrachloride	ND	0.71	0.16	U	
127-18-4	Tetrachloroethene	ND	0.36	0.14	U	
108-90-7	Chlorobenzene	ND	0.36	0.09	U	
107-06-2	1,2-Dichloroethane	ND	0.71	0.18	U	UJ
71-55-6	1,1,1-Trichloroethane	ND	0.36	0.12	U	
71-43-2	Benzene	ND	0.36	0.12	U	
108-88-3	Toluene	ND	0.71	0.39	U	
100-41-4	Ethylbenzene	ND	0.71	0.10	U	
75-01-4	Vinyl chloride	ND	0.71	0.24	U	
75-35-4	1,1-Dichloroethene	ND	0.71	0.17	U	
156-60-5	trans-1,2-Dichloroethene	ND	1.1	0.10	U	
79-01-6	Trichloroethene	ND	0.36	0.10	U	
95-50-1	1,2-Dichlorobenzene	ND	1.4	0.10	U	
541-73-1	1,3-Dichlorobenzene	ND	1.4	0.10	U	
106-46-7	1,4-Dichlorobenzene	ND	1.4	0.12	U	
1634-04-4	Methyl tert butyl ether	ND	1.4	0.14	U	
179601-23-1	p/m-Xylene	ND	1.4	0.40	U	
95-47-6	o-Xylene	ND	0.71	0.21	U	
156-59-2	cis-1,2-Dichloroethene	ND	0.71	0.12	U	
67-64-1	Acetone	13	7.1	3.4		J
78-93-3	2-Butanone	ND	7.1	1.6	U	
104-51-8	n-Butylbenzene	ND	0.71	0.12	U	

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-01	Date Collected	: 05/22/24 10:15
Client ID	: SB-08-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 16:31
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A06	Instrument ID	: VOA123
Sample Amount	: 8.8 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 80
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	0.71	0.10	U	
98-06-6	tert-Butylbenzene	ND	1.4	0.08	U	
103-65-1	n-Propylbenzene	ND	0.71	0.12	U	
108-67-8	1,3,5-Trimethylbenzene	ND	1.4	0.14	U	
95-63-6	1,2,4-Trimethylbenzene	ND	1.4	0.24	U	
123-91-1	1,4-Dioxane	ND	57	25.	U	R

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-02	Date Collected	: 05/22/24 12:05
Client ID	: SB-13-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 16:57
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A07	Instrument ID	: VOA123
Sample Amount	: 6.4 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 84
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	4.6	2.1	U	
75-34-3	1,1-Dichloroethane	ND	0.93	0.13	U	
67-66-3	Chloroform	ND	1.4	0.13	U	
56-23-5	Carbon tetrachloride	ND	0.93	0.21	U	
127-18-4	Tetrachloroethene	ND	0.46	0.18	U	
108-90-7	Chlorobenzene	ND	0.46	0.12	U	
107-06-2	1,2-Dichloroethane	ND	0.93	0.24	U	UJ
71-55-6	1,1,1-Trichloroethane	ND	0.46	0.15	U	
71-43-2	Benzene	ND	0.46	0.15	U	
108-88-3	Toluene	ND	0.93	0.50	U	
100-41-4	Ethylbenzene	ND	0.93	0.13	U	
75-01-4	Vinyl chloride	ND	0.93	0.31	U	
75-35-4	1,1-Dichloroethene	ND	0.93	0.22	U	
156-60-5	trans-1,2-Dichloroethene	ND	1.4	0.13	U	
79-01-6	Trichloroethene	ND	0.46	0.13	U	
95-50-1	1,2-Dichlorobenzene	ND	1.8	0.13	U	
541-73-1	1,3-Dichlorobenzene	ND	1.8	0.14	U	
106-46-7	1,4-Dichlorobenzene	ND	1.8	0.16	U	
1634-04-4	Methyl tert butyl ether	ND	1.8	0.19	U	
179601-23-1	p/m-Xylene	ND	1.8	0.52	U	
95-47-6	o-Xylene	ND	0.93	0.27	U	
156-59-2	cis-1,2-Dichloroethene	ND	0.93	0.16	U	
67-64-1	Acetone	ND	9.3	4.4	U	UJ
78-93-3	2-Butanone	ND	9.3	2.0	U	
104-51-8	n-Butylbenzene	ND	0.93	0.15	U	

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-02	Date Collected	: 05/22/24 12:05
Client ID	: SB-13-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 16:57
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A07	Instrument ID	: VOA123
Sample Amount	: 6.4 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 84
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	0.93	0.14	U	
98-06-6	tert-Butylbenzene	ND	1.8	0.11	U	
103-65-1	n-Propylbenzene	ND	0.93	0.16	U	
108-67-8	1,3,5-Trimethylbenzene	ND	1.8	0.18	U	
95-63-6	1,2,4-Trimethylbenzene	ND	1.8	0.31	U	
123-91-1	1,4-Dioxane	~~ND~~	74	32.	U	R

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Results Summary
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Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-03	Date Collected	: 05/22/24 14:30
Client ID	: SB-12-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 17:23
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A08	Instrument ID	: VOA123
Sample Amount	: 5.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 82
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	5.4	2.4	U	
75-34-3	1,1-Dichloroethane	ND	1.1	0.16	U	
67-66-3	Chloroform	ND	1.6	0.15	U	
56-23-5	Carbon tetrachloride	ND	1.1	0.25	U	
127-18-4	Tetrachloroethene	ND	0.54	0.21	U	
108-90-7	Chlorobenzene	ND	0.54	0.14	U	
107-06-2	1,2-Dichloroethane	ND	1.1	0.28	U	UJ
71-55-6	1,1,1-Trichloroethane	ND	0.54	0.18	U	
71-43-2	Benzene	ND	0.54	0.18	U	
108-88-3	Toluene	ND	1.1	0.58	U	
100-41-4	Ethylbenzene	ND	1.1	0.15	U	
75-01-4	Vinyl chloride	ND	1.1	0.36	U	
75-35-4	1,1-Dichloroethene	ND	1.1	0.25	U	
156-60-5	trans-1,2-Dichloroethene	ND	1.6	0.15	U	
79-01-6	Trichloroethene	ND	0.54	0.15	U	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.15	U	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.16	U	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.18	U	
1634-04-4	Methyl tert butyl ether	ND	2.1	0.22	U	
179601-23-1	p/m-Xylene	ND	2.1	0.60	U	
95-47-6	o-Xylene	ND	1.1	0.31	U	
156-59-2	cis-1,2-Dichloroethene	ND	1.1	0.19	U	
67-64-1	Acetone	7.2	11	5.1	J	J
78-93-3	2-Butanone	ND	11	2.4	U	
104-51-8	n-Butylbenzene	ND	1.1	0.18	U	

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Results Summary
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Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-03	Date Collected	: 05/22/24 14:30
Client ID	: SB-12-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 17:23
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A08	Instrument ID	: VOA123
Sample Amount	: 5.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 82
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	1.1	0.16	U	
98-06-6	tert-Butylbenzene	ND	2.1	0.13	U	
103-65-1	n-Propylbenzene	ND	1.1	0.18	U	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.21	U	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.36	U	
123-91-1	1,4-Dioxane	~~ND~~	86	38.	U	R

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Results Summary
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Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-04	Date Collected	: 05/22/24 08:45
Client ID	: SB-08-3FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 23:00
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A21	Instrument ID	: VOA123
Sample Amount	: 5.4 g	GC Column	: RTX-VMS
Level	: HIGH	%Solids	: 81
Extract Volume (MeOH)	: 5 ml	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	340	160	U	
75-34-3	1,1-Dichloroethane	ND	69	10.	U	
67-66-3	Chloroform	ND	100	9.6	U	
56-23-5	Carbon tetrachloride	ND	69	16.	U	
127-18-4	Tetrachloroethene	ND	34	13.	U	
108-90-7	Chlorobenzene	ND	34	8.7	U	
107-06-2	1,2-Dichloroethane	ND	69	18.	U	UJ
71-55-6	1,1,1-Trichloroethane	ND	34	11.	U	
71-43-2	Benzene	ND	34	11.	U	
108-88-3	Toluene	ND	69	37.	U	
100-41-4	Ethylbenzene	ND	69	9.7	U	
75-01-4	Vinyl chloride	ND	69	23.	U	
75-35-4	1,1-Dichloroethene	ND	69	16.	U	
156-60-5	trans-1,2-Dichloroethene	11	100	9.4	J	
79-01-6	Trichloroethene	5600	34	9.4		
95-50-1	1,2-Dichlorobenzene	ND	140	9.9	U	
541-73-1	1,3-Dichlorobenzene	ND	140	10.	U	
106-46-7	1,4-Dichlorobenzene	ND	140	12.	U	
1634-04-4	Methyl tert butyl ether	ND	140	14.	U	
179601-23-1	p/m-Xylene	49	140	38.	J	
95-47-6	o-Xylene	ND	69	20.	U	
156-59-2	cis-1,2-Dichloroethene	12	69	12.	J	
67-64-1	Acetone	ND	690	330	U	UJ
78-93-3	2-Butanone	ND	690	150	U	
104-51-8	n-Butylbenzene	ND	69	11.	U	

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Results Summary
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Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-04	Date Collected	: 05/22/24 08:45
Client ID	: SB-08-3FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 23:00
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A21	Instrument ID	: VOA123
Sample Amount	: 5.4 g	GC Column	: RTX-VMS
Level	: HIGH	%Solids	: 81
Extract Volume (MeOH)	: 5 ml	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	69	10.	U	
98-06-6	tert-Butylbenzene	ND	140	8.1	U	
103-65-1	n-Propylbenzene	ND	69	12.	U	
108-67-8	1,3,5-Trimethylbenzene	ND	140	13.	U	
95-63-6	1,2,4-Trimethylbenzene	ND	140	23.	U	
123-91-1	1,4-Dioxane	ND	5500	2400	U	R

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Results Summary
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Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-05	Date Collected	: 05/22/24 08:45
Client ID	: DUP-B-20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 23:26
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A22	Instrument ID	: VOA123
Sample Amount	: 5.5 g	GC Column	: RTX-VMS
Level	: HIGH	%Solids	: 82
Extract Volume (MeOH)	: 5 ml	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	330	150	U	
75-34-3	1,1-Dichloroethane	ND	67	9.7	U	
67-66-3	Chloroform	ND	100	9.4	U	
56-23-5	Carbon tetrachloride	ND	67	15.	U	
127-18-4	Tetrachloroethene	ND	33	13.	U	
108-90-7	Chlorobenzene	ND	33	8.5	U	
107-06-2	1,2-Dichloroethane	ND	67	17.	U	UJ
71-55-6	1,1,1-Trichloroethane	ND	33	11.	U	
71-43-2	Benzene	ND	33	11.	U	
108-88-3	Toluene	ND	67	36.	U	
100-41-4	Ethylbenzene	ND	67	9.4	U	
75-01-4	Vinyl chloride	ND	67	22.	U	
75-35-4	1,1-Dichloroethene	ND	67	16.	U	
156-60-5	trans-1,2-Dichloroethene	29	100	9.2	J	
79-01-6	Trichloroethene	7200	33	9.2		
95-50-1	1,2-Dichlorobenzene	ND	130	9.6	U	
541-73-1	1,3-Dichlorobenzene	ND	130	9.9	U	
106-46-7	1,4-Dichlorobenzene	ND	130	11.	U	
1634-04-4	Methyl tert butyl ether	ND	130	13.	U	
179601-23-1	p/m-Xylene	ND	130	37.	U	
95-47-6	o-Xylene	ND	67	19.	U	
156-59-2	cis-1,2-Dichloroethene	38	67	12.	J	
67-64-1	Acetone	ND	670	320	U	UJ
78-93-3	2-Butanone	ND	670	150	U	
104-51-8	n-Butylbenzene	ND	67	11.	U	

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Results Summary
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Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-05	Date Collected	: 05/22/24 08:45
Client ID	: DUP-B-20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 23:26
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A22	Instrument ID	: VOA123
Sample Amount	: 5.5 g	GC Column	: RTX-VMS
Level	: HIGH	%Solids	: 82
Extract Volume (MeOH)	: 5 ml	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	67	9.8	U	
98-06-6	tert-Butylbenzene	ND	130	7.9	U	
103-65-1	n-Propylbenzene	ND	67	11.	U	
108-67-8	1,3,5-Trimethylbenzene	ND	130	13.	U	
95-63-6	1,2,4-Trimethylbenzene	ND	130	22.	U	
123-91-1	1,4-Dioxane	ND	5400	2300	U	R

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Results Summary
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Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-06	Date Collected	: 05/22/24 08:30
Client ID	: SB-09-3FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 17:49
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A09	Instrument ID	: VOA123
Sample Amount	: 2.1 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 90
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	13	6.0	U	
75-34-3	1,1-Dichloroethane	ND	2.6	0.38	U	
67-66-3	Chloroform	ND	3.9	0.37	U	
56-23-5	Carbon tetrachloride	ND	2.6	0.60	U	
127-18-4	Tetrachloroethene	ND	1.3	0.51	U	
108-90-7	Chlorobenzene	ND	1.3	0.33	U	
107-06-2	1,2-Dichloroethane	ND	2.6	0.68	U	UJ
71-55-6	1,1,1-Trichloroethane	ND	1.3	0.44	U	
71-43-2	Benzene	ND	1.3	0.44	U	
108-88-3	Toluene	ND	2.6	1.4	U	
100-41-4	Ethylbenzene	ND	2.6	0.37	U	
75-01-4	Vinyl chloride	ND	2.6	0.88	U	
75-35-4	1,1-Dichloroethene	ND	2.6	0.62	U	
156-60-5	trans-1,2-Dichloroethene	ND	3.9	0.36	U	
79-01-6	Trichloroethene	1.0	1.3	0.36	J	
95-50-1	1,2-Dichlorobenzene	ND	5.2	0.38	U	
541-73-1	1,3-Dichlorobenzene	ND	5.2	0.39	U	
106-46-7	1,4-Dichlorobenzene	ND	5.2	0.45	U	
1634-04-4	Methyl tert butyl ether	ND	5.2	0.53	U	
179601-23-1	p/m-Xylene	ND	5.2	1.5	U	
95-47-6	o-Xylene	ND	2.6	0.76	U	
156-59-2	cis-1,2-Dichloroethene	ND	2.6	0.46	U	
67-64-1	Acetone	13	26	13.	J	J
78-93-3	2-Butanone	ND	26	5.8	U	
104-51-8	n-Butylbenzene	ND	2.6	0.44	U	

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Results Summary
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Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-06	Date Collected	: 05/22/24 08:30
Client ID	: SB-09-3FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 17:49
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A09	Instrument ID	: VOA123
Sample Amount	: 2.1 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 90
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	2.6	0.38	U	
98-06-6	tert-Butylbenzene	ND	5.2	0.31	U	
103-65-1	n-Propylbenzene	ND	2.6	0.45	U	
108-67-8	1,3,5-Trimethylbenzene	ND	5.2	0.51	U	
95-63-6	1,2,4-Trimethylbenzene	ND	5.2	0.88	U	
123-91-1	1,4-Dioxane	ND	210	92.	U	R

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-07	Date Collected	: 05/22/24 10:40
Client ID	: SB-09-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 18:15
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A10	Instrument ID	: VOA123
Sample Amount	: 5.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 70
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	6.2	2.8	U	
75-34-3	1,1-Dichloroethane	ND	1.2	0.18	U	
67-66-3	Chloroform	ND	1.9	0.17	U	
56-23-5	Carbon tetrachloride	ND	1.2	0.29	U	
127-18-4	Tetrachloroethene	ND	0.62	0.24	U	
108-90-7	Chlorobenzene	ND	0.62	0.16	U	
107-06-2	1,2-Dichloroethane	ND	1.2	0.32	U	UJ
71-55-6	1,1,1-Trichloroethane	ND	0.62	0.21	U	
71-43-2	Benzene	ND	0.62	0.21	U	
108-88-3	Toluene	ND	1.2	0.68	U	
100-41-4	Ethylbenzene	ND	1.2	0.18	U	
75-01-4	Vinyl chloride	ND	1.2	0.42	U	
75-35-4	1,1-Dichloroethene	ND	1.2	0.30	U	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.17	U	
79-01-6	Trichloroethene	ND	0.62	0.17	U	
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.18	U	
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.18	U	
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.21	U	
1634-04-4	Methyl tert butyl ether	ND	2.5	0.25	U	
179601-23-1	p/m-Xylene	ND	2.5	0.70	U	
95-47-6	o-Xylene	ND	1.2	0.36	U	
156-59-2	cis-1,2-Dichloroethene	ND	1.2	0.22	U	
67-64-1	Acetone	44	12	6.0		J
78-93-3	2-Butanone	12	12	2.8		
104-51-8	n-Butylbenzene	ND	1.2	0.21	U	

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-07	Date Collected	: 05/22/24 10:40
Client ID	: SB-09-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 18:15
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A10	Instrument ID	: VOA123
Sample Amount	: 5.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 70
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	1.2	0.18	U	
98-06-6	tert-Butylbenzene	ND	2.5	0.15	U	
103-65-1	n-Propylbenzene	ND	1.2	0.21	U	
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.24	U	
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.42	U	
123-91-1	1,4-Dioxane	ND	100	44.	U	R

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-08	Date Collected	: 05/22/24 11:20
Client ID	: SB-17-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 18:41
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A11	Instrument ID	: VOA123
Sample Amount	: 7.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 94
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	3.4	1.6	U	
75-34-3	1,1-Dichloroethane	ND	0.69	0.10	U	
67-66-3	Chloroform	ND	1.0	0.10	U	
56-23-5	Carbon tetrachloride	ND	0.69	0.16	U	
127-18-4	Tetrachloroethene	ND	0.34	0.13	U	
108-90-7	Chlorobenzene	ND	0.34	0.09	U	
107-06-2	1,2-Dichloroethane	ND	0.69	0.18	U	UJ
71-55-6	1,1,1-Trichloroethane	ND	0.34	0.11	U	
71-43-2	Benzene	ND	0.34	0.11	U	
108-88-3	Toluene	ND	0.69	0.37	U	
100-41-4	Ethylbenzene	ND	0.69	0.10	U	
75-01-4	Vinyl chloride	ND	0.69	0.23	U	
75-35-4	1,1-Dichloroethene	ND	0.69	0.16	U	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.09	U	
79-01-6	Trichloroethene	ND	0.34	0.09	U	
95-50-1	1,2-Dichlorobenzene	ND	1.4	0.10	U	
541-73-1	1,3-Dichlorobenzene	ND	1.4	0.10	U	
106-46-7	1,4-Dichlorobenzene	ND	1.4	0.12	U	
1634-04-4	Methyl tert butyl ether	ND	1.4	0.14	U	
179601-23-1	p/m-Xylene	ND	1.4	0.38	U	
95-47-6	o-Xylene	ND	0.69	0.20	U	
156-59-2	cis-1,2-Dichloroethene	ND	0.69	0.12	U	
67-64-1	Acetone	ND	6.9	3.3	U	UJ
78-93-3	2-Butanone	ND	6.9	1.5	U	
104-51-8	n-Butylbenzene	ND	0.69	0.11	U	

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-08	Date Collected	: 05/22/24 11:20
Client ID	: SB-17-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 18:41
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A11	Instrument ID	: VOA123
Sample Amount	: 7.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 94
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	0.69	0.10	U	
98-06-6	tert-Butylbenzene	ND	1.4	0.08	U	
103-65-1	n-Propylbenzene	ND	0.69	0.12	U	
108-67-8	1,3,5-Trimethylbenzene	ND	1.4	0.13	U	
95-63-6	1,2,4-Trimethylbenzene	ND	1.4	0.23	U	
123-91-1	1,4-Dioxane	ND	55	24.	U	R

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-09	Date Collected	: 05/22/24 11:30
Client ID	: SB-18-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 19:07
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A12	Instrument ID	: VOA123
Sample Amount	: 3.6 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 85
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	8.0	3.7	U	
75-34-3	1,1-Dichloroethane	ND	1.6	0.23	U	
67-66-3	Chloroform	ND	2.4	0.22	U	
56-23-5	Carbon tetrachloride	ND	1.6	0.37	U	
127-18-4	Tetrachloroethene	ND	0.80	0.32	U	
108-90-7	Chlorobenzene	ND	0.80	0.20	U	
107-06-2	1,2-Dichloroethane	ND	1.6	0.41	U	UJ
71-55-6	1,1,1-Trichloroethane	ND	0.80	0.27	U	
71-43-2	Benzene	ND	0.80	0.27	U	
108-88-3	Toluene	ND	1.6	0.87	U	
100-41-4	Ethylbenzene	ND	1.6	0.23	U	
75-01-4	Vinyl chloride	ND	1.6	0.54	U	
75-35-4	1,1-Dichloroethene	ND	1.6	0.38	U	
156-60-5	trans-1,2-Dichloroethene	ND	2.4	0.22	U	
79-01-6	Trichloroethene	ND	0.80	0.22	U	
95-50-1	1,2-Dichlorobenzene	ND	3.2	0.23	U	
541-73-1	1,3-Dichlorobenzene	ND	3.2	0.24	U	
106-46-7	1,4-Dichlorobenzene	ND	3.2	0.28	U	
1634-04-4	Methyl tert butyl ether	ND	3.2	0.32	U	
179601-23-1	p/m-Xylene	ND	3.2	0.90	U	
95-47-6	o-Xylene	ND	1.6	0.47	U	
156-59-2	cis-1,2-Dichloroethene	ND	1.6	0.28	U	
67-64-1	Acetone	ND	16	7.7	U	UJ
78-93-3	2-Butanone	ND	16	3.6	U	
104-51-8	n-Butylbenzene	ND	1.6	0.27	U	

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-09	Date Collected	: 05/22/24 11:30
Client ID	: SB-18-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 19:07
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A12	Instrument ID	: VOA123
Sample Amount	: 3.6 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 85
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	1.6	0.24	U	
98-06-6	tert-Butylbenzene	ND	3.2	0.19	U	
103-65-1	n-Propylbenzene	ND	1.6	0.28	U	
108-67-8	1,3,5-Trimethylbenzene	ND	3.2	0.31	U	
95-63-6	1,2,4-Trimethylbenzene	ND	3.2	0.54	U	
123-91-1	1,4-Dioxane	ND	130	56.	U	R

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-10	Date Collected	: 05/22/24 11:35
Client ID	: SB-18-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 19:33
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A13	Instrument ID	: VOA123
Sample Amount	: 4.8 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 84
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	6.2	2.8	U	
75-34-3	1,1-Dichloroethane	ND	1.2	0.18	U	
67-66-3	Chloroform	ND	1.8	0.17	U	
56-23-5	Carbon tetrachloride	ND	1.2	0.28	U	
127-18-4	Tetrachloroethene	ND	0.62	0.24	U	
108-90-7	Chlorobenzene	ND	0.62	0.16	U	
107-06-2	1,2-Dichloroethane	ND	1.2	0.32	U	UJ
71-55-6	1,1,1-Trichloroethane	ND	0.62	0.21	U	
71-43-2	Benzene	ND	0.62	0.20	U	
108-88-3	Toluene	ND	1.2	0.67	U	
100-41-4	Ethylbenzene	ND	1.2	0.17	U	
75-01-4	Vinyl chloride	ND	1.2	0.41	U	
75-35-4	1,1-Dichloroethene	ND	1.2	0.29	U	
156-60-5	trans-1,2-Dichloroethene	ND	1.8	0.17	U	
79-01-6	Trichloroethene	ND	0.62	0.17	U	
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.18	U	
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.18	U	
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.21	U	
1634-04-4	Methyl tert butyl ether	ND	2.5	0.25	U	
179601-23-1	p/m-Xylene	ND	2.5	0.69	U	
95-47-6	o-Xylene	ND	1.2	0.36	U	
156-59-2	cis-1,2-Dichloroethene	ND	1.2	0.22	U	
67-64-1	Acetone	ND	12	5.9	U	UJ
78-93-3	2-Butanone	ND	12	2.7	U	
104-51-8	n-Butylbenzene	ND	1.2	0.21	U	

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Results Summary
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Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-10	Date Collected	: 05/22/24 11:35
Client ID	: SB-18-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 19:33
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A13	Instrument ID	: VOA123
Sample Amount	: 4.8 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 84
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	1.2	0.18	U	
98-06-6	tert-Butylbenzene	ND	2.5	0.14	U	
103-65-1	n-Propylbenzene	ND	1.2	0.21	U	
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.24	U	
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.41	U	
123-91-1	1,4-Dioxane	~~ND~~	99	43.	U	R

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-11	Date Collected	: 05/22/24 12:00
Client ID	: SB-13-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 19:59
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A14	Instrument ID	: VOA123
Sample Amount	: 4.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 82
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	6.5	3.0	U	
75-34-3	1,1-Dichloroethane	ND	1.3	0.19	U	
67-66-3	Chloroform	ND	1.9	0.18	U	
56-23-5	Carbon tetrachloride	ND	1.3	0.30	U	
127-18-4	Tetrachloroethene	ND	0.65	0.25	U	
108-90-7	Chlorobenzene	ND	0.65	0.16	U	
107-06-2	1,2-Dichloroethane	ND	1.3	0.33	U	UJ
71-55-6	1,1,1-Trichloroethane	ND	0.65	0.22	U	
71-43-2	Benzene	ND	0.65	0.22	U	
108-88-3	Toluene	ND	1.3	0.70	U	
100-41-4	Ethylbenzene	ND	1.3	0.18	U	
75-01-4	Vinyl chloride	ND	1.3	0.43	U	
75-35-4	1,1-Dichloroethene	ND	1.3	0.31	U	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.18	U	
79-01-6	Trichloroethene	ND	0.65	0.18	U	
95-50-1	1,2-Dichlorobenzene	ND	2.6	0.19	U	
541-73-1	1,3-Dichlorobenzene	ND	2.6	0.19	U	
106-46-7	1,4-Dichlorobenzene	ND	2.6	0.22	U	
1634-04-4	Methyl tert butyl ether	ND	2.6	0.26	U	
179601-23-1	p/m-Xylene	ND	2.6	0.73	U	
95-47-6	o-Xylene	ND	1.3	0.38	U	
156-59-2	cis-1,2-Dichloroethene	ND	1.3	0.23	U	
67-64-1	Acetone	ND	13	6.2	U	UJ
78-93-3	2-Butanone	ND	13	2.9	U	
104-51-8	n-Butylbenzene	ND	1.3	0.22	U	

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-11	Date Collected	: 05/22/24 12:00
Client ID	: SB-13-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 19:59
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A14	Instrument ID	: VOA123
Sample Amount	: 4.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 82
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	1.3	0.19	U	
98-06-6	tert-Butylbenzene	ND	2.6	0.15	U	
103-65-1	n-Propylbenzene	ND	1.3	0.22	U	
108-67-8	1,3,5-Trimethylbenzene	ND	2.6	0.25	U	
95-63-6	1,2,4-Trimethylbenzene	ND	2.6	0.43	U	
123-91-1	1,4-Dioxane	ND	100	46.	U	R

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Results Summary
Form 1
Volatile Organics by EPA 5035 High

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-12	Date Collected	: 05/22/24 13:30
Client ID	: SB-11-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 23:52
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A23	Instrument ID	: VOA123
Sample Amount	: 5.6 g	GC Column	: RTX-VMS
Level	: HIGH	%Solids	: 88
Extract Volume (MeOH)	: 5 ml	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	290	130	U	
75-34-3	1,1-Dichloroethane	ND	58	8.4	U	
67-66-3	Chloroform	ND	86	8.1	U	
56-23-5	Carbon tetrachloride	ND	58	13.	U	
127-18-4	Tetrachloroethene	ND	29	11.	U	
108-90-7	Chlorobenzene	ND	29	7.3	U	
107-06-2	1,2-Dichloroethane	ND	58	15.	U	UJ
71-55-6	1,1,1-Trichloroethane	ND	29	9.6	U	
71-43-2	Benzene	ND	29	9.6	U	
108-88-3	Toluene	80	58	31.		J
100-41-4	Ethylbenzene	16	58	8.1	J	
75-01-4	Vinyl chloride	ND	58	19.	U	
75-35-4	1,1-Dichloroethene	ND	58	14.	U	
156-60-5	trans-1,2-Dichloroethene	ND	86	7.9	U	
79-01-6	Trichloroethene	1700	29	7.9		J
95-50-1	1,2-Dichlorobenzene	ND	120	8.3	U	
541-73-1	1,3-Dichlorobenzene	ND	120	8.5	U	
106-46-7	1,4-Dichlorobenzene	ND	120	9.9	U	
1634-04-4	Methyl tert butyl ether	ND	120	12.	U	
179601-23-1	p/m-Xylene	86	120	32.	J	
95-47-6	o-Xylene	71	58	17.		J
156-59-2	cis-1,2-Dichloroethene	ND	58	10.	U	
67-64-1	Acetone	ND	580	280	U	UJ
78-93-3	2-Butanone	ND	580	130	U	
104-51-8	n-Butylbenzene	ND	58	9.6	U	

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Results Summary
Form 1
Volatile Organics by EPA 5035 High

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-12	Date Collected	: 05/22/24 13:30
Client ID	: SB-11-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 23:52
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A23	Instrument ID	: VOA123
Sample Amount	: 5.6 g	GC Column	: RTX-VMS
Level	: HIGH	%Solids	: 88
Extract Volume (MeOH)	: 5 ml	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	8.7	58	8.4	J	
98-06-6	tert-Butylbenzene	ND	120	6.8	U	
103-65-1	n-Propylbenzene	17	58	9.9	J	
108-67-8	1,3,5-Trimethylbenzene	12	120	11.	J	
95-63-6	1,2,4-Trimethylbenzene	53	120	19.	J	
123-91-1	1,4-Dioxane	ND	4600	2000	U	R

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-12	Date Collected	: 05/22/24 13:30
Client ID	: SB-11-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/29/24 17:00
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V23240529A23	Instrument ID	: VOA123
Sample Amount	: 5.6 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 88
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/Kg Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	5.1	2.3	U	
75-34-3	1,1-Dichloroethane	ND	1.0	0.15	U	UJ
67-66-3	Chloroform	ND	1.5	0.14	U	UJ
56-23-5	Carbon tetrachloride	ND	1.0	0.24	U	
127-18-4	Tetrachloroethene	ND	0.51	0.20	U	
108-90-7	Chlorobenzene	ND	0.51	0.13	U	
107-06-2	1,2-Dichloroethane	ND	1.0	0.26	U	UJ
71-55-6	1,1,1-Trichloroethane	ND	0.51	0.17	U	
71-43-2	Benzene	ND	0.51	0.17	U	
108-88-3	Toluene	ND	1.0	0.56	U	UJ
100-41-4	Ethylbenzene	ND	1.0	0.14	U	
75-01-4	Vinyl chloride	ND	1.0	0.34	U	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	U	
156-60-5	trans-1,2-Dichloroethene	ND	1.5	0.14	U	
79-01-6	Trichloroethene	11	0.51	0.14		J
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.15	U	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.15	U	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.17	U	
1634-04-4	Methyl tert butyl ether	ND	2.0	0.20	U	
179601-23-1	p/m-Xylene	ND	2.0	0.57	U	
95-47-6	o-Xylene	ND	1.0	0.30	U	UJ
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.18	U	
67-64-1	Acetone	5.9	10	4.9	J	J
78-93-3	2-Butanone	ND	10	2.3	U	
104-51-8	n-Butylbenzene	ND	1.0	0.17	U	

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-12	Date Collected	: 05/22/24 13:30
Client ID	: SB-11-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/29/24 17:00
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V23240529A23	Instrument ID	: VOA123
Sample Amount	: 5.6 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 88
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	1.0	0.15	U	
98-06-6	tert-Butylbenzene	ND	2.0	0.12	U	
103-65-1	n-Propylbenzene	ND	1.0	0.17	U	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	U	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.34	U	
123-91-1	1,4-Dioxane	ND	82	36.	U	R

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-13	Date Collected	: 05/22/24 13:35
Client ID	: SB-11-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 20:25
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A15	Instrument ID	: VOA123
Sample Amount	: 6.5 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 87
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	4.4	2.0	U	UJ
75-34-3	1,1-Dichloroethane	ND	0.88	0.13	U	
67-66-3	Chloroform	ND	1.3	0.12	U	
56-23-5	Carbon tetrachloride	ND	0.88	0.20	U	
127-18-4	Tetrachloroethene	ND	0.44	0.17	U	
108-90-7	Chlorobenzene	ND	0.44	0.11	U	
107-06-2	1,2-Dichloroethane	ND	0.88	0.23	U	
71-55-6	1,1,1-Trichloroethane	ND	0.44	0.15	U	
71-43-2	Benzene	ND	0.44	0.15	U	
108-88-3	Toluene	ND	0.88	0.48	U	
100-41-4	Ethylbenzene	ND	0.88	0.12	U	
75-01-4	Vinyl chloride	ND	0.88	0.30	U	
75-35-4	1,1-Dichloroethene	ND	0.88	0.21	U	
156-60-5	trans-1,2-Dichloroethene	ND	1.3	0.12	U	
79-01-6	Trichloroethene	ND	0.44	0.12	U	
95-50-1	1,2-Dichlorobenzene	ND	1.8	0.13	U	
541-73-1	1,3-Dichlorobenzene	ND	1.8	0.13	U	
106-46-7	1,4-Dichlorobenzene	ND	1.8	0.15	U	
1634-04-4	Methyl tert butyl ether	ND	1.8	0.18	U	
179601-23-1	p/m-Xylene	ND	1.8	0.50	U	
95-47-6	o-Xylene	ND	0.88	0.26	U	
156-59-2	cis-1,2-Dichloroethene	0.17	0.88	0.16	J	J
67-64-1	Acetone	ND	8.8	4.3	U	UJ
78-93-3	2-Butanone	ND	8.8	2.0	U	UJ
104-51-8	n-Butylbenzene	ND	0.88	0.15	U	UJ

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-13	Date Collected	: 05/22/24 13:35
Client ID	: SB-11-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 20:25
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A15	Instrument ID	: VOA123
Sample Amount	: 6.5 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 87
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	0.88	0.13	U	UJ
98-06-6	tert-Butylbenzene	ND	1.8	0.10	U	
103-65-1	n-Propylbenzene	ND	0.88	0.15	U	
108-67-8	1,3,5-Trimethylbenzene	ND	1.8	0.17	U	
95-63-6	1,2,4-Trimethylbenzene	ND	1.8	0.30	U	
123-91-1	1,4-Dioxane	~~ND~~	71	31.	U	R

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-14	Date Collected	: 05/22/24 14:35
Client ID	: SB-12-8FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 20:51
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A16	Instrument ID	: VOA123
Sample Amount	: 6.4 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 82
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	4.8	2.2	U	
75-34-3	1,1-Dichloroethane	ND	0.95	0.14	U	
67-66-3	Chloroform	ND	1.4	0.13	U	
56-23-5	Carbon tetrachloride	ND	0.95	0.22	U	
127-18-4	Tetrachloroethene	ND	0.48	0.19	U	
108-90-7	Chlorobenzene	ND	0.48	0.12	U	
107-06-2	1,2-Dichloroethane	ND	0.95	0.24	U	UJ
71-55-6	1,1,1-Trichloroethane	ND	0.48	0.16	U	
71-43-2	Benzene	ND	0.48	0.16	U	
108-88-3	Toluene	ND	0.95	0.52	U	
100-41-4	Ethylbenzene	ND	0.95	0.13	U	
75-01-4	Vinyl chloride	ND	0.95	0.32	U	
75-35-4	1,1-Dichloroethene	ND	0.95	0.23	U	
156-60-5	trans-1,2-Dichloroethene	ND	1.4	0.13	U	
79-01-6	Trichloroethene	ND	0.48	0.13	U	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.14	U	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.14	U	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.16	U	
1634-04-4	Methyl tert butyl ether	ND	1.9	0.19	U	
179601-23-1	p/m-Xylene	ND	1.9	0.53	U	
95-47-6	o-Xylene	ND	0.95	0.28	U	
156-59-2	cis-1,2-Dichloroethene	ND	0.95	0.17	U	
67-64-1	Acetone	ND	9.5	4.6	U	UJ
78-93-3	2-Butanone	ND	9.5	2.1	U	
104-51-8	n-Butylbenzene	ND	0.95	0.16	U	

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-14	Date Collected	: 05/22/24 14:35
Client ID	: SB-12-8FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/26/24 20:51
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: JIC
Lab File ID	: V23240526A16	Instrument ID	: VOA123
Sample Amount	: 6.4 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 82
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	0.95	0.14	U	
98-06-6	tert-Butylbenzene	ND	1.9	0.11	U	
103-65-1	n-Propylbenzene	ND	0.95	0.16	U	
108-67-8	1,3,5-Trimethylbenzene	ND	1.9	0.18	U	
95-63-6	1,2,4-Trimethylbenzene	ND	1.9	0.32	U	
123-91-1	1,4-Dioxane	~~ND~~	76	34.	U	R

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GC/MS TCLP Method 8270 Analysis

Results Summary
Form 1
TCLP Semivolatiles by EPA 1311

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-15	Date Collected	: 05/22/24 13:30
Client ID	: WC-01-20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/29/24 03:22
Sample Matrix	: SOIL	Date Extracted	: 05/26/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28514-15	Analyst	: IM
Sample Amount	: 200 ml	Instrument ID	: GCMS5
Extraction Method	: EPA 3510C	GC Column	: RTX-5
Extract Volume	: 1000 uL	%Solids	: 90
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
118-74-1	Hexachlorobenzene	ND	10	3.4	U	
121-14-2	2,4-Dinitrotoluene	ND	25	1.9	U	
87-68-3	Hexachlorobutadiene	ND	10	3.0	U	
67-72-1	Hexachloroethane	ND	10	2.2	U	
98-95-3	Nitrobenzene	ND	10	3.3	U	
88-06-2	2,4,6-Trichlorophenol	ND	25	2.5	U	
87-86-5	Pentachlorophenol	ND	50	9.8	U	
95-48-7	2-Methylphenol	ND	25	5.5	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	25	2.8	U	
95-95-4	2,4,5-Trichlorophenol	ND	25	1.9	U	
110-86-1	Pyridine	ND	18	4.5	U	UJ

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Semivolatiles Data- Method 8270

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-01	Date Collected	: 05/22/24 10:15
Client ID	: SB-08-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/30/24 01:37
Sample Matrix	: SOIL	Date Extracted	: 05/27/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28514-01	Analyst	: SZ
Sample Amount	: 30.33 g	Instrument ID	: MINDY
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 80
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	160	21.	U	
118-74-1	Hexachlorobenzene	ND	120	23.	U	
206-44-0	Fluoranthene	ND	120	24.	U	
91-20-3	Naphthalene	ND	200	25.	U	
56-55-3	Benzo(a)anthracene	ND	120	23.	U	
50-32-8	Benzo(a)pyrene	ND	160	50.	U	
205-99-2	Benzo(b)fluoranthene	ND	120	34.	U	
207-08-9	Benzo(k)fluoranthene	ND	120	33.	U	
218-01-9	Chrysene	ND	120	21.	U	
208-96-8	Acenaphthylene	ND	160	32.	U	
120-12-7	Anthracene	ND	120	40.	U	
191-24-2	Benzo(ghi)perylene	ND	160	24.	U	
86-73-7	Fluorene	ND	200	20.	U	
85-01-8	Phenanthrene	ND	120	25.	U	
53-70-3	Dibenzo(a,h)anthracene	ND	120	24.	U	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	160	29.	U	
129-00-0	Pyrene	ND	120	20.	U	
132-64-9	Dibenzofuran	ND	200	19.	U	
87-86-5	Pentachlorophenol	ND	160	45.	U	UJ
108-95-2	Phenol	ND	200	31.	U	
95-48-7	2-Methylphenol	ND	200	32.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	300	32.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-01	**Date Collected**	: 05/22/24 10:15
Client ID	: SB-08-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 01:37
Sample Matrix	: SOIL	**Date Extracted**	: 05/27/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 1
Lab File ID	: 28514-01	**Analyst**	: SZ
Sample Amount	: 30.33 g	**Instrument ID**	: MINDY
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 80
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	31	9.4	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-02	Date Collected	: 05/22/24 12:05
Client ID	: SB-13-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/30/24 02:00
Sample Matrix	: SOIL	Date Extracted	: 05/27/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28514-02	Analyst	: SZ
Sample Amount	: 30.31 g	Instrument ID	: MINDY
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	ND	160	20.	U
118-74-1	Hexachlorobenzene	ND	120	22.	U
206-44-0	Fluoranthene	ND	120	22.	U
91-20-3	Naphthalene	ND	200	24.	U
56-55-3	Benzo(a)anthracene	ND	120	22.	U
50-32-8	Benzo(a)pyrene	ND	160	48.	U
205-99-2	Benzo(b)fluoranthene	ND	120	33.	U
207-08-9	Benzo(k)fluoranthene	ND	120	31.	U
218-01-9	Chrysene	ND	120	20.	U
208-96-8	Acenaphthylene	ND	160	30.	U
120-12-7	Anthracene	ND	120	38.	U
191-24-2	Benzo(ghi)perylene	ND	160	23.	U
86-73-7	Fluorene	ND	200	19.	U
85-01-8	Phenanthrene	ND	120	24.	U
53-70-3	Dibenzo(a,h)anthracene	ND	120	23.	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	160	27.	U
129-00-0	Pyrene	ND	120	19.	U
132-64-9	Dibenzofuran	ND	200	18.	U
87-86-5	Pentachlorophenol	ND	160	43.	U UJ
108-95-2	Phenol	ND	200	30.	U
95-48-7	2-Methylphenol	ND	200	30.	U
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	280	31.	U

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-02	**Date Collected**	: 05/22/24 12:05
Client ID	: SB-13-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 02:00
Sample Matrix	: SOIL	**Date Extracted**	: 05/27/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 1
Lab File ID	: 28514-02	**Analyst**	: SZ
Sample Amount	: 30.31 g	**Instrument ID**	: MINDY
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	29	9.0	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-03	Date Collected	: 05/22/24 14:30
Client ID	: SB-12-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/30/24 06:56
Sample Matrix	: SOIL	Date Extracted	: 05/27/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28514-03	Analyst	: SZ
Sample Amount	: 30.53 g	Instrument ID	: MINDY
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 82
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	84	160	20.	J	
118-74-1	Hexachlorobenzene	ND	120	22.	U	
206-44-0	Fluoranthene	1400	120	23.		
91-20-3	Naphthalene	53	200	24.	J	
56-55-3	Benzo(a)anthracene	640	120	22.		
50-32-8	Benzo(a)pyrene	500	160	48.		
205-99-2	Benzo(b)fluoranthene	670	120	33.		
207-08-9	Benzo(k)fluoranthene	180	120	32.		
218-01-9	Chrysene	590	120	21.		
208-96-8	Acenaphthylene	45	160	31.	J	
120-12-7	Anthracene	230	120	39.		
191-24-2	Benzo(ghi)perylene	290	160	23.		
86-73-7	Fluorene	120	200	19.	J	
85-01-8	Phenanthrene	910	120	24.		
53-70-3	Dibenzo(a,h)anthracene	84	120	23.	J	
193-39-5	Indeno(1,2,3-cd)pyrene	310	160	28.		
129-00-0	Pyrene	1100	120	20.		
132-64-9	Dibenzofuran	56	200	19.	J	
87-86-5	Pentachlorophenol	ND	160	44.	U	UJ
108-95-2	Phenol	ND	200	30.	U	
95-48-7	2-Methylphenol	ND	200	31.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	290	31.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-03	**Date Collected**	: 05/22/24 14:30
Client ID	: SB-12-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 06:56
Sample Matrix	: SOIL	**Date Extracted**	: 05/27/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 1
Lab File ID	: 28514-03	**Analyst**	: SZ
Sample Amount	: 30.53 g	**Instrument ID**	: MINDY
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	30	9.1	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-04	Date Collected	: 05/22/24 08:45
Client ID	: SB-08-3FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/30/24 07:18
Sample Matrix	: SOIL	Date Extracted	: 05/27/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28514-04	Analyst	: SZ
Sample Amount	: 30.4 g	Instrument ID	: MINDY
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 81
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	330	160	21.		J
118-74-1	Hexachlorobenzene	ND	120	23.	U	
206-44-0	Fluoranthene	4700	120	23.		J
91-20-3	Naphthalene	280	200	25.		J
56-55-3	Benzo(a)anthracene	2300	120	23.		J
50-32-8	Benzo(a)pyrene	1800	160	49.		J
205-99-2	Benzo(b)fluoranthene	2400	120	34.		J
207-08-9	Benzo(k)fluoranthene	640	120	32.		J
218-01-9	Chrysene	2100	120	21.		J
208-96-8	Acenaphthylene	160	160	31.		
120-12-7	Anthracene	900	120	40.		J
191-24-2	Benzo(ghi)perylene	1000	160	24.		J
86-73-7	Fluorene	430	200	20.		J
85-01-8	Phenanthrene	3600	120	25.		J
53-70-3	Dibenzo(a,h)anthracene	300	120	23.		J
193-39-5	Indeno(1,2,3-cd)pyrene	1100	160	28.		J
129-00-0	Pyrene	3900	120	20.		J
132-64-9	Dibenzofuran	240	200	19.		J
87-86-5	Pentachlorophenol	ND	160	45.	U	UJ
108-95-2	Phenol	ND	200	31.	U	
95-48-7	2-Methylphenol	ND	200	31.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	290	32.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-04	**Date Collected**	: 05/22/24 08:45
Client ID	: SB-08-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 07:18
Sample Matrix	: SOIL	**Date Extracted**	: 05/27/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 1
Lab File ID	: 28514-04	**Analyst**	: SZ
Sample Amount	: 30.4 g	**Instrument ID**	: MINDY
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	30	9.3	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-05D	Date Collected	: 05/22/24 08:45
Client ID	: DUP-B-20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/31/24 00:19
Sample Matrix	: SOIL	Date Extracted	: 05/27/24
Analytical Method	: 1,8270E	Dilution Factor	: 10
Lab File ID	: 25514-05	Analyst	: SZ
Sample Amount	: 30.36 g	Instrument ID	: MINDY
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 82
GPC Cleanup	: N	Injection Volume	: 1 uL

CAS NO.	Parameter	ug/Kg Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	2700	1600	210		J
118-74-1	Hexachlorobenzene	ND	1200	230	U	
206-44-0	Fluoranthene	26000	1200	230		J
91-20-3	Naphthalene	3900	2000	240		J
56-55-3	Benzo(a)anthracene	12000	1200	230		J
50-32-8	Benzo(a)pyrene	8900	1600	490		J
205-99-2	Benzo(b)fluoranthene	11000	1200	340		J
207-08-9	Benzo(k)fluoranthene	3900	1200	320		J
218-01-9	Chrysene	11000	1200	210		J
208-96-8	Acenaphthylene	ND	1600	310	U	
120-12-7	Anthracene	7600	1200	390		J
191-24-2	Benzo(ghi)perylene	4700	1600	240		J
86-73-7	Fluorene	3500	2000	200		J
85-01-8	Phenanthrene	27000	1200	240		J
53-70-3	Dibenzo(a,h)anthracene	1400	1200	230		J
193-39-5	Indeno(1,2,3-cd)pyrene	5100	1600	280		J
129-00-0	Pyrene	21000	1200	200		J
132-64-9	Dibenzofuran	1800	2000	190	J	J
87-86-5	Pentachlorophenol	ND	1600	440	U	
108-95-2	Phenol	ND	2000	300	U	
95-48-7	2-Methylphenol	ND	2000	310	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	2900	320	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-05D	**Date Collected**	: 05/22/24 08:45
Client ID	: DUP-B-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/31/24 00:19
Sample Matrix	: SOIL	**Date Extracted**	: 05/27/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 10
Lab File ID	: 25514-05	**Analyst**	: SZ
Sample Amount	: 30.36 g	**Instrument ID**	: MINDY
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	300	93.	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-06D	Date Collected	: 05/22/24 08:30
Client ID	: SB-09-3FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/30/24 10:20
Sample Matrix	: SOIL	Date Extracted	: 05/27/24
Analytical Method	: 1,8270E	Dilution Factor	: 5
Lab File ID	: 28514-06	Analyst	: SZ
Sample Amount	: 30.21 g	Instrument ID	: MINDY
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 90
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	470	730	95.	J	
118-74-1	Hexachlorobenzene	ND	550	100	U	
206-44-0	Fluoranthene	17000	550	100		
91-20-3	Naphthalene	500	920	110	J	
56-55-3	Benzo(a)anthracene	8400	550	100		
50-32-8	Benzo(a)pyrene	6800	730	220		
205-99-2	Benzo(b)fluoranthene	9400	550	150		
207-08-9	Benzo(k)fluoranthene	2400	550	150		
218-01-9	Chrysene	7400	550	95.		
208-96-8	Acenaphthylene	480	730	140	J	
120-12-7	Anthracene	2700	550	180		
191-24-2	Benzo(ghi)perylene	4200	730	110		
86-73-7	Fluorene	630	920	89.	J	
85-01-8	Phenanthrene	8400	550	110		
53-70-3	Dibenzo(a,h)anthracene	1100	550	110		
193-39-5	Indeno(1,2,3-cd)pyrene	4500	730	130		
129-00-0	Pyrene	13000	550	91.		
132-64-9	Dibenzofuran	480	920	87.	J	
87-86-5	Pentachlorophenol	ND	730	200	U	UJ
108-95-2	Phenol	ND	920	140	U	
95-48-7	2-Methylphenol	ND	920	140	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	1300	140	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-06D	**Date Collected**	: 05/22/24 08:30
Client ID	: SB-09-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 10:20
Sample Matrix	: SOIL	**Date Extracted**	: 05/27/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 5
Lab File ID	: 28514-06	**Analyst**	: SZ
Sample Amount	: 30.21 g	**Instrument ID**	: MINDY
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	140	42.	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-07	Date Collected	: 05/22/24 10:40
Client ID	: SB-09-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/30/24 04:16
Sample Matrix	: SOIL	Date Extracted	: 05/27/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28514-07	Analyst	: SZ
Sample Amount	: 30.67 g	Instrument ID	: MINDY
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 70
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	ND	180	24.	U
118-74-1	Hexachlorobenzene	ND	140	26.	U
206-44-0	Fluoranthene	ND	140	27.	U
91-20-3	Naphthalene	ND	230	28.	U
56-55-3	Benzo(a)anthracene	ND	140	26.	U
50-32-8	Benzo(a)pyrene	ND	180	57.	U
205-99-2	Benzo(b)fluoranthene	ND	140	39.	U
207-08-9	Benzo(k)fluoranthene	ND	140	37.	U
218-01-9	Chrysene	ND	140	24.	U
208-96-8	Acenaphthylene	ND	180	36.	U
120-12-7	Anthracene	ND	140	45.	U
191-24-2	Benzo(ghi)perylene	ND	180	27.	U
86-73-7	Fluorene	ND	230	22.	U
85-01-8	Phenanthrene	ND	140	28.	U
53-70-3	Dibenzo(a,h)anthracene	ND	140	27.	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	180	32.	U
129-00-0	Pyrene	ND	140	23.	U
132-64-9	Dibenzofuran	ND	230	22.	U
87-86-5	Pentachlorophenol	ND	180	51.	U UJ
108-95-2	Phenol	ND	230	35.	U
95-48-7	2-Methylphenol	ND	230	36.	U
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	330	36.	U

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-07	**Date Collected**	: 05/22/24 10:40
Client ID	: SB-09-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 04:16
Sample Matrix	: SOIL	**Date Extracted**	: 05/27/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 1
Lab File ID	: 28514-07	**Analyst**	: SZ
Sample Amount	: 30.67 g	**Instrument ID**	: MINDY
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 70
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	35	11.	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-08	Date Collected	: 05/22/24 11:20
Client ID	: SB-17-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/30/24 05:02
Sample Matrix	: SOIL	Date Extracted	: 05/27/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28514-08	Analyst	: SZ
Sample Amount	: 30.31 g	Instrument ID	: MINDY
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 94
GPC Cleanup	: N	Injection Volume	: 1 uL

CAS NO.	Parameter	ug/Kg Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	140	18.	U	
118-74-1	Hexachlorobenzene	ND	100	20.	U	
206-44-0	Fluoranthene	33	100	20.	J	
91-20-3	Naphthalene	ND	170	21.	U	
56-55-3	Benzo(a)anthracene	ND	100	20.	U	
50-32-8	Benzo(a)pyrene	ND	140	43.	U	
205-99-2	Benzo(b)fluoranthene	ND	100	29.	U	
207-08-9	Benzo(k)fluoranthene	ND	100	28.	U	
218-01-9	Chrysene	ND	100	18.	U	
208-96-8	Acenaphthylene	ND	140	27.	U	
120-12-7	Anthracene	ND	100	34.	U	
191-24-2	Benzo(ghi)perylene	ND	140	20.	U	
86-73-7	Fluorene	ND	170	17.	U	
85-01-8	Phenanthrene	22	100	21.	J	
53-70-3	Dibenzo(a,h)anthracene	ND	100	20.	U	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	140	24.	U	
129-00-0	Pyrene	29	100	17.	J	
132-64-9	Dibenzofuran	ND	170	16.	U	
87-86-5	Pentachlorophenol	ND	140	38.	U	UJ
108-95-2	Phenol	ND	170	26.	U	
95-48-7	2-Methylphenol	ND	170	27.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	250	27.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-08	**Date Collected**	: 05/22/24 11:20
Client ID	: SB-17-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 05:02
Sample Matrix	: SOIL	**Date Extracted**	: 05/27/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 1
Lab File ID	: 28514-08	**Analyst**	: SZ
Sample Amount	: 30.31 g	**Instrument ID**	: MINDY
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 94
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	26	8.0	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-09	Date Collected	: 05/22/24 11:30
Client ID	: SB-18-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/30/24 09:34
Sample Matrix	: SOIL	Date Extracted	: 05/27/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28514-09	Analyst	: SZ
Sample Amount	: 30.4 g	Instrument ID	: MINDY
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 85
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	1900	150	20.		
118-74-1	Hexachlorobenzene	ND	120	22.	U	
206-44-0	Fluoranthene	10000	120	22.	E	J
91-20-3	Naphthalene	2400	190	23.		
56-55-3	Benzo(a)anthracene	5000	120	22.		
50-32-8	Benzo(a)pyrene	4000	150	47.		
205-99-2	Benzo(b)fluoranthene	4800	120	32.		
207-08-9	Benzo(k)fluoranthene	1600	120	31.		
218-01-9	Chrysene	4200	120	20.		
208-96-8	Acenaphthylene	190	150	30.		
120-12-7	Anthracene	3800	120	38.		
191-24-2	Benzo(ghi)perylene	2400	150	23.		
86-73-7	Fluorene	1700	190	19.		
85-01-8	Phenanthrene	9900	120	23.	E	J
53-70-3	Dibenzo(a,h)anthracene	650	120	22.		
193-39-5	Indeno(1,2,3-cd)pyrene	2500	150	27.		
129-00-0	Pyrene	8400	120	19.	E	J
132-64-9	Dibenzofuran	1300	190	18.		
87-86-5	Pentachlorophenol	ND	150	42.	U	UJ
108-95-2	Phenol	ND	190	29.	U	
95-48-7	2-Methylphenol	70	190	30.	J	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	190	280	30.	J	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-09	**Date Collected**	: 05/22/24 11:30
Client ID	: SB-18-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 09:34
Sample Matrix	: SOIL	**Date Extracted**	: 05/27/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 1
Lab File ID	: 28514-09	**Analyst**	: SZ
Sample Amount	: 30.4 g	**Instrument ID**	: MINDY
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	29	8.9	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-09D	**Date Collected**	: 05/22/24 11:30
Client ID	: SB-18-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/31/24 00:42
Sample Matrix	: SOIL	**Date Extracted**	: 05/27/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 5
Lab File ID	: 25514-09	**Analyst**	: SZ
Sample Amount	: 30.4 g	**Instrument ID**	: MINDY
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
206-44-0	Fluoranthene	9300	580	110	
85-01-8	Phenanthrene	9600	580	120	
129-00-0	Pyrene	7600	580	96.	

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-10	Date Collected	: 05/22/24 11:35
Client ID	: SB-18-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/30/24 03:31
Sample Matrix	: SOIL	Date Extracted	: 05/27/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28514-10	Analyst	: SZ
Sample Amount	: 30.81 g	Instrument ID	: MINDY
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 1 uL

CAS NO.	Parameter	ug/Kg Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	150	20.	U	
118-74-1	Hexachlorobenzene	ND	120	22.	U	
206-44-0	Fluoranthene	ND	120	22.	U	
91-20-3	Naphthalene	ND	190	24.	U	
56-55-3	Benzo(a)anthracene	ND	120	22.	U	
50-32-8	Benzo(a)pyrene	ND	150	47.	U	
205-99-2	Benzo(b)fluoranthene	ND	120	32.	U	
207-08-9	Benzo(k)fluoranthene	ND	120	31.	U	
218-01-9	Chrysene	ND	120	20.	U	
208-96-8	Acenaphthylene	ND	150	30.	U	
120-12-7	Anthracene	ND	120	38.	U	
191-24-2	Benzo(ghi)perylene	ND	150	23.	U	
86-73-7	Fluorene	ND	190	19.	U	
85-01-8	Phenanthrene	ND	120	24.	U	
53-70-3	Dibenzo(a,h)anthracene	ND	120	22.	U	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	150	27.	U	
129-00-0	Pyrene	ND	120	19.	U	
132-64-9	Dibenzofuran	ND	190	18.	U	
87-86-5	Pentachlorophenol	ND	150	42.	U	UJ
108-95-2	Phenol	ND	190	29.	U	
95-48-7	2-Methylphenol	ND	190	30.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	280	30.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-10	**Date Collected**	: 05/22/24 11:35
Client ID	: SB-18-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 03:31
Sample Matrix	: SOIL	**Date Extracted**	: 05/27/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 1
Lab File ID	: 28514-10	**Analyst**	: SZ
Sample Amount	: 30.81 g	**Instrument ID**	: MINDY
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	29	8.9	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-11	Date Collected	: 05/22/24 12:00
Client ID	: SB-13-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/30/24 04:39
Sample Matrix	: SOIL	Date Extracted	: 05/27/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28514-11	Analyst	: SZ
Sample Amount	: 30.39 g	Instrument ID	: MINDY
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 82
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	160	21.	U	
118-74-1	Hexachlorobenzene	ND	120	22.	U	
206-44-0	Fluoranthene	100	120	23.	J	
91-20-3	Naphthalene	ND	200	24.	U	
56-55-3	Benzo(a)anthracene	54	120	23.	J	
50-32-8	Benzo(a)pyrene	ND	160	49.	U	
205-99-2	Benzo(b)fluoranthene	56	120	34.	J	
207-08-9	Benzo(k)fluoranthene	ND	120	32.	U	
218-01-9	Chrysene	51	120	21.	J	
208-96-8	Acenaphthylene	ND	160	31.	U	
120-12-7	Anthracene	ND	120	39.	U	
191-24-2	Benzo(ghi)perylene	24	160	24.	J	
86-73-7	Fluorene	ND	200	20.	U	
85-01-8	Phenanthrene	90	120	24.	J	
53-70-3	Dibenzo(a,h)anthracene	ND	120	23.	U	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	160	28.	U	
129-00-0	Pyrene	79	120	20.	J	
132-64-9	Dibenzofuran	ND	200	19.	U	
87-86-5	Pentachlorophenol	ND	160	44.	U	UJ
108-95-2	Phenol	ND	200	30.	U	
95-48-7	2-Methylphenol	ND	200	31.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	290	32.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-11	**Date Collected**	: 05/22/24 12:00
Client ID	: SB-13-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 04:39
Sample Matrix	: SOIL	**Date Extracted**	: 05/27/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 1
Lab File ID	: 28514-11	**Analyst**	: SZ
Sample Amount	: 30.39 g	**Instrument ID**	: MINDY
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	30	9.3	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-12	Date Collected	: 05/22/24 13:30
Client ID	: SB-11-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/30/24 06:33
Sample Matrix	: SOIL	Date Extracted	: 05/27/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28514-12	Analyst	: SZ
Sample Amount	: 30.1 g	Instrument ID	: MINDY
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 88
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	150	20.	U	
118-74-1	Hexachlorobenzene	ND	110	21.	U	
206-44-0	Fluoranthene	250	110	22.		
91-20-3	Naphthalene	84	190	23.	J	
56-55-3	Benzo(a)anthracene	140	110	21.		
50-32-8	Benzo(a)pyrene	120	150	46.	J	
205-99-2	Benzo(b)fluoranthene	170	110	32.		
207-08-9	Benzo(k)fluoranthene	56	110	30.	J	
218-01-9	Chrysene	130	110	20.		
208-96-8	Acenaphthylene	ND	150	29.	U	
120-12-7	Anthracene	ND	110	37.	U	
191-24-2	Benzo(ghi)perylene	81	150	22.	J	
86-73-7	Fluorene	ND	190	18.	U	
85-01-8	Phenanthrene	170	110	23.		
53-70-3	Dibenzo(a,h)anthracene	24	110	22.	J	
193-39-5	Indeno(1,2,3-cd)pyrene	82	150	26.	J	
129-00-0	Pyrene	200	110	19.		
132-64-9	Dibenzofuran	23	190	18.	J	
87-86-5	Pentachlorophenol	ND	150	42.	U	UJ
108-95-2	Phenol	ND	190	28.	U	
95-48-7	2-Methylphenol	ND	190	29.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	270	30.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-12	**Date Collected**	: 05/22/24 13:30
Client ID	: SB-11-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 06:33
Sample Matrix	: SOIL	**Date Extracted**	: 05/27/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 1
Lab File ID	: 28514-12	**Analyst**	: SZ
Sample Amount	: 30.1 g	**Instrument ID**	: MINDY
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	28	8.7	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-13	Date Collected	: 05/22/24 13:35
Client ID	: SB-11-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/30/24 03:08
Sample Matrix	: SOIL	Date Extracted	: 05/27/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28514-13	Analyst	: SZ
Sample Amount	: 30.84 g	Instrument ID	: MINDY
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 87
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	ND	150	19.	U
118-74-1	Hexachlorobenzene	ND	110	21.	U
206-44-0	Fluoranthene	ND	110	21.	U
91-20-3	Naphthalene	ND	190	23.	U
56-55-3	Benzo(a)anthracene	ND	110	21.	U
50-32-8	Benzo(a)pyrene	ND	150	46.	U
205-99-2	Benzo(b)fluoranthene	ND	110	31.	U
207-08-9	Benzo(k)fluoranthene	ND	110	30.	U
218-01-9	Chrysene	ND	110	19.	U
208-96-8	Acenaphthylene	ND	150	29.	U
120-12-7	Anthracene	ND	110	36.	U
191-24-2	Benzo(ghi)perylene	ND	150	22.	U
86-73-7	Fluorene	ND	190	18.	U
85-01-8	Phenanthrene	ND	110	23.	U
53-70-3	Dibenzo(a,h)anthracene	ND	110	22.	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	150	26.	U
129-00-0	Pyrene	ND	110	18.	U
132-64-9	Dibenzofuran	ND	190	18.	U
87-86-5	Pentachlorophenol	ND	150	41.	U UJ
108-95-2	Phenol	ND	190	28.	U
95-48-7	2-Methylphenol	ND	190	29.	U
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	270	29.	U

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-13	**Date Collected**	: 05/22/24 13:35
Client ID	: SB-11-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 03:08
Sample Matrix	: SOIL	**Date Extracted**	: 05/27/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 1
Lab File ID	: 28514-13	**Analyst**	: SZ
Sample Amount	: 30.84 g	**Instrument ID**	: MINDY
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 87
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	28	8.6	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-14	Date Collected	: 05/22/24 14:35
Client ID	: SB-12-8FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/30/24 01:14
Sample Matrix	: SOIL	Date Extracted	: 05/27/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28514-14	Analyst	: SZ
Sample Amount	: 30.95 g	Instrument ID	: MINDY
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 82
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	160	20.	U	
118-74-1	Hexachlorobenzene	ND	120	22.	U	
206-44-0	Fluoranthene	ND	120	23.	U	
91-20-3	Naphthalene	ND	200	24.	U	
56-55-3	Benzo(a)anthracene	ND	120	22.	U	
50-32-8	Benzo(a)pyrene	ND	160	48.	U	
205-99-2	Benzo(b)fluoranthene	ND	120	33.	U	
207-08-9	Benzo(k)fluoranthene	ND	120	32.	U	
218-01-9	Chrysene	ND	120	20.	U	
208-96-8	Acenaphthylene	ND	160	30.	U	
120-12-7	Anthracene	ND	120	38.	U	
191-24-2	Benzo(ghi)perylene	ND	160	23.	U	
86-73-7	Fluorene	ND	200	19.	U	
85-01-8	Phenanthrene	ND	120	24.	U	
53-70-3	Dibenzo(a,h)anthracene	ND	120	23.	U	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	160	28.	U	
129-00-0	Pyrene	ND	120	20.	U	
132-64-9	Dibenzofuran	ND	200	19.	U	
87-86-5	Pentachlorophenol	ND	160	44.	U	UJ
108-95-2	Phenol	ND	200	30.	U	
95-48-7	2-Methylphenol	ND	200	31.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	280	31.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-14	**Date Collected**	: 05/22/24 14:35
Client ID	: SB-12-8FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 01:14
Sample Matrix	: SOIL	**Date Extracted**	: 05/27/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 1
Lab File ID	: 28514-14	**Analyst**	: SZ
Sample Amount	: 30.95 g	**Instrument ID**	: MINDY
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	30	9.1	U

Total Petroleum Hydrocarbons Gasoline Range Organics Analysis

No data validation qualifiers were added

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Results Summary
Form 1
Gasoline Range Organics

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-03	**Date Collected**	: 05/22/24 14:30
Client ID	: SB-12-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/26/24 23:51
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8015D(M)	**Analyst**	: BAD
Lab File ID	: P240526A25	**Instrument ID**	: PVPH
Sample Amount	: 0.1 g	**GC Column**	: RTX 502.2
Level	: LOW	**%Solids**	: 82
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	Gasoline Range Organics	ND	2400	1400	U

Results Summary
Form 1
Gasoline Range Organics

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-04	**Date Collected**	: 05/22/24 08:45
Client ID	: SB-08-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/27/24 01:19
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8015D(M)	**Analyst**	: BAD
Lab File ID	: P240526A28	**Instrument ID**	: PVPH
Sample Amount	: 0.1 g	**GC Column**	: RTX 502.2
Level	: LOW	**%Solids**	: 81
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	Gasoline Range Organics	2400	2800	1600	J

Results Summary
Form 1
Gasoline Range Organics

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-05	**Date Collected**	: 05/22/24 08:45
Client ID	: DUP-B-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/27/24 01:48
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8015D(M)	**Analyst**	: BAD
Lab File ID	: P240526A29	**Instrument ID**	: PVPH
Sample Amount	: 0.1 g	**GC Column**	: RTX 502.2
Level	: LOW	**%Solids**	: 82
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	Gasoline Range Organics	2800	2800	1600	

Results Summary
Form 1
Gasoline Range Organics

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-06	**Date Collected**	: 05/22/24 08:30
Client ID	: SB-09-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/27/24 02:18
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8015D(M)	**Analyst**	: BAD
Lab File ID	: P240526A30	**Instrument ID**	: PVPH
Sample Amount	: 0.08 g	**GC Column**	: RTX 502.2
Level	: LOW	**%Solids**	: 90
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Gasoline Range Organics**	**4300**	**3300**	**1900**	

Results Summary
Form 1
Gasoline Range Organics

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-08	**Date Collected**	: 05/22/24 11:20
Client ID	: SB-17-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/27/24 02:47
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8015D(M)	**Analyst**	: BAD
Lab File ID	: P240526A31	**Instrument ID**	: PVPH
Sample Amount	: 0.1 g	**GC Column**	: RTX 502.2
Level	: LOW	**%Solids**	: 94
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Gasoline Range Organics**	**ND**	**2300**	**1300**	**U**

Results Summary
Form 1
Gasoline Range Organics

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-09	**Date Collected**	: 05/22/24 11:30
Client ID	: SB-18-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/27/24 03:16
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8015D(M)	**Analyst**	: BAD
Lab File ID	: P240526A32	**Instrument ID**	: PVPH
Sample Amount	: 0.07 g	**GC Column**	: RTX 502.2
Level	: LOW	**%Solids**	: 85
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	Gasoline Range Organics	3800	4500	2600	J

Results Summary
Form 1
Gasoline Range Organics

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-11	**Date Collected**	: 05/22/24 12:00
Client ID	: SB-13-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/27/24 04:15
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8015D(M)	**Analyst**	: BAD
Lab File ID	: P240526A34	**Instrument ID**	: PVPH
Sample Amount	: 0.08 g	**GC Column**	: RTX 502.2
Level	: LOW	**%Solids**	: 82
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Gasoline Range Organics**	**ND**	**3600**	**2100**	**U**

Results Summary
Form 1
Gasoline Range Organics

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-12	**Date Collected**	: 05/22/24 13:30
Client ID	: SB-11-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/27/24 04:44
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8015D(M)	**Analyst**	: BAD
Lab File ID	: P240526A35	**Instrument ID**	: PVPH
Sample Amount	: 0.1 g	**GC Column**	: RTX 502.2
Level	: LOW	**%Solids**	: 88
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	Gasoline Range Organics	2500	2500	1500	

TCLP Pesticide Analysis

No data validation qualifiers were added

MKP 7/22/2024

Results Summary
Form 1
TCLP Pesticides by EPA 1311

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-15	**Date Collected**	: 05/22/24 13:30
Client ID	: WC-01-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/27/24 11:52
Sample Matrix	: SOIL	**Date Extracted**	: 05/27/24
Analytical Method	: 1,8081B	**Dilution Factor**	: 1
Lab File ID	: 15240527a-21	**Analyst**	: MMG
Sample Amount	: 100 ml	**Instrument ID**	: PEST15
Extraction Method	: EPA 3510C	**GC Column**	: CLPPesticide
Extract Volume	: 5000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
58-89-9	Lindane	ND	0.100	0.022	U
76-44-8	Heptachlor	ND	0.100	0.016	U
1024-57-3	Heptachlor epoxide	ND	0.100	0.021	U
72-20-8	Endrin	ND	0.200	0.021	U
72-43-5	Methoxychlor	ND	1.00	0.034	U
8001-35-2	Toxaphene	ND	1.00	0.314	U
57-74-9	Chlordane	ND	1.00	0.232	U

GC Extractable Analysis
Herbicides

No data validation qualifiers were added

MKP 7/22/2024

Results Summary
Form 1
Chlorinated Herbicides by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-01	**Date Collected**	: 05/22/24 10:15
Client ID	: SB-08-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/29/24 17:02
Sample Matrix	: SOIL	**Date Extracted**	: 05/28/24
Analytical Method	: 1,8151A	**Dilution Factor**	: 1
Lab File ID	: 17240528a-76	**Analyst**	: EJL
Sample Amount	: 30.39 g	**Instrument ID**	: PEST17
Extraction Method	: EPA 8151A	**GC Column**	: STX-CLP1
Extract Volume	: 10000 uL	**%Solids**	: 80
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
93-72-1	2,4,5-TP (Silvex)	ND	205	5.45	U

Results Summary
Form 1
Chlorinated Herbicides by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-02	**Date Collected**	: 05/22/24 12:05
Client ID	: SB-13-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/29/24 17:20
Sample Matrix	: SOIL	**Date Extracted**	: 05/28/24
Analytical Method	: 1,8151A	**Dilution Factor**	: 1
Lab File ID	: 17240528a-77	**Analyst**	: EJL
Sample Amount	: 30.41 g	**Instrument ID**	: PEST17
Extraction Method	: EPA 8151A	**GC Column**	: STX-CLP1
Extract Volume	: 10000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
93-72-1	2,4,5-TP (Silvex)	ND	196	5.20	U

Results Summary
Form 1
Chlorinated Herbicides by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-03	**Date Collected**	: 05/22/24 14:30
Client ID	: SB-12-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/29/24 17:39
Sample Matrix	: SOIL	**Date Extracted**	: 05/28/24
Analytical Method	: 1,8151A	**Dilution Factor**	: 1
Lab File ID	: 17240528a-78	**Analyst**	: MMG
Sample Amount	: 30.66 g	**Instrument ID**	: PEST17
Extraction Method	: EPA 8151A	**GC Column**	: STX-CLP1
Extract Volume	: 10000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
93-72-1	2,4,5-TP (Silvex)	ND	198	5.26	U

Results Summary
Form 1
TCLP Herbicides by EPA 1311

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-15	**Date Collected**	: 05/22/24 13:30
Client ID	: WC-01-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 20:25
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8151A	**Dilution Factor**	: 1
Lab File ID	: 17240528a-39	**Analyst**	: EJL
Sample Amount	: 200 ml	**Instrument ID**	: PEST17
Extraction Method	: EPA 8151A	**GC Column**	: STX-CLP1
Extract Volume	: 5000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
94-75-7	2,4-D	ND	0.025	0.001	U
93-72-1	2,4,5-TP (Silvex)	ND	0.005	0.001	U

GC Extractable Analysis Polychlorinated Biphenyls (PCB)

No data validation qualifiers were added

MKP 7/22/2024

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-01	**Date Collected**	: 05/22/24 10:15
Client ID	: SB-08-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 14:56
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 13240528a-40	**Analyst**	: MEO
Sample Amount	: 10.72 g	**Instrument ID**	: PEST13
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 80
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	58.1	5.16	U
11104-28-2	Aroclor 1221	ND	58.1	5.82	U
11141-16-5	Aroclor 1232	ND	58.1	12.3	U
53469-21-9	Aroclor 1242	ND	58.1	7.83	U
12672-29-6	Aroclor 1248	ND	58.1	8.71	U
11097-69-1	Aroclor 1254	ND	58.1	6.35	U
11096-82-5	Aroclor 1260	ND	58.1	10.7	U
37324-23-5	Aroclor 1262	ND	58.1	7.38	U
11100-14-4	Aroclor 1268	ND	58.1	6.02	U
1336-36-3	PCBs, Total	ND	58.1	5.16	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-02	**Date Collected**	: 05/22/24 12:05
Client ID	: SB-13-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:06
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 13240528a-41	**Analyst**	: MEO
Sample Amount	: 10.81 g	**Instrument ID**	: PEST13
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	55.0	4.88	U
11104-28-2	Aroclor 1221	ND	55.0	5.51	U
11141-16-5	Aroclor 1232	ND	55.0	11.6	U
53469-21-9	Aroclor 1242	ND	55.0	7.41	U
12672-29-6	Aroclor 1248	ND	55.0	8.25	U
11097-69-1	Aroclor 1254	ND	55.0	6.02	U
11096-82-5	Aroclor 1260	ND	55.0	10.2	U
37324-23-5	Aroclor 1262	ND	55.0	6.98	U
11100-14-4	Aroclor 1268	ND	55.0	5.70	U
1336-36-3	PCBs, Total	ND	55.0	4.88	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-03	**Date Collected**	: 05/22/24 14:30
Client ID	: SB-12-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:16
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 13240528a-42	**Analyst**	: MEO
Sample Amount	: 10.57 g	**Instrument ID**	: PEST13
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	57.4	5.10	U
11104-28-2	Aroclor 1221	ND	57.4	5.75	U
11141-16-5	Aroclor 1232	ND	57.4	12.2	U
12672-29-6	Aroclor 1248	ND	57.4	8.61	U
11097-69-1	Aroclor 1254	ND	57.4	6.28	U
11096-82-5	Aroclor 1260	ND	57.4	10.6	U
37324-23-5	Aroclor 1262	ND	57.4	7.29	U
11100-14-4	Aroclor 1268	ND	57.4	5.95	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-03	**Date Collected**	: 05/22/24 14:30
Client ID	: SB-12-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:16
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 13240528a-42	**Analyst**	: MEO
Sample Amount	: 10.57 g	**Instrument ID**	: PEST13
Extraction Method	: EPA 3546	**GC Column**	: CLP-PesticideII
Extract Volume	: 1000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
53469-21-9	Aroclor 1242	ND	57.4	7.74	U
1336-36-3	PCBs, Total	ND	57.4	5.10	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-04	**Date Collected**	: 05/22/24 08:45
Client ID	: SB-08-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:26
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 13240528a-43	**Analyst**	: MEO
Sample Amount	: 10.63 g	**Instrument ID**	: PEST13
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	58.0	5.15	U
11104-28-2	Aroclor 1221	ND	58.0	5.81	U
11141-16-5	Aroclor 1232	ND	58.0	12.3	U
53469-21-9	Aroclor 1242	ND	58.0	7.82	U
12672-29-6	Aroclor 1248	ND	58.0	8.70	U
11097-69-1	Aroclor 1254	ND	58.0	6.34	U
11096-82-5	Aroclor 1260	ND	58.0	10.7	U
37324-23-5	Aroclor 1262	ND	58.0	7.36	U
11100-14-4	Aroclor 1268	ND	58.0	6.01	U
1336-36-3	PCBs, Total	ND	58.0	5.15	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-05	**Date Collected**	: 05/22/24 08:45
Client ID	: DUP-B-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:36
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 13240528a-44	**Analyst**	: MEO
Sample Amount	: 10.83 g	**Instrument ID**	: PEST13
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	56.6	5.02	U
11104-28-2	Aroclor 1221	ND	56.6	5.67	U
11141-16-5	Aroclor 1232	ND	56.6	12.0	U
53469-21-9	Aroclor 1242	ND	56.6	7.63	U
12672-29-6	Aroclor 1248	ND	56.6	8.49	U
11097-69-1	Aroclor 1254	ND	56.6	6.19	U
11096-82-5	Aroclor 1260	ND	56.6	10.4	U
37324-23-5	Aroclor 1262	ND	56.6	7.18	U
11100-14-4	Aroclor 1268	ND	56.6	5.86	U
1336-36-3	PCBs, Total	ND	56.6	5.02	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-06	**Date Collected**	: 05/22/24 08:30
Client ID	: SB-09-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:46
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 13240528a-45	**Analyst**	: MEO
Sample Amount	: 10.75 g	**Instrument ID**	: PEST13
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	51.6	4.58	U
11104-28-2	Aroclor 1221	ND	51.6	5.17	U
11141-16-5	Aroclor 1232	ND	51.6	10.9	U
53469-21-9	Aroclor 1242	ND	51.6	6.95	U
12672-29-6	Aroclor 1248	ND	51.6	7.73	U
37324-23-5	Aroclor 1262	ND	51.6	6.55	U
11100-14-4	Aroclor 1268	ND	51.6	5.34	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-06	**Date Collected**	: 05/22/24 08:30
Client ID	: SB-09-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:46
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 13240528a-45	**Analyst**	: MEO
Sample Amount	: 10.75 g	**Instrument ID**	: PEST13
Extraction Method	: EPA 3546	**GC Column**	: CLP-PesticideII
Extract Volume	: 1000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
11097-69-1	Aroclor 1254	17.7	51.6	5.64	J
11096-82-5	Aroclor 1260	26.6	51.6	9.53	J
1336-36-3	PCBs, Total	44.3	51.6	4.58	J

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-07	**Date Collected**	: 05/22/24 10:40
Client ID	: SB-09-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:57
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 13240528a-46	**Analyst**	: MEO
Sample Amount	: 10.24 g	**Instrument ID**	: PEST13
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 70
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	69.6	6.18	U
11104-28-2	Aroclor 1221	ND	69.6	6.97	U
11141-16-5	Aroclor 1232	ND	69.6	14.7	U
53469-21-9	Aroclor 1242	ND	69.6	9.38	U
12672-29-6	Aroclor 1248	ND	69.6	10.4	U
11097-69-1	Aroclor 1254	ND	69.6	7.61	U
11096-82-5	Aroclor 1260	ND	69.6	12.8	U
37324-23-5	Aroclor 1262	ND	69.6	8.83	U
11100-14-4	Aroclor 1268	ND	69.6	7.20	U
1336-36-3	PCBs, Total	ND	69.6	6.18	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-08	**Date Collected**	: 05/22/24 11:20
Client ID	: SB-17-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 16:07
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 13240528a-47	**Analyst**	: MEO
Sample Amount	: 10.38 g	**Instrument ID**	: PEST13
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 94
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	51.0	4.53	U
11104-28-2	Aroclor 1221	ND	51.0	5.11	U
11141-16-5	Aroclor 1232	ND	51.0	10.8	U
53469-21-9	Aroclor 1242	ND	51.0	6.88	U
12672-29-6	Aroclor 1248	ND	51.0	7.65	U
11097-69-1	Aroclor 1254	ND	51.0	5.58	U
11096-82-5	Aroclor 1260	ND	51.0	9.43	U
37324-23-5	Aroclor 1262	ND	51.0	6.48	U
11100-14-4	Aroclor 1268	ND	51.0	5.29	U
1336-36-3	PCBs, Total	ND	51.0	4.53	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-09	**Date Collected**	: 05/22/24 11:30
Client ID	: SB-18-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 16:17
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 13240528a-48	**Analyst**	: MEO
Sample Amount	: 10.23 g	**Instrument ID**	: PEST13
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	57.3	5.09	U
11104-28-2	Aroclor 1221	ND	57.3	5.74	U
11141-16-5	Aroclor 1232	ND	57.3	12.1	U
53469-21-9	Aroclor 1242	ND	57.3	7.72	U
12672-29-6	Aroclor 1248	ND	57.3	8.59	U
11097-69-1	Aroclor 1254	ND	57.3	6.27	U
11096-82-5	Aroclor 1260	ND	57.3	10.6	U
37324-23-5	Aroclor 1262	ND	57.3	7.28	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-09	**Date Collected**	: 05/22/24 11:30
Client ID	: SB-18-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 16:17
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 13240528a-48	**Analyst**	: MEO
Sample Amount	: 10.23 g	**Instrument ID**	: PEST13
Extraction Method	: EPA 3546	**GC Column**	: CLP-PesticideII
Extract Volume	: 1000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
11100-14-4	Aroclor 1268	38.2	57.3	5.94	J
1336-36-3	PCBs, Total	38.2	57.3	5.09	J

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-10	**Date Collected**	: 05/22/24 11:35
Client ID	: SB-18-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 17:07
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 13240528a-53	**Analyst**	: MEO
Sample Amount	: 10.68 g	**Instrument ID**	: PEST13
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	55.8	4.96	U
11104-28-2	Aroclor 1221	ND	55.8	5.59	U
11141-16-5	Aroclor 1232	ND	55.8	11.8	U
53469-21-9	Aroclor 1242	ND	55.8	7.52	U
12672-29-6	Aroclor 1248	ND	55.8	8.37	U
11097-69-1	Aroclor 1254	ND	55.8	6.10	U
11096-82-5	Aroclor 1260	ND	55.8	10.3	U
37324-23-5	Aroclor 1262	ND	55.8	7.09	U
11100-14-4	Aroclor 1268	ND	55.8	5.78	U
1336-36-3	PCBs, Total	ND	55.8	4.96	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-11	**Date Collected**	: 05/22/24 12:00
Client ID	: SB-13-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 16:57
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 13240528a-52	**Analyst**	: MEO
Sample Amount	: 10.56 g	**Instrument ID**	: PEST13
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	58.0	5.15	U
11104-28-2	Aroclor 1221	ND	58.0	5.81	U
11141-16-5	Aroclor 1232	ND	58.0	12.3	U
53469-21-9	Aroclor 1242	ND	58.0	7.81	U
12672-29-6	Aroclor 1248	ND	58.0	8.69	U
11097-69-1	Aroclor 1254	ND	58.0	6.34	U
11096-82-5	Aroclor 1260	ND	58.0	10.7	U
37324-23-5	Aroclor 1262	ND	58.0	7.36	U
11100-14-4	Aroclor 1268	ND	58.0	6.00	U
1336-36-3	PCBs, Total	ND	58.0	5.15	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-12	**Date Collected**	: 05/22/24 13:30
Client ID	: SB-11-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 17:17
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 13240528a-54	**Analyst**	: MEO
Sample Amount	: 10.62 g	**Instrument ID**	: PEST13
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	53.6	4.76	U
11104-28-2	Aroclor 1221	ND	53.6	5.37	U
11141-16-5	Aroclor 1232	ND	53.6	11.4	U
53469-21-9	Aroclor 1242	ND	53.6	7.22	U
12672-29-6	Aroclor 1248	ND	53.6	8.03	U
11097-69-1	Aroclor 1254	ND	53.6	5.86	U
11096-82-5	Aroclor 1260	ND	53.6	9.90	U
37324-23-5	Aroclor 1262	ND	53.6	6.80	U
11100-14-4	Aroclor 1268	16.1	53.6	5.55	J
1336-36-3	PCBs, Total	16.1	53.6	4.76	J

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-13	**Date Collected**	: 05/22/24 13:35
Client ID	: SB-11-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 16:27
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 13240528a-49	**Analyst**	: MEO
Sample Amount	: 10.29 g	**Instrument ID**	: PEST13
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 87
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	56.0	4.98	U
11104-28-2	Aroclor 1221	ND	56.0	5.62	U
11141-16-5	Aroclor 1232	ND	56.0	11.9	U
53469-21-9	Aroclor 1242	ND	56.0	7.55	U
12672-29-6	Aroclor 1248	ND	56.0	8.41	U
11097-69-1	Aroclor 1254	ND	56.0	6.13	U
11096-82-5	Aroclor 1260	ND	56.0	10.4	U
37324-23-5	Aroclor 1262	ND	56.0	7.12	U
11100-14-4	Aroclor 1268	ND	56.0	5.81	U
1336-36-3	PCBs, Total	ND	56.0	4.98	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-14	**Date Collected**	: 05/22/24 14:35
Client ID	: SB-12-8FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 17:27
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 13240528a-55	**Analyst**	: MEO
Sample Amount	: 10.82 g	**Instrument ID**	: PEST13
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	56.6	5.02	U
11104-28-2	Aroclor 1221	ND	56.6	5.67	U
11141-16-5	Aroclor 1232	ND	56.6	12.0	U
53469-21-9	Aroclor 1242	ND	56.6	7.62	U
12672-29-6	Aroclor 1248	ND	56.6	8.48	U
11097-69-1	Aroclor 1254	ND	56.6	6.19	U
11096-82-5	Aroclor 1260	ND	56.6	10.4	U
37324-23-5	Aroclor 1262	ND	56.6	7.18	U
11100-14-4	Aroclor 1268	ND	56.6	5.86	U
1336-36-3	PCBs, Total	ND	56.6	5.02	U

GC Extractable Analysis
Pesticides

No data validation qualifiers were added

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Results Summary
Form 1
Organochlorine Pesticides by GC

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-01	Date Collected	: 05/22/24 10:15
Client ID	: SB-08-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/28/24 21:05
Sample Matrix	: SOIL	Date Extracted	: 05/26/24
Analytical Method	: 1,8081B	Dilution Factor	: 1
Lab File ID	: 15240528c-13	Analyst	: JAG
Sample Amount	: 15.63 g	Instrument ID	: PEST15
Extraction Method	: EPA 3546	GC Column	: CLPPesticides
Extract Volume	: 1000 uL	%Solids	: 80
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
319-86-8	Delta-BHC	ND	1.91	0.374	U
58-89-9	Lindane	ND	0.797	0.356	U
319-84-6	Alpha-BHC	ND	0.797	0.226	U
319-85-7	Beta-BHC	ND	1.91	0.725	U
76-44-8	Heptachlor	ND	0.956	0.429	U
309-00-2	Aldrin	ND	1.91	0.673	U
72-20-8	Endrin	ND	0.797	0.327	U
60-57-1	Dieldrin	ND	1.20	0.598	U
72-55-9	4,4'-DDE	ND	1.91	0.442	U
72-54-8	4,4'-DDD	ND	1.91	0.682	U
50-29-3	4,4'-DDT	ND	1.91	1.54	U
959-98-8	Endosulfan I	ND	1.91	0.452	U
33213-65-9	Endosulfan II	ND	1.91	0.639	U
1031-07-8	Endosulfan sulfate	ND	0.797	0.379	U
5103-71-9	cis-Chlordane	ND	2.39	0.666	U

Results Summary
Form 1
Organochlorine Pesticides by GC

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-02	Date Collected	: 05/22/24 12:05
Client ID	: SB-13-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/28/24 21:17
Sample Matrix	: SOIL	Date Extracted	: 05/26/24
Analytical Method	: 1,8081B	Dilution Factor	: 1
Lab File ID	: 15240528c-14	Analyst	: JAG
Sample Amount	: 15.75 g	Instrument ID	: PEST15
Extraction Method	: EPA 3546	GC Column	: CLPPesticides
Extract Volume	: 1000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
319-86-8	Delta-BHC	ND	1.81	0.355	U
58-89-9	Lindane	ND	0.755	0.337	U
319-84-6	Alpha-BHC	ND	0.755	0.214	U
319-85-7	Beta-BHC	ND	1.81	0.687	U
76-44-8	Heptachlor	ND	0.906	0.406	U
309-00-2	Aldrin	ND	1.81	0.638	U
72-20-8	Endrin	ND	0.755	0.310	U
60-57-1	Dieldrin	ND	1.13	0.566	U
72-55-9	4,4'-DDE	ND	1.81	0.419	U
72-54-8	4,4'-DDD	ND	1.81	0.646	U
50-29-3	4,4'-DDT	ND	1.81	1.46	U
959-98-8	Endosulfan I	ND	1.81	0.428	U
33213-65-9	Endosulfan II	ND	1.81	0.605	U
1031-07-8	Endosulfan sulfate	ND	0.755	0.359	U
5103-71-9	cis-Chlordane	ND	2.26	0.631	U

Results Summary
Form 1
Organochlorine Pesticides by GC

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-03	Date Collected	: 05/22/24 14:30
Client ID	: SB-12-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/28/24 21:29
Sample Matrix	: SOIL	Date Extracted	: 05/26/24
Analytical Method	: 1,8081B	Dilution Factor	: 1
Lab File ID	: 15240528c-15	Analyst	: JAG
Sample Amount	: 15.45 g	Instrument ID	: PEST15
Extraction Method	: EPA 3546	GC Column	: CLPPesticidesII
Extract Volume	: 1000 uL	%Solids	: 82
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
319-86-8	Delta-BHC	ND	1.88	0.369	U
58-89-9	Lindane	ND	0.785	0.351	U
319-84-6	Alpha-BHC	ND	0.785	0.223	U
319-85-7	Beta-BHC	ND	1.88	0.715	U
76-44-8	Heptachlor	ND	0.942	0.422	U
309-00-2	Aldrin	ND	1.88	0.664	U
72-20-8	Endrin	ND	0.785	0.322	U
60-57-1	Dieldrin	ND	1.18	0.589	U
72-55-9	4,4'-DDE	ND	1.88	0.436	U
72-54-8	4,4'-DDD	ND	1.88	0.672	U
50-29-3	4,4'-DDT	ND	1.88	1.52	U
959-98-8	Endosulfan I	ND	1.88	0.445	U
33213-65-9	Endosulfan II	ND	1.88	0.630	U
1031-07-8	Endosulfan sulfate	ND	0.785	0.374	U
5103-71-9	cis-Chlordane	ND	2.36	0.657	U

Total Petroleum Hydrocarbons Diesel Range Organics Analysis

Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-03	**Date Collected**	: 05/22/24 14:30
Client ID	: SB-12-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 16:00
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8015D(M)	**Dilution Factor**	: 1
Lab File ID	: P2224052829	**Analyst**	: SBC
Sample Amount	: 15.67 g	**Instrument ID**	: PETRO22B
Extraction Method	: EPA 3546	**GC Column**	:
Extract Volume	: 1000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	DRO (C10-C28)	220000	39000	2100	

Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-04	**Date Collected**	: 05/22/24 08:45
Client ID	: SB-08-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 16:36
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8015D(M)	**Dilution Factor**	: 1
Lab File ID	: P2224052831	**Analyst**	: SBC
Sample Amount	: 15.44 g	**Instrument ID**	: PETRO22B
Extraction Method	: EPA 3546	**GC Column**	:
Extract Volume	: 1000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	DRO (C10-C28)	120000	40000	2200	

Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-05	**Date Collected**	: 05/22/24 08:45
Client ID	: DUP-B-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 17:11
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8015D(M)	**Dilution Factor**	: 1
Lab File ID	: P2224052833	**Analyst**	: SBC
Sample Amount	: 15.29 g	**Instrument ID**	: PETRO22B
Extraction Method	: EPA 3546	**GC Column**	:
Extract Volume	: 1000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	DRO (C10-C28)	95000	40000	2200	

Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-06	**Date Collected**	: 05/22/24 08:30
Client ID	: SB-09-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 18:21
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8015D(M)	**Dilution Factor**	: 1
Lab File ID	: P2224052837	**Analyst**	: SBC
Sample Amount	: 15.56 g	**Instrument ID**	: PETRO22B
Extraction Method	: EPA 3546	**GC Column**	:
Extract Volume	: 1000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	DRO (C10-C28)	290000	36000	2000	

Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-08	Date Collected	: 05/22/24 11:20
Client ID	: SB-17-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/28/24 14:21
Sample Matrix	: SOIL	Date Extracted	: 05/26/24
Analytical Method	: 1,8015D(M)	Dilution Factor	: 1
Lab File ID	: P2224052823	Analyst	: SBC
Sample Amount	: 15.49 g	Instrument ID	: PETRO22B
Extraction Method	: EPA 3546	GC Column	:
Extract Volume	: 1000 uL	%Solids	: 94
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
NONE	DRO (C10-C28)	5800	34000	1900	J	J

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Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-09	**Date Collected**	: 05/22/24 11:30
Client ID	: SB-18-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 17:46
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8015D(M)	**Dilution Factor**	: 1
Lab File ID	: P2224052835	**Analyst**	: SBC
Sample Amount	: 15.25 g	**Instrument ID**	: PETRO22B
Extraction Method	: EPA 3546	**GC Column**	:
Extract Volume	: 1000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	DRO (C10-C28)	130000	38000	2100	

Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-11	Date Collected	: 05/22/24 12:00
Client ID	: SB-13-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/28/24 13:11
Sample Matrix	: SOIL	Date Extracted	: 05/26/24
Analytical Method	: 1,8015D(M)	Dilution Factor	: 1
Lab File ID	: P2224052819	Analyst	: SBC
Sample Amount	: 15.32 g	Instrument ID	: PETRO22B
Extraction Method	: EPA 3546	GC Column	:
Extract Volume	: 1000 uL	%Solids	: 82
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
NONE	DRO (C10-C28)	9400	40000	2200	J	J

MKP 7/22/2024

Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-12	**Date Collected**	: 05/22/24 13:30
Client ID	: SB-11-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/28/24 15:31
Sample Matrix	: SOIL	**Date Extracted**	: 05/26/24
Analytical Method	: 1,8015D(M)	**Dilution Factor**	: 1
Lab File ID	: P2224052827	**Analyst**	: SBC
Sample Amount	: 15.49 g	**Instrument ID**	: PETRO22B
Extraction Method	: EPA 3546	**GC Column**	:
Extract Volume	: 1000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	DRO (C10-C28)	64000	37000	2000	

PFAS via Draft Method 1633

No data validation qualifiers were added

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Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-01	**Date Collected**	: 05/22/24 10:15
Client ID	: SB-08-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 14:33
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_17	**Analyst**	: JW
Sample Amount	: 6.57 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 80
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.758	0.048	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.379	0.053	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.190	0.041	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.758	0.077	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.190	0.044	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.190	0.022	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.190	0.022	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.190	0.056	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.190	0.049	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.758	0.265	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.190	0.035	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.190	0.074	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.190	0.075	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.190	0.071	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.758	0.367	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.190	0.040	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.190	0.095	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.190	0.049	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-01	**Date Collected**	: 05/22/24 10:15
Client ID	: SB-08-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 14:33
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_17	**Analyst**	: JW
Sample Amount	: 6.57 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 80
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.190	0.030	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.190	0.041	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.190	0.078	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.190	0.039	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.190	0.050	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.190	0.101	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.758	0.093	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.758	0.139	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.190	0.036	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.758	0.186	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.758	0.158	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.190	0.095	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.190	0.106	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.90	0.237	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-01	**Date Collected**	: 05/22/24 10:15
Client ID	: SB-08-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 14:33
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_17	**Analyst**	: JW
Sample Amount	: 6.57 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 80
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.90	0.484	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.379	0.039	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.379	0.030	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.379	0.079	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.379	0.090	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.948	0.136	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.74	0.478	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.74	1.67	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-02	**Date Collected**	: 05/22/24 12:05
Client ID	: SB-13-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 14:45
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_18	**Analyst**	: JW
Sample Amount	: 6.55 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.726	0.046	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.363	0.051	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.182	0.039	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.726	0.073	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.182	0.042	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.182	0.021	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.182	0.021	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.182	0.054	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.182	0.047	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.726	0.254	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.182	0.033	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.182	0.071	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.182	0.072	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.182	0.068	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.726	0.351	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.182	0.039	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.182	0.091	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.182	0.047	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-02	**Date Collected**	: 05/22/24 12:05
Client ID	: SB-13-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 14:45
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_18	**Analyst**	: JW
Sample Amount	: 6.55 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.182	0.029	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.182	0.039	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.182	0.075	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.182	0.037	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.182	0.048	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.182	0.097	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.726	0.089	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.726	0.133	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.182	0.035	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.726	0.178	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.726	0.152	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.182	0.091	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.182	0.102	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.82	0.227	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-02	**Date Collected**	: 05/22/24 12:05
Client ID	: SB-13-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 14:45
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_18	**Analyst**	: JW
Sample Amount	: 6.55 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.82	0.463	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.363	0.037	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.363	0.028	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.363	0.076	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.363	0.086	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.908	0.131	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.54	0.458	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.54	1.60	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-03	Date Collected	: 05/22/24 14:30
Client ID	: SB-12-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 06/10/24 14:58
Sample Matrix	: SOIL	Date Extracted	: 06/09/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI07_240610_19	Analyst	: JW
Sample Amount	: 6.63 g	Instrument ID	: LCMS07
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: 82
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.732	0.046	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.366	0.051	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.183	0.040	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.732	0.074	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.183	0.043	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.183	0.021	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.183	0.021	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.183	0.054	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.183	0.048	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.732	0.256	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.183	0.034	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.183	0.072	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.183	0.073	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.183	0.069	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.732	0.354	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.183	0.039	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.183	0.092	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.183	0.047	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-03	**Date Collected**	: 05/22/24 14:30
Client ID	: SB-12-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 14:58
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_19	**Analyst**	: JW
Sample Amount	: 6.63 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.183	0.029	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.183	0.040	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.183	0.075	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.183	0.037	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.183	0.048	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.183	0.097	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.732	0.090	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.732	0.134	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.183	0.035	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.732	0.179	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.732	0.153	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.183	0.092	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.183	0.102	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.83	0.229	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-03	**Date Collected**	: 05/22/24 14:30
Client ID	: SB-12-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 14:58
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_19	**Analyst**	: JW
Sample Amount	: 6.63 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.83	0.467	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.366	0.037	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.366	0.029	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.366	0.076	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.366	0.087	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.915	0.132	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.58	0.462	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.58	1.61	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-04	**Date Collected**	: 05/22/24 08:45
Client ID	: SB-08-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 15:11
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_20	**Analyst**	: JW
Sample Amount	: 6.9 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.715	0.045	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	0.104	0.357	0.050	J
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.179	0.039	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.715	0.072	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	0.055	0.179	0.041	J
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.179	0.021	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	0.069	0.179	0.021	J
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	0.067	0.179	0.053	J
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.179	0.047	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.715	0.250	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.179	0.033	U
375-95-1	Perfluorononanoic Acid (PFNA)	0.177	0.179	0.070	J
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	1.14	0.179	0.071	
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.179	0.067	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.715	0.346	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.179	0.038	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.179	0.089	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.179	0.046	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-04	**Date Collected**	: 05/22/24 08:45
Client ID	: SB-08-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 15:11
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_20	**Analyst**	: JW
Sample Amount	: 6.9 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.179	0.029	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.179	0.039	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.179	0.074	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.179	0.036	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.179	0.047	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.179	0.095	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.715	0.088	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.715	0.131	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.179	0.034	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.715	0.175	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.715	0.149	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.179	0.089	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.179	0.100	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.79	0.224	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-04	**Date Collected**	: 05/22/24 08:45
Client ID	: SB-08-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 15:11
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_20	**Analyst**	: JW
Sample Amount	: 6.9 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.79	0.456	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.357	0.036	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.357	0.028	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.357	0.074	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.357	0.085	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.894	0.129	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.47	0.451	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.47	1.57	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-05	**Date Collected**	: 05/22/24 08:45
Client ID	: DUP-B-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 15:24
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_21	**Analyst**	: JW
Sample Amount	: 6.7 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.732	0.046	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	0.096	0.366	0.051	J
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.183	0.040	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.732	0.074	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	0.053	0.183	0.042	J
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.183	0.021	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	0.059	0.183	0.021	J
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	0.062	0.183	0.054	J
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.183	0.048	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.732	0.256	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.183	0.034	U
375-95-1	Perfluorononanoic Acid (PFNA)	0.189	0.183	0.072	
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	1.03	0.183	0.072	
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.183	0.069	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.732	0.354	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.183	0.039	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.183	0.091	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.183	0.047	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-05	**Date Collected**	: 05/22/24 08:45
Client ID	: DUP-B-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 15:24
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_21	**Analyst**	: JW
Sample Amount	: 6.7 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.183	0.029	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.183	0.040	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.183	0.075	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.183	0.037	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.183	0.048	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.183	0.097	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.732	0.090	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.732	0.134	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.183	0.035	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.732	0.179	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.732	0.153	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.183	0.091	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.183	0.102	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.83	0.229	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-05	**Date Collected**	: 05/22/24 08:45
Client ID	: DUP-B-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 15:24
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_21	**Analyst**	: JW
Sample Amount	: 6.7 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.83	0.467	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.366	0.037	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.366	0.029	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.366	0.076	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.366	0.087	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.914	0.132	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.57	0.462	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.57	1.61	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-06	**Date Collected**	: 05/22/24 08:30
Client ID	: SB-09-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 15:37
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_22	**Analyst**	: JW
Sample Amount	: 5.62 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	0.066	0.789	0.050	J
2706-90-3	Perfluoropentanoic Acid (PFPeA)	0.185	0.394	0.055	J
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.197	0.043	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.789	0.080	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	0.089	0.197	0.046	J
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.197	0.023	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	0.082	0.197	0.023	J
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	0.075	0.197	0.058	J
335-67-1	Perfluorooctanoic Acid (PFOA)	0.181	0.197	0.051	J
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.789	0.276	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.197	0.036	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.197	0.077	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	0.911	0.197	0.078	
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.197	0.074	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.789	0.382	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.197	0.042	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.197	0.099	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	0.057	0.197	0.051	JF

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-06	**Date Collected**	: 05/22/24 08:30
Client ID	: SB-09-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 15:37
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_22	**Analyst**	: JW
Sample Amount	: 5.62 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.197	0.032	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.197	0.043	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.197	0.081	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.197	0.040	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.197	0.052	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.197	0.105	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.789	0.097	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.789	0.144	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.197	0.038	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.789	0.193	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.789	0.165	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.197	0.099	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.197	0.110	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.97	0.247	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-06	**Date Collected**	: 05/22/24 08:30
Client ID	: SB-09-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 15:37
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_22	**Analyst**	: JW
Sample Amount	: 5.62 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.97	0.503	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.394	0.040	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.394	0.031	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.394	0.082	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.394	0.094	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.986	0.142	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.93	0.498	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.93	1.74	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-07	**Date Collected**	: 05/22/24 10:40
Client ID	: SB-09-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 17:07
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_28	**Analyst**	: JW
Sample Amount	: 7.57 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 70
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.753	0.047	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.376	0.053	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.188	0.041	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.753	0.076	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.188	0.044	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.188	0.022	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.188	0.022	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.188	0.056	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.188	0.049	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.753	0.263	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.188	0.035	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.188	0.074	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.188	0.075	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.188	0.071	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.753	0.364	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.188	0.040	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.188	0.094	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.188	0.048	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-07	**Date Collected**	: 05/22/24 10:40
Client ID	: SB-09-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 17:07
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_28	**Analyst**	: JW
Sample Amount	: 7.57 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 70
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.188	0.030	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.188	0.041	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.188	0.078	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.188	0.038	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.188	0.050	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.188	0.100	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.753	0.093	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.753	0.138	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.188	0.036	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.753	0.184	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.753	0.157	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.188	0.094	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.188	0.105	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.88	0.236	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-07	**Date Collected**	: 05/22/24 10:40
Client ID	: SB-09-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 17:07
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_28	**Analyst**	: JW
Sample Amount	: 7.57 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 70
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.88	0.480	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.376	0.038	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.376	0.029	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.376	0.078	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.376	0.090	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.941	0.135	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.70	0.475	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.70	1.66	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-08	**Date Collected**	: 05/22/24 11:20
Client ID	: SB-17-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 17:20
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_29	**Analyst**	: JW
Sample Amount	: 6.1 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 94
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.695	0.044	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.347	0.049	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.174	0.038	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.695	0.070	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.174	0.040	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.174	0.020	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.174	0.020	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.174	0.051	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.174	0.045	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.695	0.243	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.174	0.032	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.174	0.068	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.174	0.069	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.174	0.065	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.695	0.336	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.174	0.037	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.174	0.087	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.174	0.044	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-08	**Date Collected**	: 05/22/24 11:20
Client ID	: SB-17-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 17:20
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_29	**Analyst**	: JW
Sample Amount	: 6.1 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 94
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.174	0.028	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.174	0.038	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.174	0.072	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.174	0.035	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.174	0.046	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.174	0.092	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.695	0.085	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.695	0.127	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.174	0.033	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.695	0.170	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.695	0.145	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.174	0.087	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.174	0.097	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.74	0.217	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-08	**Date Collected**	: 05/22/24 11:20
Client ID	: SB-17-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 17:20
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_29	**Analyst**	: JW
Sample Amount	: 6.1 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 94
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.74	0.443	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.347	0.035	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.347	0.027	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.347	0.072	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.347	0.083	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.868	0.125	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.34	0.438	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.34	1.53	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-09	**Date Collected**	: 05/22/24 11:30
Client ID	: SB-18-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 17:33
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_30	**Analyst**	: JW
Sample Amount	: 6.49 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.722	0.046	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.361	0.051	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.181	0.039	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.722	0.073	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.181	0.042	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.181	0.021	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.181	0.021	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.181	0.054	U
335-67-1	Perfluorooctanoic Acid (PFOA)	0.074	0.181	0.047	J
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.722	0.253	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.181	0.033	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.181	0.071	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.181	0.072	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.181	0.068	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.722	0.350	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.181	0.038	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.181	0.090	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.181	0.046	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-09	**Date Collected**	: 05/22/24 11:30
Client ID	: SB-18-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 17:33
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_30	**Analyst**	: JW
Sample Amount	: 6.49 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.181	0.029	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.181	0.039	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.181	0.074	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.181	0.037	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.181	0.048	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.181	0.096	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.722	0.089	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.722	0.132	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.181	0.035	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.722	0.177	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.722	0.151	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.181	0.090	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.181	0.101	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.81	0.226	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-09	**Date Collected**	: 05/22/24 11:30
Client ID	: SB-18-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 17:33
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_30	**Analyst**	: JW
Sample Amount	: 6.49 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.81	0.461	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.361	0.037	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.361	0.028	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.361	0.075	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.361	0.086	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.903	0.130	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.52	0.456	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.52	1.59	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-10	Date Collected	: 05/22/24 11:35
Client ID	: SB-18-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 06/10/24 17:46
Sample Matrix	: SOIL	Date Extracted	: 06/09/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI07_240610_31	Analyst	: JW
Sample Amount	: 6.32 g	Instrument ID	: LCMS07
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.754	0.048	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.377	0.053	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.188	0.041	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.754	0.076	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.188	0.044	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.188	0.022	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.188	0.022	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.188	0.056	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.188	0.049	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.754	0.264	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.188	0.035	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.188	0.074	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.188	0.075	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.188	0.071	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.754	0.365	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.188	0.040	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.188	0.094	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.188	0.048	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-10	**Date Collected**	: 05/22/24 11:35
Client ID	: SB-18-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 17:46
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_31	**Analyst**	: JW
Sample Amount	: 6.32 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.188	0.030	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.188	0.041	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.188	0.078	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.188	0.039	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.188	0.050	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.188	0.100	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.754	0.093	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.754	0.138	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.188	0.036	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.754	0.185	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.754	0.158	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.188	0.094	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.188	0.106	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.88	0.236	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-10	**Date Collected**	: 05/22/24 11:35
Client ID	: SB-18-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 17:46
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_31	**Analyst**	: JW
Sample Amount	: 6.32 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.88	0.481	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.377	0.039	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.377	0.029	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.377	0.078	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.377	0.090	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.943	0.136	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.71	0.476	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.71	1.66	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-11	**Date Collected**	: 05/22/24 12:00
Client ID	: SB-13-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 17:59
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_32	**Analyst**	: JW
Sample Amount	: 6.63 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	0.063	0.738	0.047	J
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.369	0.052	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.185	0.040	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.738	0.075	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.185	0.043	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.185	0.021	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.185	0.021	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.185	0.055	U
335-67-1	Perfluorooctanoic Acid (PFOA)	0.071	0.185	0.048	J
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.738	0.258	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.185	0.034	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.185	0.072	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.185	0.073	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.185	0.069	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.738	0.357	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.185	0.039	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.185	0.092	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.185	0.047	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-11	**Date Collected**	: 05/22/24 12:00
Client ID	: SB-13-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 17:59
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_32	**Analyst**	: JW
Sample Amount	: 6.63 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.185	0.030	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.185	0.040	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.185	0.076	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.185	0.038	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.185	0.049	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.185	0.098	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.738	0.091	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.738	0.135	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.185	0.035	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.738	0.181	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.738	0.154	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.185	0.092	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.185	0.103	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.85	0.231	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-11	**Date Collected**	: 05/22/24 12:00
Client ID	: SB-13-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 17:59
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_32	**Analyst**	: JW
Sample Amount	: 6.63 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.85	0.471	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.369	0.038	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.369	0.029	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.369	0.077	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.369	0.088	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.923	0.133	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.62	0.466	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.62	1.62	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-12	**Date Collected**	: 05/22/24 13:30
Client ID	: SB-11-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 18:12
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_33	**Analyst**	: JW
Sample Amount	: 5.99 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.760	0.048	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.380	0.053	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.190	0.041	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.760	0.077	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.190	0.044	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.190	0.022	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	0.026	0.190	0.022	J
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.190	0.056	U
335-67-1	Perfluorooctanoic Acid (PFOA)	0.147	0.190	0.049	J
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.760	0.266	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.190	0.035	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.190	0.074	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	0.338	0.190	0.075	
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.190	0.071	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.760	0.368	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.190	0.040	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.190	0.095	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.190	0.049	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-12	**Date Collected**	: 05/22/24 13:30
Client ID	: SB-11-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 18:12
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_33	**Analyst**	: JW
Sample Amount	: 5.99 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.190	0.030	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.190	0.041	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.190	0.078	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.190	0.039	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.190	0.050	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.190	0.101	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.760	0.093	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.760	0.139	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.190	0.037	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.760	0.186	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.760	0.159	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.190	0.095	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.190	0.106	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.90	0.238	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-12	Date Collected	: 05/22/24 13:30
Client ID	: SB-11-2FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 06/10/24 18:12
Sample Matrix	: SOIL	Date Extracted	: 06/09/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI07_240610_33	Analyst	: JW
Sample Amount	: 5.99 g	Instrument ID	: LCMS07
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: 88
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.90	0.485	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.380	0.039	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.380	0.030	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.380	0.079	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.380	0.090	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.950	0.137	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.75	0.479	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.75	1.67	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-13	Date Collected	: 05/22/24 13:35
Client ID	: SB-11-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 06/10/24 15:50
Sample Matrix	: SOIL	Date Extracted	: 06/09/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI07_240610_23	Analyst	: JW
Sample Amount	: 6.5 g	Instrument ID	: LCMS07
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: 87
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.710	0.045	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.355	0.050	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.177	0.038	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.710	0.072	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.177	0.041	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.177	0.021	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.177	0.021	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.177	0.053	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.177	0.046	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.710	0.248	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.177	0.033	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.177	0.070	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.177	0.070	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.177	0.067	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.710	0.344	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.177	0.038	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.177	0.089	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.177	0.045	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-13	**Date Collected**	: 05/22/24 13:35
Client ID	: SB-11-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 15:50
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_23	**Analyst**	: JW
Sample Amount	: 6.5 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 87
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.177	0.028	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.177	0.038	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.177	0.073	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.177	0.036	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.177	0.047	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.177	0.094	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.710	0.087	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.710	0.130	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.177	0.034	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.710	0.174	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.710	0.148	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.177	0.089	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.177	0.099	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.77	0.222	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-13	**Date Collected**	: 05/22/24 13:35
Client ID	: SB-11-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 15:50
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_23	**Analyst**	: JW
Sample Amount	: 6.5 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 87
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.77	0.453	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.355	0.036	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.355	0.028	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.355	0.074	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.355	0.085	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.887	0.128	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.44	0.448	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.44	1.56	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-14	**Date Collected**	: 05/22/24 14:35
Client ID	: SB-12-8FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 18:25
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_34	**Analyst**	: JW
Sample Amount	: 6.17 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.794	0.050	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.397	0.056	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.198	0.043	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.794	0.080	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.198	0.046	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.198	0.023	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.198	0.023	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.198	0.059	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.198	0.052	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.794	0.278	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.198	0.037	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.198	0.078	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.198	0.079	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.198	0.075	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.794	0.384	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.198	0.042	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.198	0.099	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.198	0.051	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-14	**Date Collected**	: 05/22/24 14:35
Client ID	: SB-12-8FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 18:25
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_34	**Analyst**	: JW
Sample Amount	: 6.17 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.198	0.032	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.198	0.043	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.198	0.082	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.198	0.041	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.198	0.052	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.198	0.106	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.794	0.098	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.794	0.145	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.198	0.038	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.794	0.194	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.794	0.166	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.198	0.099	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.198	0.111	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.98	0.248	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-14	**Date Collected**	: 05/22/24 14:35
Client ID	: SB-12-8FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/10/24 18:25
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_34	**Analyst**	: JW
Sample Amount	: 6.17 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.98	0.506	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.397	0.041	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.397	0.031	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.397	0.083	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.397	0.094	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.992	0.143	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.96	0.501	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.96	1.74	U

Inorganic Data
(ICP Analysis)

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-01	**Date Collected**	: 05/22/24 10:15
Client ID	: SB-08-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 18:57
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: DHL
Lab File ID	: WG1927280.csv	**Instrument ID**	: TRACE5
Sample Amount	: 1.283g	**%Solids**	: 80
Digestion Method	: EPA 3050B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	6.53	0.971	0.202	
7440-39-3	Barium, Total	99.3	0.971	0.169	
7440-41-7	Beryllium, Total	0.959	0.485	0.032	
7440-43-9	Cadmium, Total	0.180	0.971	0.095	J
7440-47-3	Chromium, Total	24.8	0.971	0.093	
7440-50-8	Copper, Total	19.4	0.971	0.250	
7439-92-1	Lead, Total	11.1	4.85	0.260	
7439-96-5	Manganese, Total	256	0.971	0.154	
7440-02-0	Nickel, Total	31.8	2.43	0.235	
7782-49-2	Selenium, Total	0.828	1.94	0.250	J
7440-22-4	Silver, Total	ND	0.485	0.275	U
7440-66-6	Zinc, Total	72.8	4.85	0.284	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-02	**Date Collected**	: 05/22/24 12:05
Client ID	: SB-13-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:03
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: DHL
Lab File ID	: WG1927280.csv	**Instrument ID**	: TRACE5
Sample Amount	: 1.322g	**%Solids**	: 84
Digestion Method	: EPA 3050B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	4.56	0.899	0.187	
7440-39-3	Barium, Total	106	0.899	0.156	
7440-41-7	Beryllium, Total	0.466	0.450	0.030	
7440-43-9	Cadmium, Total	0.171	0.899	0.088	J
7440-47-3	Chromium, Total	20.1	0.899	0.086	
7440-50-8	Copper, Total	21.8	0.899	0.232	
7439-92-1	Lead, Total	11.9	4.50	0.241	
7439-96-5	Manganese, Total	430	0.899	0.143	
7440-02-0	Nickel, Total	28.9	2.25	0.218	
7782-49-2	Selenium, Total	ND	1.80	0.232	U
7440-22-4	Silver, Total	ND	0.450	0.254	U
7440-66-6	Zinc, Total	68.6	4.50	0.264	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-03	**Date Collected**	: 05/22/24 14:30
Client ID	: SB-12-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:10
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: DHL
Lab File ID	: WG1927280.csv	**Instrument ID**	: TRACE5
Sample Amount	: 1.277g	**%Solids**	: 82
Digestion Method	: EPA 3050B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	6.06	0.950	0.198	
7440-39-3	Barium, Total	133	0.950	0.165	
7440-41-7	Beryllium, Total	0.088	0.475	0.031	J
7440-43-9	Cadmium, Total	2.28	0.950	0.093	
7440-47-3	Chromium, Total	11.3	0.950	0.091	
7440-50-8	Copper, Total	44.0	0.950	0.245	
7439-92-1	Lead, Total	111	4.75	0.255	
7439-96-5	Manganese, Total	177	0.950	0.151	
7440-02-0	Nickel, Total	10.4	2.38	0.230	
7782-49-2	Selenium, Total	0.383	1.90	0.245	J
7440-22-4	Silver, Total	2.09	0.475	0.269	
7440-66-6	Zinc, Total	322	4.75	0.278	

Form 1
METALS

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-04	Date Collected	: 05/22/24 08:45
Client ID	: SB-08-3FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/30/24 19:16
Sample Matrix	: SOIL	Dilution Factor	: 2
Analytical Method	: 1,6010D	Analyst	: DHL
Lab File ID	: WG1927280.csv	Instrument ID	: TRACE5
Sample Amount	: 1.304g	%Solids	: 81
Digestion Method	: EPA 3050B	Date Digested	: 05/30/24

		mg/kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7440-38-2	Arsenic, Total	11.2	0.946	0.197	J
7440-39-3	Barium, Total	257	0.946	0.164	
7440-41-7	Beryllium, Total	0.215	0.473	0.031	J
7440-43-9	Cadmium, Total	0.595	0.946	0.093	J
7440-47-3	Chromium, Total	17.8	0.946	0.091	
7440-50-8	Copper, Total	57.5	0.946	0.244	
7439-92-1	Lead, Total	126	4.73	0.253	
7439-96-5	Manganese, Total	602	0.946	0.150	
7440-02-0	Nickel, Total	16.1	2.36	0.229	
7782-49-2	Selenium, Total	0.392	1.89	0.244	J
7440-22-4	Silver, Total	0.422	0.473	0.268	J
7440-66-6	Zinc, Total	415	4.73	0.277	J

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Form 1
METALS

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-05	Date Collected	: 05/22/24 08:45
Client ID	: DUP-B-20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/30/24 19:22
Sample Matrix	: SOIL	Dilution Factor	: 2
Analytical Method	: 1,6010D	Analyst	: DHL
Lab File ID	: WG1927280.csv	Instrument ID	: TRACE5
Sample Amount	: 1.278g	%Solids	: 82
Digestion Method	: EPA 3050B	Date Digested	: 05/30/24

		mg/kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
7440-38-2	Arsenic, Total	6.03	0.959	0.199		J
7440-39-3	Barium, Total	195	0.959	0.167		
7440-41-7	Beryllium, Total	0.289	0.479	0.032	J	
7440-43-9	Cadmium, Total	0.365	0.959	0.094	J	
7440-47-3	Chromium, Total	13.6	0.959	0.092		
7440-50-8	Copper, Total	46.2	0.959	0.247		
7439-92-1	Lead, Total	85.2	4.79	0.257		
7439-96-5	Manganese, Total	962	0.959	0.152		
7440-02-0	Nickel, Total	13.2	2.40	0.232		
7782-49-2	Selenium, Total	ND	1.92	0.247	U	
7440-22-4	Silver, Total	ND	0.479	0.271	U	
7440-66-6	Zinc, Total	233	4.79	0.281		J

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Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-06	**Date Collected**	: 05/22/24 08:30
Client ID	: SB-09-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:29
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: DHL
Lab File ID	: WG1927280.csv	**Instrument ID**	: TRACE5
Sample Amount	: 1.307g	**%Solids**	: 90
Digestion Method	: EPA 3050B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	8.16	0.848	0.176	
7440-39-3	Barium, Total	75.5	0.848	0.148	
7440-41-7	Beryllium, Total	0.473	0.424	0.028	
7440-43-9	Cadmium, Total	0.305	0.848	0.083	J
7440-47-3	Chromium, Total	7.62	0.848	0.081	
7440-50-8	Copper, Total	96.7	0.848	0.219	
7439-92-1	Lead, Total	44.9	4.24	0.227	
7439-96-5	Manganese, Total	434	0.848	0.135	
7440-02-0	Nickel, Total	8.61	2.12	0.205	
7782-49-2	Selenium, Total	ND	1.70	0.219	U
7440-22-4	Silver, Total	ND	0.424	0.240	U
7440-66-6	Zinc, Total	93.0	4.24	0.248	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-08	**Date Collected**	: 05/22/24 11:20
Client ID	: SB-17-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:42
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: DHL
Lab File ID	: WG1927280.csv	**Instrument ID**	: TRACE5
Sample Amount	: 1.308g	**%Solids**	: 94
Digestion Method	: EPA 3050B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	1.99	0.810	0.168	
7440-39-3	Barium, Total	5.70	0.810	0.141	
7440-41-7	Beryllium, Total	0.074	0.405	0.027	J
7440-43-9	Cadmium, Total	ND	0.810	0.079	U
7440-47-3	Chromium, Total	1.86	0.810	0.078	
7440-50-8	Copper, Total	1.75	0.810	0.209	
7439-92-1	Lead, Total	7.93	4.05	0.217	
7439-96-5	Manganese, Total	92.5	0.810	0.129	
7440-02-0	Nickel, Total	1.70	2.02	0.196	J
7782-49-2	Selenium, Total	ND	1.62	0.209	U
7440-22-4	Silver, Total	ND	0.405	0.229	U
7440-66-6	Zinc, Total	18.2	4.05	0.237	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-09	**Date Collected**	: 05/22/24 11:30
Client ID	: SB-18-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:48
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: DHL
Lab File ID	: WG1927280.csv	**Instrument ID**	: TRACE5
Sample Amount	: 1.29g	**%Solids**	: 85
Digestion Method	: EPA 3050B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	8.63	0.909	0.189	
7440-39-3	Barium, Total	42.5	0.909	0.158	
7440-41-7	Beryllium, Total	0.299	0.454	0.030	J
7440-43-9	Cadmium, Total	0.267	0.909	0.089	J
7440-47-3	Chromium, Total	8.60	0.909	0.087	
7440-50-8	Copper, Total	49.5	0.909	0.234	
7439-92-1	Lead, Total	47.2	4.54	0.244	
7439-96-5	Manganese, Total	282	0.909	0.144	
7440-02-0	Nickel, Total	13.2	2.27	0.220	
7782-49-2	Selenium, Total	0.535	1.82	0.234	J
7440-22-4	Silver, Total	ND	0.454	0.257	U
7440-66-6	Zinc, Total	52.0	4.54	0.266	

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Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-10	**Date Collected**	: 05/22/24 11:35
Client ID	: SB-18-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:55
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: DHL
Lab File ID	: WG1927280.csv	**Instrument ID**	: TRACE5
Sample Amount	: 1.318g	**%Solids**	: 84
Digestion Method	: EPA 3050B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	4.72	0.904	0.188	
7440-39-3	Barium, Total	80.8	0.904	0.157	
7440-41-7	Beryllium, Total	0.430	0.452	0.030	J
7440-43-9	Cadmium, Total	0.186	0.904	0.089	J
7440-47-3	Chromium, Total	18.9	0.904	0.087	
7440-50-8	Copper, Total	23.3	0.904	0.233	
7439-92-1	Lead, Total	12.2	4.52	0.242	
7439-96-5	Manganese, Total	374	0.904	0.144	
7440-02-0	Nickel, Total	25.3	2.26	0.219	
7782-49-2	Selenium, Total	ND	1.81	0.233	U
7440-22-4	Silver, Total	ND	0.452	0.256	U
7440-66-6	Zinc, Total	78.8	4.52	0.265	

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Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-11	**Date Collected**	: 05/22/24 12:00
Client ID	: SB-13-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 20:40
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: DHL
Lab File ID	: WG1927280.csv	**Instrument ID**	: TRACE5
Sample Amount	: 1.276g	**%Solids**	: 82
Digestion Method	: EPA 3050B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	6.72	0.959	0.200	
7440-39-3	Barium, Total	34.7	0.959	0.167	
7440-41-7	Beryllium, Total	0.246	0.480	0.032	J
7440-43-9	Cadmium, Total	0.211	0.959	0.094	J
7440-47-3	Chromium, Total	10.6	0.959	0.092	
7440-50-8	Copper, Total	10.6	0.959	0.247	
7439-92-1	Lead, Total	22.0	4.80	0.257	
7439-96-5	Manganese, Total	350	0.959	0.152	
7440-02-0	Nickel, Total	8.14	2.40	0.232	
7782-49-2	Selenium, Total	0.438	1.92	0.247	J
7440-22-4	Silver, Total	ND	0.480	0.271	U
7440-66-6	Zinc, Total	44.2	4.80	0.281	

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Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-12	**Date Collected**	: 05/22/24 13:30
Client ID	: SB-11-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 22:13
Sample Matrix	: SOIL	**Dilution Factor**	: 4
Analytical Method	: 1,6010D	**Analyst**	: DHL
Lab File ID	: WG1927280.csv	**Instrument ID**	: TRACE5
Sample Amount	: 1.327g	**%Solids**	: 88
Digestion Method	: EPA 3050B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	9.73	1.71	0.357	
7440-39-3	Barium, Total	232	1.71	0.298	
7440-41-7	Beryllium, Total	0.204	0.857	0.057	J
7440-43-9	Cadmium, Total	0.532	1.71	0.168	J
7440-47-3	Chromium, Total	15.9	1.71	0.165	
7440-50-8	Copper, Total	50.0	1.71	0.442	
7439-92-1	Lead, Total	112	8.57	0.460	
7439-96-5	Manganese, Total	548	1.71	0.273	
7440-02-0	Nickel, Total	13.2	4.29	0.415	
7782-49-2	Selenium, Total	ND	3.43	0.442	U
7440-22-4	Silver, Total	ND	0.857	0.485	U
7440-66-6	Zinc, Total	369	8.57	0.502	

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Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428514-13	Date Collected	: 05/22/24 13:35
Client ID	: SB-11-7FT. 20240522	Date Received	: 05/22/24
Sample Location	:	Date Analyzed	: 05/30/24 17:49
Sample Matrix	: SOIL	Dilution Factor	: 2
Analytical Method	: 1,6010D	Analyst	: DHL
Lab File ID	: WG1927280.csv	Instrument ID	: TRACE5
Sample Amount	: 1.31g	%Solids	: 87
Digestion Method	: EPA 3050B	Date Digested	: 05/30/24

		mg/kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7440-38-2	Arsenic, Total	4.70	0.880	0.183	
7440-39-3	Barium, Total	55.8	0.880	0.153	J-
7440-41-7	Beryllium, Total	0.338	0.440	0.029	J
7440-43-9	Cadmium, Total	0.121	0.880	0.086	J
7440-47-3	Chromium, Total	15.0	0.880	0.085	
7440-50-8	Copper, Total	18.2	0.880	0.227	
7439-92-1	Lead, Total	8.97	4.40	0.236	
7439-96-5	Manganese, Total	328	0.880	0.140	
7440-02-0	Nickel, Total	20.0	2.20	0.213	
7782-49-2	Selenium, Total	ND	1.76	0.227	U
7440-22-4	Silver, Total	ND	0.440	0.249	U
7440-66-6	Zinc, Total	58.6	4.40	0.258	

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Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-14	**Date Collected**	: 05/22/24 14:35
Client ID	: SB-12-8FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 20:53
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: DHL
Lab File ID	: WG1927280.csv	**Instrument ID**	: TRACE5
Sample Amount	: 1.27g	**%Solids**	: 82
Digestion Method	: EPA 3050B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	4.49	0.964	0.200	
7440-39-3	Barium, Total	88.9	0.964	0.168	
7440-41-7	Beryllium, Total	0.496	0.482	0.032	
7440-43-9	Cadmium, Total	0.175	0.964	0.094	J
7440-47-3	Chromium, Total	20.3	0.964	0.093	
7440-50-8	Copper, Total	21.6	0.964	0.249	
7439-92-1	Lead, Total	11.3	4.82	0.258	
7439-96-5	Manganese, Total	338	0.964	0.153	
7440-02-0	Nickel, Total	26.0	2.41	0.233	
7782-49-2	Selenium, Total	ND	1.93	0.249	U
7440-22-4	Silver, Total	ND	0.482	0.273	U
7440-66-6	Zinc, Total	72.6	4.82	0.282	

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Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-15	**Date Collected**	: 05/22/24 13:30
Client ID	: WC-01-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 15:27
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,6010D	**Analyst**	: DMC
Lab File ID	: WG1927298.pdf	**Instrument ID**	: TRACE7
Sample Amount	: 5ml	**%Solids**	: 90
Digestion Method	: EPA 3015	**Date Digested**	: 05/29/24
		Date Extracted	: 05/24/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, TCLP	ND	1.00	0.0190	U
7440-39-3	Barium, TCLP	1.02	0.500	0.0210	
7440-43-9	Cadmium, TCLP	ND	0.100	0.0100	U
7440-47-3	Chromium, TCLP	ND	0.200	0.0210	U
7439-92-1	Lead, TCLP	ND	0.500	0.0270	U
7782-49-2	Selenium, TCLP	ND	0.500	0.0350	U
7440-22-4	Silver, TCLP	ND	0.100	0.0280	U

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Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-07	**Date Collected**	: 05/22/24 10:40
Client ID	: SB-09-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/31/24 17:16
Sample Matrix	: SOIL	**Dilution Factor**	: 4
Analytical Method	: 1,6010D	**Analyst**	: JMF
Lab File ID	: WG1927965.csv	**Instrument ID**	: TRACE8
Sample Amount	: 1.28g	**%Solids**	: 70
Digestion Method	: EPA 3050B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	6.26	2.22	0.463	
7440-39-3	Barium, Total	100	2.22	0.387	
7440-41-7	Beryllium, Total	1.01	1.11	0.073	J
7440-43-9	Cadmium, Total	0.508	2.22	0.218	J
7440-47-3	Chromium, Total	21.2	2.22	0.214	
7440-50-8	Copper, Total	10.7	2.22	0.574	
7439-92-1	Lead, Total	18.8	11.1	0.596	
7439-96-5	Manganese, Total	3370	2.22	0.354	
7440-02-0	Nickel, Total	16.7	5.56	0.539	
7782-49-2	Selenium, Total	1.08	4.45	0.574	J
7440-22-4	Silver, Total	ND	1.11	0.630	U
7440-66-6	Zinc, Total	92.3	11.1	0.652	

Inorganic Data
(Mercury Analysis)

No data validation qualifiers were added

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Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-15	**Date Collected**	: 05/22/24 13:30
Client ID	: WC-01-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 18:31
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7470A	**Analyst**	: JWN
Lab File ID	: WG1927385.pdf	**Instrument ID**	: NIC4
Sample Amount	: 5ml	**%Solids**	: 90
Digestion Method	: EPA 7470A	**Date Digested**	: 05/29/24
		Date Extracted	: 05/24/24

			mg/l		
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, TCLP	ND	0.0010	0.0005	U

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Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-01	**Date Collected**	: 05/22/24 10:15
Client ID	: SB-08-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:26
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: MJR
Lab File ID	: WG1927543.pdf	**Instrument ID**	: NIC3
Sample Amount	: 0.399g	**%Solids**	: 80
Digestion Method	: EPA 7471B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.078	0.051	U

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Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-02	**Date Collected**	: 05/22/24 12:05
Client ID	: SB-13-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:29
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: MJR
Lab File ID	: WG1927543.pdf	**Instrument ID**	: NIC3
Sample Amount	: 0.397g	**%Solids**	: 84
Digestion Method	: EPA 7471B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.075	0.049	U

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Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-03	**Date Collected**	: 05/22/24 14:30
Client ID	: SB-12-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:32
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: MJR
Lab File ID	: WG1927543.pdf	**Instrument ID**	: NIC3
Sample Amount	: 0.391g	**%Solids**	: 82
Digestion Method	: EPA 7471B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	0.241	0.078	0.051	

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Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-04	**Date Collected**	: 05/22/24 08:45
Client ID	: SB-08-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:36
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: MJR
Lab File ID	: WG1927543.pdf	**Instrument ID**	: NIC3
Sample Amount	: 0.394g	**%Solids**	: 81
Digestion Method	: EPA 7471B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	0.079	0.078	0.051	

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Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-05	**Date Collected**	: 05/22/24 08:45
Client ID	: DUP-B-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:50
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: MJR
Lab File ID	: WG1927543.pdf	**Instrument ID**	: NIC3
Sample Amount	: 0.39g	**%Solids**	: 82
Digestion Method	: EPA 7471B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	0.051	0.079	0.051	J

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METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-06	**Date Collected**	: 05/22/24 08:30
Client ID	: SB-09-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:53
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: MJR
Lab File ID	: WG1927543.pdf	**Instrument ID**	: NIC3
Sample Amount	: 0.394g	**%Solids**	: 90
Digestion Method	: EPA 7471B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.070	0.046	U

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METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-07	**Date Collected**	: 05/22/24 10:40
Client ID	: SB-09-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:56
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: MJR
Lab File ID	: WG1927543.pdf	**Instrument ID**	: NIC3
Sample Amount	: 0.39g	**%Solids**	: 70
Digestion Method	: EPA 7471B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	0.065	0.091	0.060	J

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METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-08	**Date Collected**	: 05/22/24 11:20
Client ID	: SB-17-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 20:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: MJR
Lab File ID	: WG1927543.pdf	**Instrument ID**	: NIC3
Sample Amount	: 0.393g	**%Solids**	: 94
Digestion Method	: EPA 7471B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.067	0.044	U

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METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-09	**Date Collected**	: 05/22/24 11:30
Client ID	: SB-18-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 20:03
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: MJR
Lab File ID	: WG1927543.pdf	**Instrument ID**	: NIC3
Sample Amount	: 0.393g	**%Solids**	: 85
Digestion Method	: EPA 7471B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.075	0.049	U

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METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-10	**Date Collected**	: 05/22/24 11:35
Client ID	: SB-18-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 20:06
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: MJR
Lab File ID	: WG1927543.pdf	**Instrument ID**	: NIC3
Sample Amount	: 0.395g	**%Solids**	: 84
Digestion Method	: EPA 7471B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.075	0.049	U

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METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-11	**Date Collected**	: 05/22/24 12:00
Client ID	: SB-13-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 20:10
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: MJR
Lab File ID	: WG1927543.pdf	**Instrument ID**	: NIC3
Sample Amount	: 0.397g	**%Solids**	: 82
Digestion Method	: EPA 7471B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.077	0.050	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-12	**Date Collected**	: 05/22/24 13:30
Client ID	: SB-11-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 20:13
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: MJR
Lab File ID	: WG1927543.pdf	**Instrument ID**	: NIC3
Sample Amount	: 0.397g	**%Solids**	: 88
Digestion Method	: EPA 7471B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.072	0.047	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-13	**Date Collected**	: 05/22/24 13:35
Client ID	: SB-11-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:13
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: MJR
Lab File ID	: WG1927543.pdf	**Instrument ID**	: NIC3
Sample Amount	: 0.394g	**%Solids**	: 87
Digestion Method	: EPA 7471B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.073	0.048	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-14	**Date Collected**	: 05/22/24 14:35
Client ID	: SB-12-8FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 20:20
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: MJR
Lab File ID	: WG1927543.pdf	**Instrument ID**	: NIC3
Sample Amount	: 0.399g	**%Solids**	: 82
Digestion Method	: EPA 7471B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.077	0.050	U

Trivalent Chromium Analysis

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-01	**Date Collected**	: 05/22/24 10:15
Client ID	: SB-08-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 18:57
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 80
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	24.8	0.996	0.199	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-02	**Date Collected**	: 05/22/24 12:05
Client ID	: SB-13-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:03
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 84
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	20.1	0.951	0.190	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-03	**Date Collected**	: 05/22/24 14:30
Client ID	: SB-12-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:10
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 82
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	11.3	0.971	0.194	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-04	**Date Collected**	: 05/22/24 08:45
Client ID	: SB-08-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:16
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 81
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	17.8	0.986	0.197	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-05	**Date Collected**	: 05/22/24 08:45
Client ID	: DUP-B-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:22
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 82
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	13.6	0.980	0.196	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-06	**Date Collected**	: 05/22/24 08:30
Client ID	: SB-09-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:29
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 90
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	7.62	0.887	0.177	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-07	**Date Collected**	: 05/22/24 10:40
Client ID	: SB-09-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/31/24 17:16
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 70
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	21.2	2.22	0.228	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-08	**Date Collected**	: 05/22/24 11:20
Client ID	: SB-17-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:42
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 94
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	1.86	0.847	0.169	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-09	**Date Collected**	: 05/22/24 11:30
Client ID	: SB-18-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:48
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 85
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	8.60	0.938	0.188	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-10	**Date Collected**	: 05/22/24 11:35
Client ID	: SB-18-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 19:55
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 84
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	18.9	0.954	0.191	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-11	**Date Collected**	: 05/22/24 12:00
Client ID	: SB-13-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 20:40
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 82
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	10.6	0.979	0.196	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-12	**Date Collected**	: 05/22/24 13:30
Client ID	: SB-11-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 22:13
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 88
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	15.9	1.71	0.182	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-13	**Date Collected**	: 05/22/24 13:35
Client ID	: SB-11-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 17:49
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 87
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	15.0	0.923	0.184	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-14	**Date Collected**	: 05/22/24 14:35
Client ID	: SB-12-8FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 20:53
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 82
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	20.3	0.979	0.196	

Calculations of Trivalent Chromium

Calculate the concentration value based on results for Total Chromium and Hexavalent Chromium.

Aqueous samples:

$mgCr^{+3}/L = \text{Total Cr (mg/l)} - Cr^{+6}\ (mg/l)$

Soil samples:

$mgCr^{+3}/Kg = \text{Total Cr (mg/Kg)} - Cr^{+6}\ (mg/Kg)$

Ignitability Analysis

No data validation qualifiers were added

MKP 7/22/2024

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-15	**Date Collected**	: 05/22/24 13:30
Client ID	: WC-01-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 17:15
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,1030	**Analyst**	: REM
Lab File ID	: WG1927752.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 90
Digestion Method	:	**Date Digested**	:

CAS NO.	Parameter	Results	RL	MDL	Qualifier
NONE	Ignitability	NI		NA	

pH
Analysis

No data validation qualifiers were added

MKP 7/22/2024

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-15	**Date Collected**	: 05/22/24 13:30
Client ID	: WC-01-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/29/24 20:38
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9045D	**Analyst**	: AAS
Lab File ID	: WG1927200.pdf	**Instrument ID**	: PH3
Sample Amount	:	**%Solids**	: 90
Digestion Method	:	**Date Digested**	:

		SU			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12408-02-5	pH (H)	7.86	-	NA	

Reactivity Analysis

No data validation qualifiers were added

MKP 7/22/2024

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-15	**Date Collected**	: 05/22/24 13:30
Client ID	: WC-01-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 17:24
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 125,7.3	**Analyst**	: JLB
Lab File ID	: WG1927706.csv	**Instrument ID**	: GENSYS10VI
Sample Amount	:	**%Solids**	: 90
Digestion Method	:	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Reactive	ND	10	10.	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-15	**Date Collected**	: 05/22/24 13:30
Client ID	: WC-01-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 17:39
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 125,7.3	**Analyst**	: JLB
Lab File ID	: WG1927708.csv	**Instrument ID**	: GENSYS10VI
Sample Amount	:	**%Solids**	: 90
Digestion Method	:	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	Sulfide, Reactive	ND	10	10.	U

Cyanide Analysis

No data validation qualifiers were added

MKP 7/22/2024

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-01	**Date Collected**	: 05/22/24 10:15
Client ID	: SB-08-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/05/24 09:27
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060524-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0854g	**%Solids**	: 80
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.1	0.24	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-02	**Date Collected**	: 05/22/24 12:05
Client ID	: SB-13-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/05/24 09:41
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060524-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.096g	**%Solids**	: 84
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.1	0.23	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-03	**Date Collected**	: 05/22/24 14:30
Client ID	: SB-12-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/05/24 09:44
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060524-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0934g	**%Solids**	: 82
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.1	0.24	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-04	**Date Collected**	: 05/22/24 08:45
Client ID	: SB-08-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/05/24 09:32
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060524-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0848g	**%Solids**	: 81
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.1	0.24	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-05	**Date Collected**	: 05/22/24 08:45
Client ID	: DUP-B-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/05/24 09:33
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060524-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0337g	**%Solids**	: 82
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.2	0.25	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-06	**Date Collected**	: 05/22/24 08:30
Client ID	: SB-09-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/05/24 09:34
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060524-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0612g	**%Solids**	: 90
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.0	0.22	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-07	**Date Collected**	: 05/22/24 10:40
Client ID	: SB-09-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/05/24 09:35
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060524-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0077g	**%Solids**	: 70
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.4	0.30	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-08	**Date Collected**	: 05/22/24 11:20
Client ID	: SB-17-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/05/24 09:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060524-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0534g	**%Solids**	: 94
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.0	0.21	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-09	**Date Collected**	: 05/22/24 11:30
Client ID	: SB-18-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/05/24 09:46
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060524-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0306g	**%Solids**	: 85
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.1	0.24	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-10	**Date Collected**	: 05/22/24 11:35
Client ID	: SB-18-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/05/24 09:47
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060524-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0222g	**%Solids**	: 84
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.2	0.25	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-11	**Date Collected**	: 05/22/24 12:00
Client ID	: SB-13-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/05/24 09:48
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060524-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0881g	**%Solids**	: 82
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.1	0.24	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-12	**Date Collected**	: 05/22/24 13:30
Client ID	: SB-11-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/05/24 09:49
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060524-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0367g	**%Solids**	: 88
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.1	0.23	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-13	**Date Collected**	: 05/22/24 13:35
Client ID	: SB-11-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/05/24 09:50
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060524-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0514g	**%Solids**	: 87
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.1	0.23	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-14	**Date Collected**	: 05/22/24 14:35
Client ID	: SB-12-8FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 06/05/24 09:54
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN060524-A	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0028g	**%Solids**	: 82
Digestion Method	:	**Date Digested**	: 06/04/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.2	0.26	U

Hexavalent Chromium Analysis

No data validation qualifiers were added

MKP 7/22/2024

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-01	**Date Collected**	: 05/22/24 10:15
Client ID	: SB-08-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 14:54
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1927357.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5683g	**%Solids**	: 80
Digestion Method	: EPA 3060A	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.996	0.199	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-02	**Date Collected**	: 05/22/24 12:05
Client ID	: SB-13-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 14:54
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1927357.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5076g	**%Solids**	: 84
Digestion Method	: EPA 3060A	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.951	0.190	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-03	**Date Collected**	: 05/22/24 14:30
Client ID	: SB-12-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 14:54
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1927357.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.4906g	**%Solids**	: 82
Digestion Method	: EPA 3060A	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.971	0.194	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-04	**Date Collected**	: 05/22/24 08:45
Client ID	: SB-08-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 14:54
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1927357.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.4943g	**%Solids**	: 81
Digestion Method	: EPA 3060A	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.986	0.197	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-05	**Date Collected**	: 05/22/24 08:45
Client ID	: DUP-B-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 14:54
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1927357.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.4824g	**%Solids**	: 82
Digestion Method	: EPA 3060A	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.980	0.196	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-06	**Date Collected**	: 05/22/24 08:30
Client ID	: SB-09-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 14:54
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1927357.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5307g	**%Solids**	: 90
Digestion Method	: EPA 3060A	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.887	0.177	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-07	**Date Collected**	: 05/22/24 10:40
Client ID	: SB-09-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 14:54
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1927357.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5165g	**%Solids**	: 70
Digestion Method	: EPA 3060A	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	1.14	0.228	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-08	**Date Collected**	: 05/22/24 11:20
Client ID	: SB-17-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 14:54
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1927357.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5132g	**%Solids**	: 94
Digestion Method	: EPA 3060A	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.847	0.169	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-09	**Date Collected**	: 05/22/24 11:30
Client ID	: SB-18-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 14:54
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1927357.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.4506g	**%Solids**	: 85
Digestion Method	: EPA 3060A	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.938	0.188	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-10	**Date Collected**	: 05/22/24 11:35
Client ID	: SB-18-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 14:54
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1927357.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5947g	**%Solids**	: 84
Digestion Method	: EPA 3060A	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.954	0.191	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-11	**Date Collected**	: 05/22/24 12:00
Client ID	: SB-13-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 15:32
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1927358.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5053g	**%Solids**	: 82
Digestion Method	: EPA 3060A	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.979	0.196	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-12	**Date Collected**	: 05/22/24 13:30
Client ID	: SB-11-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 15:32
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1927358.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5954g	**%Solids**	: 88
Digestion Method	: EPA 3060A	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.910	0.182	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-13	**Date Collected**	: 05/22/24 13:35
Client ID	: SB-11-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 15:32
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1927358.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5878g	**%Solids**	: 87
Digestion Method	: EPA 3060A	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.923	0.184	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428514-14	**Date Collected**	: 05/22/24 14:35
Client ID	: SB-12-8FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/30/24 15:32
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1927358.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5486g	**%Solids**	: 82
Digestion Method	: EPA 3060A	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.979	0.196	U

Total Solids / Percent Moisture Analysis

No data validation qualifiers were added

MKP 7/22/2024

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: 593.003.002
Lab ID	: L2428514-01	**Date Collected**	: 05/22/24 10:15
Client ID	: SB-08-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/23/24 11:25
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924900.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 80
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**80.3**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: 593.003.002
Lab ID	: L2428514-02	**Date Collected**	: 05/22/24 12:05
Client ID	: SB-13-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/23/24 11:25
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924900.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 84
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**84.1**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: 593.003.002
Lab ID	: L2428514-03	**Date Collected**	: 05/22/24 14:30
Client ID	: SB-12-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/23/24 11:25
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924900.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 82
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**82.4**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: 593.003.002
Lab ID	: L2428514-04	**Date Collected**	: 05/22/24 08:45
Client ID	: SB-08-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/23/24 11:25
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924900.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 81
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**81.1**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: 593.003.002
Lab ID	: L2428514-05	**Date Collected**	: 05/22/24 08:45
Client ID	: DUP-B-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/23/24 11:25
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924900.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 82
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**81.6**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: 593.003.002
Lab ID	: L2428514-06	**Date Collected**	: 05/22/24 08:30
Client ID	: SB-09-3FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/23/24 11:25
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924900.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 90
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**90.2**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: 593.003.002
Lab ID	: L2428514-07	**Date Collected**	: 05/22/24 10:40
Client ID	: SB-09-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/23/24 11:25
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924900.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 70
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**70.2**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: 593.003.002
Lab ID	: L2428514-08	**Date Collected**	: 05/22/24 11:20
Client ID	: SB-17-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/23/24 11:25
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924900.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 94
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**94.4**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: 593.003.002
Lab ID	: L2428514-09	**Date Collected**	: 05/22/24 11:30
Client ID	: SB-18-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/23/24 11:25
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924900.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 85
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**85.3**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: 593.003.002
Lab ID	: L2428514-10	**Date Collected**	: 05/22/24 11:35
Client ID	: SB-18-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/23/24 11:25
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924900.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 84
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**83.9**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: 593.003.002
Lab ID	: L2428514-11	**Date Collected**	: 05/22/24 12:00
Client ID	: SB-13-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/23/24 11:25
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924900.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 82
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**81.7**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: 593.003.002
Lab ID	: L2428514-12	**Date Collected**	: 05/22/24 13:30
Client ID	: SB-11-2FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/23/24 11:25
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924900.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 88
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**87.9**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: 593.003.002
Lab ID	: L2428514-13	**Date Collected**	: 05/22/24 13:35
Client ID	: SB-11-7FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/23/24 11:25
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924900.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 87
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**86.7**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: 593.003.002
Lab ID	: L2428514-14	**Date Collected**	: 05/22/24 14:35
Client ID	: SB-12-8FT. 20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/23/24 11:25
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924900.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 82
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**81.7**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: 593.003.002
Lab ID	: L2428514-15	**Date Collected**	: 05/22/24 13:30
Client ID	: WC-01-20240522	**Date Received**	: 05/22/24
Sample Location	:	**Date Analyzed**	: 05/23/24 11:25
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1924900.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 90
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**90.2**	**0.100**	**NA**	

Appendix B

Laboratory QC Documentation

Calibration Verification Summary
Form 7
Volatiles

Client	: C&S Companies		Lab Number	: L2428514	
Project Name	: 1803 ELMWOOD AVENUE BCP-RI		Project Number	: S93.003.002	
Instrument ID	: QUIMBY		Calibration Date	: 05/30/24 04:44	
Lab File ID	: VQ240530A01		Init. Calib. Date(s)	: 04/24/24	04/24/24
Sample No	: WG1927577-2		Init. Calib. Times	: 15:09	18:58
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	63	-.02
Vinyl chloride	0.167	0.182	-	-9	20	73	-.01
1,1-Dichloroethene	0.116	0.113	-	2.6	20	68	-.02
Chloroform	0.268	0.285	-	-6.3	20	72	-.02
Carbon tetrachloride	0.212	0.211	-	0.5	20	68	-.01
Dibromofluoromethane	0.253	0.262	-	-3.6	20	66	-.02
2-Butanone	0.074	0.057	-	23*	20	50	-.02
Benzene	0.609	0.634	-	-4.1	20	71	-.02
1,2-Dichloroethane-d4	0.292	0.339	-	-16.1	20	71	-.02
1,2-Dichloroethane	0.22	0.228	-	-3.6	20	70	-.02
Trichloroethene	0.168	0.159*	-	5.4	20	67	-.01
Chlorobenzene-d5	1	1	-	0	20	60	-.01
Toluene-d8	1.301	1.344	-	-3.3	20	61	-.01
Tetrachloroethene	0.217	0.214	-	1.4	20	62	-.01
Chlorobenzene	0.575	0.552	-	4	20	60	-.01
1,4-Dichlorobenzene-d4	1	1	-	0	20	62	-.01
4-Bromofluorobenzene	0.911	0.821	-	9.9	20	55	-.01
1,4-Dichlorobenzene	0.837	0.788	-	5.9	20	61	-.01

* Value outside of QC limits.

Matrix Spike Sample Summary
Form 3
Volatiles

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Client Sample ID	: SB-11-7FT. 20240522	Matrix (Level)	: SOIL (LOW)
Lab Sample ID	: L2428514-13	Analysis Date	: 05/26/24 20:25
Matrix Spike	: WG1926578-6	MS Analysis Date	: 05/29/24 17:26
Matrix Spike Dup	: WG1926578-7	MSD Analysis Date	: 05/29/24 17:52

		Matrix Spike Sample				Matrix Spike Duplicate						
Parameter	Sample Conc. (ug/kg)	Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R		Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R		RPD	Recovery Limits	RPD Limit
Methylene chloride	ND	72.4	28	38	Q	86.3	33	38	Q	17	70-130	30
1,1-Dichloroethane	ND	72.4	32	44	Q	86.3	37	43	Q	15	70-130	30
Chloroform	ND	72.4	33	46	Q	86.3	38	44	Q	14	70-130	30
Carbon tetrachloride	ND	72.4	44	61	Q	86.3	48	55	Q	8	70-130	30
Tetrachloroethene	ND	72.4	34	47	Q	86.3	35	40	Q	2	70-130	30
Chlorobenzene	ND	72.4	31	42	Q	86.3	33	39	Q	8	70-130	30
1,2-Dichloroethane	ND	72.4	32	44	Q	86.3	37	43	Q	15	70-130	30
1,1,1-Trichloroethane	ND	72.4	42	58	Q	86.3	46	53	Q	8	70-130	30
Benzene	ND	72.4	32	45	Q	86.3	37	42	Q	13	70-130	30
Toluene	ND	72.4	31	43	Q	86.3	33	39	Q	7	70-130	30
Ethylbenzene	ND	72.4	32	44	Q	86.3	33	39	Q	5	70-130	30
Vinyl chloride	ND	72.4	40	56	Q	86.3	49	57	Q	19	67-130	30
1,1-Dichloroethene	ND	72.4	37	50	Q	86.3	42	49	Q	15	65-135	30
trans-1,2-Dichloroethene	ND	72.4	35	48	Q	86.3	39	45	Q	10	70-130	30
Trichloroethene	ND	72.4	36	50	Q	86.3	39	45	Q	8	70-130	30
1,2-Dichlorobenzene	ND	72.4	26	36	Q	86.3	26	30	Q	0	70-130	30
1,3-Dichlorobenzene	ND	72.4	26	36	Q	86.3	26	30	Q	2	70-130	30
1,4-Dichlorobenzene	ND	72.4	25	35	Q	86.3	26	30	Q	2	70-130	30
Methyl tert butyl ether	ND	72.4	28	39	Q	86.3	32	37	Q	13	66-130	30
p/m-Xylene	ND	145	64	44	Q	173	67	39	Q	4	70-130	30
o-Xylene	ND	145	63	43	Q	173	67	38	Q	6	70-130	30
cis-1,2-Dichloroethene	0.17J	72.4	32	45	Q	86.3	38	44	Q	16	70-130	30

Matrix Spike Sample Summary
Form 3
Volatiles

Client	: C&S Companies	**Lab Number**	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Client Sample ID	: SB-11-7FT. 20240522	**Matrix (Level)**	: SOIL (LOW)
Lab Sample ID	: L2428514-13	**Analysis Date**	: 05/26/24 20:25
Matrix Spike	: WG1926578-6	**MS Analysis Date**	: 05/29/24 17:26
Matrix Spike Dup	: WG1926578-7	**MSD Analysis Date**	: 05/29/24 17:52

		Matrix Spike Sample				Matrix Spike Duplicate						
Parameter	**Sample Conc. (ug/kg)**	**Spike Added (ug/kg)**	**Spike Conc. (ug/kg)**	**%R**		**Spike Added (ug/kg)**	**Spike Conc. (ug/kg)**	**%R**		**RPD**	**Recovery Limits**	**RPD Limit**
Acetone	ND	72.4	30	42	Q	86.3	38	43	Q	21	54-140	30
2-Butanone	ND	72.4	28	39	Q	86.3	33	39	Q	16	70-130	30
n-Butylbenzene	ND	72.4	27	37	Q	86.3	25	28	Q	9	70-130	30
sec-Butylbenzene	ND	72.4	29	41	Q	86.3	28	32	Q	6	70-130	30
tert-Butylbenzene	ND	72.4	31	43	Q	86.3	31	36	Q	0	70-130	30
n-Propylbenzene	ND	72.4	30	42	Q	86.3	30	35	Q	0	70-130	30
1,3,5-Trimethylbenzene	ND	72.4	30	42	Q	86.3	30	35	Q	0	70-130	30
1,2,4-Trimethylbenzene	ND	72.4	29	41	Q	86.3	29	34	Q	1	70-130	30
1,4-Dioxane	ND	3620	2800	76		4320	3900	89		33	Q 65-136	30

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: WG1926578-5	Date Collected	: NA
Client ID	: WG1926578-5BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/26/24 16:05
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V23240526A05	Instrument ID	: VOA123
Sample Amount	: 5.0 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: NA
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	5.0	2.3	U
75-34-3	1,1-Dichloroethane	ND	1.0	0.14	U
67-66-3	Chloroform	0.54	1.5	0.14	J
56-23-5	Carbon tetrachloride	ND	1.0	0.23	U
127-18-4	Tetrachloroethene	ND	0.50	0.20	U
108-90-7	Chlorobenzene	ND	0.50	0.13	U
107-06-2	1,2-Dichloroethane	ND	1.0	0.26	U
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.17	U
108-88-3	Toluene	ND	1.0	0.54	U
100-41-4	Ethylbenzene	ND	1.0	0.14	U
75-01-4	Vinyl chloride	ND	1.0	0.34	U
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	U
156-60-5	trans-1,2-Dichloroethene	ND	1.5	0.14	U
79-01-6	Trichloroethene	ND	0.50	0.14	U
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.14	U
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.15	U
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.17	U
1634-04-4	Methyl tert butyl ether	ND	2.0	0.20	U
179601-23-1	p/m-Xylene	ND	2.0	0.56	U
95-47-6	o-Xylene	ND	1.0	0.29	U
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.18	U
67-64-1	Acetone	ND	10	4.8	U
78-93-3	2-Butanone	ND	10	2.2	U
104-51-8	n-Butylbenzene	ND	1.0	0.17	U

Results Summary
Form 1
Volatile Organics by EPA 5035 High

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: WG1926582-5	Date Collected	: NA
Client ID	: WG1926582-5BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/26/24 16:05
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V23240526A05	Instrument ID	: VOA123
Sample Amount	: 15.0 g	GC Column	: RTX-VMS
Level	: HIGH	%Solids	: NA
Extract Volume (MeOH)	: 15 ml	Injection Volume	: N/A

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	250	110	U
75-34-3	1,1-Dichloroethane	ND	50	7.2	U
67-66-3	Chloroform	27	75	7.0	J
56-23-5	Carbon tetrachloride	ND	50	12.	U
127-18-4	Tetrachloroethene	ND	25	9.8	U
108-90-7	Chlorobenzene	ND	25	6.4	U
107-06-2	1,2-Dichloroethane	ND	50	13.	U
71-55-6	1,1,1-Trichloroethane	ND	25	8.4	U
71-43-2	Benzene	ND	25	8.3	U
108-88-3	Toluene	ND	50	27.	U
100-41-4	Ethylbenzene	ND	50	7.0	U
75-01-4	Vinyl chloride	ND	50	17.	U
75-35-4	1,1-Dichloroethene	ND	50	12.	U
156-60-5	trans-1,2-Dichloroethene	ND	75	6.8	U
79-01-6	Trichloroethene	ND	25	6.8	U
95-50-1	1,2-Dichlorobenzene	ND	100	7.2	U
541-73-1	1,3-Dichlorobenzene	ND	100	7.4	U
106-46-7	1,4-Dichlorobenzene	ND	100	8.6	U
1634-04-4	Methyl tert butyl ether	ND	100	10.	U
179601-23-1	p/m-Xylene	ND	100	28.	U
95-47-6	o-Xylene	ND	50	14.	U
156-59-2	cis-1,2-Dichloroethene	ND	50	8.8	U
67-64-1	Acetone	ND	500	240	U
78-93-3	2-Butanone	ND	500	110	U
104-51-8	n-Butylbenzene	ND	50	8.4	U

Initial Calibration Summary
Form 6
Volatiles

Client	**: C&S Companies**	**Lab Number**	**: L2428514**
Project Name	**: 1803 ELMWOOD AVENUE BCP-RI**	**Project Number**	**: S93.003.002**
Instrument ID	**: VOA123**	**Ical Ref**	**: ICAL21135**
Calibration dates	**: 05/15/24 20:04 05/16/24 00:24**		

Calibration Files

L1 =V23240515N05.D L2 =V23240515N08.D L3 =V23240515N09.D L4 =V23240515N10.D L6 =V23240515N11.D

L7 =V23240515N12.D L8 =V23240515N13.D L0 =V23240515N03.D L1.5=V23240515N07.D

		Compound	L1	L2	L3	L4	L6	L7	L8	L0	L1.5	Avg	%RSD
41)	TP	Benzene	1.043	1.219	1.170	1.149	1.232	1.149	1.197	1.076	1.009	1.138	6.92
42)	TP	tert-Amyl methyl ether	0.795	0.868	0.899	0.917	0.980	0.936	0.947		0.773	0.889	8.22
43)	S	1,2-Dichloroethane-d4	0.410	0.430	0.430	0.436	0.431	0.420	0.396	0.409	0.420	0.420	3.17
44)	TP	1,2-Dichloroethane	0.673	0.686	0.689	0.694	0.704	0.628	0.605		0.659	0.667	5.19
47)	TP	Methyl cyclohexane	0.461	0.505	0.503	0.492	0.524	0.509	0.549		0.491	0.504	5.06
48)	TP	Trichloroethene	0.350	0.379	0.365	0.360	0.388	0.360	0.374	0.273	0.335	0.354	9.65
50)	TP	Dibromomethane	0.185	0.205	0.203	0.207	0.212	0.203	0.201		0.182	0.200	5.29
51)	TC	1,2-Dichloropropane	0.281	0.310	0.313	0.322	0.334	0.317	0.332		0.303	0.314	5.40
53)	TP	2-Chloroethyl vinyl ether		0.139	0.154	0.172	0.182	0.174	0.179		0.095	0.156	19.77
54)	TP	Bromodichloromethane	0.499	0.585	0.594	0.612	0.635	0.584	0.584	0.428	0.507	0.559	11.90
57)	TP	1,4-Dioxane		0.001	0.002	0.002	0.002	0.002	0.002		0.001	*L	0.9995
58)	TP	cis-1,3-Dichloropropene	0.409	0.490	0.532	0.553	0.583	0.550	0.561	0.358	0.450	0.498	15.54
59)	I	Chlorobenzene-d5	----------ISTD----------										
60)	S	Toluene-d8	1.320	1.343	1.325	1.331	1.299	1.326	1.331	1.345	1.352	1.330	1.17
61)	TC	Toluene	0.890	1.021	1.007	0.983	1.032	0.966	1.029		0.888	0.977	6.01
62)	TP	4-Methyl-2-pentanone		0.082	0.110	0.115	0.127	0.129	0.136			0.116	16.76
63)	TP	Tetrachloroethene	0.453	0.559	0.518	0.509	0.529	0.481	0.516	0.389	0.446	0.489	10.68
65)	TP	trans-1,3-Dichloropropene	0.452	0.645	0.699	0.694	0.738	0.699	0.723		0.515	0.645	16.27
67)	TP	Ethyl methacrylate		0.293	0.362	0.374	0.409	0.406	0.430			0.379	12.91
68)	TP	1,1,2-Trichloroethane	0.228	0.255	0.260	0.255	0.265	0.259	0.270		0.223	0.252	6.83
69)	TP	Chlorodibromomethane	0.360	0.475	0.500	0.493	0.512	0.491	0.500	0.443	0.447	0.469	10.10
70)	TP	1,3-Dichloropropane	0.469	0.560	0.582	0.577	0.595	0.565	0.589		0.517	0.557	7.74
71)	TP	1,2-Dibromoethane	0.232	0.315	0.322	0.323	0.341	0.325	0.337	0.261	0.274	0.303	12.58
72)	TP	2-Hexanone		0.097	0.189	0.205	0.224	0.234	0.243			*L	0.9988
73)	TP	Chlorobenzene	1.028	1.114	1.101	1.093	1.157	1.075	1.122	0.867	0.978	1.059	8.45
74)	TC	Ethylbenzene	1.848	2.239	2.130	2.066	2.189	2.027	2.120		1.956	2.072	6.12
75)	TP	1,1,1,2-Tetrachloroethane	0.441	0.455	0.492	0.482	0.506	0.473	0.482	0.336	0.409	0.453	11.64
76)	TP	p/m Xylene	0.622	0.787	0.750	0.730	0.789	0.727	0.774	0.621	0.652	0.717	9.51
77)	TP	o Xylene	0.615	0.754	0.737	0.716	0.761	0.706	0.737	0.592	0.664	0.698	8.75
78)	TP	Styrene	0.955	1.216	1.190	1.203	1.282	1.196	1.255	0.954	1.017	1.141	11.29
79)	I	1,4-Dichlorobenzene-d4	----------ISTD----------										
80)	TP	Bromoform	0.476	0.544	0.565	0.576	0.588	0.585	0.605		0.444	0.548	10.54
82)	TP	Isopropylbenzene	3.206	3.522	3.512	3.410	3.552	3.373	3.534		3.286	3.424	3.74
83)	S	4-Bromofluorobenzene	0.942	0.924	0.940	0.912	0.892	0.908	0.902	0.934	0.912	0.919	1.92
84)	TP	Bromobenzene	0.849	0.912	0.919	0.916	0.929	0.880	0.916		0.843	0.895	3.76
85)	TP	n-Propylbenzene	3.662	4.203	4.094	4.039	4.199	3.950	4.137		3.796	4.010	4.88

Calibration Verification Summary
Form 7
Volatiles

Client	: C&S Companies		Lab Number	: L2428514	
Project Name	: 1803 ELMWOOD AVENUE BCP-RI		Project Number	: S93.003.002	
Instrument ID	: VOA123		Calibration Date	: 05/26/24 14:47	
Lab File ID	: V23240526A02		Init. Calib. Date(s)	: 05/15/24	05/16/24
Sample No	: WG1926578-2		Init. Calib. Times	: 20:04	00:24
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
Fluorobenzene	1	1	-	0	20	155	0	
Dichlorodifluoromethane	0.556	0.43	-	22.7*	20	117	0	NT
Chloromethane	0.418	0.349	-	16.5	20	128	0	
Vinyl chloride	0.385	0.351	-	8.8	20	134	0	
Bromomethane	0.279	0.232	-	16.8	20	140	0	
Chloroethane	0.217	0.21	-	3.2	20	143	0	
Trichlorofluoromethane	0.778	0.66	-	15.2	20	125	0	
Ethyl ether	0.129	0.123	-	4.7	20	147	0	
1,1-Dichloroethene	0.254	0.248	-	2.4	20	153	0	
Carbon disulfide	0.918	0.866	-	5.7	20	155	0	
Freon-113	0.307	0.298	-	2.9	20	150	0	
Acrolein	0.042	0.035	-	16.7	20	126	0	
Methylene chloride	0.312	0.256	-	17.9	20	131	0	
Acetone	0.081	0.061	-	24.7*	20	118	0	
trans-1,2-Dichloroethene	0.296	0.286	-	3.4	20	151	0	
Methyl acetate	0.155	0.132	-	14.8	20	127	0	
Methyl tert-butyl ether	0.934	0.79	-	15.4	20	128	0	
tert-Butyl alcohol	0.03	0.024	-	20	20	114	0	
Diisopropyl ether	1.143	1.018	-	10.9	20	134	0	
1,1-Dichloroethane	0.665	0.589	-	11.4	20	135	0	
Halothane	0.201	0.207	-	-3	20	154	0	
Acrylonitrile	0.069	0.061	-	11.6	20	132	0	
Ethyl tert-butyl ether	1.213	1.035	-	14.7	20	126	0	
Vinyl acetate	0.71	0.525	-	26.1*	20	105	0	NT
cis-1,2-Dichloroethene	0.326	0.31	-	4.9	20	144	0	
2,2-Dichloropropane	0.643	0.555	-	13.7	20	130	0	
Bromochloromethane	0.149	0.139	-	6.7	20	141	0	
Cyclohexane	0.564	0.533	-	5.5	20	149	0	
Chloroform	0.718	0.624	-	13.1	20	131	0	
Ethyl acetate	0.259	0.214	-	17.4	20	125	0	
Carbon tetrachloride	0.647	0.578	-	10.7	20	132	0	
Tetrahydrofuran	0.068	0.056	-	17.6	20	130	0	
Dibromofluoromethane	0.299	0.276	-	7.7	20	140	0	
1,1,1-Trichloroethane	0.709	0.627	-	11.6	20	130	0	
2-Butanone	0.101	0.085	-	15.8	20	123	0	
1,1-Dichloropropene	0.444	0.428	-	3.6	20	144	0	
Benzene	1.138	1.084	-	4.7	20	146	0	
tert-Amyl methyl ether	0.889	0.802	-	9.8	20	135	0	
1,2-Dichloroethane-d4	0.42	0.353	-	16	20	125	0	
1,2-Dichloroethane	0.667	0.515	-	22.8*	20	115	0	
Methyl cyclohexane	0.504	0.485	-	3.8	20	153	0	
Trichloroethene	0.354	0.346	-	2.3	20	149	0	
Dibromomethane	0.2	0.172	-	14	20	129	0	

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: C&S Companies		Lab Number	: L2428514	
Project Name	: 1803 ELMWOOD AVENUE BCP-RI		Project Number	: S93.003.002	
Instrument ID	: VOA123		Calibration Date	: 05/26/24 14:47	
Lab File ID	: V23240526A02		Init. Calib. Date(s)	: 05/15/24	05/16/24
Sample No	: WG1926582-2		Init. Calib. Times	: 20:04	00:24
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
Fluorobenzene	1	1	-	0	20	155	0	
Dichlorodifluoromethane	0.556	0.43	-	22.7*	20	117	0	NT
Chloromethane	0.418	0.349	-	16.5	20	128	0	
Vinyl chloride	0.385	0.351	-	8.8	20	134	0	
Bromomethane	0.279	0.232	-	16.8	20	140	0	
Chloroethane	0.217	0.21	-	3.2	20	143	0	
Trichlorofluoromethane	0.778	0.66	-	15.2	20	125	0	
Ethyl ether	0.129	0.123	-	4.7	20	147	0	
1,1-Dichloroethene	0.254	0.248	-	2.4	20	153	0	
Carbon disulfide	0.918	0.866	-	5.7	20	155	0	
Freon-113	0.307	0.298	-	2.9	20	150	0	
Acrolein	0.042	0.035	-	16.7	20	126	0	
Methylene chloride	0.312	0.256	-	17.9	20	131	0	
Acetone	0.081	0.061	-	24.7*	20	118	0	
trans-1,2-Dichloroethene	0.296	0.286	-	3.4	20	151	0	
Methyl acetate	0.155	0.132	-	14.8	20	127	0	
Methyl tert-butyl ether	0.934	0.79	-	15.4	20	128	0	
tert-Butyl alcohol	0.03	0.024	-	20	20	114	0	
Diisopropyl ether	1.143	1.018	-	10.9	20	134	0	
1,1-Dichloroethane	0.665	0.589	-	11.4	20	135	0	
Halothane	0.201	0.207	-	-3	20	154	0	
Acrylonitrile	0.069	0.061	-	11.6	20	132	0	
Ethyl tert-butyl ether	1.213	1.035	-	14.7	20	126	0	
Vinyl acetate	0.71	0.525	-	26.1*	20	105	0	NT
cis-1,2-Dichloroethene	0.326	0.31	-	4.9	20	144	0	
2,2-Dichloropropane	0.643	0.555	-	13.7	20	130	0	
Bromochloromethane	0.149	0.139	-	6.7	20	141	0	
Cyclohexane	0.564	0.533	-	5.5	20	149	0	
Chloroform	0.718	0.624	-	13.1	20	131	0	
Ethyl acetate	0.259	0.214	-	17.4	20	125	0	
Carbon tetrachloride	0.647	0.578	-	10.7	20	132	0	
Tetrahydrofuran	0.068	0.056	-	17.6	20	130	0	
Dibromofluoromethane	0.299	0.276	-	7.7	20	140	0	
1,1,1-Trichloroethane	0.709	0.627	-	11.6	20	130	0	
2-Butanone	0.101	0.085	-	15.8	20	123	0	
1,1-Dichloropropene	0.444	0.428	-	3.6	20	144	0	
Benzene	1.138	1.084	-	4.7	20	146	0	
tert-Amyl methyl ether	0.889	0.802	-	9.8	20	135	0	
1,2-Dichloroethane-d4	0.42	0.353	-	16	20	125	0	
1,2-Dichloroethane	0.667	0.515	-	22.8*	20	115	0	
Methyl cyclohexane	0.504	0.485	-	3.8	20	153	0	
Trichloroethene	0.354	0.346	-	2.3	20	149	0	
Dibromomethane	0.2	0.172	-	14	20	129	0	

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: C&S Companies		Lab Number	: L2428514	
Project Name	: 1803 ELMWOOD AVENUE BCP-RI		Project Number	: S93.003.002	
Instrument ID	: VOA123		Calibration Date	: 05/29/24 07:30	
Lab File ID	: V23240529A01		Init. Calib. Date(s)	: 05/15/24	05/16/24
Sample No	: WG1926578-9		Init. Calib. Times	: 20:04	00:24
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
Fluorobenzene	1	1	-	0	20	128	0	
Dichlorodifluoromethane	0.556	0.397	-	28.6*	20	89	0	NT
Chloromethane	0.418	0.322	-	23*	20	97	0	NT
Vinyl chloride	0.385	0.333	-	13.5	20	105	0	
Bromomethane	0.279	0.229	-	17.9	20	114	0	
Chloroethane	0.217	0.197	-	9.2	20	111	0	
Trichlorofluoromethane	0.778	0.637	-	18.1	20	100	0	
Ethyl ether	0.129	0.117	-	9.3	20	116	0	
1,1-Dichloroethene	0.254	0.219	-	13.8	20	112	0	
Carbon disulfide	0.918	0.757	-	17.5	20	112	0	
Freon-113	0.307	0.265	-	13.7	20	110	0	
Acrolein	0.042	0.037	-	11.9	20	111	0	
Methylene chloride	0.312	0.262	-	16	20	111	0	
Acetone	0.081	0.062	-	23.5*	20	100	0	
trans-1,2-Dichloroethene	0.296	0.254	-	14.2	20	111	0	
Methyl acetate	0.155	0.131	-	15.5	20	104	0	
Methyl tert-butyl ether	0.934	0.791	-	15.3	20	106	0	
tert-Butyl alcohol	0.03	0.026	-	13.3	20	103	0	
Diisopropyl ether	1.143	0.925	-	19.1	20	101	0	
1,1-Dichloroethane	0.665	0.531	-	20.2*	20	100	0	
Halothane	0.201	0.18	-	10.4	20	111	0	
Acrylonitrile	0.069	0.061	-	11.6	20	110	0	
Ethyl tert-butyl ether	1.213	0.99	-	18.4	20	100	0	
Vinyl acetate	0.71	0.554	-	22*	20	92	0	NT
cis-1,2-Dichloroethene	0.326	0.279	-	14.4	20	107	0	
2,2-Dichloropropane	0.643	0.541	-	15.9	20	105	0	
Bromochloromethane	0.149	0.128	-	14.1	20	107	0	
Cyclohexane	0.564	0.449	-	20.4*	20	104	0	NT
Chloroform	0.718	0.574	-	20.1*	20	99	0	
Ethyl acetate	0.259	0.205	-	20.8*	20	99	0	NT
Carbon tetrachloride	0.647	0.529	-	18.2	20	99	0	
Tetrahydrofuran	0.068	0.055	-	19.1	20	105	0	
Dibromofluoromethane	0.299	0.293	-	2	20	123	0	
1,1,1-Trichloroethane	0.709	0.592	-	16.5	20	101	0	
2-Butanone	0.101	0.083	-	17.8	20	99	0	
1,1-Dichloropropene	0.444	0.382	-	14	20	106	0	
Benzene	1.138	0.954	-	16.2	20	106	0	
tert-Amyl methyl ether	0.889	0.756	-	15	20	105	0	
1,2-Dichloroethane-d4	0.42	0.39	-	7.1	20	114	0	
1,2-Dichloroethane	0.667	0.522	-	21.7*	20	96	0	
Methyl cyclohexane	0.504	0.414	-	17.9	20	107	0	
Trichloroethene	0.354	0.302	-	14.7	20	107	0	
Dibromomethane	0.2	0.167	-	16.5	20	103	0	

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: C&S Companies		Lab Number	: L2428514	
Project Name	: 1803 ELMWOOD AVENUE BCP-RI		Project Number	: S93.003.002	
Instrument ID	: GCMS5		Calibration Date	: 05/29/24 00:09	
Lab File ID	: ABN0528N		Init. Calib. Date(s)	: 02/06/24	02/06/24
Sample No	: WG1926718-3		Init. Calib. Times	: 06:45	15:13
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
IS1_1,4-Dichlorobenzene-d4	1	1	-	0	20	120	0	
n-Nitrosodimethylamine	0.622	0.494	-	20.6*	20	97	0	NT
Pyridine	0.986	0.773	-	21.6*	20	92	0	
2-Fluorophenol	1.066	0.954	-	10.5	20	108	0	
Aniline	1.527	1.257	-	17.7	20	99	0	
2-Chlorophenol	1.268	1.192	-	6	20	112	0	
Phenol-d6	1.337	1.183	-	11.5	20	106	0	
Phenol	1.477	1.178	-	20.2*	20	96	0	NT
Bis(2-chloroethyl)ether	0.998	0.835	-	16.3	20	102	0	
1,3-Dichlorobenzene	1.497	1.39	-	7.1	20	114	0	
1,4-Dichlorobenzene	1.55	1.415	-	8.7	20	114	0	
1,2-Dichlorobenzene	1.475	1.355	-	8.1	20	113	0	
Benzyl alcohol	0.862	0.803	-	6.8	20	110	0	
Bis(2-chloroisopropyl)ethe	1.727	1.056	-	38.9*	20	74	0	NT
2-Methylphenol	1.028	0.93	-	9.5	20	108	0	
Hexachloroethane	0.512	0.487	-	4.9	20	116	0	
n-Nitrosodi-n-propylamine	0.75	0.656	-	12.5	20	105	0	
3-Methylphenol/4-Methylphe	1.105	1.023	-	7.4	20	109	0	
Nitrobenzene-d5	1.122	1.047	-	6.7	20	109	0	
Nitrobenzene	1.097	0.974	-	11.2	20	104	0	
Isophorone	2.035	1.832	-	10	20	107	0	
2-Nitrophenol	0.588	0.725	-	-23.3*	20	133	0	NT
2,4-Dimethylphenol	0.833	0.768	-	7.8	20	105	0	
Bis(2-chloroethoxy)methane	1.327	1.176	-	11.4	20	107	0	
2,4-Dichlorophenol	1.202	1.242	-	-3.3	20	122	0	
1,2,4-Trichlorobenzene	1.388	1.367	-	1.5	20	121	0	
IS1_Naphthalene-d8	1	1	-	0	20	122	0	
Naphthalene	1.053	0.942	-	10.5	20	112	0	
Benzoic Acid	0.228	0.25	-	-9.6	20	131	0	
4-Chloroaniline	0.105	0.088	-	16.2	20	102	0	
Hexachlorobutadiene	0.219	0.226	-	-3.2	20	129	0	
p-Chloro-m-cresol	0.272	0.273	-	-0.4	20	120	0	
2-Methylnaphthalene	0.704	0.673	-	4.4	20	118	0	
1-Methylnaphthalene	0.213	0.205	-	3.8	20	119	0	
Hexachlorocyclopentadiene	0.178	0.204	-	-14.6	20	133	0	
2,4,6-Trichlorophenol	0.255	0.285	-	-11.8	20	133	0	
2,4,5-Trichlorophenol	0.276	0.304	-	-10.1	20	132	0	
2-Fluorobiphenyl	0.889	0.887	-	0.2	20	125	0	
2-Chloronaphthalene	0.737	0.738	-	-0.1	20	125	0	
2-Nitroaniline	0.209	0.25	-	-19.6	20	130	0	
1,4-Dinitrobenzene	0.103	0.12	-	-16.5	20	136	0	
1,3-Dinitrobenzene	0.111	0.136	-	-22.5*	20	132	0	NT
Dimethyl phthalate	0.871	0.91	-	-4.5	20	128	0	

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: C&S Companies		Lab Number	: L2428514	
Project Name	: 1803 ELMWOOD AVENUE BCP-RI		Project Number	: S93.003.002	
Instrument ID	: MINDY		Calibration Date	: 05/29/24 23:21	
Lab File ID	: ABN0529N		Init. Calib. Date(s)	: 02/20/24	02/21/24
Sample No	: WG1926724-3		Init. Calib. Times	: 20:09	03:18
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Acenaphthylene	1.215	1.008	-	17	20	79	0
2,6-Dinitrotoluene	0.178	0.172	-	3.4	20	86	0
1,2-Dinitrobenzene	0.075	0.074	-	1.3	20	85	0
IS1_Acenaphthene-d10	1	1	-	0	20	95	0
3-Nitroaniline	0.338	0.32	-	5.3	20	88	0
Acenaphthene	1.113	0.961	-	13.7	20	85	0
2,4-Dinitrophenol	50	53.321	-	-6.6	20	108	0
Dibenzofuran	1.787	1.502	-	15.9	20	84	0
2,4-Dinitrotoluene	0.409	0.395	-	3.4	20	86	0
4-Nitrophenol	0.225	0.232	-	-3.1	20	90	0
2,3,5,6-Tetrachlorophenol	0.316	0.324	-	-2.5	20	91	0
2,3,4,6-Tetrachlorophenol	0.322	0.314	-	2.5	20	89	0
Diethyl phthalate	1.427	1.271	-	10.9	20	86	0
Fluorene	1.438	1.219	-	15.2	20	82	0
4-Chlorophenyl phenyl ethe	0.671	0.588	-	12.4	20	86	0
4-Nitroaniline	0.361	0.33	-	8.6	20	81	0
4,6-Dinitro-o-cresol	50	53.928	-	-7.9	20	109	0
NDPA/DPA	1.251	1.069	-	14.5	20	83	0
Azobenzene	1.245	1.117	-	10.3	20	87	0
2,4,6-Tribromophenol	0.2	0.182	-	9	20	82	0
4-Bromophenyl phenyl ether	0.411	0.365	-	11.2	20	88	0
Hexachlorobenzene	0.477	0.404	-	15.3	20	83	0
Pentachlorophenol	50	39.408	-	21.2*	20	77	0
IS1_Phenanthrene-d10	1	1	-	0	20	96	0
Phenanthrene	1.098	0.928	-	15.5	20	84	0
Anthracene	1.086	0.964	-	11.2	20	86	0
Carbazole	1.052	0.898	-	14.6	20	83	0
Di-n-butylphthalate	1.163	1.096	-	5.8	20	86	0
Fluoranthene	1.21	1.108	-	8.4	20	87	0
Benzidine	0.724	0.801	-	-10.6	20	103	0
Pyrene	1.296	1.166	-	10	20	87	0
4-Terphenyl-d14	1.017	0.906	-	10.9	20	86	0
Butyl benzyl phthalate	0.538	0.53	-	1.5	20	89	0
IS1_Chrysene-d12	1	1	-	0	20	94	0
Benzo(a)anthracene	1.349	1.225	-	9.2	20	87	0
3,3'-Dichlorobenzidine	0.513	0.474	-	7.6	20	82	0
Chrysene	1.291	1.148	-	11.1	20	88	0
Bis(2-ethylhexyl)phthalate	0.924	0.79	-	14.5	20	84	0
Di-n-octylphthalate	1.348	1.399	-	-3.8	20	88	0
Benzo(b)fluoranthene	1.429	1.312	-	8.2	20	89	0
Benzo(k)fluoranthene	1.403	1.177	-	16.1	20	76	0
Benzo(a)pyrene	1.323	1.167	-	11.8	20	81	0
IS1_Perylene-d12	1	1	-	0	20	90	0

* Value outside of QC limits.

Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: WG1926077-1	Date Collected	: NA
Client ID	: WG1926077-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/28/24 09:05
Sample Matrix	: SOIL	Date Extracted	: 05/26/24
Analytical Method	: 1,8015D(M)	Dilution Factor	: 1
Lab File ID	: P2224052805	Analyst	: SBC
Sample Amount	: 15.36 g	Instrument ID	: PETRO22B
Extraction Method	: EPA 3546	GC Column	:
Extract Volume	: 1000 uL	%Solids	: NA
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
NONE	DRO (C10-C28)	2700	32000	1800	J

Form 1
METALS

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: WG1926919-1	Date Collected	: NA
Client ID	: WG1926919-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/30/24 17:37
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,6010D	Analyst	: DHL
Lab File ID	: WG1927280.csv	Instrument ID	: TRACE5
Sample Amount	: 1.25g	%Solids	: NA
Digestion Method	: EPA 3050B	Date Digested	: 05/30/24

		mg/kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7440-38-2	Arsenic, Total	ND	0.400	0.083	U
7440-39-3	Barium, Total	ND	0.400	0.070	U
7440-41-7	Beryllium, Total	ND	0.200	0.013	U
7440-43-9	Cadmium, Total	ND	0.400	0.039	U
7440-47-3	Chromium, Total	ND	0.400	0.038	U
7440-50-8	Copper, Total	ND	0.400	0.103	U
7439-92-1	Lead, Total	ND	2.00	0.107	U
7439-96-5	Manganese, Total	ND	0.400	0.064	U
7440-02-0	Nickel, Total	ND	1.00	0.097	U
7782-49-2	Selenium, Total	ND	0.800	0.103	U
7440-22-4	Silver, Total	ND	0.200	0.113	U
7440-66-6	Zinc, Total	0.160	2.00	0.117	J

Form 5a
Matrix Spike

Client	: C&S Companies	Lab Number	: L2428514
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Client Sample ID	: SB-11-7FT. 20240522	Matrix	: SOIL
Lab Sample ID	: L2428514-13		
Matrix Spike	: WG1926919-3	MS Analysis Date	: 05/30/24 17:56
Matrix Spike Dup	: WG1926919-4	MSD Analysis Date	: 05/30/24 18:03

		Matrix Spike Sample			Matrix Spike Duplicate					
Parameter	Sample Conc. (mg/kg)	Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R	Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R	RPD	Recovery Limits	RPD Limit
Arsenic, Total	4.70	10.8	15.6	101	10.6	15.7	104	1	75-125	20
Barium, Total	55.8	180	220	91	176	173	66 Q	24 Q	75-125	20
Beryllium, Total	0.338J	4.5	3.59	80	4.4	3.49	79	3	75-125	20
Cadmium, Total	0.121J	4.77	4.62	97	4.67	4.68	100	1	75-125	20
Chromium, Total	15.0	18	32.4	97	17.6	32.7	100	1	75-125	20
Copper, Total	18.2	22.5	40.9	101	22	40.4	101	1	75-125	20
Lead, Total	8.97	47.7	53.3	93	46.7	54.1	97	1	75-125	20
Manganese, Total	328	45	419	202 Q	44	418	204 Q	0	75-125	20 +
Nickel, Total	20.0	45	63.7	97	44	64.4	101	1	75-125	20
Selenium, Total	ND	10.8	8.96	83	10.6	9.22	87	3	75-125	20
Silver, Total	ND	4.5	4.53	101	4.4	4.53	103	0	75-125	20
Zinc, Total	58.6	45	102	96	44	101	96	1	75-125	20

+Sample amount detected > 4X spike amount added

Appendix C

Validator Qualifications

KENNETH R. APPLIN
Geochemist/Data Validator

Ph.D., Geochemistry and Mineralogy, The Pennsylvania State University

M.S., Geochemistry and Mineralogy, The Pennsylvania State University

B.A., Geological Sciences, SUNY at Geneseo, NY

Dr. Applin has over 35 years of experience working with the geochemistry of natural waters. His prior experience includes working as an Assistant Professor of Geology at the University of Missouri-Columbia and as Chief Hydrogeologist and Geochemist with a leading engineering firm in Rochester, NY. In 1993, he established KR Applin and Associates, a small consulting business that focuses on the geochemistry of natural waters, especially as applied to problems involving the contamination of groundwater and surface water.

Dr. Applin is also an experienced analytical data validator and has provided data validation services since 1994 to a variety of clients performing brownfield cleanup projects, hazardous waste remediation, groundwater monitoring at solid waste facilities, and other projects requiring third-party data validation. Dr. Applin has several years of hands-on experience with the laboratory analysis of natural waters and has successfully completed the USEPA Region II certification courses for performing inorganic and organic analytical data validation.

MICHAEL K. PERRY
Chemist/Data Validator

B.S. Chemistry, Georgia State University, Atlanta, GA

A.A.S., Chemical Technology, Alfred State College, Alfred, NY

Mr. Perry has over 30 years of experience in the analytical laboratory business. During his early career, he spent several years as a laboratory analyst performing the analysis of soil, water, and air samples for inorganic and organic chemical parameters. During his last 20 years in the environmental laboratory business, he managed and directed two major analytical laboratories in Rochester, NY. His management responsibilities included oversight of the daily operations of the lab, staff training and supervision, the selection, purchase, and maintenance of analytical instruments, the introduction of new laboratory methods, analytical quality assurance and quality control, data acquisition and management, and other business-related activities.

Mr. Perry has an extensive working knowledge of the methods and procedures used for sampling and analyzing both inorganic and organic analytes in soil, water, and air. He is an accomplished laboratory chemist and is familiar with the analytical methods and procedures established under the USEPA Contract Laboratory Protocols (CLP), the NYSDEC Analytical Services Protocols (ASP), and the NYSDOH Environmental Laboratory Approval Program (ELAP).

DATA USABILITY SUMMARY REPORT (DUSR)

1803 Elmwood Ave. BCP RI
Buffalo, NY
Project #: S93.003.002

SDG: L2428729
2 Soil Samples

Prepared for:

C&S Companies
141 Elm Street, Suite 100
Buffalo, NY 14203
Attention: Jesse Alt-Winzig

July 2024

EDU *Environmental Data Usability 10028 Deer Park Dr. Dansville, NY 14437 585-991-9156*

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REVIEWER'S NARRATIVE
C&S Companies SDG L2428729 – 1803 Elmwood Ave. BCP RI

The data associated with this Sample Delivery Group (SDG) L2428729, analyzed by Alpha Analytical, Westborough, MA have been reviewed in accordance with assessment criteria provided by the New York State Department of Environmental Conservation following the review procedures provided in the USEPA Functional Guidelines for evaluating organic and inorganic data.

All analytical results reported by the laboratory are considered valid and acceptable except results that have been qualified as rejected, "R". Results qualified as estimated "J", or as non-detects, "U", are considered usable for the purpose of evaluating water and/or soil quality. However, these qualifiers indicate that the accuracy and/or precision of the analytical result is questionable. A summary of all data that have been qualified and the reasons for qualification are provided in the following data usability summary report (DUSR).

Two facts should be noted by all data users. First, the "R" qualifier means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Values qualified with an "R" should not appear on the final data tables because they cannot be relied upon, even as the last resort. Second, no analyte concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data, but any value potentially contains error.

Reviewer's Signature: Michael K. Perry Date: 7/25/2024

Michael K. Perry
Chemist

1.0 EVENT SUMMARY

SITE:	1803 Elmwood Ave. BCP RI Buffalo, NY Project #: S93.003.002
SAMPLING DATE:	May 23, 2024
SAMPLE TYPE:	2 soil samples
LABORATORY:	Alpha Analytical Westborough, MA
SDG No.:	L2428729

2.0 INTRODUCTION

This data usability summary report (DUSR) was prepared in accordance with guidance provided by the New York State Department of Environmental Conservation (NYSDEC). The DUSR is based on a review and evaluation of the laboratory analytical data package. Specifically, the NYSDEC guidance recommends review and evaluation of the following elements of the data package:

- Completeness of the data package as defined under the requirements of the NYSDEC Analytical Services Protocols (ASP) Category B or the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) deliverables,
- Compliance with established analyte holding times,
- Adherence to quality control (QC) limits and specifications for blanks, instrument tuning and calibration, surrogate recoveries, spike recoveries, laboratory duplicate analyses, and other QC criteria,
- Adherence to established analytical protocols,
- Conformance of data summary sheets with raw analytical data, and
- Use of correct data qualifiers.

Data deficiencies, analytical protocol deviations, and quality control problems identified using the review criteria above and their effect on the analytical results are discussed in this report.

3.0 SAMPLE AND ANALYSIS SUMMARY

The data package consists of analytical results for 2 soil samples collected on May 23, 2024. These samples were analyzed for Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), TPH-GRO, PCBs, TPH-DRO, PFASs, Metals (ICP and Hg), Total Cyanide (TCN), and Hexavalent Chromium (Cr+6).

All laboratory analyses were submitted to Alpha Analytical, Westborough, MA and analyzed as SDG L2428729. The analytical results were provided in NYSDEC ASP Category B format, which includes all raw analytical data and laboratory QC data.

4.0 GUIDANCE DOCUMENTS AND DATA REVIEW CRITERIA

The guidance documents appropriate for reviewing laboratory quality control (QC) data and assigning data qualifiers (flags) to analytical results were selected from those listed in Table 4-1. The QC limits established in the documents applicable to this data review were used to assess the quality of the analytical results. In some cases, however, QC limits established internally by the laboratory were taken into account to determine data quality.

The QC criteria considered for assessing the usability of the reported analytical results provided for each analyte type (i.e. VOCs, SVOCs, metals, etc.) are listed in Table 4-2. These criteria may vary with the analytical method utilized by the laboratory. These criteria comply with the guidance recommended in Section 2.0 above.

5.0 DATA VALIDATION QUALIFIERS

The letter qualifiers (flags) used to define data usability are described briefly below. These letters are assigned by the data validator to analytical results having questionable accuracy and/or precision as determined by reviewing the laboratory QC data associated with the analytical results.

TABLE 4-1

Guidance Used For Validating Laboratory Analytical Data

Analyte Group	Guidance	Date
Metals (ICP-AES)	USEPA SOP HW-3a, Rev. 1	September 2016
Metals (Hg & CN)	USEPA SOP HW-3c, Rev. 1	September 2016
Volatile Organic Compounds (by Methods 8260B & 8260C)	USEPA SOP HW-24, Rev. 4	September 2014
Semi-Volatile Organic Compounds (by Method 8270D)	USEPA SOP HW-22 Rev. 5	December 2010
Pesticides (by Method 8181B)	USEPA SOP HW-44, Rev. 1.1	December 2010
Chlorinated Herbicides (by Method 8151A)	USEPA SOP HW-17, Rev. 3.1	December 2010
Polychlorinated Biphenyls (PCBs)	USEPA SOP HW-37A, Rev. 0	June 2015
Volatile Organic Compounds (Air) (by Method TO-15)	USEPA SOP HW-31, Rev. 6	September 2016
Per- and PolyFluoroAlkyl Substances (PFAS)	* NYSDEC ** US Dept. of Defense	January 2021 November 2022
Radiological Analysis		
Uranium	USEPA Method 908.0	June 1999
Radium-226	USEPA Method 903.1	1980
General Chemistry Parameters	per NYSDEC ASP	July 2005

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

** Data Validation Guidelines Module 6: Data Validatioin Procedures for Per- and Polyfluoroalkyl Substances Analysis by QSM Table B-24

TABLE 4-2

QUALITY CONTROL CRITERIA USED FOR VALIDATING LABORATORY ANALYTICAL DATA

VOCs	SVOCs	Pesticides/PCBs	Metals	Gen Chemistry	PFAS
Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg
Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation
Holding Time	Holding Time	Holding Time	Holding Time	Holding Times	Holding Time
System Monitoring Compounds	Surrogate Recoveries	Surrogate Recoveries	Initial/Continuing Calibration	Calibration	Instr Performance Check
Lab Control Sample	Lab Control Sample	Matrix Spikes	CRDL Standards	Lab Control Samples	Initial Calibration
Matrix Spikes	Matrix Spikes	Blanks	Blanks	Blanks	Continuing Calibration
Blanks	Blanks	Instrument Calibration & Verification	Interference Check Sample	Spike Recoveries	Blanks
Instrument Tuning	Instrument Tuning	Comparison of duplicate GC column results	Spike Recoveries	Lab Duplicates	Surrogates
Internal Standards	Internal Standards	Analyte ID	Lab Duplicate		Lab Fortified Blank
Initial Calibration	Initial Calibration	Lab Qualifiers	Lab Control Sample		Matrix Spikes
Continuing Calibration	Continuing Calibration	Field Duplicate	ICP Serial Dilutions		Internal Standards
Lab Qualifiers	Lab Qualifiers		Lab Qualifiers		
Field Duplicate	Field Duplicate		Field Duplicate		

Method TO-15 (Air)	Radiological (U and Ra)
Completeness of Pkg	Completeness of Pkg
Sample Preservation	Sample Preservation
Holding Time	Holding Time
Canister Certification	Sample Specific Yield
Instrument Tuning	Required Detection Limit
Initial Calibration and Instrument Performance	Laboratory Control Sample
	Matrix Spikes
Daily Calibration	Method Blank
Blanks	Instrument Calibration
Lab Control Sample	
Field Duplicate	

The laboratory may also use various letters and symbols to flag analytical results generated when QC limits were exceeded. The meanings of these flags may differ from those used by the independent data validator. Those used by the laboratory are provided with the analytical results.

NOTE: The assignment of data qualifiers by the data reviewer (validator) to laboratory analytical results should not necessarily be interpreted by the data user as a measure of laboratory ability or proficiency. Rather, the qualifiers are intended to provide a measure of data accuracy and precision to the data user, which, for example, may provide a level of confidence in determining whether or not standards or cleanup objectives have been met.

U The analyte was analyzed for but was not detected at or above the sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the *approximate* concentration of the analyte in the sample. (The magnitude of any ± value associated with the result is not determined by data validation).

J+ The result is an estimated quantity and may be biased high.

J- The result is an estimated quantity and may be biased low.

UJ The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R The sample result is rejected (i.e., is unusable) due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

The validated analytical results are attached to this report. Validation qualifiers (flags) are indicated in red print. Data sheets having qualified data are signed and dated by the data reviewer.

6.0 RESULTS OF THE DATA REVIEW

The results of the data review are summarized in Tables 6-1 through 6-8. The tables list the samples where QC criteria were found to exceed acceptable limits and the actions taken to qualify the associated analytical results.

7.0 TOTAL USABLE DATA

For SDG L2428729, 2 samples were analyzed and results were reported for 242 analytes. Two results were rejected. Even though some results were flagged with a "J" as estimated, all other results (99.3 %) are considered usable. See the summary table for the analyses that have been rejected and qualified and the associated QC reasons.

Table 6-1 VOCs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
SB-19-3FT-20240523 SB-19-7FT-20240523	1,4-Dioxane	J detects R non-detects	ICAL RF < 0.005	Since all results are non-detect, the results are rejected
SB-19-3FT-20240523 SB-19-7FT-20240523	Vinyl chloride 1,1-Dichloroethene Methylene chloride Acetone trans-1,2-Dichloroethene	J detects UJ non-detects	CCV % D > QC limit and/or LCS rec < QC limit	Data are estimated

Table 6-2 SVOCs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
SB-19-3FT-20240523 SB-19-7FT-20240523	Phenol 1,4-Dioxane	J detects UJ non-detects	CCV % D > QC limit	Data are estimated

Table 6-3 TPH-GRO

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-4 PCBs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-5 TPH-DRO

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
SB-19-3FT-20240523	DRO	J detects	Analyte detected in method blank	Data are estimated

Table 6-6 PFASs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-7 ICP Metals and Mercury

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-8 TCN and CR+6

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

ACRONYMS

BSP	Blank Spike
CCAL	Continuing Calibration
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
%D	Percent Difference
ICAL	Initial Calibration
ICB	Initial Calibration Blank
IS	Internal Standard
LCS	Laboratory Control Sample
MS/MSD	Matrix Spike/Matrix Spike Duplicate
QA	Quality Assurance
QC	Quality Control
%R	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
%RSD	Percent Relative Standard Deviation
TAL	Target Analyte List (metals)
TCL	Target Compound List (organics)

Appendix A

Validated Analytical Results

ALPHA ANALYTICAL

World Class Chemistry

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Alpha Analytical

Laboratory Code: 11148

SDG Number: L2428729

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Project Name: 1803 ELMWOOD AVENUE BCP-RI
Project Number: S93.003.002

Lab Number: L2428729
Report Date: 06/11/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2428729-01	SB-19-3FT-20240523	SOIL	Not Specified	05/23/24 12:20	05/23/24
L2428729-02	SB-19-7FT-20240523	SOIL	Not Specified	05/23/24 12:25	05/23/24

Case Narrative (continued)

Report Submission

June 11, 2024: This final report includes the results of all requested analyses.

June 02, 2024: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2428729-02: Any reported concentrations that are below 200 ug/kg may be biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.

Total Metals

L2428729-01 and -02: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by the sample matrix.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Report Date: 06/11/24

Title: Technical Director/Representative

L2428729

NEW YORK CHAIN OF CUSTODY

ALPHA

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 5/24/24

ALPHA Job #: L2428729

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Client Information
Client: CTS Engineers
Address: 141 Elm Street, Suite 100
Buffalo, NY 14203
Phone: (716) 847-1630
Fax:
Email: jattwinzig@ctsnow.com

Project Information
Project Name: 1803 Elmwood Avenue BCP - RI
Project Location:
Project #: S93.003.002
(Use Project name as Project #)
Project Manager: Jesse Att-Winzig
ALPHAQuote #:

Turn-Around Time
Standard
Rush (only if pre approved)
Due Date:
of Days:

Deliverables
ASP-A
ASP-B
EQuIS (1 File)
EQuIS (4 File)
Other

Regulatory Requirement
NY TOGS
NY Part 375
AWQ Standards
NY CP-51
NY Restricted Use
Other
NY Unrestricted Use
NYC Sewer Discharge

Billing Information
Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
NJ
NY
Other:

These samples have been previously analyzed by Alpha

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
Done
Lab to do
Preservation
Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	8260-TCL, 8270-TCL, Naphthalene	Total Hg, Methyl Hg	6010-RCRA 8 Metals	TS	NYTCL-8260-HLW	NYTCL-8260	TPH-GRO	Sample Specific Comments	Total Bottle
28729-01	SB-19-3ft-20240523	5/23/2024	1220	S	JAW	X	X	X	X	X		X		8
-02	SB-19-7ft-20240523	5/23/2024	1225	S	JAW	X	X	X	X		X		No TPH/VOC is BULK	5

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	G	G	P	P	V	G	V	
Preservative	A	A	A	A	H_2O F	A	A	

Relinquished By:	Date/Time	Received By:	Date/Time
Jesse Att-Winzig (CTS)	5/23/24 1305	Joseph Foley (Pace)	5/23/24 13:05
Joseph Foley (Pace)	5/23/24 13:05		5/24/24 0050

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

GC/MS 8260
Analysis

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428729-01	Date Collected	: 05/23/24 12:20
Client ID	: SB-19-3FT-20240523	Date Received	: 05/23/24
Sample Location	:	Date Analyzed	: 05/29/24 03:15
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V10240528N18	Instrument ID	: VOA110
Sample Amount	: 7.8 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 75
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	4.3	2.0	U	UJ
75-34-3	1,1-Dichloroethane	ND	0.86	0.12	U	
67-66-3	Chloroform	ND	1.3	0.12	U	
56-23-5	Carbon tetrachloride	ND	0.86	0.20	U	
127-18-4	Tetrachloroethene	ND	0.43	0.17	U	
108-90-7	Chlorobenzene	ND	0.43	0.11	U	
107-06-2	1,2-Dichloroethane	ND	0.86	0.22	U	
71-55-6	1,1,1-Trichloroethane	ND	0.43	0.14	U	
71-43-2	Benzene	ND	0.43	0.14	U	
108-88-3	Toluene	ND	0.86	0.46	U	
100-41-4	Ethylbenzene	ND	0.86	0.12	U	
75-01-4	Vinyl chloride	ND	0.86	0.29	U	UJ
75-35-4	1,1-Dichloroethene	ND	0.86	0.20	U	UJ
156-60-5	trans-1,2-Dichloroethene	ND	1.3	0.12	U	UJ
79-01-6	Trichloroethene	ND	0.43	0.12	U	
95-50-1	1,2-Dichlorobenzene	ND	1.7	0.12	U	
541-73-1	1,3-Dichlorobenzene	ND	1.7	0.13	U	
106-46-7	1,4-Dichlorobenzene	ND	1.7	0.15	U	
1634-04-4	Methyl tert butyl ether	ND	1.7	0.17	U	
179601-23-1	p/m-Xylene	ND	1.7	0.48	U	
95-47-6	o-Xylene	ND	0.86	0.25	U	
156-59-2	cis-1,2-Dichloroethene	ND	0.86	0.15	U	
67-64-1	Acetone	ND	8.6	4.1	U	UJ
78-93-3	2-Butanone	ND	8.6	1.9	U	
104-51-8	n-Butylbenzene	ND	0.86	0.14	U	

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Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: C&S Companies	Lab Number	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428729-01	Date Collected	: 05/23/24 12:20
Client ID	: SB-19-3FT-20240523	Date Received	: 05/23/24
Sample Location	:	Date Analyzed	: 05/29/24 03:15
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V10240528N18	Instrument ID	: VOA110
Sample Amount	: 7.8 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 75
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	0.86	0.12	U	
98-06-6	tert-Butylbenzene	ND	1.7	0.10	U	
103-65-1	n-Propylbenzene	ND	0.86	0.15	U	
108-67-8	1,3,5-Trimethylbenzene	ND	1.7	0.16	U	
95-63-6	1,2,4-Trimethylbenzene	ND	1.7	0.28	U	
123-91-1	1,4-Dioxane	ND	68	30.	U	R

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428729-02	Date Collected	: 05/23/24 12:25
Client ID	: SB-19-7FT-20240523	Date Received	: 05/23/24
Sample Location	:	Date Analyzed	: 05/29/24 03:42
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V10240528N19	Instrument ID	: VOA110
Sample Amount	: 5.2 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 85
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	5.6	2.6	U	UJ
75-34-3	1,1-Dichloroethane	ND	1.1	0.16	U	
67-66-3	Chloroform	ND	1.7	0.16	U	
56-23-5	Carbon tetrachloride	ND	1.1	0.26	U	
127-18-4	Tetrachloroethene	ND	0.56	0.22	U	
108-90-7	Chlorobenzene	ND	0.56	0.14	U	
107-06-2	1,2-Dichloroethane	ND	1.1	0.29	U	
71-55-6	1,1,1-Trichloroethane	ND	0.56	0.19	U	
71-43-2	Benzene	ND	0.56	0.19	U	
108-88-3	Toluene	ND	1.1	0.61	U	
100-41-4	Ethylbenzene	ND	1.1	0.16	U	
75-01-4	Vinyl chloride	ND	1.1	0.38	U	UJ
75-35-4	1,1-Dichloroethene	ND	1.1	0.27	U	UJ
156-60-5	trans-1,2-Dichloroethene	ND	1.7	0.15	U	UJ
79-01-6	Trichloroethene	ND	0.56	0.15	U	
95-50-1	1,2-Dichlorobenzene	ND	2.2	0.16	U	
541-73-1	1,3-Dichlorobenzene	ND	2.2	0.17	U	
106-46-7	1,4-Dichlorobenzene	ND	2.2	0.19	U	
1634-04-4	Methyl tert butyl ether	ND	2.2	0.23	U	
179601-23-1	p/m-Xylene	ND	2.2	0.63	U	
95-47-6	o-Xylene	ND	1.1	0.33	U	
156-59-2	cis-1,2-Dichloroethene	ND	1.1	0.20	U	
67-64-1	Acetone	ND	11	5.4	U	UJ
78-93-3	2-Butanone	ND	11	2.5	U	
104-51-8	n-Butylbenzene	ND	1.1	0.19	U	

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428729-02	Date Collected	: 05/23/24 12:25
Client ID	: SB-19-7FT-20240523	Date Received	: 05/23/24
Sample Location	:	Date Analyzed	: 05/29/24 03:42
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: AJK
Lab File ID	: V10240528N19	Instrument ID	: VOA110
Sample Amount	: 5.2 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 85
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
135-98-8	sec-Butylbenzene	ND	1.1	0.16	U	
98-06-6	tert-Butylbenzene	ND	2.2	0.13	U	
103-65-1	n-Propylbenzene	ND	1.1	0.19	U	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	0.22	U	
95-63-6	1,2,4-Trimethylbenzene	ND	2.2	0.38	U	
123-91-1	1,4-Dioxane	ND	90	40.	U	R

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Semivolatiles Data- Method 8270

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428729-01	Date Collected	: 05/23/24 12:20
Client ID	: SB-19-3FT-20240523	Date Received	: 05/23/24
Sample Location	:	Date Analyzed	: 05/31/24 02:14
Sample Matrix	: SOIL	Date Extracted	: 05/29/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28729-01	Analyst	: LJG
Sample Amount	: 30.17 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 75
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	180	23.	U	
118-74-1	Hexachlorobenzene	ND	130	25.	U	
206-44-0	Fluoranthene	40	130	25.	J	
91-20-3	Naphthalene	ND	220	27.	U	
56-55-3	Benzo(a)anthracene	ND	130	25.	U	
50-32-8	Benzo(a)pyrene	ND	180	54.	U	
205-99-2	Benzo(b)fluoranthene	ND	130	37.	U	
207-08-9	Benzo(k)fluoranthene	ND	130	35.	U	
218-01-9	Chrysene	ND	130	23.	U	
208-96-8	Acenaphthylene	ND	180	34.	U	
120-12-7	Anthracene	ND	130	43.	U	
191-24-2	Benzo(ghi)perylene	ND	180	26.	U	
86-73-7	Fluorene	ND	220	22.	U	
85-01-8	Phenanthrene	36	130	27.	J	
53-70-3	Dibenzo(a,h)anthracene	ND	130	26.	U	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	180	31.	U	
129-00-0	Pyrene	34	130	22.	J	
132-64-9	Dibenzofuran	ND	220	21.	U	
87-86-5	Pentachlorophenol	ND	180	49.	U	
108-95-2	Phenol	ND	220	34.	U	UJ
95-48-7	2-Methylphenol	ND	220	34.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	320	35.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428729-01	Date Collected	: 05/23/24 12:20
Client ID	: SB-19-3FT-20240523	Date Received	: 05/23/24
Sample Location	:	Date Analyzed	: 05/31/24 02:14
Sample Matrix	: SOIL	Date Extracted	: 05/29/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28729-01	Analyst	: LJG
Sample Amount	: 30.17 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 75
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	33	10.	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428729-02	Date Collected	: 05/23/24 12:25
Client ID	: SB-19-7FT-20240523	Date Received	: 05/23/24
Sample Location	:	Date Analyzed	: 05/30/24 23:49
Sample Matrix	: SOIL	Date Extracted	: 05/29/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28729-02	Analyst	: LJG
Sample Amount	: 30.09 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 85
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	160	20.	U	
118-74-1	Hexachlorobenzene	ND	120	22.	U	
206-44-0	Fluoranthene	ND	120	22.	U	
91-20-3	Naphthalene	ND	200	24.	U	
56-55-3	Benzo(a)anthracene	ND	120	22.	U	
50-32-8	Benzo(a)pyrene	ND	160	48.	U	
205-99-2	Benzo(b)fluoranthene	ND	120	33.	U	
207-08-9	Benzo(k)fluoranthene	ND	120	31.	U	
218-01-9	Chrysene	ND	120	20.	U	
208-96-8	Acenaphthylene	ND	160	30.	U	
120-12-7	Anthracene	ND	120	38.	U	
191-24-2	Benzo(ghi)perylene	ND	160	23.	U	
86-73-7	Fluorene	ND	200	19.	U	
85-01-8	Phenanthrene	ND	120	24.	U	
53-70-3	Dibenzo(a,h)anthracene	ND	120	23.	U	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	160	27.	U	
129-00-0	Pyrene	ND	120	19.	U	
132-64-9	Dibenzofuran	ND	200	18.	U	
87-86-5	Pentachlorophenol	ND	160	43.	U	
108-95-2	Phenol	ND	200	30.	U	UJ
95-48-7	2-Methylphenol	ND	200	30.	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	280	31.	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428729-02	Date Collected	: 05/23/24 12:25
Client ID	: SB-19-7FT-20240523	Date Received	: 05/23/24
Sample Location	:	Date Analyzed	: 05/30/24 23:49
Sample Matrix	: SOIL	Date Extracted	: 05/29/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 28729-02	Analyst	: LJG
Sample Amount	: 30.09 g	Instrument ID	: GCMS5
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 85
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
123-91-1	1,4-Dioxane	ND	29	9.0	U	UJ

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Total Petroleum Hydrocarbons Gasoline Range Organics Analysis

No data validation qualifiers were added

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Results Summary
Form 1
Gasoline Range Organics

Client	: C&S Companies	**Lab Number**	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428729-01	**Date Collected**	: 05/23/24 12:20
Client ID	: SB-19-3FT-20240523	**Date Received**	: 05/23/24
Sample Location	:	**Date Analyzed**	: 05/27/24 05:13
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8015D(M)	**Analyst**	: BAD
Lab File ID	: P240526A36	**Instrument ID**	: PVPH
Sample Amount	: 0.1 g	**GC Column**	: RTX 502.2
Level	: LOW	**%Solids**	: 75
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Gasoline Range Organics**	**ND**	**2300**	**1300**	**U**

GC Extractable Analysis Polychlorinated Biphenyls (PCB)

No data validation qualifiers were added

MKP 7/25/2024

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428729-01	**Date Collected**	: 05/23/24 12:20
Client ID	: SB-19-3FT-20240523	**Date Received**	: 05/23/24
Sample Location	:	**Date Analyzed**	: 05/29/24 13:19
Sample Matrix	: SOIL	**Date Extracted**	: 05/29/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: P7240529a-14	**Analyst**	: MEO
Sample Amount	: 10.09 g	**Instrument ID**	: PEST7
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 75
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	66.3	5.89	U
11104-28-2	Aroclor 1221	ND	66.3	6.65	U
11141-16-5	Aroclor 1232	ND	66.3	14.1	U
53469-21-9	Aroclor 1242	ND	66.3	8.94	U
12672-29-6	Aroclor 1248	ND	66.3	9.95	U
11097-69-1	Aroclor 1254	ND	66.3	7.26	U
11096-82-5	Aroclor 1260	ND	66.3	12.2	U
37324-23-5	Aroclor 1262	ND	66.3	8.42	U
11100-14-4	Aroclor 1268	ND	66.3	6.87	U
1336-36-3	PCBs, Total	ND	66.3	5.89	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428729-02	**Date Collected**	: 05/23/24 12:25
Client ID	: SB-19-7FT-20240523	**Date Received**	: 05/23/24
Sample Location	:	**Date Analyzed**	: 05/29/24 13:08
Sample Matrix	: SOIL	**Date Extracted**	: 05/29/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: P7240529a-13	**Analyst**	: MEO
Sample Amount	: 10.19 g	**Instrument ID**	: PEST7
Extraction Method	: EPA 3546	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	57.8	5.13	U
11104-28-2	Aroclor 1221	ND	57.8	5.79	U
11141-16-5	Aroclor 1232	ND	57.8	12.2	U
53469-21-9	Aroclor 1242	ND	57.8	7.79	U
12672-29-6	Aroclor 1248	ND	57.8	8.67	U
11097-69-1	Aroclor 1254	ND	57.8	6.32	U
11096-82-5	Aroclor 1260	ND	57.8	10.7	U
37324-23-5	Aroclor 1262	ND	57.8	7.34	U
11100-14-4	Aroclor 1268	ND	57.8	5.99	U
1336-36-3	PCBs, Total	ND	57.8	5.13	U

Total Petroleum Hydrocarbons Diesel Range Organics Analysis

Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	Lab Number	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428729-01	Date Collected	: 05/23/24 12:20
Client ID	: SB-19-3FT-20240523	Date Received	: 05/23/24
Sample Location	:	Date Analyzed	: 05/28/24 12:46
Sample Matrix	: SOIL	Date Extracted	: 05/27/24
Analytical Method	: 1,8015D(M)	Dilution Factor	: 1
Lab File ID	: P1724052826	Analyst	: SR
Sample Amount	: 15.9 g	Instrument ID	: PETRO17A
Extraction Method	: EPA 3546	GC Column	:
Extract Volume	: 1000 uL	%Solids	: 75
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
NONE	DRO (C10-C28)	14000	42000	2300	J	J

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PFAS via Draft Method 1633

No data validation qualifiers were added

MKP 7/25/2024

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428729-01	Date Collected	: 05/23/24 12:20
Client ID	: SB-19-3FT-20240523	Date Received	: 05/23/24
Sample Location	:	Date Analyzed	: 06/10/24 18:38
Sample Matrix	: SOIL	Date Extracted	: 06/09/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI07_240610_35	Analyst	: JW
Sample Amount	: 7.24 g	Instrument ID	: LCMS07
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: 75
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.740	0.047	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.370	0.052	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.185	0.040	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.740	0.075	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.185	0.043	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.185	0.021	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.185	0.021	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.185	0.055	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.185	0.048	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.740	0.259	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.185	0.034	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.185	0.073	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.185	0.073	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.185	0.070	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.740	0.358	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.185	0.039	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.185	0.092	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.185	0.047	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428729-01	**Date Collected**	: 05/23/24 12:20
Client ID	: SB-19-3FT-20240523	**Date Received**	: 05/23/24
Sample Location	:	**Date Analyzed**	: 06/10/24 18:38
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_35	**Analyst**	: JW
Sample Amount	: 7.24 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 75
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.185	0.030	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.185	0.040	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.185	0.076	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.185	0.038	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.185	0.049	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.185	0.098	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.740	0.091	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.740	0.135	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.185	0.036	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.740	0.181	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.740	0.154	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.185	0.092	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.185	0.104	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.85	0.231	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428729-01	**Date Collected**	: 05/23/24 12:20
Client ID	: SB-19-3FT-20240523	**Date Received**	: 05/23/24
Sample Location	:	**Date Analyzed**	: 06/10/24 18:38
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_35	**Analyst**	: JW
Sample Amount	: 7.24 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 75
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.85	0.472	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.370	0.038	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.370	0.029	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.370	0.077	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.370	0.088	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.924	0.133	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.62	0.467	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.62	1.63	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428729-02	**Date Collected**	: 05/23/24 12:25
Client ID	: SB-19-7FT-20240523	**Date Received**	: 05/23/24
Sample Location	:	**Date Analyzed**	: 06/10/24 18:51
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_36	**Analyst**	: JW
Sample Amount	: 6.19 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.761	0.048	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.380	0.053	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.190	0.041	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	0.761	0.077	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.190	0.044	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	0.190	0.022	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.190	0.022	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.190	0.056	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	0.190	0.050	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.761	0.266	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.190	0.035	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.190	0.075	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	0.190	0.075	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.190	0.072	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.761	0.368	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	0.190	0.040	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.190	0.095	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.190	0.049	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428729-02	**Date Collected**	: 05/23/24 12:25
Client ID	: SB-19-7FT-20240523	**Date Received**	: 05/23/24
Sample Location	:	**Date Analyzed**	: 06/10/24 18:51
Sample Matrix	: SOIL	**Date Extracted**	: 06/09/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI07_240610_36	**Analyst**	: JW
Sample Amount	: 6.19 g	**Instrument ID**	: LCMS07
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.190	0.030	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	0.190	0.041	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.190	0.078	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.190	0.039	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.190	0.050	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	0.190	0.101	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	0.761	0.094	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	0.761	0.139	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	0.190	0.037	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	0.761	0.186	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	0.761	0.159	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	0.190	0.095	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	0.190	0.106	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	1.90	0.238	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2428729-02	Date Collected	: 05/23/24 12:25
Client ID	: SB-19-7FT-20240523	Date Received	: 05/23/24
Sample Location	:	Date Analyzed	: 06/10/24 18:51
Sample Matrix	: SOIL	Date Extracted	: 06/09/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI07_240610_36	Analyst	: JW
Sample Amount	: 6.19 g	Instrument ID	: LCMS07
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: 85
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	1.90	0.486	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	0.380	0.039	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	0.380	0.030	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	0.380	0.079	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	0.380	0.091	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	0.951	0.137	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	4.76	0.480	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	4.76	1.67	U

Inorganic Data
(ICP Analysis)

No data validation qualifiers were added

MKP 7/25/2024

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428729-01	**Date Collected**	: 05/23/24 12:20
Client ID	: SB-19-3FT-20240523	**Date Received**	: 05/23/24
Sample Location	:	**Date Analyzed**	: 05/31/24 18:17
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: DHL
Lab File ID	: WG1927874.pdf	**Instrument ID**	: TRACE9
Sample Amount	: 1.267g	**%Solids**	: 75
Digestion Method	: EPA 3050B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	4.69	1.06	0.220	
7440-39-3	Barium, Total	107	1.06	0.184	
7440-41-7	Beryllium, Total	0.661	0.528	0.035	
7440-43-9	Cadmium, Total	0.111	1.06	0.104	J
7440-47-3	Chromium, Total	16.4	1.06	0.101	
7440-50-8	Copper, Total	14.6	1.06	0.272	
7439-92-1	Lead, Total	10.9	5.28	0.283	
7439-96-5	Manganese, Total	499	1.06	0.168	
7440-02-0	Nickel, Total	17.4	2.64	0.256	
7782-49-2	Selenium, Total	ND	2.11	0.272	U
7440-22-4	Silver, Total	ND	0.528	0.299	U
7440-66-6	Zinc, Total	45.9	5.28	0.310	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428729-02	**Date Collected**	: 05/23/24 12:25
Client ID	: SB-19-7FT-20240523	**Date Received**	: 05/23/24
Sample Location	:	**Date Analyzed**	: 05/31/24 18:20
Sample Matrix	: SOIL	**Dilution Factor**	: 2
Analytical Method	: 1,6010D	**Analyst**	: DHL
Lab File ID	: WG1927874.pdf	**Instrument ID**	: TRACE9
Sample Amount	: 1.288g	**%Solids**	: 85
Digestion Method	: EPA 3050B	**Date Digested**	: 05/30/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	3.68	0.914	0.190	
7440-39-3	Barium, Total	110	0.914	0.159	
7440-41-7	Beryllium, Total	0.603	0.457	0.030	
7440-43-9	Cadmium, Total	0.137	0.914	0.090	J
7440-47-3	Chromium, Total	18.7	0.914	0.088	
7440-50-8	Copper, Total	20.8	0.914	0.236	
7439-92-1	Lead, Total	11.0	4.57	0.245	
7439-96-5	Manganese, Total	471	0.914	0.145	
7440-02-0	Nickel, Total	23.7	2.29	0.221	
7782-49-2	Selenium, Total	ND	1.83	0.236	U
7440-22-4	Silver, Total	ND	0.457	0.259	U
7440-66-6	Zinc, Total	63.6	4.57	0.268	

Inorganic Data
(Mercury Analysis)

No data validation qualifiers were added

MKP 7/25/2024

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428729-01	**Date Collected**	: 05/23/24 12:20
Client ID	: SB-19-3FT-20240523	**Date Received**	: 05/23/24
Sample Location	:	**Date Analyzed**	: 05/31/24 16:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JWN
Lab File ID	: WG1927962.pdf	**Instrument ID**	: NIC4
Sample Amount	: 0.395g	**%Solids**	: 75
Digestion Method	: EPA 7471B	**Date Digested**	: 05/31/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.085	0.055	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428729-02	**Date Collected**	: 05/23/24 12:25
Client ID	: SB-19-7FT-20240523	**Date Received**	: 05/23/24
Sample Location	:	**Date Analyzed**	: 05/31/24 16:48
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: JWN
Lab File ID	: WG1927962.pdf	**Instrument ID**	: NIC4
Sample Amount	: 0.391g	**%Solids**	: 85
Digestion Method	: EPA 7471B	**Date Digested**	: 05/31/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.075	0.049	U

Trivalent Chromium Analysis

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428729-01	**Date Collected**	: 05/23/24 12:20
Client ID	: SB-19-3FT-20240523	**Date Received**	: 05/23/24
Sample Location	:	**Date Analyzed**	: 05/31/24 18:17
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 75
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	15.9	1.07	0.214	J

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428729-02	**Date Collected**	: 05/23/24 12:25
Client ID	: SB-19-7FT-20240523	**Date Received**	: 05/23/24
Sample Location	:	**Date Analyzed**	: 05/31/24 18:20
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 107,-	**Analyst**	:
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 85
Digestion Method	:	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
16065-83-1	Chromium, Trivalent	18.7	0.942	0.188	

Calculations of Trivalent Chromium

Calculate the concentration value based on results for Total Chromium and Hexavalent Chromium.

Aqueous samples:

$mgCr^{+3}/L = \text{Total Cr (mg/l)} - Cr^{+6}\ (mg/l)$

Soil samples:

$mgCr^{+3}/Kg = \text{Total Cr (mg/Kg)} - Cr^{+6}\ (mg/Kg)$

Cyanide Analysis

No data validation qualifiers were added

MKP 7/25/2024

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428729-01	**Date Collected**	: 05/23/24 12:20
Client ID	: SB-19-3FT-20240523	**Date Received**	: 05/23/24
Sample Location	:	**Date Analyzed**	: 05/31/24 17:49
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN053124-C	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0602g	**%Solids**	: 75
Digestion Method	:	**Date Digested**	: 05/31/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.3	0.27	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428729-02	**Date Collected**	: 05/23/24 12:25
Client ID	: SB-19-7FT-20240523	**Date Received**	: 05/23/24
Sample Location	:	**Date Analyzed**	: 05/31/24 17:52
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN053124-C	**Instrument ID**	: LACHAT6
Sample Amount	: 1.0647g	**%Solids**	: 85
Digestion Method	:	**Date Digested**	: 05/31/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	1.1	0.23	U

Hexavalent Chromium Analysis

No data validation qualifiers were added

MKP 7/25/2024

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428729-01	**Date Collected**	: 05/23/24 12:20
Client ID	: SB-19-3FT-20240523	**Date Received**	: 05/23/24
Sample Location	:	**Date Analyzed**	: 05/31/24 13:58
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1928002.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5595g	**%Solids**	: 75
Digestion Method	: EPA 3060A	**Date Digested**	: 05/31/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	0.482	1.07	0.214	J

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428729-02	**Date Collected**	: 05/23/24 12:25
Client ID	: SB-19-7FT-20240523	**Date Received**	: 05/23/24
Sample Location	:	**Date Analyzed**	: 05/31/24 13:58
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: RDS
Lab File ID	: WG1928002.csv	**Instrument ID**	: SPEC4
Sample Amount	: 2.5983g	**%Solids**	: 85
Digestion Method	: EPA 3060A	**Date Digested**	: 05/31/24

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.942	0.188	U

Total Solids / Percent Moisture Analysis

No data validation qualifiers were added

MKP 7/25/2024

Form 1
WETCHEM

Client	:	C&S Companies	Lab Number	:	L2428729
Project Name	:	1803 ELMWOOD AVENUE BCP-RI	Project Number	:	S93.003.002
Lab ID	:	L2428729-01	Date Collected	:	05/23/24 12:20
Client ID	:	SB-19-3FT-20240523	Date Received	:	05/23/24
Sample Location	:		Date Analyzed	:	05/24/24 11:19
Sample Matrix	:	SOIL	Dilution Factor	:	1
Analytical Method	:	121,2540G	Analyst	:	ROI
Lab File ID	:	WG1925396.pdf	Instrument ID	:	BALANCE#53
Sample Amount	:		%Solids	:	75
Digestion Method	:		Date Digested	:	

		%			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
NONE	Solids, Total	74.7	0.100	NA	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2428729-02	**Date Collected**	: 05/23/24 12:25
Client ID	: SB-19-7FT-20240523	**Date Received**	: 05/23/24
Sample Location	:	**Date Analyzed**	: 05/24/24 11:19
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1925396.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 85
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**84.9**	**0.100**	**NA**	

Appendix B

Laboratory QC Documentation

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: C&S Companies	**Lab Number**	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Matrix (Level)	: SOIL (LOW)		
LCS Sample ID	: WG1927081-3 **Analysis Date** : 05/28/24 19:34	**File ID**	: V10240528N01
LCSD Sample ID	: WG1927081-4 **Analysis Date** : 05/28/24 20:01	**File ID**	: V10240528N02

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Methylene chloride	40	25	62 Q	40	31	77	22	70-130	30
1,1-Dichloroethane	40	37	92	40	36	90	2	70-130	30
Chloroform	40	37	94	40	37	93	1	70-130	30
Carbon tetrachloride	40	36	89	40	36	89	0	70-130	30
Tetrachloroethene	40	40	100	40	40	100	0	70-130	30
Chlorobenzene	40	39	97	40	39	97	0	70-130	30
1,2-Dichloroethane	40	39	97	40	39	97	0	70-130	30
1,1,1-Trichloroethane	40	38	95	40	38	96	1	70-130	30
Benzene	40	38	94	40	38	94	0	70-130	30
Toluene	40	37	94	40	37	93	1	70-130	30
Ethylbenzene	40	39	97	40	39	97	0	70-130	30
Vinyl chloride	40	32	80	40	31	78	3	67-130	30
1,1-Dichloroethene	40	31	78	40	31	78	0	65-135	30
trans-1,2-Dichloroethene	40	28	70	40	20	50 Q	33 Q	70-130	30
Trichloroethene	40	41	102	40	47	116	13	70-130	30
1,2-Dichlorobenzene	40	40	100	40	40	101	1	70-130	30
1,3-Dichlorobenzene	40	40	99	40	40	100	1	70-130	30
1,4-Dichlorobenzene	40	39	98	40	40	100	2	70-130	30
Methyl tert butyl ether	40	33	82	40	32	79	4	66-130	30
p/m-Xylene	80	76	95	80	76	95	0	70-130	30
o-Xylene	80	76	95	80	76	95	0	70-130	30
cis-1,2-Dichloroethene	40	38	94	40	37	94	0	70-130	30
Acetone	40	23	58	40	33	81	33 Q	54-140	30
2-Butanone	40	35	88	40	34	85	3	70-130	30
n-Butylbenzene	40	40	100	40	41	102	2	70-130	30
sec-Butylbenzene	40	39	97	40	39	97	0	70-130	30

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: WG1927081-5	Date Collected	: NA
Client ID	: WG1927081-5BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/28/24 21:22
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: RAW
Lab File ID	: V10240528N05	Instrument ID	: VOA110
Sample Amount	: 5.0 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: NA
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	5.0	2.3	U
75-34-3	1,1-Dichloroethane	ND	1.0	0.14	U
67-66-3	Chloroform	1.1	1.5	0.14	J
56-23-5	Carbon tetrachloride	ND	1.0	0.23	U
127-18-4	Tetrachloroethene	ND	0.50	0.20	U
108-90-7	Chlorobenzene	ND	0.50	0.13	U
107-06-2	1,2-Dichloroethane	ND	1.0	0.26	U
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.17	U
108-88-3	Toluene	ND	1.0	0.54	U
100-41-4	Ethylbenzene	ND	1.0	0.14	U
75-01-4	Vinyl chloride	ND	1.0	0.34	U
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	U
156-60-5	trans-1,2-Dichloroethene	ND	1.5	0.14	U
79-01-6	Trichloroethene	ND	0.50	0.14	U
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.14	U
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.15	U
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.17	U
1634-04-4	Methyl tert butyl ether	ND	2.0	0.20	U
179601-23-1	p/m-Xylene	ND	2.0	0.56	U
95-47-6	o-Xylene	ND	1.0	0.29	U
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.18	U
67-64-1	Acetone	ND	10	4.8	U
78-93-3	2-Butanone	ND	10	2.2	U
104-51-8	n-Butylbenzene	ND	1.0	0.17	U

Initial Calibration Summary
Form 6
Volatiles

Client	**: C&S Companies**	**Lab Number**	**: L2428729**
Project Name	**: 1803 ELMWOOD AVENUE BCP-RI**	**Project Number**	**: S93.003.002**
Instrument ID	**: VOA110**	**Ical Ref**	**: ICAL21133**
Calibration dates	**: 05/15/24 20:51 05/16/24 01:23**		

Calibration Files

L0 =V10240515N03.D L1 =V10240515N05.D L1.5=V10240515N07.D L2 =V10240515N08.D L3 =V10240515N09.D

L4 =V10240515N10.D L6 =V10240515N11.D L7 =V10240515N12.D L8 =V10240515N13.D

		Compound	L0	L1	L1.5	L2	L3	L4	L6	L7	L8	Avg	%RSD
41)	TP	Benzene	0.785	0.812	0.992	0.892	0.860	0.878	0.889	0.853	0.897	0.873	6.71
42)	TP	Tertiary-Amyl Methyl Ether		0.620	0.748	0.657	0.660	0.706	0.719	0.711	0.737	0.695	6.39
43)	S	1,2-Dichloroethane-d4	0.283	0.281	0.287	0.285	0.281	0.288	0.281	0.291	0.294	0.286	1.66
44)	TP	1,2-Dichloroet		0.320	0.341	0.318	0.307	0.309	0.310	0.295	0.305	0.313	4.33
47)	TP	Methyl cyclohe		0.326	0.454	0.396	0.371	0.392	0.395	0.399	0.443	0.397	9.99
48)	TP	Trichloroethene	0.191	0.201	0.263	0.245	0.235	0.237	0.240	0.234	0.253	0.233	9.90
50)	TP	Dibromomethane		0.136	0.166	0.153	0.152	0.156	0.157	0.150	0.154	0.153	5.58
51)	TC	1,2-Dichloropr		0.204	0.266	0.230	0.220	0.230	0.231	0.221	0.228	0.229	7.57
53)	TP	2-Chloroethyl		0.120	0.141	0.140	0.142	0.152	0.156	0.151	0.153	0.144	7.99
54)	TP	Bromodichloromethane	0.313	0.273	0.353	0.321	0.305	0.322	0.325	0.314	0.327	0.317	6.65
57)	TP	1,4-Dioxane		0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003#	7.80
58)	TP	cis-1,3-Dichloropropene	0.369	0.329	0.404	0.375	0.374	0.382	0.387	0.372	0.386	0.375	5.41
59)	I	Chlorobenzene-d5	----------ISTD----------										
60)	S	Toluene-d8	1.248	1.254	1.251	1.246	1.258	1.243	1.212	1.216	1.195	1.236	1.81
61)	TC	Toluene		0.696	0.852	0.728	0.688	0.705	0.707	0.670	0.706	0.719	7.85
62)	TP	4-Methyl-2-pen		0.110	0.119	0.103	0.114	0.118	0.122	0.119	0.123	0.116	5.94
63)	TP	Tetrachloroethene	0.249	0.253	0.347	0.303	0.291	0.301	0.305	0.291	0.315	0.295	10.23
65)	TP	trans-1,3-Dich		0.349	0.440	0.433	0.428	0.444	0.446	0.428	0.441	0.426	7.48
67)	TP	Ethyl methacry		0.272	0.322	0.334	0.340	0.357	0.368	0.362	0.374	0.341	9.68
68)	TP	1,1,2-Trichlor		0.205	0.212	0.211	0.203	0.210	0.211	0.206	0.212	0.209	1.66
69)	TP	Chlorodibromomethane	0.247	0.264	0.310	0.287	0.297	0.314	0.319	0.310	0.318	0.296	8.67
70)	TP	1,3-Dichloropr		0.415	0.457	0.425	0.429	0.444	0.443	0.419	0.424	0.432	3.36
71)	TP	1,2-Dibromoethane	0.258	0.259	0.276	0.255	0.263	0.272	0.276	0.261	0.263	0.265	3.03
72)	TP	2-Hexanone		0.233	0.231	0.214	0.221	0.234	0.238	0.231	0.233	0.229	3.38
73)	TP	Chlorobenzene	0.716	0.752	0.942	0.824	0.800	0.830	0.827	0.797	0.835	0.814	7.69
74)	TC	Ethylbenzene		1.224	1.452	1.311	1.290	1.333	1.371	1.309	1.398	1.336	5.25
75)	TP	1,1,1,2-Tetrachloroethane	0.233	0.256	0.325	0.280	0.289	0.304	0.313	0.303	0.311	0.291	10.30
76)	TP	p/m Xylene	0.495	0.491	0.582	0.519	0.514	0.538	0.553	0.528	0.577	0.533	6.16
77)	TP	o Xylene	0.466	0.475	0.579	0.532	0.505	0.531	0.546	0.525	0.569	0.525	7.27
78)	TP	Styrene	0.783	0.758	0.898	0.845	0.874	0.929	0.975	0.955	1.047	0.896	10.33
79)	I	1,4-Dichlorobenzene-d4	----------ISTD----------										
80)	TP	Bromoform		0.308	0.373	0.348	0.340	0.380	0.417	0.426	0.438	0.379	12.07
82)	TP	Isopropylbenzene		2.127	2.808	2.417	2.306	2.426	2.494	2.431	2.579	2.448	8.07
83)	S	4-Bromofluorobenzene	0.832	0.807	0.840	0.827	0.815	0.818	0.801	0.794	0.777	0.812	2.44
84)	TP	Bromobenzene		0.586	0.725	0.663	0.637	0.654	0.667	0.647	0.668	0.656	5.88
85)	TP	n-Propylbenzene		2.352	3.159	2.842	2.670	2.804	2.856	2.766	2.959	2.801	8.29

Calibration Verification Summary
Form 7
Volatiles

Client	: C&S Companies		Lab Number	: L2428729	
Project Name	: 1803 ELMWOOD AVENUE BCP-RI		Project Number	: S93.003.002	
Instrument ID	: VOA110		Calibration Date	: 05/28/24 19:34	
Lab File ID	: V10240528N01		Init. Calib. Date(s)	: 05/15/24	05/16/24
Sample No	: WG1927081-2		Init. Calib. Times	: 20:51	01:23
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
Fluorobenzene	1	1	-	0	20	115	0	
Dichlorodifluoromethane	0.285	0.233	-	18.2	20	97	0	
Chloromethane	0.258	0.211	-	18.2	20	103	0	
Vinyl chloride	0.314	0.251	-	20.1*	20	92	0	
Bromomethane	0.243	0.18	-	25.9*	20	97	0	NT
Chloroethane	0.242	0.204	-	15.7	20	98	0	
Trichlorofluoromethane	0.544	0.448	-	17.6	20	97	0	
Ethyl ether	0.2	0.174	-	13	20	103	0	
1,1-Dichloroethene	0.296	0.232	-	21.6*	20	94	0	
Carbon disulfide	1.008	0.801	-	20.5*	20	96	0	NT
Freon-113	0.317	0.261	-	17.7	20	98	0	
Acrolein	0.065	0.058	-	10.8	20	102	0	
Methylene chloride	0.375	0.231	-	38.4*	20	77	0	
Acetone	0.13	0.076	-	41.5*	20	68	0	
trans-1,2-Dichloroethene	0.297	0.207	-	30.3*	20	72	0	
Methyl acetate	0.256	0.179	-	30.1*	20	69	0	NT
Methyl tert-butyl ether	0.833	0.687	-	17.5	20	106	0	
tert-Butyl alcohol	0.041	0.038	-	7.3	20	106	0	
Diisopropyl ether	0.751	0.71	-	5.5	20	108	0	
1,1-Dichloroethane	0.406	0.373	-	8.1	20	109	0	
Halothane	0.171	0.154	-	9.9	20	110	0	
Acrylonitrile	0.084	0.078	-	7.1	20	108	0	
Ethyl tert-butyl ether	0.724	0.698	-	3.6	20	110	0	
Vinyl acetate	0.563	0.432	-	23.3*	20	89	0	NT
cis-1,2-Dichloroethene	0.248	0.232	-	6.5	20	110	0	
2,2-Dichloropropane	0.334	0.311	-	6.9	20	112	0	
Bromochloromethane	0.128	0.118	-	7.8	20	110	0	
Cyclohexane	0.357	0.324	-	9.2	20	107	0	
Chloroform	0.399	0.373	-	6.5	20	109	0	
Ethyl acetate	0.305	0.269	-	11.8	20	108	0	
Carbon tetrachloride	0.321	0.285	-	11.2	20	105	0	
Tetrahydrofuran	0.094	0.081	-	13.8	20	108	0	
Dibromofluoromethane	0.262	0.248	-	5.3	20	110	0	
1,1,1-Trichloroethane	0.343	0.325	-	5.2	20	109	0	
2-Butanone	0.136	0.119	-	12.5	20	106	0	
1,1-Dichloropropene	0.299	0.273	-	8.7	20	107	0	
Benzene	0.873	0.824	-	5.6	20	108	0	
tert-Amyl methyl ether	0.695	0.668	-	3.9	20	109	0	
1,2-Dichloroethane-d4	0.286	0.291	-	-1.7	20	116	0	
1,2-Dichloroethane	0.313	0.305	-	2.6	20	114	0	
Methyl cyclohexane	0.397	0.363	-	8.6	20	107	0	
Trichloroethene	0.233	0.239	-	-2.6	20	117	0	
Dibromomethane	0.153	0.144	-	5.9	20	106	0	

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: C&S Companies		Lab Number	: L2428729	
Project Name	: 1803 ELMWOOD AVENUE BCP-RI		Project Number	: S93.003.002	
Instrument ID	: GCMS5		Calibration Date	: 05/30/24 21:24	
Lab File ID	: ABN0530A		Init. Calib. Date(s)	: 02/06/24	02/06/24
Sample No	: WG1927861-3		Init. Calib. Times	: 06:45	15:13
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
IS1_1,4-Dichlorobenzene-d4	1	1	-	0	20	98	0	
n-Nitrosodimethylamine	0.622	0.476	-	23.5*	20	76	0	NT
Pyridine	0.986	0.797	-	19.2	20	77	0	
2-Fluorophenol	1.066	0.932	-	12.6	20	86	0	
Aniline	1.527	1.225	-	19.8	20	79	0	
2-Chlorophenol	1.268	1.157	-	8.8	20	89	0	
Phenol-d6	1.337	1.154	-	13.7	20	84	0	
Phenol	1.477	1.13	-	23.5*	20	75	0	
Bis(2-chloroethyl)ether	0.998	0.804	-	19.4	20	81	0	
1,3-Dichlorobenzene	1.497	1.382	-	7.7	20	93	0	
1,4-Dichlorobenzene	1.55	1.395	-	10	20	91	0	
1,2-Dichlorobenzene	1.475	1.351	-	8.4	20	92	0	
Benzyl alcohol	0.862	0.765	-	11.3	20	85	0	
Bis(2-chloroisopropyl)ethe	1.727	1.069	-	38.1*	20	61	0	NT
2-Methylphenol	1.028	0.905	-	12	20	86	0	
Hexachloroethane	0.512	0.477	-	6.8	20	93	0	
n-Nitrosodi-n-propylamine	0.75	0.626	-	16.5	20	82	0	
3-Methylphenol/4-Methylphe	1.105	0.99	-	10.4	20	86	0	
Nitrobenzene-d5	1.122	0.995	-	11.3	20	85	0	
Nitrobenzene	1.097	0.945	-	13.9	20	83	0	
Isophorone	2.035	1.774	-	12.8	20	85	0	
2-Nitrophenol	0.588	0.705	-	-19.9	20	106	0	
2,4-Dimethylphenol	0.833	0.727	-	12.7	20	81	0	
Bis(2-chloroethoxy)methane	1.327	1.118	-	15.7	20	83	0	
2,4-Dichlorophenol	1.202	1.222	-	-1.7	20	98	0	
1,2,4-Trichlorobenzene	1.388	1.386	-	0.1	20	100	0	
IS1_Naphthalene-d8	1	1	-	0	20	97	0	
Naphthalene	1.053	0.935	-	11.2	20	88	0	
Benzoic Acid	0.228	0.245	-	-7.5	20	102	0	
4-Chloroaniline	0.105	0.089	-	15.2	20	82	0	
Hexachlorobutadiene	0.219	0.237	-	-8.2	20	108	0	
p-Chloro-m-cresol	0.272	0.267	-	1.8	20	93	0	
2-Methylnaphthalene	0.704	0.674	-	4.3	20	94	0	
1-Methylnaphthalene	0.213	0.205	-	3.8	20	95	0	
Hexachlorocyclopentadiene	0.178	0.205	-	-15.2	20	106	0	
2,4,6-Trichlorophenol	0.255	0.294	-	-15.3	20	109	0	
2,4,5-Trichlorophenol	0.276	0.313	-	-13.4	20	108	0	
2-Fluorobiphenyl	0.889	0.909	-	-2.2	20	101	0	
2-Chloronaphthalene	0.737	0.74	-	-0.4	20	99	0	
2-Nitroaniline	0.209	0.25	-	-19.6	20	103	0	
1,4-Dinitrobenzene	0.103	0.118	-	-14.6	20	106	0	
1,3-Dinitrobenzene	0.111	0.137	-	-23.4*	20	105	0	NT
Dimethyl phthalate	0.871	0.932	-	-7	20	104	0	

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: C&S Companies		Lab Number	: L2428729	
Project Name	: 1803 ELMWOOD AVENUE BCP-RI		Project Number	: S93.003.002	
Instrument ID	: GCMS5		Calibration Date	: 05/30/24 21:48	
Lab File ID	: APDP0530		Init. Calib. Date(s)	: 02/06/24	02/06/24
Sample No	: WG1927861-4		Init. Calib. Times	: 06:45	15:13
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
IS2_1,4-Dichlorobenzene-d4	1	1	-	0	20	109	0	
1,4-Dioxane	0.455	0.333	-	26.8*	20	83	0	
Benzaldehyde	0.959	0.95	-	0.9	20	101	0	
n-Decane	1.304	1.533	-	-17.6	20	82	0	
Acetophenone	1.783	1.809	-	-1.5	20	109	0	
m-Toluidine	1.746	1.772	-	-1.5	20	104	0	
2-Chloroaniline	1.72	1.839	-	-6.9	20	113	0	
IS2_Naphthalene-d8	1	1	-	0	20	109	0	
a-Terpineol	0.267	0.248	-	7.1	20	97	0	
3-Chloroaniline	0.13	0.127	-	2.3	20	103	0	
2,6-Dichlorophenol	0.348	0.409	-	-17.5	20	123	0	
1-chloro-2-nitrobenzene	0.136	0.159	-	-16.9	20	120	0	
Caprolactam	0.16	0.144	-	10	20	93	0	
1,2,4,5-Tetrachlorobenzene	0.45	0.548	-	-21.8*	20	132	0	NT
Biphenyl	0.993	1.067	-	-7.5	20	116	0	
IS2_Acenaphthene-d10	1	1	-	0	20	117	0	
Dichloran	0.2	0.292	-	-46*	20	158	0	NT
Atrazine	0.437	0.519	-	-18.8	20	128	0	
Pentachloronitrobenzene	0.19	0.275	-	-44.7*	20	156	0	NT
IS2_Phenanthrene-d10	1	1	-	0	20	120	0	
n-Octadecane	0.344	0.288	-	16.3	20	93	0	
Parathion	50	55.33	-	-10.7	20	137	0	
Diphenamid	0.536	0.612	-	-14.2	20	127	0	
3,3'-Dimethylbenzidine	0.807	0.918	-	-13.8	20	116	0	

* Value outside of QC limits.

Results Summary
Form 1
Diesel Range Organics

Client	: C&S Companies	Lab Number	: L2428729
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: WG1926170-1	Date Collected	: NA
Client ID	: WG1926170-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/28/24 12:00
Sample Matrix	: SOIL	Date Extracted	: 05/27/24
Analytical Method	: 1,8015D(M)	Dilution Factor	: 1
Lab File ID	: P2224052816	Analyst	: SBC
Sample Amount	: 15.86 g	Instrument ID	: PETRO22A
Extraction Method	: EPA 3546	GC Column	:
Extract Volume	: 1000 uL	%Solids	: NA
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: N		

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
NONE	DRO (C10-C28)	10000	32000	1700	J

Appendix C

Validator Qualifications

KENNETH R. APPLIN
Geochemist/Data Validator

Ph.D., Geochemistry and Mineralogy, The Pennsylvania State University

M.S., Geochemistry and Mineralogy, The Pennsylvania State University

B.A., Geological Sciences, SUNY at Geneseo, NY

Dr. Applin has over 35 years of experience working with the geochemistry of natural waters. His prior experience includes working as an Assistant Professor of Geology at the University of Missouri-Columbia and as Chief Hydrogeologist and Geochemist with a leading engineering firm in Rochester, NY. In 1993, he established KR Applin and Associates, a small consulting business that focuses on the geochemistry of natural waters, especially as applied to problems involving the contamination of groundwater and surface water.

Dr. Applin is also an experienced analytical data validator and has provided data validation services since 1994 to a variety of clients performing brownfield cleanup projects, hazardous waste remediation, groundwater monitoring at solid waste facilities, and other projects requiring third-party data validation. Dr. Applin has several years of hands-on experience with the laboratory analysis of natural waters and has successfully completed the USEPA Region II certification courses for performing inorganic and organic analytical data validation.

MICHAEL K. PERRY
Chemist/Data Validator

B.S. Chemistry, Georgia State University, Atlanta, GA

A.A.S., Chemical Technology, Alfred State College, Alfred, NY

Mr. Perry has over 30 years of experience in the analytical laboratory business. During his early career, he spent several years as a laboratory analyst performing the analysis of soil, water, and air samples for inorganic and organic chemical parameters. During his last 20 years in the environmental laboratory business, he managed and directed two major analytical laboratories in Rochester, NY. His management responsibilities included oversight of the daily operations of the lab, staff training and supervision, the selection, purchase, and maintenance of analytical instruments, the introduction of new laboratory methods, analytical quality assurance and quality control, data acquisition and management, and other business-related activities.

Mr. Perry has an extensive working knowledge of the methods and procedures used for sampling and analyzing both inorganic and organic analytes in soil, water, and air. He is an accomplished laboratory chemist and is familiar with the analytical methods and procedures established under the USEPA Contract Laboratory Protocols (CLP), the NYSDEC Analytical Services Protocols (ASP), and the NYSDOH Environmental Laboratory Approval Program (ELAP).

DATA USABILITY SUMMARY REPORT (DUSR)

1803 Elmwood Ave. BCP RI
Buffalo, NY
Project #: S93.003.002

SDG: L2435641
4 Water Samples, Field Blank, Trip Blank

Prepared for:

C&S Companies
141 Elm Street, Suite 100
Buffalo, NY 14203
Attention: Jesse Alt-Winzig

July 2024

EDU *Environmental Data Usability 10028 Deer Park Dr. Dansville, NY 14437 585-991-9156*

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REVIEWER'S NARRATIVE
C&S Companies SDG L2435641 – 1803 Elmwood Ave. BCP RI

The data associated with this Sample Delivery Group (SDG) L2435641, analyzed by Alpha Analytical, Westborough, MA have been reviewed in accordance with assessment criteria provided by the New York State Department of Environmental Conservation following the review procedures provided in the USEPA Functional Guidelines for evaluating organic and inorganic data.

All analytical results reported by the laboratory are considered valid and acceptable except results that have been qualified as rejected, "R". Results qualified as estimated "J", or as non-detects, "U", are considered usable for the purpose of evaluating water and/or soil quality. However, these qualifiers indicate that the accuracy and/or precision of the analytical result is questionable. A summary of all data that have been qualified and the reasons for qualification are provided in the following data usability summary report (DUSR).

Two facts should be noted by all data users. First, the "R" qualifier means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Values qualified with an "R" should not appear on the final data tables because they cannot be relied upon, even as the last resort. Second, no analyte concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data, but any value potentially contains error.

Reviewer's Signature: Michael K. Perry Date: 8/5/2024

Michael K. Perry
Chemist

1.0 EVENT SUMMARY

SITE:	1803 Elmwood Ave. BCP RI Buffalo, NY Project #: S93.003.002
SAMPLING DATE:	June 24, 2024
SAMPLE TYPE:	4 water samples, field blank, trip blank
LABORATORY:	Alpha Analytical Westborough, MA
SDG No.:	L2435641

2.0 INTRODUCTION

This data usability summary report (DUSR) was prepared in accordance with guidance provided by the New York State Department of Environmental Conservation (NYSDEC). The DUSR is based on a review and evaluation of the laboratory analytical data package. Specifically, the NYSDEC guidance recommends review and evaluation of the following elements of the data package:

- Completeness of the data package as defined under the requirements of the NYSDEC Analytical Services Protocols (ASP) Category B or the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) deliverables,
- Compliance with established analyte holding times,
- Adherence to quality control (QC) limits and specifications for blanks, instrument tuning and calibration, surrogate recoveries, spike recoveries, laboratory duplicate analyses, and other QC criteria,
- Adherence to established analytical protocols,
- Conformance of data summary sheets with raw analytical data, and
- Use of correct data qualifiers.

Data deficiencies, analytical protocol deviations, and quality control problems identified using the review criteria above and their effect on the analytical results are discussed in this report.

3.0 SAMPLE AND ANALYSIS SUMMARY

The data package consists of analytical results for 4 water samples, field blank, and a trip blank collected on June 24, 2024. These samples were analyzed for Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), SVOCs-SIM, 1,4-Dioxane, PCBs, PFASs, Metals-total and dissolved (ICP/MS and Hg).

All laboratory analyses were submitted to Alpha Analytical, Westborough, MA and analyzed as SDG L2435641. The analytical results were provided in NYSDEC ASP Category B format, which includes all raw analytical data and laboratory QC data.

4.0 GUIDANCE DOCUMENTS AND DATA REVIEW CRITERIA

The guidance documents appropriate for reviewing laboratory quality control (QC) data and assigning data qualifiers (flags) to analytical results were selected from those listed in Table 4-1. The QC limits established in the documents applicable to this data review were used to assess the quality of the analytical results. In some cases, however, QC limits established internally by the laboratory were taken into account to determine data quality.

The QC criteria considered for assessing the usability of the reported analytical results provided for each analyte type (i.e. VOCs, SVOCs, metals, etc.) are listed in Table 4-2. These criteria may vary with the analytical method utilized by the laboratory. These criteria comply with the guidance recommended in Section 2.0 above.

5.0 DATA VALIDATION QUALIFIERS

The letter qualifiers (flags) used to define data usability are described briefly below. These letters are assigned by the data validator to analytical results having questionable accuracy and/or precision as determined by reviewing the laboratory QC data associated with the analytical results.

TABLE 4-1

Guidance Used For Validating Laboratory Analytical Data

Analyte Group	Guidance	Date
Metals (ICP-AES)	USEPA SOP HW-3a, Rev. 1	September 2016
Metals (Hg & CN)	USEPA SOP HW-3c, Rev. 1	September 2016
Volatile Organic Compounds (by Methods 8260B & 8260C)	USEPA SOP HW-24, Rev. 4	September 2014
Semi-Volatile Organic Compounds (by Method 8270D)	USEPA SOP HW-22 Rev. 5	December 2010
Pesticides (by Method 8181B)	USEPA SOP HW-44, Rev. 1.1	December 2010
Chlorinated Herbicides (by Method 8151A)	USEPA SOP HW-17, Rev. 3.1	December 2010
Polychlorinated Biphenyls (PCBs)	USEPA SOP HW-37A, Rev. 0	June 2015
Volatile Organic Compounds (Air) (by Method TO-15)	USEPA SOP HW-31, Rev. 6	September 2016
Per- and PolyFluoroAlkyl Substances (PFAS)	* NYSDEC ** US Dept. of Defense	January 2021 November 2022
Radiological Analysis		
Uranium	USEPA Method 908.0	June 1999
Radium-226	USEPA Method 903.1	1980
General Chemistry Parameters	per NYSDEC ASP	July 2005

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

** Data Validation Guidelines Module 6: Data Validatioin Procedures for Per- and Polyfluoroalkyl Substances Analysis by QSM Table B-24

TABLE 4-2

QUALITY CONTROL CRITERIA USED FOR VALIDATING LABORATORY ANALYTICAL DATA

VOCs	SVOCs	Pesticides/PCBs	Metals	Gen Chemistry	PFAS
Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg
Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation
Holding Time	Holding Time	Holding Time	Holding Time	Holding Times	Holding Time
System Monitoring Compounds	Surrogate Recoveries	Surrogate Recoveries	Initial/Continuing Calibration	Calibration	Instr Performance Check
Lab Control Sample	Lab Control Sample	Matrix Spikes	CRDL Standards	Lab Control Samples	Initial Calibration
Matrix Spikes	Matrix Spikes	Blanks	Blanks	Blanks	Continuing Calibration
Blanks	Blanks	Instrument Calibration & Verification	Interference Check Sample	Spike Recoveries	Blanks
Instrument Tuning	Instrument Tuning	Comparison of duplicate GC column results	Spike Recoveries	Lab Duplicates	Surrogates
Internal Standards	Internal Standards	Analyte ID	Lab Duplicate		Lab Fortified Blank
Initial Calibration	Initial Calibration	Lab Qualifiers	Lab Control Sample		Matrix Spikes
Continuing Calibration	Continuing Calibration	Field Duplicate	ICP Serial Dilutions		Internal Standards
Lab Qualifiers	Lab Qualifiers		Lab Qualifiers		
Field Duplicate	Field Duplicate		Field Duplicate		

Method TO-15 (Air)	Radiological (U and Ra)
Completeness of Pkg	Completeness of Pkg
Sample Preservation	Sample Preservation
Holding Time	Holding Time
Canister Certification	Sample Specific Yield
Instrument Tuning	Required Detection Limit
Initial Calibration and Instrument Performance	Laboratory Control Sample
	Matrix Spikes
Daily Calibration	Method Blank
Blanks	Instrument Calibration
Lab Control Sample	
Field Duplicate	

The laboratory may also use various letters and symbols to flag analytical results generated when QC limits were exceeded. The meanings of these flags may differ from those used by the independent data validator. Those used by the laboratory are provided with the analytical results.

NOTE: The assignment of data qualifiers by the data reviewer (validator) to laboratory analytical results should not necessarily be interpreted by the data user as a measure of laboratory ability or proficiency. Rather, the qualifiers are intended to provide a measure of data accuracy and precision to the data user, which, for example, may provide a level of confidence in determining whether or not standards or cleanup objectives have been met.

U The analyte was analyzed for but was not detected at or above the sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the *approximate* concentration of the analyte in the sample. (The magnitude of any ± value associated with the result is not determined by data validation).

J+ The result is an estimated quantity and may be biased high.

J- The result is an estimated quantity and may be biased low.

UJ The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R The sample result is rejected (i.e., is unusable) due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

The validated analytical results are attached to this report. Validation qualifiers (flags) are indicated in red print. Data sheets having qualified data are signed and dated by the data reviewer.

6.0 RESULTS OF THE DATA REVIEW

The results of the data review are summarized in Tables 6-1 through 6-8. The tables list the samples where QC criteria were found to exceed acceptable limits and the actions taken to qualify the associated analytical results.

7.0 TOTAL USABLE DATA

For SDG L2435641, 6 samples were analyzed and results were reported for 962 analytes. Five results were rejected. Even though some results were flagged with a "J" as estimated, all other results (99.5 %) are considered usable. See the summary table for the analyses that have been rejected and qualified and the associated QC reasons.

Note 1): Sample L2435641-02: MW-04-20240624 was not reported correctly. The ASP-B package for the 8270-SIM SVOC results was missing Forms I, II, III, IV, and V. A proper data validation could not be performed and data validation qualifiers could not be added.

Table 6-1 VOCs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
MW-04-20240624 MW-05-20240624 MW-01-20240624 DUP-A-20240624 Trip Blank-20240624	1,4-Dioxane	J detects R non-detects	ICAL RF < 0.005	Since all results are non-detect, the results are rejected
MW-04-20240624 MW-05-20240624 MW-01-20240624 DUP-A-20240624 Trip Blank-20240624	Carbon disulfide Bromomethane Chloroethane Trichlorofluoromethane Carbon tetrachloride 1,1,1-Trichloroethane	J detects UJ non-detects	ICV % D or CCV % D > QC limit	Data are estimated

Table 6-2 SVOCs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
MW-04-20240624	Carbazole	J detects UJ non-detects	LCS rec < QC limit	Data are estimated
MW-05-20240624 MW-01-20240624 DUP-A-20240624	2,4-Dinitrotoluene Hexachlorocyclopentadiene Di-n-octylphthalate 4-Chloroaniline 2-Nitroaniline 4-Nitroaniline	J detects UJ non-detects	LCS rec < QC limit	Data are estimated

	Acetophenone Carbazole Atrazine Benzaldehyde 2,3,4,6-Tetrachlorophenol			
MW-04-20240624	Hexachlorocyclopentadiene 4-Nitroaniline 2,4,6-Trichlorophenol 2-Chlorophenol 2,4-Dichlorophenol 2-Nitrophenol 4-Nitrophenol 2,4-Dinitrophenol 4,6-Dinitro-o-cresol Phenol 2,4,5-Trichlorophenol 2,3,4,6-Tetrachlorophenol	J detects UJ non-detects	MS rec < QC limit	Data are estimated
MW-04-20240624	2,4-Dimethylphenol Butyl benzyl phthalate Atrazine	J detects UJ non-detects	CCV % D > QC limit	Data are estimated

Table 6-3 SVOCs-SIM

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
MW-05-20240624 MW-01-20240624 DUP-A-20240624	Hexachlorobutadiene	J detects UJ non-detects	LCS rec < QC limit	Data are estimated

Table 6-4 1,4-Dioxane

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-5 PCBs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-6 PFASs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
Field Blank 20240624 MW-04-20240624 MW-05-20240624	PFBA	CRQL-U	Analyte detected in method blank	Data changed to non-detect
MW-04-20240624	PFOSA	J detects	Ion ratio < QC limits	Data are estimated

Table 6-7 ICP Metals total and dissolved

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
MW-01-20240624 DUP-A-20240624	Mn dissolved, Na dissolved, Al total, Mn total, and Mg total	J detects	Field Dup % D > 20 %	Data are estimated
MW-04-20240624	Zn total	J+ detects	MS rec > QC limits	Data may be biased high

Table 6-8 Mercury total and dissolved

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

ACRONYMS

BSP	Blank Spike
CCAL	Continuing Calibration
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
%D	Percent Difference
ICAL	Initial Calibration
ICB	Initial Calibration Blank
IS	Internal Standard
LCS	Laboratory Control Sample
MS/MSD	Matrix Spike/Matrix Spike Duplicate
QA	Quality Assurance
QC	Quality Control
%R	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
%RSD	Percent Relative Standard Deviation
TAL	Target Analyte List (metals)
TCL	Target Compound List (organics)

Appendix A

Validated Analytical Results

www.alphalab.com



Alpha Analytical

Laboratory Code: 11148

SDG Number: L2435641

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Project Name: 1803 ELMWOOD AVENUE-BCP-RI
Project Number: S93.003.002

Lab Number: L2435641
Report Date: 07/09/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2435641-01	FIELD BLANK-20240624	WATER	Not Specified	06/24/24 09:30	06/24/24
L2435641-02	MW-04-20240624	WATER	Not Specified	06/24/24 10:20	06/24/24
L2435641-03	MW-05-20240624	WATER	Not Specified	06/24/24 12:25	06/24/24
L2435641-04	MW-01-20240624	WATER	Not Specified	06/24/24 15:05	06/24/24
L2435641-05	DUP-A-20240624	WATER	Not Specified	06/24/24 15:05	06/24/24
L2435641-06	TRIP BLANK-20240624	WATER	Not Specified	06/24/24 00:00	06/24/24

Case Narrative (continued)

Report Submission
July 09, 2024: This final report includes the results of all requested analyses.
July 02, 2024: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Semivolatile Organics
L2435641-02: The surrogate recovery was outside the acceptance criteria for 2-fluorophenol (7%); however, the recovery was confirmed by the QC performed on this sample; therefore, re-extraction was not required.
The WG1940981-4 MS/MSD recovery, performed on L2435641-02, is below the acceptance criteria for 2,4,6-trichlorophenol (0%/0%), 2-chlorophenol (MS at 9%), 2,4-dichlorophenol (MS at 9%), 2-nitrophenol (MS at 0%), 4-nitrophenol (7%/0%), 2,4-dinitrophenol (0%/0%), 4,6-dinitro-o-cresol (0%/0%), phenol (MS at 9%), 2,4,5-trichlorophenol (MS at 0%), and 2,3,4,6-tetrachlorophenol (0%/0%) due to the concentrations of these compounds in the MS/MSD falling below the reported detection limits.

Semivolatile Organics by SIM
The surrogate recoveries for the WG1940984-4 MS, performed on L2435641-02, are outside the acceptance criteria for 2-fluorophenol (4%) and 2,4,6-tribromophenol (4%). The associated MS spike compounds are within overall method allowances; therefore, no further action was taken.
The WG1940984-4/-5 MS/MSD recoveries, performed on L2435641-02, are below the acceptance criteria for pentachlorophenol (2%/7%); however, it has been identified as a "difficult" analyte. The results of the associated sample are reported.

Perfluorinated Alkyl Acids by 1633
L2435641-04RE and -05RE: The sample was re-extracted within holding time to confirm the results in the original extraction. The results of the re-extraction are reported for PFBA.
The WG1943065-4/-5 MS/MSD recoveries, performed on L2435641-02, are outside the acceptance criteria

Case Narrative (continued)

for perfluoro-3-methoxypropanoic acid (pfmpa) (188%/181%).

Total Metals

The WG1940709-7 MS recovery, performed on L2435641-02, is outside the acceptance criteria for zinc (221%). A post digestion spike was performed and was within acceptance criteria. The WG1940709-7/-8 MS/MSD RPD for zinc (76%) is above the acceptance criteria.

The WG1940709-7/-8 MS/MSD recoveries for calcium (61%/58%), magnesium (160%/170%), and sodium (50%/30%), performed on L2435641-02, do not apply because the sample concentrations are greater than four times the spike amounts added.

Dissolved Metals

The WG1940904-3/-4 MS/MSD recoveries for calcium (MS at 126%), magnesium (MS at 200%) and sodium (180%/140%), performed on L2435641-02, do not apply because the sample concentrations are greater than four times the spike amounts added.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Report Date: 07/09/24

Title: Technical Director/Representative

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581 — 8 Walkup Dr. — TEL: 508-898-9220 — FAX: 508-898-9193
Mansfield, MA 02048 — 320 Forbes Blvd — TEL: 508-822-9300 — FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 06/25/24

ALPHA Job #: L2435641

Client Information
Client: C+S Engineers
Address: 141 Elm St, Suite 100, Buffalo, NY 14203
Phone: (716) 847-1630
Fax:
Email: jaltwinzig@cscos.com

Project Information
Project Name: 1803 Elmwood Avenue BCP- RI
Project Location:
Project #: S93.003.002
(Use Project name as Project #) ☐
Project Manager: Jesse Altwinzig
ALPHAQuote #:

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☒ ASP-B
☒ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information
☒ Same as Client Info
PO #

Regulatory Requirement
☒ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☒ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	NYTCL-8270-RVT	NYTCL-8082-LVT	A2-1, 4-Dioxane SIM	Dissolved Metals, Hg	A2-NY-1633	Total Hg, Metals	NYTCL-8260	Sample Specific Comments	Total Bottle
35641-01	Field Blank-20240624	6/24/2024	0930	GW	JAW			X		X				4
-02	MW-04-20240624		1020			X	X	X	X	X	X	X		14
-02	MW-04-MS-20240624		1020			X	X	X	X	X	X	X	MATRIX SPIKE	14
-02	MW-04-MSD 20240624		1020			X	X	X	X	X	X	X	Mat. Spike Dup	14
-03	MW-05-20240624		1225			X	X	X	X	X	X	X		14
-04	MW-01-20240624		1505			X	X	X	X	X	X	X		14
-05	DUP-A-20240624		1505			X	X	X	X	X	X	X	DUPLICATE	14
-06	Trip Blank-20240624											X	TRIP BLANK	2

Preservative Code: A = None; B = HCl; C = HNO_3; D = H_2SO_4; E = NaOH; F = MeOH; G = $NaHSO_4$; H = $Na_2S_2O_3$; K/E = Zn Ac/NaOH; O = Other

Container Code: P = Plastic; A = Amber Glass; V = Vial; G = Glass; B = Bacteria Cup; C = Cube; O = Other; E = Encore; D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	A	A	A	P	P	P	V
Preservative	A	A	A	A	A	C	B

Relinquished By:	Date/Time	Received By:	Date/Time
Jesse Altwinzig (C+S)	6/24/2024 1645	C. Quigley Pace	6-24-24/1645
C. Quigley Pace	6-24-24/1626		6/25/24 0050

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

GC/MS 8260
Analysis

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-02	Date Collected	: 06/24/24 10:20
Client ID	: MW-04-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/29/24 01:57
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: PID
Lab File ID	: VG240628N15	Instrument ID	: GONZO
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	2.5	0.70	U	
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U	
67-66-3	Chloroform	ND	2.5	0.70	U	
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U	UJ
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U	
124-48-1	Dibromochloromethane	ND	0.50	0.15	U	
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U	
127-18-4	Tetrachloroethene	ND	0.50	0.18	U	
108-90-7	Chlorobenzene	ND	2.5	0.70	U	
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U	UJ
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U	
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U	UJ
75-27-4	Bromodichloromethane	ND	0.50	0.19	U	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U	
75-25-2	Bromoform	ND	2.0	0.65	U	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U	
71-43-2	Benzene	ND	0.50	0.16	U	
108-88-3	Toluene	ND	2.5	0.70	U	
100-41-4	Ethylbenzene	ND	2.5	0.70	U	
74-87-3	Chloromethane	ND	2.5	0.70	U	
74-83-9	Bromomethane	ND	2.5	0.70	U	UJ
75-01-4	Vinyl chloride	0.24	1.0	0.07	J	
75-00-3	Chloroethane	ND	2.5	0.70	U	UJ
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U	

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-02	Date Collected	: 06/24/24 10:20
Client ID	: MW-04-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/29/24 01:57
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: PID
Lab File ID	: VG240628N15	Instrument ID	: GONZO
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier	
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U	
79-01-6	Trichloroethene	0.94	0.50	0.18		
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U	
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U	
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U	
1634-04-4	Methyl tert butyl ether	ND	2.5	0.17	U	
179601-23-1	p/m-Xylene	ND	2.5	0.70	U	
95-47-6	o-Xylene	ND	2.5	0.70	U	
156-59-2	cis-1,2-Dichloroethene	8.2	2.5	0.70		
100-42-5	Styrene	ND	2.5	0.70	U	
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U	
67-64-1	Acetone	ND	5.0	1.5	U	
75-15-0	Carbon disulfide	ND	5.0	1.0	U	UJ
78-93-3	2-Butanone	ND	5.0	1.9	U	
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U	
591-78-6	2-Hexanone	ND	5.0	1.0	U	
74-97-5	Bromochloromethane	ND	2.5	0.70	U	
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U	
98-82-8	Isopropylbenzene	ND	2.5	0.70	U	
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U	
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U	
79-20-9	Methyl Acetate	ND	2.0	0.23	U	
110-82-7	Cyclohexane	ND	10	0.27	U	
123-91-1	1,4-Dioxane	~~ND~~	250	61.	U	R

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-02	**Date Collected**	: 06/24/24 10:20
Client ID	: MW-04-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 06/29/24 01:57
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,8260D	**Analyst**	: PID
Lab File ID	: VG240628N15	**Instrument ID**	: GONZO
Sample Amount	: 10 ml	**GC Column**	: RTX-502.2
Level	: LOW	**%Solids**	: N/A
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-03	Date Collected	: 06/24/24 12:25
Client ID	: MW-05-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/29/24 02:21
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: PID
Lab File ID	: VG240628N16	Instrument ID	: GONZO
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	2.5	0.70	U	
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U	
67-66-3	Chloroform	ND	2.5	0.70	U	
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U	UJ
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U	
124-48-1	Dibromochloromethane	ND	0.50	0.15	U	
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U	
127-18-4	Tetrachloroethene	ND	0.50	0.18	U	
108-90-7	Chlorobenzene	ND	2.5	0.70	U	
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U	UJ
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U	
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U	UJ
75-27-4	Bromodichloromethane	ND	0.50	0.19	U	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U	
75-25-2	Bromoform	ND	2.0	0.65	U	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U	
71-43-2	Benzene	ND	0.50	0.16	U	
108-88-3	Toluene	ND	2.5	0.70	U	
100-41-4	Ethylbenzene	ND	2.5	0.70	U	
74-87-3	Chloromethane	ND	2.5	0.70	U	
74-83-9	Bromomethane	ND	2.5	0.70	U	UJ
75-01-4	Vinyl chloride	ND	1.0	0.07	U	
75-00-3	Chloroethane	ND	2.5	0.70	U	UJ
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U	

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-03	Date Collected	: 06/24/24 12:25
Client ID	: MW-05-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/29/24 02:21
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: PID
Lab File ID	: VG240628N16	Instrument ID	: GONZO
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier	
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U	
79-01-6	Trichloroethene	ND	0.50	0.18	U	
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U	
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U	
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U	
1634-04-4	Methyl tert butyl ether	ND	2.5	0.17	U	
179601-23-1	p/m-Xylene	ND	2.5	0.70	U	
95-47-6	o-Xylene	ND	2.5	0.70	U	
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U	
100-42-5	Styrene	ND	2.5	0.70	U	
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U	
67-64-1	Acetone	ND	5.0	1.5	U	
75-15-0	Carbon disulfide	ND	5.0	1.0	U	UJ
78-93-3	2-Butanone	ND	5.0	1.9	U	
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U	
591-78-6	2-Hexanone	ND	5.0	1.0	U	
74-97-5	Bromochloromethane	ND	2.5	0.70	U	
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U	
98-82-8	Isopropylbenzene	ND	2.5	0.70	U	
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U	
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U	
79-20-9	Methyl Acetate	ND	2.0	0.23	U	
110-82-7	Cyclohexane	ND	10	0.27	U	
123-91-1	1,4-Dioxane	ND	250	61.	U	R

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-03	**Date Collected**	: 06/24/24 12:25
Client ID	: MW-05-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 06/29/24 02:21
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,8260D	**Analyst**	: PID
Lab File ID	: VG240628N16	**Instrument ID**	: GONZO
Sample Amount	: 10 ml	**GC Column**	: RTX-502.2
Level	: LOW	**%Solids**	: N/A
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-04	Date Collected	: 06/24/24 15:05
Client ID	: MW-01-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/29/24 02:45
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: PID
Lab File ID	: VG240628N17	Instrument ID	: GONZO
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	2.5	0.70	U	
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U	
67-66-3	Chloroform	ND	2.5	0.70	U	
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U	UJ
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U	
124-48-1	Dibromochloromethane	ND	0.50	0.15	U	
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U	
127-18-4	Tetrachloroethene	ND	0.50	0.18	U	
108-90-7	Chlorobenzene	ND	2.5	0.70	U	
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U	UJ
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U	
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U	UJ
75-27-4	Bromodichloromethane	ND	0.50	0.19	U	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U	
75-25-2	Bromoform	ND	2.0	0.65	U	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U	
71-43-2	Benzene	ND	0.50	0.16	U	
108-88-3	Toluene	ND	2.5	0.70	U	
100-41-4	Ethylbenzene	ND	2.5	0.70	U	
74-87-3	Chloromethane	ND	2.5	0.70	U	
74-83-9	Bromomethane	ND	2.5	0.70	U	UJ
75-01-4	Vinyl chloride	ND	1.0	0.07	U	
75-00-3	Chloroethane	ND	2.5	0.70	U	UJ
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U	

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-04	Date Collected	: 06/24/24 15:05
Client ID	: MW-01-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/29/24 02:45
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: PID
Lab File ID	: VG240628N17	Instrument ID	: GONZO
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U	
79-01-6	Trichloroethene	5.4	0.50	0.18		
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U	
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U	
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U	
1634-04-4	Methyl tert butyl ether	ND	2.5	0.17	U	
179601-23-1	p/m-Xylene	ND	2.5	0.70	U	
95-47-6	o-Xylene	ND	2.5	0.70	U	
156-59-2	cis-1,2-Dichloroethene	5.1	2.5	0.70		
100-42-5	Styrene	ND	2.5	0.70	U	
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U	
67-64-1	Acetone	ND	5.0	1.5	U	
75-15-0	Carbon disulfide	ND	5.0	1.0	U	UJ
78-93-3	2-Butanone	ND	5.0	1.9	U	
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U	
591-78-6	2-Hexanone	ND	5.0	1.0	U	
74-97-5	Bromochloromethane	ND	2.5	0.70	U	
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U	
98-82-8	Isopropylbenzene	ND	2.5	0.70	U	
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U	
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U	
79-20-9	Methyl Acetate	ND	2.0	0.23	U	
110-82-7	Cyclohexane	ND	10	0.27	U	
123-91-1	1,4-Dioxane	ND	250	61.	U	R

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-04	**Date Collected**	: 06/24/24 15:05
Client ID	: MW-01-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 06/29/24 02:45
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,8260D	**Analyst**	: PID
Lab File ID	: VG240628N17	**Instrument ID**	: GONZO
Sample Amount	: 10 ml	**GC Column**	: RTX-502.2
Level	: LOW	**%Solids**	: N/A
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-05	Date Collected	: 06/24/24 15:05
Client ID	: DUP-A-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/29/24 03:08
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: PID
Lab File ID	: VG240628N18	Instrument ID	: GONZO
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	2.5	0.70	U	
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U	
67-66-3	Chloroform	ND	2.5	0.70	U	
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U	UJ
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U	
124-48-1	Dibromochloromethane	ND	0.50	0.15	U	
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U	
127-18-4	Tetrachloroethene	ND	0.50	0.18	U	
108-90-7	Chlorobenzene	ND	2.5	0.70	U	
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U	UJ
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U	
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U	UJ
75-27-4	Bromodichloromethane	ND	0.50	0.19	U	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U	
75-25-2	Bromoform	ND	2.0	0.65	U	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U	
71-43-2	Benzene	ND	0.50	0.16	U	
108-88-3	Toluene	ND	2.5	0.70	U	
100-41-4	Ethylbenzene	ND	2.5	0.70	U	
74-87-3	Chloromethane	ND	2.5	0.70	U	
74-83-9	Bromomethane	ND	2.5	0.70	U	UJ
75-01-4	Vinyl chloride	ND	1.0	0.07	U	
75-00-3	Chloroethane	ND	2.5	0.70	U	UJ
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U	

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-05	Date Collected	: 06/24/24 15:05
Client ID	: DUP-A-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/29/24 03:08
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: PID
Lab File ID	: VG240628N18	Instrument ID	: GONZO
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier	
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U	
79-01-6	Trichloroethene	3.2	0.50	0.18		
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U	
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U	
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U	
1634-04-4	Methyl tert butyl ether	ND	2.5	0.17	U	
179601-23-1	p/m-Xylene	ND	2.5	0.70	U	
95-47-6	o-Xylene	ND	2.5	0.70	U	
156-59-2	cis-1,2-Dichloroethene	3.8	2.5	0.70		
100-42-5	Styrene	ND	2.5	0.70	U	
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U	
67-64-1	Acetone	ND	5.0	1.5	U	
75-15-0	Carbon disulfide	ND	5.0	1.0	U	UJ
78-93-3	2-Butanone	ND	5.0	1.9	U	
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U	
591-78-6	2-Hexanone	ND	5.0	1.0	U	
74-97-5	Bromochloromethane	ND	2.5	0.70	U	
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U	
98-82-8	Isopropylbenzene	ND	2.5	0.70	U	
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U	
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U	
79-20-9	Methyl Acetate	ND	2.0	0.23	U	
110-82-7	Cyclohexane	ND	10	0.27	U	
123-91-1	1,4-Dioxane	~~ND~~	250	61.	U	R

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-05	**Date Collected**	: 06/24/24 15:05
Client ID	: DUP-A-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 06/29/24 03:08
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,8260D	**Analyst**	: PID
Lab File ID	: VG240628N18	**Instrument ID**	: GONZO
Sample Amount	: 10 ml	**GC Column**	: RTX-502.2
Level	: LOW	**%Solids**	: N/A
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-06	Date Collected	: 06/24/24 00:00
Client ID	: TRIP BLANK-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/29/24 03:32
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: PID
Lab File ID	: VG240628N19	Instrument ID	: GONZO
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	2.5	0.70	U	
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U	
67-66-3	Chloroform	ND	2.5	0.70	U	
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U	UJ
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U	
124-48-1	Dibromochloromethane	ND	0.50	0.15	U	
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U	
127-18-4	Tetrachloroethene	ND	0.50	0.18	U	
108-90-7	Chlorobenzene	ND	2.5	0.70	U	
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U	UJ
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U	
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U	UJ
75-27-4	Bromodichloromethane	ND	0.50	0.19	U	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U	
75-25-2	Bromoform	ND	2.0	0.65	U	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U	
71-43-2	Benzene	ND	0.50	0.16	U	
108-88-3	Toluene	ND	2.5	0.70	U	
100-41-4	Ethylbenzene	ND	2.5	0.70	U	
74-87-3	Chloromethane	ND	2.5	0.70	U	
74-83-9	Bromomethane	ND	2.5	0.70	U	UJ
75-01-4	Vinyl chloride	ND	1.0	0.07	U	
75-00-3	Chloroethane	ND	2.5	0.70	U	UJ
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U	

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-06	Date Collected	: 06/24/24 00:00
Client ID	: TRIP BLANK-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/29/24 03:32
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: PID
Lab File ID	: VG240628N19	Instrument ID	: GONZO
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U	
79-01-6	Trichloroethene	ND	0.50	0.18	U	
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U	
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U	
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U	
1634-04-4	Methyl tert butyl ether	ND	2.5	0.17	U	
179601-23-1	p/m-Xylene	ND	2.5	0.70	U	
95-47-6	o-Xylene	ND	2.5	0.70	U	
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U	
100-42-5	Styrene	ND	2.5	0.70	U	
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U	
67-64-1	Acetone	ND	5.0	1.5	U	
75-15-0	Carbon disulfide	ND	5.0	1.0	U	UJ
78-93-3	2-Butanone	ND	5.0	1.9	U	
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U	
591-78-6	2-Hexanone	ND	5.0	1.0	U	
74-97-5	Bromochloromethane	ND	2.5	0.70	U	
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U	
98-82-8	Isopropylbenzene	ND	2.5	0.70	U	
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U	
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U	
79-20-9	Methyl Acetate	ND	2.0	0.23	U	
110-82-7	Cyclohexane	ND	10	0.27	U	
123-91-1	1,4-Dioxane	ND	250	61.	U	R

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-06	**Date Collected**	: 06/24/24 00:00
Client ID	: TRIP BLANK-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 06/29/24 03:32
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,8260D	**Analyst**	: PID
Lab File ID	: VG240628N19	**Instrument ID**	: GONZO
Sample Amount	: 10 ml	**GC Column**	: RTX-502.2
Level	: LOW	**%Solids**	: N/A
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-02	Date Collected	: 06/24/24 10:20
Client ID	: MW-04-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/29/24 07:05
Sample Matrix	: WATER	Date Extracted	: 06/28/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 35641-02	Analyst	: ALS
Sample Amount	: 100 ml	Instrument ID	: SV106
Extraction Method	: EPA 3510C	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
111-44-4	Bis(2-chloroethyl)ether	ND	2.0	0.39	U	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	1.8	U	
121-14-2	2,4-Dinitrotoluene	ND	5.0	0.54	U	
606-20-2	2,6-Dinitrotoluene	ND	5.0	0.84	U	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.39	U	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.24	U	
108-60-1	Bis(2-chloroisopropyl)ether	ND	2.0	0.40	U	
111-91-1	Bis(2-chloroethoxy)methane	ND	5.0	0.84	U	
77-47-4	Hexachlorocyclopentadiene	ND	20	1.2	U	UJ
78-59-1	Isophorone	ND	5.0	0.86	U	
98-95-3	Nitrobenzene	ND	2.0	0.20	U	
86-30-6	NDPA/DPA	ND	2.0	0.92	U	
621-64-7	n-Nitrosodi-n-propylamine	ND	5.0	0.91	U	
117-81-7	Bis(2-ethylhexyl)phthalate	ND	3.0	1.4	U	
85-68-7	Butyl benzyl phthalate	ND	5.0	2.6	U	UJ
84-74-2	Di-n-butylphthalate	ND	5.0	0.96	U	
117-84-0	Di-n-octylphthalate	ND	5.0	2.3	U	
84-66-2	Diethyl phthalate	ND	5.0	0.76	U	
131-11-3	Dimethyl phthalate	ND	5.0	0.92	U	
92-52-4	Biphenyl	ND	2.0	0.20	U	
106-47-8	4-Chloroaniline	ND	5.0	0.47	U	
88-74-4	2-Nitroaniline	ND	5.0	1.0	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-02	Date Collected	: 06/24/24 10:20
Client ID	: MW-04-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/29/24 07:05
Sample Matrix	: WATER	Date Extracted	: 06/28/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 35641-02	Analyst	: ALS
Sample Amount	: 100 ml	Instrument ID	: SV106
Extraction Method	: EPA 3510C	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
99-09-2	3-Nitroaniline	ND	5.0	1.2	U
100-01-6	4-Nitroaniline	ND	5.0	1.4	U UJ
132-64-9	Dibenzofuran	ND	2.0	0.40	U
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	10	0.24	U
98-86-2	Acetophenone	ND	5.0	0.92	U
88-06-2	2,4,6-Trichlorophenol	ND	5.0	2.1	U UJ
59-50-7	p-Chloro-m-cresol	ND	2.0	0.61	U
95-57-8	2-Chlorophenol	ND	2.0	0.65	U UJ
120-83-2	2,4-Dichlorophenol	ND	5.0	1.7	U UJ
105-67-9	2,4-Dimethylphenol	ND	5.0	2.0	U UJ
88-75-5	2-Nitrophenol	ND	10	2.0	U UJ
100-02-7	4-Nitrophenol	ND	10	1.4	U UJ
51-28-5	2,4-Dinitrophenol	ND	20	5.4	U UJ
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.3	U UJ
108-95-2	Phenol	ND	5.0	0.35	U UJ
95-48-7	2-Methylphenol	ND	5.0	2.3	U
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	5.0	1.4	U
95-95-4	2,4,5-Trichlorophenol	ND	5.0	2.1	U UJ
86-74-8	Carbazole	ND	2.0	0.31	U UJ
1912-24-9	Atrazine	ND	10	1.0	U UJ
100-52-7	Benzaldehyde	ND	5.0	1.1	U
105-60-2	Caprolactam	ND	10	1.2	U

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-02	Date Collected	: 06/24/24 10:20
Client ID	: MW-04-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/29/24 07:05
Sample Matrix	: WATER	Date Extracted	: 06/28/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 35641-02	Analyst	: ALS
Sample Amount	: 100 ml	Instrument ID	: SV106
Extraction Method	: EPA 3510C	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.0	2.2	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-03	Date Collected	: 06/24/24 12:25
Client ID	: MW-05-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/30/24 17:05
Sample Matrix	: WATER	Date Extracted	: 06/29/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 35641-03	Analyst	: ALS
Sample Amount	: 100 ml	Instrument ID	: DAKOTA
Extraction Method	: EPA 3510C	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
111-44-4	Bis(2-chloroethyl)ether	ND	2.0	0.39	U	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	1.8	U	
121-14-2	2,4-Dinitrotoluene	ND	5.0	0.54	U	
606-20-2	2,6-Dinitrotoluene	ND	5.0	0.84	U	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.39	U	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.24	U	
108-60-1	Bis(2-chloroisopropyl)ether	ND	2.0	0.40	U	
111-91-1	Bis(2-chloroethoxy)methane	ND	5.0	0.84	U	
77-47-4	Hexachlorocyclopentadiene	ND	20	1.2	U	UJ
78-59-1	Isophorone	ND	5.0	0.86	U	
98-95-3	Nitrobenzene	ND	2.0	0.20	U	
86-30-6	NDPA/DPA	ND	2.0	0.92	U	
621-64-7	n-Nitrosodi-n-propylamine	ND	5.0	0.91	U	
117-81-7	Bis(2-ethylhexyl)phthalate	ND	3.0	1.4	U	
85-68-7	Butyl benzyl phthalate	ND	5.0	2.6	U	
84-74-2	Di-n-butylphthalate	ND	5.0	0.96	U	
117-84-0	Di-n-octylphthalate	ND	5.0	2.3	U	UJ
84-66-2	Diethyl phthalate	ND	5.0	0.76	U	
131-11-3	Dimethyl phthalate	ND	5.0	0.92	U	
92-52-4	Biphenyl	ND	2.0	0.20	U	
106-47-8	4-Chloroaniline	ND	5.0	0.47	U	UJ
88-74-4	2-Nitroaniline	ND	5.0	1.0	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-03	Date Collected	: 06/24/24 12:25
Client ID	: MW-05-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/30/24 17:05
Sample Matrix	: WATER	Date Extracted	: 06/29/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 35641-03	Analyst	: ALS
Sample Amount	: 100 ml	Instrument ID	: DAKOTA
Extraction Method	: EPA 3510C	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
99-09-2	3-Nitroaniline	ND	5.0	1.2	U	
100-01-6	4-Nitroaniline	ND	5.0	1.4	U	UJ
132-64-9	Dibenzofuran	ND	2.0	0.40	U	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	10	0.24	U	
98-86-2	Acetophenone	ND	5.0	0.92	U	UJ
88-06-2	2,4,6-Trichlorophenol	ND	5.0	2.1	U	
59-50-7	p-Chloro-m-cresol	ND	2.0	0.61	U	
95-57-8	2-Chlorophenol	ND	2.0	0.65	U	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.7	U	
105-67-9	2,4-Dimethylphenol	ND	5.0	2.0	U	
88-75-5	2-Nitrophenol	ND	10	2.0	U	
100-02-7	4-Nitrophenol	ND	10	1.4	U	
51-28-5	2,4-Dinitrophenol	ND	20	5.4	U	UJ
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.3	U	
108-95-2	Phenol	ND	5.0	0.35	U	
95-48-7	2-Methylphenol	ND	5.0	2.3	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	5.0	1.4	U	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	2.1	U	
86-74-8	Carbazole	ND	2.0	0.31	U	UJ
1912-24-9	Atrazine	ND	10	1.0	U	UJ
100-52-7	Benzaldehyde	ND	5.0	1.1	U	UJ
105-60-2	Caprolactam	ND	10	1.2	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-03	Date Collected	: 06/24/24 12:25
Client ID	: MW-05-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/30/24 17:05
Sample Matrix	: WATER	Date Extracted	: 06/29/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 35641-03	Analyst	: ALS
Sample Amount	: 100 ml	Instrument ID	: DAKOTA
Extraction Method	: EPA 3510C	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.0	2.2	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-04	Date Collected	: 06/24/24 15:05
Client ID	: MW-01-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/30/24 17:28
Sample Matrix	: WATER	Date Extracted	: 06/29/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 35641-04	Analyst	: ALS
Sample Amount	: 100 ml	Instrument ID	: DAKOTA
Extraction Method	: EPA 3510C	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
111-44-4	Bis(2-chloroethyl)ether	ND	2.0	0.39	U	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	1.8	U	
121-14-2	2,4-Dinitrotoluene	ND	5.0	0.54	U	
606-20-2	2,6-Dinitrotoluene	ND	5.0	0.84	U	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.39	U	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.24	U	
108-60-1	Bis(2-chloroisopropyl)ether	ND	2.0	0.40	U	
111-91-1	Bis(2-chloroethoxy)methane	ND	5.0	0.84	U	
77-47-4	Hexachlorocyclopentadiene	ND	20	1.2	U	UJ
78-59-1	Isophorone	ND	5.0	0.86	U	
98-95-3	Nitrobenzene	ND	2.0	0.20	U	
86-30-6	NDPA/DPA	ND	2.0	0.92	U	
621-64-7	n-Nitrosodi-n-propylamine	ND	5.0	0.91	U	
117-81-7	Bis(2-ethylhexyl)phthalate	ND	3.0	1.4	U	
85-68-7	Butyl benzyl phthalate	ND	5.0	2.6	U	
84-74-2	Di-n-butylphthalate	ND	5.0	0.96	U	
117-84-0	Di-n-octylphthalate	ND	5.0	2.3	U	UJ
84-66-2	Diethyl phthalate	ND	5.0	0.76	U	
131-11-3	Dimethyl phthalate	ND	5.0	0.92	U	
92-52-4	Biphenyl	ND	2.0	0.20	U	
106-47-8	4-Chloroaniline	ND	5.0	0.47	U	UJ
88-74-4	2-Nitroaniline	ND	5.0	1.0	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-04	Date Collected	: 06/24/24 15:05
Client ID	: MW-01-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/30/24 17:28
Sample Matrix	: WATER	Date Extracted	: 06/29/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 35641-04	Analyst	: ALS
Sample Amount	: 100 ml	Instrument ID	: DAKOTA
Extraction Method	: EPA 3510C	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
99-09-2	3-Nitroaniline	ND	5.0	1.2	U	
100-01-6	4-Nitroaniline	ND	5.0	1.4	U	UJ
132-64-9	Dibenzofuran	ND	2.0	0.40	U	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	10	0.24	U	
98-86-2	Acetophenone	ND	5.0	0.92	U	UJ
88-06-2	2,4,6-Trichlorophenol	ND	5.0	2.1	U	
59-50-7	p-Chloro-m-cresol	ND	2.0	0.61	U	
95-57-8	2-Chlorophenol	ND	2.0	0.65	U	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.7	U	
105-67-9	2,4-Dimethylphenol	ND	5.0	2.0	U	
88-75-5	2-Nitrophenol	ND	10	2.0	U	
100-02-7	4-Nitrophenol	ND	10	1.4	U	
51-28-5	2,4-Dinitrophenol	ND	20	5.4	U	UJ
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.3	U	
108-95-2	Phenol	ND	5.0	0.35	U	
95-48-7	2-Methylphenol	ND	5.0	2.3	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	5.0	1.4	U	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	2.1	U	
86-74-8	Carbazole	ND	2.0	0.31	U	UJ
1912-24-9	Atrazine	ND	10	1.0	U	UJ
100-52-7	Benzaldehyde	ND	5.0	1.1	U	UJ
105-60-2	Caprolactam	ND	10	1.2	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-04	Date Collected	: 06/24/24 15:05
Client ID	: MW-01-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/30/24 17:28
Sample Matrix	: WATER	Date Extracted	: 06/29/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 35641-04	Analyst	: ALS
Sample Amount	: 100 ml	Instrument ID	: DAKOTA
Extraction Method	: EPA 3510C	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.0	2.2	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-05	Date Collected	: 06/24/24 15:05
Client ID	: DUP-A-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/30/24 17:50
Sample Matrix	: WATER	Date Extracted	: 06/29/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 35641-05	Analyst	: ALS
Sample Amount	: 100 ml	Instrument ID	: DAKOTA
Extraction Method	: EPA 3510C	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
111-44-4	Bis(2-chloroethyl)ether	ND	2.0	0.39	U	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	1.8	U	
121-14-2	2,4-Dinitrotoluene	ND	5.0	0.54	U	
606-20-2	2,6-Dinitrotoluene	ND	5.0	0.84	U	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.39	U	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.24	U	
108-60-1	Bis(2-chloroisopropyl)ether	ND	2.0	0.40	U	
111-91-1	Bis(2-chloroethoxy)methane	ND	5.0	0.84	U	
77-47-4	Hexachlorocyclopentadiene	ND	20	1.2	U	UJ
78-59-1	Isophorone	ND	5.0	0.86	U	
98-95-3	Nitrobenzene	ND	2.0	0.20	U	
86-30-6	NDPA/DPA	ND	2.0	0.92	U	
621-64-7	n-Nitrosodi-n-propylamine	ND	5.0	0.91	U	
117-81-7	Bis(2-ethylhexyl)phthalate	ND	3.0	1.4	U	
85-68-7	Butyl benzyl phthalate	ND	5.0	2.6	U	
84-74-2	Di-n-butylphthalate	ND	5.0	0.96	U	
117-84-0	Di-n-octylphthalate	ND	5.0	2.3	U	UJ
84-66-2	Diethyl phthalate	ND	5.0	0.76	U	
131-11-3	Dimethyl phthalate	ND	5.0	0.92	U	
92-52-4	Biphenyl	ND	2.0	0.20	U	
106-47-8	4-Chloroaniline	ND	5.0	0.47	U	UJ
88-74-4	2-Nitroaniline	ND	5.0	1.0	U	UJ

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-05	Date Collected	: 06/24/24 15:05
Client ID	: DUP-A-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/30/24 17:50
Sample Matrix	: WATER	Date Extracted	: 06/29/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 35641-05	Analyst	: ALS
Sample Amount	: 100 ml	Instrument ID	: DAKOTA
Extraction Method	: EPA 3510C	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
99-09-2	3-Nitroaniline	ND	5.0	1.2	U	
100-01-6	4-Nitroaniline	ND	5.0	1.4	U	UJ
132-64-9	Dibenzofuran	ND	2.0	0.40	U	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	10	0.24	U	
98-86-2	Acetophenone	ND	5.0	0.92	U	UJ
88-06-2	2,4,6-Trichlorophenol	ND	5.0	2.1	U	
59-50-7	p-Chloro-m-cresol	ND	2.0	0.61	U	
95-57-8	2-Chlorophenol	ND	2.0	0.65	U	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.7	U	
105-67-9	2,4-Dimethylphenol	ND	5.0	2.0	U	
88-75-5	2-Nitrophenol	ND	10	2.0	U	
100-02-7	4-Nitrophenol	ND	10	1.4	U	
51-28-5	2,4-Dinitrophenol	ND	20	5.4	U	UJ
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.3	U	
108-95-2	Phenol	ND	5.0	0.35	U	
95-48-7	2-Methylphenol	ND	5.0	2.3	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	5.0	1.4	U	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	2.1	U	
86-74-8	Carbazole	ND	2.0	0.31	U	UJ
1912-24-9	Atrazine	ND	10	1.0	U	UJ
100-52-7	Benzaldehyde	ND	5.0	1.1	U	UJ
105-60-2	Caprolactam	ND	10	1.2	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-05	Date Collected	: 06/24/24 15:05
Client ID	: DUP-A-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/30/24 17:50
Sample Matrix	: WATER	Date Extracted	: 06/29/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 35641-05	Analyst	: ALS
Sample Amount	: 100 ml	Instrument ID	: DAKOTA
Extraction Method	: EPA 3510C	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.0	2.2	U	UJ

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Semivolatiles Data
by Method 8270D-SIM

Results Summary
Form 1
Semivolatile Organics by GC/MS-SIM

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-02	**Date Collected**	: 06/24/24 10:20
Client ID	: MW-04-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 06/29/24 12:30
Sample Matrix	: WATER	**Date Extracted**	: 06/28/24
Analytical Method	: 1,8270E-SIM	**Dilution Factor**	: 1
Lab File ID	: 35641-02	**Analyst**	: JJW
Sample Amount	: 100 ml	**Instrument ID**	: SV125
Extraction Method	: EPA 3510C	**GC Column**	: RXI-5SilM
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
83-32-9	Acenaphthene	ND	0.10	0.02	U
91-58-7	2-Chloronaphthalene	ND	0.20	0.02	U
206-44-0	Fluoranthene	ND	0.10	0.03	U
87-68-3	Hexachlorobutadiene	ND	0.50	0.02	U
91-20-3	Naphthalene	ND	0.10	0.02	U
56-55-3	Benzo(a)anthracene	ND	0.10	0.03	U
50-32-8	Benzo(a)pyrene	ND	0.10	0.02	U
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.03	U
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.03	U
218-01-9	Chrysene	ND	0.10	0.03	U
208-96-8	Acenaphthylene	ND	0.10	0.02	U
120-12-7	Anthracene	ND	0.10	0.02	U
191-24-2	Benzo(ghi)perylene	ND	0.10	0.02	U
86-73-7	Fluorene	ND	0.10	0.03	U
85-01-8	Phenanthrene	ND	0.10	0.04	U
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.02	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.02	U
129-00-0	Pyrene	ND	0.10	0.04	U
91-57-6	2-Methylnaphthalene	ND	0.10	0.03	U
87-86-5	Pentachlorophenol	ND	0.80	0.06	U
118-74-1	Hexachlorobenzene	ND	0.80	0.01	U
67-72-1	Hexachloroethane	ND	0.80	0.02	U

Results Summary
Form 1
Semivolatile Organics by GC/MS-SIM

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-03	Date Collected	: 06/24/24 12:25
Client ID	: MW-05-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/30/24 12:46
Sample Matrix	: WATER	Date Extracted	: 06/29/24
Analytical Method	: 1,8270E-SIM	Dilution Factor	: 1
Lab File ID	: 35641-03	Analyst	: JJW
Sample Amount	: 100 ml	Instrument ID	: SV120
Extraction Method	: EPA 3510C	GC Column	: RXI-5SilM
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	0.10	0.02	U	
91-58-7	2-Chloronaphthalene	ND	0.20	0.02	U	
206-44-0	Fluoranthene	ND	0.10	0.03	U	
87-68-3	Hexachlorobutadiene	ND	0.50	0.02	U	UJ
91-20-3	Naphthalene	ND	0.10	0.02	U	
56-55-3	Benzo(a)anthracene	ND	0.10	0.03	U	
50-32-8	Benzo(a)pyrene	ND	0.10	0.02	U	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.03	U	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.03	U	
218-01-9	Chrysene	ND	0.10	0.03	U	
208-96-8	Acenaphthylene	ND	0.10	0.02	U	
120-12-7	Anthracene	ND	0.10	0.02	U	
191-24-2	Benzo(ghi)perylene	ND	0.10	0.02	U	
86-73-7	Fluorene	ND	0.10	0.03	U	
85-01-8	Phenanthrene	ND	0.10	0.04	U	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.02	U	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.02	U	
129-00-0	Pyrene	ND	0.10	0.04	U	
91-57-6	2-Methylnaphthalene	ND	0.10	0.03	U	
87-86-5	Pentachlorophenol	ND	0.80	0.06	U	
118-74-1	Hexachlorobenzene	ND	0.80	0.01	U	
67-72-1	Hexachloroethane	ND	0.80	0.02	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS-SIM

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-04	Date Collected	: 06/24/24 15:05
Client ID	: MW-01-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/30/24 13:02
Sample Matrix	: WATER	Date Extracted	: 06/29/24
Analytical Method	: 1,8270E-SIM	Dilution Factor	: 1
Lab File ID	: 35641-04	Analyst	: JJW
Sample Amount	: 100 ml	Instrument ID	: SV120
Extraction Method	: EPA 3510C	GC Column	: RXI-5SilM
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	0.10	0.02	U	
91-58-7	2-Chloronaphthalene	ND	0.20	0.02	U	
206-44-0	Fluoranthene	ND	0.10	0.03	U	
87-68-3	Hexachlorobutadiene	ND	0.50	0.02	U	UJ
91-20-3	Naphthalene	ND	0.10	0.02	U	
56-55-3	Benzo(a)anthracene	ND	0.10	0.03	U	
50-32-8	Benzo(a)pyrene	ND	0.10	0.02	U	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.03	U	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.03	U	
218-01-9	Chrysene	ND	0.10	0.03	U	
208-96-8	Acenaphthylene	ND	0.10	0.02	U	
120-12-7	Anthracene	ND	0.10	0.02	U	
191-24-2	Benzo(ghi)perylene	ND	0.10	0.02	U	
86-73-7	Fluorene	ND	0.10	0.03	U	
85-01-8	Phenanthrene	ND	0.10	0.04	U	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.02	U	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.02	U	
129-00-0	Pyrene	ND	0.10	0.04	U	
91-57-6	2-Methylnaphthalene	ND	0.10	0.03	U	
87-86-5	Pentachlorophenol	ND	0.80	0.06	U	
118-74-1	Hexachlorobenzene	ND	0.80	0.01	U	
67-72-1	Hexachloroethane	ND	0.80	0.02	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS-SIM

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-05	Date Collected	: 06/24/24 15:05
Client ID	: DUP-A-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 06/30/24 13:18
Sample Matrix	: WATER	Date Extracted	: 06/29/24
Analytical Method	: 1,8270E-SIM	Dilution Factor	: 1
Lab File ID	: 35641-05	Analyst	: JJW
Sample Amount	: 100 ml	Instrument ID	: SV120
Extraction Method	: EPA 3510C	GC Column	: RXI-5SilM
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
83-32-9	Acenaphthene	ND	0.10	0.02	U	
91-58-7	2-Chloronaphthalene	ND	0.20	0.02	U	
206-44-0	Fluoranthene	ND	0.10	0.03	U	
87-68-3	Hexachlorobutadiene	ND	0.50	0.02	U	UJ
91-20-3	Naphthalene	ND	0.10	0.02	U	
56-55-3	Benzo(a)anthracene	ND	0.10	0.03	U	
50-32-8	Benzo(a)pyrene	ND	0.10	0.02	U	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.03	U	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.03	U	
218-01-9	Chrysene	ND	0.10	0.03	U	
208-96-8	Acenaphthylene	ND	0.10	0.02	U	
120-12-7	Anthracene	ND	0.10	0.02	U	
191-24-2	Benzo(ghi)perylene	ND	0.10	0.02	U	
86-73-7	Fluorene	ND	0.10	0.03	U	
85-01-8	Phenanthrene	ND	0.10	0.04	U	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.02	U	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.02	U	
129-00-0	Pyrene	ND	0.10	0.04	U	
91-57-6	2-Methylnaphthalene	ND	0.10	0.03	U	
87-86-5	Pentachlorophenol	ND	0.80	0.06	U	
118-74-1	Hexachlorobenzene	ND	0.80	0.01	U	
67-72-1	Hexachloroethane	ND	0.80	0.02	U	

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GCMS Extractables 1,4-Dioxane By SIM

No data validation qualifiers were added

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Results Summary
Form 1
1,4 Dioxane by 8270E-SIM

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-01	Date Collected	: 06/24/24 09:30
Client ID	: FIELD BLANK-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 07/02/24 18:14
Sample Matrix	: WATER	Date Extracted	: 06/30/24
Analytical Method	: 1,8270E-SIM	Dilution Factor	: 1
Lab File ID	: F2307022421	Analyst	: GRS
Sample Amount	: 240 ml	Instrument ID	: PAH23
Extraction Method	: EPA 3510C	GC Column	: RTX-5
Extract Volume	: 2500 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
123-91-1	1,4-Dioxane	46.3	156	35.3	J

Results Summary
Form 1
1,4 Dioxane by 8270E-SIM

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-02	**Date Collected**	: 06/24/24 10:20
Client ID	: MW-04-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/02/24 18:36
Sample Matrix	: WATER	**Date Extracted**	: 06/30/24
Analytical Method	: 1,8270E-SIM	**Dilution Factor**	: 1
Lab File ID	: F2307022422	**Analyst**	: GRS
Sample Amount	: 240 ml	**Instrument ID**	: PAH23
Extraction Method	: EPA 3510C	**GC Column**	: RTX-5
Extract Volume	: 2500 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	685.	156	35.3	

Results Summary
Form 1
1,4 Dioxane by 8270E-SIM

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-03	**Date Collected**	: 06/24/24 12:25
Client ID	: MW-05-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/02/24 20:06
Sample Matrix	: WATER	**Date Extracted**	: 06/30/24
Analytical Method	: 1,8270E-SIM	**Dilution Factor**	: 1
Lab File ID	: F2307022426	**Analyst**	: GRS
Sample Amount	: 260 ml	**Instrument ID**	: PAH23
Extraction Method	: EPA 3510C	**GC Column**	: RTX-5
Extract Volume	: 2500 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	144	32.6	U

Results Summary
Form 1
1,4 Dioxane by 8270E-SIM

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-04	**Date Collected**	: 06/24/24 15:05
Client ID	: MW-01-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/02/24 19:44
Sample Matrix	: WATER	**Date Extracted**	: 06/30/24
Analytical Method	: 1,8270E-SIM	**Dilution Factor**	: 1
Lab File ID	: F2307022425	**Analyst**	: GRS
Sample Amount	: 250 ml	**Instrument ID**	: PAH23
Extraction Method	: EPA 3510C	**GC Column**	: RTX-5
Extract Volume	: 2500 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	150	33.9	U

Results Summary
Form 1
1,4 Dioxane by 8270E-SIM

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-05	**Date Collected**	: 06/24/24 15:05
Client ID	: DUP-A-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/02/24 20:28
Sample Matrix	: WATER	**Date Extracted**	: 06/30/24
Analytical Method	: 1,8270E-SIM	**Dilution Factor**	: 1
Lab File ID	: F2307022427	**Analyst**	: GRS
Sample Amount	: 250 ml	**Instrument ID**	: PAH23
Extraction Method	: EPA 3510C	**GC Column**	: RTX-5
Extract Volume	: 2500 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	150	33.9	U

GC Extractable Analysis Polychlorinated Biphenyls (PCB)

No data validation qualifiers were added

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Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-02	Date Collected	: 06/24/24 10:20
Client ID	: MW-04-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 07/01/24 11:06
Sample Matrix	: WATER	Date Extracted	: 06/30/24
Analytical Method	: 1,8082A	Dilution Factor	: 1
Lab File ID	: P2240701a-15	Analyst	: MEO
Sample Amount	: 140 ml	Instrument ID	: PEST2
Extraction Method	: EPA 3510C	GC Column	: CLP-Pesticide
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
12674-11-2	Aroclor 1016	ND	0.071	0.061	U
11104-28-2	Aroclor 1221	ND	0.071	0.061	U
11141-16-5	Aroclor 1232	ND	0.071	0.061	U
53469-21-9	Aroclor 1242	ND	0.071	0.061	U
12672-29-6	Aroclor 1248	ND	0.071	0.061	U
11097-69-1	Aroclor 1254	ND	0.071	0.061	U
11096-82-5	Aroclor 1260	ND	0.071	0.061	U
37324-23-5	Aroclor 1262	ND	0.071	0.061	U
11100-14-4	Aroclor 1268	ND	0.071	0.061	U
1336-36-3	PCBs, Total	ND	0.071	0.061	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-03	**Date Collected**	: 06/24/24 12:25
Client ID	: MW-05-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/01/24 11:34
Sample Matrix	: WATER	**Date Extracted**	: 06/30/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: P2240701a-18	**Analyst**	: MEO
Sample Amount	: 140 ml	**Instrument ID**	: PEST2
Extraction Method	: EPA 3510C	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	0.071	0.061	U
11104-28-2	Aroclor 1221	ND	0.071	0.061	U
11141-16-5	Aroclor 1232	ND	0.071	0.061	U
53469-21-9	Aroclor 1242	ND	0.071	0.061	U
12672-29-6	Aroclor 1248	ND	0.071	0.061	U
11097-69-1	Aroclor 1254	ND	0.071	0.061	U
11096-82-5	Aroclor 1260	ND	0.071	0.061	U
37324-23-5	Aroclor 1262	ND	0.071	0.061	U
11100-14-4	Aroclor 1268	ND	0.071	0.061	U
1336-36-3	PCBs, Total	ND	0.071	0.061	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-04	**Date Collected**	: 06/24/24 15:05
Client ID	: MW-01-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/01/24 11:43
Sample Matrix	: WATER	**Date Extracted**	: 06/30/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: P2240701a-19	**Analyst**	: MEO
Sample Amount	: 140 ml	**Instrument ID**	: PEST2
Extraction Method	: EPA 3510C	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	0.071	0.061	U
11104-28-2	Aroclor 1221	ND	0.071	0.061	U
11141-16-5	Aroclor 1232	ND	0.071	0.061	U
53469-21-9	Aroclor 1242	ND	0.071	0.061	U
12672-29-6	Aroclor 1248	ND	0.071	0.061	U
11097-69-1	Aroclor 1254	ND	0.071	0.061	U
11096-82-5	Aroclor 1260	ND	0.071	0.061	U
37324-23-5	Aroclor 1262	ND	0.071	0.061	U
11100-14-4	Aroclor 1268	ND	0.071	0.061	U
1336-36-3	PCBs, Total	ND	0.071	0.061	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-05	**Date Collected**	: 06/24/24 15:05
Client ID	: DUP-A-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/01/24 11:53
Sample Matrix	: WATER	**Date Extracted**	: 06/30/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: P2240701a-20	**Analyst**	: MEO
Sample Amount	: 140 ml	**Instrument ID**	: PEST2
Extraction Method	: EPA 3510C	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	0.071	0.061	U
11104-28-2	Aroclor 1221	ND	0.071	0.061	U
11141-16-5	Aroclor 1232	ND	0.071	0.061	U
53469-21-9	Aroclor 1242	ND	0.071	0.061	U
12672-29-6	Aroclor 1248	ND	0.071	0.061	U
11097-69-1	Aroclor 1254	ND	0.071	0.061	U
11096-82-5	Aroclor 1260	ND	0.071	0.061	U
37324-23-5	Aroclor 1262	ND	0.071	0.061	U
11100-14-4	Aroclor 1268	ND	0.071	0.061	U
1336-36-3	PCBs, Total	ND	0.071	0.061	U

PFAS via Draft Method 1633

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-01	Date Collected	: 06/24/24 09:30
Client ID	: FIELD BLANK-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 07/05/24 08:42
Sample Matrix	: WATER	Date Extracted	: 07/03/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI05_240705_19	Analyst	: AC
Sample Amount	: 511.53 g	Instrument ID	: LCMS05
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

CAS NO.	Parameter		ng/l Results	RL	MDL	Qualifier	
375-22-4	Perfluorobutanoic Acid (PFBA)	6.26 UJ	1.24	6.26	1.00	J	UJ
2706-90-3	Perfluoropentanoic Acid (PFPeA)		ND	3.13	0.837	U	
375-73-5	Perfluorobutanesulfonic Acid (PFBS)		ND	1.56	0.524	U	
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)		ND	6.26	1.63	U	
307-24-4	Perfluorohexanoic Acid (PFHxA)		ND	1.56	0.461	U	
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)		ND	1.56	0.274	U	
375-85-9	Perfluoroheptanoic Acid (PFHpA)		ND	1.56	0.313	U	
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)		ND	1.56	0.375	U	
335-67-1	Perfluorooctanoic Acid (PFOA)		ND	1.56	0.680	U	
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)		ND	6.26	2.11	U	
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)		ND	1.56	0.422	U	
375-95-1	Perfluorononanoic Acid (PFNA)		ND	1.56	0.493	U	
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)		ND	1.56	0.712	U	
335-76-2	Perfluorodecanoic Acid (PFDA)		ND	1.56	0.633	U	
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)		ND	6.26	2.43	U	
68259-12-1	Perfluorononanesulfonic Acid (PFNS)		ND	1.56	0.485	U	
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)		ND	1.56	0.852	U	
2058-94-8	Perfluoroundecanoic Acid (PFUnA)		ND	1.56	0.680	U	

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Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-01	**Date Collected**	: 06/24/24 09:30
Client ID	: FIELD BLANK-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/05/24 08:42
Sample Matrix	: WATER	**Date Extracted**	: 07/03/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240705_19	**Analyst**	: AC
Sample Amount	: 511.53 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	1.56	0.360	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	1.56	0.422	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.56	0.844	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	1.56	0.719	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	1.56	0.586	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	1.56	0.414	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	6.26	0.876	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	6.26	0.985	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	1.56	0.594	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	6.26	1.29	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	6.26	1.29	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	1.56	0.680	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	1.56	0.719	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	15.6	3.68	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-01	Date Collected	: 06/24/24 09:30
Client ID	: FIELD BLANK-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 07/05/24 08:42
Sample Matrix	: WATER	Date Extracted	: 07/03/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI05_240705_19	Analyst	: AC
Sample Amount	: 511.53 g	Instrument ID	: LCMS05
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	15.6	1.92	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	3.13	0.446	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	3.13	0.414	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	3.13	0.344	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	3.13	1.84	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	7.82	2.58	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	39.1	9.15	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	39.1	6.17	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-02	Date Collected	: 06/24/24 10:20
Client ID	: MW-04-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 07/05/24 08:55
Sample Matrix	: WATER	Date Extracted	: 07/03/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI05_240705_20	Analyst	: AC
Sample Amount	: 515.75 g	Instrument ID	: LCMS05
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

CAS NO.	Parameter		ng/l Results	RL	MDL	Qualifier	
375-22-4	Perfluorobutanoic Acid (PFBA)	6.20 UJ	~~5.09~~	6.20	0.993	J	UJ
2706-90-3	Perfluoropentanoic Acid (PFPeA)		3.30	3.10	0.830		
375-73-5	Perfluorobutanesulfonic Acid (PFBS)		ND	1.55	0.520	U	
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)		ND	6.20	1.62	U	
307-24-4	Perfluorohexanoic Acid (PFHxA)		4.50	1.55	0.458		
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)		ND	1.55	0.271	U	
375-85-9	Perfluoroheptanoic Acid (PFHpA)		2.20	1.55	0.310		
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)		0.605	1.55	0.372	J	
335-67-1	Perfluorooctanoic Acid (PFOA)		5.29	1.55	0.675		
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)		ND	6.20	2.09	U	
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)		ND	1.55	0.419	U	
375-95-1	Perfluorononanoic Acid (PFNA)		0.690	1.55	0.489	J	
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)		3.84	1.55	0.706		
335-76-2	Perfluorodecanoic Acid (PFDA)		ND	1.55	0.628	U	
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)		ND	6.20	2.41	U	
68259-12-1	Perfluorononanesulfonic Acid (PFNS)		ND	1.55	0.481	U	
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)		ND	1.55	0.845	U	
2058-94-8	Perfluoroundecanoic Acid (PFUnA)		ND	1.55	0.675	U	

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Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-02	Date Collected	: 06/24/24 10:20
Client ID	: MW-04-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 07/05/24 08:55
Sample Matrix	: WATER	Date Extracted	: 07/03/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI05_240705_20	Analyst	: AC
Sample Amount	: 515.75 g	Instrument ID	: LCMS05
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/l				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	1.55	0.357	U	
754-91-6	Perfluorooctanesulfonamide (PFOSA)	0.551	1.55	0.419	JF	J
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.55	0.838	U	
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	1.55	0.714	U	
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	1.55	0.582	U	
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	1.55	0.411	U	
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	6.20	0.869	U	
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	6.20	0.977	U	
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	1.55	0.589	U	
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	6.20	1.28	U	
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	6.20	1.28	U	
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	1.55	0.675	U	
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	1.55	0.714	U	
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	15.5	3.64	U	

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Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-02	**Date Collected**	: 06/24/24 10:20
Client ID	: MW-04-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/05/24 08:55
Sample Matrix	: WATER	**Date Extracted**	: 07/03/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240705_20	**Analyst**	: AC
Sample Amount	: 515.75 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	15.5	1.90	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	3.10	0.442	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	3.10	0.411	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	3.10	0.341	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	3.10	1.83	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	7.76	2.56	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	38.8	9.07	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	38.8	6.12	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-03	Date Collected	: 06/24/24 12:25
Client ID	: MW-05-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 07/05/24 09:33
Sample Matrix	: WATER	Date Extracted	: 07/03/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI05_240705_23	Analyst	: AC
Sample Amount	: 531.41 g	Instrument ID	: LCMS05
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

CAS NO.	Parameter		ng/l Results	RL	MDL	Qualifier	
375-22-4	Perfluorobutanoic Acid (PFBA)	6.02 UJ	~~3.33~~	6.02	0.963	J	UJ
2706-90-3	Perfluoropentanoic Acid (PFPeA)		0.956	3.01	0.805	J	
375-73-5	Perfluorobutanesulfonic Acid (PFBS)		ND	1.50	0.504	U	
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)		ND	6.02	1.57	U	
307-24-4	Perfluorohexanoic Acid (PFHxA)		1.81	1.50	0.444		
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)		ND	1.50	0.263	U	
375-85-9	Perfluoroheptanoic Acid (PFHpA)		ND	1.50	0.301	U	
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)		ND	1.50	0.361	U	
335-67-1	Perfluorooctanoic Acid (PFOA)		1.26	1.50	0.655	J	
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)		ND	6.02	2.03	U	
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)		ND	1.50	0.406	U	
375-95-1	Perfluorononanoic Acid (PFNA)		ND	1.50	0.474	U	
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)		ND	1.50	0.685	U	
335-76-2	Perfluorodecanoic Acid (PFDA)		ND	1.50	0.610	U	
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)		ND	6.02	2.34	U	
68259-12-1	Perfluorononanesulfonic Acid (PFNS)		ND	1.50	0.467	U	
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)		ND	1.50	0.820	U	
2058-94-8	Perfluoroundecanoic Acid (PFUnA)		ND	1.50	0.655	U	

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Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-03	**Date Collected**	: 06/24/24 12:25
Client ID	: MW-05-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/05/24 09:33
Sample Matrix	: WATER	**Date Extracted**	: 07/03/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240705_23	**Analyst**	: AC
Sample Amount	: 531.41 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	1.50	0.346	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	1.50	0.406	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.50	0.813	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	1.50	0.692	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	1.50	0.564	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	1.50	0.399	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	6.02	0.843	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	6.02	0.948	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	1.50	0.572	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	6.02	1.24	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	6.02	1.24	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	1.50	0.655	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	1.50	0.692	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	15.0	3.54	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-03	**Date Collected**	: 06/24/24 12:25
Client ID	: MW-05-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/05/24 09:33
Sample Matrix	: WATER	**Date Extracted**	: 07/03/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240705_23	**Analyst**	: AC
Sample Amount	: 531.41 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	15.0	1.84	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	3.01	0.429	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	3.01	0.399	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	3.01	0.331	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	3.01	1.78	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	7.53	2.48	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	37.6	8.81	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	37.6	5.94	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-04	**Date Collected**	: 06/24/24 15:05
Client ID	: MW-01-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/05/24 09:46
Sample Matrix	: WATER	**Date Extracted**	: 07/03/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240705_24	**Analyst**	: AC
Sample Amount	: 530.85 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
2706-90-3	Perfluoropentanoic Acid (PFPeA)	7.97	3.01	0.806	
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	1.54	1.51	0.505	
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	6.03	1.57	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	12.0	1.51	0.444	
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	1.51	0.264	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	2.80	1.51	0.301	
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	1.51	0.362	U
335-67-1	Perfluorooctanoic Acid (PFOA)	4.94	1.51	0.656	
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	6.03	2.03	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.51	0.407	U
375-95-1	Perfluorononanoic Acid (PFNA)	0.580	1.51	0.475	J
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	1.31	1.51	0.686	J
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	1.51	0.610	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	6.03	2.34	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	1.51	0.467	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	1.51	0.821	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	1.51	0.656	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	1.51	0.347	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-04	**Date Collected**	: 06/24/24 15:05
Client ID	: MW-01-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/05/24 09:46
Sample Matrix	: WATER	**Date Extracted**	: 07/03/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240705_24	**Analyst**	: AC
Sample Amount	: 530.85 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	1.51	0.407	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.51	0.814	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	1.51	0.693	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	1.51	0.565	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	1.51	0.399	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	6.03	0.844	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	6.03	0.949	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	1.51	0.573	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	6.03	1.24	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	6.03	1.24	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	1.51	0.656	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	1.51	0.693	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	15.1	3.54	U
1691-99-2	N-Ethyl Perfluorooctanesulfonamido	ND	15.1	1.85	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-04	**Date Collected**	: 06/24/24 15:05
Client ID	: MW-01-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/05/24 09:46
Sample Matrix	: WATER	**Date Extracted**	: 07/03/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240705_24	**Analyst**	: AC
Sample Amount	: 530.85 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
	Ethanol (NEtFOSE)				
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	3.01	0.429	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	3.01	0.399	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	3.01	0.332	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	3.01	1.78	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	7.54	2.49	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	37.7	8.82	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	37.7	5.94	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-04RE	**Date Collected**	: 06/24/24 15:05
Client ID	: MW-01-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/08/24 15:19
Sample Matrix	: WATER	**Date Extracted**	: 07/07/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240708_22	**Analyst**	: ANH
Sample Amount	: 535.63 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	7.32	5.97	0.956	

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-05	**Date Collected**	: 06/24/24 15:05
Client ID	: DUP-A-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/05/24 09:58
Sample Matrix	: WATER	**Date Extracted**	: 07/03/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240705_25	**Analyst**	: AC
Sample Amount	: 532.03 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
2706-90-3	Perfluoropentanoic Acid (PFPeA)	7.32	3.01	0.804	
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	1.34	1.50	0.504	J
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	6.01	1.57	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	11.5	1.50	0.444	
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	1.50	0.263	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	2.58	1.50	0.301	
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	1.50	0.361	U
335-67-1	Perfluorooctanoic Acid (PFOA)	4.47	1.50	0.654	
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	6.01	2.03	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.50	0.406	U
375-95-1	Perfluorononanoic Acid (PFNA)	0.556	1.50	0.474	J
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	0.940	1.50	0.684	J
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	1.50	0.609	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	6.01	2.34	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	1.50	0.466	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	1.50	0.820	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	1.50	0.654	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	1.50	0.346	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-05	**Date Collected**	: 06/24/24 15:05
Client ID	: DUP-A-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/05/24 09:58
Sample Matrix	: WATER	**Date Extracted**	: 07/03/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240705_25	**Analyst**	: AC
Sample Amount	: 532.03 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	1.50	0.406	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.50	0.812	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	1.50	0.692	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	1.50	0.564	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	1.50	0.398	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	6.01	0.842	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	6.01	0.947	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	1.50	0.571	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	6.01	1.24	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	6.01	1.24	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	1.50	0.654	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	1.50	0.692	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	15.0	3.53	U
1691-99-2	N-Ethyl Perfluorooctanesulfonamido	ND	15.0	1.84	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-05	**Date Collected**	: 06/24/24 15:05
Client ID	: DUP-A-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/05/24 09:58
Sample Matrix	: WATER	**Date Extracted**	: 07/03/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240705_25	**Analyst**	: AC
Sample Amount	: 532.03 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
	Ethanol (NEtFOSE)				
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	3.01	0.428	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	3.01	0.398	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	3.01	0.331	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	3.01	1.77	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	7.52	2.48	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	37.6	8.80	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	37.6	5.93	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-05RE	**Date Collected**	: 06/24/24 15:05
Client ID	: DUP-A-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/08/24 15:32
Sample Matrix	: WATER	**Date Extracted**	: 07/07/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240708_23	**Analyst**	: ANH
Sample Amount	: 524.33 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	8.27	6.10	0.976	

Inorganic Data
(ICPMS Analysis)

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-02	**Date Collected**	: 06/24/24 10:20
Client ID	: MW-04-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/01/24 10:01
Sample Matrix	: WATER	**Dilution Factor**	: 10
Analytical Method	: 1,6020B	**Analyst**	: EJF
Lab File ID	: WG1941538.pdf	**Instrument ID**	: ICPMSRQ
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 06/29/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-95-4	Magnesium, Dissolved	188.	0.700	0.242	

Form 1
METALS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-02	Date Collected	: 06/24/24 10:20
Client ID	: MW-04-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 07/01/24 09:05
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: EJF
Lab File ID	: WG1941538.pdf	Instrument ID	: ICPMSRQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 06/29/24

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Dissolved	0.0104	0.0100	0.00327	
7440-36-0	Antimony, Dissolved	0.00045	0.00400	0.00042	J
7440-38-2	Arsenic, Dissolved	0.00072	0.00050	0.00016	
7440-39-3	Barium, Dissolved	0.05993	0.00050	0.00017	
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	89.4	0.100	0.0394	
7440-47-3	Chromium, Dissolved	ND	0.00100	0.00017	U
7440-48-4	Cobalt, Dissolved	0.00053	0.00050	0.00016	
7440-50-8	Copper, Dissolved	0.00597	0.00100	0.00038	
7439-89-6	Iron, Dissolved	ND	0.0500	0.0191	U
7439-92-1	Lead, Dissolved	ND	0.00100	0.00034	U
7439-96-5	Manganese, Dissolved	0.1222	0.00100	0.00044	
7440-02-0	Nickel, Dissolved	0.00960	0.00200	0.00055	
7440-09-7	Potassium, Dissolved	10.3	0.100	0.0309	
7782-49-2	Selenium, Dissolved	ND	0.00500	0.00173	U
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-23-5	Sodium, Dissolved	188.	0.100	0.0293	
7440-28-0	Thallium, Dissolved	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	0.00950	0.01000	0.00341	J

Form 1
METALS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-03	Date Collected	: 06/24/24 12:25
Client ID	: MW-05-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 07/01/24 08:51
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: EJF
Lab File ID	: WG1941538.pdf	Instrument ID	: ICPMSRQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 06/29/24

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Dissolved	0.00916	0.0100	0.00327	J
7440-36-0	Antimony, Dissolved	0.00081	0.00400	0.00042	J
7440-38-2	Arsenic, Dissolved	0.00098	0.00050	0.00016	
7440-39-3	Barium, Dissolved	0.05748	0.00050	0.00017	
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	66.2	0.100	0.0394	
7440-47-3	Chromium, Dissolved	ND	0.00100	0.00017	U
7440-48-4	Cobalt, Dissolved	0.00099	0.00050	0.00016	
7440-50-8	Copper, Dissolved	0.00430	0.00100	0.00038	
7439-89-6	Iron, Dissolved	0.0248	0.0500	0.0191	J
7439-92-1	Lead, Dissolved	ND	0.00100	0.00034	U
7439-96-5	Manganese, Dissolved	0.07774	0.00100	0.00044	
7440-02-0	Nickel, Dissolved	0.00213	0.00200	0.00055	
7440-09-7	Potassium, Dissolved	6.81	0.100	0.0309	
7782-49-2	Selenium, Dissolved	ND	0.00500	0.00173	U
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-23-5	Sodium, Dissolved	63.1	0.100	0.0293	
7440-28-0	Thallium, Dissolved	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	0.01056	0.01000	0.00341	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-03	**Date Collected**	: 06/24/24 12:25
Client ID	: MW-05-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/01/24 10:10
Sample Matrix	: WATER	**Dilution Factor**	: 10
Analytical Method	: 1,6020B	**Analyst**	: EJF
Lab File ID	: WG1941538.pdf	**Instrument ID**	: ICPMSRQ
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 06/29/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-95-4	Magnesium, Dissolved	137.	0.700	0.242	

Form 1
METALS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-04	Date Collected	: 06/24/24 15:05
Client ID	: MW-01-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 07/01/24 08:55
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: EJF
Lab File ID	: WG1941538.pdf	Instrument ID	: ICPMSRQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 06/29/24

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Dissolved	0.00426	0.0100	0.00327	J
7440-36-0	Antimony, Dissolved	0.00059	0.00400	0.00042	J
7440-38-2	Arsenic, Dissolved	0.00062	0.00050	0.00016	
7440-39-3	Barium, Dissolved	0.04792	0.00050	0.00017	
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	230.	0.100	0.0394	
7440-47-3	Chromium, Dissolved	0.00022	0.00100	0.00017	J
7440-48-4	Cobalt, Dissolved	0.00051	0.00050	0.00016	
7440-50-8	Copper, Dissolved	0.00520	0.00100	0.00038	
7439-89-6	Iron, Dissolved	ND	0.0500	0.0191	U
7439-92-1	Lead, Dissolved	ND	0.00100	0.00034	U
7439-96-5	Manganese, Dissolved	0.2395	0.00100	0.00044	J
7440-02-0	Nickel, Dissolved	0.00138	0.00200	0.00055	J
7440-09-7	Potassium, Dissolved	14.9	0.100	0.0309	
7782-49-2	Selenium, Dissolved	0.00585	0.00500	0.00173	
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-23-5	Sodium, Dissolved	151.	0.100	0.0293	J
7440-28-0	Thallium, Dissolved	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	0.02437	0.01000	0.00341	

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Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-04	**Date Collected**	: 06/24/24 15:05
Client ID	: MW-01-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/01/24 10:15
Sample Matrix	: WATER	**Dilution Factor**	: 10
Analytical Method	: 1,6020B	**Analyst**	: EJF
Lab File ID	: WG1941538.pdf	**Instrument ID**	: ICPMSRQ
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 06/29/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-95-4	Magnesium, Dissolved	287.	0.700	0.242	

Form 1
METALS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-05	Date Collected	: 06/24/24 15:05
Client ID	: DUP-A-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 07/01/24 09:56
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: EJF
Lab File ID	: WG1941538.pdf	Instrument ID	: ICPMSRQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 06/29/24

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Dissolved	0.00809	0.0100	0.00327	J
7440-36-0	Antimony, Dissolved	0.00167	0.00400	0.00042	J
7440-38-2	Arsenic, Dissolved	0.00100	0.00050	0.00016	
7440-39-3	Barium, Dissolved	0.04605	0.00050	0.00017	
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	276.	0.100	0.0394	
7440-47-3	Chromium, Dissolved	0.00025	0.00100	0.00017	J
7440-48-4	Cobalt, Dissolved	0.00055	0.00050	0.00016	
7440-50-8	Copper, Dissolved	0.00824	0.00100	0.00038	
7439-89-6	Iron, Dissolved	ND	0.0500	0.0191	U
7439-92-1	Lead, Dissolved	ND	0.00100	0.00034	U
7439-96-5	Manganese, Dissolved	0.3188	0.00100	0.00044	J
7440-02-0	Nickel, Dissolved	0.00162	0.00200	0.00055	J
7440-09-7	Potassium, Dissolved	16.9	0.100	0.0309	
7782-49-2	Selenium, Dissolved	0.00699	0.00500	0.00173	
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-23-5	Sodium, Dissolved	185.	0.100	0.0293	J
7440-28-0	Thallium, Dissolved	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	0.04379	0.01000	0.00341	

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Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-05	**Date Collected**	: 06/24/24 15:05
Client ID	: DUP-A-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/01/24 10:20
Sample Matrix	: WATER	**Dilution Factor**	: 10
Analytical Method	: 1,6020B	**Analyst**	: EJF
Lab File ID	: WG1941538.pdf	**Instrument ID**	: ICPMSRQ
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 06/29/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-95-4	Magnesium, Dissolved	340.	0.700	0.242	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-02	**Date Collected**	: 06/24/24 10:20
Client ID	: MW-04-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/01/24 17:59
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,6020B	**Analyst**	: EJF
Lab File ID	: WG1941538.pdf	**Instrument ID**	: ICPMSRQ
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 07/01/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7429-90-5	Aluminum, Total	0.238	0.0100	0.00327	
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U
7439-89-6	Iron, Total	0.564	0.0500	0.0191	
7439-96-5	Manganese, Total	0.1331	0.00100	0.00044	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-03	**Date Collected**	: 06/24/24 12:25
Client ID	: MW-05-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/01/24 18:18
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,6020B	**Analyst**	: EJF
Lab File ID	: WG1941538.pdf	**Instrument ID**	: ICPMSRQ
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 07/01/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7429-90-5	Aluminum, Total	0.0429	0.0100	0.00327	
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U
7439-89-6	Iron, Total	0.0663	0.0500	0.0191	
7439-96-5	Manganese, Total	0.09292	0.00100	0.00044	

Form 1
METALS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-04	Date Collected	: 06/24/24 15:05
Client ID	: MW-01-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 07/01/24 18:23
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: EJF
Lab File ID	: WG1941538.pdf	Instrument ID	: ICPMSRQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 07/01/24

		mg/l				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
7429-90-5	Aluminum, Total	0.0438	0.0100	0.00327		J
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U	
7439-89-6	Iron, Total	0.0499	0.0500	0.0191	J	
7439-96-5	Manganese, Total	0.2989	0.00100	0.00044		J

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Form 1
METALS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-05	Date Collected	: 06/24/24 15:05
Client ID	: DUP-A-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 07/01/24 18:28
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: EJF
Lab File ID	: WG1941538.pdf	Instrument ID	: ICPMSRQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 07/01/24

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Total	0.171	0.0100	0.00327	J
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U
7439-89-6	Iron, Total	0.210	0.0500	0.0191	
7439-96-5	Manganese, Total	0.4338	0.00100	0.00044	J

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Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-02	**Date Collected**	: 06/24/24 10:20
Client ID	: MW-04-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/01/24 14:58
Sample Matrix	: WATER	**Dilution Factor**	: 2
Analytical Method	: 1,6020B	**Analyst**	: EJF
Lab File ID	: WG1941539.pdf	**Instrument ID**	: ICPMSQ2
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 06/28/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-95-4	Magnesium, Total	173.	0.140	0.0484	

Form 1
METALS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-02	Date Collected	: 06/24/24 10:20
Client ID	: MW-04-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 07/01/24 12:29
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: EJF
Lab File ID	: WG1941539.pdf	Instrument ID	: ICPMSQ2
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 06/28/24

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7440-36-0	Antimony, Total	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Total	0.00101	0.00050	0.00016	
7440-39-3	Barium, Total	0.07130	0.00050	0.00017	
7440-43-9	Cadmium, Total	0.00006	0.00020	0.00005	J
7440-70-2	Calcium, Total	72.9	0.100	0.0394	
7440-47-3	Chromium, Total	0.00101	0.00100	0.00017	
7440-48-4	Cobalt, Total	0.00117	0.00050	0.00016	
7440-50-8	Copper, Total	0.00828	0.00100	0.00038	
7439-92-1	Lead, Total	0.00078	0.00100	0.00034	J
7440-02-0	Nickel, Total	0.01396	0.00200	0.00055	
7440-09-7	Potassium, Total	9.79	0.100	0.0309	
7782-49-2	Selenium, Total	ND	0.00500	0.00173	U
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-23-5	Sodium, Total	213.	0.100	0.0293	
7440-28-0	Thallium, Total	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Total	ND	0.00500	0.00157	U
7440-66-6	Zinc, Total	0.01182	0.01000	0.00341	J+

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Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-03	**Date Collected**	: 06/24/24 12:25
Client ID	: MW-05-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/01/24 08:57
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,6020B	**Analyst**	: EJF
Lab File ID	: WG1941539.pdf	**Instrument ID**	: ICPMSQ2
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 06/28/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-36-0	Antimony, Total	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Total	0.00106	0.00050	0.00016	
7440-39-3	Barium, Total	0.06648	0.00050	0.00017	
7440-43-9	Cadmium, Total	ND	0.00020	0.00005	U
7440-70-2	Calcium, Total	52.2	0.100	0.0394	
7440-47-3	Chromium, Total	0.00040	0.00100	0.00017	J
7440-48-4	Cobalt, Total	0.00106	0.00050	0.00016	
7440-50-8	Copper, Total	0.00473	0.00100	0.00038	
7439-92-1	Lead, Total	ND	0.00100	0.00034	U
7440-02-0	Nickel, Total	0.00230	0.00200	0.00055	
7440-09-7	Potassium, Total	6.90	0.100	0.0309	
7782-49-2	Selenium, Total	ND	0.00500	0.00173	U
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-23-5	Sodium, Total	71.3	0.100	0.0293	
7440-28-0	Thallium, Total	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Total	ND	0.00500	0.00157	U
7440-66-6	Zinc, Total	0.01459	0.01000	0.00341	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-03	**Date Collected**	: 06/24/24 12:25
Client ID	: MW-05-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/01/24 10:30
Sample Matrix	: WATER	**Dilution Factor**	: 2
Analytical Method	: 1,6020B	**Analyst**	: EJF
Lab File ID	: WG1941539.pdf	**Instrument ID**	: ICPMSQ2
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 06/28/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-95-4	Magnesium, Total	135.	0.140	0.0484	

Form 1
METALS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-04	Date Collected	: 06/24/24 15:05
Client ID	: MW-01-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 07/01/24 10:35
Sample Matrix	: WATER	Dilution Factor	: 4
Analytical Method	: 1,6020B	Analyst	: EJF
Lab File ID	: WG1941539.pdf	Instrument ID	: ICPMSQ2
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 06/28/24

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7439-95-4	Magnesium, Total	297.	0.280	0.0968	J

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Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-04	**Date Collected**	: 06/24/24 15:05
Client ID	: MW-01-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/01/24 09:01
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,6020B	**Analyst**	: EJF
Lab File ID	: WG1941539.pdf	**Instrument ID**	: ICPMSQ2
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 06/28/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-36-0	Antimony, Total	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Total	0.00081	0.00050	0.00016	
7440-39-3	Barium, Total	0.05482	0.00050	0.00017	
7440-43-9	Cadmium, Total	0.00006	0.00020	0.00005	J
7440-70-2	Calcium, Total	240.	0.100	0.0394	
7440-47-3	Chromium, Total	0.00056	0.00100	0.00017	J
7440-48-4	Cobalt, Total	0.00085	0.00050	0.00016	
7440-50-8	Copper, Total	0.00583	0.00100	0.00038	
7439-92-1	Lead, Total	ND	0.00100	0.00034	U
7440-02-0	Nickel, Total	0.00200	0.00200	0.00055	
7440-09-7	Potassium, Total	15.8	0.100	0.0309	
7782-49-2	Selenium, Total	0.00640	0.00500	0.00173	
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-23-5	Sodium, Total	183.	0.100	0.0293	
7440-28-0	Thallium, Total	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Total	ND	0.00500	0.00157	U
7440-66-6	Zinc, Total	0.02870	0.01000	0.00341	

Form 1
METALS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435641-05	Date Collected	: 06/24/24 15:05
Client ID	: DUP-A-20240624	Date Received	: 06/24/24
Sample Location	:	Date Analyzed	: 07/01/24 10:55
Sample Matrix	: WATER	Dilution Factor	: 4
Analytical Method	: 1,6020B	Analyst	: EJF
Lab File ID	: WG1941539.pdf	Instrument ID	: ICPMSQ2
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 06/28/24

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7439-95-4	Magnesium, Total	384.	0.280	0.0968	J

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Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-05	**Date Collected**	: 06/24/24 15:05
Client ID	: DUP-A-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 07/01/24 09:06
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,6020B	**Analyst**	: EJF
Lab File ID	: WG1941539.pdf	**Instrument ID**	: ICPMSQ2
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 06/28/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-36-0	Antimony, Total	0.00052	0.00400	0.00042	J
7440-38-2	Arsenic, Total	0.00082	0.00050	0.00016	
7440-39-3	Barium, Total	0.04558	0.00050	0.00017	
7440-43-9	Cadmium, Total	0.00006	0.00020	0.00005	J
7440-70-2	Calcium, Total	276.	0.100	0.0394	
7440-47-3	Chromium, Total	0.00077	0.00100	0.00017	J
7440-48-4	Cobalt, Total	0.00114	0.00050	0.00016	
7440-50-8	Copper, Total	0.00791	0.00100	0.00038	
7439-92-1	Lead, Total	0.00060	0.00100	0.00034	J
7440-02-0	Nickel, Total	0.00181	0.00200	0.00055	J
7440-09-7	Potassium, Total	17.9	0.100	0.0309	
7782-49-2	Selenium, Total	0.00776	0.00500	0.00173	
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-23-5	Sodium, Total	202.	0.100	0.0293	
7440-28-0	Thallium, Total	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Total	ND	0.00500	0.00157	U
7440-66-6	Zinc, Total	0.03735	0.01000	0.00341	

Inorganic Data
(Mercury Analysis)

No data validation qualifiers were added

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Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-02	**Date Collected**	: 06/24/24 10:20
Client ID	: MW-04-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 06/28/24 17:59
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,7470A	**Analyst**	: JWN
Lab File ID	: WG1940655.pdf	**Instrument ID**	: NIC2
Sample Amount	: 25ml	**%Solids**	: N/A
Digestion Method	: EPA 7470A	**Date Digested**	: 06/28/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.00020	0.00009	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-03	**Date Collected**	: 06/24/24 12:25
Client ID	: MW-05-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 06/28/24 18:09
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,7470A	**Analyst**	: JWN
Lab File ID	: WG1940655.pdf	**Instrument ID**	: NIC2
Sample Amount	: 25ml	**%Solids**	: N/A
Digestion Method	: EPA 7470A	**Date Digested**	: 06/28/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.00020	0.00009	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-04	**Date Collected**	: 06/24/24 15:05
Client ID	: MW-01-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 06/28/24 18:13
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,7470A	**Analyst**	: JWN
Lab File ID	: WG1940655.pdf	**Instrument ID**	: NIC2
Sample Amount	: 25ml	**%Solids**	: N/A
Digestion Method	: EPA 7470A	**Date Digested**	: 06/28/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.00020	0.00009	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-05	**Date Collected**	: 06/24/24 15:05
Client ID	: DUP-A-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 06/28/24 18:16
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,7470A	**Analyst**	: JWN
Lab File ID	: WG1940655.pdf	**Instrument ID**	: NIC2
Sample Amount	: 25ml	**%Solids**	: N/A
Digestion Method	: EPA 7470A	**Date Digested**	: 06/28/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.00020	0.00009	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-02	**Date Collected**	: 06/24/24 10:20
Client ID	: MW-04-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 06/29/24 19:33
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,7470A	**Analyst**	: DJR
Lab File ID	: WG1941223.pdf	**Instrument ID**	: NIC1
Sample Amount	: 25ml	**%Solids**	: N/A
Digestion Method	: EPA 7470A	**Date Digested**	: 06/29/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Dissolved	ND	0.00020	0.00009	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-03	**Date Collected**	: 06/24/24 12:25
Client ID	: MW-05-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 06/29/24 19:43
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,7470A	**Analyst**	: DJR
Lab File ID	: WG1941223.pdf	**Instrument ID**	: NIC1
Sample Amount	: 25ml	**%Solids**	: N/A
Digestion Method	: EPA 7470A	**Date Digested**	: 06/29/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Dissolved	ND	0.00020	0.00009	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-04	**Date Collected**	: 06/24/24 15:05
Client ID	: MW-01-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 06/29/24 19:47
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,7470A	**Analyst**	: DJR
Lab File ID	: WG1941223.pdf	**Instrument ID**	: NIC1
Sample Amount	: 25ml	**%Solids**	: N/A
Digestion Method	: EPA 7470A	**Date Digested**	: 06/29/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Dissolved	ND	0.00020	0.00009	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435641-05	**Date Collected**	: 06/24/24 15:05
Client ID	: DUP-A-20240624	**Date Received**	: 06/24/24
Sample Location	:	**Date Analyzed**	: 06/29/24 19:50
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,7470A	**Analyst**	: DJR
Lab File ID	: WG1941223.pdf	**Instrument ID**	: NIC1
Sample Amount	: 25ml	**%Solids**	: N/A
Digestion Method	: EPA 7470A	**Date Digested**	: 06/29/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Dissolved	ND	0.00020	0.00009	U

Appendix B

Laboratory QC Documentation

Matrix Spike Sample Summary
Form 3
Volatiles

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Client Sample ID	: MW-04-20240624	Matrix (Level)	: WATER (LOW)
Lab Sample ID	: L2435641-02	Analysis Date	: 06/29/24 01:57
Matrix Spike	: WG1941575-6	MS Analysis Date	: 06/29/24 06:18
Matrix Spike Dup	: WG1941575-7	MSD Analysis Date	: 06/29/24 06:42

		Matrix Spike Sample			Matrix Spike Duplicate					
Parameter	Sample Conc. (ug/l)	Spike Added (ug/l)	Spike Conc. (ug/l)	%R	Spike Added (ug/l)	Spike Conc. (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Methylene chloride	ND	10	9.9	99	10	10	100	1	70-130	20
1,1-Dichloroethane	ND	10	10	100	10	11	110	10	70-130	20
Chloroform	ND	10	11	110	10	11	110	0	70-130	20
Carbon tetrachloride	ND	10	14	140 Q	10	14	140 Q	0	63-132	20
1,2-Dichloropropane	ND	10	9.8	98	10	10	100	2	70-130	20
Dibromochloromethane	ND	10	11	110	10	12	120	9	63-130	20
1,1,2-Trichloroethane	ND	10	9.9	99	10	10	100	1	70-130	20
Tetrachloroethene	ND	10	11	110	10	12	120	9	70-130	20
Chlorobenzene	ND	10	10	100	10	11	110	10	75-130	20
Trichlorofluoromethane	ND	10	12	120	10	13	130	8	62-150	20
1,2-Dichloroethane	ND	10	11	110	10	12	120	9	70-130	20
1,1,1-Trichloroethane	ND	10	13	130	10	14	140 Q	7	67-130	20
Bromodichloromethane	ND	10	11	110	10	12	120	9	67-130	20
trans-1,3-Dichloropropene	ND	10	10	100	10	11	110	10	70-130	20
cis-1,3-Dichloropropene	ND	10	9.5	95	10	10	100	5	70-130	20
Bromoform	ND	10	9.8	98	10	10	100	2	54-136	20
1,1,2,2-Tetrachloroethane	ND	10	11	110	10	11	110	0	67-130	20
Benzene	ND	10	10	100	10	11	110	10	70-130	20
Toluene	ND	10	10	100	10	11	110	10	70-130	20
Ethylbenzene	ND	10	10	100	10	11	110	10	70-130	20
Chloromethane	ND	10	8.2	82	10	8.7	87	6	64-130	20
Bromomethane	ND	10	4.5	45	10	5.1	51	13	39-139	20

Initial Calibration Summary
Form 6
Volatiles

Client	**: C&S Companies**	**Lab Number**	**: L2435641**
Project Name	**: 1803 ELMWOOD AVENUE-BCP-RI**	**Project Number**	**: S93.003.002**
Instrument ID	**: GONZO**	**Ical Ref**	**: ICAL21111**
Calibration dates	**: 05/09/24 17:50 05/09/24 21:24**		

Calibration Files
L11 =VG240509A03.D L1 =VG240509A05.D L2 =VG240509A07.D L3 =VG240509A08.D L4 =VG240509A09.D
L6 =VG240509A10.D L8 =VG240509A11.D L10 =VG240509A12.D

	Compound	L11	L1	L2	L3	L4	L6	L8	L10	Avg	%RSD
40) TP	1,1-Dichloropr		0.174	0.228	0.268	0.287	0.310	0.313	0.313	0.270	19.48
41) TP	Benzene	0.740	0.648	0.782	0.832	0.865	0.904	0.978	1.017	0.846	14.48
42) TP	Tertiary-Amyl Methyl Ether		0.405	0.445	0.492	0.538	0.586	0.645	0.682	0.542	18.89
43) S	1,2-Dichloroethane-d4	0.288	0.297	0.300	0.312	0.306	0.315	0.311	0.329	0.307	4.01
44) TP	1,2-Dichloroet		0.281	0.293	0.289	0.301	0.307	0.329	0.334	0.305	6.64
47) TP	Methyl cyclohe			0.219	0.264	0.342	0.387	0.360	0.389	*L	0.9975
48) TP	Trichloroethene	0.251	0.208	0.230	0.235	0.247	0.266	0.291	0.304	0.254	12.61
50) TP	Dibromomethane		0.120	0.127	0.120	0.124	0.127	0.136	0.137	0.127	5.54
51) TC	1,2-Dichloropr		0.182	0.217	0.215	0.222	0.228	0.242		0.218	9.25
53) TP	2-Chloroethyl		0.074	0.092	0.098	0.111	0.119	0.129	0.131	0.108	19.59
54) TP	Bromodichlorom		0.259	0.290	0.284	0.293	0.304	0.325	0.334	0.298#	8.45
57) TP	1,4-Dioxane		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002#	6.07
58) TP	cis-1,3-Dichlo		0.262	0.297	0.303	0.326	0.346	0.376	0.389	0.328	13.76
59) I	Chlorobenzene-d5	----------ISTD----------									
60) S	Toluene-d8	1.251	1.272	1.253	1.276	1.254	1.206	1.194	1.138	1.230	3.86
61) TC	Toluene		0.533	0.654	0.666	0.681	0.706	0.767	0.751	0.680	11.39
62) TP	4-Methyl-2-pen		0.059	0.065	0.071	0.078	0.081	0.090	0.089	0.076	15.50
63) TP	Tetrachloroethene		0.191	0.240	0.258	0.282	0.289	0.301	0.294	0.265	14.77
65) TP	trans-1,3-Dich		0.306	0.336	0.354	0.371	0.383	0.415	0.411	0.368	10.74
67) TP	Ethyl methacry			0.180	0.233	0.260	0.280	0.314	0.313	0.263	19.49
68) TP	1,1,2-Trichlor		0.187	0.188	0.177	0.185	0.187	0.206	0.205	0.191#	5.67
69) TP	Chlorodibromom		0.238	0.280	0.271	0.284	0.293	0.314	0.304	0.283	8.72
70) TP	1,3-Dichloropr		0.348	0.371	0.360	0.367	0.371	0.394	0.375	0.369	3.80
71) TP	1,2-Dibromoethane		0.195	0.220	0.217	0.220	0.219	0.234	0.221	0.218	5.32
72) TP	2-Hexanone		0.085	0.108	0.119	0.136	0.144	0.154	0.143	0.127	19.29
73) TP	Chlorobenzene		0.585	0.742	0.737	0.754	0.794	0.889	0.873	0.768	13.22
74) TC	Ethylbenzene		0.978	1.110	1.216	1.339	1.456	1.604	1.564	1.324	17.75
75) TP	1,1,1,2-Tetrac		0.220	0.259	0.265	0.280	0.292	0.316	0.315	0.278	12.23
76) TP	p/m Xylene		0.339	0.440	0.478	0.535	0.597	0.654	0.641	*Q	0.9982
77) TP	o Xylene		0.348	0.427	0.470	0.527	0.595	0.644	0.621	*Q	0.9978
78) TP	Styrene		0.512	0.691	0.805	0.961	1.083	1.167		*Q	0.9997
79) I	1,4-Dichlorobenzene-d4	----------ISTD----------									
80) TP	Bromoform		0.298	0.300	0.297	0.322	0.346	0.370	0.351	0.326	9.05
82) TP	Isopropylbenzene		1.383	1.812	1.970	2.243	2.465	2.601	2.461	*L	0.9979
83) S	4-Bromofluorobenzene	0.843	0.832	0.849	0.813	0.801	0.763	0.778	0.755	0.804	4.52
84) TP	Bromobenzene		0.567	0.604	0.559	0.559	0.571	0.627	0.608	0.585	4.71

Evaluate Continuing Calibration Report

Data Path : K:\Gonzo\2024\240509AICAL\
Data File : VG240509A17.D
Acq On : 9 May 2024 11:24 pm
Operator : GONZO:PID
Sample : C8260STD10PPB
Misc : WG1919586,ICAL (Sig #1); WG,ICAL (Sig #2)
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 10 11:04:54 2024
Quant Method : K:\Gonzo\2024\240509AICAL\G_240509A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri May 10 11:02:54 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	
1	I	Fluorobenzene	1.000	1.000	0.0	105	0.00	
2	TP	Dichlorodifluoromethane	0.254	0.311	-22.4#	126	0.00	
3	TP	Chloromethane	0.250	0.295	-18.0	124	0.00	
4	TC	Vinyl chloride	0.252	0.287	-13.9	113	0.00	
5	TP	Bromomethane	* 10.000	11.229	-12.3	120	0.00	
6	TP	Chloroethane	0.174	0.196	-12.6	105	0.00	
7	TP	Trichlorofluoromethane	0.349	0.324	7.2	101	0.00	
8	TP	Ethyl ether	0.097	0.130	-34.0#	146	0.00	NT
10	TC	1,1-Dichloroethene	0.177	0.185	-4.5	110	0.00	
11	TP	Carbon disulfide	0.560	0.329	41.3#	64	0.00	
12	TP	Freon-113	0.201	0.199	1.0	110	0.00	
13	TP	Iodomethane	0.246	0.206	16.3	105	0.00	
14	TP	Acrolein	0.030	0.020	33.3#	71	0.00	NT
15	TP	Methylene chloride	0.215	0.208	3.3	107	0.00	
17	TP	Acetone	0.055	0.039	29.1#	83	0.00	
18	TP	trans-1,2-Dichloroethene	0.200	0.203	-1.5	111	0.00	
19	TP	Methyl acetate	0.115	0.091	20.9#	96	0.00	
20	TP	Methyl tert-butyl ether	0.523	0.590	-12.8	127	0.00	
21	TP	tert-Butyl alcohol	0.016	0.017	-6.3	123	0.00	
22	TP	Diisopropyl ether	0.700	0.764	-9.1	123	0.00	
23	TP	1,1-Dichloroethane	0.398	0.391	1.8	106	0.00	
24	TP	Halothane	0.158	0.160	-1.3	107	0.00	
25	TP	Acrylonitrile	0.054	0.051	5.6	100	0.00	
26	TP	Ethyl tert-butyl ether	0.658	0.710	-7.9	125	0.00	
27	TP	Vinyl acetate	0.260	0.178	31.5#	72	0.00	NT
28	TP	cis-1,2-Dichloroethene	0.232	0.222	4.3	109	0.00	
29	TP	2,2-Dichloropropane	0.295	0.260	11.9	96	0.00	
30	TP	Bromochloromethane	0.105	0.103	1.9	106	0.00	
31	TP	Cyclohexane	* 10.000	8.988	10.1	109	0.00	
32	TC	Chloroform	0.384	0.377	1.8	108	0.00	
33	TP	Ethyl acetate	0.165	0.155	6.1	103	0.00	
34	TP	Carbon tetrachloride	0.299	0.316	-5.7	112	0.00	
35	TP	Tetrahydrofuran	0.049	0.059	-20.4#	121	0.00	
36	S	Dibromofluoromethane	0.256	0.249	2.7	104	0.00	
37	TP	1,1,1-Trichloroethane	0.329	0.339	-3.0	108	0.00	
39	TP	2-Butanone	0.073	0.065	11.0	89	0.00	
40	TP	1,1-Dichloropropene	0.270	0.284	-5.2	112	0.00	
41	TP	Benzene	0.846	0.817	3.4	103	0.00	
42	TP	tert-Amyl methyl ether	0.542	0.585	-7.9	125	0.00	

Calibration Verification Summary
Form 7
Volatiles

Client	: C&S Companies		Lab Number	: L2435641	
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI		Project Number	: S93.003.002	
Instrument ID	: GONZO		Calibration Date	: 06/28/24 20:49	
Lab File ID	: VG240628N02		Init. Calib. Date(s)	: 05/09/24	05/09/24
Sample No	: WG1941575-2		Init. Calib. Times	: 17:50	21:24
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
Fluorobenzene	1	1	-	0	20	65	0	
Dichlorodifluoromethane	0.254	0.304	-	-19.7	20	76	0	
Chloromethane	0.25	0.212	-	15.2	20	55	0	
Vinyl chloride	0.252	0.208	-	17.5	20	50	0	
Bromomethane	10	5.459	-	45.4*	20	37	0	
Chloroethane	0.174	0.124	-	28.7*	20	41	0	
Trichlorofluoromethane	0.349	0.42	-	-20.3*	20	80	0	
Ethyl ether	0.097	0.098	-	-1	20	68	0	
1,1-Dichloroethene	0.177	0.202	-	-14.1	20	74	0	
Carbon disulfide	0.56	0.594	-	-6.1	20	71	0	
Freon-113	0.201	0.224	-	-11.4	20	76	0	
Acrolein	0.03	0.026	-	13.3	20	55	0	
Methylene chloride	0.215	0.226	-	-5.1	20	71	0	
Acetone	0.055	0.044	-	20	20	56	0	
trans-1,2-Dichloroethene	0.2	0.223	-	-11.5	20	75	0	
Methyl acetate	0.115	0.093	-	19.1	20	61	0	
Methyl tert-butyl ether	0.523	0.581	-	-11.1	20	77	0	
tert-Butyl alcohol	0.016	0.018	-	-12.5	20	81	0	
Diisopropyl ether	0.7	0.631	-	9.9	20	62	0	
1,1-Dichloroethane	0.398	0.426	-	-7	20	71	0	
Halothane	0.158	0.178	-	-12.7	20	73	0	
Acrylonitrile	0.054	0.054	-	0	20	65	0	
Ethyl tert-butyl ether	0.658	0.701	-	-6.5	20	76	0	
Vinyl acetate	0.26	0.399	-	-53.5*	20	99	0	NT
cis-1,2-Dichloroethene	0.232	0.247	-	-6.5	20	74	0	
2,2-Dichloropropane	0.295	0.409	-	-38.6*	20	93	0	NT
Bromochloromethane	0.105	0.119	-	-13.3	20	76	0	
Cyclohexane	10	9.759	-	2.4	20	73	0	
Chloroform	0.384	0.436	-	-13.5	20	77	0	
Ethyl acetate	0.165	0.151	-	8.5	20	61	0	
Carbon tetrachloride	0.299	0.397	-	-32.8*	20	86	0	
Tetrahydrofuran	0.049	0.043	-	12.2	20	54	0	
Dibromofluoromethane	0.256	0.263	-	-2.7	20	67	0	
1,1,1-Trichloroethane	0.329	0.429	-	-30.4*	20	84	0	
2-Butanone	0.073	0.066	-	9.6	20	55	0	
1,1-Dichloropropene	0.27	0.311	-	-15.2	20	75	0	
Benzene	0.846	0.907	-	-7.2	20	71	0	
tert-Amyl methyl ether	0.542	0.59	-	-8.9	20	78	0	
1,2-Dichloroethane-d4	0.307	0.339	-	-10.4	20	70	0	
1,2-Dichloroethane	0.305	0.347	-	-13.8	20	78	0	
Methyl cyclohexane	10	10.068	-	-0.7	20	82	0	
Trichloroethene	0.254	0.254	-	0	20	70	0	
Dibromomethane	0.127	0.135	-	-6.3	20	73	0	

* Value outside of QC limits.

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Matrix (Level)	: WATER (LOW)		
LCS Sample ID	: WG1940981-2 **Analysis Date** : 06/29/24 03:33	**File ID**	: 940981-2
LCSD Sample ID	: WG1940981-3 **Analysis Date** : 06/29/24 03:57	**File ID**	: 940981-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Acetophenone	20	11.	56	20	11.	57	2	39-129	30
2,4,6-Trichlorophenol	20	12.	59	20	12.	59	0	30-130	30
p-Chloro-m-cresol	20	11.	57	20	12.	58	2	23-97	30
2-Chlorophenol	20	11.	55	20	11.	56	2	27-123	30
2,4-Dichlorophenol	20	11.	56	20	12.	60	7	30-130	30
2,4-Dimethylphenol	20	10.	52	20	11.	53	2	30-130	30
2-Nitrophenol	20	12.	60	20	12.	59	2	30-130	30
4-Nitrophenol	20	6.6	33	20	6.7	33	0	10-80	30
2,4-Dinitrophenol	20	7.4	37	20	7.0	35	6	20-130	30
4,6-Dinitro-o-cresol	20	11.	55	20	11.	56	2	20-164	30
Phenol	20	6.3	32	20	6.1	31	3	12-110	30
2-Methylphenol	20	9.7	49	20	10.	50	2	30-130	30
3-Methylphenol/4-Methylphenol	20	10.	50	20	11.	53	6	30-130	30
2,4,5-Trichlorophenol	20	12.	58	20	12.	61	5	30-130	30
Carbazole	20	11.	54	20	11.	55	2	55-144	30
Atrazine	20	9.8	49	20	10.	53	8	40-140	30
Benzaldehyde	20	11.	56	20	11.	55	2	40-140	30
Caprolactam	20	3.2	16	20	3.6	18	12	10-130	30
2,3,4,6-Tetrachlorophenol	20	12.	60	20	12.	60	0	40-140	30

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Matrix (Level)	: WATER (LOW)		
LCS Sample ID	: WG1941233-2 **Analysis Date** : 06/30/24 12:57	**File ID**	: 941233-2
LCSD Sample ID	: WG1941233-3 **Analysis Date** : 06/30/24 13:20	**File ID**	: 941233-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Bis(2-chloroethyl)ether	20	8.2	41	20	8.9	45	9	40-140	30
3,3'-Dichlorobenzidine	20	9.1	46	20	9.0	45	2	40-140	30
2,4-Dinitrotoluene	20	9.0	45 Q	20	8.6	43 Q	5	48-143	30
2,6-Dinitrotoluene	20	9.0	45	20	8.7	44	2	40-140	30
4-Chlorophenyl phenyl ether	20	9.8	49	20	9.0	45	9	40-140	30
4-Bromophenyl phenyl ether	20	8.9	44	20	8.5	42	5	40-140	30
Bis(2-chloroisopropyl)ether	20	8.4	42	20	8.0	40	5	40-140	30
Bis(2-chloroethoxy)methane	20	8.2	41	20	8.6	43	5	40-140	30
Hexachlorocyclopentadiene	20	7.7	39 Q	20	8.0	40	3	40-140	30
Isophorone	20	8.6	43	20	8.6	43	0	40-140	30
Nitrobenzene	20	8.1	41	20	9.2	46	11	40-140	30
NDPA/DPA	20	9.2	46	20	9.4	47	2	40-140	30
n-Nitrosodi-n-propylamine	20	8.7	44	20	8.4	42	5	29-132	30
Bis(2-ethylhexyl)phthalate	20	8.5	43	20	8.2	41	5	40-140	30
Butyl benzyl phthalate	20	8.6	43	20	8.9	45	5	40-140	30
Di-n-butylphthalate	20	8.3	42	20	8.2	41	2	40-140	30
Di-n-octylphthalate	20	8.0	40	20	7.7	39 Q	3	40-140	30
Diethyl phthalate	20	8.9	44	20	8.8	44	0	40-140	30
Dimethyl phthalate	20	9.0	45	20	8.8	44	2	40-140	30
Biphenyl	20	8.1	40	20	8.3	42	5	40-140	30
4-Chloroaniline	20	8.2	41	20	6.2	31 Q	28	40-140	30
2-Nitroaniline	20	8.4	42 Q	20	9.0	45 Q	7	52-143	30
3-Nitroaniline	20	8.6	43	20	8.7	44	2	25-145	30
4-Nitroaniline	20	7.9	39 Q	20	8.8	44 Q	12	51-143	30
Dibenzofuran	20	8.8	44	20	8.5	43	2	40-140	30
1,2,4,5-Tetrachlorobenzene	20	7.8	39	20	8.0	40	3	2-134	30

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Matrix (Level)	: WATER (LOW)		
LCS Sample ID	: WG1941233-2 **Analysis Date** : 06/30/24 12:57	**File ID**	: 941233-2
LCSD Sample ID	: WG1941233-3 **Analysis Date** : 06/30/24 13:20	**File ID**	: 941233-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Acetophenone	20	8.4	42	20	7.6	38 Q	10	39-129	30
2,4,6-Trichlorophenol	20	9.1	46	20	7.3	37	22	30-130	30
p-Chloro-m-cresol	20	9.1	46	20	8.4	42	9	23-97	30
2-Chlorophenol	20	9.3	47	20	8.2	41	14	27-123	30
2,4-Dichlorophenol	20	9.5	48	20	7.9	40	18	30-130	30
2,4-Dimethylphenol	20	8.2	41	20	8.0	40	2	30-130	30
2-Nitrophenol	20	8.3	42	20	7.2	36	15	30-130	30
4-Nitrophenol	20	7.0	35	20	4.8	24	37 Q	10-80	30
2,4-Dinitrophenol	20	8.5	42	20	6.9	34	21	20-130	30
4,6-Dinitro-o-cresol	20	9.4	47	20	6.1	30	44 Q	20-164	30
Phenol	20	5.9	30	20	5.5	27	11	12-110	30
2-Methylphenol	20	8.2	41	20	8.3	41	0	30-130	30
3-Methylphenol/4-Methylphenol	20	9.3	46	20	8.3	41	11	30-130	30
2,4,5-Trichlorophenol	20	9.6	48	20	8.2	41	16	30-130	30
Carbazole	20	9.2	46 Q	20	8.8	44 Q	4	55-144	30
Atrazine	20	9.0	45	20	7.7	39 Q	14	40-140	30
Benzaldehyde	20	7.9	39 Q	20	7.4	37 Q	5	40-140	30
Caprolactam	20	3.9	19	20	3.3	16	17	10-130	30
2,3,4,6-Tetrachlorophenol	20	10.	52	20	7.4	37 Q	34 Q	40-140	30

Matrix Spike Sample Summary
Form 3
Semivolatiles

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Client Sample ID	: MW-04-20240624	Matrix (Level)	: WATER (LOW)
Lab Sample ID	: L2435641-02	Analysis Date	: 06/29/24 07:05
Matrix Spike	: WG1940981-4	MS Analysis Date	: 06/29/24 06:18
Matrix Spike Dup	: WG1940981-5	MSD Analysis Date	: 06/29/24 06:42

		Matrix Spike Sample			Matrix Spike Duplicate					
Parameter	Sample Conc. (ug/l)	Spike Added (ug/l)	Spike Conc. (ug/l)	%R	Spike Added (ug/l)	Spike Conc. (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Bis(2-chloroethyl)ether	ND	20	11.	55	20	12.	60	9	40-140	30
3,3'-Dichlorobenzidine	ND	20	12.	60	20	14.	70	15	40-140	30
2,4-Dinitrotoluene	ND	20	11.	55	20	11.	55	0	48-143	30
2,6-Dinitrotoluene	ND	20	12.	60	20	12.	60	0	40-140	30
4-Chlorophenyl phenyl ether	ND	20	11.	55	20	12.	60	9	40-140	30
4-Bromophenyl phenyl ether	ND	20	12.	60	20	12.	60	0	40-140	30
Bis(2-chloroisopropyl)ether	ND	20	10.	50	20	11.	55	10	40-140	30
Bis(2-chloroethoxy)methane	ND	20	11.	55	20	12.	60	9	40-140	30
Hexachlorocyclopentadiene	ND	20	6.0J	30 Q	20	6.9J	35 Q	14	40-140	30
Isophorone	ND	20	12.	60	20	12.	60	0	40-140	30
Nitrobenzene	ND	20	11.	55	20	12.	60	9	40-140	30
NDPA/DPA	ND	20	12.	60	20	12.	60	0	40-140	30
n-Nitrosodi-n-propylamine	ND	20	12.	60	20	13.	65	8	29-132	30
Bis(2-ethylhexyl)phthalate	ND	20	12.	60	20	13.	65	8	40-140	30
Butyl benzyl phthalate	ND	20	12.	60	20	12.	60	0	40-140	30
Di-n-butylphthalate	ND	20	12.	60	20	12.	60	0	40-140	30
Di-n-octylphthalate	ND	20	12.	60	20	12.	60	0	40-140	30
Diethyl phthalate	ND	20	12.	60	20	13.	65	8	40-140	30
Dimethyl phthalate	ND	20	12.	60	20	12.	60	0	40-140	30
Biphenyl	ND	20	9.2	46	20	10.	50	8	40-140	30
4-Chloroaniline	ND	20	9.4	47	20	10.	50	6	40-140	30
2-Nitroaniline	ND	20	11.	55	20	11.	55	0	52-143	30

Matrix Spike Sample Summary
Form 3
Semivolatiles

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Client Sample ID	: MW-04-20240624	Matrix (Level)	: WATER (LOW)
Lab Sample ID	: L2435641-02	Analysis Date	: 06/29/24 07:05
Matrix Spike	: WG1940981-4	MS Analysis Date	: 06/29/24 06:18
Matrix Spike Dup	: WG1940981-5	MSD Analysis Date	: 06/29/24 06:42

		Matrix Spike Sample			Matrix Spike Duplicate					
Parameter	Sample Conc. (ug/l)	Spike Added (ug/l)	Spike Conc. (ug/l)	%R	Spike Added (ug/l)	Spike Conc. (ug/l)	%R	RPD	Recovery Limits	RPD Limit
3-Nitroaniline	ND	20	12.	60	20	13.	65	8	25-145	30
4-Nitroaniline	ND	20	10.	50 Q	20	12.	60	18	51-143	30
Dibenzofuran	ND	20	11.	55	20	12.	60	9	40-140	30
1,2,4,5-Tetrachlorobenzene	ND	20	8.5J	43	20	9.2J	46	8	2-134	30
Acetophenone	ND	20	12.	60	20	12.	60	0	39-129	30
2,4,6-Trichlorophenol	ND	20	ND	0 Q	20	ND	0 Q	NC	30-130	30
p-Chloro-m-cresol	ND	20	7.1	36	20	8.6	43	19	23-97	30
2-Chlorophenol	ND	20	1.8J	9 Q	20	3.7	19 Q	69 Q	27-123	30
2,4-Dichlorophenol	ND	20	1.7J	9 Q	20	3.4J	17 Q	67 Q	30-130	30
2,4-Dimethylphenol	ND	20	9.1	46	20	10.	50	9	30-130	30
2-Nitrophenol	ND	20	ND	0 Q	20	3.4J	17 Q	NC	30-130	30
4-Nitrophenol	ND	20	1.4J	7 Q	20	ND	0 Q	NC	10-80	30
2,4-Dinitrophenol	ND	20	ND	0 Q	20	ND	0 Q	NC	20-130	30
4,6-Dinitro-o-cresol	ND	20	ND	0 Q	20	ND	0 Q	NC	20-164	30
Phenol	ND	20	1.8J	9 Q	20	2.7J	14	40 Q	12-110	30
2-Methylphenol	ND	20	7.0	35	20	8.6	43	21	30-130	30
3-Methylphenol/4-Methylphenol	ND	20	6.0	30	20	7.4	37	21	30-130	30
2,4,5-Trichlorophenol	ND	20	ND	0 Q	20	2.4J	12 Q	NC	30-130	30
Carbazole	ND	20	12.	60	20	13.	65	8	55-144	30
Atrazine	ND	20	10.	50	20	11.	55	10	40-140	30
Benzaldehyde	ND	20	10.	50	20	11.	55	10	40-140	30
Caprolactam	ND	20	7.5J	38	20	4.3J	22	54 Q	10-130	30

Matrix Spike Sample Summary
Form 3
Semivolatiles

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Client Sample ID	: MW-04-20240624	Matrix (Level)	: WATER (LOW)
Lab Sample ID	: L2435641-02	Analysis Date	: 06/29/24 07:05
Matrix Spike	: WG1940981-4	MS Analysis Date	: 06/29/24 06:18
Matrix Spike Dup	: WG1940981-5	MSD Analysis Date	: 06/29/24 06:42

		Matrix Spike Sample				Matrix Spike Duplicate						
Parameter	Sample Conc. (ug/l)	Spike Added (ug/l)	Spike Conc. (ug/l)	%R		Spike Added (ug/l)	Spike Conc. (ug/l)	%R		RPD	Recovery Limits	RPD Limit
2,3,4,6-Tetrachlorophenol	ND	20	ND	0	Q	20	ND	0	Q	NC	40-140	30

Surrogate Recovery Summary
Form 2
Semivolatiles

Client: C&S Companies
Project Name: 1803 ELMWOOD AVENUE-BCP-RI

Lab Number: L2435641
Project Number: S93.003.002
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S1 (2FP)	S2 (PHL)	S3 (NBZ)	S4 (FBP)	S5 (TBP)	S6 (TPH)	TOT OUT
MW-04-20240624 (L2435641-02)	7*	10	53	51	11	51	1
MW-05-20240624 (L2435641-03)	26	23	41	42	28	45	0
MW-01-20240624 (L2435641-04)	18*	16	40	40	18	41	1
DUP-A-20240624 (L2435641-05)	29	26	44	45	38	45	0
WG1940981-1BLANK	17*	17	65	64	27	65	1
WG1940981-2LCS	42	29	58	59	61	51	0
WG1940981-3LCSD	40	31	53	59	64	51	0
MW-04-20240624MS	3*	7*	60	56	0*	54	3
MW-04-20240624MSD	9*	13	60	59	12	57	1
WG1941233-1BLANK	38	28	46	46	45	49	0
WG1941233-2LCS	38	30	44	44	53	42	0
WG1941233-3LCSD	32	28	46	42	38	44	0

QC LIMITS

(21-120) 2FP = 2-FLUOROPHENOL
(10-120) PHL = PHENOL-D6
(23-120) NBZ = NITROBENZENE-D5
(15-120) FBP = 2-FLUOROBIPHENYL
(10-120) TBP = 2,4,6-TRIBROMOPHENOL
(41-149) TPH = 4-TERPHENYL-D14

* Values outside of QC limits

FORM II NYTCL-8270-RVT

Calibration Verification Summary
Form 7
Semivolatiles

Client	: C&S Companies		Lab Number	: L2435641	
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI		Project Number	: S93.003.002	
Instrument ID	: SV106		Calibration Date	: 06/29/24 01:59	
Lab File ID	: ABN0628NA		Init. Calib. Date(s)	: 06/24/24	06/25/24
Sample No	: WG1941071-3		Init. Calib. Times	: 16:56	04:24
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
IS1_1,4-Dichlorobenzene-d4	1	1	-	0	20	107	.17	
n-Nitrosodimethylamine	0.851	0.787	-	7.5	20	109	.17	
Pyridine	1.392	1.355	-	2.7	20	114	.17	
2-Fluorophenol	1.156	1.156	-	0	20	115	.17	
Aniline	2.049	1.826	-	10.9	20	105	.17	
2-Chlorophenol	1.288	1.199	-	6.9	20	112	.17	
Phenol-d6	1.583	1.4	-	11.6	20	106	.17	
Phenol	1.642	1.465	-	10.8	20	106	.17	
Bis(2-chloroethyl)ether	1.348	1.197	-	11.2	20	105	.17	
1,3-Dichlorobenzene	1.546	1.475	-	4.6	20	114	.17	
1,4-Dichlorobenzene	1.565	1.515	-	3.2	20	116	.17	
1,2-Dichlorobenzene	1.522	1.418	-	6.8	20	112	.17	
Benzyl alcohol	1.267	1.144	-	9.7	20	106	.17	
Bis(2-chloroisopropyl)ethe	2.166	1.806	-	16.6	20	100	.17	
2-Methylphenol	1.183	1.028	-	13.1	20	102	.17	
Hexachloroethane	0.623	0.602	-	3.4	20	120	.17	
n-Nitrosodi-n-propylamine	1.057	0.879	-	16.8	20	95	.17	
3-Methylphenol/4-Methylphe	1.279	1.096	-	14.3	20	102	.17	
Nitrobenzene-d5	1.619	1.382	-	14.6	20	102	.17	
Nitrobenzene	1.643	1.418	-	13.7	20	104	.17	
Isophorone	2.76	2.28	-	17.4	20	94	.17	
2-Nitrophenol	0.692	0.615	-	11.1	20	102	.17	
2,4-Dimethylphenol	1.301	0.948	-	27.1*	20	86	.17	
Bis(2-chloroethoxy)methane	1.778	1.453	-	18.3	20	97	.17	
2,4-Dichlorophenol	1.233	1.111	-	9.9	20	104	.17	
1,2,4-Trichlorobenzene	1.51	1.275	-	15.6	20	104	.17	
IS1_Naphthalene-d8	1	1	-	0	20	103	.17	
Naphthalene	1.147	1.024	-	10.7	20	104	.17	
Benzoic Acid	5	4.704	-	5.9	20	103	.17	
4-Chloroaniline	0.169	0.149	-	11.8	20	97	.17	
Hexachlorobutadiene	0.303	0.281	-	7.3	20	110	.17	
p-Chloro-m-cresol	0.343	0.296	-	13.7	20	95	.17	
2-Methylnaphthalene	0.764	0.679	-	11.1	20	101	.17	
1-Methylnaphthalene	0.29	0.264	-	9	20	102	.17	
Hexachlorocyclopentadiene	0.336	0.33	-	1.8	20	109	.17	
2,4,6-Trichlorophenol	0.301	0.275	-	8.6	20	100	.17	
2,4,5-Trichlorophenol	0.322	0.278	-	13.7	20	92	.17	
2-Fluorobiphenyl	1.027	0.851	-	17.1	20	95	.17	
2-Chloronaphthalene	0.813	0.681	-	16.2	20	95	.17	
2-Nitroaniline	0.245	0.204	-	16.7	20	90	.17	
1,4-Dinitrobenzene	0.129	0.11	-	14.7	20	93	.17	
1,3-Dinitrobenzene	0.147	0.117	-	20.4*	20	84	.17	NT
Dimethyl phthalate	0.989	0.825	-	16.6	20	92	.17	

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: C&S Companies		Lab Number	: L2435641	
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI		Project Number	: S93.003.002	
Instrument ID	: SV106		Calibration Date	: 06/29/24 01:59	
Lab File ID	: ABN0628NA		Init. Calib. Date(s)	: 06/24/24	06/25/24
Sample No	: WG1941071-3		Init. Calib. Times	: 16:56	04:24
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Acenaphthylene	1.244	1.091	-	12.3	20	96	.17
2,6-Dinitrotoluene	0.213	0.178	-	16.4	20	89	.17
1,2-Dinitrobenzene	0.091	0.075	-	17.6	20	87	.17
IS1_Acenaphthene-d10	1	1	-	0	20	93	.17
3-Nitroaniline	0.319	0.311	-	2.5	20	91	.17
Acenaphthene	1.153	1.089	-	5.6	20	97	.17
2,4-Dinitrophenol	0.213	0.197	-	7.5	20	85	.17
Dibenzofuran	1.936	1.735	-	10.4	20	92	.17
2,4-Dinitrotoluene	0.475	0.429	-	9.7	20	86	.17
4-Nitrophenol	0.323	0.286	-	11.5	20	87	.17
2,3,5,6-Tetrachlorophenol	0.452	0.439	-	2.9	20	93	.17
2,3,4,6-Tetrachlorophenol	0.435	0.43	-	1.1	20	92	.17
Diethyl phthalate	1.529	1.343	-	12.2	20	89	.17
Fluorene	1.523	1.349	-	11.4	20	89	.17
4-Chlorophenyl phenyl ethe	0.801	0.691	-	13.7	20	91	.17
4-Nitroaniline	0.333	0.321	-	3.6	20	96	.17
4,6-Dinitro-o-cresol	0.266	0.258	-	3	20	86	.17
NDPA/DPA	1.263	1.134	-	10.2	20	88	.17
Azobenzene	1.446	1.334	-	7.7	20	92	.17
2,4,6-Tribromophenol	0.249	0.235	-	5.6	20	89	.17
4-Bromophenyl phenyl ether	0.5	0.436	-	12.8	20	89	.17
Hexachlorobenzene	0.569	0.478	-	16	20	88	.17
Pentachlorophenol	0.361	0.323	-	10.5	20	81	.17
IS1_Phenanthrene-d10	1	1	-	0	20	88	.17
Phenanthrene	1.117	0.974	-	12.8	20	87	.17
Anthracene	1.111	0.985	-	11.3	20	85	.17
Carbazole	1.018	0.859	-	15.6	20	82	.17
Di-n-butylphthalate	1.195	0.998	-	16.5	20	78	.17
Fluoranthene	1.366	1.146	-	16.1	20	82	.17
Benzidine	0.741	0.606	-	18.2	20	73	.17
Pyrene	1.44	1.233	-	14.4	20	84	.17
4-Terphenyl-d14	1.076	0.84	-	21.9*	20	77	.17
Butyl benzyl phthalate	0.55	0.416	-	24.4*	20	73	.17
IS1_Chrysene-d12	1	1	-	0	20	78	.17
Benzo(a)anthracene	1.478	1.239	-	16.2	20	74	.17
3,3'-Dichlorobenzidine	0.489	0.454	-	7.2	20	72	.17
Chrysene	1.429	1.204	-	15.7	20	75	.17
Bis(2-ethylhexyl)phthalate	0.817	0.687	-	15.9	20	67	.17
Di-n-octylphthalate	1.352	1.116	-	17.5	20	67	.17
Benzo(b)fluoranthene	1.43	1.197	-	16.3	20	75	.17
Benzo(k)fluoranthene	1.356	1.123	-	17.2	20	69	.17
Benzo(a)pyrene	1.242	1.107	-	10.9	20	74	.17
IS1_Perylene-d12	1	1	-	0	20	73	.17

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: C&S Companies		Lab Number	: L2435641	
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI		Project Number	: S93.003.002	
Instrument ID	: SV106		Calibration Date	: 06/29/24 02:46	
Lab File ID	: ADP0628NA		Init. Calib. Date(s)	: 06/24/24	06/25/24
Sample No	: WG1941071-5		Init. Calib. Times	: 16:56	04:24
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
IS3_1,4-Dichlorobenzene-d4	1	1	-	0	20	110	.17	
1,4-Dioxane	0.584	0.482	-	17.5	20	107	.17	
n-Decane	1.662	1.416	-	14.8	20	101	.17	
IS3_Acenaphthene-d10	1	1	-	0	20	97	.17	
Atrazine	0.509	0.369	-	27.5*	20	77	.17	
IS3_Phenanthrene-d10	1	1	-	0	20	92	.17	
n-Octadecane	0.498	0.383	-	23.1*	20	76	.17	NT
Parathion	0.124	0.086	-	30.6*	20	70	.17	NT
3,3'-Dimethylbenzidine	0.791	0.587	-	25.8*	20	67	.17	NT

* Value outside of QC limits.

Surrogate Recovery Summary
Form 2
Semivolatiles

Client: C&S Companies
Project Name: 1803 ELMWOOD AVENUE-BCP-RI

Lab Number: L2435641
Project Number: S93.003.002
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S1 (2FP)	S2 (PHL)	S3 (NBZ)	S4 (FBP)	S5 (TBP)	S6 (TPH)	TOT OUT
MW-05-20240624 (L2435641-03)	29	26	54	46	23	50	0
MW-01-20240624 (L2435641-04)	17*	17	47	39	14	43	1
DUP-A-20240624 (L2435641-05)	32	28	52	44	28	48	0
WG1941234-1BLANK	46	34	56	51	35	55	0
WG1941234-2LCS	42	34	53	46	39	48	0
WG1941234-3LCSD	34	31	53	44	30	47	0

QC LIMITS

(21-120) 2FP = 2-FLUOROPHENOL
(10-120) PHL = PHENOL-D6
(23-120) NBZ = NITROBENZENE-D5
(15-120) FBP = 2-FLUOROBIPHENYL
(10-120) TBP = 2,4,6-TRIBROMOPHENOL
(41-149) TPH = 4-TERPHENYL-D14

*** Values outside of QC limits**

FORM II NYTCL-8270-SIM-RVT

Surrogate Recovery Summary
Form 2
Semivolatiles

Client: C&S Companies
Project Name: 1803 ELMWOOD AVENUE-BCP-RI

Lab Number: L2435641
Project Number: S93.003.002
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S1 (2FP)	S2 (PHL)	S3 (NBZ)	S4 (FBP)	S5 (TBP)	S6 (TPH)	TOT OUT
MW-04-20240624 (L2435641-02)	10*	14	79	60	16	62	1
MW-05-20240624 (L2435641-03)	29	26	54	46	23	50	0
MW-01-20240624 (L2435641-04)	17*	17	47	39	14	43	1
DUP-A-20240624 (L2435641-05)	32	28	52	44	28	48	0
WG1940984-1BLANK	22	26	106	80	34	87	0
WG1940984-2LCS	52	40	84	64	79	64	0
WG1940984-3LCSD	49	38	79	58	76	62	0
MW-04-20240624MS	4*	11	78	57	4*	58	2
MW-04-20240624MSD	10*	17	88	61	16	65	1
WG1941234-1BLANK	46	34	56	51	35	55	0
WG1941234-2LCS	42	34	53	46	39	48	0
WG1941234-3LCSD	34	31	53	44	30	47	0

QC LIMITS

(21-120) 2FP = 2-FLUOROPHENOL
(10-120) PHL = PHENOL-D6
(23-120) NBZ = NITROBENZENE-D5
(15-120) FBP = 2-FLUOROBIPHENYL
(10-120) TBP = 2,4,6-TRIBROMOPHENOL
(41-149) TPH = 4-TERPHENYL-D14

*** Values outside of QC limits**

FORM II NYTCL-8270-SIM-RVT

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: C&S Companies	**Lab Number**	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	**Project Number**	: S93.003.002
Matrix (Level)	: WATER (LOW)		
LCS Sample ID	: WG1941234-2 **Analysis Date** : 06/30/24 12:13	**File ID**	: 941234-2
LCSD Sample ID	: WG1941234-3 **Analysis Date** : 06/30/24 12:30	**File ID**	: 941234-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Acenaphthene	20	9.3	46	20	9.1	45	2	40-140	40
2-Chloronaphthalene	20	9.0	45	20	8.7	44	2	40-140	40
Fluoranthene	20	9.7	49	20	9.3	46	6	40-140	40
Hexachlorobutadiene	20	7.7	39 Q	20	7.6	38 Q	3	40-140	40
Naphthalene	20	8.4	42	20	8.3	41	2	40-140	40
Benzo(a)anthracene	20	9.3	46	20	9.0	45	2	40-140	40
Benzo(a)pyrene	20	10	52	20	10	50	4	40-140	40
Benzo(b)fluoranthene	20	9.8	49	20	9.1	46	6	40-140	40
Benzo(k)fluoranthene	20	9.9	50	20	10	50	0	40-140	40
Chrysene	20	8.8	44	20	8.5	42	5	40-140	40
Acenaphthylene	20	10	50	20	9.5	48	4	40-140	40
Anthracene	20	9.4	47	20	9.2	46	2	40-140	40
Benzo(ghi)perylene	20	9.5	47	20	9.1	46	2	40-140	40
Fluorene	20	9.5	47	20	9.2	46	2	40-140	40
Phenanthrene	20	9.1	46	20	8.9	44	4	40-140	40
Dibenzo(a,h)anthracene	20	10	52	20	10	50	4	40-140	40
Indeno(1,2,3-cd)pyrene	20	10	51	20	9.8	49	4	40-140	40
Pyrene	20	9.7	48	20	9.2	46	4	40-140	40
2-Methylnaphthalene	20	9.2	46	20	9.0	45	2	40-140	40
Pentachlorophenol	20	8.4	42	20	5.9	30 Q	33	40-140	40
Hexachlorobenzene	20	8.0	40	20	7.9	40	0	40-140	40
Hexachloroethane	20	8.4	42	20	8.3	42	0	40-140	40

Matrix Spike Sample Summary
Form 3
Semivolatiles

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Client Sample ID	: MW-04-20240624	Matrix (Level)	: WATER ()
Lab Sample ID	: L2435641-02	Analysis Date	: 07/05/24 08:55
Matrix Spike	: WG1943065-4	MS Analysis Date	: 07/05/24 09:07
Matrix Spike Dup	: WG1943065-5	MSD Analysis Date	: 07/05/24 09:20

		Matrix Spike Sample			Matrix Spike Duplicate					
Parameter	Sample Conc. (ng/l)	Spike Added (ng/l)	Spike Conc. (ng/l)	%R	Spike Added (ng/l)	Spike Conc. (ng/l)	%R	RPD	Recovery Limits	RPD Limit
(PFDoS)										
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	71.2	90.6	127	71	84.9	120	6	40-150	30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	72	86.7	120	71.8	82.2	114	5	40-150	30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	19	24.0	126	19	23.0	121	4	40-150	30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	19	21.4	112	19	19.7	104	8	40-150	30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	190	246	129	190	229	121	7	40-150	30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	190	262	138	190	232	122	12	40-150	30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	38.1	71.8	188 Q	38	68.6	181 Q	5	40-150	30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	38.1	40.8	107	38	41.0	108	0	40-150	30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	33.9	41.0	121	33.8	44.2	131	8	40-150	30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	38.1	33.6	88	38	37.6	99	11	40-150	30
3-Perfluoropropyl Propanoic Acid	ND	95.2	106	111	95	109	115	3	40-150	30

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: WG1943065-1	Date Collected	: NA
Client ID	: WG1943065-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 07/05/24 07:25
Sample Matrix	: WATER	Date Extracted	: 07/03/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI05_240705_13	Analyst	: AC
Sample Amount	: 500 g	Instrument ID	: LCMS05
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	2.57	6.40	1.02	J
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	3.20	0.856	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	1.60	0.536	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	6.40	1.67	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	1.60	0.472	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	1.60	0.280	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	1.60	0.320	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	1.60	0.384	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	1.60	0.696	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	6.40	2.16	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.60	0.432	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	1.60	0.504	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	1.60	0.728	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	1.60	0.648	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	6.40	2.49	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	1.60	0.496	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	1.60	0.872	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	1.60	0.696	U

	Analyte Name	CAS	RT	Trace	Area	M Flag	Conc (ng/mL)	Ion Ratio	Expected Ratio	Ion Q	%Rec
8	PFOA	335-67-1	7.05	413.1 / 369.1	170479	M5	0.682	0.351	0.380	Pass	N/A
9	PFOA_2	335-67-1	7.05	413.1 / 169.0	59818	M7	0.648	0.351	0.380	Pass	N/A
10	PFNA	375-95-1	7.76	462.8 / 418.9	18265	M4	0.089	0.258	0.299	Pass	N/A
11	PFNA_2	375-95-1	7.77	462.8 / 218.9	4716	M7	0.076	0.258	0.299	Pass	N/A
12	PFDA	335-76-2	N/A	513.1 / 469.1	N/A		N/A	N/A	0.146	N/A	N/A
13	PFDA_2	335-76-2	N/A	513.1 / 219.0	N/A		N/A	N/A	0.146	N/A	N/A
14	PFUnA	2058-94-8	N/A	563.1 / 519.1	N/A		N/A	N/A	0.213	N/A	N/A
15	PFUnA_2	2058-94-8	N/A	563.1 / 269.0	N/A		N/A	N/A	0.213	N/A	N/A
16	PFDoA	307-55-1	N/A	613.1 / 569.1	N/A		N/A	N/A	0.171	N/A	N/A
17	PFDoA_2	307-55-1	N/A	613.1 / 319.0	N/A		N/A	N/A	0.171	N/A	N/A
18	PFTrDA	72629-94-8	N/A	663.1 / 619.1	N/A		N/A	N/A	0.147	N/A	N/A
19	PFTrDA_2	72629-94-8	N/A	663.1 / 169.0	N/A		N/A	N/A	0.147	N/A	N/A
20	PFTeDA	376-06-7	N/A	713.1 / 669.1	N/A		N/A	N/A	0.139	N/A	N/A
21	PFTeDA_2	376-06-7	N/A	713.1 / 169.0	N/A		N/A	N/A	0.139	N/A	N/A
22	PFBS	375-73-5	5.11	299.1 / 80.1	13204	M3	0.066	0.670	0.387	Fail	N/A

	Analyte Name	CAS	RT	Trace	Area	M Flag	Conc (ng/mL)	Ion Ratio	Expected Ratio	Ion Q	%Rec
23	PFBS_2	375-73-5	5.11	299.1 / 99.1	8850	M7	0.110	0.670	0.387	Fail	N/A
24	PFPeS	2706-91-4	N/A	349.1 / 80.1	N/A		N/A	N/A	0.310	N/A	N/A
25	PFPeS_2	2706-91-4	N/A	349.1 / 99.1	N/A		N/A	N/A	0.310	N/A	N/A
26	PFHxS	355-46-4	7.30	399.1 / 80.1	10894	M2	0.078	0.262	0.304	Pass	N/A
27	PFHxS_2	355-46-4	7.30	399.1 / 99.1	2856		0.067	0.262	0.304	Pass	N/A
28	PFHpS	375-92-8	N/A	449.1 / 80.1	N/A		N/A	N/A	0.268	N/A	N/A
29	PFHpS_2	375-92-8	N/A	449.1 / 99.1	N/A		N/A	N/A	0.268	N/A	N/A
30	PFOS	1763-23-1	8.06	499.1 / 80.1	70488	M5	0.495	0.180	0.243	Pass	N/A
31	PFOS_2	1763-23-1	8.09	499.1 / 99.1	12709		0.362	0.180	0.243	Pass	N/A
32	PFNS	68259-12-1	N/A	549.1 / 80.1	N/A		N/A	N/A	0.292	N/A	N/A
33	PFNS_2	68259-12-1	N/A	549.1 / 99.1	N/A		N/A	N/A	0.292	N/A	N/A
34	PFDS	335-77-3	N/A	599.1 / 80.1	N/A		N/A	N/A	0.268	N/A	N/A
35	PFDS_2	335-77-3	N/A	599.1 / 99.1	N/A		N/A	N/A	0.268	N/A	N/A
36	PFDoS	79780-39-5	N/A	699.2 / 80.1	N/A		N/A	N/A	0.249	N/A	N/A
37	PFDoS_2	79780-39-5	N/A	699.2 / 99.1	N/A		N/A	N/A	0.249	N/A	N/A

	Analyte Name	CAS	RT	Trace	Area	M Flag	Conc (ng/mL)	Ion Ratio	Expected Ratio	Ion Q	%Rec
38	4:2FTS	757124-72-4	N/A	327.1 / 307.1	N/A		N/A	N/A	0.498	N/A	N/A
39	4:2FTS_2	757124-72-4	N/A	327.1 / 81.1	N/A		N/A	N/A	0.498	N/A	N/A
40	6:2FTS	27619-97-2	6.49	427.2 / 407.2	15583		0.147	0.588	0.520	Pass	N/A
41	6:2FTS_2	27619-97-2	6.49	427.2 / 81.1	9157		0.166	0.588	0.520	Pass	N/A
42	8:2FTS	39108-34-4	N/A	527.2 / 507.2	N/A		N/A	N/A	0.666	N/A	N/A
43	8:2FTS_2	39108-34-4	N/A	527.2 / 81.1	N/A		N/A	N/A	0.666	N/A	N/A
44	PFOSA	754-91-6	9.68	498.1 / 78.1	10384	M5	0.071	0.231	0.022	Fail	N/A
45	PFOSA_2	754-91-6	9.62	498.1 / 478.0	2395	M7	0.718	0.231	0.022	Fail	N/A
46	NMeFOSA	31506-32-8	N/A	512.2 / 219.0	N/A		N/A	N/A	1.282	N/A	N/A
47	NMeFOSA_2	31506-32-8	N/A	512.2 / 169.0	N/A		N/A	N/A	1.282	N/A	N/A
48	NEtFOSA	4151-50-2	N/A	526.2 / 219.0	N/A		N/A	N/A	1.336	N/A	N/A
49	NEtFOSA_2	4151-50-2	N/A	526.2 / 169.0	N/A		N/A	N/A	1.336	N/A	N/A
50	NMeFOSAA	2355-31-9	N/A	570.2 / 419.1	N/A		N/A	N/A	0.635	N/A	N/A
51	NMeFOSAA_2	2355-31-9	N/A	570.2 / 483.0	N/A		N/A	N/A	0.635	N/A	N/A
52	NEtFOSAA	2991-50-6	N/A	584.2 / 419.1	N/A		N/A	N/A	0.426	N/A	N/A

Form 1
METALS

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Lab ID	: WG1941749-1	Date Collected	: NA
Client ID	: WG1941749-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 07/01/24 17:50
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: EJF
Lab File ID	: WG1941538.pdf	Instrument ID	: ICPMSRQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 07/01/24

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Total	0.00335	0.0100	0.00327	J
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U
7439-89-6	Iron, Total	ND	0.0500	0.0191	U
7439-96-5	Manganese, Total	ND	0.00100	0.00044	U

Form 5a
Matrix Spike

Client	: C&S Companies	Lab Number	: L2435641
Project Name	: 1803 ELMWOOD AVENUE-BCP-RI	Project Number	: S93.003.002
Client Sample ID	: MW-04-20240624	Matrix	: WATER
Lab Sample ID	: L2435641-02		
Matrix Spike	: WG1940709-7	MS Analysis Date	: 07/01/24 12:33
Matrix Spike Dup	: WG1940709-8	MSD Analysis Date	: 07/01/24 12:38

		Matrix Spike Sample				Matrix Spike Duplicate						
Parameter	Sample Conc. (mg/l)	Spike Added (mg/l)	Spike Conc. (mg/l)	%R		Spike Added (mg/l)	Spike Conc. (mg/l)	%R		RPD	Recovery Limits	RPD Limit	
Antimony, Total	ND	0.5	0.5232	105		0.5	0.5252	105		0	75-125	20	
Arsenic, Total	0.00101	0.12	0.1215	100		0.12	0.1235	102		2	75-125	20	
Barium, Total	0.07130	2	2.228	108		2	2.253	109		1	75-125	20	
Cadmium, Total	0.00006J	0.053	0.05455	103		0.053	0.05447	103		0	75-125	20	
Calcium, Total	72.9	10	79.0	61	Q	10	78.7	58	Q	0	75-125	20	+
Chromium, Total	0.00101	0.2	0.1868	93		0.2	0.1902	94		2	75-125	20	
Cobalt, Total	0.00117	0.5	0.4926	98		0.5	0.5031	100		2	75-125	20	
Copper, Total	0.00828	0.25	0.2450	95		0.25	0.2545	98		4	75-125	20	
Lead, Total	0.00078J	0.53	0.5638	106		0.53	0.5835	110		3	75-125	20	
Magnesium, Total	173.	10	189.	160	Q	10	190.	170	Q	1	75-125	20	+
Nickel, Total	0.01396	0.5	0.4851	94		0.5	0.4952	96		2	75-125	20	
Potassium, Total	9.79	10	20.0	102		10	19.4	96		3	75-125	20	
Selenium, Total	ND	0.12	0.128	107		0.12	0.129	108		1	75-125	20	
Silver, Total	ND	0.05	0.05119	102		0.05	0.05180	104		1	75-125	20	
Sodium, Total	213.	10	218.	50	Q	10	216.	30	Q	1	75-125	20	+
Thallium, Total	ND	0.12	0.1158	96		0.12	0.1202	100		4	75-125	20	
Vanadium, Total	ND	0.5	0.4456	89		0.5	0.4524	90		2	75-125	20	
Zinc, Total	0.01182	0.5	1.118	221	Q	0.5	0.5014	98		76	Q	75-125	20

+Sample amount detected > 4X spike amount added

Appendix C

Validator Qualifications

KENNETH R. APPLIN
Geochemist/Data Validator

Ph.D., Geochemistry and Mineralogy, The Pennsylvania State University

M.S., Geochemistry and Mineralogy, The Pennsylvania State University

B.A., Geological Sciences, SUNY at Geneseo, NY

Dr. Applin has over 35 years of experience working with the geochemistry of natural waters. His prior experience includes working as an Assistant Professor of Geology at the University of Missouri-Columbia and as Chief Hydrogeologist and Geochemist with a leading engineering firm in Rochester, NY. In 1993, he established KR Applin and Associates, a small consulting business that focuses on the geochemistry of natural waters, especially as applied to problems involving the contamination of groundwater and surface water.

Dr. Applin is also an experienced analytical data validator and has provided data validation services since 1994 to a variety of clients performing brownfield cleanup projects, hazardous waste remediation, groundwater monitoring at solid waste facilities, and other projects requiring third-party data validation. Dr. Applin has several years of hands-on experience with the laboratory analysis of natural waters and has successfully completed the USEPA Region II certification courses for performing inorganic and organic analytical data validation.

MICHAEL K. PERRY
Chemist/Data Validator

B.S. Chemistry, Georgia State University, Atlanta, GA

A.A.S., Chemical Technology, Alfred State College, Alfred, NY

Mr. Perry has over 30 years of experience in the analytical laboratory business. During his early career, he spent several years as a laboratory analyst performing the analysis of soil, water, and air samples for inorganic and organic chemical parameters. During his last 20 years in the environmental laboratory business, he managed and directed two major analytical laboratories in Rochester, NY. His management responsibilities included oversight of the daily operations of the lab, staff training and supervision, the selection, purchase, and maintenance of analytical instruments, the introduction of new laboratory methods, analytical quality assurance and quality control, data acquisition and management, and other business-related activities.

Mr. Perry has an extensive working knowledge of the methods and procedures used for sampling and analyzing both inorganic and organic analytes in soil, water, and air. He is an accomplished laboratory chemist and is familiar with the analytical methods and procedures established under the USEPA Contract Laboratory Protocols (CLP), the NYSDEC Analytical Services Protocols (ASP), and the NYSDOH Environmental Laboratory Approval Program (ELAP).

DATA USABILITY SUMMARY REPORT (DUSR)

1803 Elmwood Ave. BCP RI
Buffalo, NY
Project #: S93.003.002

SDG: L2435830
2 Water Samples

Prepared for:

C&S Companies
141 Elm Street, Suite 100
Buffalo, NY 14203
Attention: Jesse Alt-Winzig

July 2024

EDU *Environmental Data Usability 10028 Deer Park Dr. Dansville, NY 14437 585-991-9156*

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REVIEWER'S NARRATIVE
C&S Companies SDG L2435830 – 1803 Elmwood Ave. BCP RI

The data associated with this Sample Delivery Group (SDG) L2435830, analyzed by Alpha Analytical, Westborough, MA have been reviewed in accordance with assessment criteria provided by the New York State Department of Environmental Conservation following the review procedures provided in the USEPA Functional Guidelines for evaluating organic and inorganic data.

All analytical results reported by the laboratory are considered valid and acceptable except results that have been qualified as rejected, "R". Results qualified as estimated "J", or as non-detects, "U", are considered usable for the purpose of evaluating water and/or soil quality. However, these qualifiers indicate that the accuracy and/or precision of the analytical result is questionable. A summary of all data that have been qualified and the reasons for qualification are provided in the following data usability summary report (DUSR).

Two facts should be noted by all data users. First, the "R" qualifier means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Values qualified with an "R" should not appear on the final data tables because they cannot be relied upon, even as the last resort. Second, no analyte concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data, but any value potentially contains error.

Reviewer's Signature: Michael K. Perry Date: 7/30/2024

Michael K. Perry
Chemist

1.0 EVENT SUMMARY

SITE:	1803 Elmwood Ave. BCP RI Buffalo, NY Project #: S93.003.002
SAMPLING DATE:	June 25, 2024
SAMPLE TYPE:	2 water samples
LABORATORY:	Alpha Analytical Westborough, MA
SDG No.:	L2435830

2.0 INTRODUCTION

This data usability summary report (DUSR) was prepared in accordance with guidance provided by the New York State Department of Environmental Conservation (NYSDEC). The DUSR is based on a review and evaluation of the laboratory analytical data package. Specifically, the NYSDEC guidance recommends review and evaluation of the following elements of the data package:

- Completeness of the data package as defined under the requirements of the NYSDEC Analytical Services Protocols (ASP) Category B or the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) deliverables,
- Compliance with established analyte holding times,
- Adherence to quality control (QC) limits and specifications for blanks, instrument tuning and calibration, surrogate recoveries, spike recoveries, laboratory duplicate analyses, and other QC criteria,
- Adherence to established analytical protocols,
- Conformance of data summary sheets with raw analytical data, and
- Use of correct data qualifiers.

Data deficiencies, analytical protocol deviations, and quality control problems identified using the review criteria above and their effect on the analytical results are discussed in this report.

3.0 SAMPLE AND ANALYSIS SUMMARY

The data package consists of analytical results for 2 water samples collected on June 25, 2024. These samples were analyzed for Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), SVOCs-SIM, 1,4-Dioxane, Herbicides, PCBs, Pesticides, PFASs, Metals-total and dissolved (ICP/MS and Hg), Total Cyanide (TCN), and Hexavalent Chromium (CR+6).

All laboratory analyses were submitted to Alpha Analytical, Westborough, MA and analyzed as SDG L2435830. The analytical results were provided in NYSDEC ASP Category B format, which includes all raw analytical data and laboratory QC data.

4.0 GUIDANCE DOCUMENTS AND DATA REVIEW CRITERIA

The guidance documents appropriate for reviewing laboratory quality control (QC) data and assigning data qualifiers (flags) to analytical results were selected from those listed in Table 4-1. The QC limits established in the documents applicable to this data review were used to assess the quality of the analytical results. In some cases, however, QC limits established internally by the laboratory were taken into account to determine data quality.

The QC criteria considered for assessing the usability of the reported analytical results provided for each analyte type (i.e. VOCs, SVOCs, metals, etc.) are listed in Table 4-2. These criteria may vary with the analytical method utilized by the laboratory. These criteria comply with the guidance recommended in Section 2.0 above.

5.0 DATA VALIDATION QUALIFIERS

The letter qualifiers (flags) used to define data usability are described briefly below. These letters are assigned by the data validator to analytical results having questionable accuracy and/or precision as determined by reviewing the laboratory QC data associated with the analytical results.

TABLE 4-1

Guidance Used For Validating Laboratory Analytical Data

Analyte Group	Guidance	Date
Metals (ICP-AES)	USEPA SOP HW-3a, Rev. 1	September 2016
Metals (Hg & CN)	USEPA SOP HW-3c, Rev. 1	September 2016
Volatile Organic Compounds (by Methods 8260B & 8260C)	USEPA SOP HW-24, Rev. 4	September 2014
Semi-Volatile Organic Compounds (by Method 8270D)	USEPA SOP HW-22 Rev. 5	December 2010
Pesticides (by Method 8181B)	USEPA SOP HW-44, Rev. 1.1	December 2010
Chlorinated Herbicides (by Method 8151A)	USEPA SOP HW-17, Rev. 3.1	December 2010
Polychlorinated Biphenyls (PCBs)	USEPA SOP HW-37A, Rev. 0	June 2015
Volatile Organic Compounds (Air) (by Method TO-15)	USEPA SOP HW-31, Rev. 6	September 2016
Per- and PolyFluoroAlkyl Substances (PFAS)	* NYSDEC ** US Dept. of Defense	January 2021 November 2022
Radiological Analysis		
Uranium	USEPA Method 908.0	June 1999
Radium-226	USEPA Method 903.1	1980
General Chemistry Parameters	per NYSDEC ASP	July 2005

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

** Data Validation Guidelines Module 6: Data Validatioin Procedures for Per- and Polyfluoroalkyl Substances Analysis by QSM Table B-24

TABLE 4-2

QUALITY CONTROL CRITERIA USED FOR VALIDATING LABORATORY ANALYTICAL DATA

VOCs	SVOCs	Pesticides/PCBs	Metals	Gen Chemistry	PFAS
Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg
Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation
Holding Time	Holding Time	Holding Time	Holding Time	Holding Times	Holding Time
System Monitoring Compounds	Surrogate Recoveries	Surrogate Recoveries	Initial/Continuing Calibration	Calibration	Instr Performance Check
Lab Control Sample	Lab Control Sample	Matrix Spikes	CRDL Standards	Lab Control Samples	Initial Calibration
Matrix Spikes	Matrix Spikes	Blanks	Blanks	Blanks	Continuing Calibration
Blanks	Blanks	Instrument Calibration & Verification	Interference Check Sample	Spike Recoveries	Blanks
Instrument Tuning	Instrument Tuning	Comparison of duplicate GC column results	Spike Recoveries	Lab Duplicates	Surrogates
Internal Standards	Internal Standards	Analyte ID	Lab Duplicate		Lab Fortified Blank
Initial Calibration	Initial Calibration	Lab Qualifiers	Lab Control Sample		Matrix Spikes
Continuing Calibration	Continuing Calibration	Field Duplicate	ICP Serial Dilutions		Internal Standards
Lab Qualifiers	Lab Qualifiers		Lab Qualifiers		
Field Duplicate	Field Duplicate		Field Duplicate		

Method TO-15 (Air)	Radiological (U and Ra)
Completeness of Pkg	Completeness of Pkg
Sample Preservation	Sample Preservation
Holding Time	Holding Time
Canister Certification	Sample Specific Yield
Instrument Tuning	Required Detection Limit
Initial Calibration and Instrument Performance	Laboratory Control Sample
	Matrix Spikes
Daily Calibration	Method Blank
Blanks	Instrument Calibration
Lab Control Sample	
Field Duplicate	

The laboratory may also use various letters and symbols to flag analytical results generated when QC limits were exceeded. The meanings of these flags may differ from those used by the independent data validator. Those used by the laboratory are provided with the analytical results.

NOTE: The assignment of data qualifiers by the data reviewer (validator) to laboratory analytical results should not necessarily be interpreted by the data user as a measure of laboratory ability or proficiency. Rather, the qualifiers are intended to provide a measure of data accuracy and precision to the data user, which, for example, may provide a level of confidence in determining whether or not standards or cleanup objectives have been met.

U The analyte was analyzed for but was not detected at or above the sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the *approximate* concentration of the analyte in the sample. (The magnitude of any ± value associated with the result is not determined by data validation).

J+ The result is an estimated quantity and may be biased high.

J- The result is an estimated quantity and may be biased low.

UJ The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R The sample result is rejected (i.e., is unusable) due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

The validated analytical results are attached to this report. Validation qualifiers (flags) are indicated in red print. Data sheets having qualified data are signed and dated by the data reviewer.

6.0 RESULTS OF THE DATA REVIEW

The results of the data review are summarized in Tables 6-1 through 6-11. The tables list the samples where QC criteria were found to exceed acceptable limits and the actions taken to qualify the associated analytical results.

7.0 TOTAL USABLE DATA

For SDG L2435830, 2 samples were analyzed and results were reported for 465 analytes. Two results were rejected. Even though some results were flagged with a "J" as estimated, all other results (99.6 %) are considered usable. See the summary table for the analyses that have been rejected and qualified and the associated QC reasons.

Table 6-1 VOCs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
MW-02-20240625 MW-03-20240625	1,4-Dioxane	J detects R non-detects	ICAL RF < 0.005	Since all results are non-detect, the results are rejected
MW-02-20240625 MW-03-20240625	Vinyl chloride Bromomethane Chloroethane Acetone Carbon tetrachloride Trichloroethene	J detects UJ non-detects	ICV % D or CCV % D > QC limit and/or LCS rec < QC limits	Data are estimated

Table 6-2 SVOCs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
MW-02-20240625 MW-03-20240625	Hexachlorocyclopentadiene	J detects UJ non-detects	LCS rec < QC limit	Data are estimated
MW-02-20240625 MW-03-20240625	2,4-Dimethylphenol Butyl benzyl phthalate	J detects UJ non-detects	LCS rec < QC limits or CCV % D > QC limit	Data are estimated

Table 6-3 SVOCs-SIM

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
MW-02-20240625 MW-03-20240625	Indeno(1,2,3-cd)pyrene Dibenzo(a,h)antracene Benzo(g,h,i)perylene	J detects UJ non-detects	CCV %D > QC limit	Data are estimated

Table 6-4 1,4-Dioxane

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-5 Herbicides

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-6 PCBs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-7 Pesticides

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-8 PFASs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
MW-02-20240625	PFBA	J+ detects	Analyte detected in method blank	Data may be biased high

Table 6-9 ICP Metals total and dissolved

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
MW-02-20240625	As dissolved	CRQL-U	Analyte detected in method blank	Data are changed to non-detect

Table 6-8 Mercury total and dissolved

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none		none		

Table 6-11 TCN and Cr+6

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
MW-02-20240625	TCN total	J- detects UJ non-detects	MS rec < QC limit	Data may be biased low

ACRONYMS

BSP	Blank Spike
CCAL	Continuing Calibration
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
%D	Percent Difference
ICAL	Initial Calibration
ICB	Initial Calibration Blank
IS	Internal Standard
LCS	Laboratory Control Sample
MS/MSD	Matrix Spike/Matrix Spike Duplicate
QA	Quality Assurance
QC	Quality Control
%R	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
%RSD	Percent Relative Standard Deviation
TAL	Target Analyte List (metals)
TCL	Target Compound List (organics)

Appendix A

Validated Analytical Results

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Alpha Analytical

Laboratory Code: 11148

SDG Number: L2435830

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Project Name:	1803 ELMWOOD AVENUE BCP-RI	**Lab Number:**	L2435830
Project Number:	S93.003.002	**Report Date:**	07/09/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2435830-01	MW-02-20240625	WATER	Not Specified	06/25/24 10:20	06/25/24
L2435830-02	MW-03-20240625	WATER	Not Specified	06/25/24 12:10	06/25/24

Case Narrative (continued)

Report Submission

July 09, 2024: This final report includes the results of all requested analyses.

July 03, 2024: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Perfluorinated Alkyl Acids by 1633

The WG1944520-4/-5 MS/MSD recoveries, performed on L2435830-01, are outside the acceptance criteria for perfluoro-3-methoxypropanoic acid (pfmpa) (175%/165%).

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom Report Date: 07/09/24

Title: Technical Director/Representative

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 3

Date Rec'd in Lab: 06/26/24

ALPHA Job #: L2435830

Client Information
Client: C+S Engineers
Address: 141 Elm Street, Suite 100 Buffalo, NY 14203
Phone: (716) 847-1630
Fax:
Email: jaltwinzig@cscos.com

Project Information
Project Name: 1803 Elmwood Avenue BCP-RI
Project Location:
Project #: S93.003.002
(Use Project name as Project #) ☐
Project Manager: Jesse Alt-Winzig
ALPHAQuote #:

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

Deliverables
☐ ASP-A ☒ ASP-B
☒ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information
☒ Same as Client Info
PO #

Regulatory Requirement
☒ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☒ NY
☐ Other:

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	NYTCL-8270-RVT	NYTCL-8081	NYTCL-8082-LVT	A2-1, 4-Dioxane-SIM	HERB-APA	Dissolved TCN	Dissolved Metals, Hg	HEXCR	Dissolved HEXCR	Sample Specific Comments	Total Bottle
35830-01	MW-02-20240625	6/25/2024	1020	GW	JAW	X	X	X	X	X	X	X	X	X	Analysis list continued on Page 2	22

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	A	A	A	A	P	P	P	P
Preservative	A	A	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
Jesse Alt-Winzig (C+S)	6/25/2024 1400	Christy Pace	6.25.24 1400
Christy Pace	6.25.24 1408		6/26/24 0110

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 2 of 3

Date Rec'd in Lab: 06/26/24

ALPHA Job #: L2435830

Client Information

Client: C+S Engineers
Address: 141 Elm Street, Suite 100
Buffalo, NY 14203
Phone: (716) 847-1630
Fax:
Email: jaltwinzig@cscos.com

Project Information

Project Name: 1803 Elmwood Avenue BCP-RI
Project Location:
Project #: S93.003.002
(Use Project name as Project #) ☐
Project Manager: Jesse Alt-Winzig
ALPHAQuote #:

Turn-Around Time

Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ ASP-A ☒ ASP-B
☒ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information

☒ Same as Client Info
PO #

Regulatory Requirement

☒ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☒ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

A2-NY-1633 | Total Hg, Metals | TCN | NYTCL-8260

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	A2-NY-1633	Total Hg, Metals	TCN	NYTCL-8260	Sample Specific Comments	Total Bottle
35830-01	MW-02-20240625	6/25/2024	1020	GW	JAW	X	X	X	X	Analysis list continued from Page 1	22

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	P	P	P	V							
Preservative	A	C	E	B							

Relinquished By:	Date/Time	Received By:	Date/Time
Jesse Alt-Winzig (C+S)	6/25/2024 1400	[signature]	6.25.24 1405
[signature]	6.25.24 1405	[signature]	6/26/24 0110

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

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ALPHA ANALYTICAL

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FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 3 of 3

Date Rec'd in Lab: 06/25/24

ALPHA Job #: L2435830

Client Information
Client: C+S Engineers
Address: 141 Elm Street, Suite 100
Buffalo, NY 14203
Phone: (716) 847-1630
Fax:
Email: jaltwinzig@cscos.com

Project Information
Project Name: 1803 Elmwood Avenue BCP - RI
Project Location:
Project #: S93.003.002
(Use Project name as Project #) ☐
Project Manager: Jesse Alt-Winzig
ALPHAQuote #:

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☒ ASP-B
☒ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☒ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☒ Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☒ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: NYTCL-8270-RVT	NYTCL-8082-LVT	A2-1,4-Dioxane-SIM	Dissolved Metals, Hg	A2-NY-1633	Total Hg, Metals	NYTCL-8260		Sample Specific Comments	Total Bottle
35830-02	MW-03-20240625	6/25/2024	1210	GW	JAW	X	X	X	X	X	X	X			14

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	A	A	A	P	P	P	V	
Preservative	A	A	A	A	A	C	B	

Relinquished By:	Date/Time	Received By:	Date/Time
Jesse Alt-Winzig (C+S)	6/25/2024 1400		6-25-24 1400
	6-25-24 1408		6/26/24 0110

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

GC/MS 8260
Analysis

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435830-01	Date Collected	: 06/25/24 10:20
Client ID	: MW-02-20240625	Date Received	: 06/25/24
Sample Location	:	Date Analyzed	: 06/27/24 17:46
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V08240627A11	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	2.5	0.70	U	UJ
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U	
67-66-3	Chloroform	ND	2.5	0.70	U	
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U	UJ
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U	
124-48-1	Dibromochloromethane	ND	0.50	0.15	U	
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U	
127-18-4	Tetrachloroethene	ND	0.50	0.18	U	
108-90-7	Chlorobenzene	ND	2.5	0.70	U	
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U	
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U	
75-27-4	Bromodichloromethane	ND	0.50	0.19	U	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U	
75-25-2	Bromoform	ND	2.0	0.65	U	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U	
71-43-2	Benzene	ND	0.50	0.16	U	
108-88-3	Toluene	ND	2.5	0.70	U	
100-41-4	Ethylbenzene	ND	2.5	0.70	U	
74-87-3	Chloromethane	1.5	2.5	0.70	J	
74-83-9	Bromomethane	ND	2.5	0.70	U	UJ
75-01-4	Vinyl chloride	ND	1.0	0.07	U	UJ
75-00-3	Chloroethane	ND	2.5	0.70	U	UJ
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U	

MKP 7/30/2024

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435830-01	Date Collected	: 06/25/24 10:20
Client ID	: MW-02-20240625	Date Received	: 06/25/24
Sample Location	:	Date Analyzed	: 06/27/24 17:46
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V08240627A11	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U	
79-01-6	Trichloroethene	14	0.50	0.18		J
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U	
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U	
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U	
1634-04-4	Methyl tert butyl ether	ND	2.5	0.17	U	
179601-23-1	p/m-Xylene	ND	2.5	0.70	U	
95-47-6	o-Xylene	ND	2.5	0.70	U	
156-59-2	cis-1,2-Dichloroethene	2.2	2.5	0.70	J	
100-42-5	Styrene	ND	2.5	0.70	U	
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U	
67-64-1	Acetone	ND	5.0	1.5	U	
75-15-0	Carbon disulfide	ND	5.0	1.0	U	
78-93-3	2-Butanone	ND	5.0	1.9	U	
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U	
591-78-6	2-Hexanone	ND	5.0	1.0	U	
74-97-5	Bromochloromethane	ND	2.5	0.70	U	
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U	
98-82-8	Isopropylbenzene	ND	2.5	0.70	U	
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U	
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U	
79-20-9	Methyl Acetate	ND	2.0	0.23	U	
110-82-7	Cyclohexane	ND	10	0.27	U	
123-91-1	1,4-Dioxane	ND	250	61.	U	R

MKP 7/30/2024

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-01	**Date Collected**	: 06/25/24 10:20
Client ID	: MW-02-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 06/27/24 17:46
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,8260D	**Analyst**	: MJV
Lab File ID	: V08240627A11	**Instrument ID**	: VOA108
Sample Amount	: 10 ml	**GC Column**	: RTX-502.2
Level	: LOW	**%Solids**	: N/A
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435830-02	Date Collected	: 06/25/24 12:10
Client ID	: MW-03-20240625	Date Received	: 06/25/24
Sample Location	:	Date Analyzed	: 06/27/24 18:09
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V08240627A12	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
75-09-2	Methylene chloride	ND	2.5	0.70	U	UJ
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U	
67-66-3	Chloroform	ND	2.5	0.70	U	
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U	UJ
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U	
124-48-1	Dibromochloromethane	ND	0.50	0.15	U	
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U	
127-18-4	Tetrachloroethene	ND	0.50	0.18	U	
108-90-7	Chlorobenzene	ND	2.5	0.70	U	
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U	
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U	
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U	
75-27-4	Bromodichloromethane	ND	0.50	0.19	U	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U	
75-25-2	Bromoform	ND	2.0	0.65	U	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U	
71-43-2	Benzene	ND	0.50	0.16	U	
108-88-3	Toluene	ND	2.5	0.70	U	
100-41-4	Ethylbenzene	ND	2.5	0.70	U	
74-87-3	Chloromethane	1.4	2.5	0.70	J	
74-83-9	Bromomethane	ND	2.5	0.70	U	UJ
75-01-4	Vinyl chloride	0.40	1.0	0.07	J	J
75-00-3	Chloroethane	ND	2.5	0.70	U	UJ
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U	

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435830-02	Date Collected	: 06/25/24 12:10
Client ID	: MW-03-20240625	Date Received	: 06/25/24
Sample Location	:	Date Analyzed	: 06/27/24 18:09
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V08240627A12	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
156-60-5	trans-1,2-Dichloroethene	2.1	2.5	0.70	J	
79-01-6	Trichloroethene	7.2	0.50	0.18		J
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U	
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U	
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U	
1634-04-4	Methyl tert butyl ether	ND	2.5	0.17	U	
179601-23-1	p/m-Xylene	ND	2.5	0.70	U	
95-47-6	o-Xylene	ND	2.5	0.70	U	
156-59-2	cis-1,2-Dichloroethene	9.3	2.5	0.70		
100-42-5	Styrene	ND	2.5	0.70	U	
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U	
67-64-1	Acetone	ND	5.0	1.5	U	
75-15-0	Carbon disulfide	ND	5.0	1.0	U	
78-93-3	2-Butanone	ND	5.0	1.9	U	
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U	
591-78-6	2-Hexanone	ND	5.0	1.0	U	
74-97-5	Bromochloromethane	ND	2.5	0.70	U	
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U	
98-82-8	Isopropylbenzene	ND	2.5	0.70	U	
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U	
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U	
79-20-9	Methyl Acetate	ND	2.0	0.23	U	
110-82-7	Cyclohexane	ND	10	0.27	U	
123-91-1	1,4-Dioxane	ND	250	61.	U	R

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-02	**Date Collected**	: 06/25/24 12:10
Client ID	: MW-03-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 06/27/24 18:09
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,8260D	**Analyst**	: MJV
Lab File ID	: V08240627A12	**Instrument ID**	: VOA108
Sample Amount	: 10 ml	**GC Column**	: RTX-502.2
Level	: LOW	**%Solids**	: N/A
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

Semivolatiles Data- Method 8270

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435830-01	Date Collected	: 06/25/24 10:20
Client ID	: MW-02-20240625	Date Received	: 06/25/24
Sample Location	:	Date Analyzed	: 06/29/24 04:06
Sample Matrix	: WATER	Date Extracted	: 06/27/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 35830-01	Analyst	: SZ
Sample Amount	: 100 ml	Instrument ID	: SV107
Extraction Method	: EPA 3510C	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
111-44-4	Bis(2-chloroethyl)ether	ND	2.0	0.39	U	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	1.8	U	
121-14-2	2,4-Dinitrotoluene	ND	5.0	0.54	U	
606-20-2	2,6-Dinitrotoluene	ND	5.0	0.84	U	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.39	U	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.24	U	
108-60-1	Bis(2-chloroisopropyl)ether	ND	2.0	0.40	U	
111-91-1	Bis(2-chloroethoxy)methane	ND	5.0	0.84	U	
77-47-4	Hexachlorocyclopentadiene	ND	20	1.2	U	UJ
78-59-1	Isophorone	ND	5.0	0.86	U	
98-95-3	Nitrobenzene	ND	2.0	0.20	U	
86-30-6	NDPA/DPA	ND	2.0	0.92	U	
621-64-7	n-Nitrosodi-n-propylamine	ND	5.0	0.91	U	
117-81-7	Bis(2-ethylhexyl)phthalate	ND	3.0	1.4	U	
85-68-7	Butyl benzyl phthalate	ND	5.0	2.6	U	UJ
84-74-2	Di-n-butylphthalate	ND	5.0	0.96	U	
117-84-0	Di-n-octylphthalate	ND	5.0	2.3	U	
84-66-2	Diethyl phthalate	ND	5.0	0.76	U	
131-11-3	Dimethyl phthalate	ND	5.0	0.92	U	
92-52-4	Biphenyl	ND	2.0	0.20	U	
106-47-8	4-Chloroaniline	ND	5.0	0.47	U	
88-74-4	2-Nitroaniline	ND	5.0	1.0	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435830-01	Date Collected	: 06/25/24 10:20
Client ID	: MW-02-20240625	Date Received	: 06/25/24
Sample Location	:	Date Analyzed	: 06/29/24 04:06
Sample Matrix	: WATER	Date Extracted	: 06/27/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 35830-01	Analyst	: SZ
Sample Amount	: 100 ml	Instrument ID	: SV107
Extraction Method	: EPA 3510C	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
99-09-2	3-Nitroaniline	ND	5.0	1.2	U
100-01-6	4-Nitroaniline	ND	5.0	1.4	U
132-64-9	Dibenzofuran	ND	2.0	0.40	U
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	10	0.24	U
98-86-2	Acetophenone	ND	5.0	0.92	U
88-06-2	2,4,6-Trichlorophenol	ND	5.0	2.1	U
59-50-7	p-Chloro-m-cresol	ND	2.0	0.61	U
95-57-8	2-Chlorophenol	ND	2.0	0.65	U
120-83-2	2,4-Dichlorophenol	ND	5.0	1.7	U
105-67-9	2,4-Dimethylphenol	ND	5.0	2.0	U UJ
88-75-5	2-Nitrophenol	ND	10	2.0	U
100-02-7	4-Nitrophenol	ND	10	1.4	U
51-28-5	2,4-Dinitrophenol	ND	20	5.4	U
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.3	U
108-95-2	Phenol	ND	5.0	0.35	U
95-48-7	2-Methylphenol	ND	5.0	2.3	U
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	5.0	1.4	U
95-95-4	2,4,5-Trichlorophenol	ND	5.0	2.1	U
86-74-8	Carbazole	ND	2.0	0.31	U
1912-24-9	Atrazine	ND	10	1.0	U
100-52-7	Benzaldehyde	ND	5.0	1.1	U
105-60-2	Caprolactam	ND	10	1.2	U

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-01	**Date Collected**	: 06/25/24 10:20
Client ID	: MW-02-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 06/29/24 04:06
Sample Matrix	: WATER	**Date Extracted**	: 06/27/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 1
Lab File ID	: 35830-01	**Analyst**	: SZ
Sample Amount	: 100 ml	**Instrument ID**	: SV107
Extraction Method	: EPA 3510C	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.0	2.2	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435830-02	Date Collected	: 06/25/24 12:10
Client ID	: MW-03-20240625	Date Received	: 06/25/24
Sample Location	:	Date Analyzed	: 06/29/24 04:31
Sample Matrix	: WATER	Date Extracted	: 06/27/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 35830-02	Analyst	: SZ
Sample Amount	: 100 ml	Instrument ID	: SV107
Extraction Method	: EPA 3510C	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
111-44-4	Bis(2-chloroethyl)ether	ND	2.0	0.39	U
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	1.8	U
121-14-2	2,4-Dinitrotoluene	ND	5.0	0.54	U
606-20-2	2,6-Dinitrotoluene	ND	5.0	0.84	U
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.39	U
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.24	U
108-60-1	Bis(2-chloroisopropyl)ether	ND	2.0	0.40	U
111-91-1	Bis(2-chloroethoxy)methane	ND	5.0	0.84	U
77-47-4	Hexachlorocyclopentadiene	ND	20	1.2	U UJ
78-59-1	Isophorone	ND	5.0	0.86	U
98-95-3	Nitrobenzene	ND	2.0	0.20	U
86-30-6	NDPA/DPA	ND	2.0	0.92	U
621-64-7	n-Nitrosodi-n-propylamine	ND	5.0	0.91	U
117-81-7	Bis(2-ethylhexyl)phthalate	ND	3.0	1.4	U
85-68-7	Butyl benzyl phthalate	ND	5.0	2.6	U UJ
84-74-2	Di-n-butylphthalate	ND	5.0	0.96	U
117-84-0	Di-n-octylphthalate	ND	5.0	2.3	U
84-66-2	Diethyl phthalate	ND	5.0	0.76	U
131-11-3	Dimethyl phthalate	ND	5.0	0.92	U
92-52-4	Biphenyl	ND	2.0	0.20	U
106-47-8	4-Chloroaniline	ND	5.0	0.47	U
88-74-4	2-Nitroaniline	ND	5.0	1.0	U

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435830-02	Date Collected	: 06/25/24 12:10
Client ID	: MW-03-20240625	Date Received	: 06/25/24
Sample Location	:	Date Analyzed	: 06/29/24 04:31
Sample Matrix	: WATER	Date Extracted	: 06/27/24
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 35830-02	Analyst	: SZ
Sample Amount	: 100 ml	Instrument ID	: SV107
Extraction Method	: EPA 3510C	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier	
99-09-2	3-Nitroaniline	ND	5.0	1.2	U	
100-01-6	4-Nitroaniline	ND	5.0	1.4	U	
132-64-9	Dibenzofuran	ND	2.0	0.40	U	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	10	0.24	U	
98-86-2	Acetophenone	ND	5.0	0.92	U	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	2.1	U	
59-50-7	p-Chloro-m-cresol	ND	2.0	0.61	U	
95-57-8	2-Chlorophenol	ND	2.0	0.65	U	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.7	U	
105-67-9	2,4-Dimethylphenol	ND	5.0	2.0	U	UJ
88-75-5	2-Nitrophenol	ND	10	2.0	U	
100-02-7	4-Nitrophenol	ND	10	1.4	U	
51-28-5	2,4-Dinitrophenol	ND	20	5.4	U	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.3	U	
108-95-2	Phenol	0.82	5.0	0.35	J	
95-48-7	2-Methylphenol	ND	5.0	2.3	U	
108-39-4/106-44-5	3-Methylphenol/4-Methylphenol	ND	5.0	1.4	U	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	2.1	U	
86-74-8	Carbazole	ND	2.0	0.31	U	
1912-24-9	Atrazine	ND	10	1.0	U	
100-52-7	Benzaldehyde	ND	5.0	1.1	U	
105-60-2	Caprolactam	ND	10	1.2	U	

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Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-02	**Date Collected**	: 06/25/24 12:10
Client ID	: MW-03-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 06/29/24 04:31
Sample Matrix	: WATER	**Date Extracted**	: 06/27/24
Analytical Method	: 1,8270E	**Dilution Factor**	: 1
Lab File ID	: 35830-02	**Analyst**	: SZ
Sample Amount	: 100 ml	**Instrument ID**	: SV107
Extraction Method	: EPA 3510C	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.0	2.2	U

Semivolatiles Data
by Method 8270D-SIM

Results Summary
Form 1
Semivolatile Organics by GC/MS-SIM

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435830-01	Date Collected	: 06/25/24 10:20
Client ID	: MW-02-20240625	Date Received	: 06/25/24
Sample Location	:	Date Analyzed	: 06/28/24 10:44
Sample Matrix	: WATER	Date Extracted	: 06/27/24
Analytical Method	: 1,8270E-SIM	Dilution Factor	: 1
Lab File ID	: 35830-01	Analyst	: DV
Sample Amount	: 100 ml	Instrument ID	: SV120
Extraction Method	: EPA 3510C	GC Column	: RXI-5SilM
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	ND	0.10	0.02	U
91-58-7	2-Chloronaphthalene	ND	0.20	0.02	U
206-44-0	Fluoranthene	ND	0.10	0.03	U
87-68-3	Hexachlorobutadiene	ND	0.50	0.02	U
91-20-3	Naphthalene	ND	0.10	0.02	U
56-55-3	Benzo(a)anthracene	ND	0.10	0.03	U
50-32-8	Benzo(a)pyrene	ND	0.10	0.02	U
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.03	U
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.03	U
218-01-9	Chrysene	ND	0.10	0.03	U
208-96-8	Acenaphthylene	ND	0.10	0.02	U
120-12-7	Anthracene	ND	0.10	0.02	U
191-24-2	Benzo(ghi)perylene	ND	0.10	0.02	U UJ
86-73-7	Fluorene	ND	0.10	0.03	U
85-01-8	Phenanthrene	ND	0.10	0.04	U
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.02	U UJ
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.02	U UJ
129-00-0	Pyrene	ND	0.10	0.04	U
91-57-6	2-Methylnaphthalene	ND	0.10	0.03	U
87-86-5	Pentachlorophenol	ND	0.80	0.06	U
118-74-1	Hexachlorobenzene	ND	0.80	0.01	U
67-72-1	Hexachloroethane	ND	0.80	0.02	U

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Results Summary
Form 1
Semivolatile Organics by GC/MS-SIM

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435830-02	Date Collected	: 06/25/24 12:10
Client ID	: MW-03-20240625	Date Received	: 06/25/24
Sample Location	:	Date Analyzed	: 06/28/24 11:00
Sample Matrix	: WATER	Date Extracted	: 06/27/24
Analytical Method	: 1,8270E-SIM	Dilution Factor	: 1
Lab File ID	: 35830-02	Analyst	: DV
Sample Amount	: 100 ml	Instrument ID	: SV120
Extraction Method	: EPA 3510C	GC Column	: RXI-5SilM
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	ND	0.10	0.02	U
91-58-7	2-Chloronaphthalene	ND	0.20	0.02	U
206-44-0	Fluoranthene	ND	0.10	0.03	U
87-68-3	Hexachlorobutadiene	ND	0.50	0.02	U
91-20-3	Naphthalene	ND	0.10	0.02	U
56-55-3	Benzo(a)anthracene	ND	0.10	0.03	U
50-32-8	Benzo(a)pyrene	ND	0.10	0.02	U
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.03	U
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.03	U
218-01-9	Chrysene	ND	0.10	0.03	U
208-96-8	Acenaphthylene	ND	0.10	0.02	U
120-12-7	Anthracene	ND	0.10	0.02	U
191-24-2	Benzo(ghi)perylene	ND	0.10	0.02	U UJ
86-73-7	Fluorene	ND	0.10	0.03	U
85-01-8	Phenanthrene	ND	0.10	0.04	U
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.02	U UJ
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.02	U UJ
129-00-0	Pyrene	ND	0.10	0.04	U
91-57-6	2-Methylnaphthalene	ND	0.10	0.03	U
87-86-5	Pentachlorophenol	ND	0.80	0.06	U
118-74-1	Hexachlorobenzene	ND	0.80	0.01	U
67-72-1	Hexachloroethane	ND	0.80	0.02	U

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GCMS Extractables 1,4-Dioxane By SIM

No data validation qualifiers were added

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Results Summary
Form 1
1,4 Dioxane by 8270E-SIM

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-01	**Date Collected**	: 06/25/24 10:20
Client ID	: MW-02-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 06/27/24 14:45
Sample Matrix	: WATER	**Date Extracted**	: 06/26/24
Analytical Method	: 1,8270E-SIM	**Dilution Factor**	: 1
Lab File ID	: F1106272416	**Analyst**	: GRS
Sample Amount	: 250 ml	**Instrument ID**	: BNA11
Extraction Method	: EPA 3510C	**GC Column**	: RTX-5
Extract Volume	: 2500 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	150	33.9	U

Results Summary
Form 1
1,4 Dioxane by 8270E-SIM

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-02	**Date Collected**	: 06/25/24 12:10
Client ID	: MW-03-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 06/27/24 15:06
Sample Matrix	: WATER	**Date Extracted**	: 06/26/24
Analytical Method	: 1,8270E-SIM	**Dilution Factor**	: 1
Lab File ID	: F1106272417	**Analyst**	: GRS
Sample Amount	: 260 ml	**Instrument ID**	: BNA11
Extraction Method	: EPA 3510C	**GC Column**	: RTX-5
Extract Volume	: 2500 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	144	32.6	U

GC Extractable Analysis
Herbicides

No data validation qualifiers were added

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Results Summary
Form 1
Chlorinated Herbicides by GC

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-01	**Date Collected**	: 06/25/24 10:20
Client ID	: MW-02-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 06/27/24 11:00
Sample Matrix	: WATER	**Date Extracted**	: 06/26/24
Analytical Method	: 1,8151A	**Dilution Factor**	: 1
Lab File ID	: 16240627a-09	**Analyst**	: MMG
Sample Amount	: 1000 ml	**Instrument ID**	: PEST16
Extraction Method	: EPA 8151A	**GC Column**	: STX-CLP1
Extract Volume	: 10000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
94-75-7	2,4-D	ND	10.0	0.498	U
93-76-5	2,4,5-T	ND	2.00	0.531	U
93-72-1	2,4,5-TP (Silvex)	ND	2.00	0.539	U

GC Extractable Analysis Polychlorinated Biphenyls (PCB)

No data validation qualifiers were added

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Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-01	**Date Collected**	: 06/25/24 10:20
Client ID	: MW-02-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 07/02/24 08:19
Sample Matrix	: WATER	**Date Extracted**	: 07/01/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: P2240702a-10	**Analyst**	: MHG
Sample Amount	: 140 ml	**Instrument ID**	: PEST2
Extraction Method	: EPA 3510C	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	0.071	0.061	U
11104-28-2	Aroclor 1221	ND	0.071	0.061	U
11141-16-5	Aroclor 1232	ND	0.071	0.061	U
53469-21-9	Aroclor 1242	ND	0.071	0.061	U
12672-29-6	Aroclor 1248	ND	0.071	0.061	U
11097-69-1	Aroclor 1254	ND	0.071	0.061	U
11096-82-5	Aroclor 1260	ND	0.071	0.061	U
37324-23-5	Aroclor 1262	ND	0.071	0.061	U
11100-14-4	Aroclor 1268	ND	0.071	0.061	U
1336-36-3	PCBs, Total	ND	0.071	0.061	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-02	**Date Collected**	: 06/25/24 12:10
Client ID	: MW-03-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 07/02/24 08:29
Sample Matrix	: WATER	**Date Extracted**	: 07/01/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: P2240702a-11	**Analyst**	: MHG
Sample Amount	: 140 ml	**Instrument ID**	: PEST2
Extraction Method	: EPA 3510C	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	0.071	0.061	U
11104-28-2	Aroclor 1221	ND	0.071	0.061	U
11141-16-5	Aroclor 1232	ND	0.071	0.061	U
53469-21-9	Aroclor 1242	ND	0.071	0.061	U
12672-29-6	Aroclor 1248	ND	0.071	0.061	U
11097-69-1	Aroclor 1254	ND	0.071	0.061	U
11096-82-5	Aroclor 1260	ND	0.071	0.061	U
37324-23-5	Aroclor 1262	ND	0.071	0.061	U
11100-14-4	Aroclor 1268	ND	0.071	0.061	U
1336-36-3	PCBs, Total	ND	0.071	0.061	U

GC Extractable Analysis
Pesticides

No data validation qualifiers were added

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Results Summary
Form 1
Organochlorine Pesticides by GC

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435830-01	Date Collected	: 06/25/24 10:20
Client ID	: MW-02-20240625	Date Received	: 06/25/24
Sample Location	:	Date Analyzed	: 07/01/24 10:55
Sample Matrix	: WATER	Date Extracted	: 06/29/24
Analytical Method	: 1,8081B	Dilution Factor	: 1
Lab File ID	: 20240701a-28	Analyst	: EMR
Sample Amount	: 140 ml	Instrument ID	: PEST20
Extraction Method	: EPA 3510C	GC Column	: CLPPesticides
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: N		

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
319-86-8	Delta-BHC	ND	0.014	0.003	U
58-89-9	Lindane	ND	0.014	0.003	U
319-84-6	Alpha-BHC	ND	0.014	0.003	U
319-85-7	Beta-BHC	ND	0.014	0.004	U
76-44-8	Heptachlor	ND	0.014	0.002	U
309-00-2	Aldrin	ND	0.014	0.002	U
1024-57-3	Heptachlor epoxide	ND	0.014	0.003	U
72-20-8	Endrin	ND	0.029	0.003	U
7421-93-4	Endrin aldehyde	ND	0.029	0.006	U
53494-70-5	Endrin ketone	ND	0.029	0.003	U
60-57-1	Dieldrin	ND	0.029	0.003	U
72-55-9	4,4'-DDE	ND	0.029	0.003	U
72-54-8	4,4'-DDD	ND	0.029	0.003	U
50-29-3	4,4'-DDT	ND	0.029	0.003	U
959-98-8	Endosulfan I	ND	0.014	0.002	U
33213-65-9	Endosulfan II	ND	0.029	0.004	U
1031-07-8	Endosulfan sulfate	ND	0.029	0.003	U
72-43-5	Methoxychlor	ND	0.143	0.005	U
8001-35-2	Toxaphene	ND	0.143	0.045	U
5103-71-9	cis-Chlordane	ND	0.014	0.005	U
5103-74-2	trans-Chlordane	ND	0.014	0.004	U

Results Summary
Form 1
Organochlorine Pesticides by GC

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-01	**Date Collected**	: 06/25/24 10:20
Client ID	: MW-02-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 07/01/24 10:55
Sample Matrix	: WATER	**Date Extracted**	: 06/29/24
Analytical Method	: 1,8081B	**Dilution Factor**	: 1
Lab File ID	: 20240701a-28	**Analyst**	: EMR
Sample Amount	: 140 ml	**Instrument ID**	: PEST20
Extraction Method	: EPA 3510C	**GC Column**	: CLPPesticides
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: N		

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-74-9	Chlordane	ND	0.143	0.033	U

PFAS via Draft Method 1633

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435830-01	Date Collected	: 06/25/24 10:20
Client ID	: MW-02-20240625	Date Received	: 06/25/24
Sample Location	:	Date Analyzed	: 07/09/24 01:02
Sample Matrix	: WATER	Date Extracted	: 07/08/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI05_240708_55	Analyst	: ANH
Sample Amount	: 517.1 g	Instrument ID	: LCMS05
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	7.91	6.19	0.990	J+
2706-90-3	Perfluoropentanoic Acid (PFPeA)	2.10	3.09	0.828	J
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	1.35	1.55	0.518	J
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	6.19	1.62	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	4.54	1.55	0.456	
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	1.55	0.271	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	1.66	1.55	0.309	
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	1.45	1.55	0.371	J
335-67-1	Perfluorooctanoic Acid (PFOA)	5.20	1.55	0.673	
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	6.19	2.09	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.55	0.418	U
375-95-1	Perfluorononanoic Acid (PFNA)	0.951	1.55	0.487	J
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	2.47	1.55	0.704	
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	1.55	0.626	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	6.19	2.40	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	1.55	0.480	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	1.55	0.843	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	1.55	0.673	U

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Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-01	**Date Collected**	: 06/25/24 10:20
Client ID	: MW-02-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 07/09/24 01:02
Sample Matrix	: WATER	**Date Extracted**	: 07/08/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240708_55	**Analyst**	: ANH
Sample Amount	: 517.1 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	1.55	0.356	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	1.55	0.418	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.55	0.835	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	1.55	0.712	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	1.55	0.580	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	1.55	0.410	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	6.19	0.866	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	6.19	0.975	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	1.55	0.588	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	6.19	1.28	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	6.19	1.28	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	1.55	0.673	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	1.55	0.712	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	15.5	3.64	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-01	**Date Collected**	: 06/25/24 10:20
Client ID	: MW-02-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 07/09/24 01:02
Sample Matrix	: WATER	**Date Extracted**	: 07/08/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240708_55	**Analyst**	: ANH
Sample Amount	: 517.1 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	15.5	1.90	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	3.09	0.441	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	3.09	0.410	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	3.09	0.340	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	3.09	1.82	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	7.74	2.55	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	38.7	9.05	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	38.7	6.10	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-02	**Date Collected**	: 06/25/24 12:10
Client ID	: MW-03-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 07/09/24 01:41
Sample Matrix	: WATER	**Date Extracted**	: 07/08/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240708_58	**Analyst**	: ANH
Sample Amount	: 522.63 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	15.0	6.12	0.980	
2706-90-3	Perfluoropentanoic Acid (PFPeA)	45.2	3.06	0.819	
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	1.61	1.53	0.513	
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	6.12	1.60	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	24.6	1.53	0.452	
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	0.704	1.53	0.268	J
375-85-9	Perfluoroheptanoic Acid (PFHpA)	20.1	1.53	0.306	
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	5.48	1.53	0.367	
335-67-1	Perfluorooctanoic Acid (PFOA)	14.8	1.53	0.666	
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	28.2	6.12	2.07	
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.53	0.413	U
375-95-1	Perfluorononanoic Acid (PFNA)	11.6	1.53	0.482	
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	7.70	1.53	0.696	
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	1.53	0.620	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	6.12	2.38	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	1.53	0.474	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	1.53	0.834	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	1.53	0.666	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-02	**Date Collected**	: 06/25/24 12:10
Client ID	: MW-03-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 07/09/24 01:41
Sample Matrix	: WATER	**Date Extracted**	: 07/08/24
Analytical Method	: 144,1633	**Dilution Factor**	: 1
Lab File ID	: SCI05_240708_58	**Analyst**	: ANH
Sample Amount	: 522.63 g	**Instrument ID**	: LCMS05
Extraction Method	: EPA 1633	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	1.53	0.352	U
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND	1.53	0.413	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.53	0.826	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	1.53	0.704	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	1.53	0.574	U
376-06-7	Perfluorotetradecanoic Acid (PFTeDA)	ND	1.53	0.406	U
13252-13-6	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	6.12	0.857	U
919005-14-4	4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	6.12	0.964	U
79780-39-5	Perfluorododecanesulfonic Acid (PFDoS)	ND	1.53	0.582	U
756426-58-1	9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	6.12	1.26	U
763051-92-9	11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	6.12	1.26	U
31506-32-8	N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	1.53	0.666	U
4151-50-2	N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	1.53	0.704	U
24448-09-7	N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	15.3	3.60	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435830-02	Date Collected	: 06/25/24 12:10
Client ID	: MW-03-20240625	Date Received	: 06/25/24
Sample Location	:	Date Analyzed	: 07/09/24 01:41
Sample Matrix	: WATER	Date Extracted	: 07/08/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI05_240708_58	Analyst	: ANH
Sample Amount	: 522.63 g	Instrument ID	: LCMS05
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
1691-99-2	N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	15.3	1.88	U
377-73-1	Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	3.06	0.436	U
863090-89-5	Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	3.06	0.406	U
113507-82-7	Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	3.06	0.337	U
151772-58-6	Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	3.06	1.81	U
356-02-5	3-Perfluoropropyl Propanoic Acid (3: 3FTCA)	ND	7.65	2.52	U
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic Acid (5: 3FTCA)	ND	38.3	8.95	U
812-70-4	3-Perfluoroheptyl Propanoic Acid (7: 3FTCA)	ND	38.3	6.04	U

Inorganic Data
(ICPMS Analysis)

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-01	**Date Collected**	: 06/25/24 10:20
Client ID	: MW-02-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 06/28/24 18:50
Sample Matrix	: WATER	**Dilution Factor**	: 10
Analytical Method	: 1,6020B	**Analyst**	: MRC
Lab File ID	: WG1940603.pdf	**Instrument ID**	: ICPMSQ2
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 06/28/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-95-4	Magnesium, Dissolved	264.	0.700	0.242	

Form 1
METALS

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435830-01	Date Collected	: 06/25/24 10:20
Client ID	: MW-02-20240625	Date Received	: 06/25/24
Sample Location	:	Date Analyzed	: 06/28/24 17:11
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: MRC
Lab File ID	: WG1940603.pdf	Instrument ID	: ICPMSQ2
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 06/28/24

CAS NO.	Parameter		mg/l Results	RL	MDL	Qualifier	
7429-90-5	Aluminum, Dissolved		0.177	0.0100	0.00327		
7440-36-0	Antimony, Dissolved		ND	0.00400	0.00042	U	
7440-38-2	Arsenic, Dissolved	0.0010 UJ	0.00066	0.00100	0.00016	J	UJ
7440-39-3	Barium, Dissolved		0.09966	0.00050	0.00017		
7440-41-7	Beryllium, Dissolved		ND	0.00050	0.00010	U	
7440-43-9	Cadmium, Dissolved		ND	0.00020	0.00005	U	
7440-70-2	Calcium, Dissolved		176.	0.100	0.0394		
7440-47-3	Chromium, Dissolved		0.00051	0.00100	0.00017	J	
7440-48-4	Cobalt, Dissolved		0.00020	0.00050	0.00016	J	
7440-50-8	Copper, Dissolved		0.00358	0.00100	0.00038		
7439-89-6	Iron, Dissolved		0.191	0.0500	0.0191		
7439-92-1	Lead, Dissolved		ND	0.00100	0.00034	U	
7439-96-5	Manganese, Dissolved		0.04253	0.00100	0.00044		
7440-02-0	Nickel, Dissolved		0.00173	0.00200	0.00055	J	
7440-09-7	Potassium, Dissolved		11.2	0.100	0.0309		
7782-49-2	Selenium, Dissolved		0.00215	0.00500	0.00173	J	
7440-22-4	Silver, Dissolved		ND	0.00040	0.00016	U	
7440-23-5	Sodium, Dissolved		118.	0.100	0.0293		
7440-28-0	Thallium, Dissolved		ND	0.00100	0.00014	U	
7440-62-2	Vanadium, Dissolved		ND	0.00500	0.00157	U	
7440-66-6	Zinc, Dissolved		0.01339	0.01000	0.00341		

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Form 1
METALS

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435830-02	Date Collected	: 06/25/24 12:10
Client ID	: MW-03-20240625	Date Received	: 06/25/24
Sample Location	:	Date Analyzed	: 06/28/24 17:32
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: MRC
Lab File ID	: WG1940603.pdf	Instrument ID	: ICPMSQ2
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 06/28/24

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Dissolved	0.0308	0.0100	0.00327	
7440-36-0	Antimony, Dissolved	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Dissolved	0.00313	0.00100	0.00016	
7440-39-3	Barium, Dissolved	0.08506	0.00050	0.00017	
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	58.9	0.100	0.0394	
7440-47-3	Chromium, Dissolved	ND	0.00100	0.00017	U
7440-48-4	Cobalt, Dissolved	0.00061	0.00050	0.00016	
7440-50-8	Copper, Dissolved	0.00178	0.00100	0.00038	
7439-89-6	Iron, Dissolved	0.0319	0.0500	0.0191	J
7439-92-1	Lead, Dissolved	ND	0.00100	0.00034	U
7439-95-4	Magnesium, Dissolved	30.0	0.0700	0.0242	
7439-96-5	Manganese, Dissolved	0.2584	0.00100	0.00044	
7440-02-0	Nickel, Dissolved	0.00144	0.00200	0.00055	J
7440-09-7	Potassium, Dissolved	5.20	0.100	0.0309	
7782-49-2	Selenium, Dissolved	ND	0.00500	0.00173	U
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-23-5	Sodium, Dissolved	83.4	0.100	0.0293	
7440-28-0	Thallium, Dissolved	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	0.01020	0.01000	0.00341	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-01	**Date Collected**	: 06/25/24 10:20
Client ID	: MW-02-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 07/01/24 19:35
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,6020B	**Analyst**	: EJF
Lab File ID	: WG1941538.pdf	**Instrument ID**	: ICPMSRQ
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 07/01/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7429-90-5	Aluminum, Total	2.28	0.0100	0.00327	
7439-89-6	Iron, Total	3.90	0.0500	0.0191	
7439-96-5	Manganese, Total	0.1215	0.00100	0.00044	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-02	**Date Collected**	: 06/25/24 12:10
Client ID	: MW-03-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 07/01/24 19:40
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,6020B	**Analyst**	: EJF
Lab File ID	: WG1941538.pdf	**Instrument ID**	: ICPMSRQ
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 07/01/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7429-90-5	Aluminum, Total	0.266	0.0100	0.00327	
7439-89-6	Iron, Total	0.453	0.0500	0.0191	
7439-96-5	Manganese, Total	0.2828	0.00100	0.00044	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-01	**Date Collected**	: 06/25/24 10:20
Client ID	: MW-02-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 07/01/24 09:44
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,6020B	**Analyst**	: EJF
Lab File ID	: WG1941539.pdf	**Instrument ID**	: ICPMSQ2
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 06/28/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-36-0	Antimony, Total	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Total	0.00189	0.00050	0.00016	
7440-39-3	Barium, Total	0.1138	0.00050	0.00017	
7440-43-9	Cadmium, Total	ND	0.00020	0.00005	U
7440-70-2	Calcium, Total	178.	0.100	0.0394	
7440-47-3	Chromium, Total	0.00372	0.00100	0.00017	
7440-48-4	Cobalt, Total	0.00202	0.00050	0.00016	
7440-50-8	Copper, Total	0.00736	0.00100	0.00038	
7439-92-1	Lead, Total	0.00463	0.00100	0.00034	
7440-02-0	Nickel, Total	0.00609	0.00200	0.00055	
7440-09-7	Potassium, Total	11.4	0.100	0.0309	
7782-49-2	Selenium, Total	0.00327	0.00500	0.00173	J
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-23-5	Sodium, Total	110.	0.100	0.0293	
7440-28-0	Thallium, Total	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Total	0.00552	0.00500	0.00157	
7440-66-6	Zinc, Total	0.02924	0.01000	0.00341	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-01	**Date Collected**	: 06/25/24 10:20
Client ID	: MW-02-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 07/01/24 13:33
Sample Matrix	: WATER	**Dilution Factor**	: 4
Analytical Method	: 1,6020B	**Analyst**	: EJF
Lab File ID	: WG1941539.pdf	**Instrument ID**	: ICPMSQ2
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 06/28/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-95-4	Magnesium, Total	246.	0.280	0.0968	

Form 1
METALS

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: L2435830-02	Date Collected	: 06/25/24 12:10
Client ID	: MW-03-20240625	Date Received	: 06/25/24
Sample Location	:	Date Analyzed	: 07/01/24 09:49
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: EJF
Lab File ID	: WG1941539.pdf	Instrument ID	: ICPMSQ2
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 06/28/24

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7440-36-0	Antimony, Total	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Total	0.00350	0.00050	0.00016	
7440-39-3	Barium, Total	0.09566	0.00050	0.00017	
7440-43-9	Cadmium, Total	ND	0.00020	0.00005	U
7440-70-2	Calcium, Total	57.8	0.100	0.0394	
7440-47-3	Chromium, Total	0.00064	0.00100	0.00017	J
7440-48-4	Cobalt, Total	0.00080	0.00050	0.00016	
7440-50-8	Copper, Total	0.00294	0.00100	0.00038	
7439-92-1	Lead, Total	0.00062	0.00100	0.00034	J
7439-95-4	Magnesium, Total	29.5	0.0700	0.0242	
7440-02-0	Nickel, Total	0.00190	0.00200	0.00055	J
7440-09-7	Potassium, Total	5.18	0.100	0.0309	
7782-49-2	Selenium, Total	ND	0.00500	0.00173	U
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-23-5	Sodium, Total	82.3	0.100	0.0293	
7440-28-0	Thallium, Total	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Total	ND	0.00500	0.00157	U
7440-66-6	Zinc, Total	0.01326	0.01000	0.00341	

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-01	**Date Collected**	: 06/25/24 10:20
Client ID	: MW-02-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 07/02/24 07:48
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,6020B	**Analyst**	: EJF
Lab File ID	: WG1942031.pdf	**Instrument ID**	: ICPMSQ2
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 07/01/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-41-7	Beryllium, Total	0.00012	0.00050	0.00010	J

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-02	**Date Collected**	: 06/25/24 12:10
Client ID	: MW-03-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 07/02/24 07:52
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,6020B	**Analyst**	: EJF
Lab File ID	: WG1942031.pdf	**Instrument ID**	: ICPMSQ2
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 07/01/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U

Inorganic Data
(Mercury Analysis)

No data validation qualifiers were added

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Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-01	**Date Collected**	: 06/25/24 10:20
Client ID	: MW-02-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 06/28/24 18:19
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,7470A	**Analyst**	: JWN
Lab File ID	: WG1940655.pdf	**Instrument ID**	: NIC2
Sample Amount	: 25ml	**%Solids**	: N/A
Digestion Method	: EPA 7470A	**Date Digested**	: 06/28/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.00020	0.00009	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-02	**Date Collected**	: 06/25/24 12:10
Client ID	: MW-03-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 06/28/24 18:23
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,7470A	**Analyst**	: JWN
Lab File ID	: WG1940655.pdf	**Instrument ID**	: NIC2
Sample Amount	: 25ml	**%Solids**	: N/A
Digestion Method	: EPA 7470A	**Date Digested**	: 06/28/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.00020	0.00009	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-01	**Date Collected**	: 06/25/24 10:20
Client ID	: MW-02-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 07/02/24 16:08
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,7470A	**Analyst**	: MJR
Lab File ID	: WG1942073.pdf	**Instrument ID**	: NIC1
Sample Amount	: 25ml	**%Solids**	: N/A
Digestion Method	: EPA 7470A	**Date Digested**	: 06/27/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Dissolved	ND	0.00020	0.00009	U

Form 1
METALS

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-02	**Date Collected**	: 06/25/24 12:10
Client ID	: MW-03-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 07/02/24 16:31
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,7470A	**Analyst**	: MJR
Lab File ID	: WG1942073.pdf	**Instrument ID**	: NIC1
Sample Amount	: 25ml	**%Solids**	: N/A
Digestion Method	: EPA 7470A	**Date Digested**	: 06/27/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Dissolved	ND	0.00020	0.00009	U

Cyanide Analysis

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-01	**Date Collected**	: 06/25/24 10:20
Client ID	: MW-02-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 07/02/24 17:17
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN070224-C2	**Instrument ID**	: LACHAT6
Sample Amount	:	**%Solids**	: N/A
Digestion Method	:	**Date Digested**	: 07/02/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Dissolved	ND	0.005	0.001	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-01	**Date Collected**	: 06/25/24 10:20
Client ID	: MW-02-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 07/02/24 13:45
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: JER
Lab File ID	: TCN070224-B	**Instrument ID**	: LACHAT6
Sample Amount	:	**%Solids**	: N/A
Digestion Method	:	**Date Digested**	: 07/01/24

		mg/l				
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**	
57-12-5	Cyanide, Total	ND	0.005	0.001	U	UJ

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Hexavalent Chromium Analysis

No data validation qualifiers were added

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Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-01	**Date Collected**	: 06/25/24 10:20
Client ID	: MW-02-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 06/26/24 09:05
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: JBB
Lab File ID	: WG1939528.csv	**Instrument ID**	: GENSYS 10S
Sample Amount	: 50	**%Solids**	: N/A
Digestion Method	:	**Date Digested**	: 06/26/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent (Unfiltered)	ND	0.010	0.003	U

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Lab ID	: L2435830-01	**Date Collected**	: 06/25/24 10:20
Client ID	: MW-02-20240625	**Date Received**	: 06/25/24
Sample Location	:	**Date Analyzed**	: 06/26/24 08:45
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: JBB
Lab File ID	: WG1939526.csv	**Instrument ID**	: GENSYS 10S
Sample Amount	: 50	**%Solids**	: N/A
Digestion Method	:	**Date Digested**	: 06/26/24

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.010	0.003	U

Appendix B

Laboratory QC Documentation

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Matrix (Level)	: WATER (LOW)		
LCS Sample ID	: WG1940775-3 **Analysis Date** : 06/27/24 14:02	**File ID**	: V08240627A01
LCSD Sample ID	: WG1940775-4 **Analysis Date** : 06/27/24 14:25	**File ID**	: V08240627A02

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Methylene chloride	10	11	110	10	9.8	98	12	70-130	20
1,1-Dichloroethane	10	10	100	10	9.1	91	9	70-130	20
Chloroform	10	11	110	10	9.7	97	13	70-130	20
Carbon tetrachloride	10	12	120	10	11	110	9	63-132	20
1,2-Dichloropropane	10	9.6	96	10	8.5	85	12	70-130	20
Dibromochloromethane	10	11	110	10	9.7	97	13	63-130	20
1,1,2-Trichloroethane	10	9.9	99	10	8.9	89	11	70-130	20
Tetrachloroethene	10	11	110	10	9.5	95	15	70-130	20
Chlorobenzene	10	11	110	10	9.6	96	14	75-130	20
Trichlorofluoromethane	10	8.1	81	10	7.3	73	10	62-150	20
1,2-Dichloroethane	10	10	100	10	9.3	93	7	70-130	20
1,1,1-Trichloroethane	10	12	120	10	10	100	18	67-130	20
Bromodichloromethane	10	10	100	10	9.4	94	6	67-130	20
trans-1,3-Dichloropropene	10	9.6	96	10	8.8	88	9	70-130	20
cis-1,3-Dichloropropene	10	9.8	98	10	8.7	87	12	70-130	20
Bromoform	10	10	100	10	10	100	0	54-136	20
1,1,2,2-Tetrachloroethane	10	8.5	85	10	8.1	81	5	67-130	20
Benzene	10	9.5	95	10	8.6	86	10	70-130	20
Toluene	10	10	100	10	9.0	90	11	70-130	20
Ethylbenzene	10	10	100	10	9.2	92	8	70-130	20
Chloromethane	10	12	120	10	9.8	98	20	64-130	20
Bromomethane	10	2.3	23 Q	10	2.0	20 Q	14	39-139	20
Vinyl chloride	10	7.6	76	10	6.7	67	13	55-140	20
Chloroethane	10	6.1	61	10	5.8	58	5	55-138	20
1,1-Dichloroethene	10	11	110	10	9.5	95	15	61-145	20
trans-1,2-Dichloroethene	10	11	110	10	9.5	95	15	70-130	20

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: WG1940775-5	Date Collected	: NA
Client ID	: WG1940775-5BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 06/27/24 15:32
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: LAC
Lab File ID	: V08240627A05	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
75-25-2	Bromoform	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	1.8	2.5	0.70	J
74-83-9	Bromomethane	ND	2.5	0.70	U
75-01-4	Vinyl chloride	ND	1.0	0.07	U
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U

Initial Calibration Summary
Form 6
Volatiles

Client	**: C&S Companies**	**Lab Number**	**: L2435830**
Project Name	**: 1803 ELMWOOD AVENUE BCP-RI**	**Project Number**	**: S93.003.002**
Instrument ID	**: VOA108**	**Ical Ref**	**: ICAL21127**
Calibration dates	**: 05/14/24 19:49 05/14/24 23:33**		

Calibration Files
L11 =V08240514N03.d L1 =V08240514N05.d L2 =V08240514N07.d L3 =V08240514N09.d L4 =V08240514N10.d
L6 =V08240514N11.d L8 =V08240514N12.d L10 =V08240514N13.d

		Compound	L11	L1	L2	L3	L4	L6	L8	L10	Avg	%RSD
40)	TP	1,1-Dichloropr		0.220	0.272	0.258	0.257	0.247	0.250	0.283	0.255	7.84
41)	TP	Benzene	0.806	0.743	0.806	0.764	0.767	0.738	0.741	0.837	0.775	4.77
42)	TP	Tertiary-Amyl Methyl Ether		0.558	0.562	0.535	0.532	0.509	0.514	0.582	0.542	4.95
43)	S	1,2-Dichloroethane-d4	0.295	0.302	0.300	0.306	0.308	0.310	0.312	0.323	0.307	2.73
44)	TP	1,2-Dichloroet		0.271	0.276	0.258	0.255	0.243	0.244	0.274	0.260	5.33
47)	TP	Methyl cyclohe		0.257	0.327	0.300	0.304	0.300	0.309	0.357	0.308	9.90
48)	TP	Trichloroethene	0.209	0.181	0.217	0.211	0.198	0.195	0.196	0.231	0.205	7.47
50)	TP	Dibromomethane		0.115	0.124	0.116	0.119	0.113	0.114	0.128	0.118	4.78
51)	TC	1,2-Dichloropr		0.192	0.217	0.207	0.206	0.197	0.198	0.224	0.206	5.63
53)	TP	2-Chloroethyl		0.104	0.115	0.108	0.110	0.106	0.106	0.120	0.110	5.22
54)	TP	Bromodichlorom		0.283	0.291	0.276	0.281	0.271	0.272	0.308	0.283#	4.55
57)	TP	1,4-Dioxane		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001#	5.74
58)	TP	cis-1,3-Dichlo		0.321	0.334	0.323	0.326	0.316	0.318	0.360	0.328	4.58
59)	I	Chlorobenzene-d5	----------ISTD----------									
60)	S	Toluene-d8	1.334	1.329	1.296	1.316	1.328	1.308	1.305	1.284	1.313	1.33
61)	TC	Toluene		0.645	0.680	0.647	0.649	0.630	0.629	0.695	0.654	3.82
62)	TP	4-Methyl-2-pen		0.060	0.074	0.071	0.074	0.071	0.073	0.080	0.072	8.54
63)	TP	Tetrachloroethene		0.246	0.285	0.273	0.271	0.262	0.265	0.292	0.271	5.58
65)	TP	trans-1,3-Dich		0.398	0.384	0.379	0.396	0.379	0.381	0.419	0.391	3.78
67)	TP	Ethyl methacry		0.281	0.279	0.274	0.278	0.268	0.268	0.298	0.278	3.70
68)	TP	1,1,2-Trichlor		0.188	0.183	0.173	0.175	0.169	0.169	0.187	0.178#	4.52
69)	TP	Chlorodibromom		0.265	0.274	0.274	0.283	0.275	0.275	0.302	0.278	4.14
70)	TP	1,3-Dichloropr		0.366	0.373	0.364	0.368	0.348	0.346	0.377	0.363	3.28
71)	TP	1,2-Dibromoethane		0.204	0.212	0.210	0.210	0.201	0.200	0.218	0.208	3.01
72)	TP	2-Hexanone		0.214	0.153	0.138	0.141	0.131	0.131	0.143	0.150	19.55
73)	TP	Chlorobenzene		0.705	0.751	0.726	0.730	0.703	0.698	0.768	0.726	3.61
74)	TC	Ethylbenzene		1.156	1.257	1.240	1.250	1.222	1.216	1.338	1.240	4.42
75)	TP	1,1,1,2-Tetrac		0.264	0.278	0.277	0.279	0.270	0.270	0.296	0.276	3.72
76)	TP	p/m Xylene		0.446	0.494	0.479	0.491	0.478	0.484	0.535	0.487	5.49
77)	TP	o Xylene		0.446	0.479	0.473	0.478	0.468	0.472	0.522	0.477	4.80
78)	TP	Styrene		0.746	0.796	0.794	0.808	0.795	0.800	0.873	0.802	4.65
79)	I	1,4-Dichlorobenzene-d4	----------ISTD----------									
80)	TP	Bromoform		0.323	0.307	0.322	0.341	0.336	0.340	0.362	0.333	5.26
82)	TP	Isopropylbenzene		2.259	2.482	2.469	2.516	2.472	2.496	2.658	2.479	4.72
83)	S	4-Bromofluorobenzene	0.963	0.968	0.948	0.957	0.958	0.951	0.951	0.920	0.952	1.53
84)	TP	Bromobenzene		0.642	0.623	0.614	0.629	0.605	0.609	0.649	0.625	2.66

Evaluate Continuing Calibration Report

Data Path : K:\VOA108\2024\240514NICAL\
Data File : V08240514N18.d
Acq On : 15 May 2024 1:24 am
Operator : VOA108:PID
Sample : C8260STD10PPB
Misc : WG1921348,ICAL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 15 09:36:42 2024
Quant Method : K:\VOA108\2024\240514NICAL\V108_240514N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed May 15 09:35:21 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	87	0.00
2	TP	Dichlorodifluoromethane	0.231	0.259	-12.1	98	0.00
3	TP	Chloromethane	0.237	0.299	-26.2#	110	0.00
4	TC	Vinyl chloride	0.253	0.297	-17.4	101	0.00
5	TP	Bromomethane	0.128	0.172	-34.4#	123	0.00
6	TP	Chloroethane	0.142	0.165	-16.2	100	0.00
7	TP	Trichlorofluoromethane	0.331	0.378	-14.2	99	0.00
8	TP	Ethyl ether	0.099	0.118	-19.2	106	0.00
10	TC	1,1-Dichloroethene	0.165	0.179	-8.5	94	0.00
11	TP	Carbon disulfide	0.562	0.411	26.9#	64	0.00
12	TP	Freon-113	0.170	0.180	-5.9	94	0.00
13	TP	Iodomethane	0.257	0.290	-12.8	101	0.00
14	TP	Acrolein	0.028	0.028	0.0	91	0.00
15	TP	Methylene chloride	0.197	0.215	-9.1	95	0.00
17	TP	Acetone	0.039	0.045	-15.4	99	0.00
18	TP	trans-1,2-Dichloroethene	0.187	0.205	-9.6	95	0.00
19	TP	Methyl acetate	0.106	0.116	-9.4	97	0.00
20	TP	Methyl tert-butyl ether	0.503	0.529	-5.2	93	0.00
21	TP	tert-Butyl alcohol	0.014	0.015	-7.1	95	0.00
22	TP	Diisopropyl ether	0.698	0.720	-3.2	92	0.00
23	TP	1,1-Dichloroethane	0.367	0.403	-9.8	96	0.00
24	TP	Halothane	0.143	0.159	-11.2	97	0.00
25	TP	Acrylonitrile	0.048	0.056	-16.7	108	0.00
26	TP	Ethyl tert-butyl ether	0.633	0.648	-2.4	91	0.00
27	TP	Vinyl acetate	0.436	0.394	9.6	101	0.00
28	TP	cis-1,2-Dichloroethene	0.209	0.227	-8.6	94	0.00
29	TP	2,2-Dichloropropane	0.313	0.325	-3.8	95	0.00
30	TP	Bromochloromethane	0.101	0.110	-8.9	93	0.00
31	TP	Cyclohexane	0.329	0.332	-0.9	91	0.00
32	TC	Chloroform	0.354	0.388	-9.6	95	0.00
33	TP	Ethyl acetate	0.160	0.177	-10.6	99	0.00
34	TP	Carbon tetrachloride	0.288	0.316	-9.7	94	0.00
35	TP	Tetrahydrofuran	0.044	0.050	-13.6	103	0.00
36	S	Dibromofluoromethane	0.274	0.273	0.4	85	0.00
37	TP	1,1,1-Trichloroethane	0.309	0.339	-9.7	95	0.00
39	TP	2-Butanone	0.068	0.077	-13.2	94	0.00
40	TP	1,1-Dichloropropene	0.255	0.281	-10.2	95	0.00
41	TP	Benzene	0.775	0.821	-5.9	94	0.00
42	TP	tert-Amyl methyl ether	0.542	0.560	-3.3	92	0.00

Calibration Verification Summary
Form 7
Volatiles

Client	: C&S Companies		Lab Number	: L2435830	
Project Name	: 1803 ELMWOOD AVENUE BCP-RI		Project Number	: S93.003.002	
Instrument ID	: VOA108		Calibration Date	: 06/27/24 14:02	
Lab File ID	: V08240627A01		Init. Calib. Date(s)	: 05/14/24	05/14/24
Sample No	: WG1940775-2		Init. Calib. Times	: 19:49	23:33
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
Fluorobenzene	1	1	-	0	20	107	0	
Dichlorodifluoromethane	0.231	0.261	-	-13	20	122	0	
Chloromethane	0.237	0.28	-	-18.1	20	126	0	
Vinyl chloride	0.253	0.192	-	24.1*	20	80	0	
Bromomethane	0.128	0.029	-	77.3*	20	26	0	
Chloroethane	0.142	0.087	-	38.7*	20	64	-.01	
Trichlorofluoromethane	0.331	0.269	-	18.7	20	86	0	
Ethyl ether	0.099	0.069	-	30.3*	20	76	0	NT
1,1-Dichloroethene	0.165	0.182	-	-10.3	20	117	0	
Carbon disulfide	0.562	0.596	-	-6	20	114	0	
Freon-113	0.17	0.193	-	-13.5	20	124	0	
Iodomethane	0.257	0.107	-	58.4*	20	46	0	NT
Acrolein	0.028	0.018	-	35.7*	20	74	0	NT
Methylene chloride	0.197	0.213	-	-8.1	20	116	0	
Acetone	0.039	0.049	-	-25.6*	20	132	0	
trans-1,2-Dichloroethene	0.187	0.199	-	-6.4	20	113	0	
Methyl acetate	0.106	0.097	-	8.5	20	100	0	
Methyl tert-butyl ether	0.503	0.487	-	3.2	20	106	0	
tert-Butyl alcohol	0.014	0.014	-	0	20	107	0	
Diisopropyl ether	0.698	0.662	-	5.2	20	104	0	
1,1-Dichloroethane	0.367	0.37	-	-0.8	20	108	0	
Halothane	0.143	0.16	-	-11.9	20	120	0	
Acrylonitrile	0.048	0.042	-	12.5	20	98	0	
Ethyl tert-butyl ether	0.633	0.583	-	7.9	20	101	0	
Vinyl acetate	0.436	0.233	-	46.6*	20	73	0	NT
cis-1,2-Dichloroethene	0.209	0.221	-	-5.7	20	113	0	
2,2-Dichloropropane	0.313	0.299	-	4.5	20	107	0	
Bromochloromethane	0.101	0.11	-	-8.9	20	114	0	
Cyclohexane	0.329	0.291	-	11.6	20	98	0	
Chloroform	0.354	0.383	-	-8.2	20	116	0	
Ethyl acetate	0.16	0.155	-	3.1	20	106	0	
Carbon tetrachloride	0.288	0.352	-	-22.2*	20	129	0	
Tetrahydrofuran	0.044	0.041	-	6.8	20	104	0	
Dibromofluoromethane	0.274	0.301	-	-9.9	20	116	0	
1,1,1-Trichloroethane	0.309	0.359	-	-16.2	20	124	0	
2-Butanone	0.068	0.068	-	0	20	102	0	
1,1-Dichloropropene	0.255	0.269	-	-5.5	20	112	0	
Benzene	0.775	0.74	-	4.5	20	104	0	
tert-Amyl methyl ether	0.542	0.508	-	6.3	20	102	0	
1,2-Dichloroethane-d4	0.307	0.333	-	-8.5	20	117	0	
1,2-Dichloroethane	0.26	0.269	-	-3.5	20	112	0	
Methyl cyclohexane	0.308	0.305	-	1	20	109	0	
Trichloroethene	0.205	0.25	-	-22*	20	128	0	

* Value outside of QC limits.

Surrogate Recovery Summary
Form 2
Semivolatiles

Client: C&S Companies
Project Name: 1803 ELMWOOD AVENUE BCP-RI

Lab Number: L2435830
Project Number: S93.003.002
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S1 (2FP)	S2 (PHL)	S3 (NBZ)	S4 (FBP)	S5 (TBP)	S6 (TPH)	TOT OUT
MW-02-20240625 (L2435830-01)	16*	20	69	50	17	64	1
MW-03-20240625 (L2435830-02)	13*	16	69	54	16	70	1
WG1940351-1BLANK	24	18	72	39	38	72	0
WG1940351-2LCS	41	29	65	52	63	68	0
WG1940351-3LCSD	48	34	65	51	73	63	0

QC LIMITS

(21-120) 2FP = 2-FLUOROPHENOL
(10-120) PHL = PHENOL-D6
(23-120) NBZ = NITROBENZENE-D5
(15-120) FBP = 2-FLUOROBIPHENYL
(10-120) TBP = 2,4,6-TRIBROMOPHENOL
(41-149) TPH = 4-TERPHENYL-D14

* Values outside of QC limits

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: C&S Companies	**Lab Number**	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	**Project Number**	: S93.003.002
Matrix (Level)	: WATER (LOW)		
LCS Sample ID	: WG1940351-2 **Analysis Date** : 06/28/24 12:33	**File ID**	: 940351-2
LCSD Sample ID	: WG1940351-3 **Analysis Date** : 06/28/24 12:56	**File ID**	: 940351-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Bis(2-chloroethyl)ether	20	16.	80	20	16.	79	1	40-140	30
3,3'-Dichlorobenzidine	20	19.	94	20	18.	88	7	40-140	30
2,4-Dinitrotoluene	20	17.	85	20	15.	77	10	48-143	30
2,6-Dinitrotoluene	20	17.	84	20	16.	78	7	40-140	30
4-Chlorophenyl phenyl ether	20	14.	73	20	14.	70	4	40-140	30
4-Bromophenyl phenyl ether	20	15.	74	20	14.	71	4	40-140	30
Bis(2-chloroisopropyl)ether	20	14.	72	20	15.	74	3	40-140	30
Bis(2-chloroethoxy)methane	20	16.	80	20	16.	78	3	40-140	30
Hexachlorocyclopentadiene	20	6.8	34 Q	20	6.6	33 Q	3	40-140	30
Isophorone	20	16.	81	20	16.	80	1	40-140	30
Nitrobenzene	20	16.	78	20	16.	79	1	40-140	30
NDPA/DPA	20	17.	83	20	15.	76	9	40-140	30
n-Nitrosodi-n-propylamine	20	17.	83	20	16.	81	2	29-132	30
Bis(2-ethylhexyl)phthalate	20	16.	78	20	14.	70	11	40-140	30
Butyl benzyl phthalate	20	16.	79	20	15.	73	8	40-140	30
Di-n-butylphthalate	20	16.	81	20	14.	72	12	40-140	30
Di-n-octylphthalate	20	16.	82	20	15.	74	10	40-140	30
Diethyl phthalate	20	17.	86	20	16.	80	7	40-140	30
Dimethyl phthalate	20	17.	87	20	16.	78	11	40-140	30
Biphenyl	20	14.	71	20	12.	61	15	40-140	30
4-Chloroaniline	20	16.	79	20	14.	72	9	40-140	30
2-Nitroaniline	20	18.	88	20	16.	79	11	52-143	30
3-Nitroaniline	20	19.	95	20	18.	90	5	25-145	30
4-Nitroaniline	20	18.	90	20	18.	88	2	51-143	30
Dibenzofuran	20	15.	76	20	15.	75	1	40-140	30
1,2,4,5-Tetrachlorobenzene	20	13.	63	20	12.	58	8	2-134	30

Calibration Verification Summary
Form 7
Semivolatiles

Client	: C&S Companies		Lab Number	: L2435830	
Project Name	: 1803 ELMWOOD AVENUE BCP-RI		Project Number	: S93.003.002	
Instrument ID	: SV107		Calibration Date	: 06/29/24 01:08	
Lab File ID	: ABN0628NA		Init. Calib. Date(s)	: 06/02/24	06/03/24
Sample No	: WG1941068-3		Init. Calib. Times	: 19:34	07:50
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
IS1_1,4-Dichlorobenzene-d4	1	1	-	0	20	121	0
n-Nitrosodimethylamine	0.704	0.759	-	-7.8	20	133	0
Pyridine	1.199	1.224	-	-2.1	20	129	0
2-Fluorophenol	1.069	1.136	-	-6.3	20	133	0
Aniline	1.713	1.457	-	14.9	20	108	0
2-Chlorophenol	1.178	1.2	-	-1.9	20	129	0
Phenol-d6	1.322	1.335	-	-1	20	128	0
Phenol	1.438	1.45	-	-0.8	20	129	0
Bis(2-chloroethyl)ether	1.185	1.144	-	3.5	20	127	0
1,3-Dichlorobenzene	1.452	1.458	-	-0.4	20	130	0
1,4-Dichlorobenzene	1.478	1.491	-	-0.9	20	130	0
1,2-Dichlorobenzene	1.426	1.395	-	2.2	20	127	0
Benzyl alcohol	1	0.871	-	12.9	20	111	0
Bis(2-chloroisopropyl)ethe	1.623	1.642	-	-1.2	20	133	0
2-Methylphenol	1.031	0.937	-	9.1	20	115	0
Hexachloroethane	0.545	0.559	-	-2.6	20	131	0
n-Nitrosodi-n-propylamine	0.879	0.75	-	14.7	20	109	0
3-Methylphenol/4-Methylphe	1.084	1.016	-	6.3	20	114	0
Nitrobenzene-d5	1.165	1.166	-	-0.1	20	123	0
Nitrobenzene	1.197	1.171	-	2.2	20	120	0
Isophorone	2.31	1.923	-	16.8	20	104	0
2-Nitrophenol	0.533	0.57	-	-6.9	20	139	0
2,4-Dimethylphenol	1.088	0.591	-	45.7*	20	68	0
Bis(2-chloroethoxy)methane	1.508	1.37	-	9.2	20	118	0
2,4-Dichlorophenol	1.094	1.067	-	2.5	20	118	0
1,2,4-Trichlorobenzene	1.318	1.259	-	4.5	20	125	0
IS1_Naphthalene-d8	1	1	-	0	20	113	0
Naphthalene	0.996	0.971	-	2.5	20	119	0
Benzoic Acid	5	5.473	-	-9.5	20	137	0
4-Chloroaniline	0.126	0.112	-	11.1	20	106	0
Hexachlorobutadiene	0.211	0.217	-	-2.8	20	126	0
p-Chloro-m-cresol	0.272	0.257	-	5.5	20	106	0
2-Methylnaphthalene	0.688	0.656	-	4.7	20	114	0
1-Methylnaphthalene	0.235	0.213	-	9.4	20	110	0
Hexachlorocyclopentadiene	0.205	0.189	-	7.8	20	109	0
2,4,6-Trichlorophenol	0.237	0.228	-	3.8	20	107	0
2,4,5-Trichlorophenol	0.251	0.247	-	1.6	20	109	0
2-Fluorobiphenyl	0.866	0.8	-	7.6	20	110	0
2-Chloronaphthalene	0.715	0.644	-	9.9	20	108	0
2-Nitroaniline	0.173	0.168	-	2.9	20	109	0
1,4-Dinitrobenzene	0.087	0.086	-	1.1	20	128	0
1,3-Dinitrobenzene	0.109	0.098	-	10.1	20	112	0
Dimethyl phthalate	0.839	0.738	-	12	20	103	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: C&S Companies		Lab Number	: L2435830	
Project Name	: 1803 ELMWOOD AVENUE BCP-RI		Project Number	: S93.003.002	
Instrument ID	: SV107		Calibration Date	: 06/29/24 01:08	
Lab File ID	: ABN0628NA		Init. Calib. Date(s)	: 06/02/24	06/03/24
Sample No	: WG1941068-3		Init. Calib. Times	: 19:34	07:50
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
Acenaphthylene	1.079	1.015	-	5.9	20	110	0	
2,6-Dinitrotoluene	0.153	0.149	-	2.6	20	106	0	
1,2-Dinitrobenzene	0.068	0.064	-	5.9	20	104	0	
IS1_Acenaphthene-d10	1	1	-	0	20	98	0	
3-Nitroaniline	0.259	0.273	-	-5.4	20	104	0	
Acenaphthene	1.081	1.024	-	5.3	20	103	0	
2,4-Dinitrophenol	5	5.711	-	-14.2	20	141	0	
Dibenzofuran	1.757	1.67	-	5	20	102	0	
2,4-Dinitrotoluene	5	4.665	-	6.7	20	108	0	
4-Nitrophenol	0.221	0.23	-	-4.1	20	109	0	
2,3,5,6-Tetrachlorophenol	0.318	0.34	-	-6.9	20	104	0	
2,3,4,6-Tetrachlorophenol	0.314	0.329	-	-4.8	20	100	0	
Diethyl phthalate	1.301	1.22	-	6.2	20	100	0	
Fluorene	1.328	1.257	-	5.3	20	100	0	
4-Chlorophenyl phenyl ethe	0.672	0.639	-	4.9	20	102	0	
4-Nitroaniline	0.262	0.248	-	5.3	20	97	0	
4,6-Dinitro-o-cresol	5	5.184	-	-3.7	20	135	0	
NDPA/DPA	1.131	1.06	-	6.3	20	98	0	
Azobenzene	1.259	1.19	-	5.5	20	98	0	
2,4,6-Tribromophenol	0.171	0.183	-	-7	20	102	0	
4-Bromophenyl phenyl ether	0.376	0.34	-	9.6	20	96	0	
Hexachlorobenzene	0.431	0.365	-	15.3	20	92	0	
Pentachlorophenol	0.252	0.226	-	10.3	20	94	0	
IS1_Phenanthrene-d10	1	1	-	0	20	89	0	
Phenanthrene	1.038	0.99	-	4.6	20	94	0	
Anthracene	1.03	0.985	-	4.4	20	93	0	
Carbazole	0.928	0.867	-	6.6	20	88	0	
Di-n-butylphthalate	1.088	0.992	-	8.8	20	85	0	
Fluoranthene	1.186	1.049	-	11.6	20	86	0	
Benzidine	0.721	0.493	-	31.6*	20	65	0	NT
Pyrene	1.269	1.125	-	11.3	20	87	0	
4-Terphenyl-d14	0.875	0.753	-	13.9	20	84	0	
Butyl benzyl phthalate	5	3.815	-	23.7*	20	81	0	
IS1_Chrysene-d12	1	1	-	0	20	73	0	
Benzo(a)anthracene	1.335	1.278	-	4.3	20	76	0	
3,3'-Dichlorobenzidine	0.43	0.431	-	-0.2	20	73	0	
Chrysene	1.276	1.277	-	-0.1	20	80	0	
Bis(2-ethylhexyl)phthalate	5	4.764	-	4.7	20	80	0	
Di-n-octylphthalate	5	4.386	-	12.3	20	77	0	
Benzo(b)fluoranthene	1.178	1.21	-	-2.7	20	79	0	
Benzo(k)fluoranthene	1.154	1.033	-	10.5	20	68	0	
Benzo(a)pyrene	1.025	0.998	-	2.6	20	74	0	
IS1_Perylene-d12	1	1	-	0	20	66	0	

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: C&S Companies		Lab Number	: L2435830	
Project Name	: 1803 ELMWOOD AVENUE BCP-RI		Project Number	: S93.003.002	
Instrument ID	: SV120		Calibration Date	: 06/28/24 09:45	
Lab File ID	: CCV0628		Init. Calib. Date(s)	: 05/21/24	05/22/24
Sample No	: WG1940795-3		Init. Calib. Times	: 10:37	13:32
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,4-Dichlorobenzene-d4	1	1	.05	0	20	56	0
2-Fluorophenol	1.189	1.282	.05	-7.8	20	57	0
Phenol-d6	1.429	1.581	.05	-10.6	20	58	0
Bis(2-chloroethyl)ether	1.263	1.286	.05	-1.8	20	56	0
n-nitrosodi-n-propylamine	0.866	0.974	.05	-12.5	20	58	0
Hexachloroethane	0.572	0.572	.05	0	20	54	0
Nitrobenzene-d5	1.273	1.468	.05	-15.3	20	60	0
Naphthalene-d8	1	1	.05	0	20	61	0
Naphthalene	1.131	1.081	.05	4.4	20	58	0
Hexachlorobutadiene	0.216	0.205	.05	5.1	20	56	0
2-Methylnaphthalene	0.705	0.724	.05	-2.7	20	60	0
1-Methylnaphthalene	0.664	0.666	.05	-0.3	20	59	0
2-Fluorobiphenyl	0.851	0.855	.05	-0.5	20	60	0
2-Chloronaphthalene	0.721	0.712	.05	1.2	20	58	0
2,6-Dinitrotoluene	1000	1008.839	.05	-0.9	20	63	0
Acenaphthylene	1.061	1.162	.05	-9.5	20	60	0
Acenaphthene-d10	1	1	.05	0	20	65	0
Acenaphthene	1.372	1.366	.05	0.4	20	63	0
2,4-Dinitrotoluene	1000	987.527	.05	1.2	20	64	0
Fluorene	1.479	1.502	.05	-1.6	20	63	0
2,4,6-Tribromophenol	1000	838.571	.05	16.1	20	54	0
Phenanthrene-d10	1	1	.05	0	20	71	0
4,6-Dinitro-o-cresol	1000	986.243	.05	1.4	20	69	0
Hexachlorobenzene	0.288	0.242	.05	16	20	57	0
Pentachlorophenol	1000	943.777	.05	5.6	20	69	0
Phenanthrene	1.125	1.089	.05	3.2	20	64	0
Anthracene	1.111	1.138	.05	-2.4	20	68	0
Fluoranthene	1.22	1.333	.05	-9.3	20	74	0
Pyrene	1.265	1.388	.05	-9.7	20	74	0
4-Terphenyl-d14	0.814	0.904	.05	-11.1	20	79	0
Chrysene-d12	1	1	.05	0	20	91	0
Benzo[a]anthracene	1000	945.59	.05	5.4	20	82	0
3,3'-Dichlorobenzene	0.533	0.583	.05	-9.4	20	90	0
Chrysene	1.45	1.422	.05	1.9	20	86	0
Bis(2-ethylhexyl)phthalate	1000	951.646	.05	4.8	20	92	0
Perylene-d12	1	1	.05	0	20	110	0
Benzo[b]fluoranthene	1.323	1.331	.05	-0.6	20	98	0
Benzo[k]fluoranthene	1.259	1.262	.05	-0.2	20	99	0
Benzo[a]pyrene	1.09	1.217	.05	-11.7	20	107	0
Indeno[1,2,3-cd]pyrene	1.027	1.317	.05	-28.2*	20	130	0
Dibenzo[a,h]anthracene	0.983	1.228	.05	-24.9*	20	121	0
Benzo[g,h,i]perylene	1.045	1.255	.05	-20.1*	20	124	0

* Value outside of QC limits.

Matrix Spike Sample Summary
Form 3
Semivolatiles

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Client Sample ID	: MW-02-20240625	Matrix (Level)	: WATER ()
Lab Sample ID	: L2435830-01	Analysis Date	: 07/09/24 01:02
Matrix Spike	: WG1944520-4	MS Analysis Date	: 07/09/24 01:15
Matrix Spike Dup	: WG1944520-5	MSD Analysis Date	: 07/09/24 01:28

		Matrix Spike Sample			Matrix Spike Duplicate					
Parameter	Sample Conc. (ng/l)	Spike Added (ng/l)	Spike Conc. (ng/l)	%R	Spike Added (ng/l)	Spike Conc. (ng/l)	%R	RPD	Recovery Limits	RPD Limit
(PFDoS)										
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	72.8	92.8	127	72.2	88.1	122	5	40-150	30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	73.6	88.9	121	73	82.0	112	8	40-150	30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND	19.5	22.5	116	19.3	24.3	126	8	40-150	30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND	19.5	22.1	114	19.3	22.3	115	1	40-150	30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND	195	261	134	193	262	136	0	40-150	30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND	195	258	133	193	257	133	0	40-150	30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	38.9	68.3	175 Q	38.6	63.8	165 Q	7	40-150	30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	38.9	42.7	110	38.6	43.7	113	2	40-150	30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	34.6	41.2	119	34.4	43.3	126	5	40-150	30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	38.9	54.0	139	38.6	55.7	144	3	40-150	30
3-Perfluoropropyl Propanoic Acid	ND	97.3	127	130	96.6	126	130	1	40-150	30

Results Summary
Form 1
Perfluorinated Alkyl Acids by EPA 1633

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: WG1944520-1	Date Collected	: NA
Client ID	: WG1944520-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 07/08/24 23:59
Sample Matrix	: WATER	Date Extracted	: 07/08/24
Analytical Method	: 144,1633	Dilution Factor	: 1
Lab File ID	: SCI05_240708_50	Analyst	: ANH
Sample Amount	: 500 g	Instrument ID	: LCMS05
Extraction Method	: EPA 1633	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 4000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	1.78	6.40	1.02	J
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	3.20	0.856	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	1.60	0.536	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	6.40	1.67	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	1.60	0.472	U
2706-91-4	Perfluoropentanesulfonic Acid (PFPeS)	ND	1.60	0.280	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	1.60	0.320	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	1.60	0.384	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	1.60	0.696	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	6.40	2.16	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.60	0.432	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	1.60	0.504	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	1.60	0.728	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	1.60	0.648	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	6.40	2.49	U
68259-12-1	Perfluorononanesulfonic Acid (PFNS)	ND	1.60	0.496	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	1.60	0.872	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	1.60	0.696	U

Calibration Verification Summary
Form 7
Semivolatiles

Client	: C&S Companies		Lab Number	: L2435830	
Project Name	: 1803 ELMWOOD AVENUE BCP-RI		Project Number	: S93.003.002	
Instrument ID	: LCMS05		Calibration Date	: 07/09/24 03:10	
Lab File ID	: SCI05_240708_65		Init. Calib. Date(s)	: 04/11/24	04/11/24
Sample No	: WG1944558-8		Init. Calib. Times	: 16:21	18:03
Channel	:				

Compound	Concentration (ng/ml)	True Value (ng/ml)	% Recovery	QC Limits
Perfluorobutanoic Acid (PFBA)	10.059	10.000	100.6	70-130
Perfluoropentanoic Acid (PFPeA)	4.971	5.000	99.4	70-130
Perfluorobutanesulfonic Acid (PFBS)	2.105	2.217	94.9	70-130
Perfluorohexanoic Acid (PFHxA)	2.630	2.500	105.2	70-130
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	9.855	9.375	105.1	70-130
Perfluoropentanesulfonic Acid (PFPeS)	2.593	2.353	110.2	70-130
Perfluoroheptanoic Acid (PFHpA)	2.469	2.500	98.8	70-130
Perfluorohexanesulfonic Acid (PFHxS)	2.270	2.285	99.3	70-130
Perfluorooctanoic Acid (PFOA)	2.369	2.500	94.8	70-130
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	9.927	9.500	104.5	70-130
Perfluoroheptanesulfonic Acid (PFHpS)	2.346	2.382	98.5	70-130
Perfluorononanoic Acid (PFNA)	2.218	2.500	88.7	70-130
Perfluorooctanesulfonic Acid (PFOS)	2.103	2.320	90.6	70-130
Perfluorodecanoic Acid (PFDA)	2.518	2.500	100.7	70-130
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	10.375	9.600	108.1	70-130
Perfluorononanesulfonic Acid (PFNS)	2.373	2.405	98.7	70-130
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	2.763	2.500	110.5	70-130
Perfluoroundecanoic Acid (PFUnA)	2.461	2.500	98.4	70-130
Perfluorodecanesulfonic Acid (PFDS)	2.467	2.413	102.2	70-130
Perfluorooctanesulfonamide (PFOSA)	2.364	2.500	94.6	70-130
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	2.491	2.500	99.6	70-130
Perfluorododecanoic Acid (PFDoA)	2.480	2.500	99.2	70-130
Perfluorotridecanoic Acid (PFTrDA)	2.527	2.500	101.1	70-130
Perfluorotetradecanoic Acid (PFTeDA)	2.597	2.500	103.9	70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	9.784	10.000	97.8	70-130
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	9.604	9.450	101.6	70-130
Perfluorododecanesulfonic Acid (PFDoS)	1.983	2.425	81.8	70-130
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	9.994	9.350	106.9	70-130
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	10.205	9.450	108	70-130
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	2.722	2.500	108.9	70-130
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	2.412	2.500	96.5	70-130
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	28.222	25.000	112.9	70-130
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	27.656	25.000	110.6	70-130
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	6.065	5.000	121.3	70-130
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	4.523	5.000	90.5	70-130
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	4.698	4.450	105.6	70-130
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	7.031	5.000	140.6*	70-130
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	12.141	12.500	97.1	70-130
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	68.863	62.500	110.2	70-130
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	71.661	62.500	114.7	70-130
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	9.564	10.000	95.6	70-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	5.516	5.000	110.3	70-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	2.344	2.330	100.6	70-130

* Value outside of QC limits.

Form 1
METALS

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: WG1940431-1	Date Collected	: NA
Client ID	: WG1940431-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 06/28/24 16:36
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: MRC
Lab File ID	: WG1940603.pdf	Instrument ID	: ICPMSQ2
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 06/28/24

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Dissolved	ND	0.0100	0.00327	U
7440-36-0	Antimony, Dissolved	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Dissolved	0.00032	0.00100	0.00016	J
7440-39-3	Barium, Dissolved	ND	0.00050	0.00017	U
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	ND	0.100	0.0394	U
7440-47-3	Chromium, Dissolved	ND	0.00100	0.00017	U
7440-48-4	Cobalt, Dissolved	ND	0.00050	0.00016	U
7440-50-8	Copper, Dissolved	ND	0.00100	0.00038	U
7439-89-6	Iron, Dissolved	ND	0.0500	0.0191	U
7439-92-1	Lead, Dissolved	ND	0.00100	0.00034	U
7439-95-4	Magnesium, Dissolved	ND	0.0700	0.0242	U
7439-96-5	Manganese, Dissolved	ND	0.00100	0.00044	U
7440-02-0	Nickel, Dissolved	ND	0.00200	0.00055	U
7440-09-7	Potassium, Dissolved	ND	0.100	0.0309	U
7782-49-2	Selenium, Dissolved	ND	0.00500	0.00173	U
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-23-5	Sodium, Dissolved	0.0836	0.100	0.0293	J
7440-28-0	Thallium, Dissolved	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	ND	0.01000	0.00341	U

Form 1
METALS

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: WG1941749-1	Date Collected	: NA
Client ID	: WG1941749-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 07/01/24 17:50
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: EJF
Lab File ID	: WG1941538.pdf	Instrument ID	: ICPMSRQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 07/01/24

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Total	0.00335	0.0100	0.00327	J
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U
7439-89-6	Iron, Total	ND	0.0500	0.0191	U
7439-96-5	Manganese, Total	ND	0.00100	0.00044	U

Form 1
WETCHEM

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Lab ID	: WG1941915-1	Date Collected	: NA
Client ID	: WG1941915-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 07/02/24 13:41
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,9010C/9012B	Analyst	: JER
Lab File ID	: TCN070224-B	Instrument ID	: LACHAT6
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 07/01/24

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
57-12-5	Cyanide, Total	0.002	0.005	0.001	J

Form 5a
Matrix Spike

Client	: C&S Companies	Lab Number	: L2435830
Project Name	: 1803 ELMWOOD AVENUE BCP-RI	Project Number	: S93.003.002
Client Sample ID	: NA	Matrix	: WATER
Lab Sample ID	: L2435933-01		
Matrix Spike	: WG1941915-4	MS Analysis Date	: 07/02/24 13:54
Matrix Spike Dup	: WG1941915-5	MSD Analysis Date	: 07/02/24 13:55

		Matrix Spike Sample			Matrix Spike Duplicate					
Parameter	Sample Conc. (mg/l)	Spike Added (mg/l)	Spike Conc. (mg/l)	%R	Spike Added (mg/l)	Spike Conc. (mg/l)	%R	RPD	Recovery Limits	RPD Limit
Cyanide, Total	0.003J	0.2	0.187	94	0.2	0.131	66 Q	35 Q	80-120	20

Appendix C

Validator Qualifications

KENNETH R. APPLIN
Geochemist/Data Validator

Ph.D., Geochemistry and Mineralogy, The Pennsylvania State University

M.S., Geochemistry and Mineralogy, The Pennsylvania State University

B.A., Geological Sciences, SUNY at Geneseo, NY

Dr. Applin has over 35 years of experience working with the geochemistry of natural waters. His prior experience includes working as an Assistant Professor of Geology at the University of Missouri-Columbia and as Chief Hydrogeologist and Geochemist with a leading engineering firm in Rochester, NY. In 1993, he established KR Applin and Associates, a small consulting business that focuses on the geochemistry of natural waters, especially as applied to problems involving the contamination of groundwater and surface water.

Dr. Applin is also an experienced analytical data validator and has provided data validation services since 1994 to a variety of clients performing brownfield cleanup projects, hazardous waste remediation, groundwater monitoring at solid waste facilities, and other projects requiring third-party data validation. Dr. Applin has several years of hands-on experience with the laboratory analysis of natural waters and has successfully completed the USEPA Region II certification courses for performing inorganic and organic analytical data validation.

MICHAEL K. PERRY
Chemist/Data Validator

B.S. Chemistry, Georgia State University, Atlanta, GA

A.A.S., Chemical Technology, Alfred State College, Alfred, NY

Mr. Perry has over 30 years of experience in the analytical laboratory business. During his early career, he spent several years as a laboratory analyst performing the analysis of soil, water, and air samples for inorganic and organic chemical parameters. During his last 20 years in the environmental laboratory business, he managed and directed two major analytical laboratories in Rochester, NY. His management responsibilities included oversight of the daily operations of the lab, staff training and supervision, the selection, purchase, and maintenance of analytical instruments, the introduction of new laboratory methods, analytical quality assurance and quality control, data acquisition and management, and other business-related activities.

Mr. Perry has an extensive working knowledge of the methods and procedures used for sampling and analyzing both inorganic and organic analytes in soil, water, and air. He is an accomplished laboratory chemist and is familiar with the analytical methods and procedures established under the USEPA Contract Laboratory Protocols (CLP), the NYSDEC Analytical Services Protocols (ASP), and the NYSDOH Environmental Laboratory Approval Program (ELAP).

DATA USABILITY SUMMARY REPORT (DUSR)

1803 Elmwood Ave. BCP RI
Buffalo, NY
Project #: S93.003.002

SDG: L2440109
9 Concrete Samples

Prepared for:

C&S Companies
141 Elm Street, Suite 100
Buffalo, NY 14203
Attention: Jesse Alt-Winzig

August 2024

EDU *Environmental Data Usability 10028 Deer Park Dr. Dansville, NY 14437 585-991-9156*

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REVIEWER'S NARRATIVE
C&S Companies SDG L2440109 – 1803 Elmwood Ave. BCP RI

The data associated with this Sample Delivery Group (SDG) L2440109, analyzed by Alpha Analytical, Westborough, MA have been reviewed in accordance with assessment criteria provided by the New York State Department of Environmental Conservation following the review procedures provided in the USEPA Functional Guidelines for evaluating organic and inorganic data.

All analytical results reported by the laboratory are considered valid and acceptable except results that have been qualified as rejected, "R". Results qualified as estimated "J", or as non-detects, "U", are considered usable for the purpose of evaluating water and/or soil quality. However, these qualifiers indicate that the accuracy and/or precision of the analytical result is questionable. A summary of all data that have been qualified and the reasons for qualification are provided in the following data usability summary report (DUSR).

Two facts should be noted by all data users. First, the "R" qualifier means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Values qualified with an "R" should not appear on the final data tables because they cannot be relied upon, even as the last resort. Second, no analyte concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data, but any value potentially contains error.

Reviewer's Signature: Michael K. Perry Date: 8/6/2024

Michael K. Perry
Chemist

1.0 EVENT SUMMARY

SITE:	1803 Elmwood Ave. BCP RI Buffalo, NY Project #: S93.003.002
SAMPLING DATE:	July 17, 2024
SAMPLE TYPE:	9 concrete samples
LABORATORY:	Alpha Analytical Westborough, MA
SDG No.:	L2440109

2.0 INTRODUCTION

This data usability summary report (DUSR) was prepared in accordance with guidance provided by the New York State Department of Environmental Conservation (NYSDEC). The DUSR is based on a review and evaluation of the laboratory analytical data package. Specifically, the NYSDEC guidance recommends review and evaluation of the following elements of the data package:

- Completeness of the data package as defined under the requirements of the NYSDEC Analytical Services Protocols (ASP) Category B or the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) deliverables,
- Compliance with established analyte holding times,
- Adherence to quality control (QC) limits and specifications for blanks, instrument tuning and calibration, surrogate recoveries, spike recoveries, laboratory duplicate analyses, and other QC criteria,
- Adherence to established analytical protocols,
- Conformance of data summary sheets with raw analytical data, and
- Use of correct data qualifiers.

Data deficiencies, analytical protocol deviations, and quality control problems identified using the review criteria above and their effect on the analytical results are discussed in this report.

3.0 SAMPLE AND ANALYSIS SUMMARY

The data package consists of analytical results for 9 concrete samples collected on July 17, 2024. These samples were analyzed for PCBs.

All laboratory analyses were submitted to Alpha Analytical, Westborough, MA and analyzed as SDG L2440109. The analytical results were provided in NYSDEC ASP Category B format, which includes all raw analytical data and laboratory QC data.

4.0 GUIDANCE DOCUMENTS AND DATA REVIEW CRITERIA

The guidance documents appropriate for reviewing laboratory quality control (QC) data and assigning data qualifiers (flags) to analytical results were selected from those listed in Table 4-1. The QC limits established in the documents applicable to this data review were used to assess the quality of the analytical results. In some cases, however, QC limits established internally by the laboratory were taken into account to determine data quality.

The QC criteria considered for assessing the usability of the reported analytical results provided for each analyte type (i.e. VOCs, SVOCs, metals, etc.) are listed in Table 4-2. These criteria may vary with the analytical method utilized by the laboratory. These criteria comply with the guidance recommended in Section 2.0 above.

5.0 DATA VALIDATION QUALIFIERS

The letter qualifiers (flags) used to define data usability are described briefly below. These letters are assigned by the data validator to analytical results having questionable accuracy and/or precision as determined by reviewing the laboratory QC data associated with the analytical results.

TABLE 4-1

Guidance Used For Validating Laboratory Analytical Data

Analyte Group	Guidance	Date
Metals (ICP-AES)	USEPA SOP HW-3a, Rev. 1	September 2016
Metals (Hg & CN)	USEPA SOP HW-3c, Rev. 1	September 2016
Volatile Organic Compounds (by Methods 8260B & 8260C)	USEPA SOP HW-24, Rev. 4	September 2014
Semi-Volatile Organic Compounds (by Method 8270D)	USEPA SOP HW-22 Rev. 5	December 2010
Pesticides (by Method 8181B)	USEPA SOP HW-44, Rev. 1.1	December 2010
Chlorinated Herbicides (by Method 8151A)	USEPA SOP HW-17, Rev. 3.1	December 2010
Polychlorinated Biphenyls (PCBs)	USEPA SOP HW-37A, Rev. 0	June 2015
Volatile Organic Compounds (Air) (by Method TO-15)	USEPA SOP HW-31, Rev. 6	September 2016
Per- and PolyFluoroAlkyl Substances (PFAS)	* NYSDEC ** US Dept. of Defense	January 2021 November 2022
Radiological Analysis		
Uranium	USEPA Method 908.0	June 1999
Radium-226	USEPA Method 903.1	1980
General Chemistry Parameters	per NYSDEC ASP	July 2005

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

** Data Validation Guidelines Module 6: Data Validatioin Procedures for Per- and Polyfluoroalkyl Substances Analysis by QSM Table B-24

TABLE 4-2

QUALITY CONTROL CRITERIA USED FOR VALIDATING LABORATORY ANALYTICAL DATA

VOCs	SVOCs	Pesticides/PCBs	Metals	Gen Chemistry	PFAS
Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg	Completeness of Pkg
Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation	Sample Preservation
Holding Time	Holding Time	Holding Time	Holding Time	Holding Times	Holding Time
System Monitoring Compounds	Surrogate Recoveries	Surrogate Recoveries	Initial/Continuing Calibration	Calibration	Instr Performance Check
Lab Control Sample	Lab Control Sample	Matrix Spikes	CRDL Standards	Lab Control Samples	Initial Calibration
Matrix Spikes	Matrix Spikes	Blanks	Blanks	Blanks	Continuing Calibration
Blanks	Blanks	Instrument Calibration & Verification	Interference Check Sample	Spike Recoveries	Blanks
Instrument Tuning	Instrument Tuning	Comparison of duplicate GC column results	Spike Recoveries	Lab Duplicates	Surrogates
Internal Standards	Internal Standards	Analyte ID	Lab Duplicate		Lab Fortified Blank
Initial Calibration	Initial Calibration	Lab Qualifiers	Lab Control Sample		Matrix Spikes
Continuing Calibration	Continuing Calibration	Field Duplicate	ICP Serial Dilutions		Internal Standards
Lab Qualifiers	Lab Qualifiers		Lab Qualifiers		
Field Duplicate	Field Duplicate		Field Duplicate		

Method TO-15 (Air)	Radiological (U and Ra)
Completeness of Pkg	Completeness of Pkg
Sample Preservation	Sample Preservation
Holding Time	Holding Time
Canister Certification	Sample Specific Yield
Instrument Tuning	Required Detection Limit
Initial Calibration and Instrument Performance	Laboratory Control Sample
	Matrix Spikes
Daily Calibration	Method Blank
Blanks	Instrument Calibration
Lab Control Sample	
Field Duplicate	

The laboratory may also use various letters and symbols to flag analytical results generated when QC limits were exceeded. The meanings of these flags may differ from those used by the independent data validator. Those used by the laboratory are provided with the analytical results.

NOTE: The assignment of data qualifiers by the data reviewer (validator) to laboratory analytical results should not necessarily be interpreted by the data user as a measure of laboratory ability or proficiency. Rather, the qualifiers are intended to provide a measure of data accuracy and precision to the data user, which, for example, may provide a level of confidence in determining whether or not standards or cleanup objectives have been met.

U The analyte was analyzed for but was not detected at or above the sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the *approximate* concentration of the analyte in the sample. (The magnitude of any ± value associated with the result is not determined by data validation).

J+ The result is an estimated quantity and may be biased high.

J- The result is an estimated quantity and may be biased low.

UJ The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R The sample result is rejected (i.e., is unusable) due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

The validated analytical results are attached to this report. Validation qualifiers (flags) are indicated in red print. Data sheets having qualified data are signed and dated by the data reviewer.

6.0 RESULTS OF THE DATA REVIEW

The results of the data review are summarized in Table 6-1. The table lists the samples where QC criteria were found to exceed acceptable limits and the actions taken to qualify the associated analytical results.

7.0 TOTAL USABLE DATA

For SDG L2440109, 9 samples were analyzed and results were reported for 81 analytes. Even though some results were flagged with a "J" as estimated, all results (100 %) are considered usable. See the summary table for the analyses that have been rejected and qualified and the associated QC reasons.

Table 6-1 PCBs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
C-01-20240717	PCB 1268	J detects	2nd column confirmation > 25 %	Data are estimated
C-02-20240717	PCB 1242	J detects	2nd column confirmation > 25 %	Data are estimated
C-03-20240717	PCB 1254	J detects	2nd column confirmation > 25 %	Data are estimated
DUP-A-20240717	PCB 1254 PCB 1268	J detects	2nd column confirmation > 25 %	Data are estimated
C-04-20240717	PCB 1254	J detects	2nd column confirmation > 25 %	Data are estimated
C-06-20240717	PCB 1254	J detects	2nd column confirmation > 25 %	Data are estimated
C-06-20240717	PCB 1242	NJ detects	2nd column confirmation > 25 %	Data are estimated and tentatively identified
C-07-20240717	PCB 1242	J detects	2nd column confirmation > 25 %	Data are estimated
C-03-20240717 DUP-A-20240727	PCB 1254	J detects	% D for Field Dups > 100 %	Data are estimated

ACRONYMS

BSP	Blank Spike
CCAL	Continuing Calibration
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
%D	Percent Difference
ICAL	Initial Calibration
ICB	Initial Calibration Blank
IS	Internal Standard
LCS	Laboratory Control Sample
MS/MSD	Matrix Spike/Matrix Spike Duplicate
QA	Quality Assurance
QC	Quality Control
%R	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
%RSD	Percent Relative Standard Deviation
TAL	Target Analyte List (metals)
TCL	Target Compound List (organics)

Appendix A

Validated Analytical Results

www.alphalab.com



Alpha Analytical

Laboratory Code: 11148

SDG Number: L2440109

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Project Name: MOD PAC
Project Number: 593003002

Lab Number: L2440109
Report Date: 07/24/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2440109-01	C-01-20240717	CONCRETE	1803 ELMWOOD AVE	07/17/24 09:30	07/17/24
L2440109-02	C-02-20240717	CONCRETE	1803 ELMWOOD AVE	07/17/24 09:50	07/17/24
L2440109-03	C-03-20240717	CONCRETE	1803 ELMWOOD AVE	07/17/24 10:00	07/17/24
L2440109-04	DUP-A-20240717	CONCRETE	1803 ELMWOOD AVE	07/17/24 10:00	07/17/24
L2440109-05	C-04-20240717	CONCRETE	1803 ELMWOOD AVE	07/17/24 10:10	07/17/24
L2440109-06	C-05-20240717	CONCRETE	1803 ELMWOOD AVE	07/17/24 10:30	07/17/24
L2440109-07	C-06-20240717	CONCRETE	1803 ELMWOOD AVE	07/17/24 10:45	07/17/24
L2440109-08	C-07-20240717	CONCRETE	1803 ELMWOOD AVE	07/17/24 11:15	07/17/24
L2440109-09	C-08-20240717	CONCRETE	1803 ELMWOOD AVE	07/17/24 11:40	07/17/24

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Wallukeit Report Date: 07/24/24

Title: Technical Director/Representative

L2440109 C&SCOMP 24JUL24

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581 — 8 Walkup Dr. — TEL: 508-898-9220 — FAX: 508-898-9193
Mansfield, MA 02048 — 320 Forbes Blvd — TEL: 508-822-9300 — FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 2

Date Rec'd in Lab 7/18/24

Project Information
Project Name: MOD PAC
Project Location: 1803 ELMWOOD AVE.
Project # S93007002
(Use Project name as Project #) ☐
Project Manager: RICH BACKHART
ALPHAQuote #:

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Client Information
Client: CTS COMPANIES
Address: 141 ELM ST.
BUFFALO NY 14203
Phone: (716)-749-3520
Fax:
Email: RBACKHART@CTSCOS.COM

Deliverables
☐ ASP-A ☒ ASP-B
☒ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

PO #

Regulatory Requirement
☐ NY TOGS ☒ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☒ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:
- MS/MSD COLLECTED FROM C-02
- DUP COLLECTED FROM C-03

Please specify Metals or TAL.

ANALYSIS
2540 TOTAL SOLIDS
TCL PCBS 8082

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID (EJL 7/18/24)	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	2540 TOTAL SOLIDS	TCL PCBS 8082	Sample Specific Comments	Total Bottle
40109-01	C-01-20240717	7/17/24	9:30	CNCRT	RB	X	X		1
-02	C-02-2024 07 17	7/17/24	9:50	CNCRT	RB	X	X		1
~~-02~~ -03	MS C-02-MS-2024 07 17	7/17/24	9:50	CNCRT	RB	X	X		1
~~-02~~ -04	MSD C-02-MSD-20240717	7/17/24	9:50	CNCRT	RB	X	X		1
~~-03~~ -05	C-03-20240717	7/17/24	10:00	CNCRT	RB	X	X		1
~~-04~~ -06	DUP-A-20240717	7/17/24	10:00	CNCRT	RB	X	X		1
~~-05~~ -07	C-04-20240717	7/17/24	10:10	CNCRT	RB	X	X		1
~~-06~~ -08	C-05-20240717	7/17/24	10:30	CNCRT	RB	X	X		1
~~-07~~ -09	C-04-20240717	7/17/24	10:45	CNCRT	RB	X	X		1
~~-08~~ -10	C-07-20240717	7/17/24	11:15	CNCRT	RB	X	X		1

Container Type	A	A
Preservative	A	A

Preservative Code: A = None; B = HCl; C = HNO_3; D = H_2SO_4; E = NaOH; F = MeOH; G = $NaHSO_4$; H = $Na_2S_2O_3$; K/E = Zn Ac/NaOH; O = Other

Container Code: P = Plastic; A = Amber Glass; V = Vial; G = Glass; B = Bacteria Cup; C = Cube; O = Other; E = Encore; D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
	7/17/24 12:55	Jocelyn Foley (PACE)	7/17/24 12:55
Jocelyn Foley (PACE)	7/17/24 12:55	Buffalo Service Center	7/17/24 12:55
BUFFSC	7-17-24 15:37	Russell B Bixby	7-17-24 15:37
Russell B Bixby	7-17-24 2030		7-17-24 2030
	7-17-24 2300		7/18/24 00:00

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page: 2 of 2

Date Rec'd in Lab: 7/18/24

ALPHA Job #: L2440109

Client Information

Client: CTS COMPANIES
Address: 141 ELM ST.
BUFFALO NY 14203
Phone: (716) - 796-3520
Fax:
Email: RBackert@CTSCOS.COM

Project Information

Project Name: MOD PAC
Project Location: 1803 ELMWOOD AVE.
Project #: 593003002
(Use Project name as Project #): ☐
Project Manager: RICH BACKERT
ALPHAQuote #:

Turn-Around Time

Standard: ☒ Due Date:
Rush (only if pre approved): ☐ # of Days:

Deliverables

☐ ASP-A ☒ ASP-B
☒ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information

☐ Same as Client Info
PO #

Regulatory Requirement

☐ NY TOGS ☒ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☒ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

2540 Total Solids
TCL PCBs 8082

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	2540 Total Solids	TCL PCBs 8082	Total Bottle
40109 -01	C-08-20240717	7/17/24	11:40	WASTE	RB	X	X	1

KBL 7/18/24

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	A	A											
Preservative	A	A											

Relinquished By:	Date/Time	Received By:	Date/Time
	7/17/24 12:55	Jocelyn Foley (PACE)	7/17/24 12:55
Jocelyn Foley (PACE)	7/17/24 12:55	Buffalo Service Center	7/17/24 12:55
BLUFF SC	7-17-24 15:37	Russell B Bixby	7-17-24 15:37
Russell B Bixby	7-17-24 2030		7-17-24 2028
	7-17-24 0200		7/18/24 02:00

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

GC Extractable Analysis Polychlorinated Biphenyls (PCB)

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	Lab Number	: L2440109
Project Name	: MOD PAC	Project Number	: 593003002
Lab ID	: L2440109-01	Date Collected	: 07/17/24 09:30
Client ID	: C-01-20240717	Date Received	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	Date Analyzed	: 07/21/24 12:18
Sample Matrix	: Concrete	Date Extracted	: 07/19/24
Analytical Method	: 1,8082A	Dilution Factor	: 1
Lab File ID	: 21240721a-09	Analyst	: EMR
Sample Amount	: 5.39 g	Instrument ID	: PEST21
Extraction Method	: EPA 3540C	GC Column	: CLP-Pesticide
Extract Volume	: 1000 uL	%Solids	: 98
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
12674-11-2	Aroclor 1016	ND	94.6	8.40	U
11104-28-2	Aroclor 1221	ND	94.6	9.48	U
11141-16-5	Aroclor 1232	ND	94.6	20.0	U
53469-21-9	Aroclor 1242	247	94.6	12.7	
12672-29-6	Aroclor 1248	ND	94.6	14.2	U
37324-23-5	Aroclor 1262	ND	94.6	12.0	U
11100-14-4	Aroclor 1268	379	94.6	9.80	J

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2440109
Project Name	: MOD PAC	**Project Number**	: 593003002
Lab ID	: L2440109-01	**Date Collected**	: 07/17/24 09:30
Client ID	: C-01-20240717	**Date Received**	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	**Date Analyzed**	: 07/21/24 12:18
Sample Matrix	: Concrete	**Date Extracted**	: 07/19/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 21240721a-09	**Analyst**	: EMR
Sample Amount	: 5.39 g	**Instrument ID**	: PEST21
Extraction Method	: EPA 3540C	**GC Column**	: CLP-PesticideII
Extract Volume	: 1000 uL	**%Solids**	: 98
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
11097-69-1	Aroclor 1254	506	94.6	10.3	
11096-82-5	Aroclor 1260	615	94.6	17.5	
1336-36-3	PCBs, Total	1750	94.6	8.40	

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	Lab Number	: L2440109
Project Name	: MOD PAC	Project Number	: 593003002
Lab ID	: L2440109-02	Date Collected	: 07/17/24 09:50
Client ID	: C-02-20240717	Date Received	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	Date Analyzed	: 07/21/24 11:55
Sample Matrix	: Concrete	Date Extracted	: 07/19/24
Analytical Method	: 1,8082A	Dilution Factor	: 1
Lab File ID	: 21240721a-06	Analyst	: EMR
Sample Amount	: 5.97 g	Instrument ID	: PEST21
Extraction Method	: EPA 3540C	GC Column	: CLP-Pesticide
Extract Volume	: 1000 uL	%Solids	: 96
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
12674-11-2	Aroclor 1016	ND	87.6	7.78	U	
11104-28-2	Aroclor 1221	ND	87.6	8.78	U	
11141-16-5	Aroclor 1232	ND	87.6	18.6	U	
53469-21-9	Aroclor 1242	51.0	87.6	11.8	J	J
12672-29-6	Aroclor 1248	ND	87.6	13.1	U	
37324-23-5	Aroclor 1262	ND	87.6	11.1	U	

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2440109
Project Name	: MOD PAC	**Project Number**	: 593003002
Lab ID	: L2440109-02	**Date Collected**	: 07/17/24 09:50
Client ID	: C-02-20240717	**Date Received**	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	**Date Analyzed**	: 07/21/24 11:55
Sample Matrix	: Concrete	**Date Extracted**	: 07/19/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 21240721a-06	**Analyst**	: EMR
Sample Amount	: 5.97 g	**Instrument ID**	: PEST21
Extraction Method	: EPA 3540C	**GC Column**	: CLP-PesticideII
Extract Volume	: 1000 uL	**%Solids**	: 96
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
11097-69-1	Aroclor 1254	128	87.6	9.58	
11096-82-5	Aroclor 1260	173	87.6	16.2	
11100-14-4	Aroclor 1268	58.5	87.6	9.08	J
1336-36-3	PCBs, Total	411	87.6	7.78	J

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2440109
Project Name	: MOD PAC	**Project Number**	: 593003002
Lab ID	: L2440109-03	**Date Collected**	: 07/17/24 10:00
Client ID	: C-03-20240717	**Date Received**	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	**Date Analyzed**	: 07/21/24 12:25
Sample Matrix	: Concrete	**Date Extracted**	: 07/19/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 21240721a-10	**Analyst**	: EMR
Sample Amount	: 5.35 g	**Instrument ID**	: PEST21
Extraction Method	: EPA 3540C	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 97
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	96.7	8.59	U
11104-28-2	Aroclor 1221	ND	96.7	9.69	U
11141-16-5	Aroclor 1232	ND	96.7	20.5	U
53469-21-9	Aroclor 1242	ND	96.7	13.0	U
12672-29-6	Aroclor 1248	ND	96.7	14.5	U
11096-82-5	Aroclor 1260	ND	96.7	17.9	U
37324-23-5	Aroclor 1262	ND	96.7	12.3	U
11100-14-4	Aroclor 1268	ND	96.7	10.0	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	Lab Number	: L2440109
Project Name	: MOD PAC	Project Number	: 593003002
Lab ID	: L2440109-03	Date Collected	: 07/17/24 10:00
Client ID	: C-03-20240717	Date Received	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	Date Analyzed	: 07/21/24 12:25
Sample Matrix	: Concrete	Date Extracted	: 07/19/24
Analytical Method	: 1,8082A	Dilution Factor	: 1
Lab File ID	: 21240721a-10	Analyst	: EMR
Sample Amount	: 5.35 g	Instrument ID	: PEST21
Extraction Method	: EPA 3540C	GC Column	: CLP-PesticideII
Extract Volume	: 1000 uL	%Solids	: 97
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
11097-69-1	Aroclor 1254	39.8	96.7	10.6	J	J
1336-36-3	PCBs, Total	39.8	96.7	8.59	J	

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2440109
Project Name	: MOD PAC	**Project Number**	: 593003002
Lab ID	: L2440109-04	**Date Collected**	: 07/17/24 10:00
Client ID	: DUP-A-20240717	**Date Received**	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	**Date Analyzed**	: 07/21/24 12:33
Sample Matrix	: Concrete	**Date Extracted**	: 07/19/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 21240721a-11	**Analyst**	: EMR
Sample Amount	: 5.46 g	**Instrument ID**	: PEST21
Extraction Method	: EPA 3540C	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 96
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	95.5	8.48	U
11104-28-2	Aroclor 1221	ND	95.5	9.57	U
11141-16-5	Aroclor 1232	ND	95.5	20.2	U
53469-21-9	Aroclor 1242	ND	95.5	12.9	U
12672-29-6	Aroclor 1248	ND	95.5	14.3	U
37324-23-5	Aroclor 1262	ND	95.5	12.1	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	Lab Number	: L2440109
Project Name	: MOD PAC	Project Number	: 593003002
Lab ID	: L2440109-04	Date Collected	: 07/17/24 10:00
Client ID	: DUP-A-20240717	Date Received	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	Date Analyzed	: 07/21/24 12:33
Sample Matrix	: Concrete	Date Extracted	: 07/19/24
Analytical Method	: 1,8082A	Dilution Factor	: 1
Lab File ID	: 21240721a-11	Analyst	: EMR
Sample Amount	: 5.46 g	Instrument ID	: PEST21
Extraction Method	: EPA 3540C	GC Column	: CLP-PesticideII
Extract Volume	: 1000 uL	%Solids	: 96
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
11097-69-1	Aroclor 1254	149	95.5	10.4		J
11096-82-5	Aroclor 1260	79.7	95.5	17.6	J	
11100-14-4	Aroclor 1268	33.9	95.5	9.89	J	J
1336-36-3	PCBs, Total	263	95.5	8.48	J	

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	Lab Number	: L2440109
Project Name	: MOD PAC	Project Number	: 593003002
Lab ID	: L2440109-05	Date Collected	: 07/17/24 10:10
Client ID	: C-04-20240717	Date Received	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	Date Analyzed	: 07/21/24 12:40
Sample Matrix	: Concrete	Date Extracted	: 07/19/24
Analytical Method	: 1,8082A	Dilution Factor	: 1
Lab File ID	: 21240721a-12	Analyst	: EMR
Sample Amount	: 5.82 g	Instrument ID	: PEST21
Extraction Method	: EPA 3540C	GC Column	: CLP-Pesticide
Extract Volume	: 1000 uL	%Solids	: 92
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
12674-11-2	Aroclor 1016	ND	93.4	8.29	U	
11104-28-2	Aroclor 1221	ND	93.4	9.36	U	
11141-16-5	Aroclor 1232	ND	93.4	19.8	U	
53469-21-9	Aroclor 1242	39.0	93.4	12.6	J	
12672-29-6	Aroclor 1248	ND	93.4	14.0	U	
11097-69-1	Aroclor 1254	248	93.4	10.2	IP	J
37324-23-5	Aroclor 1262	ND	93.4	11.8	U	

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2440109
Project Name	: MOD PAC	**Project Number**	: 593003002
Lab ID	: L2440109-05	**Date Collected**	: 07/17/24 10:10
Client ID	: C-04-20240717	**Date Received**	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	**Date Analyzed**	: 07/21/24 12:40
Sample Matrix	: Concrete	**Date Extracted**	: 07/19/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 21240721a-12	**Analyst**	: EMR
Sample Amount	: 5.82 g	**Instrument ID**	: PEST21
Extraction Method	: EPA 3540C	**GC Column**	: CLP-PesticideII
Extract Volume	: 1000 uL	**%Solids**	: 92
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
11096-82-5	Aroclor 1260	418	93.4	17.2	
11100-14-4	Aroclor 1268	463	93.4	9.67	
1336-36-3	PCBs, Total	1170	93.4	8.29	J

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	Lab Number	: L2440109
Project Name	: MOD PAC	Project Number	: 593003002
Lab ID	: L2440109-06	Date Collected	: 07/17/24 10:30
Client ID	: C-05-20240717	Date Received	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	Date Analyzed	: 07/21/24 12:48
Sample Matrix	: Concrete	Date Extracted	: 07/19/24
Analytical Method	: 1,8082A	Dilution Factor	: 1
Lab File ID	: 21240721a-13	Analyst	: EMR
Sample Amount	: 5.54 g	Instrument ID	: PEST21
Extraction Method	: EPA 3540C	GC Column	: CLP-Pesticide
Extract Volume	: 1000 uL	%Solids	: 97
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
12674-11-2	Aroclor 1016	ND	93.5	8.30	U
11104-28-2	Aroclor 1221	ND	93.5	9.37	U
11141-16-5	Aroclor 1232	ND	93.5	19.8	U
53469-21-9	Aroclor 1242	ND	93.5	12.6	U
12672-29-6	Aroclor 1248	ND	93.5	14.0	U
11097-69-1	Aroclor 1254	319	93.5	10.2	
37324-23-5	Aroclor 1262	ND	93.5	11.9	U
11100-14-4	Aroclor 1268	156	93.5	9.69	

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2440109
Project Name	: MOD PAC	**Project Number**	: 593003002
Lab ID	: L2440109-06	**Date Collected**	: 07/17/24 10:30
Client ID	: C-05-20240717	**Date Received**	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	**Date Analyzed**	: 07/21/24 12:48
Sample Matrix	: Concrete	**Date Extracted**	: 07/19/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 21240721a-13	**Analyst**	: EMR
Sample Amount	: 5.54 g	**Instrument ID**	: PEST21
Extraction Method	: EPA 3540C	**GC Column**	: CLP-PesticideII
Extract Volume	: 1000 uL	**%Solids**	: 97
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
11096-82-5	Aroclor 1260	238	93.5	17.3	
1336-36-3	PCBs, Total	713	93.5	8.30	

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2440109
Project Name	: MOD PAC	**Project Number**	: 593003002
Lab ID	: L2440109-07	**Date Collected**	: 07/17/24 10:45
Client ID	: C-06-20240717	**Date Received**	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	**Date Analyzed**	: 07/21/24 12:55
Sample Matrix	: Concrete	**Date Extracted**	: 07/19/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 21240721a-14	**Analyst**	: EMR
Sample Amount	: 5.23 g	**Instrument ID**	: PEST21
Extraction Method	: EPA 3540C	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 98
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	97.4	8.64	U
11104-28-2	Aroclor 1221	ND	97.4	9.75	U
11141-16-5	Aroclor 1232	ND	97.4	20.6	U
12672-29-6	Aroclor 1248	ND	97.4	14.6	U
11096-82-5	Aroclor 1260	143	97.4	18.0	
37324-23-5	Aroclor 1262	ND	97.4	12.4	U

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	Lab Number	: L2440109
Project Name	: MOD PAC	Project Number	: 593003002
Lab ID	: L2440109-07	Date Collected	: 07/17/24 10:45
Client ID	: C-06-20240717	Date Received	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	Date Analyzed	: 07/21/24 12:55
Sample Matrix	: Concrete	Date Extracted	: 07/19/24
Analytical Method	: 1,8082A	Dilution Factor	: 1
Lab File ID	: 21240721a-14	Analyst	: EMR
Sample Amount	: 5.23 g	Instrument ID	: PEST21
Extraction Method	: EPA 3540C	GC Column	: CLP-PesticideII
Extract Volume	: 1000 uL	%Solids	: 98
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
53469-21-9	Aroclor 1242	16.4	97.4	13.1	JIP	NJ
11097-69-1	Aroclor 1254	91.1	97.4	10.6	J	J
11100-14-4	Aroclor 1268	194	97.4	10.1		
1336-36-3	PCBs, Total	488	97.4	8.64	J	

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	Lab Number	: L2440109
Project Name	: MOD PAC	Project Number	: 593003002
Lab ID	: L2440109-08	Date Collected	: 07/17/24 11:15
Client ID	: C-07-20240717	Date Received	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	Date Analyzed	: 07/21/24 13:03
Sample Matrix	: Concrete	Date Extracted	: 07/19/24
Analytical Method	: 1,8082A	Dilution Factor	: 1
Lab File ID	: 21240721a-15	Analyst	: EMR
Sample Amount	: 5.43 g	Instrument ID	: PEST21
Extraction Method	: EPA 3540C	GC Column	: CLP-Pesticide
Extract Volume	: 1000 uL	%Solids	: 91
GPC Cleanup	: N	Injection Volume	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
12674-11-2	Aroclor 1016	ND	101	8.96	U	
11104-28-2	Aroclor 1221	ND	101	10.1	U	
11141-16-5	Aroclor 1232	ND	101	21.4	U	
53469-21-9	Aroclor 1242	63.8	101	13.6	J	J
12672-29-6	Aroclor 1248	ND	101	15.1	U	
11097-69-1	Aroclor 1254	154	101	11.0		
11096-82-5	Aroclor 1260	125	101	18.6		
37324-23-5	Aroclor 1262	ND	101	12.8	U	

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2440109
Project Name	: MOD PAC	**Project Number**	: 593003002
Lab ID	: L2440109-08	**Date Collected**	: 07/17/24 11:15
Client ID	: C-07-20240717	**Date Received**	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	**Date Analyzed**	: 07/21/24 13:03
Sample Matrix	: Concrete	**Date Extracted**	: 07/19/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 21240721a-15	**Analyst**	: EMR
Sample Amount	: 5.43 g	**Instrument ID**	: PEST21
Extraction Method	: EPA 3540C	**GC Column**	: CLP-PesticideII
Extract Volume	: 1000 uL	**%Solids**	: 91
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
11100-14-4	Aroclor 1268	48.0	101	10.4	J
1336-36-3	PCBs, Total	391	101	8.96	J

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2440109
Project Name	: MOD PAC	**Project Number**	: 593003002
Lab ID	: L2440109-09	**Date Collected**	: 07/17/24 11:40
Client ID	: C-08-20240717	**Date Received**	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	**Date Analyzed**	: 07/21/24 13:10
Sample Matrix	: Concrete	**Date Extracted**	: 07/19/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 21240721a-16	**Analyst**	: EMR
Sample Amount	: 5.1 g	**Instrument ID**	: PEST21
Extraction Method	: EPA 3540C	**GC Column**	: CLP-Pesticide
Extract Volume	: 1000 uL	**%Solids**	: 95
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
12674-11-2	Aroclor 1016	ND	103	9.14	U
11104-28-2	Aroclor 1221	ND	103	10.3	U
11141-16-5	Aroclor 1232	ND	103	21.8	U
53469-21-9	Aroclor 1242	ND	103	13.9	U
12672-29-6	Aroclor 1248	ND	103	15.4	U
37324-23-5	Aroclor 1262	ND	103	13.1	U
11100-14-4	Aroclor 1268	96.9	103	10.7	J

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: C&S Companies	**Lab Number**	: L2440109
Project Name	: MOD PAC	**Project Number**	: 593003002
Lab ID	: L2440109-09	**Date Collected**	: 07/17/24 11:40
Client ID	: C-08-20240717	**Date Received**	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	**Date Analyzed**	: 07/21/24 13:10
Sample Matrix	: Concrete	**Date Extracted**	: 07/19/24
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 21240721a-16	**Analyst**	: EMR
Sample Amount	: 5.1 g	**Instrument ID**	: PEST21
Extraction Method	: EPA 3540C	**GC Column**	: CLP-PesticideII
Extract Volume	: 1000 uL	**%Solids**	: 95
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
11097-69-1	Aroclor 1254	118	103	11.3	
11096-82-5	Aroclor 1260	182	103	19.0	
1336-36-3	PCBs, Total	397	103	9.14	J

Total Solids / Percent Moisture Analysis

No data validation qualifiers were added

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2440109
Project Name	: MOD PAC	**Project Number**	: 593003002
Lab ID	: L2440109-01	**Date Collected**	: 07/17/24 09:30
Client ID	: C-01-20240717	**Date Received**	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	**Date Analyzed**	: 07/19/24 01:18
Sample Matrix	: Concrete	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: WJM
Lab File ID	: WG1948787.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 98
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**98.1**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2440109
Project Name	: MOD PAC	**Project Number**	: 593003002
Lab ID	: L2440109-02	**Date Collected**	: 07/17/24 09:50
Client ID	: C-02-20240717	**Date Received**	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	**Date Analyzed**	: 07/19/24 01:18
Sample Matrix	: Concrete	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: WJM
Lab File ID	: WG1948787.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 96
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**95.6**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2440109
Project Name	: MOD PAC	**Project Number**	: 593003002
Lab ID	: L2440109-03	**Date Collected**	: 07/17/24 10:00
Client ID	: C-03-20240717	**Date Received**	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	**Date Analyzed**	: 07/19/24 01:18
Sample Matrix	: Concrete	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: WJM
Lab File ID	: WG1948787.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 97
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**96.6**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2440109
Project Name	: MOD PAC	**Project Number**	: 593003002
Lab ID	: L2440109-04	**Date Collected**	: 07/17/24 10:00
Client ID	: DUP-A-20240717	**Date Received**	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	**Date Analyzed**	: 07/19/24 01:18
Sample Matrix	: Concrete	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: WJM
Lab File ID	: WG1948787.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 96
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**95.9**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2440109
Project Name	: MOD PAC	**Project Number**	: 593003002
Lab ID	: L2440109-05	**Date Collected**	: 07/17/24 10:10
Client ID	: C-04-20240717	**Date Received**	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	**Date Analyzed**	: 07/19/24 01:18
Sample Matrix	: Concrete	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: WJM
Lab File ID	: WG1948787.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 92
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**92.0**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2440109
Project Name	: MOD PAC	**Project Number**	: 593003002
Lab ID	: L2440109-06	**Date Collected**	: 07/17/24 10:30
Client ID	: C-05-20240717	**Date Received**	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	**Date Analyzed**	: 07/19/24 01:18
Sample Matrix	: Concrete	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: WJM
Lab File ID	: WG1948787.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 97
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**96.5**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2440109
Project Name	: MOD PAC	**Project Number**	: 593003002
Lab ID	: L2440109-07	**Date Collected**	: 07/17/24 10:45
Client ID	: C-06-20240717	**Date Received**	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	**Date Analyzed**	: 07/19/24 01:18
Sample Matrix	: Concrete	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: WJM
Lab File ID	: WG1948787.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 98
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**98.2**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2440109
Project Name	: MOD PAC	**Project Number**	: 593003002
Lab ID	: L2440109-08	**Date Collected**	: 07/17/24 11:15
Client ID	: C-07-20240717	**Date Received**	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	**Date Analyzed**	: 07/19/24 01:18
Sample Matrix	: Concrete	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: WJM
Lab File ID	: WG1948787.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 91
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**91.3**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: C&S Companies	**Lab Number**	: L2440109
Project Name	: MOD PAC	**Project Number**	: 593003002
Lab ID	: L2440109-09	**Date Collected**	: 07/17/24 11:40
Client ID	: C-08-20240717	**Date Received**	: 07/17/24
Sample Location	: 1803 ELMWOOD AVE	**Date Analyzed**	: 07/19/24 01:18
Sample Matrix	: Concrete	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: WJM
Lab File ID	: WG1948787.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 95
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**95.2**	**0.100**	**NA**	

Appendix B

Laboratory QC Documentation

Identification Summary
Form 10
PCBs

Client	: C&S Companies		Lab Number	: L2440109	
Project Name	: MOD PAC		Project Number	: 593003002	
Lab Sample ID	: L2440109-01				
Client ID	: C-01-20240717				
Date Analyzed (1)	: 07/21/24 12:18		Date Analyzed (2)	: 07/21/24 12:18	
Instrument ID (1)	: PEST21		Instrument ID (2)	: PEST21	
GC Column (1)	: CLP-Pesticide		GC Column (2)	: CLP-PesticideII	

Analyte	Peak	RT	RT Window From	RT Window To	Concentration	Mean Concentration	%RPD
AROCLOR 1254	1	0.00	-0.05	0.05	0.		
	2	2.46	-0.05	0.05	326.		
COLUMN 1	3	2.64	-0.05	0.05	432.		
	4	2.78	-0.05	0.05	566.		
	5	0.00	-0.05	0.05	0.	442.	
	1	0.00	-0.05	0.05	0.		
	2	2.76	-0.05	0.05	525.		
COLUMN 2	3	2.99	-0.05	0.05	538.		
	4	3.10	-0.05	0.05	454.		
	5	0.00	-0.05	0.05	0.	506.	14
AROCLOR 1260	1	2.73	2.68	2.78	490		
	2	0.00	2.81	2.91	0.		
COLUMN 1	3	3.18	3.12	3.22	641.		
	4	3.34	3.28	3.38	405.		
	5	0.00	3.43	3.53	0.	512.	
	1	0.00	3.03	3.13	0.		
	2	3.19	3.13	3.23	451.		
COLUMN 2	3	3.59	3.53	3.63	608.		
	4	0.00	3.66	3.76	0.		
	5	3.91	3.86	3.96	786.	615.	18
AROCLOR 1268	1	0.00	-0.05	0.05	0.		
	2	3.53	-0.05	0.05	387.		
COLUMN 1	3	3.63	-0.05	0.05	326.		
	4	3.82	-0.05	0.05	741.		
	5	3.97	-0.05	0.05	62.7	379.	
	1	0.00	-0.05	0.05	0.		
	2	3.95	-0.05	0.05	326.		
COLUMN 2	3	0.00	-0.05	0.05	0.		
	4	4.24	-0.05	0.05	454.		
	5	4.43	-0.05	0.05	67.7	282.	29

Identification Summary
Form 10
PCBs

Client	:	C&S Companies	Lab Number	:	L2440109
Project Name	:	MOD PAC	Project Number	:	593003002
Lab Sample ID	:	L2440109-02			
Client ID	:	C-02-20240717			
Date Analyzed (1)	:	07/21/24 11:55	Date Analyzed (2)	:	07/21/24 11:55
Instrument ID (1)	:	PEST21	Instrument ID (2)	:	PEST21
GC Column (1)	:	CLP-Pesticide	GC Column (2)	:	CLP-PesticideII

			RT Window			Mean		
Analyte	Peak	RT	From	To	Concentration	Concentration	%RPD	
AROCLOR 1242	1	1.62	-0.05	0.05	33.8			
	2	1.76	-0.05	0.05	45.6			
COLUMN 1	3	1.95	-0.05	0.05	54.8			
	4	2.01	-0.05	0.05	69.9			
	5	0.00	-0.05	0.05	0.	51.J		
	1	1.83	-0.05	0.05	24.			
	2	2.00	-0.05	0.05	31.6			
COLUMN 2	3	2.20	-0.05	0.05	52.9			
	4	0.00	-0.05	0.05	0.			
	5	0.00	-0.05	0.05	0.	36.2J	NC	26.2 %

Identification Summary
Form 10
PCBs

Client	:	C&S Companies	Lab Number	:	L2440109
Project Name	:	MOD PAC	Project Number	:	593003002
Lab Sample ID	:	L2440109-03			
Client ID	:	C-03-20240717			
Date Analyzed (1)	:	07/21/24 12:25	Date Analyzed (2)	:	07/21/24 12:25
Instrument ID (1)	:	PEST21	Instrument ID (2)	:	PEST21
GC Column (1)	:	CLP-Pesticide	GC Column (2)	:	CLP-PesticideII

			RT Window			Mean		
Analyte	Peak	RT	From	To	Concentration	Concentration	%RPD	
AROCLOR 1254	1	2.34	-0.05	0.05	25.9			
	2	2.45	-0.05	0.05	27.7			
COLUMN 1	3	2.64	-0.05	0.05	28.5			
	4	2.77	-0.05	0.05	37.8			
	5	0.00	-0.05	0.05	0.	30J		
	1	2.67	-0.05	0.05	39.1			
	2	2.75	-0.05	0.05	35.8			
COLUMN 2	3	2.98	-0.05	0.05	34.5			
	4	3.09	-0.05	0.05	40.7			
	5	3.37	-0.05	0.05	49.2	39.8J	NC	28.0 %

Identification Summary
Form 10
PCBs

Client	: C&S Companies	Lab Number	: L2440109
Project Name	: MOD PAC	Project Number	: 593003002
Lab Sample ID	: L2440109-04		
Client ID	: DUP-A-20240717		
Date Analyzed (1)	: 07/21/24 12:33	Date Analyzed (2)	: 07/21/24 12:33
Instrument ID (1)	: PEST21	Instrument ID (2)	: PEST21
GC Column (1)	: CLP-Pesticide	GC Column (2)	: CLP-PesticideII

Analyte	Peak	RT	RT Window From	RT Window To	Concentration	Mean Concentration	%RPD	
AROCLOR 1254	1	2.34	-0.05	0.05	74.9			
	2	2.45	-0.05	0.05	107.			
COLUMN 1	3	2.64	-0.05	0.05	98.6			
	4	2.77	-0.05	0.05	121.			
	5	0.00	-0.05	0.05	0.	100		
	1	2.67	-0.05	0.05	141.			
	2	2.75	-0.05	0.05	146.			
COLUMN 2	3	2.98	-0.05	0.05	133.			
	4	3.10	-0.05	0.05	175.			
	5	0.00	-0.05	0.05	0.	149.	39	
AROCLOR 1260	1	2.72	2.68	2.78	79.8			
	2	0.00	2.81	2.91	0.			
COLUMN 1	3	3.17	3.12	3.22	69.			
	4	3.32	3.28	3.38	43.			
	5	0.00	3.43	3.53	0.	63.9J		
	1	3.08	3.03	3.13	93.3			
	2	0.00	3.13	3.23	0.			
COLUMN 2	3	3.58	3.53	3.63	73.			
	4	3.71	3.66	3.76	72.9			
	5	0.00	3.86	3.96	0.	79.7J	NC	22 %
AROCLOR 1268	1	0.00	-0.05	0.05	0.			
	2	3.51	-0.05	0.05	34.8			
COLUMN 1	3	3.61	-0.05	0.05	9.67			
	4	3.80	-0.05	0.05	51.1			
	5	3.96	-0.05	0.05	9.14	26.2J		
	1	0.00	-0.05	0.05	0.			
	2	3.93	-0.05	0.05	48.6			
COLUMN 2	3	4.07	-0.05	0.05	10.8			
	4	4.22	-0.05	0.05	61.7			
	5	4.41	-0.05	0.05	14.6	33.9J	NC	25.6 %

Identification Summary
Form 10
PCBs

Client	: C&S Companies		Lab Number	: L2440109	
Project Name	: MOD PAC		Project Number	: 593003002	
Lab Sample ID	: L2440109-05				
Client ID	: C-04-20240717				
Date Analyzed (1)	: 07/21/24 12:40		Date Analyzed (2)	: 07/21/24 12:40	
Instrument ID (1)	: PEST21		Instrument ID (2)	: PEST21	
GC Column (1)	: CLP-Pesticide		GC Column (2)	: CLP-PesticideII	

Analyte	Peak	RT	RT Window From	RT Window To	Concentration	Mean Concentration	%RPD
AROCLOR 1254	1	2.34	-0.05	0.05	187.		
	2	2.45	-0.05	0.05	248.		
COLUMN 1	3	2.64	-0.05	0.05	275.		
	4	2.76	-0.05	0.05	284.		
	5	0.00	-0.05	0.05	0.	248.	
	1	2.67	-0.05	0.05	412.		
	2	2.75	-0.05	0.05	344.		
COLUMN 2	3	2.98	-0.05	0.05	372.		
	4	3.09	-0.05	0.05	406.		
	5	0.00	-0.05	0.05	0.	384.	43
AROCLOR 1260	1	2.72	2.68	2.78	194.		
	2	0.00	2.81	2.91	0.		
COLUMN 1	3	3.16	3.12	3.22	420		
	4	3.32	3.28	3.38	369.		
	5	0.00	3.43	3.53	0.	328.	
	1	3.08	3.03	3.13	310		
	2	0.00	3.13	3.23	0.		
COLUMN 2	3	3.58	3.53	3.63	459.		
	4	3.71	3.66	3.76	483.		
	5	0.00	3.86	3.96	0.	418.	24
AROCLOR 1268	1	0.00	-0.05	0.05	0.		
	2	3.51	-0.05	0.05	450		
COLUMN 1	3	3.61	-0.05	0.05	113.		
	4	3.80	-0.05	0.05	722.		
	5	3.95	-0.05	0.05	150	359.	
	1	0.00	-0.05	0.05	0.		
	2	3.93	-0.05	0.05	568.		
COLUMN 2	3	4.07	-0.05	0.05	122.		
	4	4.23	-0.05	0.05	955.		
	5	4.41	-0.05	0.05	205.	463.	25

Identification Summary
Form 10
PCBs

Client	: C&S Companies		Lab Number	: L2440109	
Project Name	: MOD PAC		Project Number	: 593003002	
Lab Sample ID	: L2440109-07				
Client ID	: C-06-20240717				
Date Analyzed (1)	: 07/21/24 12:55		Date Analyzed (2)	: 07/21/24 12:55	
Instrument ID (1)	: PEST21		Instrument ID (2)	: PEST21	
GC Column (1)	: CLP-Pesticide		GC Column (2)	: CLP-PesticideII	

Analyte	Peak	RT	RT Window From	RT Window To	Concentration	Mean Concentration	%RPD	
AROCLOR 1254	1	2.34	-0.05	0.05	53.3			
	2	0.00	-0.05	0.05	0.			
COLUMN 1	3	2.64	-0.05	0.05	72.8			
	4	2.77	-0.05	0.05	79.4			
	5	0.00	-0.05	0.05	0.	68.5J		
	1	0.00	-0.05	0.05	0.			
	2	2.75	-0.05	0.05	88.4			
COLUMN 2	3	2.98	-0.05	0.05	91.			
	4	3.09	-0.05	0.05	93.8			
	5	0.00	-0.05	0.05	0.	91.1J	NC	28.3 %
AROCLOR 1260	1	2.72	2.68	2.78	91.7			
	2	0.00	2.81	2.91	0.			
COLUMN 1	3	3.16	3.12	3.22	175.			
	4	3.32	3.28	3.38	162.			
	5	0.00	3.43	3.53	0.	143.		
	1	0.00	3.03	3.13	0.			
	2	3.18	3.13	3.23	102.			
COLUMN 2	3	3.58	3.53	3.63	157.			
	4	3.70	3.66	3.76	150			
	5	0.00	3.86	3.96	0.	136.	5	
AROCLOR 1268	1	0.00	-0.05	0.05	0.			
	2	3.51	-0.05	0.05	210			
COLUMN 1	3	3.61	-0.05	0.05	59.			
	4	3.80	-0.05	0.05	401.			
	5	3.95	-0.05	0.05	83.2	188.		
	1	0.00	-0.05	0.05	0.			
	2	3.93	-0.05	0.05	214.			
COLUMN 2	3	4.07	-0.05	0.05	85.3			
	4	4.22	-0.05	0.05	383.			
	5	4.41	-0.05	0.05	95.9	194.	3	

Identification Summary
Form 10
PCBs

Client	:	C&S Companies	Lab Number	:	L2440109
Project Name	:	MOD PAC	Project Number	:	593003002
Lab Sample ID	:	L2440109-07			
Client ID	:	C-06-20240717			
Date Analyzed (1)	:	07/21/24 12:55	Date Analyzed (2)	:	07/21/24 12:55
Instrument ID (1)	:	PEST21	Instrument ID (2)	:	PEST21
GC Column (1)	:	CLP-Pesticide	GC Column (2)	:	CLP-PesticideII

			RT Window			Mean		
Analyte	Peak	RT	From	To	Concentration	Concentration	%RPD	
AROCLOR 1242	1	1.62	-0.05	0.05	25.8			
	2	0.00	-0.05	0.05	0.			
COLUMN 1	3	1.95	-0.05	0.05	27.4			
	4	2.36	-0.05	0.05	60.9			
	5	2.36	-0.05	0.05	126.	60J		
	1	1.83	-0.05	0.05	14.6			
	2	2.00	-0.05	0.05	10.2			
COLUMN 2	3	2.20	-0.05	0.05	24.5			
	4	0.00	-0.05	0.05	0.			
	5	0.00	-0.05	0.05	0.	16.4	NC	114 %

Identification Summary
Form 10
PCBs

Client	:	C&S Companies	Lab Number	:	L2440109
Project Name	:	MOD PAC	Project Number	:	593003002
Lab Sample ID	:	L2440109-08			
Client ID	:	C-07-20240717			
Date Analyzed (1)	:	07/21/24 13:03	Date Analyzed (2)	:	07/21/24 13:03
Instrument ID (1)	:	PEST21	Instrument ID (2)	:	PEST21
GC Column (1)	:	CLP-Pesticide	GC Column (2)	:	CLP-PesticideII

Analyte	Peak	RT	RT Window From	RT Window To	Concentration	Mean Concentration	%RPD	
AROCLOR 1242	1	1.62	-0.05	0.05	46.2			
	2	0.00	-0.05	0.05	0.			
COLUMN 1	3	1.95	-0.05	0.05	58.5			
	4	2.01	-0.05	0.05	86.7			
	5	0.00	-0.05	0.05	0.	63.8J		
	1	1.83	-0.05	0.05	31.6			
	2	2.00	-0.05	0.05	49.9			
COLUMN 2	3	2.20	-0.05	0.05	54.2			
	4	0.00	-0.05	0.05	0.			
	5	0.00	-0.05	0.05	0.	45.2J	NC	34 %

Appendix C

Validator Qualifications

KENNETH R. APPLIN
Geochemist/Data Validator

Ph.D., Geochemistry and Mineralogy, The Pennsylvania State University

M.S., Geochemistry and Mineralogy, The Pennsylvania State University

B.A., Geological Sciences, SUNY at Geneseo, NY

Dr. Applin has over 35 years of experience working with the geochemistry of natural waters. His prior experience includes working as an Assistant Professor of Geology at the University of Missouri-Columbia and as Chief Hydrogeologist and Geochemist with a leading engineering firm in Rochester, NY. In 1993, he established KR Applin and Associates, a small consulting business that focuses on the geochemistry of natural waters, especially as applied to problems involving the contamination of groundwater and surface water.

Dr. Applin is also an experienced analytical data validator and has provided data validation services since 1994 to a variety of clients performing brownfield cleanup projects, hazardous waste remediation, groundwater monitoring at solid waste facilities, and other projects requiring third-party data validation. Dr. Applin has several years of hands-on experience with the laboratory analysis of natural waters and has successfully completed the USEPA Region II certification courses for performing inorganic and organic analytical data validation.

MICHAEL K. PERRY
Chemist/Data Validator

B.S. Chemistry, Georgia State University, Atlanta, GA

A.A.S., Chemical Technology, Alfred State College, Alfred, NY

Mr. Perry has over 30 years of experience in the analytical laboratory business. During his early career, he spent several years as a laboratory analyst performing the analysis of soil, water, and air samples for inorganic and organic chemical parameters. During his last 20 years in the environmental laboratory business, he managed and directed two major analytical laboratories in Rochester, NY. His management responsibilities included oversight of the daily operations of the lab, staff training and supervision, the selection, purchase, and maintenance of analytical instruments, the introduction of new laboratory methods, analytical quality assurance and quality control, data acquisition and management, and other business-related activities.

Mr. Perry has an extensive working knowledge of the methods and procedures used for sampling and analyzing both inorganic and organic analytes in soil, water, and air. He is an accomplished laboratory chemist and is familiar with the analytical methods and procedures established under the USEPA Contract Laboratory Protocols (CLP), the NYSDEC Analytical Services Protocols (ASP), and the NYSDOH Environmental Laboratory Approval Program (ELAP).

Appendix F
Radiological Reports

THE MJW COMPANIES

Radiological Consulting Professionals and Expert Technical Services

Gamma Walkover Survey Report

For

MOD-PAC Site #C915394

1803 Elmwood Ave.

BUFFALO, NY 14219

Prepared for:

C&S COMPANIES®

By:

MJW CORPORATION
RADIATION CONSULTING PROFESSIONALS

15 Hazelwood Dr., Suite 112
Amherst, NY, 14228

MJW Project No. 24.1006.3

1.0 Introduction

MOD-PAC Corporation is currently in the process of performing a site characterization at 1803 Elmwood Ave. in Buffalo, NY ("the Site"). The Site is intended for redevelopment, assigned as brownfield C915394; the Site was and is being assessed for environmental remediation.

MJW has been contracted to conduct a GPS-assisted gamma walkover survey and sampling of the site to ascertain any areas that are potentially radiologically contaminated. This survey was conducted on May 9th, 2024; sampling events took place from May 21st – 23rd, 2024.

2.0 Methodology

A GPS-assisted gamma walkover survey of the Site was performed with a Bluetooth-enabled Ludlum model 3000 paired with a 44-10 2" x 2" NaI gamma detector. This instrument and a GPS unit were paired with a mobile data collection device. The meter, detector, and other electronics were mounted on a cart to ensure consistent geometry and data.

Background data was collected at the clay-capped remediation area on the parking lot opposite the Site.

Data was collected along transects that ran north to south throughout the Site and were spaced approximately 15 feet apart. These transects were not generated prior to fieldwork, the uncertain nature of active work and presence of monitoring wells dictated transect spacing. Inside the main building, the GPS was unable to connect to satellites, so measurements were taken manually in a grid pattern. The data collection device recorded a measurement every second, and each measurement was spaced one half-meter from the previous measurement. In the section where elevated readings were found, an additional survey of the area was made in an attempt to delineate the boundary of the elevated area.

3.0 Data Analysis

The background and survey data were statistically analyzed with QGIS, software designed to assist in spatial data analysis. MJW compiled Table 1 below which highlights the statistical findings from QGIS analysis, and Figure 2 which maps the GPS-collected survey data.

Table 1: Gamma Walkover Statistics

Background Data	
Number of Data Points	635
Mean	4697
1.5x Mean	7046
2x Mean	9395
Walkover Data	
Number of Data Points	829
Data Points >1.5x BKG Mean	178
% Data Points >1.5x BKG Mean	21.5%
Data Points >2x BKG Mean	59
% Data Points >2x BKG Mean	7.1%

For background data, a total of 635 data points were considered, exhibiting a mean count rate of 7,481 CPM. For target data, a total of 829 (outdoor) data points were reviewed and categorized according to relevant background data. Indoor data points were recorded in a different manner and are not included in this statistical summary.

4.0 Results

The data collected from the Site walkover are also color-coded to indicate measurements as: at or below background, within 1.5 times background, above 1.5 times background, and above 2 times background. These criteria are commonplace in Health Physics to quantitatively determine the presence of potential radiological contamination. The majority of the survey area was not radiologically impacted; readings greater than 1.5 times background are limited, and few readings above 2 times background were identified (see **Table 1, Figure 2**).

MJW's conclusions from the investigation are as follows:

- There is most likely no contamination present at the surface level on the Site, though future excavation activity may reveal radiological sources deeper underground.
- Most of the elevated readings were found around the building pad itself, adjacent to other structures. The readings could be higher due to geometry, radiological presence in the ground, or interference from the adjacent structures materials (brick).

MJW will be available for any assistance going forward with possible redevelopment.

Figures



Figure 1: Site Location

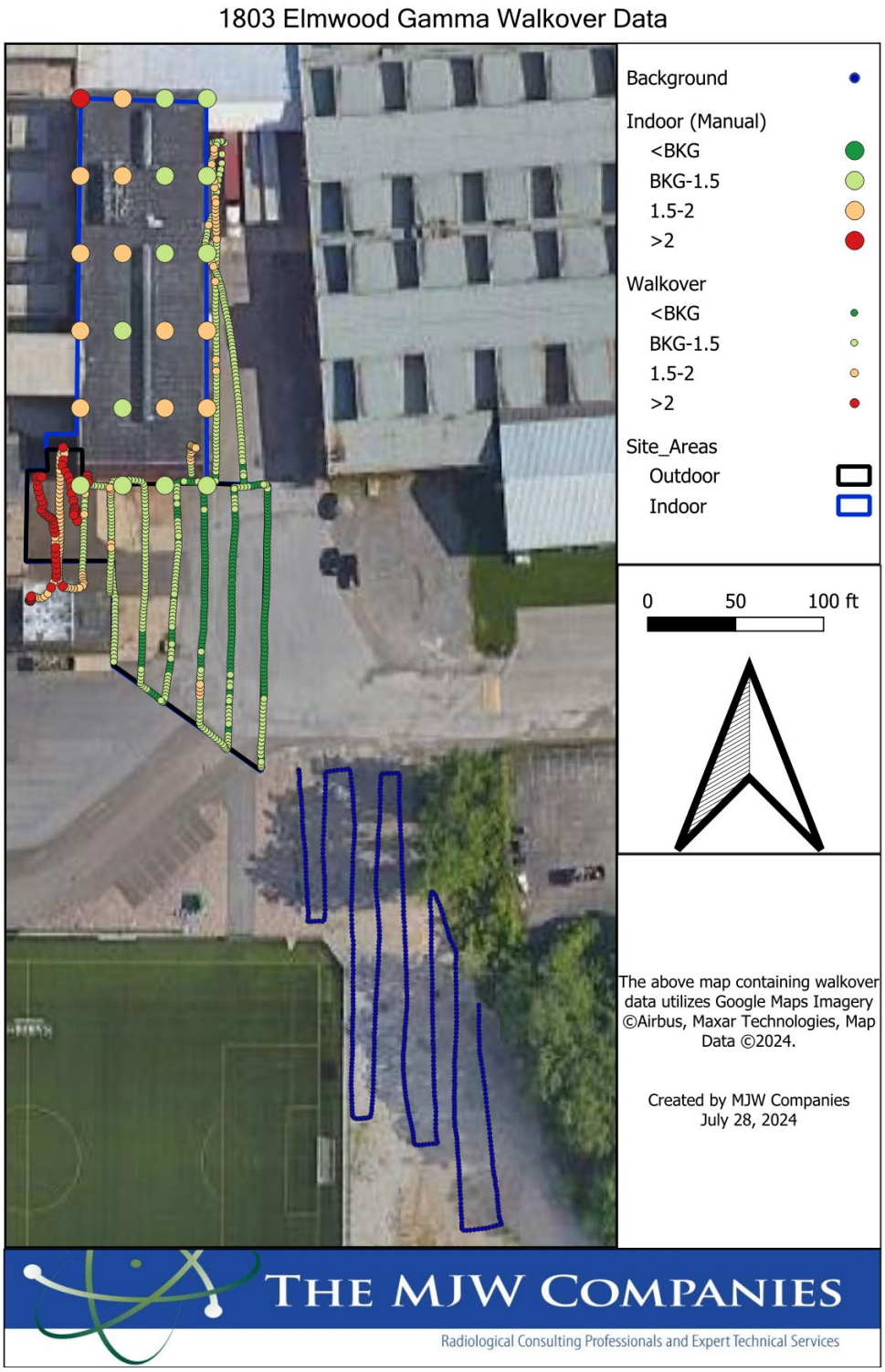


Figure 2: Background and Survey Data

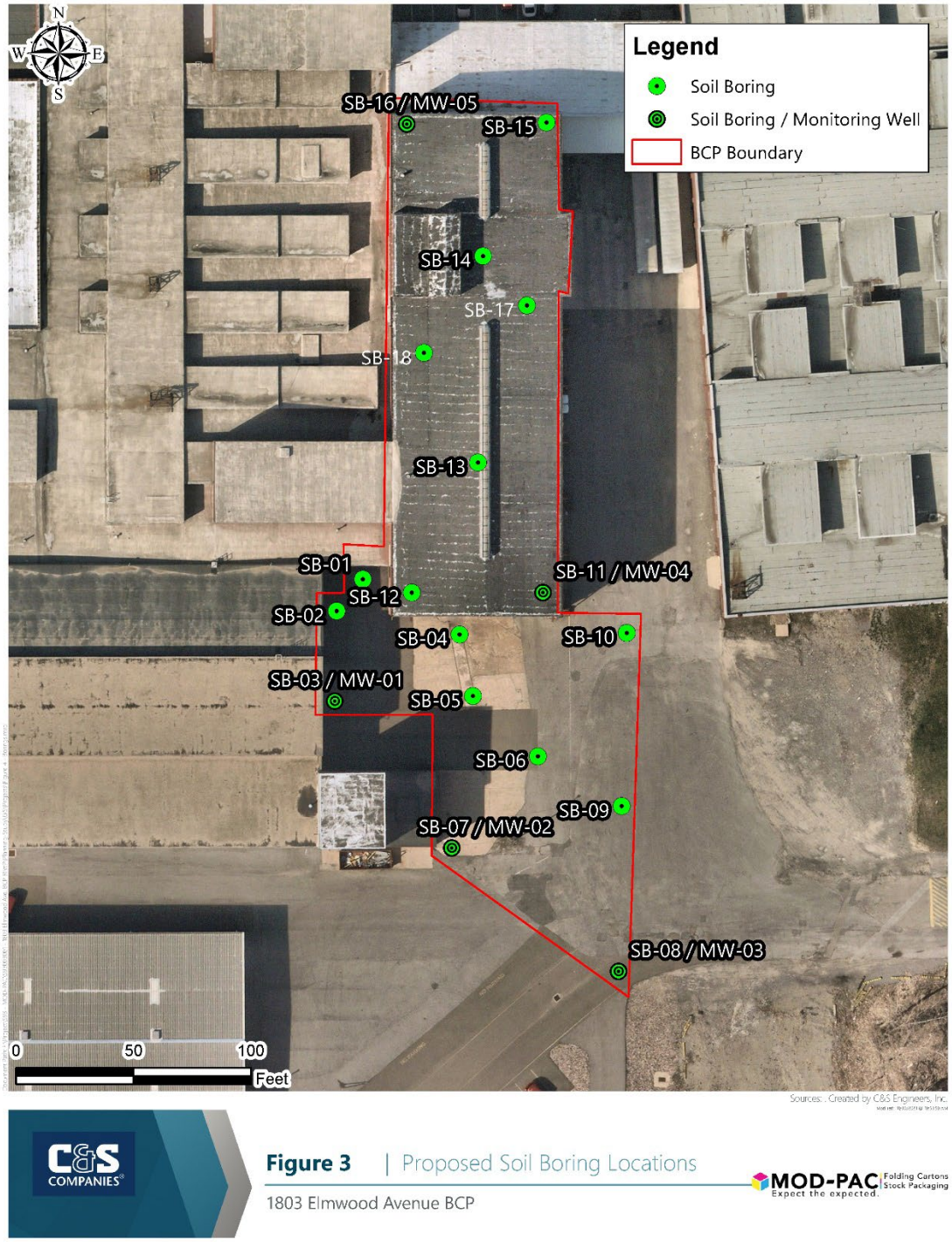


Figure 3: Provided Preliminary Borings

Attachment C. Sample Analysis Results

After reviewing results from SDG 669289, MJW compiled Table 1.0 below. It lists pertinent information regarding TENORM analysis; additional information is present in the Electronic Data Deliverable (EDD). The EDD and the Lab report have been assigned as Revision 1 (Rev1) due to a misappropriation in sample ID's.

Table 1.0 Analysis for Ra-226 in Samples

Per Sample (Backgrounds Excluded from Calculation)		
Sample No.	**[Ra-226]**	**Sample Type**
MJW-CS-0521-Borehole 03	0.868 ± 0.126	Target
MJW-CS-0521-Borehole 05	0.585 ± 0.154	Target
MJW-CS-0521-Borehole 06	0.659 ± 0.176	Target
MJW-CS-0521-Borehole 06 Dup	0.603 ± 0.159	Field Duplicate
MJW-CS-0522-Borehole 09	0.86 ± 0.194	Target
MJW-CS-0522-Borehole 11	0.774 ± 0.156	Target
MJW-CS-0522-Borehole 12	0.327 ± 0.167	Target
MJW-CS-0522-Borehole 13	0.653 ± 0.145	Target
MJW-CS-0521-Borehole 14	0.661 ± 0.204	Target
MJW-CS-0521-Borehole 15	0.579 ± 0.177	Target
MJW-CS-0521-Borehole 15 Dup	1.19 ± 0.216	Field Duplicate
MJW-CS-0521-Borehole 15 Slag	2.3 ± 0.258	Target
MJW-CS-0521-Borehole 16	1.23 ± 0.187	Target
MJW-CS-0523-BKG	1.2 ± 0.225	Background
MJW-CS-0523-BKG(669289001DUP)	1.04 ± 0.197	Lab Duplicate
Sample Average	**0.87 ± 0.181**	**All results in pCi/g**
Background Average	**1.12 ± 0.265**	

MJW saw an average Ra-226 concentration in materials sampled at 0.87±.0181 pCi/g. The highest Ra-226 sample concentration was 2.3±0.258 pCi/g for sample MJW-CS-0521-Borehole 15 Slag. Nearby offsite backgrounds from areas identified as unimpacted were taken with an average Ra-226 value of 1.12±.265 pCi/g; the samples were analyzed with a full 21-day ingrowth. The backgrounds from these off-site samples reflect the typical background values for Western New York; Ra-226 is 1.1 pCi/g [DOE 1993a] and 0.9 pCi/g [ORNL 1992]. All but three samples returned results below the local background. The three samples that did return results above background are still well below the DMM-5 guidance of 5 pCi/g for background comparable material. Sample MJW-CS-0521-Borehole 15 Slag was sampled and labeled as such due to the lack of soil and the presence of gravel/rocky material. The location of the borehole

(building subgrade) and the analytical results indicate that it is a historical fill and does not indicate TENORM.

In compliance with DMM-5 guidance, the material is classified as NORM. Equivalent results to Ra-226 are reported for every sample where there is no Lab Qualifier, for both the thorium and uranium decay chains (Attachment B). Analytical characteristics and visual cues give no indication of the material being TENORM.

There are no restrictions on the usage or disposal of this material.

Should the DEC classify the material as TENORM, it would be Background Comparable. An NYSDEC variance or approval from an assigned NYSDEC Environmental Radiation Specialist would be required to return the material to its original location. The alternative to re-internment or use is offsite disposal.

If project needs dictate the offsite disposal of material; appropriate landfills and waste disposal locations will be determined in accordance with DEC representatives. DEC has allowed similar material to be disposed of at NYS landfills, with provisions noting that the material cannot be used as cover or a BUD/ADC.

Environmental Restoration Group, Inc.
8809 Washington NE, Suite #150
Albuquerque, NM 87113

office: (505) 298-4224
fax: (505) 797-1404
web: www.ERGOffice.com

EQUIPMENT PACKING SLIP

Company Name: MJW Corporation
Contact Name:
Contact Telephone: 716-631-8291

Order Number: 5760
P.O. or Reference Number: REF# - 24.1004.2

Date Ordered: 6/13/2024
Date Shipped: 6/16/2024
Date of Delivery: 6/17/2024

Shipping Method: n/a
Shipping Number: 1373-0585-2

Ship To Information:

MJW Corporation
15 Hazelwood Dr
Suite 112
Amherst, NY 14228
716-790-0119

Billing Address:

MJW Corporation
accountspayable@mjwcorp.com
15 Hazelwood Dr
Ste 112
Amherst, NY 14228

Equipment Enclosed:

Instrument	*Serial Number*	*Tested*
Ludlum 3000	25024311	☐
Ludlum 44-10	PR408226	☐
Juniper Geode	364389	☐
Juniper Mesa3	341411	☐

Special Instructions:

None

Note:
(a) By accepting and using ERG rental equipment, the Renter indemnifies and holds harmless ERG against any and all claims, actions, proceedings, costs, expenses, damages, and liabilities (including attorney's fees and costs) arising out of Renter's use of equipment.

Designer and Manufacturer of Scientific and Industrial Instruments

www.ludlums.com

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.

Customer ENVIRONMENTAL RESTORATION GROUP ORDER NO. 20468670/555833

Mfg. Ludlum Measurements, Inc. Model 3000 Serial No. 250243 11

Mfg. Ludlum Measurements, Inc. Model 44-10 Serial No. PR408226

Cal. Date 23-Apr-24 Cal Due Date 23-Apr-25 Cal. Interval 1 Year Meterface 44-10 Ra

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 74 °F RH 37 % Alt 703.3 mm Hg

☐ New Instrument Instrument Received ☐ Within Toler. +-10% ☑ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☐ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☑ F/S Resp. ck ☑ Reset ck. ☐ Window Operation ☐ Geotropism
☑ Audio ck. ☑ Alarm Setting ck. ☑ Batt. ck. (Min. Volt) 4.4 VDC
☑ Calibrated in accordance with LMI SOP 14.8 ☑ Calibrated in accordance with LMI SOP 14.9

Instrument Volt Set 900 V Input Sens. 10 mV Det. Oper. 900 V at 10 mV Threshold Dial Ratio = mV

☑ HV Readout (2 points) Ref./Inst. 500 / 495 V Ref./Inst. 1500 / 1507 V

COMMENTS:

```
          Deadtime: 8.1 µSec  Firmware: 5LC-N42.4904
Calibration Constant: 573 e+8 Overload checked but not set.
       Primary Units: cpm     Pulser calibration performed without deadtime.
     Secondary Units: R/hr    Pulser calibration SCALER READOUT reflects 6 second count.
                              Alarms disabled.
                              Calibrated using 5' cable.
```

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING	RANGE MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING
Digital	4 mR/hr	4.13 mR/hr	4.00 mR/hr				
Digital	1 mR/hr	1.15 "	1.09 "				
	800 µR/hr	866 µR/hr	837 µR/hr				
	200 µR/hr	203 "	194 "				

Range(s) Calibrated Electronically

Multimeter uncertainty within 1.3% of reading, Gamma uncertainty within 5.0% of reading, Neutron uncertainty within 7.0% of reading, Count rate uncertainty within 5.4% of reading

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING		REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING
Digital Readout	800K cpm	799 kcpm	799 kcpm	Scaler	800K cpm	79.9K	79.9K
	200K cpm	200 "	200 "		200K cpm	20.0K	20.0K
	80K cpm	79.9 "	79.9 "		80K cpm	7.99K	7.99K
	20K cpm	20.0 "	20.0 "		20K cpm	2.00K	2.00K
	8K cpm	7.99 "	7.99 "		8K cpm	800	800
	2K cpm	2.00 "	2.00 "		2K cpm	200	200
	800 cpm	801 cpm	801 cpm		800 cpm	80	80
	200 cpm	199 "	199 "		200 cpm	20	20

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques.
All pass/fail determinations are based on the manufacturer's specifications without considering uncertainty factors.
Measurement results represent expanded uncertainties expressed at approximately the 95% level of confidence, using a coverage factor of k=2.
The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323AB-2013

State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources: Cs-137 S/N: ☐ 059 ☐ 2171CP ☐ 2261CP ☐ 720 ☐ 734 ☐ 781 ☐ 1131 ☐ 1616 ☐ 1696 ☐ 1909 ☐ 1916CP ☐ 2324/2521
☐ 5717CO ☐ 5719CO ☐ 60646 ☐ 70897 ☐ 73410 ☐ E552 ☐ G112 ☐ 2168CP ☐ S-394 ☐ S-1054 ☐ T10081 ☐ T10082 Neutron Am-241 Be ☐ T-304 Ra-226 ☑ Y982
☐ E551 ☐ 5105 ☐ CSV280

☐ Alpha S/N ☐ Beta S/N ☑ Other Am241(~0.66µCi)

☑ m 500 S/N 251106 ☐ Oscilloscope S/N ☑ Multimeter S/N 15060230

Calibrator James McBeth Title Calibrator Date 23APR24

QC'd By Title Final QC Date 23Apr24

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.

AC Inst. Only ☐ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed:

Order #: 20468670/555833

Customer: ENVIRONMENTAL RESTORATION GROUP

Detector: 44-10 **Serial No.:** PR408226

Instrument: Model 3000 **Serial No.:** 25024311

BKG Time: 6

Distance: Surface

Selected HV: 900

Date: Tuesday, April 23, 2024

Notes: Performed using 5' cable.

Signature: James Mc[illegible]

Channel(s)

Name	Threshold
Channel 1	10 mV

Source(s)

Name	ID	Activity	Time	Type
Am241		0.66 µCi	6	γ

High Voltage	Background	Am241
	Reading	Reading
650	316	10,456
700	344	12,131
750	320	12,431
800	329	12,312
850	311	12,262
- 900	353	12,343
950	374	12,235
1,000	376	12,436
1,050	532	13,103
1,100	672	13,977
1,150	1,537	16,892

Dev

SN	25024311
Mdl	Model 3000
Aud Lvl	Single
Sleep	0
Setup Prtct	Normal
Rate Reset Btn	Off
Temp	64
LB	0
Conv R To Sv	0.0106
Fw	5LC-N42.4904
V Bat	5.842

RTC

Day	23
Mo	4
Hr	11
Mins	21
Sec	40
Yr	2024

Ext 1

Meas

Cur	20.9407

Cnt

Audio Mode	Off
Display Mode	Timer

Btn

Handle

Cnt Map 1	Take Log
Cnt Map 2	Do Nothing
Cnt Map 3	Do Nothing
Rate Map 1	Take Log
Rate Map 2	Do Nothing
Rate Map 3	Do Nothing

BklThr

Sensitivity	Low

High

Light Turn Off	0
Light Turn On	0

Low

Light Turn Off	0
Light Turn On	0

AuxCom

Crypto En	Off
Enable	On
Mode	LMI Direct
Write Prtct	Off

AutoMode

Interval	1

Pwr

Auto Off Tm	0
Mode	On At Boot

DetMem 1

Mdl	44-10
SN	PR408226
Aud Sigma	Off
Count Tm	60
HV	900
Op Mode	Rate/Max/Count
Over Cur	500

Ch 1

CPS Offset	0
DTC 1	8.1E-06
DTC 2	0
Eff	15
LO Cnt Tm	60
R Cal Const	5.73E+10
Thr	0.01

Response

Rate	Fast
Time	4

Unit 1

Count

Alrm 1	0
Alrm 2	0
Min Exp	000E0
Unit	counts

Rate

Alrm 1	0
Alrm 2	0
Max Val	999000
Min Exp	000E-2
Unit	cpm

Unit 2

Count

Alrm 1	0
Alrm 2	0
Min Exp	000E0
Unit	counts

Rate

Alrm 1	0
Alrm 2	0
Max Val	0.007
Min Exp	000E-8
Unit	R/h

LOG

MODE
NOTES
USER
ENABLE

AUTO

TM

NUM

MAX
REC

GEL Laboratories LLC
a member of The GEL Group INC

2040 Savage Road | Charleston, SC 29407
843.556.8171
gel.com

June 27, 2024

Alex Bartels
MJW Technical Services
15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Re: Modpac 1
Work Order: 669289

Dear Alex Bartels:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on May 29, 2024. This revised data report has been prepared and reviewed in accordance with GEL's standard operating procedures. Rev.01: This data package has been revised to reflect the correct sample IDs.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4422.

Sincerely,

A. Melendrez

Adrian Melendrez for
Jacob Crook
Project Manager

Purchase Order: GELP19-0644
Enclosures

MJW Technical Services
Modpac 1
SDG: 669289

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Case Narrative

Rev.01: This data package has been revised to reflect the correct sample IDs.

Case Narrative
for
MJW Technical Services
SDG: 669289

June 27, 2024

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary

Sample Receipt The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on May 29, 2024 for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

Sample Identification The laboratory received the following samples:

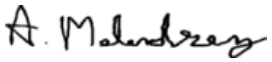
Laboratory ID	Client ID
669289001	MJW-CS-0523-BKG
669289002	MJW-CS-0521-Borehole 03
669289003	MJW-CS-0521-Borehole 05
669289004	MJW-CS-0521-Borehole 06
669289005	MJW-CS-0521-Borehole 06 Dup
669289006	MJW-CS-0522-Borehole 09
669289007	MJW-CS-0522-Borehole 11
669289008	MJW-CS-0522-Borehole 12
669289009	MJW-CS-0522-Borehole 13
669289010	MJW-CS-0521-Borehole 14
669289011	MJW-CS-0521-Borehole 15
669289012	MJW-CS-0521-Borehole 15 Dup
669289013	MJW-CS-0521-Borehole 15 Slag
669289014	MJW-CS-0521-Borehole 16

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package

The enclosed data package contains the following sections: General Narrative, Chain of Custody and Supporting Documentation, and data from the following fractions: Radiochemistry.



Adrian Melendrez for
Jacob Crook
Project Manager

List of current GEL Certifications as of 27 June 2024

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-00651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	KY90129
Kentucky Wastewater	KY90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2023019
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122024-08
New Hampshire NELAP	205424
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2023-152
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235
Utah NELAP	SC000122024-41
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Chain of Custody and Supporting Documentation

Page: one of two
Project #:
GEL Quote #:
COC Number (1):
PO Number:

GEL Laboratories LLC

gel.com | Chemistry | Radiochemistry | Radiobioassay | Specialty Analytics

Chain of Custody and Analytical Request

669289

GEL Work Order Number: GEL Project Manager:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: MJW Corporation Phone # (716) 208-7997

Project/Site Name: Modpac Fax #

Address: 15 Hazelwood Dr. Suite 112 Amherst NY 14228

Collected By: Paul Koch Send Results To: abartels@MJWcorp.com

SDG: 93880 Page 1 of 1

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive (Please supply isotopic info.)	Should this sample be considered: (7) Known or possible hazards	Total number of containers	Alpha spec U	Alpha Spec th	Gamma Spec 21 day ingrowth	Comments (Note: extra sample is required for sample specific QC)
MJW-CS-0523-BKG	05-23-24	1600	N	N	SD			1			X	Alphaspec for
MJW-CS-0521-Borehole 03	05-21-24	0800	N	N	SD			1			X	U-238, U-235
MJW-CS-0521-Borehole 05	05-21-24	0900	N	N	SD			1	X	X	X	and th-232
MJW-CS-0521-Borehole 06	05-21-24	1000	N	N	SD			1	X	X	X	21 day ingrowth
MJW-CS-0521-Borehole 06 Dup	05-21-24	1000	FD	N	SD			1	X	X	X	
MJW-CS-0522-Borehole 09	05-22-24	0800	N	N	SD			1			X	
MJW-CS-0522-Borehole 11	05-22-24	0900	N	N	SD			1			X	
MJW-CS-0522-Borehole 12	05-22-24	1000	N	N	SD			1			X	
MJW-CS-0522-Borehole 13	05-22-24	1100	N	N	SD			1			X	
MJW-CS-0521-Borehole 14	05-21-24	1100	N	N	SD			1			X	

Sample Analysis Requested (5) (Fill in the number of containers for each test)

<-- Preservative Type (6)

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1			1 Conservation	5/22/24	1320
2			2		
3			3		

TAT Requested: Normal: X Rush: ____ Specify: ____ (Subject to Surcharge)

Fax Results: [ ] Yes [ ] No

Select Deliverable: [ ] C of A [ ] QC Summary [ ] level 1 [ ] Level 2 [ ] Level 3 [ ] Level 4

Additional Remarks: hold samples 2 months post Results

For Lab Receiving Use Only: Custody Seal Intact? [ ] Yes [ ] No Cooler Temp: ____°C

> For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)

Sample Collection Time Zone: [ ] Eastern [ ] Pacific [ ] Central [ ] Mountain [ ] Other: ____

1.) Chain of Custody Number = Client Determined

2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite

3.) Field Filtered: For liquid matrices, indicate with a **- Y -** for yes the sample was field filtered or **- N -** for sample was not field filtered.

4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **ML**=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal

5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B**, **6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).

6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

7.) *Are there any known or possible hazards associated with these samples?*

RCRA Metals
As = Arsenic **Hg**= Mercury
Ba = Barium **Se**= Selenium
Cd = Cadmium **Ag**= Silver
Cr = Chromium **MR**= Miscellaneous RCRA metals
Pb = Lead

Characteristic Hazards
FL = Flammable/Ignitable
CO = Corrosive
RE = Reactive

TSCA Regulated
PCB = Polychlorinated biphenyls

Listed Waste
LW= Listed Waste
(F,K,P and U-listed wastes.)
Waste code(s):

Other
OT= Other / Unknown
(i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)
Description:

Please provide any additional details below regarding handling and/or disposal concerns. *(i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)*

Page: two of two
Project #:
GEL Quote #:
COC Number [1]:
PO Number:

GEL Laboratories LLC

gel.com | Chemistry | Radiochemistry | Radiobioassay | Specialty Analytics

Chain of Custody and Analytical Request

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

GEL Work Order Number: **GEL Project Manager:**

Client Name: MJW Corporation Phone # (716) 631-8291
Project/Site Name: Mod pac Fax #
Address: 15 Hazelwood Dr. Suite 12 Amherst NY 14228
Collected By: Paul Koch Send Results To: abartels@MJWCorp.com

SDG: 460890 Rev1

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Should this sample be considered: Radioactive (Please supply isotopic info.)	Should this sample be considered: (*) Known or possible hazards	Total number of containers	Alpha Spec U	Alpha Spec Th	Gamma Spec 21 day ingrowth	Preservative Type (6)	Comments
MJW-CS-0521 Borehole 15	05-21-24	1300	N	N	SD			1			X		Alpha spec for U-238, U-235 and Th-232 21 day ingrowth
MJW-CS-0521 Borehole 15 Dup	05-21-24	1300	FD	N	SD			1			X		
MJW-CS-0521 Borehole 15 Slag	05-21-24	1300	N	N	SD			1	X	X	X		
MJW-CS-0521 Borehole 16	05-21-24	1400	N	N	SD			1					

Sample Analysis Requested [5] (Fill in the number of containers for each test)

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1		5/24/24	1200	1 Cmpelson	5/29/24	1320
2				2		
3				3		

TAT Requested: Normal: X Rush: ____ Specify: ____ (Subject to Surcharge)

Fax Results: [ ] Yes [ ] No

Select Deliverable: [ ] C of A [ ] QC Summary [ ] level 1 [ ] Level 2 [ ] Level 3 [ ] Level 4

Additional Remarks: hold samples 2 months post Results

For Lab Receiving Use Only: *Custody Seal Intact?* [ ] Yes [ ] No **Cooler Temp:** ____ °C

> For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)

Sample Collection Time Zone: [ ] Eastern [ ] Pacific [ ] Central [ ] Mountain [ ] Other: ____

1.) Chain of Custody Number = Client Determined

2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite

3.) Field Filtered: For liquid matrices, indicate with a **- Y -** for yes the sample was field filtered or **- N -** for sample was not field filtered.

4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **ML**=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal

5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B**, **6010B/7470A**) and number of containers provided for each (i.e. *8260B* **- 3**, *6010B/7470A* **- 1**).

6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

7.) *Are there any known or possible hazards associated with these samples?*

RCRA Metals
As = Arsenic **Hg**= Mercury
Ba = Barium **Se**= Selenium
Cd = Cadmium **Ag**= Silver
Cr = Chromium **MR**= Miscellaneous RCRA metals
Pb = Lead

Characteristic Hazards
FL = Flammable/Ignitable
CO = Corrosive
RE = Reactive

TSCA Regulated
PCB = Polychlorinated biphenyls

Listed Waste
LW= Listed Waste
(F,K,P and U-listed wastes.)
Waste code(s):

Other
OT= Other / Unknown
(i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)
Description:

Please provide any additional details below regarding handling and/or disposal concerns. *(i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)*

JC

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: MJWC	**SDG/AR/COC/Work Order:** 669289
Received By: CLM	**Date Received:** 5/29/24
Carrier and Tracking Number	Circle Applicable: FedEx Express / FedEx Ground / UPS / Field Services / Courier / Other 776542130753

Suspected Hazard Information	Yes	No	
			*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM/ mR/Hr **Classified as: Rad 1 Rad 2 Rad 3**
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*			✓	Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP: 22°
4	Daily check performed and passed on IR temperature gun?	✓			**Temperature Device Serial #:** IR7-23 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?			✓	Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			✓	If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?			✓	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?	✓			
13	COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe) 1 of 2 COCs relinquished.

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials AM Date 5/31/24 Page 1 of 1

GL-CHL-SR-001 Rev 7

Data Review Qualifier Definitions

Data Review Qualifier Definitions

Qualifier	Explanation
*	A quality control analyte recovery is outside of specified acceptance criteria
**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
A	The TIC is a suspected aldol-condensation product
B	Target analyte was detected in the associated blank
B	Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
d	5-day BOD-The 2:1 depletion requirement was not met for this sample
E	Organics-Concentration of the target analyte exceeds the instrument calibration range
E	Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
H	Analytical holding time was exceeded
h	Preparation or preservation holding time was exceeded
J	Value is estimated
N	Metals-The Matrix spike sample recovery is not within specified control limits
N	Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
ND	Analyte concentration is not detected above the reporting limit
UI	Gamma Spectroscopy-Uncertain identification
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.
P	Organics-The concentrations between the primary and confirmation columns/detectors is >40% difference.

For HPLC, the difference is >70%.

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Radiological Analysis

Case Narrative

Radiochemistry
Technical Case Narrative
MJW Technical Services
SDG #: 669289

Product: **Alphaspec U, Solid**
Analytical Method: DOE EML HASL-300, U-02-RC Modified
Analytical Procedure: GL-RAD-A-011 REV# 29
Analytical Batch: 2626051

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 25
Preparation Batch: 2618662

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
669289003	MJW-CS-0521-Borehole 05
669289004	MJW-CS-0521-Borehole 06
669289005	MJW-CS-0521-Borehole 06 Dup
669289013	MJW-CS-0521-Borehole 15 Slag
1205760389	Method Blank (MB)
1205760390	669289003(MJW-CS-0521-Borehole 05) Sample Duplicate (DUP)
1205760391	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Alphaspec Th, Solid**
Analytical Method: DOE EML HASL-300, Th-01-RC Modified
Analytical Procedure: GL-RAD-A-038 REV# 19
Analytical Batch: 2626053

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 25
Preparation Batch: 2618662

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
669289003	MJW-CS-0521-Borehole 05
669289004	MJW-CS-0521-Borehole 06
669289005	MJW-CS-0521-Borehole 06 Dup
669289013	MJW-CS-0521-Borehole 15 Slag

1205760392	Method Blank (MB)
1205760393	669289003(MJW-CS-0521-Borehole 05) Sample Duplicate (DUP)
1205760394	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Recounts
Sample 669289004 (MJW-CS-0521-Borehole 06) was given additional clean-up steps and recounted in order to remove suspected interferences. The recount is reported.

Product: **Dry Weight**
Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 25
Preparation Batch: 2618662

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
669289001	MJW-CS-0523-BKG
669289002	MJW-CS-0521-Borehole 03
669289003	MJW-CS-0521-Borehole 05
669289004	MJW-CS-0521-Borehole 06
669289005	MJW-CS-0521-Borehole 06 Dup
669289006	MJW-CS-0522-Borehole 09
669289007	MJW-CS-0522-Borehole 11
669289008	MJW-CS-0522-Borehole 12
669289009	MJW-CS-0522-Borehole 13
669289010	MJW-CS-0521-Borehole 14
669289011	MJW-CS-0521-Borehole 15
669289012	MJW-CS-0521-Borehole 15 Dup
669289013	MJW-CS-0521-Borehole 15 Slag
669289014	MJW-CS-0521-Borehole 16

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Gammaspec, Gamma, Solid (Standard List)**
Analytical Method: DOE HASL 300, 4.5.2.3/Ga-01-R
Analytical Procedure: GL-RAD-A-013 REV# 29
Analytical Batch: 2618905

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 25
Preparation Batch: 2618662

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
669289001	MJW-CS-0523-BKG
669289002	MJW-CS-0521-Borehole 03
669289003	MJW-CS-0521-Borehole 05
669289004	MJW-CS-0521-Borehole 06
669289005	MJW-CS-0521-Borehole 06 Dup
669289006	MJW-CS-0522-Borehole 09
669289007	MJW-CS-0522-Borehole 11
669289008	MJW-CS-0522-Borehole 12
669289009	MJW-CS-0522-Borehole 13
669289010	MJW-CS-0521-Borehole 14
669289011	MJW-CS-0521-Borehole 15
669289012	MJW-CS-0521-Borehole 15 Dup
669289013	MJW-CS-0521-Borehole 15 Slag
669289014	MJW-CS-0521-Borehole 16
1205747503	Method Blank (MB)
1205747504	669289001(MJW-CS-0523-BKG) Sample Duplicate (DUP)
1205747505	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Duplication Criteria between QC Sample and Duplicate Sample
The Sample and the Duplicate, (See Below), did not meet the relative percent difference requirement; however, they do meet the relative error ratio requirement with the value listed below.

Sample	Analyte	Value
1205747504 (MJW-CS-0523-BKGDUP)	Lead-210	RPD 184* (0.0%-100.0%) RER 1.33 (0-3)

Qualifier Information

Qualifier	Reason	Analyte	Sample	Client Sample

UI	Results are considered a false positive due to high peak-width.	Bismuth-212	669289002	MJW-CS-0521-Borehole 03
UI	Results are considered a false positive due to low abundance.	Actinium-228	669289007	MJW-CS-0522-Borehole 11
		Bismuth-214	669289007	MJW-CS-0522-Borehole 11
		Cesium-134	669289006	MJW-CS-0522-Borehole 09
		Cesium-134	669289013	MJW-CS-0521-Borehole 15 Slag
		Radium-228	669289007	MJW-CS-0522-Borehole 11
		Thorium-234	669289011	MJW-CS-0521-Borehole 15
		Uranium-238	669289011	MJW-CS-0521-Borehole 15
UI	Results are considered a false positive due to no valid peak.	Cerium-141	669289010	MJW-CS-0521-Borehole 14
		Chromium-51	669289001	MJW-CS-0523-BKG
		Lead-210	669289002	MJW-CS-0521-Borehole 03
		Lead-210	669289008	MJW-CS-0522-Borehole 12
		Thorium-234	669289005	MJW-CS-0521-Borehole 06 Dup
		Uranium-235	669289014	MJW-CS-0521-Borehole 16
		Uranium-238	669289005	MJW-CS-0521-Borehole 06 Dup

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Moisture LogBook

Batch: 2618662
Analyst: SB2
Date/Time: 31-MAY-2024
Procedure Code:___PREPD
Procedure Description: Dry Soil Prep GL-RAD-A-021
Lab Sop: GL-RAD-A-021

Sample St	Sample Id	Rpd(%)

Sample Id	Sample Type	Original Hsn	Balance	Run Time	Container Wt	Initial Wt	Final Wt (g)	Net Initial Wt (g)	Net Final Wt (g)	Moisture (%)
669289001	SAMPLE		SP-C238839655	10:32	12.61	477.97	319.93	465.36	307.32	33.96
669289002	SAMPLE		SP-C238839655	10:32	12.59	488.48	421.11	475.89	408.52	14.156
669289003	SAMPLE		SP-C238839655	10:32	12.55	468.88	398.29	456.33	385.74	15.469
669289004	SAMPLE		SP-C238839655	10:32	12.57	359.15	323.75	346.58	311.18	10.214
669289005	SAMPLE		SP-C238839655	10:32	12.59	432.1	369.9	419.51	357.31	14.826
669289006	SAMPLE		SP-C238839655	10:32	12.52	491.51	422.15	478.99	409.63	14.48
669289007	SAMPLE		SP-C238839655	10:32	12.51	513.75	451.84	501.24	439.33	12.351
669289008	SAMPLE		SP-C238839655	10:32	12.59	410.49	350.75	397.9	338.16	15.013
669289009	SAMPLE		SP-C238839655	10:32	12.45	397.45	327.52	385	315.07	18.163
669289010	SAMPLE		SP-C238839655	10:32	12.46	404.01	359.94	391.55	347.48	11.255
669289011	SAMPLE		SP-C238839655	10:32	12.51	526.7	469.66	514.19	457.15	11.093
669289012	SAMPLE		SP-C238839655	10:32	12.5	353	312.65	340.5	300.15	11.85
669289013	SAMPLE		SP-C238839655	10:32	12.52	463.44	441.99	450.92	429.47	4.756
669289014	SAMPLE		SP-C238839655	10:32	12.58	355.47	308.32	342.89	295.74	13.75

Comments:

A) Result = (Net Initial - Net Final) /Net Initial * 100

Note: Aliquot is used for the determination of the effective MDL and PQL in LIMS

GEL LABORATORIES LLC

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Qualifier Definition Report
for

MJWC001 MJW Technical Services

Client SDG: 669289 GEL Work Order: 669289

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a Tracer compound
U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI Gamma Spectroscopy--Uncertain identification

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: John Petrovic **Name: John Petrovic**

Date: 27 JUN 2024 **Title: Data Validator**

Sample Data Summary

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0523-BKG
Sample ID: 669289001
Matrix: Solid
Collect Date: 23-MAY-24
Receive Date: 29-MAY-24
Collector: Client
Moisture: 34%

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228		0.768	+/-0.314	0.341	+/-0.324		pCi/g			MXR1	06/20/24	0502	2618905	1
Americium-241	U	0.223	+/-0.278	0.582	+/-0.298		pCi/g							
Antimony-124	U	-0.0532	+/-0.101	0.181	+/-0.104		pCi/g							
Antimony-125	U	-0.114	+/-0.105	0.173	+/-0.117		pCi/g							
Barium-133	U	0.0306	+/-0.0470	0.0946	+/-0.0490		pCi/g							
Barium-140	U	-0.103	+/-0.553	1.07	+/-0.555		pCi/g							
Beryllium-7	U	-0.190	+/-0.405	0.746	+/-0.414		pCi/g							
Bismuth-212	U	0.756	+/-1.07	1.14	+/-1.07		pCi/g							
Bismuth-214		1.07	+/-0.235	0.136	+/-0.251		pCi/g							
Cerium-139	U	-0.00768	+/-0.0365	0.0654	+/-0.0367		pCi/g							
Cerium-141	U	-0.182	+/-0.107	0.162	+/-0.136		pCi/g							
Cerium-144	U	-0.0997	+/-0.261	0.464	+/-0.265		pCi/g							
Cesium-134	U	0.0539	+/-0.0482	0.112	+/-0.0542		pCi/g							
Cesium-136	U	-0.0795	+/-0.239	0.464	+/-0.242		pCi/g							
Cesium-137		0.203	+/-0.105	0.0907	+/-0.107	0.100	pCi/g							
Chromium-51	UI	0.000	+/-0.920	1.22	+/-0.925		pCi/g							
Cobalt-56	U	0.0162	+/-0.0512	0.106	+/-0.0518		pCi/g							
Cobalt-57	U	0.0107	+/-0.0317	0.0607	+/-0.0321		pCi/g							
Cobalt-58	U	0.0510	+/-0.0422	0.107	+/-0.0483		pCi/g							
Cobalt-60	U	0.0152	+/-0.0397	0.0948	+/-0.0404		pCi/g							
Europium-152	U	-0.0650	+/-0.133	0.245	+/-0.136		pCi/g							
Europium-154	U	-0.0838	+/-0.173	0.316	+/-0.178		pCi/g							
Europium-155	U	0.0721	+/-0.129	0.253	+/-0.134		pCi/g							
Iridium-192	U	0.00873	+/-0.0512	0.0877	+/-0.0514		pCi/g							
Iron-59	U	0.0247	+/-0.118	0.256	+/-0.118		pCi/g							
Lead-210	U	12.0	+/-14.7	30.9	+/-15.7		pCi/g							
Lead-212		0.928	+/-0.171	0.150	+/-0.196		pCi/g							
Lead-214		1.20	+/-0.225	0.179	+/-0.245		pCi/g							
Manganese-54	U	-0.0130	+/-0.0482	0.0876	+/-0.0486		pCi/g							
Mercury-203	U	-0.00256	+/-0.0661	0.117	+/-0.0661		pCi/g							
Neodymium-147	U	0.409	+/-1.47	3.01	+/-1.49		pCi/g							
Neptunium-239	U	0.217	+/-0.299	0.598	+/-0.316		pCi/g							
Niobium-94	U	-0.0395	+/-0.0456	0.0609	+/-0.0490		pCi/g							
Niobium-95	U	-0.0288	+/-0.0761	0.117	+/-0.0773		pCi/g							
Potassium-40		16.3	+/-2.20	0.780	+/-2.85		pCi/g							
Promethium-144	U	0.00448	+/-0.0387	0.0774	+/-0.0387		pCi/g							
Promethium-146	U	0.00527	+/-0.0550	0.108	+/-0.0550		pCi/g							
Radium-226		1.20	+/-0.225	0.179	+/-0.245		pCi/g							

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0523-BKG
Sample ID: 669289001

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Radium-228		0.768	+/-0.314	0.341	+/-0.324		pCi/g							
Ruthenium-106	U	0.137	+/-0.422	0.853	+/-0.427		pCi/g							
Silver-110m	U	0.0184	+/-0.0772	0.139	+/-0.0776		pCi/g							
Sodium-22	U	-0.00258	+/-0.0558	0.113	+/-0.0558		pCi/g							
Thallium-208		0.254	+/-0.133	0.0946	+/-0.135		pCi/g							
Thorium-234	U	2.50	+/-3.20	3.61	+/-3.27		pCi/g							
Tin-113	U	-0.0822	+/-0.0597	0.0959	+/-0.0706		pCi/g							
Uranium-235	U	0.257	+/-0.250	0.494	+/-0.277		pCi/g							
Uranium-238	U	2.50	+/-3.20	3.61	+/-3.27		pCi/g							
Yttrium-88	U	-0.0216	+/-0.0331	0.0475	+/-0.0345		pCi/g							
Zinc-65	U	0.00720	+/-0.119	0.219	+/-0.120		pCi/g							
Zirconium-95	U	-0.0198	+/-0.0923	0.173	+/-0.0928		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	SB2	05/31/24	1032	2618662

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
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Amherst, New York 14228

Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 03
Sample ID: 669289002
Matrix: Solid
Collect Date: 21-MAY-24
Receive Date: 29-MAY-24
Collector: Client
Moisture: 14.2%

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228		0.677	+/-0.239	0.220	+/-0.247		pCi/g			MXR1	06/20/24	0502	2618905	1
Americium-241	U	0.0333	+/-0.121	0.237	+/-0.122		pCi/g							
Antimony-124	U	-0.0203	+/-0.0397	0.0501	+/-0.0408		pCi/g							
Antimony-125	U	-0.00461	+/-0.0747	0.132	+/-0.0747		pCi/g							
Barium-133	U	0.00908	+/-0.0386	0.0711	+/-0.0389		pCi/g							
Barium-140	U	0.246	+/-0.531	1.11	+/-0.543		pCi/g							
Beryllium-7	U	-0.181	+/-0.378	0.680	+/-0.387		pCi/g							
Bismuth-212	UI	0.000	+/-0.894	0.843	+/-0.898		pCi/g							
Bismuth-214		0.538	+/-0.151	0.132	+/-0.159		pCi/g							
Cerium-139	U	-0.00457	+/-0.0252	0.0452	+/-0.0254		pCi/g							
Cerium-141	U	-0.00428	+/-0.0657	0.120	+/-0.0657		pCi/g							
Cerium-144	U	-0.00857	+/-0.187	0.340	+/-0.187		pCi/g							
Cesium-134	U	0.0145	+/-0.0395	0.0804	+/-0.0401		pCi/g							
Cesium-136	U	0.0932	+/-0.233	0.499	+/-0.237		pCi/g							
Cesium-137		0.116	+/-0.0746	0.0579	+/-0.0753	0.100	pCi/g							
Chromium-51	U	0.284	+/-0.501	1.03	+/-0.517		pCi/g							
Cobalt-56	U	-0.00761	+/-0.0435	0.0801	+/-0.0436		pCi/g							
Cobalt-57	U	-0.00401	+/-0.0207	0.0375	+/-0.0208		pCi/g							
Cobalt-58	U	0.00741	+/-0.0485	0.0858	+/-0.0486		pCi/g							
Cobalt-60	U	-0.00379	+/-0.0380	0.0762	+/-0.0380		pCi/g							
Europium-152	U	-0.0798	+/-0.0736	0.123	+/-0.0822		pCi/g							
Europium-154	U	0.0170	+/-0.0902	0.203	+/-0.0905		pCi/g							
Europium-155	U	0.0822	+/-0.120	0.148	+/-0.120		pCi/g							
Iridium-192	U	0.0280	+/-0.0358	0.0759	+/-0.0380		pCi/g							
Iron-59	U	-0.0522	+/-0.109	0.199	+/-0.111		pCi/g							
Lead-210	UI	0.000	+/-6.25	5.24	+/-6.28		pCi/g							
Lead-212		0.465	+/-0.160	0.0921	+/-0.164		pCi/g							
Lead-214		0.659	+/-0.176	0.130	+/-0.184		pCi/g							
Manganese-54	U	0.00840	+/-0.0360	0.0716	+/-0.0362		pCi/g							
Mercury-203	U	0.0484	+/-0.0659	0.0772	+/-0.0660		pCi/g							
Neodymium-147	U	-1.46	+/-0.948	1.12	+/-1.16		pCi/g							
Neptunium-239	U	-0.00503	+/-0.223	0.410	+/-0.223		pCi/g							
Niobium-94	U	0.0258	+/-0.0291	0.0647	+/-0.0314		pCi/g							
Niobium-95	U	0.0125	+/-0.0450	0.0901	+/-0.0454		pCi/g							
Potassium-40		10.1	+/-1.57	0.643	+/-1.82		pCi/g							
Promethium-144	U	0.0329	+/-0.0331	0.0732	+/-0.0364		pCi/g							
Promethium-146	U	0.0208	+/-0.0399	0.0825	+/-0.0410		pCi/g							
Radium-226		0.659	+/-0.176	0.130	+/-0.184		pCi/g							
Radium-228		0.677	+/-0.239	0.220	+/-0.247		pCi/g							

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 03
Sample ID: 669289002

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Ruthenium-106	U	-0.00322	+/-0.310	0.595	+/-0.310		pCi/g							
Silver-110m	U	-0.0154	+/-0.0489	0.0824	+/-0.0494		pCi/g							
Sodium-22	U	0.00605	+/-0.0321	0.0722	+/-0.0322		pCi/g							
Thallium-208		0.196	+/-0.0602	0.0676	+/-0.0629		pCi/g							
Thorium-234	U	-0.145	+/-1.13	2.17	+/-1.14		pCi/g							
Tin-113	U	0.0137	+/-0.0448	0.0904	+/-0.0453		pCi/g							
Uranium-235	U	0.139	+/-0.157	0.301	+/-0.170		pCi/g							
Uranium-238	U	-0.145	+/-1.13	2.17	+/-1.14		pCi/g							
Yttrium-88	U	0.0489	+/-0.0439	0.120	+/-0.0493		pCi/g							
Zinc-65	U	-0.00698	+/-0.0965	0.168	+/-0.0966		pCi/g							
Zirconium-95	U	0.0210	+/-0.0775	0.157	+/-0.0781		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	SB2	05/31/24	1032	2618662

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 05
Sample ID: 669289003
Matrix: Solid
Collect Date: 21-MAY-24
Receive Date: 29-MAY-24
Collector: Client
Moisture: 15.5%

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
Alphaspec Th, Solid "Dry Weight Corrected"														
Thorium-232		0.819	+/-0.535	0.504	+/-0.547	1.00	pCi/g			CM4	06/22/24	1011	2626053	1
Alphaspec U, Solid "Dry Weight Corrected"														
Uranium-235/236	U	0.0541	+/-0.152	0.162	+/-0.152	1.00	pCi/g			CM4	06/22/24	0829	2626051	2
Uranium-238		0.626	+/-0.346	0.268	+/-0.356	1.00	pCi/g							
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228		0.779	+/-0.254	0.238	+/-0.267		pCi/g			MXR1	06/20/24	0503	2618905	3
Americium-241	U	-0.00600	+/-0.0323	0.0557	+/-0.0324		pCi/g							
Antimony-124	U	-0.0186	+/-0.0719	0.165	+/-0.0724		pCi/g							
Antimony-125	U	-0.0357	+/-0.0795	0.148	+/-0.0812		pCi/g							
Barium-133	U	-0.0158	+/-0.0400	0.0621	+/-0.0406		pCi/g							
Barium-140	U	-0.293	+/-0.567	1.03	+/-0.583		pCi/g							
Beryllium-7	U	-0.00284	+/-0.297	0.598	+/-0.297		pCi/g							
Bismuth-212	U	0.416	+/-0.638	1.30	+/-0.667		pCi/g							
Bismuth-214		0.683	+/-0.159	0.138	+/-0.181		pCi/g							
Cerium-139	U	0.0245	+/-0.0201	0.0426	+/-0.0236		pCi/g							
Cerium-141	U	0.0167	+/-0.0462	0.0933	+/-0.0468		pCi/g							
Cerium-144	U	0.00320	+/-0.114	0.225	+/-0.114		pCi/g							
Cesium-134	U	-0.0161	+/-0.0542	0.0963	+/-0.0547		pCi/g							
Cesium-136	U	-0.00101	+/-0.257	0.516	+/-0.257		pCi/g							
Cesium-137	U	0.0179	+/-0.0367	0.0634	+/-0.0377	0.100	pCi/g							
Chromium-51	U	0.320	+/-0.397	0.817	+/-0.423		pCi/g							
Cobalt-56	U	0.00857	+/-0.0442	0.0890	+/-0.0444		pCi/g							
Cobalt-57	U	0.00361	+/-0.0131	0.0267	+/-0.0132		pCi/g							
Cobalt-58	U	-0.00218	+/-0.0431	0.0832	+/-0.0431		pCi/g							
Cobalt-60	U	-0.00375	+/-0.0506	0.0992	+/-0.0507		pCi/g							
Europium-152	U	-0.0447	+/-0.0879	0.134	+/-0.0903		pCi/g							
Europium-154	U	-0.107	+/-0.158	0.270	+/-0.166		pCi/g							
Europium-155	U	0.0405	+/-0.0491	0.105	+/-0.0526		pCi/g							
Iridium-192	U	-0.0258	+/-0.0299	0.0481	+/-0.0322		pCi/g							
Iron-59	U	-0.0128	+/-0.125	0.247	+/-0.126		pCi/g							
Lead-210		0.562	+/-0.575	0.458	+/-0.578		pCi/g							
Lead-212		0.769	+/-0.107	0.0729	+/-0.136		pCi/g							
Lead-214		0.603	+/-0.159	0.125	+/-0.166		pCi/g							
Manganese-54	U	0.0263	+/-0.0451	0.0867	+/-0.0468		pCi/g							
Mercury-203	U	0.0170	+/-0.0342	0.0676	+/-0.0351		pCi/g							
Neodymium-147	U	0.779	+/-1.28	2.74	+/-1.33		pCi/g							
Neptunium-239	U	-0.0803	+/-0.138	0.261	+/-0.143		pCi/g							

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Company : MJW Technical Services
Address : 15 Hazelwood Drive
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Amherst, New York 14228

Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 05
Sample ID: 669289003

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Niobium-94	U	-0.00214	+/-0.0382	0.0647	+/-0.0382		pCi/g							
Niobium-95	U	-0.0355	+/-0.0546	0.0920	+/-0.0571		pCi/g							
Potassium-40		18.5	+/-2.04	0.463	+/-2.61		pCi/g							
Promethium-144	U	-0.0240	+/-0.0330	0.0556	+/-0.0349		pCi/g							
Promethium-146	U	0.0134	+/-0.0364	0.0755	+/-0.0369		pCi/g							
Radium-226		0.603	+/-0.159	0.125	+/-0.166		pCi/g							
Radium-228		0.779	+/-0.254	0.238	+/-0.267		pCi/g							
Ruthenium-106	U	0.206	+/-0.295	0.641	+/-0.310		pCi/g							
Silver-110m	U	0.0119	+/-0.0533	0.110	+/-0.0536		pCi/g							
Sodium-22	U	-0.0369	+/-0.0564	0.0970	+/-0.0589		pCi/g							
Thallium-208		0.184	+/-0.0935	0.0716	+/-0.0960		pCi/g							
Thorium-234		0.556	+/-0.559	0.541	+/-0.573		pCi/g							
Tin-113	U	0.0159	+/-0.0382	0.0654	+/-0.0389		pCi/g							
Uranium-235	U	-0.0182	+/-0.109	0.211	+/-0.109		pCi/g							
Uranium-238		0.556	+/-0.559	0.541	+/-0.573		pCi/g							
Yttrium-88	U	-0.00910	+/-0.0492	0.108	+/-0.0493		pCi/g							
Zinc-65	U	0.170	+/-0.123	0.252	+/-0.146		pCi/g							
Zirconium-95	U	-0.00133	+/-0.103	0.193	+/-0.103		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	SB2	05/31/24	1032	2618662

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Th-01-RC Modified
2	DOE EML HASL-300, U-02-RC Modified
3	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"	2626053	67.3	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"	2626051	70.1	(15%-125%)

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 05
Sample ID: 669289003

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**							**Batch ID**	**Recovery%**	**Acceptable Limits**				

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Company : MJW Technical Services
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Suite 112
Amherst, New York 14228

Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 06
Sample ID: 669289004
Matrix: Solid
Collect Date: 21-MAY-24
Receive Date: 29-MAY-24
Collector: Client
Moisture: 10.2%

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
Alphaspec Th, Solid "Dry Weight Corrected"														
Thorium-232	U	0.186	+/-0.306	0.437	+/-0.307	1.00	pCi/g			CM4	06/25/24	1758	2626053	1
Alphaspec U, Solid "Dry Weight Corrected"														
Uranium-235/236	U	0.0533	+/-0.150	0.160	+/-0.150	1.00	pCi/g			CM4	06/22/24	0829	2626051	2
Uranium-238		0.626	+/-0.340	0.239	+/-0.349	1.00	pCi/g							
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228		0.597	+/-0.226	0.228	+/-0.233		pCi/g			MXR1	06/20/24	0503	2618905	3
Americium-241	U	0.0518	+/-0.114	0.252	+/-0.117		pCi/g							
Antimony-124	U	-0.00113	+/-0.0902	0.200	+/-0.0902		pCi/g							
Antimony-125	U	0.0164	+/-0.0568	0.120	+/-0.0573		pCi/g							
Barium-133	U	0.0369	+/-0.0335	0.0724	+/-0.0375		pCi/g							
Barium-140	U	-0.413	+/-0.465	0.755	+/-0.502		pCi/g							
Beryllium-7	U	0.253	+/-0.326	0.714	+/-0.346		pCi/g							
Bismuth-212		0.917	+/-0.694	0.851	+/-0.699		pCi/g							
Bismuth-214		0.411	+/-0.137	0.105	+/-0.142		pCi/g							
Cerium-139	U	-0.00366	+/-0.0219	0.0413	+/-0.0220		pCi/g							
Cerium-141	U	0.0175	+/-0.119	0.102	+/-0.119		pCi/g							
Cerium-144	U	0.0541	+/-0.149	0.301	+/-0.151		pCi/g							
Cesium-134	U	0.0305	+/-0.0314	0.0759	+/-0.0344		pCi/g							
Cesium-136	U	-0.00716	+/-0.189	0.383	+/-0.189		pCi/g							
Cesium-137	U	-0.00487	+/-0.0324	0.0605	+/-0.0324	0.100	pCi/g							
Chromium-51	U	-0.0673	+/-0.404	0.800	+/-0.405		pCi/g							
Cobalt-56	U	-0.00411	+/-0.0483	0.0837	+/-0.0483		pCi/g							
Cobalt-57	U	-0.000891	+/-0.0172	0.0339	+/-0.0172		pCi/g							
Cobalt-58	U	0.0339	+/-0.0393	0.0914	+/-0.0423		pCi/g							
Cobalt-60	U	-0.0134	+/-0.0295	0.0573	+/-0.0302		pCi/g							
Europium-152	U	0.0661	+/-0.0671	0.137	+/-0.0737		pCi/g							
Europium-154	U	0.0706	+/-0.114	0.247	+/-0.119		pCi/g							
Europium-155	U	0.0183	+/-0.0673	0.139	+/-0.0679		pCi/g							
Iridium-192	U	-0.00629	+/-0.0345	0.0675	+/-0.0346		pCi/g							
Iron-59	U	-0.0782	+/-0.108	0.181	+/-0.114		pCi/g							
Lead-210	U	2.09	+/-4.82	9.29	+/-4.91		pCi/g							
Lead-212		0.557	+/-0.107	0.0801	+/-0.119		pCi/g							
Lead-214		0.868	+/-0.126	0.0873	+/-0.144		pCi/g							
Manganese-54	U	-0.00539	+/-0.0307	0.0565	+/-0.0308		pCi/g							
Mercury-203	U	0.0111	+/-0.0416	0.0786	+/-0.0419		pCi/g							
Neodymium-147	U	-0.485	+/-1.29	2.36	+/-1.31		pCi/g							
Neptunium-239	U	0.0132	+/-0.186	0.370	+/-0.186		pCi/g							

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Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 06
Sample ID: 669289004

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Niobium-94	U	-0.00345	+/-0.0279	0.0560	+/-0.0279		pCi/g							
Niobium-95	U	-0.000373	+/-0.0436	0.0878	+/-0.0436		pCi/g							
Potassium-40		7.86	+/-1.38	0.628	+/-1.55		pCi/g							
Promethium-144	U	0.00440	+/-0.0319	0.0658	+/-0.0319		pCi/g							
Promethium-146	U	0.00887	+/-0.0374	0.0758	+/-0.0376		pCi/g							
Radium-226		0.868	+/-0.126	0.0873	+/-0.144		pCi/g							
Radium-228		0.597	+/-0.226	0.228	+/-0.233		pCi/g							
Ruthenium-106	U	0.135	+/-0.268	0.570	+/-0.275		pCi/g							
Silver-110m	U	-0.00509	+/-0.0398	0.0806	+/-0.0398		pCi/g							
Sodium-22	U	0.0272	+/-0.0411	0.0894	+/-0.0430		pCi/g							
Thallium-208		0.154	+/-0.0803	0.0492	+/-0.0815		pCi/g							
Thorium-234	U	0.312	+/-1.55	1.85	+/-1.55		pCi/g							
Tin-113	U	0.0222	+/-0.0421	0.0886	+/-0.0433		pCi/g							
Uranium-235	U	0.124	+/-0.267	0.312	+/-0.268		pCi/g							
Uranium-238	U	0.312	+/-1.55	1.85	+/-1.55		pCi/g							
Yttrium-88	U	0.0218	+/-0.0348	0.0940	+/-0.0362		pCi/g							
Zinc-65	U	0.0604	+/-0.0472	0.139	+/-0.0547		pCi/g							
Zirconium-95	U	0.00498	+/-0.0554	0.121	+/-0.0554		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	SB2	05/31/24	1032	2618662

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Th-01-RC Modified
2	DOE EML HASL-300, U-02-RC Modified
3	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"	2626053	73.2	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"	2626051	86.4	(15%-125%)

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Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 06
Sample ID: 669289004

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**							**Batch ID**	**Recovery%**	**Acceptable Limits**				

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 06 Dup
Sample ID: 669289005
Matrix: Solid
Collect Date: 21-MAY-24
Receive Date: 29-MAY-24
Collector: Client
Moisture: 14.8%

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
Alphaspec Th, Solid "Dry Weight Corrected"														
Thorium-232	U	0.286	+/-0.274	0.330	+/-0.276	1.00	pCi/g			CM4	06/22/24	1011	2626053	1
Alphaspec U, Solid "Dry Weight Corrected"														
Uranium-235/236	U	0.0467	+/-0.131	0.140	+/-0.131	1.00	pCi/g			CM4	06/22/24	0829	2626051	2
Uranium-238		0.218	+/-0.197	0.181	+/-0.199	1.00	pCi/g							
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228		0.390	+/-0.201	0.207	+/-0.205		pCi/g			MXR1	06/20/24	0504	2618905	3
Americium-241	U	-0.0454	+/-0.0977	0.175	+/-0.100		pCi/g							
Antimony-124	U	-0.0166	+/-0.0826	0.165	+/-0.0829		pCi/g							
Antimony-125	U	-0.0229	+/-0.0512	0.0983	+/-0.0523		pCi/g							
Barium-133	U	-0.0134	+/-0.0331	0.0563	+/-0.0337		pCi/g							
Barium-140	U	-0.0263	+/-0.410	0.814	+/-0.411		pCi/g							
Beryllium-7	U	0.111	+/-0.280	0.590	+/-0.285		pCi/g							
Bismuth-212		0.765	+/-0.801	0.713	+/-0.804		pCi/g							
Bismuth-214		0.461	+/-0.151	0.113	+/-0.157		pCi/g							
Cerium-139	U	-0.0152	+/-0.0215	0.0376	+/-0.0228		pCi/g							
Cerium-141	U	-0.0265	+/-0.0585	0.106	+/-0.0597		pCi/g							
Cerium-144	U	-0.0105	+/-0.145	0.276	+/-0.145		pCi/g							
Cesium-134	U	0.00730	+/-0.0317	0.0579	+/-0.0319		pCi/g							
Cesium-136	U	0.227	+/-0.202	0.389	+/-0.228		pCi/g							
Cesium-137	U	0.0124	+/-0.0263	0.0559	+/-0.0269	0.100	pCi/g							
Chromium-51	U	-0.00622	+/-0.359	0.729	+/-0.359		pCi/g							
Cobalt-56	U	-0.00690	+/-0.0295	0.0557	+/-0.0296		pCi/g							
Cobalt-57	U	0.000587	+/-0.0172	0.0334	+/-0.0172		pCi/g							
Cobalt-58	U	0.00215	+/-0.0325	0.0647	+/-0.0326		pCi/g							
Cobalt-60	U	0.00283	+/-0.0267	0.0576	+/-0.0267		pCi/g							
Europium-152	U	-0.0270	+/-0.0691	0.119	+/-0.0702		pCi/g							
Europium-154	U	-0.00142	+/-0.0754	0.158	+/-0.0754		pCi/g							
Europium-155	U	0.00247	+/-0.0751	0.146	+/-0.0752		pCi/g							
Iridium-192	U	-0.0178	+/-0.0279	0.0525	+/-0.0290		pCi/g							
Iron-59	U	0.000	+/-0.0764	0.143	+/-0.000		pCi/g							
Lead-210	U	-1.42	+/-2.87	5.63	+/-2.94		pCi/g							
Lead-212		0.386	+/-0.150	0.0913	+/-0.154		pCi/g							
Lead-214		0.585	+/-0.154	0.0957	+/-0.161		pCi/g							
Manganese-54	U	-0.00315	+/-0.0270	0.0515	+/-0.0270		pCi/g							
Mercury-203	U	0.00317	+/-0.0350	0.0653	+/-0.0350		pCi/g							
Neodymium-147	U	0.763	+/-0.973	2.17	+/-1.04		pCi/g							
Neptunium-239	U	0.320	+/-0.368	0.352	+/-0.397		pCi/g							

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Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 06 Dup
Sample ID: 669289005

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Niobium-94	U	-0.000637	+/-0.0275	0.0529	+/-0.0275		pCi/g							
Niobium-95	U	-0.0153	+/-0.0428	0.0770	+/-0.0434		pCi/g							
Potassium-40		8.68	+/-1.17	0.107	+/-1.43		pCi/g							
Promethium-144	U	-0.00173	+/-0.0253	0.0491	+/-0.0254		pCi/g							
Promethium-146	U	0.0124	+/-0.0272	0.0588	+/-0.0278		pCi/g							
Radium-226		0.585	+/-0.154	0.0957	+/-0.161		pCi/g							
Radium-228		0.390	+/-0.201	0.207	+/-0.205		pCi/g							
Ruthenium-106	U	0.105	+/-0.240	0.504	+/-0.245		pCi/g							
Silver-110m	U	-0.00553	+/-0.0418	0.0787	+/-0.0419		pCi/g							
Sodium-22	U	-0.00127	+/-0.0266	0.0555	+/-0.0266		pCi/g							
Thallium-208		0.124	+/-0.0526	0.0429	+/-0.0538		pCi/g							
Thorium-234	UI	0.000	+/-1.75	1.44	+/-1.82		pCi/g							
Tin-113	U	0.0291	+/-0.0648	0.0657	+/-0.0649		pCi/g							
Uranium-235	U	0.0476	+/-0.147	0.292	+/-0.147		pCi/g							
Uranium-238	UI	0.000	+/-1.75	1.44	+/-1.82		pCi/g							
Yttrium-88	U	-0.00129	+/-0.0295	0.0639	+/-0.0295		pCi/g							
Zinc-65	U	0.00621	+/-0.0608	0.116	+/-0.0608		pCi/g							
Zirconium-95	U	0.00935	+/-0.0555	0.114	+/-0.0556		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	SB2	05/31/24	1032	2618662

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Th-01-RC Modified
2	DOE EML HASL-300, U-02-RC Modified
3	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"	2626053	97.6	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"	2626051	100	(15%-125%)

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Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 06 Dup
Sample ID: 669289005

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**								**Batch ID**	**Recovery%**	**Acceptable Limits**			

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0522-Borehole 09
Sample ID: 669289006
Matrix: Solid
Collect Date: 22-MAY-24
Receive Date: 29-MAY-24
Collector: Client
Moisture: 14.5%

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228		0.725	+/-0.447	0.249	+/-0.453		pCi/g			MXR1	06/20/24	0504	2618905	1
Americium-241	U	-0.0222	+/-0.186	0.359	+/-0.186		pCi/g							
Antimony-124	U	-0.0104	+/-0.0989	0.206	+/-0.0991		pCi/g							
Antimony-125	U	-0.0687	+/-0.0963	0.148	+/-0.101		pCi/g							
Barium-133	U	-0.0249	+/-0.0439	0.0713	+/-0.0454		pCi/g							
Barium-140	U	0.419	+/-0.483	1.07	+/-0.520		pCi/g							
Beryllium-7	U	0.349	+/-0.394	0.842	+/-0.425		pCi/g							
Bismuth-212		1.02	+/-0.842	0.824	+/-0.848		pCi/g							
Bismuth-214		0.836	+/-0.204	0.147	+/-0.216		pCi/g							
Cerium-139	U	0.0229	+/-0.0306	0.0598	+/-0.0327		pCi/g							
Cerium-141	U	0.0644	+/-0.0774	0.153	+/-0.0828		pCi/g							
Cerium-144	U	-0.113	+/-0.211	0.370	+/-0.218		pCi/g							
Cesium-134	UI	0.000	+/-0.0550	0.105	+/-0.0761		pCi/g							
Cesium-136	U	-0.0169	+/-0.225	0.401	+/-0.225		pCi/g							
Cesium-137	U	0.0134	+/-0.0380	0.0766	+/-0.0385	0.100	pCi/g							
Chromium-51	U	0.00954	+/-0.486	0.961	+/-0.486		pCi/g							
Cobalt-56	U	-0.0139	+/-0.0472	0.0849	+/-0.0476		pCi/g							
Cobalt-57	U	0.0227	+/-0.0372	0.0422	+/-0.0372		pCi/g							
Cobalt-58	U	0.0174	+/-0.0406	0.0851	+/-0.0413		pCi/g							
Cobalt-60	U	-0.000471	+/-0.0278	0.0609	+/-0.0278		pCi/g							
Europium-152	U	-0.0122	+/-0.0864	0.168	+/-0.0866		pCi/g							
Europium-154	U	-0.0705	+/-0.122	0.218	+/-0.126		pCi/g							
Europium-155	U	0.00910	+/-0.101	0.191	+/-0.101		pCi/g							
Iridium-192	U	0.0158	+/-0.0349	0.0726	+/-0.0357		pCi/g							
Iron-59	U	-0.0360	+/-0.134	0.222	+/-0.135		pCi/g							
Lead-210	U	-0.752	+/-7.99	15.5	+/-8.00		pCi/g							
Lead-212		0.877	+/-0.136	0.0994	+/-0.156		pCi/g							
Lead-214		0.860	+/-0.194	0.126	+/-0.206		pCi/g							
Manganese-54	U	-0.0193	+/-0.0342	0.0583	+/-0.0353		pCi/g							
Mercury-203	U	0.0115	+/-0.0426	0.0747	+/-0.0429		pCi/g							
Neodymium-147	U	-1.59	+/-1.14	1.67	+/-1.35		pCi/g							
Neptunium-239	U	-0.100	+/-0.251	0.450	+/-0.255		pCi/g							
Niobium-94	U	-0.00181	+/-0.0352	0.0663	+/-0.0352		pCi/g							
Niobium-95	U	-0.0504	+/-0.0551	0.0726	+/-0.0598		pCi/g							
Potassium-40		13.4	+/-1.66	0.678	+/-2.11		pCi/g							
Promethium-144	U	0.00684	+/-0.0413	0.0791	+/-0.0414		pCi/g							
Promethium-146	U	0.00858	+/-0.0384	0.0776	+/-0.0386		pCi/g							
Radium-226		0.860	+/-0.194	0.126	+/-0.206		pCi/g							
Radium-228		0.725	+/-0.447	0.249	+/-0.453		pCi/g							

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0522-Borehole 09
Sample ID: 669289006

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Ruthenium-106	U	-0.0207	+/-0.278	0.540	+/-0.279		pCi/g							
Silver-110m	U	0.00266	+/-0.0512	0.0991	+/-0.0512		pCi/g							
Sodium-22	U	-0.0241	+/-0.0435	0.0784	+/-0.0448		pCi/g							
Thallium-208		0.289	+/-0.0746	0.0559	+/-0.0787		pCi/g							
Thorium-234	U	-0.244	+/-1.70	3.31	+/-1.70		pCi/g							
Tin-113	U	0.0364	+/-0.0384	0.0860	+/-0.0419		pCi/g							
Uranium-235	U	0.0129	+/-0.199	0.352	+/-0.199		pCi/g							
Uranium-238	U	-0.244	+/-1.70	3.31	+/-1.70		pCi/g							
Yttrium-88	U	0.0126	+/-0.0193	0.0665	+/-0.0202		pCi/g							
Zinc-65	U	-0.0161	+/-0.0889	0.153	+/-0.0892		pCi/g							
Zirconium-95	U	0.0353	+/-0.0851	0.173	+/-0.0867		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	SB2	05/31/24	1032	2618662

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0522-Borehole 11
Sample ID: 669289007
Matrix: Solid
Collect Date: 22-MAY-24
Receive Date: 29-MAY-24
Collector: Client
Moisture: 12.4%

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228	UI	0.000	+/-0.167	0.406	+/-0.274		pCi/g			MXR1	06/20/24	0504	2618905	1
Americium-241	U	-0.0120	+/-0.0429	0.0612	+/-0.0433		pCi/g							
Antimony-124	U	0.0192	+/-0.0377	0.142	+/-0.0387		pCi/g							
Antimony-125	U	0.0357	+/-0.0814	0.167	+/-0.0831		pCi/g							
Barium-133	U	0.0147	+/-0.0281	0.0568	+/-0.0289		pCi/g							
Barium-140	U	-0.348	+/-0.491	0.892	+/-0.516		pCi/g							
Beryllium-7	U	0.200	+/-0.299	0.679	+/-0.312		pCi/g							
Bismuth-212	U	-0.0360	+/-0.445	0.889	+/-0.445		pCi/g							
Bismuth-214	UI	0.000	+/-0.153	0.228	+/-0.194		pCi/g							
Cerium-139	U	-0.00565	+/-0.0208	0.0400	+/-0.0210		pCi/g							
Cerium-141	U	-0.0324	+/-0.0614	0.115	+/-0.0632		pCi/g							
Cerium-144	U	-0.0155	+/-0.133	0.262	+/-0.133		pCi/g							
Cesium-134	U	-0.00985	+/-0.0486	0.0920	+/-0.0488		pCi/g							
Cesium-136	U	0.236	+/-0.235	0.542	+/-0.260		pCi/g							
Cesium-137	U	0.0462	+/-0.0384	0.0672	+/-0.0387	0.100	pCi/g							
Chromium-51	U	-0.0528	+/-0.356	0.685	+/-0.357		pCi/g							
Cobalt-56	U	0.00966	+/-0.0352	0.0772	+/-0.0354		pCi/g							
Cobalt-57	U	-0.0115	+/-0.0160	0.0298	+/-0.0169		pCi/g							
Cobalt-58	U	0.00483	+/-0.0357	0.0762	+/-0.0358		pCi/g							
Cobalt-60	U	-0.00751	+/-0.0383	0.0776	+/-0.0384		pCi/g							
Europium-152	U	0.0248	+/-0.0803	0.156	+/-0.0811		pCi/g							
Europium-154	U	0.130	+/-0.122	0.296	+/-0.136		pCi/g							
Europium-155	U	0.000848	+/-0.0623	0.126	+/-0.0623		pCi/g							
Iridium-192	U	-0.000175	+/-0.0310	0.0601	+/-0.0310		pCi/g							
Iron-59	U	-0.00391	+/-0.112	0.220	+/-0.112		pCi/g							
Lead-210		0.793	+/-0.888	0.643	+/-0.893		pCi/g							
Lead-212		0.224	+/-0.104	0.0768	+/-0.106		pCi/g							
Lead-214		0.327	+/-0.167	0.0962	+/-0.170		pCi/g							
Manganese-54	U	-0.0197	+/-0.0295	0.0515	+/-0.0308		pCi/g							
Mercury-203	U	0.000998	+/-0.0389	0.0752	+/-0.0389		pCi/g							
Neodymium-147	U	-1.25	+/-1.12	1.86	+/-1.26		pCi/g							
Neptunium-239	U	-0.0390	+/-0.149	0.293	+/-0.150		pCi/g							
Niobium-94	U	0.00113	+/-0.0344	0.0614	+/-0.0344		pCi/g							
Niobium-95	U	-0.0121	+/-0.0390	0.0777	+/-0.0394		pCi/g							
Potassium-40		10.2	+/-1.57	0.808	+/-1.81		pCi/g							
Promethium-144	U	-0.00350	+/-0.0323	0.0639	+/-0.0323		pCi/g							
Promethium-146	U	-0.0137	+/-0.0325	0.0581	+/-0.0331		pCi/g							
Radium-226		0.327	+/-0.167	0.0962	+/-0.170		pCi/g							
Radium-228	UI	0.000	+/-0.167	0.406	+/-0.274		pCi/g							

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
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Amherst, New York 14228

Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0522-Borehole 11
Sample ID: 669289007

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Ruthenium-106	U	0.0108	+/-0.283	0.582	+/-0.284		pCi/g							
Silver-110m	U	0.0227	+/-0.0505	0.109	+/-0.0515		pCi/g							
Sodium-22	U	0.0482	+/-0.0439	0.107	+/-0.0492		pCi/g							
Thallium-208	U	0.0525	+/-0.0472	0.0594	+/-0.0476		pCi/g							
Thorium-234	U	0.263	+/-0.839	0.789	+/-0.842		pCi/g							
Tin-113	U	0.0141	+/-0.0392	0.0801	+/-0.0398		pCi/g							
Uranium-235	U	-0.0773	+/-0.142	0.268	+/-0.147		pCi/g							
Uranium-238	U	0.263	+/-0.839	0.789	+/-0.842		pCi/g							
Yttrium-88	U	-0.000279	+/-0.0337	0.0792	+/-0.0337		pCi/g							
Zinc-65	U	0.0370	+/-0.101	0.207	+/-0.102		pCi/g							
Zirconium-95	U	0.107	+/-0.0809	0.194	+/-0.0948		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	SB2	05/31/24	1032	2618662

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Company : MJW Technical Services
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Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0522-Borehole 12
Sample ID: 669289008
Matrix: Solid
Collect Date: 22-MAY-24
Receive Date: 29-MAY-24
Collector: Client
Moisture: 15%

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228		0.606	+/-0.356	0.313	+/-0.362		pCi/g			MXR1	06/20/24	0505	2618905	1
Americium-241	U	-0.0932	+/-0.174	0.335	+/-0.180		pCi/g							
Antimony-124	U	0.0360	+/-0.0726	0.197	+/-0.0744		pCi/g							
Antimony-125	U	-0.00477	+/-0.0745	0.140	+/-0.0745		pCi/g							
Barium-133	U	0.0339	+/-0.0402	0.0777	+/-0.0430		pCi/g							
Barium-140	U	-0.110	+/-0.544	1.04	+/-0.547		pCi/g							
Beryllium-7	U	-0.0376	+/-0.318	0.628	+/-0.319		pCi/g							
Bismuth-212	U	0.700	+/-0.804	0.842	+/-0.807		pCi/g							
Bismuth-214		0.689	+/-0.158	0.155	+/-0.169		pCi/g							
Cerium-139	U	0.00943	+/-0.0266	0.0500	+/-0.0270		pCi/g							
Cerium-141	U	0.0362	+/-0.0739	0.143	+/-0.0758		pCi/g							
Cerium-144	U	0.0432	+/-0.177	0.334	+/-0.178		pCi/g							
Cesium-134	U	0.0346	+/-0.0640	0.0865	+/-0.0660		pCi/g							
Cesium-136	U	-0.0156	+/-0.294	0.488	+/-0.295		pCi/g							
Cesium-137	U	-0.0102	+/-0.0323	0.0597	+/-0.0326	0.100	pCi/g							
Chromium-51	U	-0.144	+/-0.544	0.881	+/-0.548		pCi/g							
Cobalt-56	U	-0.00803	+/-0.0344	0.0684	+/-0.0346		pCi/g							
Cobalt-57	U	-0.00954	+/-0.0211	0.0376	+/-0.0215		pCi/g							
Cobalt-58	U	0.0203	+/-0.0383	0.0852	+/-0.0395		pCi/g							
Cobalt-60	U	-0.0163	+/-0.0445	0.0843	+/-0.0452		pCi/g							
Europium-152	U	0.0334	+/-0.0903	0.178	+/-0.0916		pCi/g							
Europium-154	U	-0.0402	+/-0.112	0.204	+/-0.113		pCi/g							
Europium-155	U	0.0226	+/-0.0845	0.165	+/-0.0851		pCi/g							
Iridium-192	U	-0.0147	+/-0.0381	0.0687	+/-0.0386		pCi/g							
Iron-59	U	-0.0201	+/-0.134	0.251	+/-0.134		pCi/g							
Lead-210	UI	0.000	+/-13.1	14.6	+/-13.3		pCi/g							
Lead-212		0.846	+/-0.118	0.0889	+/-0.141		pCi/g							
Lead-214		0.774	+/-0.156	0.135	+/-0.168		pCi/g							
Manganese-54	U	-0.00498	+/-0.0374	0.0732	+/-0.0375		pCi/g							
Mercury-203	U	0.0215	+/-0.0422	0.0847	+/-0.0433		pCi/g							
Neodymium-147	U	-0.600	+/-1.39	2.54	+/-1.41		pCi/g							
Neptunium-239	U	-0.125	+/-0.223	0.395	+/-0.231		pCi/g							
Niobium-94	U	-0.0130	+/-0.0344	0.0616	+/-0.0349		pCi/g							
Niobium-95	U	-0.0101	+/-0.0580	0.105	+/-0.0582		pCi/g							
Potassium-40		9.63	+/-1.52	0.629	+/-1.78		pCi/g							
Promethium-144	U	-0.0292	+/-0.0367	0.0610	+/-0.0391		pCi/g							
Promethium-146	U	0.0194	+/-0.0358	0.0765	+/-0.0369		pCi/g							
Radium-226		0.774	+/-0.156	0.135	+/-0.168		pCi/g							
Radium-228		0.606	+/-0.356	0.313	+/-0.362		pCi/g							

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
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Amherst, New York 14228

Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0522-Borehole 12
Sample ID: 669289008

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Ruthenium-106	U	0.173	+/-0.288	0.616	+/-0.299		pCi/g							
Silver-110m	U	0.0206	+/-0.0543	0.114	+/-0.0552		pCi/g							
Sodium-22	U	-0.0199	+/-0.0412	0.0724	+/-0.0422		pCi/g							
Thallium-208		0.241	+/-0.0747	0.0683	+/-0.0778		pCi/g							
Thorium-234	U	0.969	+/-1.60	3.36	+/-1.67		pCi/g							
Tin-113	U	0.0261	+/-0.0512	0.100	+/-0.0526		pCi/g							
Uranium-235	U	-0.0753	+/-0.173	0.309	+/-0.177		pCi/g							
Uranium-238	U	0.969	+/-1.60	3.36	+/-1.67		pCi/g							
Yttrium-88	U	0.0389	+/-0.0345	0.103	+/-0.0388		pCi/g							
Zinc-65	U	0.0146	+/-0.100	0.198	+/-0.100		pCi/g							
Zirconium-95	U	0.0189	+/-0.0796	0.160	+/-0.0801		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	SB2	05/31/24	1032	2618662

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Address : 15 Hazelwood Drive
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Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0522-Borehole 13
Sample ID: 669289009
Matrix: Solid
Collect Date: 22-MAY-24
Receive Date: 29-MAY-24
Collector: Client
Moisture: 18.2%

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228		0.926	+/-0.291	0.230	+/-0.306		pCi/g			MXR1	06/20/24	0506	2618905	1
Americium-241	U	-0.0321	+/-0.0377	0.0678	+/-0.0404		pCi/g							
Antimony-124	U	-0.0452	+/-0.0512	0.0432	+/-0.0552		pCi/g							
Antimony-125	U	0.0425	+/-0.0706	0.150	+/-0.0732		pCi/g							
Barium-133	U	-0.0264	+/-0.0443	0.0656	+/-0.0460		pCi/g							
Barium-140	U	-0.230	+/-0.417	0.766	+/-0.430		pCi/g							
Beryllium-7	U	-0.122	+/-0.296	0.559	+/-0.302		pCi/g							
Bismuth-212		1.95	+/-1.03	0.714	+/-1.05		pCi/g							
Bismuth-214		0.703	+/-0.161	0.117	+/-0.177		pCi/g							
Cerium-139	U	0.00490	+/-0.0228	0.0432	+/-0.0229		pCi/g							
Cerium-141	U	-0.0319	+/-0.0634	0.112	+/-0.0651		pCi/g							
Cerium-144	U	-0.0791	+/-0.132	0.232	+/-0.137		pCi/g							
Cesium-134	U	-0.0204	+/-0.0368	0.0650	+/-0.0380		pCi/g							
Cesium-136	U	-0.00171	+/-0.160	0.320	+/-0.160		pCi/g							
Cesium-137	U	0.00660	+/-0.0278	0.0575	+/-0.0279	0.100	pCi/g							
Chromium-51	U	-0.175	+/-0.391	0.666	+/-0.399		pCi/g							
Cobalt-56	U	-0.00903	+/-0.0377	0.0708	+/-0.0380		pCi/g							
Cobalt-57	U	0.00103	+/-0.0162	0.0308	+/-0.0162		pCi/g							
Cobalt-58	U	-0.000999	+/-0.0320	0.0641	+/-0.0320		pCi/g							
Cobalt-60	U	-0.00846	+/-0.0379	0.0696	+/-0.0381		pCi/g							
Europium-152	U	-0.0366	+/-0.0697	0.118	+/-0.0717		pCi/g							
Europium-154	U	0.0297	+/-0.108	0.220	+/-0.108		pCi/g							
Europium-155	U	0.0576	+/-0.0677	0.135	+/-0.0728		pCi/g							
Iridium-192	U	-0.0194	+/-0.0317	0.0524	+/-0.0329		pCi/g							
Iron-59	U	0.0344	+/-0.0791	0.173	+/-0.0806		pCi/g							
Lead-210	U	-0.0134	+/-0.359	0.703	+/-0.359		pCi/g							
Lead-212		0.784	+/-0.112	0.0818	+/-0.136		pCi/g							
Lead-214		0.653	+/-0.145	0.113	+/-0.154		pCi/g							
Manganese-54	U	-0.0114	+/-0.0386	0.0623	+/-0.0389		pCi/g							
Mercury-203	U	-0.00414	+/-0.0371	0.0615	+/-0.0372		pCi/g							
Neodymium-147	U	0.0156	+/-1.06	2.11	+/-1.06		pCi/g							
Neptunium-239	U	0.00829	+/-0.171	0.323	+/-0.171		pCi/g							
Niobium-94	U	-0.00215	+/-0.0273	0.0529	+/-0.0273		pCi/g							
Niobium-95	U	-0.00695	+/-0.0375	0.0715	+/-0.0376		pCi/g							
Potassium-40		11.7	+/-1.55	0.628	+/-1.86		pCi/g							
Promethium-144	U	0.0130	+/-0.0258	0.0554	+/-0.0265		pCi/g							
Promethium-146	U	0.0306	+/-0.0327	0.0723	+/-0.0357		pCi/g							
Radium-226		0.653	+/-0.145	0.113	+/-0.154		pCi/g							
Radium-228		0.926	+/-0.291	0.230	+/-0.306		pCi/g							

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0522-Borehole 13
Sample ID: 669289009

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Ruthenium-106	U	0.0651	+/-0.277	0.562	+/-0.279		pCi/g							
Silver-110m	U	-0.0273	+/-0.0442	0.0764	+/-0.0460		pCi/g							
Sodium-22	U	0.00967	+/-0.0380	0.0774	+/-0.0383		pCi/g							
Thallium-208		0.257	+/-0.0683	0.0487	+/-0.0734		pCi/g							
Thorium-234	U	0.203	+/-0.821	0.720	+/-0.822		pCi/g							
Tin-113	U	0.00316	+/-0.0354	0.0716	+/-0.0354		pCi/g							
Uranium-235	U	0.0885	+/-0.159	0.307	+/-0.159		pCi/g							
Uranium-238	U	0.203	+/-0.821	0.720	+/-0.822		pCi/g							
Yttrium-88	U	-0.0234	+/-0.0381	0.0655	+/-0.0395		pCi/g							
Zinc-65	U	0.0211	+/-0.0930	0.166	+/-0.0935		pCi/g							
Zirconium-95	U	0.0168	+/-0.0555	0.111	+/-0.0561		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	SB2	05/31/24	1032	2618662

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : MJW Technical Services
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Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 14
Sample ID: 669289010
Matrix: Solid
Collect Date: 21-MAY-24
Receive Date: 29-MAY-24
Collector: Client
Moisture: 11.3%

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228		0.593	+/-0.303	0.237	+/-0.310		pCi/g			MXR1	06/20/24	0521	2618905	1
Americium-241	U	0.0964	+/-0.193	0.363	+/-0.198		pCi/g							
Antimony-124	U	-0.00757	+/-0.0912	0.205	+/-0.0912		pCi/g							
Antimony-125	U	3.05E-05	+/-0.0913	0.177	+/-0.0913		pCi/g							
Barium-133	U	-0.0238	+/-0.0466	0.0740	+/-0.0479		pCi/g							
Barium-140	U	0.694	+/-0.718	1.52	+/-0.786		pCi/g							
Beryllium-7	U	0.0146	+/-0.432	0.828	+/-0.432		pCi/g							
Bismuth-212	U	0.612	+/-0.536	1.23	+/-0.605		pCi/g							
Bismuth-214		0.514	+/-0.176	0.162	+/-0.181		pCi/g							
Cerium-139	U	-0.0113	+/-0.0347	0.0603	+/-0.0352		pCi/g							
Cerium-141	UI	0.000	+/-0.178	0.129	+/-0.179		pCi/g							
Cerium-144	U	-0.0144	+/-0.208	0.377	+/-0.208		pCi/g							
Cesium-134	U	0.0853	+/-0.0593	0.113	+/-0.0711		pCi/g							
Cesium-136	U	0.00174	+/-0.221	0.450	+/-0.221		pCi/g							
Cesium-137	U	0.0100	+/-0.0477	0.0955	+/-0.0479	0.100	pCi/g							
Chromium-51	U	0.0168	+/-0.605	1.17	+/-0.605		pCi/g							
Cobalt-56	U	0.0304	+/-0.0692	0.0957	+/-0.0693		pCi/g							
Cobalt-57	U	-0.0147	+/-0.0269	0.0467	+/-0.0277		pCi/g							
Cobalt-58	U	-0.00815	+/-0.0434	0.0858	+/-0.0435		pCi/g							
Cobalt-60	U	-0.0166	+/-0.0449	0.0820	+/-0.0456		pCi/g							
Europium-152	U	-0.00329	+/-0.121	0.208	+/-0.121		pCi/g							
Europium-154	U	-0.00755	+/-0.113	0.235	+/-0.113		pCi/g							
Europium-155	U	0.0848	+/-0.103	0.195	+/-0.110		pCi/g							
Iridium-192	U	0.0376	+/-0.0458	0.0952	+/-0.0489		pCi/g							
Iron-59	U	0.0632	+/-0.0966	0.227	+/-0.101		pCi/g							
Lead-210	U	3.52	+/-6.52	13.0	+/-6.73		pCi/g							
Lead-212		0.620	+/-0.165	0.117	+/-0.173		pCi/g							
Lead-214		0.661	+/-0.204	0.153	+/-0.211		pCi/g							
Manganese-54	U	-0.00827	+/-0.0384	0.0745	+/-0.0386		pCi/g							
Mercury-203	U	0.0130	+/-0.0526	0.104	+/-0.0530		pCi/g							
Neodymium-147	U	1.23	+/-1.46	3.17	+/-1.57		pCi/g							
Neptunium-239	U	0.0904	+/-0.261	0.498	+/-0.264		pCi/g							
Niobium-94	U	-0.00456	+/-0.0378	0.0693	+/-0.0379		pCi/g							
Niobium-95	U	0.00674	+/-0.0516	0.105	+/-0.0517		pCi/g							
Potassium-40		8.01	+/-1.62	0.805	+/-1.85		pCi/g							
Promethium-144	U	-0.0145	+/-0.0425	0.0744	+/-0.0430		pCi/g							
Promethium-146	U	0.00424	+/-0.0445	0.0868	+/-0.0445		pCi/g							
Radium-226		0.661	+/-0.204	0.153	+/-0.211		pCi/g							
Radium-228		0.593	+/-0.303	0.237	+/-0.310		pCi/g							

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Company : MJW Technical Services
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Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 14
Sample ID: 669289010

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Ruthenium-106	U	0.193	+/-0.368	0.751	+/-0.379		pCi/g							
Silver-110m	U	-0.0133	+/-0.0416	0.0815	+/-0.0421		pCi/g							
Sodium-22	U	-0.00268	+/-0.0402	0.0835	+/-0.0402		pCi/g							
Thallium-208		0.230	+/-0.0770	0.0689	+/-0.0795		pCi/g							
Thorium-234	U	1.15	+/-2.54	3.01	+/-2.55		pCi/g							
Tin-113	U	0.0116	+/-0.0517	0.102	+/-0.0520		pCi/g							
Uranium-235	U	0.452	+/-0.407	0.452	+/-0.408		pCi/g							
Uranium-238	U	1.15	+/-2.54	3.01	+/-2.55		pCi/g							
Yttrium-88	U	-0.0142	+/-0.0427	0.0859	+/-0.0432		pCi/g							
Zinc-65	U	0.114	+/-0.0671	0.156	+/-0.0678		pCi/g							
Zirconium-95	U	0.0155	+/-0.0791	0.167	+/-0.0794		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	SB2	05/31/24	1032	2618662

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 15
Sample ID: 669289011
Matrix: Solid
Collect Date: 21-MAY-24
Receive Date: 29-MAY-24
Collector: Client
Moisture: 11.1%

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228		0.568	+/-0.276	0.268	+/-0.281		pCi/g			MXR1	06/20/24	0521	2618905	1
Americium-241	U	-0.0594	+/-0.177	0.299	+/-0.179		pCi/g							
Antimony-124	U	0.0384	+/-0.0891	0.225	+/-0.0908		pCi/g							
Antimony-125	U	0.0488	+/-0.0890	0.183	+/-0.0918		pCi/g							
Barium-133	U	-0.000727	+/-0.0414	0.0716	+/-0.0414		pCi/g							
Barium-140	U	0.180	+/-0.674	1.31	+/-0.679		pCi/g							
Beryllium-7	U	0.304	+/-0.351	0.766	+/-0.378		pCi/g							
Bismuth-212		0.859	+/-0.579	0.765	+/-0.584		pCi/g							
Bismuth-214		0.590	+/-0.155	0.140	+/-0.163		pCi/g							
Cerium-139	U	-0.000453	+/-0.0270	0.0536	+/-0.0270		pCi/g							
Cerium-141	U	-0.0604	+/-0.0847	0.140	+/-0.0891		pCi/g							
Cerium-144	U	-0.160	+/-0.189	0.305	+/-0.203		pCi/g							
Cesium-134	U	0.0101	+/-0.0396	0.0846	+/-0.0399		pCi/g							
Cesium-136	U	-0.164	+/-0.206	0.340	+/-0.220		pCi/g							
Cesium-137	U	0.00580	+/-0.0288	0.0618	+/-0.0289	0.100	pCi/g							
Chromium-51	U	0.486	+/-1.12	1.01	+/-1.12		pCi/g							
Cobalt-56	U	-0.0137	+/-0.0443	0.0839	+/-0.0447		pCi/g							
Cobalt-57	U	-0.00381	+/-0.0245	0.0440	+/-0.0246		pCi/g							
Cobalt-58	U	-0.0235	+/-0.0413	0.0750	+/-0.0427		pCi/g							
Cobalt-60	U	0.000660	+/-0.0431	0.0854	+/-0.0431		pCi/g							
Europium-152	U	-0.0106	+/-0.0821	0.157	+/-0.0822		pCi/g							
Europium-154	U	0.0744	+/-0.126	0.275	+/-0.130		pCi/g							
Europium-155	U	0.0117	+/-0.101	0.187	+/-0.101		pCi/g							
Iridium-192	U	-0.0212	+/-0.0377	0.0679	+/-0.0390		pCi/g							
Iron-59	U	-0.0663	+/-0.113	0.191	+/-0.117		pCi/g							
Lead-210	U	2.52	+/-5.59	11.0	+/-5.71		pCi/g							
Lead-212		0.529	+/-0.116	0.0944	+/-0.128		pCi/g							
Lead-214		0.579	+/-0.177	0.136	+/-0.185		pCi/g							
Manganese-54	U	-0.0105	+/-0.0358	0.0680	+/-0.0361		pCi/g							
Mercury-203	U	-0.0298	+/-0.0433	0.0774	+/-0.0454		pCi/g							
Neodymium-147	U	0.325	+/-1.37	2.71	+/-1.38		pCi/g							
Neptunium-239	U	-0.174	+/-0.256	0.434	+/-0.268		pCi/g							
Niobium-94	U	0.0134	+/-0.0329	0.0694	+/-0.0335		pCi/g							
Niobium-95	U	-0.0407	+/-0.0519	0.0903	+/-0.0551		pCi/g							
Potassium-40		9.59	+/-1.51	0.684	+/-1.76		pCi/g							
Promethium-144	U	0.00732	+/-0.0334	0.0692	+/-0.0336		pCi/g							
Promethium-146	U	-0.00514	+/-0.0369	0.0699	+/-0.0370		pCi/g							
Radium-226		0.579	+/-0.177	0.136	+/-0.185		pCi/g							
Radium-228		0.568	+/-0.276	0.268	+/-0.281		pCi/g							

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
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Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 15
Sample ID: 669289011

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Ruthenium-106	U	0.0452	+/-0.294	0.611	+/-0.294		pCi/g							
Silver-110m	U	-0.0538	+/-0.0621	0.104	+/-0.0669		pCi/g							
Sodium-22	U	0.0265	+/-0.0447	0.0978	+/-0.0463		pCi/g							
Thallium-208		0.141	+/-0.0677	0.0668	+/-0.0688		pCi/g							
Thorium-234	UI	0.000	+/-3.09	3.21	+/-3.50		pCi/g							
Tin-113	U	-0.0160	+/-0.0459	0.0840	+/-0.0465		pCi/g							
Uranium-235	U	0.100	+/-0.200	0.378	+/-0.205		pCi/g							
Uranium-238	UI	0.000	+/-3.09	3.21	+/-3.50		pCi/g							
Yttrium-88	U	-0.00812	+/-0.0275	0.0594	+/-0.0277		pCi/g							
Zinc-65	U	0.0556	+/-0.0936	0.188	+/-0.0970		pCi/g							
Zirconium-95	U	0.0155	+/-0.0716	0.152	+/-0.0720		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	SB2	05/31/24	1032	2618662

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : MJW Technical Services
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Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 15 Dup
Sample ID: 669289012
Matrix: Solid
Collect Date: 21-MAY-24
Receive Date: 29-MAY-24
Collector: Client
Moisture: 11.9%

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228		0.991	+/-0.322	0.316	+/-0.333		pCi/g			MXR1	06/20/24	0522	2618905	1
Americium-241	U	-0.0684	+/-0.354	0.547	+/-0.355		pCi/g							
Antimony-124	U	-0.00829	+/-0.122	0.254	+/-0.122		pCi/g							
Antimony-125	U	-0.00408	+/-0.122	0.226	+/-0.122		pCi/g							
Barium-133	U	0.0273	+/-0.0524	0.0939	+/-0.0538		pCi/g							
Barium-140	U	0.146	+/-0.593	1.19	+/-0.597		pCi/g							
Beryllium-7	U	0.491	+/-0.511	1.06	+/-0.559		pCi/g							
Bismuth-212	U	0.615	+/-0.740	1.50	+/-0.793		pCi/g							
Bismuth-214		1.09	+/-0.227	0.154	+/-0.255		pCi/g							
Cerium-139	U	-0.0110	+/-0.0416	0.0668	+/-0.0419		pCi/g							
Cerium-141	U	0.0184	+/-0.111	0.208	+/-0.111		pCi/g							
Cerium-144	U	0.362	+/-0.240	0.434	+/-0.242		pCi/g							
Cesium-134	U	0.0696	+/-0.0734	0.118	+/-0.0801		pCi/g							
Cesium-136	U	-0.0435	+/-0.269	0.523	+/-0.270		pCi/g							
Cesium-137	U	-0.0504	+/-0.0488	0.0770	+/-0.0542	0.100	pCi/g							
Chromium-51	U	0.126	+/-0.681	1.29	+/-0.683		pCi/g							
Cobalt-56	U	-0.0354	+/-0.0546	0.0910	+/-0.0570		pCi/g							
Cobalt-57	U	0.0392	+/-0.0355	0.0712	+/-0.0398		pCi/g							
Cobalt-58	U	-0.0233	+/-0.0540	0.0944	+/-0.0550		pCi/g							
Cobalt-60	U	-0.00521	+/-0.0483	0.0956	+/-0.0483		pCi/g							
Europium-152	U	-0.0201	+/-0.140	0.224	+/-0.140		pCi/g							
Europium-154	U	0.00343	+/-0.119	0.245	+/-0.119		pCi/g							
Europium-155	U	0.0455	+/-0.171	0.304	+/-0.172		pCi/g							
Iridium-192	U	0.0161	+/-0.0520	0.0994	+/-0.0525		pCi/g							
Iron-59	U	0.0908	+/-0.121	0.273	+/-0.128		pCi/g							
Lead-210	U	-5.35	+/-10.2	15.9	+/-10.5		pCi/g							
Lead-212		1.63	+/-0.170	0.122	+/-0.213		pCi/g							
Lead-214		1.19	+/-0.216	0.156	+/-0.237		pCi/g							
Manganese-54	U	-0.0211	+/-0.0486	0.0843	+/-0.0495		pCi/g							
Mercury-203	U	0.0440	+/-0.0569	0.113	+/-0.0603		pCi/g							
Neodymium-147	U	1.38	+/-1.84	3.75	+/-1.95		pCi/g							
Neptunium-239	U	-0.387	+/-0.359	0.624	+/-0.401		pCi/g							
Niobium-94	U	0.0426	+/-0.0434	0.0912	+/-0.0477		pCi/g							
Niobium-95	U	-0.0380	+/-0.0646	0.109	+/-0.0669		pCi/g							
Potassium-40		10.9	+/-1.75	0.889	+/-1.97		pCi/g							
Promethium-144	U	0.0192	+/-0.0417	0.0839	+/-0.0427		pCi/g							
Promethium-146	U	0.0228	+/-0.0546	0.104	+/-0.0556		pCi/g							
Radium-226		1.19	+/-0.216	0.156	+/-0.237		pCi/g							
Radium-228		0.991	+/-0.322	0.316	+/-0.333		pCi/g							

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
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Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 15 Dup
Sample ID: 669289012

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Ruthenium-106	U	-0.288	+/-0.403	0.675	+/-0.424		pCi/g							
Silver-110m	U	0.0133	+/-0.0674	0.131	+/-0.0677		pCi/g							
Sodium-22	U	0.000106	+/-0.0419	0.0861	+/-0.0419		pCi/g							
Thallium-208		0.268	+/-0.0775	0.0848	+/-0.0825		pCi/g							
Thorium-234	U	1.06	+/-4.30	4.22	+/-4.31		pCi/g							
Tin-113	U	-0.0257	+/-0.0669	0.103	+/-0.0679		pCi/g							
Uranium-235	U	0.0317	+/-0.266	0.497	+/-0.266		pCi/g							
Uranium-238	U	1.06	+/-4.30	4.22	+/-4.31		pCi/g							
Yttrium-88	U	-0.00936	+/-0.0525	0.106	+/-0.0527		pCi/g							
Zinc-65	U	-0.0179	+/-0.132	0.218	+/-0.132		pCi/g							
Zirconium-95	U	0.0122	+/-0.111	0.211	+/-0.111		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	SB2	05/31/24	1032	2618662

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 15 Slag
Sample ID: 669289013
Matrix: Solid
Collect Date: 21-MAY-24
Receive Date: 29-MAY-24
Collector: Client
Moisture: 4.76%

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
Alphaspec Th, Solid "Dry Weight Corrected"														
Thorium-232		2.09	+/-0.738	0.371	+/-0.792	1.00	pCi/g			CM4	06/22/24	1011	2626053	1
Alphaspec U, Solid "Dry Weight Corrected"														
Uranium-235/236	U	0.117	+/-0.200	0.175	+/-0.201	1.00	pCi/g			CM4	06/22/24	0829	2626051	2
Uranium-238		1.57	+/-0.550	0.289	+/-0.584	1.00	pCi/g							
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228		2.02	+/-0.325	0.227	+/-0.404		pCi/g			MXR1	06/20/24	0522	2618905	3
Americium-241	U	0.0541	+/-0.311	0.604	+/-0.312		pCi/g							
Antimony-124	U	0.0336	+/-0.0830	0.173	+/-0.0844		pCi/g							
Antimony-125	U	-0.0525	+/-0.0927	0.169	+/-0.0957		pCi/g							
Barium-133	U	0.00521	+/-0.0435	0.0745	+/-0.0436		pCi/g							
Barium-140	U	-0.0307	+/-0.547	1.02	+/-0.547		pCi/g							
Beryllium-7	U	0.0259	+/-0.422	0.705	+/-0.422		pCi/g							
Bismuth-212		2.87	+/-1.04	0.818	+/-1.09		pCi/g							
Bismuth-214		1.73	+/-0.220	0.117	+/-0.280		pCi/g							
Cerium-139	U	0.0177	+/-0.0403	0.0753	+/-0.0413		pCi/g							
Cerium-141	U	0.00260	+/-0.0996	0.184	+/-0.0996		pCi/g							
Cerium-144	U	-0.0297	+/-0.259	0.455	+/-0.259		pCi/g							
Cesium-134	UI	0.000	+/-0.0756	0.0923	+/-0.0982		pCi/g							
Cesium-136	U	0.0224	+/-0.179	0.351	+/-0.179		pCi/g							
Cesium-137	U	0.00752	+/-0.0343	0.0649	+/-0.0345	0.100	pCi/g							
Chromium-51	U	0.157	+/-0.556	1.08	+/-0.561		pCi/g							
Cobalt-56	U	0.0247	+/-0.0367	0.0730	+/-0.0384		pCi/g							
Cobalt-57	U	-0.0246	+/-0.0315	0.0566	+/-0.0334		pCi/g							
Cobalt-58	U	-0.00967	+/-0.0368	0.0663	+/-0.0370		pCi/g							
Cobalt-60	U	-0.00340	+/-0.0310	0.0591	+/-0.0310		pCi/g							
Europium-152	U	-0.0469	+/-0.117	0.190	+/-0.119		pCi/g							
Europium-154	U	0.0265	+/-0.100	0.197	+/-0.101		pCi/g							
Europium-155	U	0.0230	+/-0.131	0.249	+/-0.132		pCi/g							
Iridium-192	U	-0.0191	+/-0.0414	0.0773	+/-0.0424		pCi/g							
Iron-59	U	-0.0388	+/-0.0847	0.155	+/-0.0866		pCi/g							
Lead-210	U	8.95	+/-17.5	33.4	+/-18.0		pCi/g							
Lead-212		2.41	+/-0.179	0.121	+/-0.331		pCi/g							
Lead-214		2.30	+/-0.258	0.132	+/-0.335		pCi/g							
Manganese-54	U	-0.00218	+/-0.0341	0.0621	+/-0.0341		pCi/g							
Mercury-203	U	0.0132	+/-0.0573	0.104	+/-0.0576		pCi/g							
Neodymium-147	U	0.256	+/-1.31	2.50	+/-1.31		pCi/g							
Neptunium-239	U	0.210	+/-0.321	0.618	+/-0.335		pCi/g							

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
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Amherst, New York 14228

Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 15 Slag
Sample ID: 669289013

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Niobium-94	U	-0.00630	+/-0.0307	0.0556	+/-0.0308		pCi/g							
Niobium-95	U	0.0406	+/-0.0481	0.0940	+/-0.0516		pCi/g							
Potassium-40		10.1	+/-1.09	0.597	+/-1.49		pCi/g							
Promethium-144	U	-0.0252	+/-0.0309	0.0528	+/-0.0330		pCi/g							
Promethium-146	U	-0.0190	+/-0.0406	0.0742	+/-0.0416		pCi/g							
Radium-226		2.30	+/-0.258	0.132	+/-0.335		pCi/g							
Radium-228		2.02	+/-0.325	0.227	+/-0.404		pCi/g							
Ruthenium-106	U	0.0675	+/-0.305	0.578	+/-0.307		pCi/g							
Silver-110m	U	-0.0353	+/-0.0355	0.0570	+/-0.0392		pCi/g							
Sodium-22	U	0.0109	+/-0.0359	0.0707	+/-0.0362		pCi/g							
Thallium-208		0.633	+/-0.0983	0.0656	+/-0.116		pCi/g							
Thorium-234	U	-0.247	+/-2.44	4.63	+/-2.44		pCi/g							
Tin-113	U	0.0239	+/-0.0481	0.0944	+/-0.0494		pCi/g							
Uranium-235	U	-0.0873	+/-0.236	0.428	+/-0.236		pCi/g							
Uranium-238	U	-0.247	+/-2.44	4.63	+/-2.44		pCi/g							
Yttrium-88	U	0.0160	+/-0.0347	0.0728	+/-0.0354		pCi/g							
Zinc-65	U	0.0195	+/-0.0754	0.132	+/-0.0759		pCi/g							
Zirconium-95	U	0.0368	+/-0.0719	0.140	+/-0.0738		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	SB2	05/31/24	1032	2618662

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Th-01-RC Modified
2	DOE EML HASL-300, U-02-RC Modified
3	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"	2626053	67.1	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"	2626051	89	(15%-125%)

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Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 15 Slag
Sample ID: 669289013

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**									**Batch ID**	**Recovery%**	**Acceptable Limits**		

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 16
Sample ID: 669289014
Matrix: Solid
Collect Date: 21-MAY-24
Receive Date: 29-MAY-24
Collector: Client
Moisture: 13.8%

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228		1.30	+/-0.364	0.221	+/-0.389		pCi/g			MXR1	06/20/24	0523	2618905	1
Americium-241	U	0.00852	+/-0.0483	0.0848	+/-0.0484		pCi/g							
Antimony-124	U	-0.0309	+/-0.109	0.207	+/-0.110		pCi/g							
Antimony-125	U	0.00100	+/-0.0682	0.134	+/-0.0682		pCi/g							
Barium-133	U	-0.0278	+/-0.0403	0.0637	+/-0.0423		pCi/g							
Barium-140	U	-0.150	+/-0.470	0.871	+/-0.475		pCi/g							
Beryllium-7	U	0.0964	+/-0.272	0.563	+/-0.275		pCi/g							
Bismuth-212		1.49	+/-0.604	0.748	+/-0.629		pCi/g							
Bismuth-214		0.893	+/-0.151	0.102	+/-0.180		pCi/g							
Cerium-139	U	-0.00870	+/-0.0262	0.0458	+/-0.0266		pCi/g							
Cerium-141	U	-0.0121	+/-0.0736	0.122	+/-0.0738		pCi/g							
Cerium-144	U	0.109	+/-0.260	0.293	+/-0.261		pCi/g							
Cesium-134	U	-0.0269	+/-0.0387	0.0648	+/-0.0406		pCi/g							
Cesium-136	U	0.102	+/-0.174	0.391	+/-0.181		pCi/g							
Cesium-137	U	-0.0117	+/-0.0342	0.0618	+/-0.0346	0.100	pCi/g							
Chromium-51	U	-0.433	+/-0.391	0.676	+/-0.438		pCi/g							
Cobalt-56	U	-0.00266	+/-0.0400	0.0752	+/-0.0400		pCi/g							
Cobalt-57	U	-0.00227	+/-0.0207	0.0374	+/-0.0207		pCi/g							
Cobalt-58	U	-0.0228	+/-0.0422	0.0682	+/-0.0435		pCi/g							
Cobalt-60	U	-0.0168	+/-0.0307	0.0561	+/-0.0316		pCi/g							
Europium-152	U	0.0373	+/-0.0750	0.154	+/-0.0770		pCi/g							
Europium-154	U	-0.0168	+/-0.101	0.176	+/-0.102		pCi/g							
Europium-155	U	0.0688	+/-0.0735	0.145	+/-0.0801		pCi/g							
Iridium-192	U	0.0160	+/-0.0279	0.0584	+/-0.0289		pCi/g							
Iron-59	U	-0.00654	+/-0.0686	0.143	+/-0.0687		pCi/g							
Lead-210		1.62	+/-0.797	0.519	+/-0.812		pCi/g							
Lead-212		1.23	+/-0.129	0.0856	+/-0.179		pCi/g							
Lead-214		1.23	+/-0.187	0.112	+/-0.212		pCi/g							
Manganese-54	U	-0.000169	+/-0.0314	0.0599	+/-0.0314		pCi/g							
Mercury-203	U	0.00556	+/-0.0359	0.0652	+/-0.0360		pCi/g							
Neodymium-147	U	0.632	+/-1.16	2.41	+/-1.20		pCi/g							
Neptunium-239	U	-0.0821	+/-0.207	0.366	+/-0.211		pCi/g							
Niobium-94	U	-0.00648	+/-0.0294	0.0540	+/-0.0295		pCi/g							
Niobium-95	U	0.0258	+/-0.0473	0.0949	+/-0.0488		pCi/g							
Potassium-40		11.7	+/-1.40	0.494	+/-1.72		pCi/g							
Promethium-144	U	-0.00430	+/-0.0287	0.0538	+/-0.0288		pCi/g							
Promethium-146	U	0.0126	+/-0.0352	0.0709	+/-0.0357		pCi/g							
Radium-226		1.23	+/-0.187	0.112	+/-0.212		pCi/g							
Radium-228		1.30	+/-0.364	0.221	+/-0.389		pCi/g							

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Certificate of Analysis

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Amherst, New York 14228

Report Date: June 27, 2024

Contact: Alex Bartels
Project: Modpac 1

Client Sample ID: MJW-CS-0521-Borehole 16
Sample ID: 669289014

Project: MJWC01924
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Ruthenium-106	U	0.0129	+/-0.255	0.499	+/-0.255		pCi/g							
Silver-110m	U	-0.00617	+/-0.0438	0.0817	+/-0.0439		pCi/g							
Sodium-22	U	-0.00517	+/-0.0362	0.0632	+/-0.0363		pCi/g							
Thallium-208		0.384	+/-0.0792	0.0576	+/-0.0894		pCi/g							
Thorium-234		1.01	+/-1.16	0.827	+/-1.18		pCi/g							
Tin-113	U	-0.0272	+/-0.0388	0.0696	+/-0.0408		pCi/g							
Uranium-235	UI	0.000	+/-0.299	0.303	+/-0.302		pCi/g							
Uranium-238		1.01	+/-1.16	0.827	+/-1.18		pCi/g							
Yttrium-88	U	-0.000498	+/-0.0259	0.0600	+/-0.0259		pCi/g							
Zinc-65	U	0.0365	+/-0.0700	0.143	+/-0.0720		pCi/g							
Zirconium-95	U	0.0249	+/-0.0689	0.140	+/-0.0699		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	SB2	05/31/24	1032	2618662

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

Quality Control Data

QC Summary

Client : **MJW Technical Services**
15 Hazelwood Drive
Suite 112
Amherst, New York

Contact: **Alex Bartels**

Workorder: **669289**

Report Date: June 26, 2024

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 2626051										
QC1205760390 669289003 DUP										
Uranium-235/236	U	0.0541	U	-0.0100	pCi/g	0		N/A	CM4	06/22/2408:29
	Uncert:	+/-0.152		+/-0.0867						
	TPU:	+/-0.152		+/-0.0868						
Uranium-238		0.626		0.602	pCi/g	3.9		(0% - 100%)		
	Uncert:	+/-0.346		+/-0.290						
	TPU:	+/-0.356		+/-0.300						
QC1205760391 LCS										
Uranium-235/236				0.815	pCi/g				CM4	06/22/2408:29
	Uncert:			+/-0.357						
	TPU:			+/-0.371						
Uranium-238	16.4			14.9	pCi/g		91.4	(75%-125%)		
	Uncert:			+/-1.34						
	TPU:			+/-2.29						
QC1205760389 MB										
Uranium-235/236			U	0.000	pCi/g				CM4	06/22/2408:29
	Uncert:			+/-0.0873						
	TPU:			+/-0.0875						
Uranium-238			U	0.0350	pCi/g					
	Uncert:			+/-0.0985						
	TPU:			+/-0.0986						
Batch 2626053										
QC1205760393 669289003 DUP										
Thorium-232		0.819		0.295	pCi/g	94.2		(0% - 100%)	CM4	06/22/2410:11
	Uncert:	+/-0.535		+/-0.262						
	TPU:	+/-0.547		+/-0.264						
QC1205760394 LCS										
Thorium-232	15.3			15.7	pCi/g		103	(75%-125%)	CM4	06/22/2410:11
	Uncert:			+/-1.74						
	TPU:			+/-2.63						
QC1205760392 MB										
Thorium-232			U	0.0438	pCi/g				CM4	06/22/2410:11
	Uncert:			+/-0.227						
	TPU:			+/-0.227						
Rad Gamma Spec										
Batch 2618905										
QC1205747504 669289001 DUP										
Actinium-228		0.768		0.739	pCi/g	3.86		(0% - 100%)	MXR1	06/20/2406:30
	Uncert:	+/-0.314		+/-0.303						
	TPU:	+/-0.324		+/-0.312						
Americium-241	U	0.223	U	-0.0157	pCi/g	0		N/A		

QC Summary

Workorder: **669289**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 2618905										
	Uncert:	+/-0.278		+/-0.0421						
	TPU:	+/-0.298		+/-0.0427						
Antimony-124	U	-0.0532	U	-0.0642	pCi/g	0		N/A		
	Uncert:	+/-0.101		+/-0.0629						
	TPU:	+/-0.104		+/-0.0694						
Antimony-125	U	-0.114	U	-0.0181	pCi/g	0		N/A		
	Uncert:	+/-0.105		+/-0.0839						
	TPU:	+/-0.117		+/-0.0843						
Barium-133	U	0.0306	U	0.0105	pCi/g	0		N/A		
	Uncert:	+/-0.0470		+/-0.0396						
	TPU:	+/-0.0490		+/-0.0399						
Barium-140	U	-0.103	U	0.487	pCi/g	0		N/A		
	Uncert:	+/-0.553		+/-0.744						
	TPU:	+/-0.555		+/-0.777						
Beryllium-7	U	-0.190	U	-0.317	pCi/g	0		N/A		
	Uncert:	+/-0.405		+/-0.344						
	TPU:	+/-0.414		+/-0.373						
Bismuth-212	U	0.756		1.86	pCi/g	47.8		(0% - 100%)		
	Uncert:	+/-1.07		+/-1.09						
	TPU:	+/-1.07		+/-1.11						
Bismuth-214		1.07		0.932	pCi/g	13.3		(0%-20%)		
	Uncert:	+/-0.235		+/-0.186						
	TPU:	+/-0.251		+/-0.213						
Cerium-139	U	-0.00768	U	0.00884	pCi/g	0		N/A		
	Uncert:	+/-0.0365		+/-0.0271						
	TPU:	+/-0.0367		+/-0.0274						
Cerium-141	U	-0.182	U	-0.0561	pCi/g	0		N/A		
	Uncert:	+/-0.107		+/-0.0626						
	TPU:	+/-0.136		+/-0.0679						
Cerium-144	U	-0.0997	U	-0.0112	pCi/g	0		N/A		
	Uncert:	+/-0.261		+/-0.171						
	TPU:	+/-0.265		+/-0.171						
Cesium-134	U	0.0539	U	0.0387	pCi/g	0		N/A		
	Uncert:	+/-0.0482		+/-0.0445						
	TPU:	+/-0.0542		+/-0.0480						
Cesium-136	U	-0.0795	U	-0.0485	pCi/g	0		N/A		
	Uncert:	+/-0.239		+/-0.191						
	TPU:	+/-0.242		+/-0.193						
Cesium-137		0.203		0.212	pCi/g	4.58		(0% - 100%)		
	Uncert:	+/-0.105		+/-0.0701						
	TPU:	+/-0.107		+/-0.0744						
Chromium-51	UI	0.000	U	0.283	pCi/g	0		N/A		
	Uncert:	+/-0.920		+/-0.456						
	TPU:	+/-0.925		+/-0.474						
Cobalt-56	U	0.0162	U	0.0378	pCi/g	0		N/A		
	Uncert:	+/-0.0512		+/-0.0460						

QC Summary

Workorder: **669289**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 2618905										
	TPU:	+/-0.0518		+/-0.0492						
Cobalt-57	U	0.0107	U	0.00846	pCi/g	0		N/A		
	Uncert:	+/-0.0317		+/-0.0190						
	TPU:	+/-0.0321		+/-0.0194						
Cobalt-58	U	0.0510	U	-0.0288	pCi/g	0		N/A		
	Uncert:	+/-0.0422		+/-0.0427						
	TPU:	+/-0.0483		+/-0.0447						
Cobalt-60	U	0.0152	U	-0.000188	pCi/g	0		N/A		
	Uncert:	+/-0.0397		+/-0.0432						
	TPU:	+/-0.0404		+/-0.0432						
Europium-152	U	-0.0650	U	-0.00243	pCi/g	0		N/A		
	Uncert:	+/-0.133		+/-0.0969						
	TPU:	+/-0.136		+/-0.0969						
Europium-154	U	-0.0838	U	0.0591	pCi/g	0		N/A		
	Uncert:	+/-0.173		+/-0.0974						
	TPU:	+/-0.178		+/-0.101						
Europium-155	U	0.0721	U	0.00397	pCi/g	0		N/A		
	Uncert:	+/-0.129		+/-0.0721						
	TPU:	+/-0.134		+/-0.0722						
Iridium-192	U	0.00873	U	-0.0329	pCi/g	0		N/A		
	Uncert:	+/-0.0512		+/-0.0350						
	TPU:	+/-0.0514		+/-0.0381						
Iron-59	U	0.0247	U	0.0266	pCi/g	0		N/A		
	Uncert:	+/-0.118		+/-0.114						
	TPU:	+/-0.118		+/-0.114						
Lead-210	U	12.0		1.31	pCi/g	184*		(0% - 100%)		
	Uncert:	+/-14.7		+/-0.791						
	TPU:	+/-15.7		+/-0.801						
Lead-212		0.928		0.908	pCi/g	2.09		(0%-20%)		
	Uncert:	+/-0.171		+/-0.121						
	TPU:	+/-0.196		+/-0.152						
Lead-214		1.20		1.04	pCi/g	13.6		(0%-20%)		
	Uncert:	+/-0.225		+/-0.197						
	TPU:	+/-0.245		+/-0.214						
Manganese-54	U	-0.0130	U	0.0294	pCi/g	0		N/A		
	Uncert:	+/-0.0482		+/-0.0333						
	TPU:	+/-0.0486		+/-0.0360						
Mercury-203	U	-0.00256	U	0.00381	pCi/g	0		N/A		
	Uncert:	+/-0.0661		+/-0.0544						
	TPU:	+/-0.0661		+/-0.0546						
Neodymium-147	U	0.409	U	-0.202	pCi/g	0		N/A		
	Uncert:	+/-1.47		+/-1.28						
	TPU:	+/-1.49		+/-1.29						
Neptunium-239	U	0.217	U	-0.0664	pCi/g	0		N/A		
	Uncert:	+/-0.299		+/-0.182						
	TPU:	+/-0.316		+/-0.185						

QC Summary

Workorder: **669289**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 2618905										
Niobium-94	U	-0.0395	U	0.00834	pCi/g	0			N/A	
	Uncert:	+/-0.0456		+/-0.0377						
	TPU:	+/-0.0490		+/-0.0379						
Niobium-95	U	-0.0288	U	0.0132	pCi/g	0			N/A	
	Uncert:	+/-0.0761		+/-0.0576						
	TPU:	+/-0.0773		+/-0.0579						
Potassium-40		16.3		16.2	pCi/g	.308		(0%-20%)		
	Uncert:	+/-2.20		+/-1.74						
	TPU:	+/-2.85		+/-2.23						
Promethium-144	U	0.00448	U	0.00584	pCi/g	0			N/A	
	Uncert:	+/-0.0387		+/-0.0335						
	TPU:	+/-0.0387		+/-0.0336						
Promethium-146	U	0.00527	U	-0.00701	pCi/g	0			N/A	
	Uncert:	+/-0.0550		+/-0.0392						
	TPU:	+/-0.0550		+/-0.0393						
Radium-226		1.20		1.04	pCi/g	13.6		(0%-20%)		
	Uncert:	+/-0.225		+/-0.197						
	TPU:	+/-0.245		+/-0.214						
Radium-228		0.768		0.739	pCi/g	3.86		(0% - 100%)		
	Uncert:	+/-0.314		+/-0.303						
	TPU:	+/-0.324		+/-0.312						
Ruthenium-106	U	0.137	U	0.174	pCi/g	0			N/A	
	Uncert:	+/-0.422		+/-0.296						
	TPU:	+/-0.427		+/-0.307						
Silver-110m	U	0.0184	U	0.00841	pCi/g	0			N/A	
	Uncert:	+/-0.0772		+/-0.0516						
	TPU:	+/-0.0776		+/-0.0517						
Sodium-22	U	-0.00258	U	0.0200	pCi/g	0			N/A	
	Uncert:	+/-0.0558		+/-0.0343						
	TPU:	+/-0.0558		+/-0.0355						
Thallium-208		0.254		0.265	pCi/g	4.13		(0% - 100%)		
	Uncert:	+/-0.133		+/-0.0633						
	TPU:	+/-0.135		+/-0.0696						
Thorium-234	U	2.50	U	0.747	pCi/g	0			N/A	
	Uncert:	+/-3.20		+/-0.983						
	TPU:	+/-3.27		+/-0.997						
Tin-113	U	-0.0822	U	0.00934	pCi/g	0			N/A	
	Uncert:	+/-0.0597		+/-0.0433						
	TPU:	+/-0.0706		+/-0.0435						
Uranium-235	U	0.257	U	0.0859	pCi/g	0			N/A	
	Uncert:	+/-0.250		+/-0.161						
	TPU:	+/-0.277		+/-0.161						
Uranium-238	U	2.50	U	0.747	pCi/g	0			N/A	
	Uncert:	+/-3.20		+/-0.983						
	TPU:	+/-3.27		+/-0.997						
Yttrium-88	U	-0.0216	U	0.00925	pCi/g	0			N/A	

QC Summary

Workorder: **669289**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 2618905										
	Uncert:	+/-0.0331		+/-0.0398						
	TPU:	+/-0.0345		+/-0.0400						
Zinc-65	U	0.00720	U	0.0640	pCi/g	0		N/A		
	Uncert:	+/-0.119		+/-0.0933						
	TPU:	+/-0.120		+/-0.0979						
Zirconium-95	U	-0.0198	U	-0.0141	pCi/g	0		N/A		
	Uncert:	+/-0.0923		+/-0.0988						
	TPU:	+/-0.0928		+/-0.0990						
QC1205747505 LCS										
Actinium-228			U	-1.23	pCi/g				MXR1	06/20/2405:24
	Uncert:			+/-2.02						
	TPU:			+/-2.10						
Americium-241	483			535	pCi/g		111	(75%-125%)		
	Uncert:			+/-17.4						
	TPU:			+/-79.5						
Antimony-124			U	-0.100	pCi/g					
	Uncert:			+/-0.621						
	TPU:			+/-0.623						
Antimony-125			U	0.0528	pCi/g					
	Uncert:			+/-1.42						
	TPU:			+/-1.42						
Barium-133			U	-0.550	pCi/g					
	Uncert:			+/-0.551						
	TPU:			+/-0.606						
Barium-140			U	3.42	pCi/g					
	Uncert:			+/-4.55						
	TPU:			+/-4.81						
Beryllium-7			U	2.69	pCi/g					
	Uncert:			+/-5.61						
	TPU:			+/-5.75						
Bismuth-212			U	-2.68	pCi/g					
	Uncert:			+/-5.88						
	TPU:			+/-6.00						
Bismuth-214			U	0.324	pCi/g					
	Uncert:			+/-0.728						
	TPU:			+/-0.743						
Cerium-139			U	-0.102	pCi/g					
	Uncert:			+/-0.320						
	TPU:			+/-0.324						
Cerium-141			U	0.535	pCi/g					
	Uncert:			+/-0.701						
	TPU:			+/-0.742						
Cerium-144			U	0.165	pCi/g					
	Uncert:			+/-2.02						
	TPU:			+/-2.02						
Cesium-134			U	0.212	pCi/g					

QC Summary

Workorder: **669289**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 2618905										
	Uncert:			+/-0.398						
	TPU:			+/-0.410						
Cesium-136			U	-0.417	pCi/g					
	Uncert:			+/-1.88						
	TPU:			+/-1.89						
Cesium-137	150			136	pCi/g		90.7	(75%-125%)		
	Uncert:			+/-2.86						
	TPU:			+/-11.5						
Chromium-51			U	1.03	pCi/g					
	Uncert:			+/-5.30						
	TPU:			+/-5.32						
Cobalt-56			U	0.0760	pCi/g					
	Uncert:			+/-0.481						
	TPU:			+/-0.482						
Cobalt-57			U	0.0895	pCi/g					
	Uncert:			+/-0.284						
	TPU:			+/-0.287						
Cobalt-58			U	-0.325	pCi/g					
	Uncert:			+/-0.459						
	TPU:			+/-0.483						
Cobalt-60	58.6			55.6	pCi/g		94.8	(75%-125%)		
	Uncert:			+/-2.33						
	TPU:			+/-5.89						
Europium-152			U	-0.876	pCi/g					
	Uncert:			+/-1.22						
	TPU:			+/-1.28						
Europium-154			U	0.453	pCi/g					
	Uncert:			+/-0.762						
	TPU:			+/-0.790						
Europium-155			U	0.0480	pCi/g					
	Uncert:			+/-1.10						
	TPU:			+/-1.10						
Iridium-192			U	-0.0390	pCi/g					
	Uncert:			+/-0.469						
	TPU:			+/-0.470						
Iron-59			U	-0.731	pCi/g					
	Uncert:			+/-1.28						
	TPU:			+/-1.33						
Lead-210				4400	pCi/g					
	Uncert:			+/-615						
	TPU:			+/-896						
Lead-212			U	-0.170	pCi/g					
	Uncert:			+/-0.699						
	TPU:			+/-0.703						
Lead-214			U	0.588	pCi/g					
	Uncert:			+/-0.923						

QC Summary

Workorder: **669289**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 2618905										
	TPU:			+/-0.962						
Manganese-54			U	0.156	pCi/g					
	Uncert:			+/-0.474						
	TPU:			+/-0.480						
Mercury-203			U	0.0694	pCi/g					
	Uncert:			+/-0.486						
	TPU:			+/-0.487						
Neodymium-147			U	9.81	pCi/g					
	Uncert:			+/-13.7						
	TPU:			+/-14.4						
Neptunium-239			U	-0.531	pCi/g					
	Uncert:			+/-2.83						
	TPU:			+/-2.84						
Niobium-94			U	0.0725	pCi/g					
	Uncert:			+/-0.346						
	TPU:			+/-0.347						
Niobium-95			U	-0.188	pCi/g					
	Uncert:			+/-0.429						
	TPU:			+/-0.438						
Potassium-40			U	1.08	pCi/g					
	Uncert:			+/-1.99						
	TPU:			+/-2.06						
Promethium-144			U	0.305	pCi/g					
	Uncert:			+/-0.386						
	TPU:			+/-0.411						
Promethium-146			U	0.267	pCi/g					
	Uncert:			+/-0.702						
	TPU:			+/-0.713						
Radium-226			U	0.588	pCi/g					
	Uncert:			+/-0.923						
	TPU:			+/-0.962						
Radium-228			U	-1.23	pCi/g					
	Uncert:			+/-2.02						
	TPU:			+/-2.10						
Ruthenium-106			U	-2.11	pCi/g					
	Uncert:			+/-3.39						
	TPU:			+/-3.53						
Silver-110m			U	0.214	pCi/g					
	Uncert:			+/-0.683						
	TPU:			+/-0.690						
Sodium-22			U	0.151	pCi/g					
	Uncert:			+/-0.268						
	TPU:			+/-0.277						
Thallium-208			U	-0.0937	pCi/g					
	Uncert:			+/-0.614						
	TPU:			+/-0.615						

QC Summary

Workorder: **669289**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 2618905										
Thorium-234			U	-2.84	pCi/g					
	Uncert:			+/-23.1						
	TPU:			+/-23.1						
Tin-113			U	-0.0636	pCi/g					
	Uncert:			+/-0.638						
	TPU:			+/-0.639						
Uranium-235			U	-0.887	pCi/g					
	Uncert:			+/-2.00						
	TPU:			+/-2.04						
Uranium-238			U	-2.84	pCi/g					
	Uncert:			+/-23.1						
	TPU:			+/-23.1						
Yttrium-88			U	-0.0986	pCi/g					
	Uncert:			+/-0.140						
	TPU:			+/-0.147						
Zinc-65			U	-0.117	pCi/g					
	Uncert:			+/-1.09						
	TPU:			+/-1.09						
Zirconium-95			U	-0.273	pCi/g					
	Uncert:			+/-0.734						
	TPU:			+/-0.745						
QC1205747503 MB										
Actinium-228			U	0.0160	pCi/g				MXR1	06/20/2405:23
	Uncert:			+/-0.0842						
	TPU:			+/-0.0845						
Americium-241			U	0.0117	pCi/g					
	Uncert:			+/-0.0421						
	TPU:			+/-0.0424						
Antimony-124			U	0.000	pCi/g					
	Uncert:			+/-0.0251						
	TPU:			+/-0.000						
Antimony-125			U	0.00434	pCi/g					
	Uncert:			+/-0.0291						
	TPU:			+/-0.0292						
Barium-133			U	-0.00340	pCi/g					
	Uncert:			+/-0.0176						
	TPU:			+/-0.0177						
Barium-140			U	-0.0128	pCi/g					
	Uncert:			+/-0.146						
	TPU:			+/-0.147						
Beryllium-7			U	0.0303	pCi/g					
	Uncert:			+/-0.138						
	TPU:			+/-0.139						
Bismuth-212			U	-0.0885	pCi/g					
	Uncert:			+/-0.230						
	TPU:			+/-0.233						

QC Summary

Workorder: **669289**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 2618905										
Bismuth-214			U	-8.89E-05	pCi/g					
	Uncert:			+/-0.0400						
	TPU:			+/-0.0400						
Cerium-139			U	-0.000949	pCi/g					
	Uncert:			+/-0.00989						
	TPU:			+/-0.00990						
Cerium-141			U	-0.0246	pCi/g					
	Uncert:			+/-0.0278						
	TPU:			+/-0.0300						
Cerium-144			U	0.0421	pCi/g					
	Uncert:			+/-0.0684						
	TPU:			+/-0.0711						
Cesium-134			U	-0.00757	pCi/g					
	Uncert:			+/-0.0185						
	TPU:			+/-0.0188						
Cesium-136			U	0.0329	pCi/g					
	Uncert:			+/-0.0521						
	TPU:			+/-0.0543						
Cesium-137			U	-0.0175	pCi/g					
	Uncert:			+/-0.0184						
	TPU:			+/-0.0201						
Chromium-51			U	-0.168	pCi/g					
	Uncert:			+/-0.214						
	TPU:			+/-0.227						
Cobalt-56			U	-0.00428	pCi/g					
	Uncert:			+/-0.0191						
	TPU:			+/-0.0192						
Cobalt-57			U	-0.000750	pCi/g					
	Uncert:			+/-0.00867						
	TPU:			+/-0.00868						
Cobalt-58			U	-0.00362	pCi/g					
	Uncert:			+/-0.0139						
	TPU:			+/-0.0140						
Cobalt-60			U	0.00714	pCi/g					
	Uncert:			+/-0.0148						
	TPU:			+/-0.0152						
Europium-152			U	0.00607	pCi/g					
	Uncert:			+/-0.0348						
	TPU:			+/-0.0349						
Europium-154			U	-0.00906	pCi/g					
	Uncert:			+/-0.0351						
	TPU:			+/-0.0353						
Europium-155			U	-0.0247	pCi/g					
	Uncert:			+/-0.0391						
	TPU:			+/-0.0407						
Iridium-192			U	-0.00117	pCi/g					

QC Summary

Workorder: **669289**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 2618905										
	Uncert:			+/-0.0150						
	TPU:			+/-0.0150						
Iron-59			U	0.00412	pCi/g					
	Uncert:			+/-0.0449						
	TPU:			+/-0.0449						
Lead-210			U	0.518	pCi/g					
	Uncert:			+/-1.90						
	TPU:			+/-1.90						
Lead-212			U	0.0345	pCi/g					
	Uncert:			+/-0.0413						
	TPU:			+/-0.0442						
Lead-214			U	-0.0256	pCi/g					
	Uncert:			+/-0.0299						
	TPU:			+/-0.0321						
Manganese-54			U	0.00152	pCi/g					
	Uncert:			+/-0.0141						
	TPU:			+/-0.0141						
Mercury-203			U	0.00368	pCi/g					
	Uncert:			+/-0.0178						
	TPU:			+/-0.0179						
Neodymium-147			U	0.0416	pCi/g					
	Uncert:			+/-0.263						
	TPU:			+/-0.264						
Neptunium-239			U	0.0213	pCi/g					
	Uncert:			+/-0.0781						
	TPU:			+/-0.0788						
Niobium-94			U	-0.00387	pCi/g					
	Uncert:			+/-0.0165						
	TPU:			+/-0.0166						
Niobium-95			U	0.00551	pCi/g					
	Uncert:			+/-0.0166						
	TPU:			+/-0.0168						
Potassium-40			U	-0.102	pCi/g					
	Uncert:			+/-0.214						
	TPU:			+/-0.219						
Promethium-144			U	-0.00203	pCi/g					
	Uncert:			+/-0.0190						
	TPU:			+/-0.0191						
Promethium-146			U	-0.00889	pCi/g					
	Uncert:			+/-0.0214						
	TPU:			+/-0.0218						
Radium-226			U	-0.0256	pCi/g					
	Uncert:			+/-0.0299						
	TPU:			+/-0.0321						
Radium-228			U	0.0160	pCi/g					
	Uncert:			+/-0.0842						

QC Summary

Workorder: **669289**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 2618905										
	TPU:			+/-0.0845						
Ruthenium-106			U	0.0758	pCi/g					
	Uncert:			+/-0.136						
	TPU:			+/-0.141						
Silver-110m			U	0.00394	pCi/g					
	Uncert:			+/-0.00772						
	TPU:			+/-0.00793						
Sodium-22			U	-0.00321	pCi/g					
	Uncert:			+/-0.0124						
	TPU:			+/-0.0125						
Thallium-208			U	-0.0134	pCi/g					
	Uncert:			+/-0.0182						
	TPU:			+/-0.0192						
Thorium-234			U	-0.217	pCi/g					
	Uncert:			+/-0.392						
	TPU:			+/-0.407						
Tin-113			U	-0.00937	pCi/g					
	Uncert:			+/-0.0205						
	TPU:			+/-0.0210						
Uranium-235			U	0.0545	pCi/g					
	Uncert:			+/-0.0800						
	TPU:			+/-0.0838						
Uranium-238			U	-0.217	pCi/g					
	Uncert:			+/-0.392						
	TPU:			+/-0.407						
Yttrium-88			U	0.0250	pCi/g					
	Uncert:			+/-0.0237						
	TPU:			+/-0.0263						
Zinc-65			U	-0.00269	pCi/g					
	Uncert:			+/-0.0387						
	TPU:			+/-0.0387						
Zirconium-95			U	0.0184	pCi/g					
	Uncert:			+/-0.0422						
	TPU:			+/-0.0431						

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

U	Analyte was analyzed for, but not detected above the Lc.
J	Value is estimated
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
H	Analytical holding time was exceeded
<	Result is less than value reported
>	Result is greater than value reported
UI	Gamma Spectroscopy--Uncertain identification

QC Summary

Workorder: **669289**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time

BD	Results are either below the MDC or tracer recovery is low
h	Preparation or preservation holding time was exceeded
R	Sample results are rejected
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
N/A	RPD or %Recovery limits do not apply.
ND	Analyte concentration is not detected above the detection limit
M	M if above MDC and less than LLD
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
FA	Failed analysis.
M	REMP Result > MDC/CL and < RDL
UJ	Gamma Spectroscopy--Uncertain identification
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
N1	See case narrative
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
**	Analyte is a Tracer compound
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
** Indicates analyte is a surrogate/tracer compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Alpha Spectroscopy
Raw Data

Batch 2626053 Check-list

This check-list was completed on 26-JUN-24 by Jessica Downey

This batch was reviewed by Melanie Aycock on 24-JUN-24, Melanie Aycock on 26-JUN-24 and Scott Moreland on 26-JUN-24.

Batch ID: 2626053 **Product:** ASP__THS **Description:** Alpha Spec Thorium GL-RAD-A-038

#	Criteria	Yes	No	Comments
Preparation Information				
1	Was the preservation correct for this analysis?	Yes		
Internal Checklist Information				
2	Are instrument source checks within limits?	Yes		
3	Have samples been blank corrected?		No	
4	Has an Aliquot Correction been completed for this batch?		No	
5	Have sample historical results been reviewed for this batch?	Yes		
Technical Information				
6	Were all the samples prepared/analyzed within the required holding time period?	Yes		
7	Are any sample results more negative than 3xTPU?		No	
Quality Control (QC) Information				
8	Was the method blank (MB) within the acceptance criteria?	Yes		
9	Were all tracer/carrier recoveries within the required acceptance limits?	Yes		
10	Were the laboratory control sample (LCS/LCSD) recoveries within the acceptance limits?	Yes		
11	Were the relative percent differences and/or error (RPD/RER) between the sample and its duplicate within acceptable limits?	Yes		
12	Has the method required detection limit been met?	Yes		
Miscellaneous Information				
13	Were manual integrations performed on any sample or QC data files in this batch?		No	
14	Are sample-specific MDA/MDC calculated and reported?	Yes		

Prep Logbook

Thorium

Batch ID: **2626053**
Analyst: Chandler Metts (CM4)
Prep: Kennedy Gohl (KG3)
Method: DOE EML HASL-300, Th-01-RC Modified
Lab SOP: GL-RAD-A-038 REV# 19
Instrument: BAL-C409669499

Due Dates for Lab: 24-JUN-2024 **Package: 25-JUN-2024** **SDG: 26-JUN-2024**

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1205760394	Thorium-232 AS SPIKE	1513-J	.1	mL

#	Sample ID	Prep Date	Min RDL (pCi/g)	Dry or Wet	Unadjusted Aliquot (g)	Aliquot (g)
1	669289003	20-JUN-2024	1	Dry to Dry	0.117	0.117
2	669289004	20-JUN-2024	1	Dry to Dry	0.13	0.13
3	669289005	20-JUN-2024	1	Dry to Dry	0.123	0.123
4	669289013	20-JUN-2024	1	Dry to Dry	0.125	0.125
5	1205760392 MB	20-JUN-2024	1	Dry to Wet		0.13
6	1205760393 DUP (669289003)	20-JUN-2024	1	Dry to Dry	0.121	0.121
7	1205760394 LCS	20-JUN-2024	1	Dry to Wet		0.13

Reagent/Solvent Lot ID	Description	Amount
WORK 1845-J	Thorium-229 AS TRACER, RASP	.1 mL
REGNT 4355090	Acetone	1 mL
REGNT 4351215.2	Hydrogen Peroxide 30% ACS Reagent	3 mL
REGNT 4363411	RASP-2M Hydrochloric Acid	4 mL
REGNT 4316586	5% Saturated Boric Acid	1 mL
REGNT 4340505.1	RASP-Ammonium Hydroxide	10 mL
REGNT 4356267.1	Anion Exchange Resin 1x8 100-200 Mesh Resin	3 mL
REGNT 4361699	RASP- Ethyl Alcohol (80%)	5 mL
REGNT 4208162	Iron Carrier	2 mL
REGNT 4323560	Neodymium 500 MG/L in 4% HNO3	.1 mL
REGNT 4360671	RASP-Neodymium Substrate	5 mL
REGNT 4359960	8M Nitric Acid	30 mL
REGNT 4363404	9M Hydrochloric Acid	20 mL
REGNT 4357760.15	RASP-Hydrochloric Acid	20 mL
REGNT 4337900.6	RASP-Hydrofluoric Acid	30 mL
REGNT 4352460.2	Nitric Acid	20 mL

Comments:

Pipet ID: RAD-ASP-184002Z
Data Entry Date2: 20-JUN-2024 00:00

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-038

BATCH NUMBER : 2626053	CHAMBER : 031	LIB FILE : TH
SAMPLE ID : S0669289003_TH	DETECTOR S/N : 155850	BKG FILE : B031.CNF;2670
SAMPLE QTY : 0.117 G +/-0.855 %	AVERAGE %EFFICIENCY : 31.8322	BKG DATE : 14-Jun-2024
SAMPLE DATE : 21-May-2024 00:00:00	AVERAGE %EFF ERROR : 0.6157	BKG LIVE TIME(SEC) : 59999.99
ANALYST : CM4	COUNT DATE : 22-Jun-2024 10:11:28	EFF FILE : W031.CNF;736
% YIELD : 67.3 +/-6.869 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 04-Jun-2024

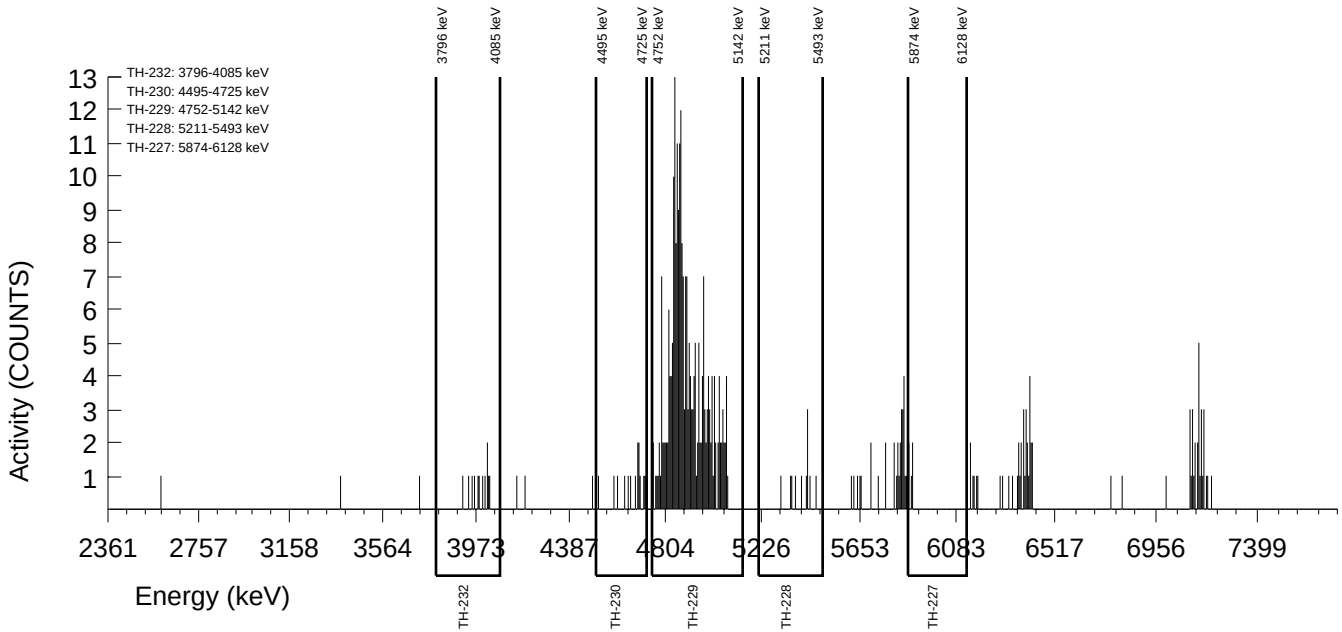
TRACER
ID : 1845-J
NUCLIDE : TH-229
NOMINAL : 4.8402E+00 dpm
RESULTS : 3.2598E+00 dpm

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
TH-227	5994.04	5881.17	0.000	5.000	0.440	4.560	2.1354	57.440	1.91E-01	2.28E+00	4.71E+00	1.70E+00	2.28E+00
TH-228	5363.00	5401.16	6.167	11.000	9.792	1.200	1.0954	99.940	7.57E-01	5.43E-01	5.43E-01	1.56E-01	5.33E-01
TH-229	4900.00	4901.97	173.701	250.000	247.840	2.160	1.4697	99.520	1.86E+01	3.51E+00	6.30E-01	2.02E-01	2.34E+00
TH-230	4671.39	4661.93	12.334	16.000	13.069	1.440	1.2000	99.700	9.81E-01	6.33E-01	6.72E-01	2.23E-01	6.14E-01
TH-232	3972.00	3990.57	7.400	12.000	10.940	0.960	0.9798	100.000	8.19E-01	5.47E-01	5.04E-01	1.40E-01	5.35E-01

NOTES:

* Corrections made to the following net areas due to tracer impurity:
TH-228 (0.008 +/-0.000)
TH-230 (1.491 +/-0.023)
TH-232 (0.100 +/-0.002)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-038

BATCH NUMBER : 2626053	CHAMBER : 166	LIB FILE : TH
SAMPLE ID : S0669289004_TH	DETECTOR S/N : 155809	BKG FILE : B166.CNF;1723
SAMPLE QTY : 0.130 G +/-0.769 %	AVERAGE %EFFICIENCY : 25.8294	BKG DATE : 22-Jun-2024
SAMPLE DATE : 21-May-2024 00:00:00	AVERAGE %EFF ERROR : 0.5024	BKG LIVE TIME(SEC) : 60000.00
ANALYST : CM4	COUNT DATE : 25-Jun-2024 17:58:11	EFF FILE : W166.CNF;491
% YIELD : 73.2 +/-7.237 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 18-Jun-2024

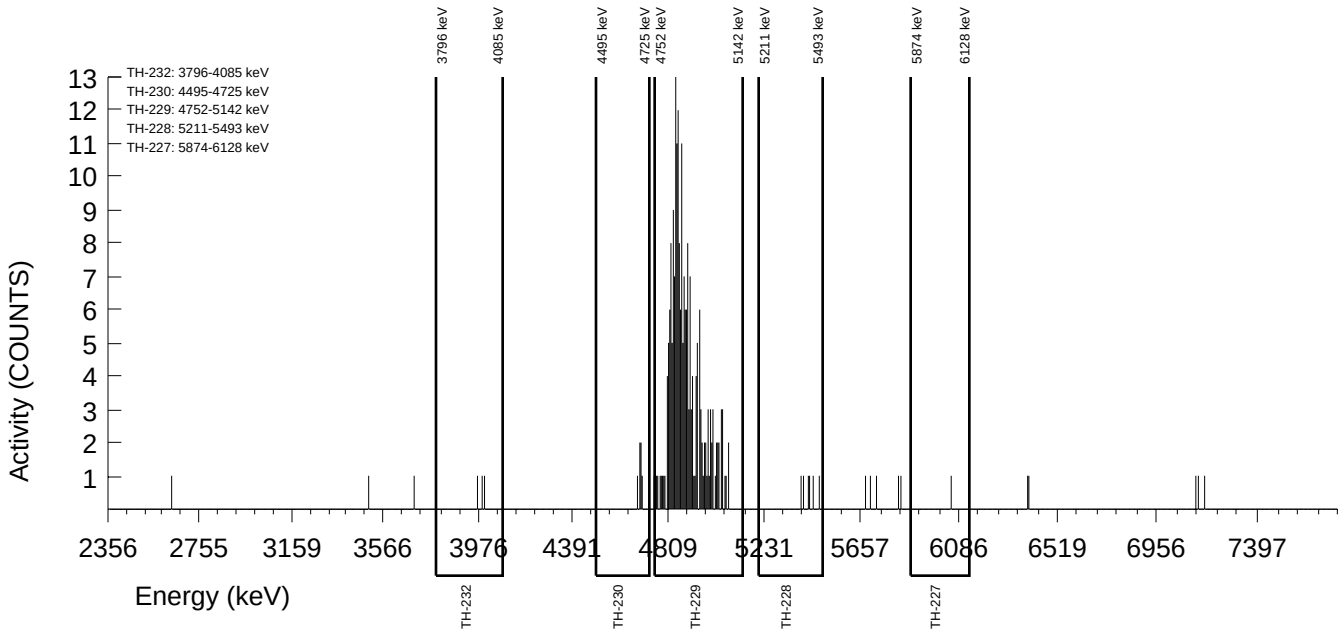
TRACER
ID : 1845-J
NUCLIDE : TH-229
NOMINAL : 4.8402E+00 dpm
RESULTS : 3.5421E+00 dpm

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
TH-227	5994.04	6053.72	4.969	1.000	-0.200	1.200	1.0954	57.440	-1.00E-01	1.51E+00	3.52E+00	1.01E+00	1.51E+00
TH-228	5363.00	5430.86	79.508	6.000	3.593	2.400	1.5492	99.940	2.85E-01	4.31E-01	6.88E-01	2.25E-01	4.29E-01
TH-229	4900.00	4891.41	83.856	219.000	218.520	0.480	0.6928	99.520	1.68E+01	3.33E+00	4.25E-01	9.74E-02	2.23E+00
TH-230	4671.39	4690.06	12.423	6.000	4.205	0.480	0.6928	99.700	3.22E-01	4.07E-01	5.78E-01	1.74E-01	4.02E-01
TH-232	3972.00	3993.46	34.785	3.000	2.432	0.480	0.6928	100.000	1.86E-01	3.07E-01	4.37E-01	1.04E-01	3.06E-01

NOTES:

* Corrections made to the following net areas due to tracer impurity:
TH-228 (0.007 +/-0.000)
TH-230 (1.315 +/-0.020)
TH-232 (0.088 +/-0.001)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-038

BATCH NUMBER : 2626053	CHAMBER : 033	LIB FILE : TH
SAMPLE ID : S0669289005_TH	DETECTOR S/N : 149006	BKG FILE : B033.CNF;2659
SAMPLE QTY : 0.123 G +/-0.813 %	AVERAGE %EFFICIENCY : 32.2213	BKG DATE : 14-Jun-2024
SAMPLE DATE : 21-May-2024 00:00:00	AVERAGE %EFF ERROR : 0.6230	BKG LIVE TIME(SEC) : 59999.99
ANALYST : CM4	COUNT DATE : 22-Jun-2024 10:11:28	EFF FILE : W033.CNF;782
% YIELD : 97.6 +/-5.819 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 04-Jun-2024

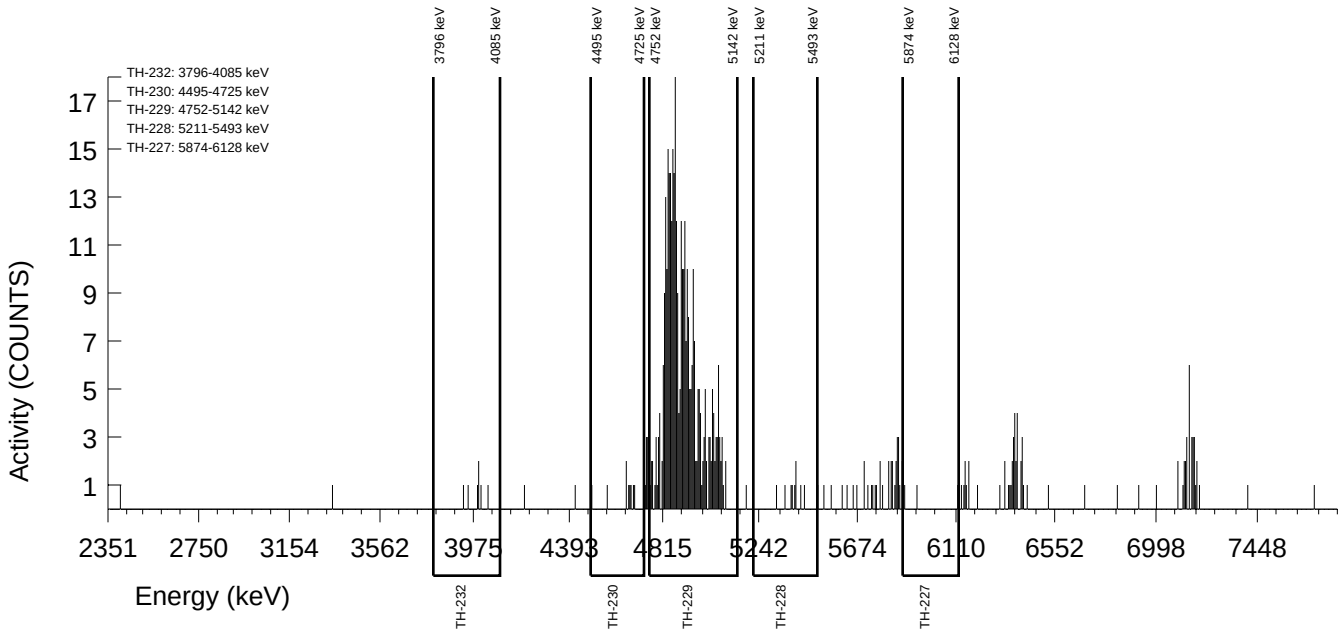
TRACER
ID : 1845-J
NUCLIDE : TH-229
NOMINAL : 4.8402E+00 dpm
RESULTS : 4.7235E+00 dpm

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
TH-227	5994.04	5929.87	0.000	6.000	2.880	3.120	1.7664	57.440	8.12E-01	1.55E+00	2.67E+00	9.12E-01	1.54E+00
TH-228	5363.00	5390.41	7.434	9.000	7.789	1.200	1.0954	99.940	3.91E-01	3.20E-01	3.52E-01	1.01E-01	3.16E-01
TH-229	4900.00	4901.29	120.591	364.000	363.520	0.480	0.6928	99.520	1.77E+01	2.82E+00	2.70E-01	6.19E-02	1.83E+00
TH-230	4671.39	4637.38	4.956	9.000	5.613	1.200	1.0954	99.700	2.73E-01	3.10E-01	4.53E-01	1.54E-01	3.07E-01
TH-232	3972.00	3986.18	7.434	7.000	5.894	0.960	0.9798	100.000	2.86E-01	2.76E-01	3.30E-01	9.23E-02	2.74E-01

NOTES:

* Corrections made to the following net areas due to tracer impurity:
TH-228 (0.011 +/-0.000)
TH-230 (2.187 +/-0.034)
TH-232 (0.146 +/-0.002)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-038

BATCH NUMBER : 2626053	CHAMBER : 034	LIB FILE : TH
SAMPLE ID : S0669289013_TH	DETECTOR S/N : 147828	BKG FILE : B034.CNF;2658
SAMPLE QTY : 0.125 G +/-0.800 %	AVERAGE %EFFICIENCY : 34.7168	BKG DATE : 14-Jun-2024
SAMPLE DATE : 21-May-2024 00:00:00	AVERAGE %EFF ERROR : 0.6701	BKG LIVE TIME(SEC) : 59999.99
ANALYST : CM4	COUNT DATE : 22-Jun-2024 10:11:28	EFF FILE : W034.CNF;703
% YIELD : 67.1 +/-6.616 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 04-Jun-2024

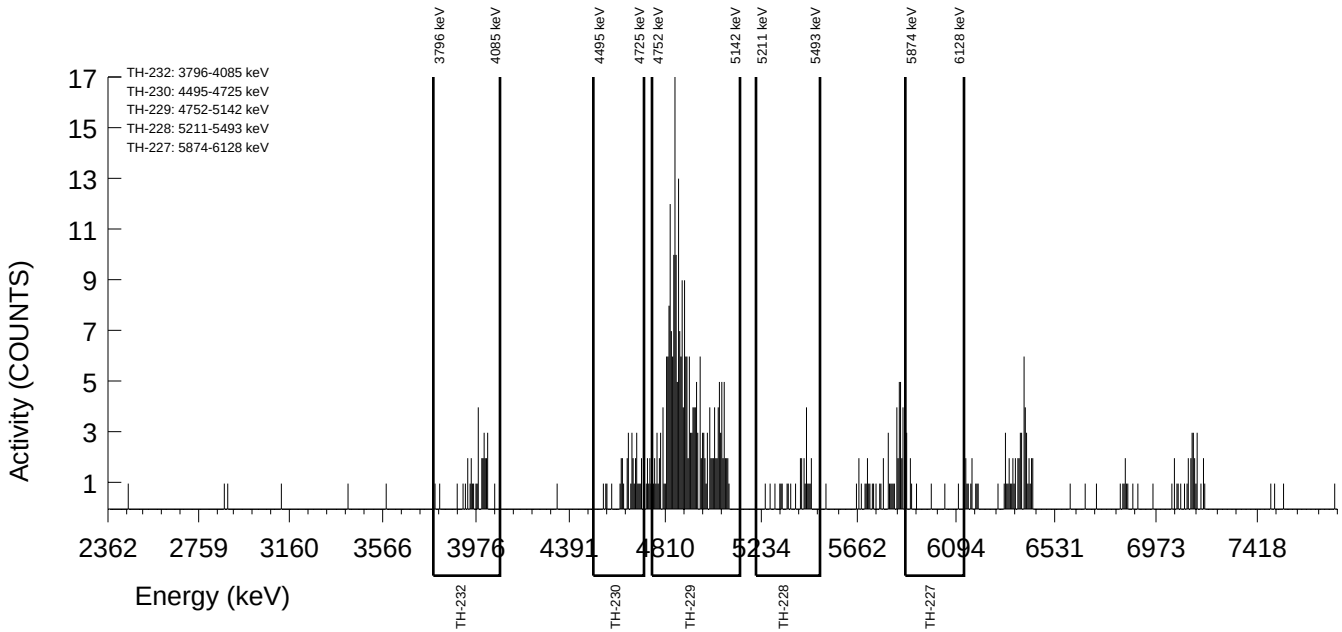
TRACER
ID : 1845-J
NUCLIDE : TH-229
NOMINAL : 4.8402E+00 dpm
RESULTS : 3.2480E+00 dpm

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
TH-227	5994.04	5931.55	20.961	11.000	5.480	5.520	2.3495	57.440	2.05E+00	2.70E+00	4.35E+00	1.61E+00	2.68E+00
TH-228	5363.00	5392.28	6.576	26.000	24.552	1.440	1.2000	99.940	1.64E+00	7.19E-01	4.93E-01	1.47E-01	6.83E-01
TH-229	4900.00	4909.58	64.321	271.000	269.320	1.680	1.2961	99.520	1.74E+01	3.16E+00	5.02E-01	1.54E-01	2.10E+00
TH-230	4671.39	4656.31	97.407	34.000	30.939	1.440	1.2000	99.700	2.00E+00	8.06E-01	5.86E-01	1.96E-01	7.54E-01
TH-232	3972.00	3981.19	44.388	33.000	32.412	0.480	0.6928	100.000	2.09E+00	7.92E-01	3.71E-01	8.89E-02	7.38E-01

NOTES:

* Corrections made to the following net areas due to tracer impurity:
TH-228 (0.008 +/-0.000)
TH-230 (1.621 +/-0.025)
TH-232 (0.108 +/-0.002)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-038

BATCH NUMBER : 2626053	CHAMBER : 035	LIB FILE : TH
SAMPLE ID : S1205760392_TH	DETECTOR S/N : 147877	BKG FILE : B035.CNF;2646
SAMPLE QTY : 0.130 G +/-0.769 %	AVERAGE %EFFICIENCY : 29.8961	BKG DATE : 14-Jun-2024
SAMPLE DATE : 20-Jun-2024 00:00:00	AVERAGE %EFF ERROR : 0.5791	BKG LIVE TIME(SEC) : 59999.99
ANALYST : CM4	COUNT DATE : 22-Jun-2024 10:11:28	EFF FILE : W035.CNF;757
% YIELD : 76.4 +/-6.703 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 04-Jun-2024

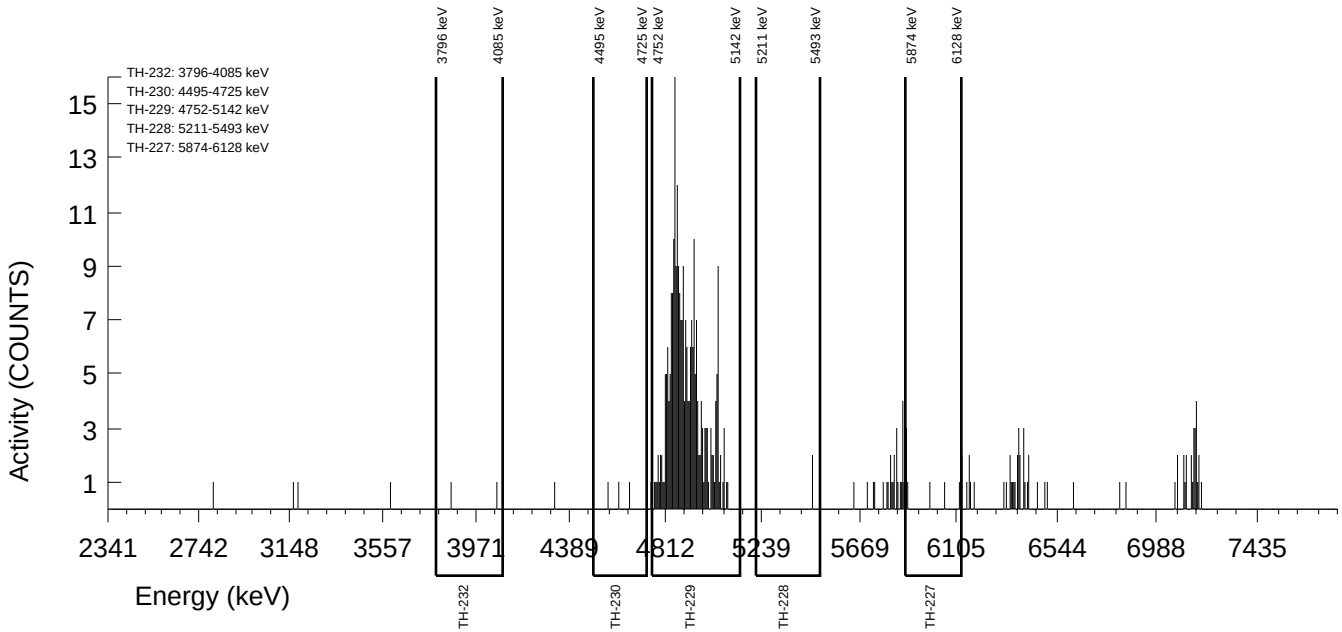
TRACER
ID : 1845-J
NUCLIDE : TH-229
NOMINAL : 4.8402E+00 dpm
RESULTS : 3.6994E+00 dpm

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
TH-227	5994.04	5980.68	0.000	10.000	6.880	3.120	1.7664	57.440	8.31E-01	8.21E-01	1.14E+00	3.91E-01	8.13E-01
TH-228	5363.00	5464.23	4.988	2.000	-0.888	2.880	1.6971	99.940	-5.63E-02	2.41E-01	5.85E-01	1.97E-01	2.41E-01
TH-229	4900.00	4905.71	190.181	268.000	264.160	3.840	1.9596	99.520	1.68E+01	3.08E+00	6.46E-01	2.28E-01	2.04E+00
TH-230	4671.39	4605.40	94.779	3.000	-1.470	2.880	1.6971	99.700	-9.31E-02	2.71E-01	6.64E-01	2.37E-01	2.71E-01
TH-232	3972.00	3963.44	199.534	2.000	0.694	1.200	1.0954	100.000	4.38E-02	2.27E-01	4.52E-01	1.31E-01	2.27E-01

NOTES:

* Corrections made to the following net areas due to tracer impurity:
TH-228 (0.008 +/-0.000)
TH-230 (1.590 +/-0.025)
TH-232 (0.106 +/-0.002)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-038

BATCH NUMBER : 2626053	CHAMBER : 036	LIB FILE : TH
SAMPLE ID : S1205760393_TH	DETECTOR S/N : 101511	BKG FILE : B036.CNF;2656
SAMPLE QTY : 0.121 G +/-0.826 %	AVERAGE %EFFICIENCY : 34.3571	BKG DATE : 21-Jun-2024
SAMPLE DATE : 21-May-2024 00:00:00	AVERAGE %EFF ERROR : 0.6634	BKG LIVE TIME(SEC) : 60000.00
ANALYST : CM4	COUNT DATE : 22-Jun-2024 10:11:28	EFF FILE : W036.CNF;711
% YIELD : 89.8 +/-5.865 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 04-Jun-2024

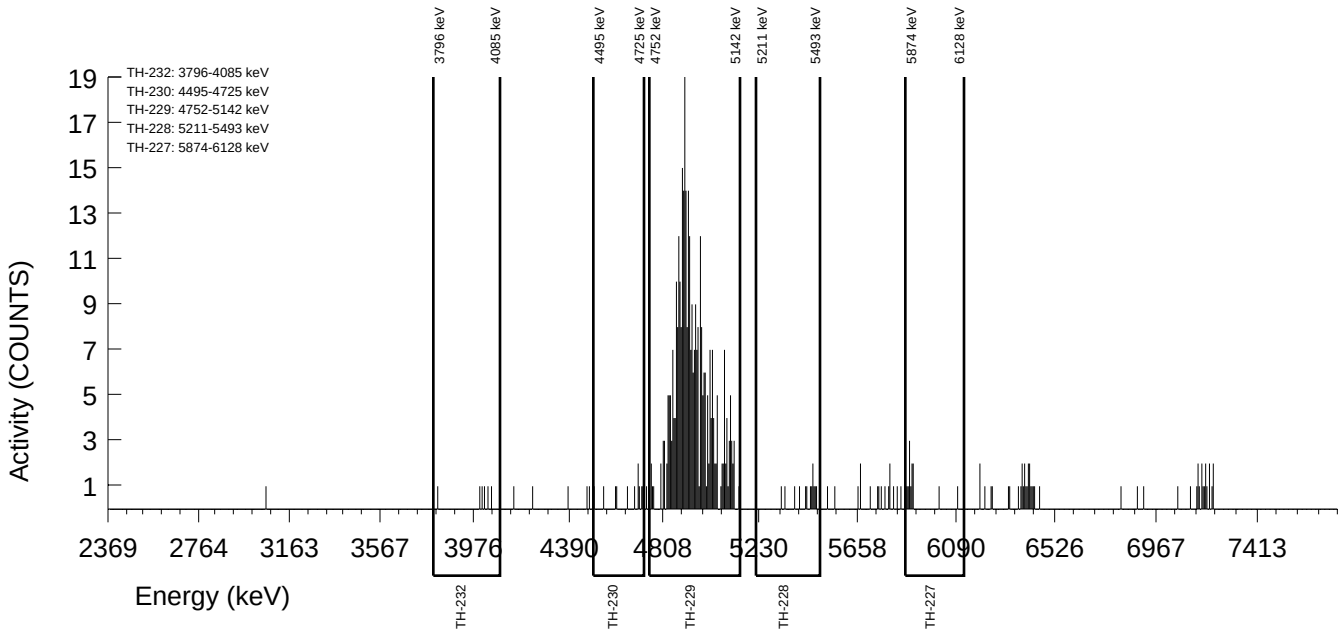
TRACER
ID : 1845-J
NUCLIDE : TH-229
NOMINAL : 4.8402E+00 dpm
RESULTS : 4.3446E+00 dpm

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
TH-227	5994.04	5917.48	19.625	13.000	12.520	0.480	0.6928	57.440	3.66E+00	2.20E+00	1.62E+00	3.71E-01	2.16E+00
TH-228	5363.00	5430.64	9.812	13.000	12.509	0.480	0.6928	99.940	6.50E-01	3.92E-01	2.89E-01	6.66E-02	3.84E-01
TH-229	4900.00	4936.88	101.600	357.000	356.520	0.480	0.6928	99.520	1.80E+01	2.89E+00	2.80E-01	6.41E-02	1.87E+00
TH-230	4671.39	4652.91	7.359	12.000	8.895	0.960	0.9798	99.700	4.49E-01	3.67E-01	4.54E-01	1.52E-01	3.60E-01
TH-232	3972.00	3990.69	230.594	6.000	5.857	0.000	1.0000	100.000	2.95E-01	2.64E-01	2.14E-01	9.73E-02	2.62E-01

NOTES:

* Corrections made to the following net areas due to tracer impurity:
TH-228 (0.011 +/-0.000)
TH-230 (2.145 +/-0.033)
TH-232 (0.143 +/-0.002)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-038

BATCH NUMBER : 2626053	CHAMBER : 037	LIB FILE : TH
SAMPLE ID : S1205760394_TH	DETECTOR S/N : 140606	BKG FILE : B037.CNF;2661
SAMPLE QTY : 0.130 G +/-0.769 %	AVERAGE %EFFICIENCY : 37.1708	BKG DATE : 14-Jun-2024
SAMPLE DATE : 20-Jun-2024 00:00:00	AVERAGE %EFF ERROR : 0.7165	BKG LIVE TIME(SEC) : 59999.99
ANALYST : CM4	COUNT DATE : 22-Jun-2024 10:11:32	EFF FILE : W037.CNF;733
% YIELD : 77.5 +/-6.044 %	ELAPSED LIVE TIME(SEC) : 14399.99	CAL DATE : 04-Jun-2024

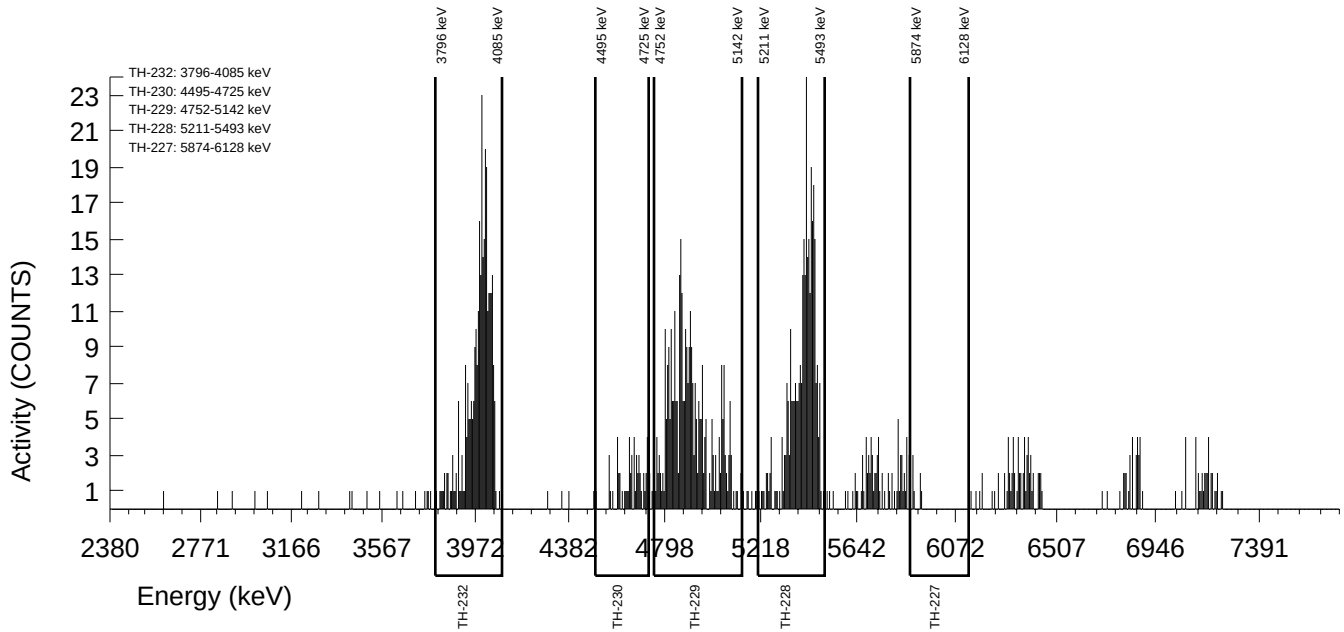
TRACER		LCS	
ID	: 1845-J	ID	1513-J
NUCLIDE	: TH-229	NUCLIDE	TH-232
NOMINAL	: 4.8402E+00 dpm	NOMINAL (pCi/G)	1.5285E+01
RESULTS	: 3.7517E+00 dpm	% RECOVERY	102.741

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
TH-227	5994.04	5893.10	0.000	9.000	1.320	7.680	2.7713	57.440	1.26E-01	6.48E-01	1.26E+00	4.86E-01	6.47E-01
TH-228	5363.00	5402.30	51.165	317.000	315.790	1.200	1.0954	99.940	1.59E+01	2.65E+00	3.53E-01	1.01E-01	1.76E+00
TH-229	4900.00	4912.92	239.662	335.000	333.080	1.920	1.3856	99.520	1.68E+01	2.77E+00	4.07E-01	1.28E-01	1.81E+00
TH-230	4671.39	4650.31	0.000	53.000	49.556	1.440	1.2000	99.700	2.49E+00	7.96E-01	4.73E-01	1.61E-01	7.27E-01
TH-232	3972.00	3990.01	59.214	314.000	313.386	0.480	0.6928	100.000	1.57E+01	2.63E+00	2.91E-01	7.04E-02	1.74E+00

NOTES:

* Corrections made to the following net areas due to tracer impurity:
TH-228 (0.010 +/-0.000)
TH-230 (2.004 +/-0.031)
TH-232 (0.134 +/-0.002)



Batch 2626051 Check-list

This check-list was completed on 24-JUN-24 by Melanie Aycock

This batch was reviewed by Melanie Aycock on 24-JUN-24 and Scott Moreland on 24-JUN-24.

Batch ID: 2626051 **Product:** ASP__UUS **Description:** Alpha Spec Uranium GL-RAD-A-011

#	Criteria	Yes	No	Comments
Preparation Information				
1	Was the preservation correct for this analysis?	Yes		
Internal Checklist Information				
2	Are instrument source checks within limits?	Yes		
3	Have samples been blank corrected?		No	
4	Has an Aliquot Correction been completed for this batch?		No	
5	Have sample historical results been reviewed for this batch?	Yes		
Technical Information				
6	Were all the samples prepared/analyzed within the required holding time period?	Yes		
7	Are any sample results more negative than 3xTPU?		No	
Quality Control (QC) Information				
8	Was the method blank (MB) within the acceptance criteria?	Yes		
9	Were all tracer/carrier recoveries within the required acceptance limits?	Yes		
10	Were the laboratory control sample (LCS/LCSD) recoveries within the acceptance limits?	Yes		
11	Were the relative percent differences and/or error (RPD/RER) between the sample and its duplicate within acceptable limits?	Yes		
12	Has the method required detection limit been met?	Yes		
Miscellaneous Information				
13	Were manual integrations performed on any sample or QC data files in this batch?		No	
14	Are sample-specific MDA/MDC calculated and reported?	Yes		

Prep Logbook

Uranium

Batch ID: **2626051**
Analyst: Chandler Metts (CM4)
Prep: Kennedy Gohl (KG3)
Method: DOE EML HASL-300, U-02-RC Modified
Lab SOP: GL-RAD-A-011 REV# 29
Instrument: BAL-C409669499

Due Dates for Lab: 24-JUN-2024 **Package: 25-JUN-2024** **SDG: 26-JUN-2024**

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1205760391	Uranium-238 AS SPIKE	1600-P	.1	mL

#	Sample ID	Prep Date	Min RDL (pCi/g)	Dry or Wet	Unadjusted Aliquot (g)	Aliquot (g)
1	669289003	20-JUN-2024	1	Dry to Dry	0.158	0.158
2	669289004	20-JUN-2024	1	Dry to Dry	0.13	0.13
3	669289005	20-JUN-2024	1	Dry to Dry	0.123	0.123
4	669289013	20-JUN-2024	1	Dry to Dry	0.113	0.113
5	1205760389 MB	20-JUN-2024	1	Dry to Wet		0.164
6	1205760390 DUP (669289003)	20-JUN-2024	1	Dry to Dry	0.164	0.164
7	1205760391 LCS	20-JUN-2024	1	Dry to Wet		0.164

Reagent/Solvent Lot ID	Description	Amount
WORK 1564-JJ	Uranium-232 AS TRACER	.1 ml
REGNT 4355090	Acetone	1 mL
REGNT 4351215.2	Hydrogen Peroxide 30% ACS Reagent	.1 mL
REGNT 4363409	0.1M HCl	15 mL
REGNT 4316586	5% Saturated Boric Acid	1 mL
REGNT 4356600	6M Hydrochloric Acid/0.52M Hydrofluoric Acid	15 mL
REGNT 4224853	RASP-6M Hydrochloric Acid	5 mL
REGNT 4340505.1	RASP-Ammonium Hydroxide	10 mL
REGNT 4356267.1	Anion Exchange Resin 1x8 100-200 Mesh Resin	3 mL
REGNT 4361699	RASP- Ethyl Alcohol (80%)	5 mL
REGNT 4208162	Iron Carrier	2 mL
REGNT 4323560	Neodymium 500 MG/L in 4% HNO3	.1 mL
REGNT 4360671	RASP-Neodymium Substrate	5 mL
REGNT 3944469.6	RASP-Titanium Chloride	.5 mL
REGNT 4363404	9M Hydrochloric Acid	30 mL
REGNT 4357760.15	RASP-Hydrochloric Acid	20 mL
REGNT 4337900.6	RASP-Hydrofluoric Acid	30 mL
REGNT 4352460.2	Nitric Acid	20 mL

Comments:

Pipet Id: R2-428724
Pu-236 Tracer Used: No
Analyzed With: N/A
Data Entry Date2: 20-JUN-2024 00:00

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-011

BATCH NUMBER : 2626051	CHAMBER : 153	LIB FILE : UU
SAMPLE ID : S0669289003_UU	DETECTOR S/N : 155298	BKG FILE : B153.CNF;1917
SAMPLE QTY : 0.158 G +/-0.633 %	AVERAGE %EFFICIENCY : 38.6839	BKG DATE : 14-Jun-2024
SAMPLE DATE : 21-May-2024 00:00:00	AVERAGE %EFF ERROR : 0.7450	BKG LIVE TIME(SEC) : 60000.00
ANALYST : CM4	COUNT DATE : 22-Jun-2024 08:29:35	EFF FILE : W153.CNF;125
% YIELD : 70.1 +/-6.691 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 14-Jun-2024

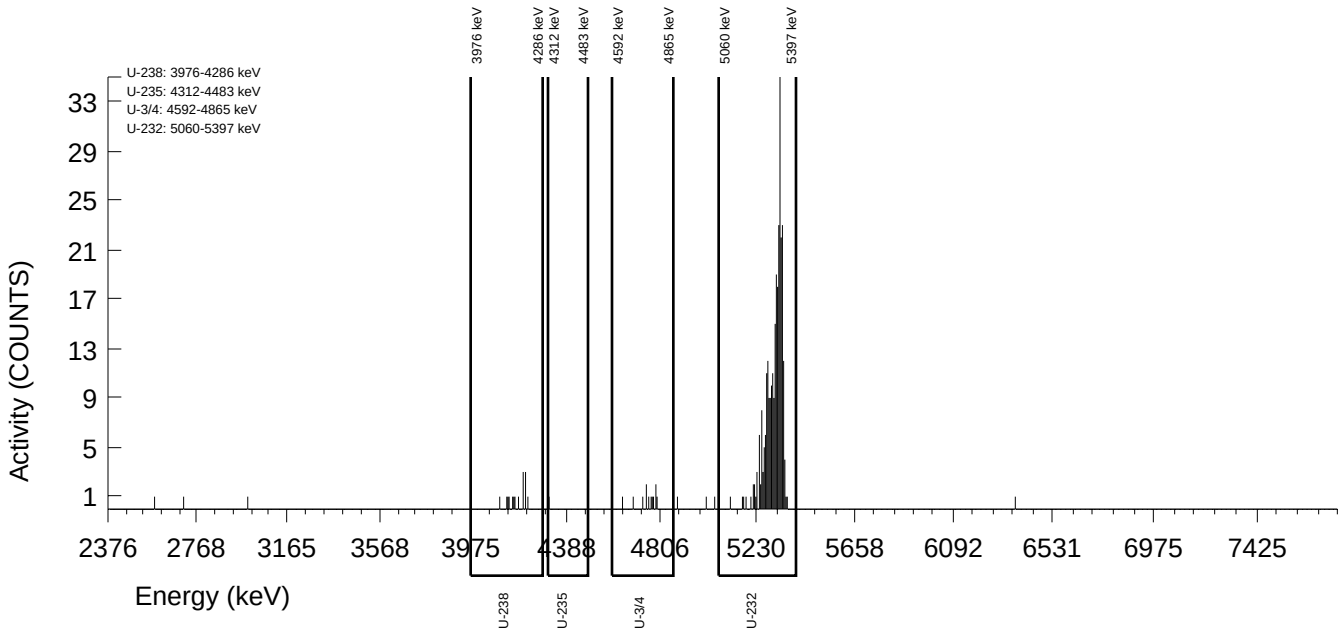
TRACER
ID : 1564-JJ
NUCLIDE : U-232
NOMINAL : 4.4139E+00 dpm
RESULTS : 3.0941E+00 dpm

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
U-232	5302.10	5305.65	28.601	287.000	287.000	0.000	1.0000	100.000	1.26E+01	2.26E+00	1.32E-01	8.03E-02	1.46E+00
U-3/4	4763.02	4746.90	46.248	12.000	10.301	0.720	0.8485	100.000	4.51E-01	3.20E-01	3.29E-01	9.86E-02	3.12E-01
U-235	4391.00	4315.66	4.868	1.000	1.000	0.000	1.0000	80.900	5.41E-02	1.52E-01	1.62E-01	9.92E-02	1.52E-01
U-238	4184.73	4175.33	14.605	15.000	14.280	0.720	0.8485	100.000	6.26E-01	3.56E-01	2.68E-01	6.81E-02	3.46E-01

NOTES:

* Correction made to the following net area due to tracer impurity:
U-3/4 (0.979 +/-0.029)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-011

BATCH NUMBER : 2626051	CHAMBER : 154	LIB FILE : UU
SAMPLE ID : S0669289004_UU	DETECTOR S/N : 155299	BKG FILE : B154.CNF;1921
SAMPLE QTY : 0.130 G +/-0.769 %	AVERAGE %EFFICIENCY : 38.7414	BKG DATE : 14-Jun-2024
SAMPLE DATE : 21-May-2024 00:00:00	AVERAGE %EFF ERROR : 0.7462	BKG LIVE TIME(SEC) : 60000.00
ANALYST : CM4	COUNT DATE : 22-Jun-2024 08:29:38	EFF FILE : W154.CNF;133
% YIELD : 86.4 +/-6.179 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 14-Jun-2024

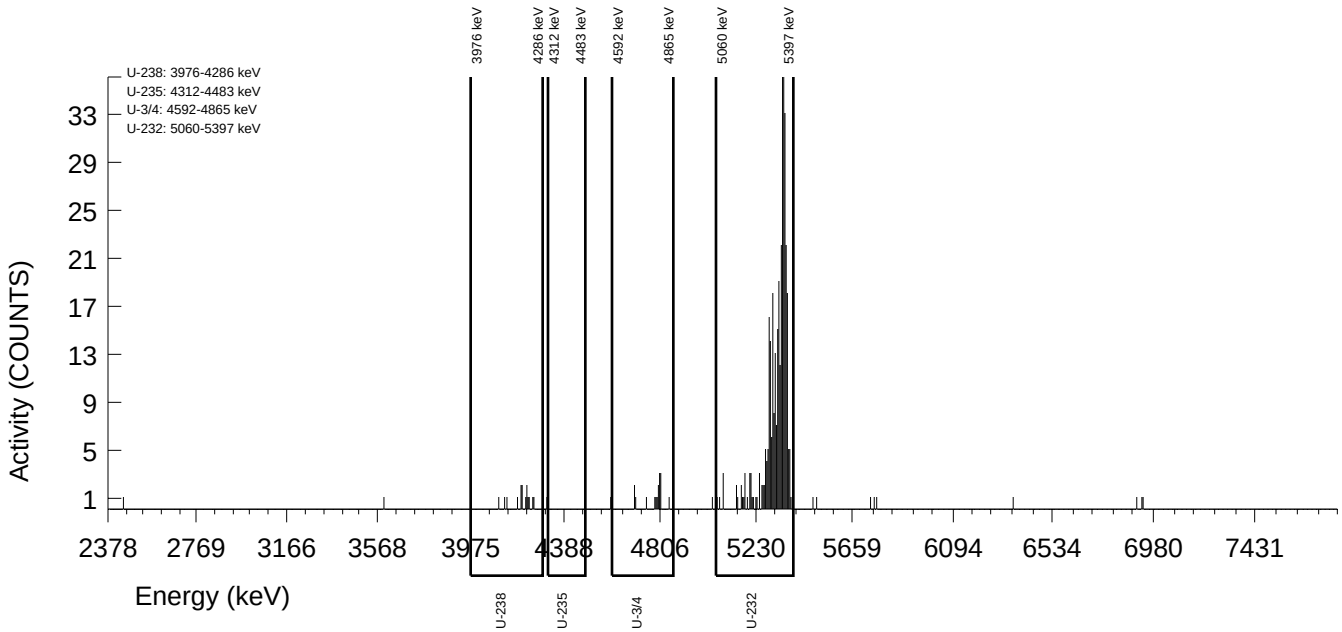
TRACER
ID : 1564-JJ
NUCLIDE : U-232
NOMINAL : 4.4139E+00 dpm
RESULTS : 3.8137E+00 dpm

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
U-232	5302.10	5321.21	35.191	355.000	354.280	0.720	0.8485	100.000	1.53E+01	2.52E+00	2.64E-01	6.71E-02	1.60E+00
U-3/4	4763.02	4771.00	110.428	17.000	15.311	0.480	0.6928	100.000	6.60E-01	3.72E-01	3.20E-01	9.53E-02	3.60E-01
U-235	4391.00	4310.08	0.000	1.000	1.000	0.000	1.0000	80.900	5.33E-02	1.50E-01	1.60E-01	9.77E-02	1.50E-01
U-238	4184.73	4196.95	31.551	15.000	14.520	0.480	0.6928	100.000	6.26E-01	3.49E-01	2.39E-01	5.47E-02	3.40E-01

NOTES:

* Correction made to the following net area due to tracer impurity:
U-3/4 (1.209 +/-0.036)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-011

BATCH NUMBER : 2626051	CHAMBER : 155	LIB FILE : UU
SAMPLE ID : S0669289005_UU	DETECTOR S/N : 155300	BKG FILE : B155.CNF;1931
SAMPLE QTY : 0.123 G +/-0.813 %	AVERAGE %EFFICIENCY : 40.3442	BKG DATE : 14-Jun-2024
SAMPLE DATE : 21-May-2024 00:00:00	AVERAGE %EFF ERROR : 0.7763	BKG LIVE TIME(SEC) : 60000.00
ANALYST : CM4	COUNT DATE : 22-Jun-2024 08:29:40	EFF FILE : W155.CNF;125
% YIELD : 100 +/-5.774 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 14-Jun-2024

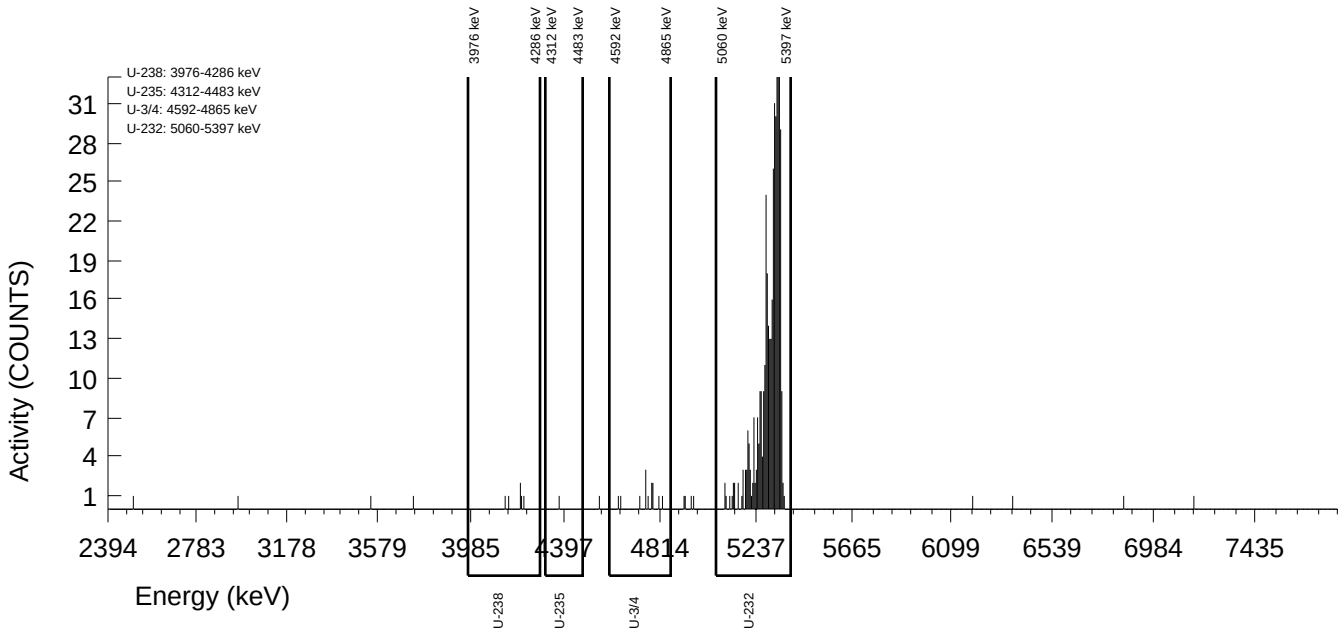
TRACER
ID : 1564-JJ
NUCLIDE : U-232
NOMINAL : 4.4139E+00 dpm
RESULTS : 4.4197E+00 dpm

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
U-232	5302.10	5300.76	63.778	429.000	427.560	1.440	1.2000	100.000	1.62E+01	2.48E+00	2.80E-01	8.31E-02	1.54E+00
U-3/4	4763.02	4756.14	32.609	13.000	10.821	0.720	0.8485	100.000	4.09E-01	2.85E-01	3.04E-01	9.53E-02	2.79E-01
U-235	4391.00	4375.84	4.831	1.000	1.000	0.000	1.0000	80.900	4.67E-02	1.31E-01	1.40E-01	8.55E-02	1.31E-01
U-238	4184.73	4189.15	7.246	6.000	5.760	0.240	0.4899	100.000	2.18E-01	1.99E-01	1.81E-01	3.39E-02	1.97E-01

NOTES:

* Correction made to the following net area due to tracer impurity:
U-3/4 (1.459 +/-0.044)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-011

BATCH NUMBER : 2626051	CHAMBER : 156	LIB FILE : UU
SAMPLE ID : S0669289013_UU	DETECTOR S/N : 155301	BKG FILE : B156.CNF;1937
SAMPLE QTY : 0.113 G +/-0.885 %	AVERAGE %EFFICIENCY : 39.4950	BKG DATE : 14-Jun-2024
SAMPLE DATE : 21-May-2024 00:00:00	AVERAGE %EFF ERROR : 0.7603	BKG LIVE TIME(SEC) : 60000.00
ANALYST : CM4	COUNT DATE : 22-Jun-2024 08:29:43	EFF FILE : W156.CNF;131
% YIELD : 89.0 +/-6.069 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 14-Jun-2024

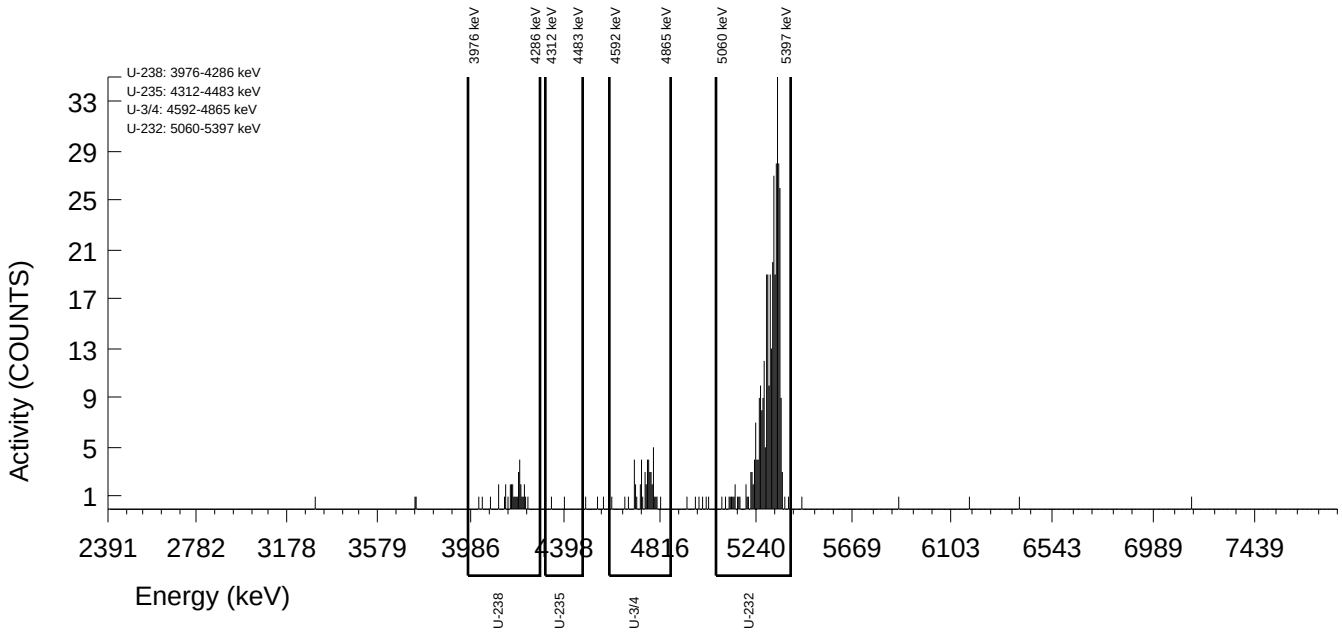
TRACER
ID : 1564-JJ
NUCLIDE : U-232
NOMINAL : 4.4139E+00 dpm
RESULTS : 3.9285E+00 dpm

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
U-232	5302.10	5301.69	56.232	373.000	372.040	0.960	0.9798	100.000	1.76E+01	2.85E+00	3.12E-01	8.49E-02	1.79E+00
U-3/4	4763.02	4752.86	82.359	47.000	45.491	0.240	0.4899	100.000	2.15E+00	7.00E-01	3.36E-01	9.73E-02	6.42E-01
U-235	4391.00	4369.90	58.136	2.000	2.000	0.000	1.0000	80.900	1.17E-01	2.01E-01	1.75E-01	1.07E-01	2.00E-01
U-238	4184.73	4170.47	12.112	34.000	33.280	0.720	0.8485	100.000	1.57E+00	5.84E-01	2.89E-01	7.34E-02	5.50E-01

NOTES:

* Correction made to the following net area due to tracer impurity:
U-3/4 (1.269 +/-0.038)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-011

BATCH NUMBER : 2626051	CHAMBER : 157	LIB FILE : UU
SAMPLE ID : S1205760389_UU	DETECTOR S/N : 155302	BKG FILE : B157.CNF;1878
SAMPLE QTY : 0.164 G +/-0.610 %	AVERAGE %EFFICIENCY : 39.5805	BKG DATE : 14-Jun-2024
SAMPLE DATE : 20-Jun-2024 00:00:00	AVERAGE %EFF ERROR : 0.7619	BKG LIVE TIME(SEC) : 60000.00
ANALYST : CM4	COUNT DATE : 22-Jun-2024 08:29:45	EFF FILE : W157.CNF;47
% YIELD : 82.5 +/-6.231 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 14-Jun-2024

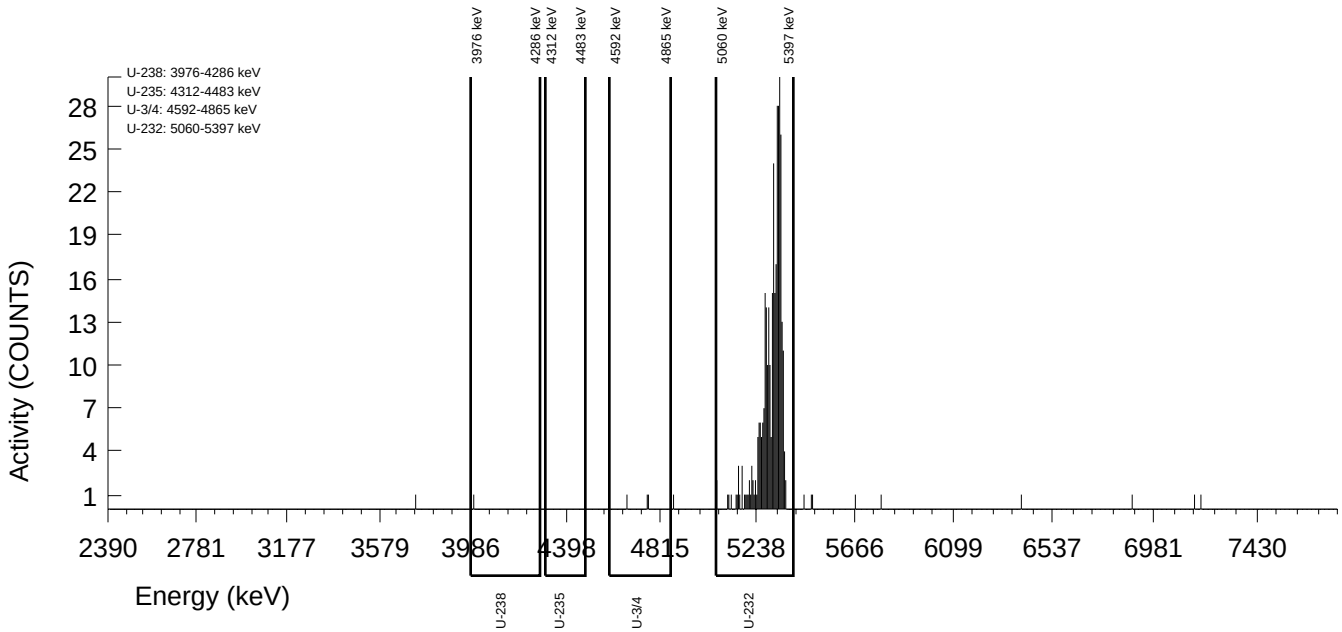
TRACER
ID : 1564-JJ
NUCLIDE : U-232
NOMINAL : 4.4102E+00 dpm
RESULTS : 3.6401E+00 dpm

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
U-232	5302.10	5301.76	38.092	346.000	345.760	0.240	0.4899	100.000	1.21E+01	2.01E+00	1.68E-01	3.14E-02	1.28E+00
U-3/4	4763.02	4729.42	92.242	3.000	1.820	0.000	1.0000	100.000	6.38E-02	1.39E-01	2.30E-01	8.96E-02	1.38E-01
U-235	4391.00	4397.16	0.000	0.000	0.000	0.000	1.0000	80.900	0.00E+00	8.75E-02	1.30E-01	7.93E-02	8.73E-02
U-238	4184.73	3995.74	4.855	1.000	1.000	0.000	1.0000	100.000	3.50E-02	9.86E-02	1.05E-01	6.42E-02	9.85E-02

NOTES:

* Correction made to the following net area due to tracer impurity:
U-3/4 (1.180 +/-0.035)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-011

BATCH NUMBER : 2626051	CHAMBER : 158	LIB FILE : UU
SAMPLE ID : S1205760390_UU	DETECTOR S/N : 155813	BKG FILE : B158.CNF;1889
SAMPLE QTY : 0.164 G +/-0.610 %	AVERAGE %EFFICIENCY : 39.2213	BKG DATE : 14-Jun-2024
SAMPLE DATE : 21-May-2024 00:00:00	AVERAGE %EFF ERROR : 0.7551	BKG LIVE TIME(SEC) : 60000.00
ANALYST : CM4	COUNT DATE : 22-Jun-2024 08:29:47	EFF FILE : W158.CNF;35
% YIELD : 86.1 +/-6.163 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 14-Jun-2024

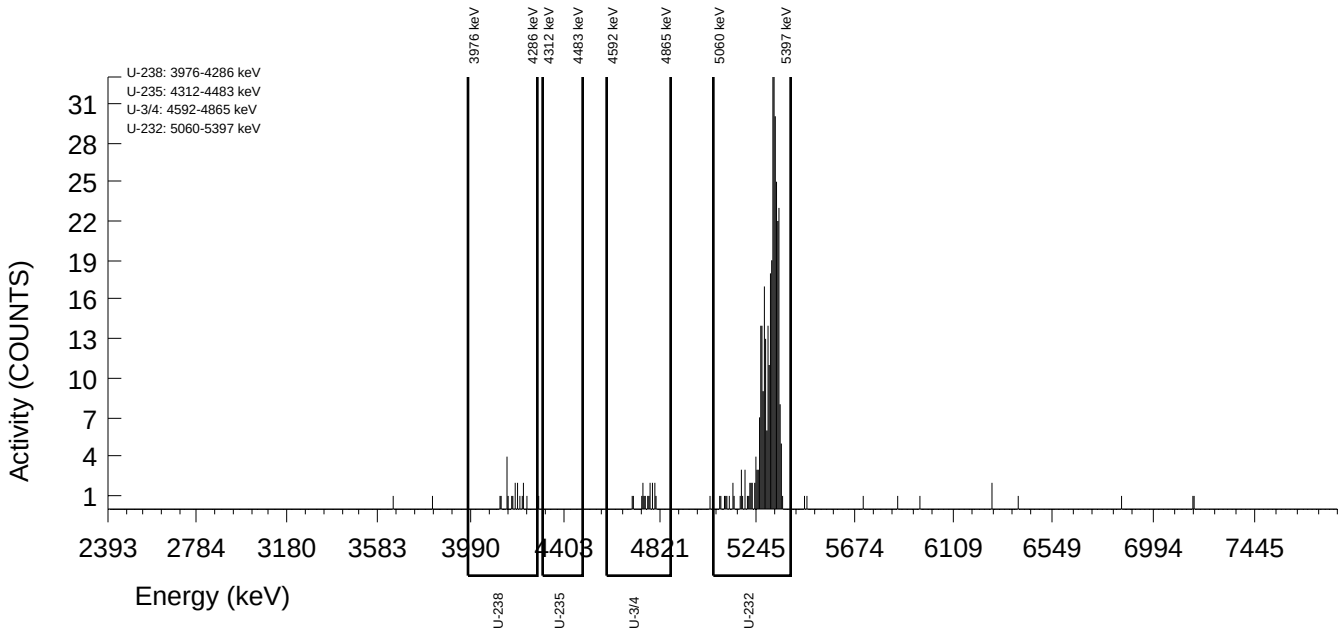
TRACER
ID : 1564-JJ
NUCLIDE : U-232
NOMINAL : 4.4139E+00 dpm
RESULTS : 3.8019E+00 dpm

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
U-232	5302.10	5302.11	60.660	359.000	357.560	1.440	1.2000	100.000	1.21E+01	1.99E+00	2.51E-01	7.45E-02	1.26E+00
U-3/4	4763.02	4764.90	58.253	16.000	14.780	0.000	1.0000	100.000	5.01E-01	2.83E-01	2.25E-01	8.74E-02	2.74E-01
U-235	4391.00	4397.16	0.000	0.000	-0.240	0.240	0.4899	80.900	-1.00E-02	8.68E-02	2.01E-01	3.76E-02	8.67E-02
U-238	4184.73	4177.91	5.664	18.000	17.760	0.240	0.4899	100.000	6.02E-01	3.00E-01	1.62E-01	3.04E-02	2.90E-01

NOTES:

* Correction made to the following net area due to tracer impurity:
U-3/4 (1.220 +/-0.037)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-011

BATCH NUMBER : 2626051	CHAMBER : 159	LIB FILE : UU
SAMPLE ID : S1205760391_UU	DETECTOR S/N : 155814	BKG FILE : B159.CNF;1917
SAMPLE QTY : 0.164 G +/-0.610 %	AVERAGE %EFFICIENCY : 39.6692	BKG DATE : 14-Jun-2024
SAMPLE DATE : 20-Jun-2024 00:00:00	AVERAGE %EFF ERROR : 0.7636	BKG LIVE TIME(SEC) : 60000.00
ANALYST : CM4	COUNT DATE : 22-Jun-2024 08:29:50	EFF FILE : W159.CNF;133
% YIELD : 91.9 +/-5.997 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 14-Jun-2024

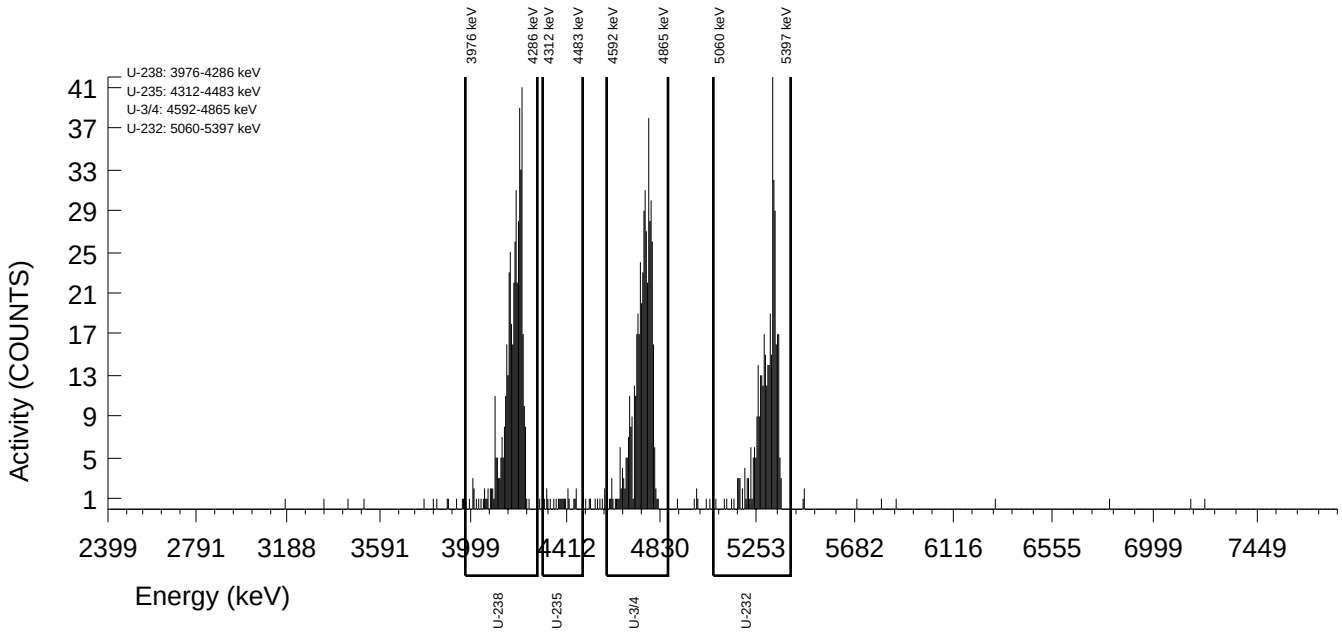
TRACER		LCS	
ID	: 1564-JJ	ID	1600-P
NUCLIDE	: U-232	NUCLIDE	U-238
NOMINAL	: 4.4102E+00 dpm	NOMINAL (pCi/G)	1.6355E+01
RESULTS	: 4.0530E+00 dpm	% RECOVERY	91.364

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
U-232	5302.10	5296.19	16.517	388.000	385.840	2.160	1.4697	100.000	1.21E+01	1.93E+00	2.63E-01	8.45E-02	1.21E+00
U-3/4	4763.02	4748.60	55.562	474.000	472.684	0.000	1.0000	100.000	1.48E+01	2.28E+00	2.13E-01	8.26E-02	1.34E+00
U-235	4391.00	4392.63	126.562	21.000	21.000	0.000	1.0000	80.900	8.15E-01	3.71E-01	1.16E-01	7.11E-02	3.57E-01
U-238	4184.73	4179.45	58.920	476.000	476.000	0.000	1.0000	100.000	1.49E+01	2.29E+00	9.42E-02	5.75E-02	1.34E+00

NOTES:

* Correction made to the following net area due to tracer impurity:
U-3/4 (1.316 +/-0.039)



Continuing Calibration Data

Review of Alpha Spectrometer QA results (Daily checks) 22-JUN-2024 23:00:00.80

Bank 1 through bank 29 (detectors 1 through 256)

DETECTORS NOT LISTED HAVE PASSED ALL QUALITY ASSURANCE PARAMETERS

	Detector	Parameter	Flag
22-JUN-2024	94	PSENERGY-5000	Below
22-JUN-2024	94	PSCTSS-5000	Below
28-AUG-2023	115	PSCTSS-5000	Below
28-AUG-2023	116	PSCTSS-5000	Below
22-JUN-2024	129	PSCTSS-5000	Below
22-JUN-2024	130	PSCTSS-5000	Below
22-JUN-2024	141	PSENERGY-5000	Above
22-JUN-2024	143	PSFWHM-5000	Above
22-JUN-2024	169	PSFWHM-5000	Above
22-JUN-2024	175	PSCTSS-5000	Below
28-NOV-2020	198	PSFWHM-5000	Below
28-NOV-2020	198	PSCTSS-5000	Below
22-JUN-2024	216	PSENERGY-5000	Above
8-SEP-2023	221	PSFWHM-5000	Above
8-SEP-2023	221	PSCTSS-5000	Below
8-SEP-2023	222	PSENERGY-5000	Above
8-SEP-2023	222	PSCTSS-5000	Below
7-JUN-2024	227	PSFWHM-5000	Below
7-JUN-2024	227	PSCTSS-5000	Below
7-JUN-2024	228	PSENERGY-5000	Above
7-JUN-2024	228	PSCENTRD-5000	Above
7-JUN-2024	230	PSCENTRD-5000	Above

The following detectors that may not have properly transfered to the QA file

115 may not have run since 22-JUN-2024
116 may not have run since 22-JUN-2024
119 may not have run since 22-JUN-2024
120 may not have run since 22-JUN-2024
121 may not have run since 22-JUN-2024
122 may not have run since 22-JUN-2024
127 may not have run since 22-JUN-2024

128	may not have run since 22-JUN-2024
183	may not have run since 22-JUN-2024
184	may not have run since 22-JUN-2024
198	may not have run since 22-JUN-2024
211	may not have run since 22-JUN-2024
212	may not have run since 22-JUN-2024
215	may not have run since 22-JUN-2024
219	may not have run since 22-JUN-2024
220	may not have run since 22-JUN-2024
221	may not have run since 22-JUN-2024
222	may not have run since 22-JUN-2024
227	may not have run since 22-JUN-2024
228	may not have run since 22-JUN-2024
229	may not have run since 22-JUN-2024
230	may not have run since 22-JUN-2024
232	may not have run since 22-JUN-2024
241	may not have run since 22-JUN-2024
242	may not have run since 22-JUN-2024

APPROVAL DATE: 6/24/24

APPROVAL TIME: 2315

APPROVED BY:

PROCEDURE # GL-RAD-I-009

Report completed at 22-JUN-2024 23:03:04.48

Review of Alpha Spectrometer QA results (Daily checks) 25-JUN-2024 14:51:10.64

Bank 1 through bank 29 (detectors 1 through 256)

DETECTORS NOT LISTED HAVE PASSED ALL QUALITY ASSURANCE PARAMETERS

	Detector	Parameter	Flag
25-JUN-2024	94	PSENERGY-5000	Below
25-JUN-2024	94	PSCTSS-5000	Below
28-AUG-2023	115	PSCTSS-5000	Below
28-AUG-2023	116	PSCTSS-5000	Below
25-JUN-2024	129	PSCTSS-5000	Below
25-JUN-2024	130	PSCTSS-5000	Below
25-JUN-2024	141	PSENERGY-5000	Above
25-JUN-2024	143	PSFWHM-5000	Above
25-JUN-2024	169	PSFWHM-5000	Above
28-NOV-2020	198	PSFWHM-5000	Below
28-NOV-2020	198	PSCTSS-5000	Below
25-JUN-2024	216	PSENERGY-5000	Above
8-SEP-2023	221	PSFWHM-5000	Above
8-SEP-2023	221	PSCTSS-5000	Below
8-SEP-2023	222	PSENERGY-5000	Above
8-SEP-2023	222	PSCTSS-5000	Below
7-JUN-2024	227	PSFWHM-5000	Below
7-JUN-2024	227	PSCTSS-5000	Below
7-JUN-2024	228	PSENERGY-5000	Above
7-JUN-2024	228	PSCENTRD-5000	Above
7-JUN-2024	230	PSCENTRD-5000	Above
25-JUN-2024	232	PSFWHM-5000	Below
25-JUN-2024	232	PSCENTRD-5000	Below
25-JUN-2024	232	PSCTSS-5000	Below

The following detectors that may not have properly transfered to the QA file

115 may not have run since 25-JUN-2024
116 may not have run since 25-JUN-2024
119 may not have run since 25-JUN-2024
120 may not have run since 25-JUN-2024
121 may not have run since 25-JUN-2024

122	may not have run since	25-JUN-2024
127	may not have run since	25-JUN-2024
128	may not have run since	25-JUN-2024
183	may not have run since	25-JUN-2024
184	may not have run since	25-JUN-2024
198	may not have run since	25-JUN-2024
211	may not have run since	25-JUN-2024
212	may not have run since	25-JUN-2024
221	may not have run since	25-JUN-2024
222	may not have run since	25-JUN-2024
227	may not have run since	25-JUN-2024
228	may not have run since	25-JUN-2024
229	may not have run since	25-JUN-2024
230	may not have run since	25-JUN-2024
241	may not have run since	25-JUN-2024
242	may not have run since	25-JUN-2024

APPROVAL DATE: 6/25/24

APPROVAL TIME: 1500

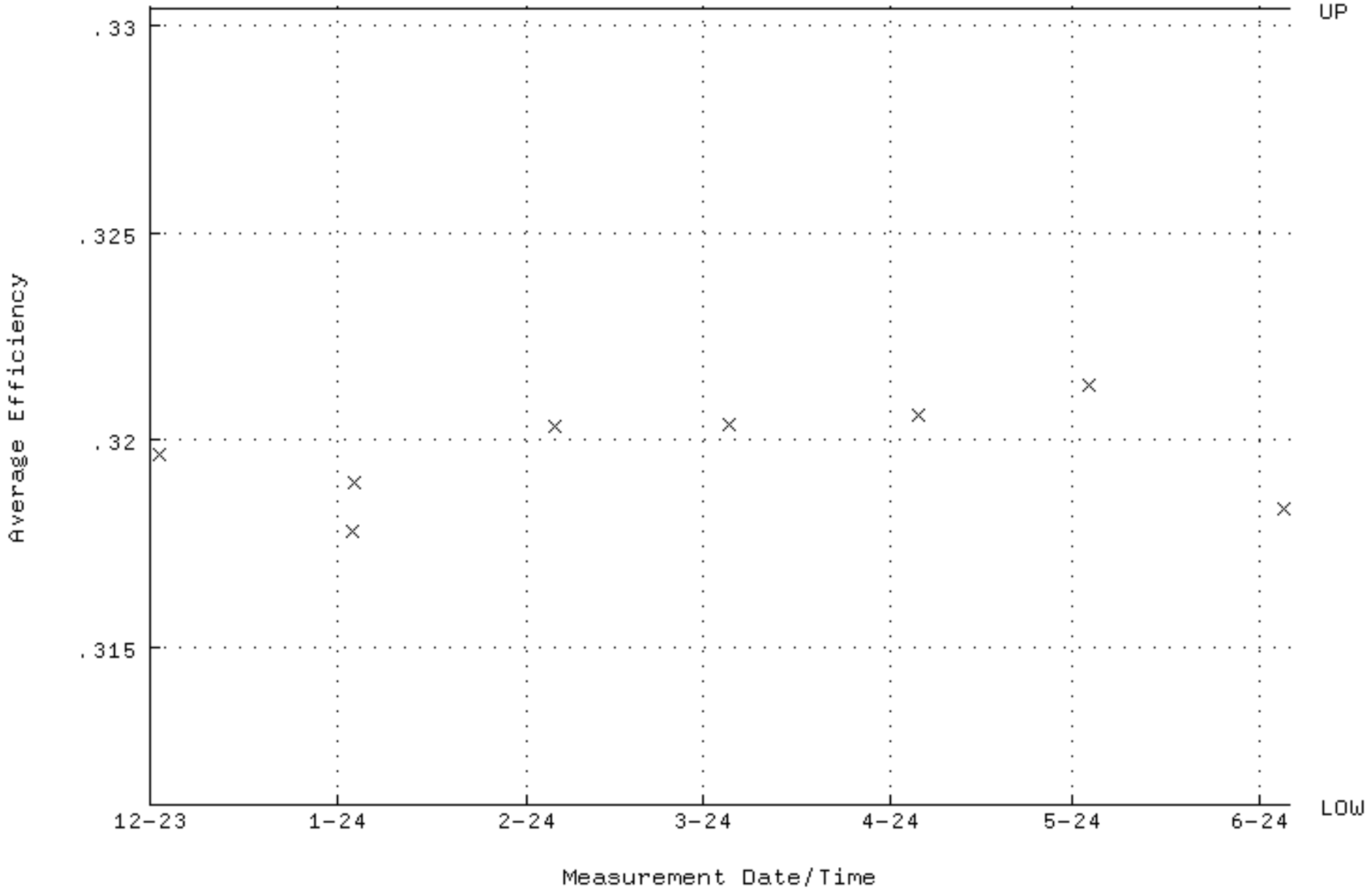
APPROVED BY:

PROCEDURE # GL-RAD-I-009

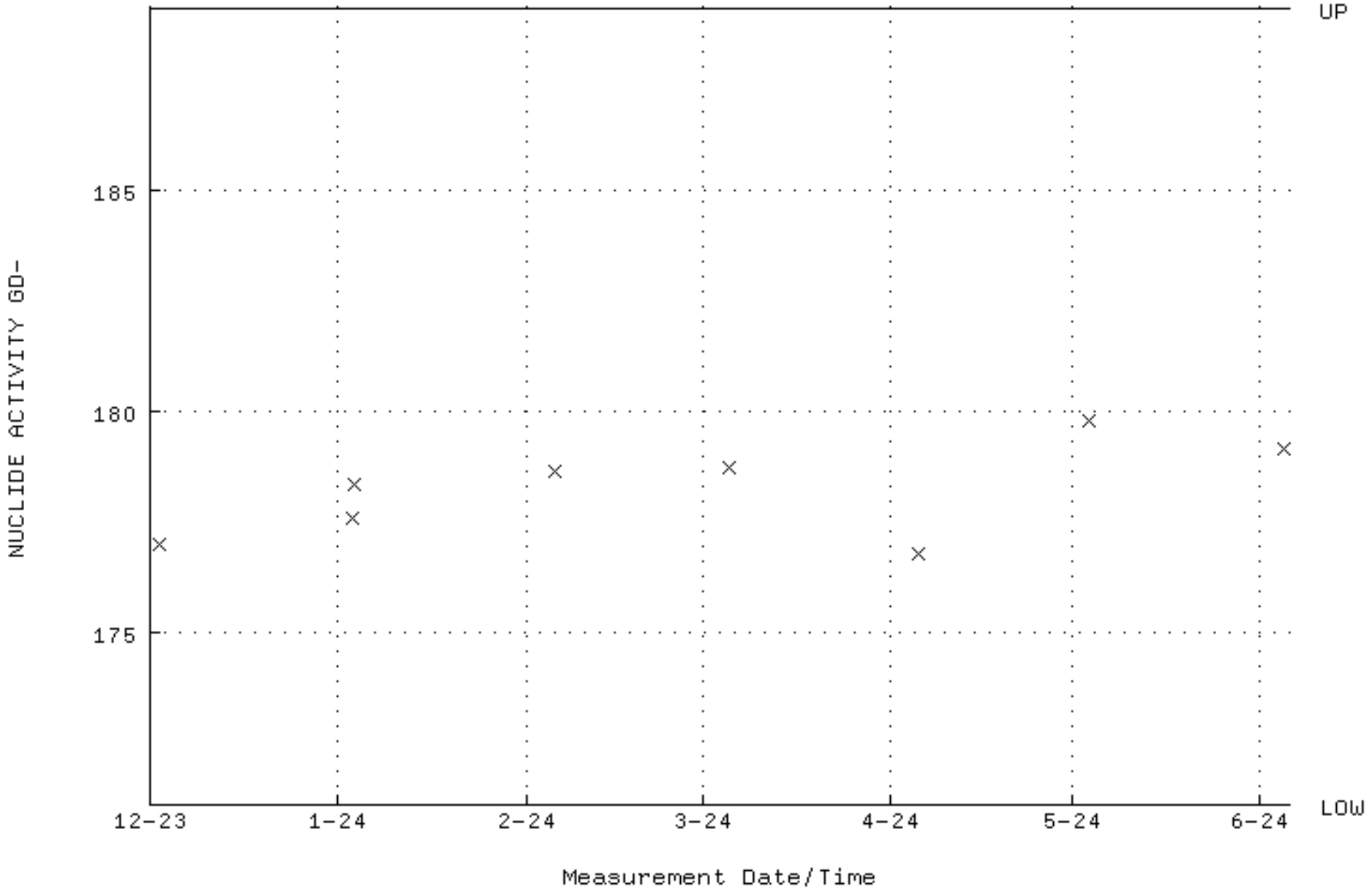
Report completed at 25-JUN-2024 14:53:53.71

Background and Efficiency Data

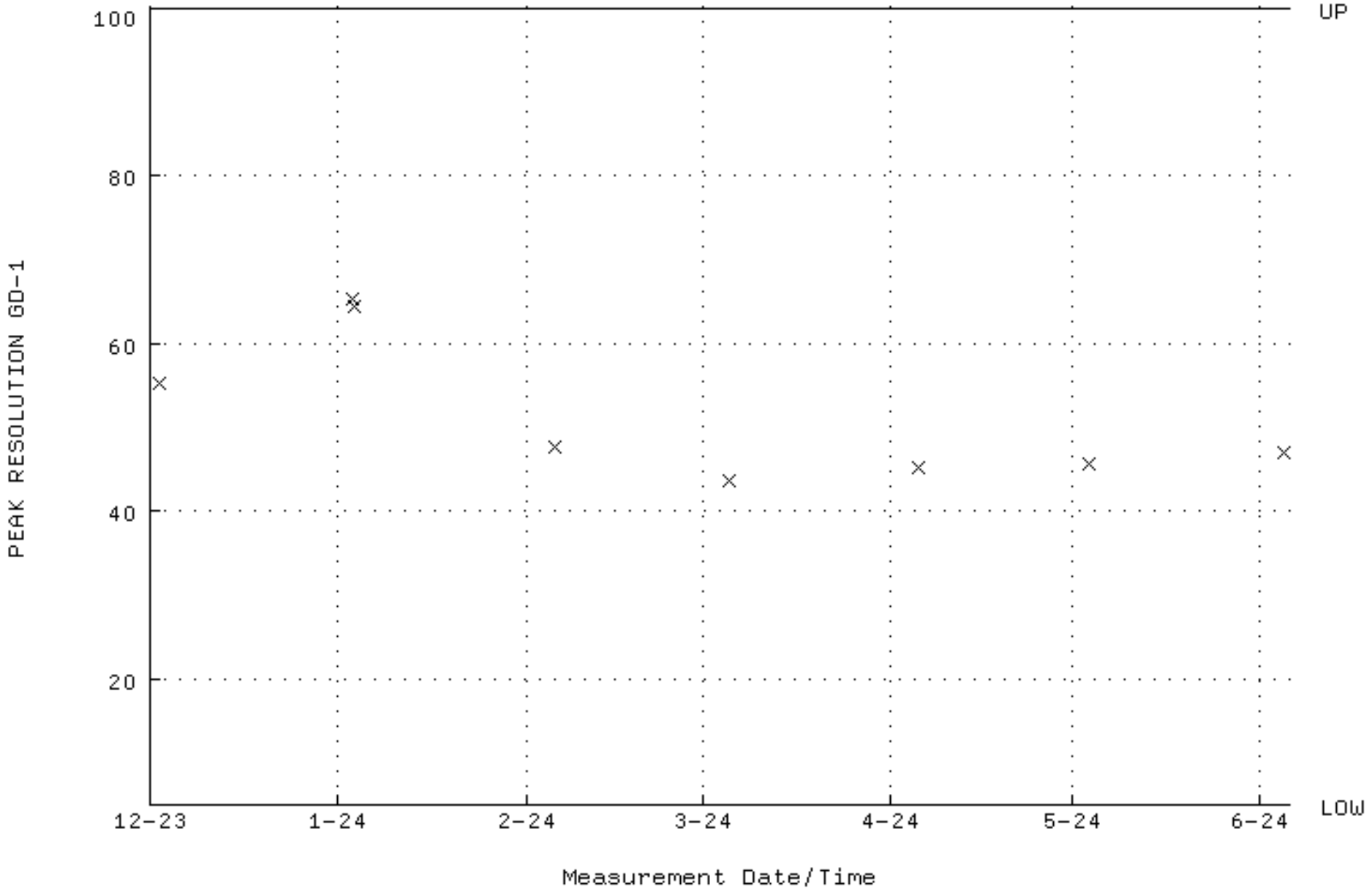
QA filename : DKA100:[ENV_ALPHA.QA.W]W031.QAF;8
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 0.311180 through 0.330420



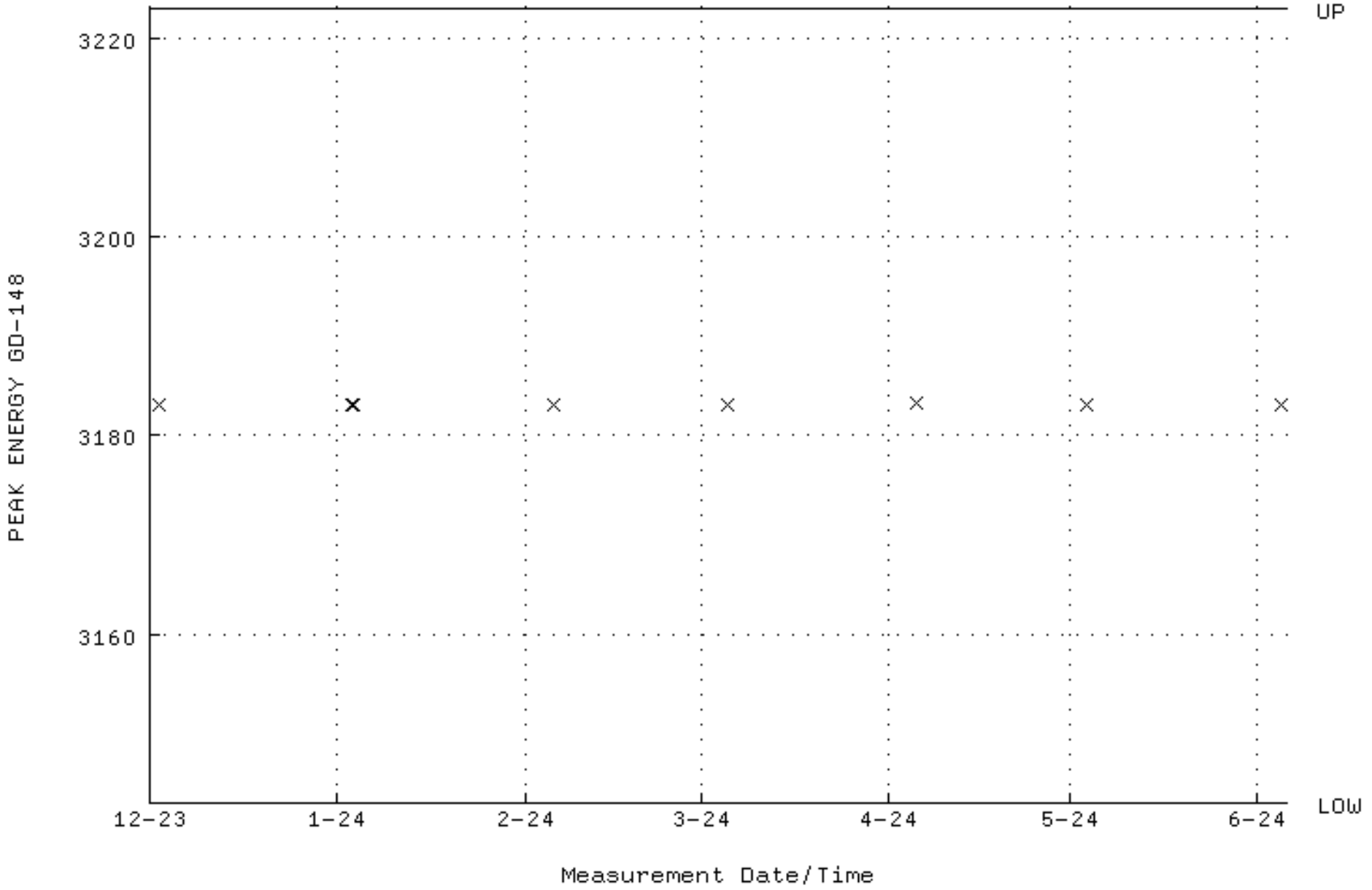
QA filename : DKA100:[ENV_ALPHA.QA.W]W031.QAF;8
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 171.090 through 189.100



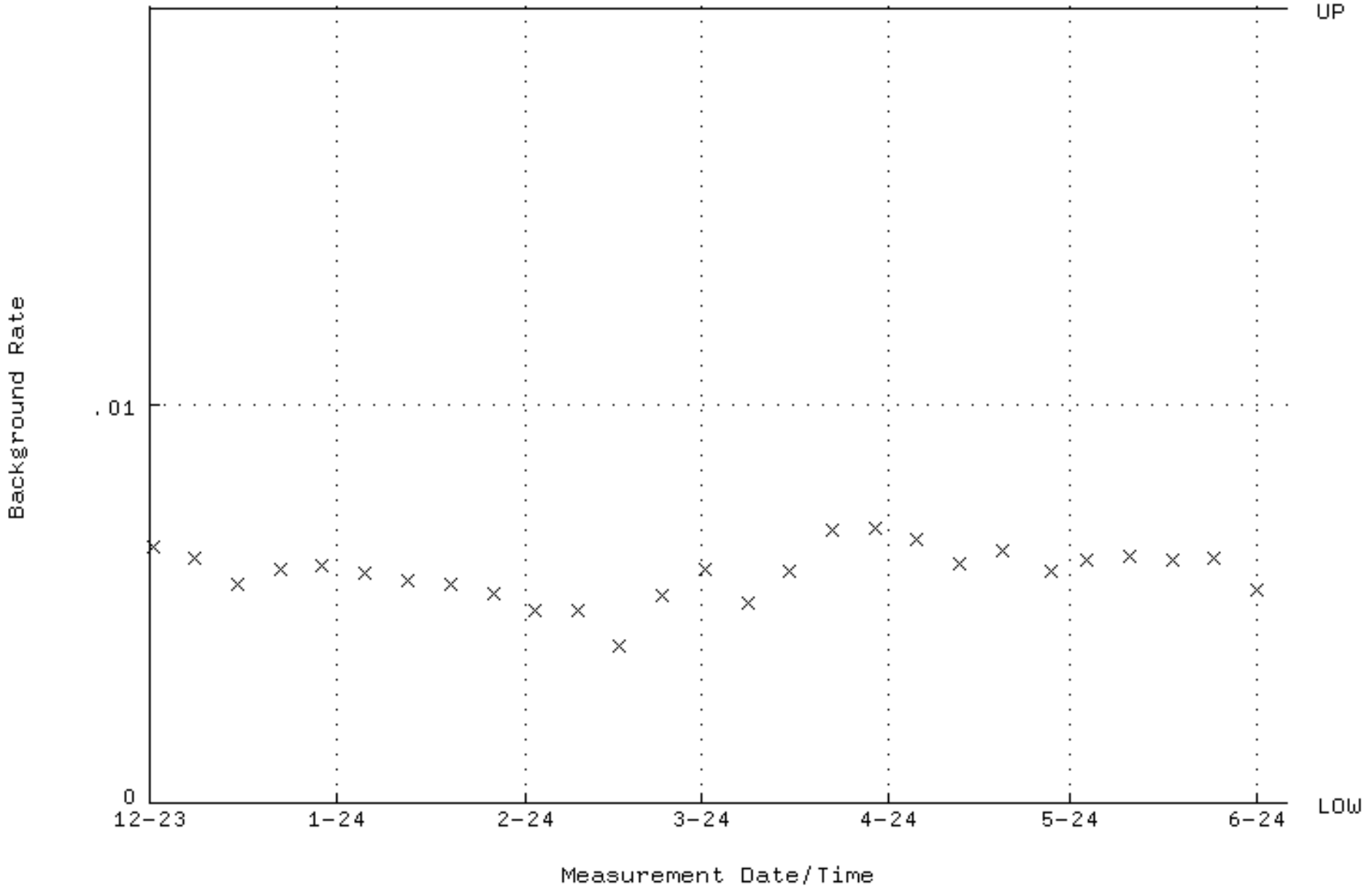
QA filename : DKA100:[ENV_ALPHA.QA.W]W031.QAF;8
Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



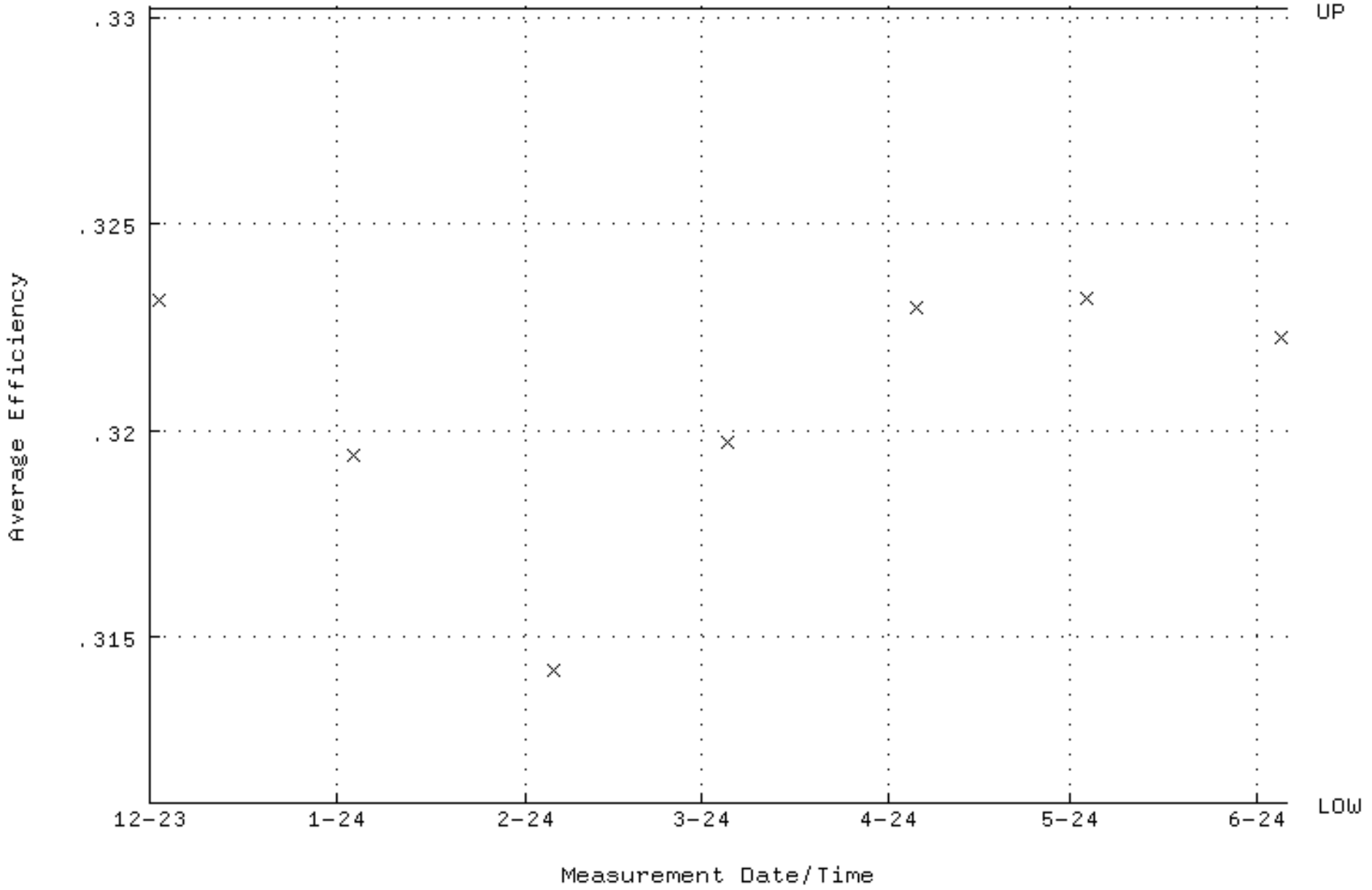
QA filename : DKA100:[ENV_ALPHA.QA.W]W031.QAF;8
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00



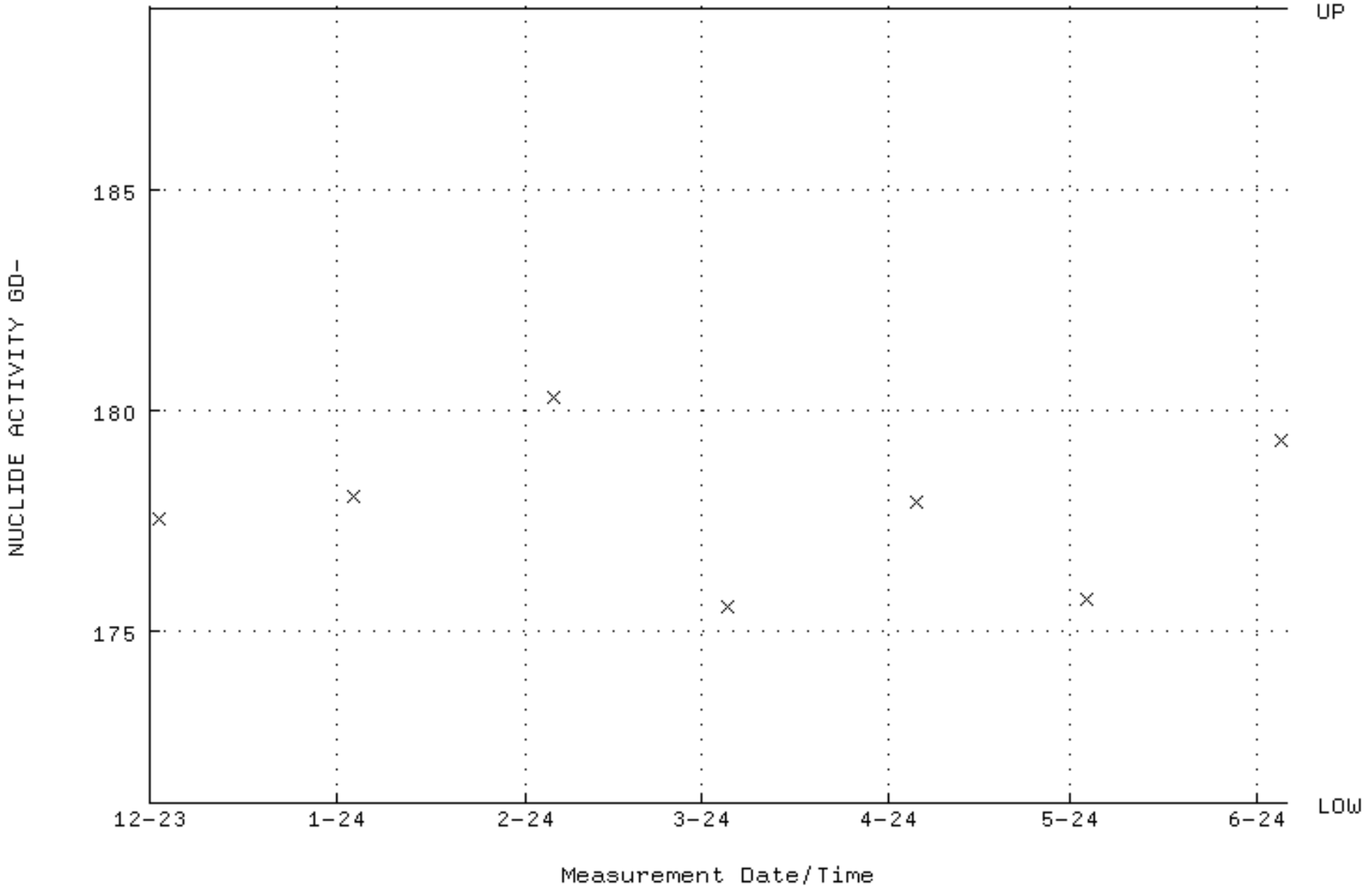
QA filename : DKA100:[ENV_ALPHA.QA.B]B031.QAF;4
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-DEC-2023 13:35:27 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



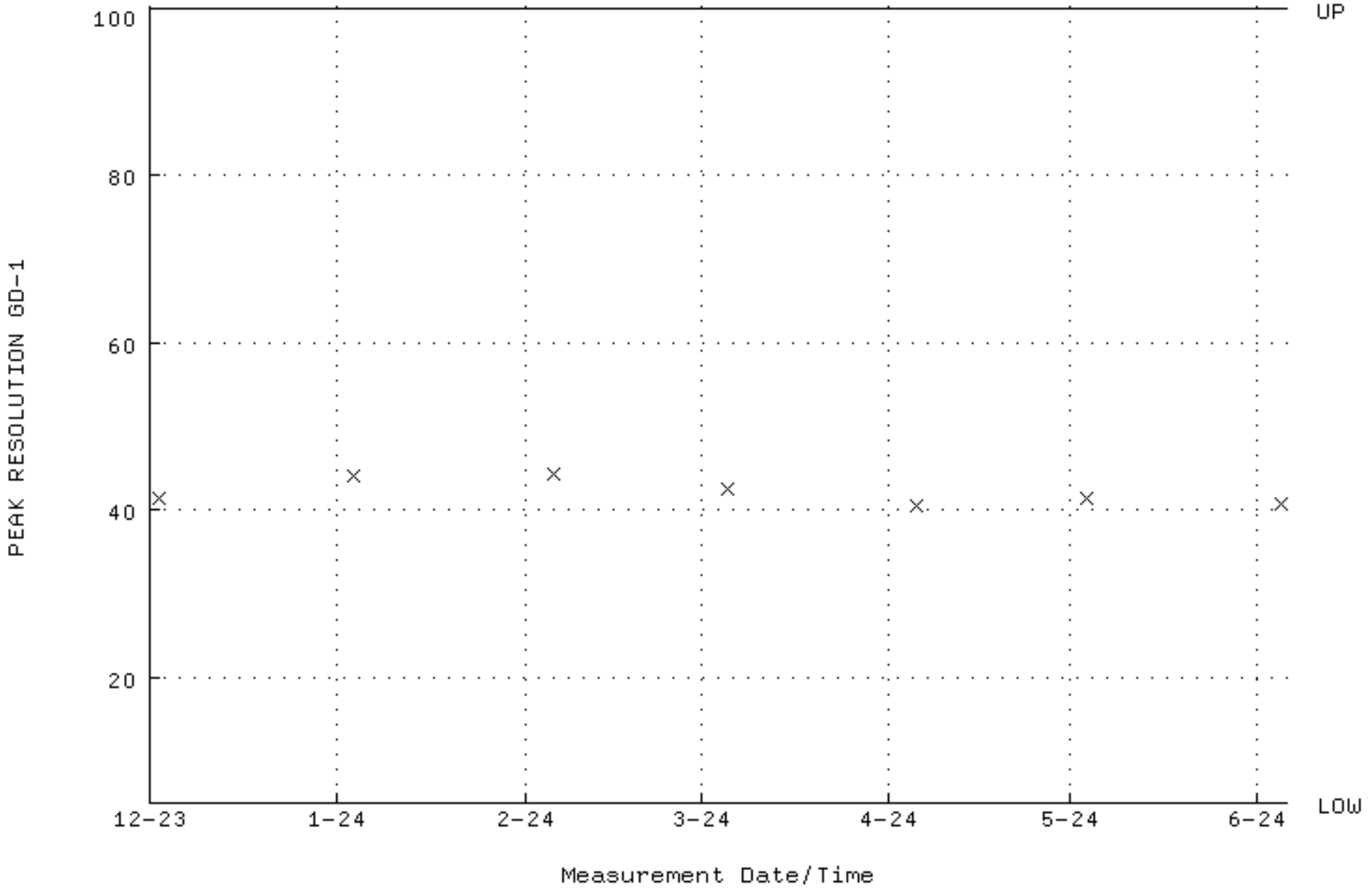
QA filename : DKA100:[ENV_ALPHA.QA.W]W033.QAF;7
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 0.310980 through 0.330210



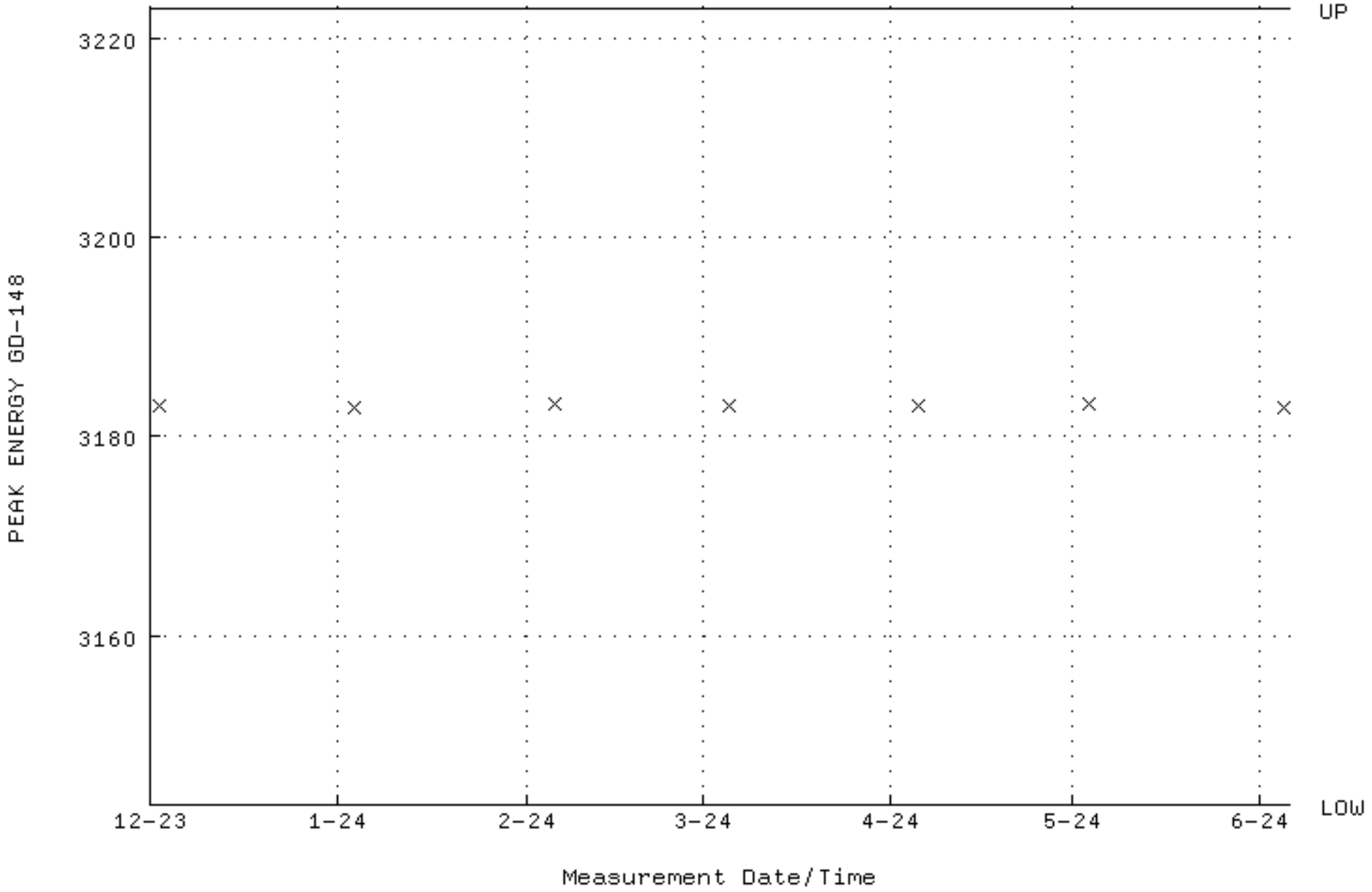
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Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 171.090 through 189.100



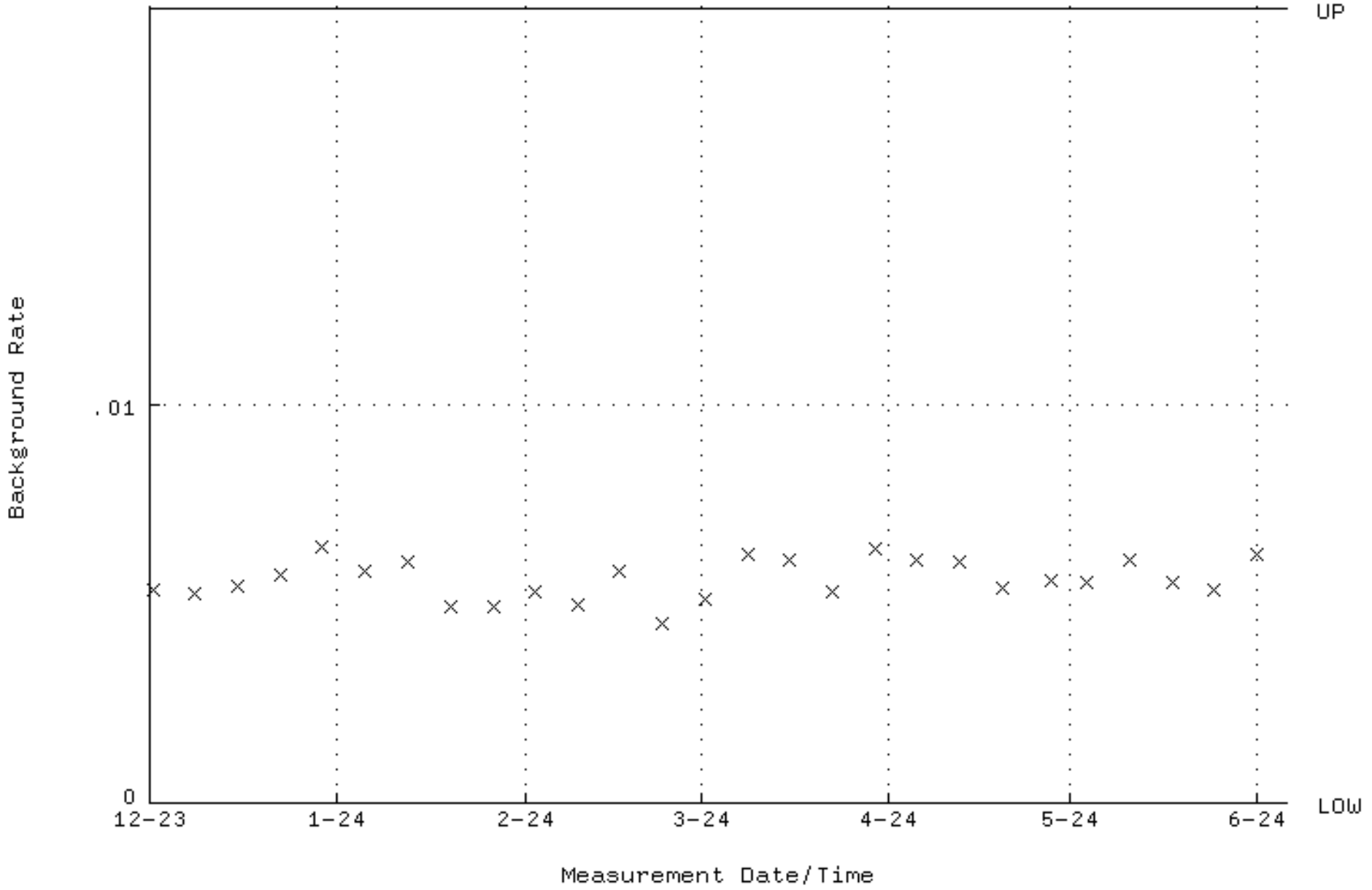
QA filename : DKA100:[ENV_ALPHA.QA.W]W033.QAF;7
Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



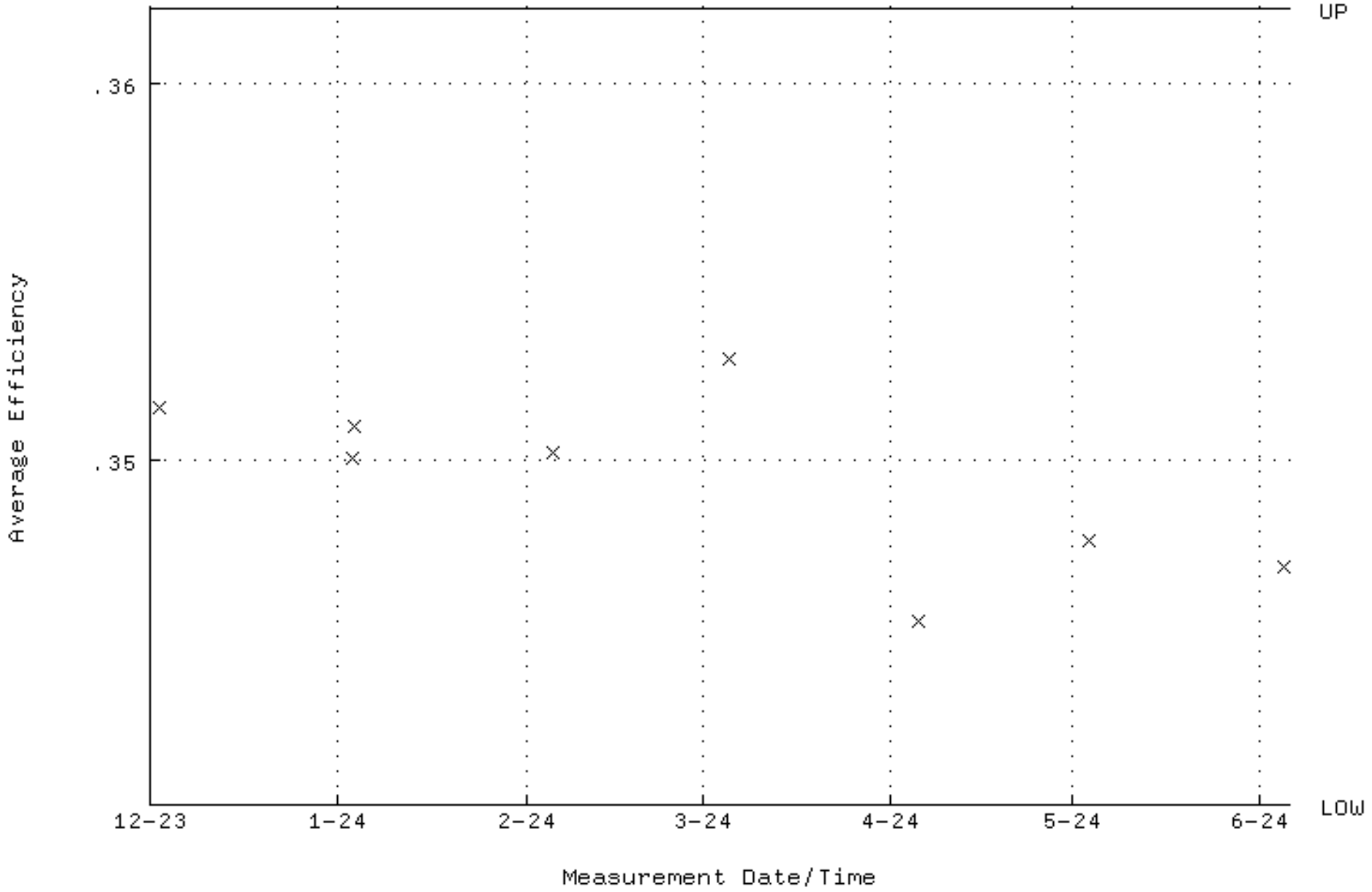
QA filename : DKA100:[ENV_ALPHA.QA.W]W033.QAF;7
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00



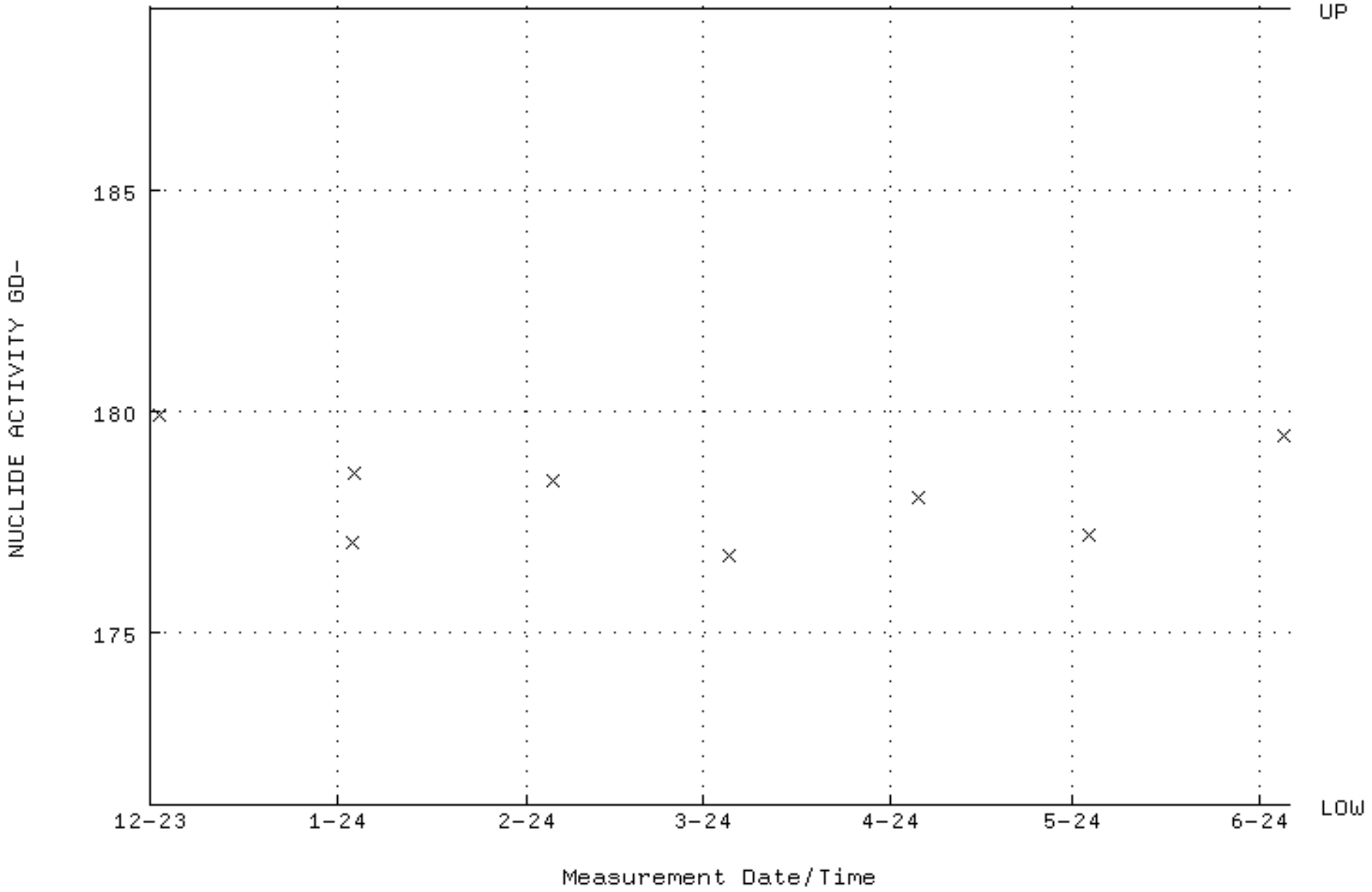
QA filename : DKA100:[ENV_ALPHA.QA.B]B033.QAF;4
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-DEC-2023 13:35:27 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



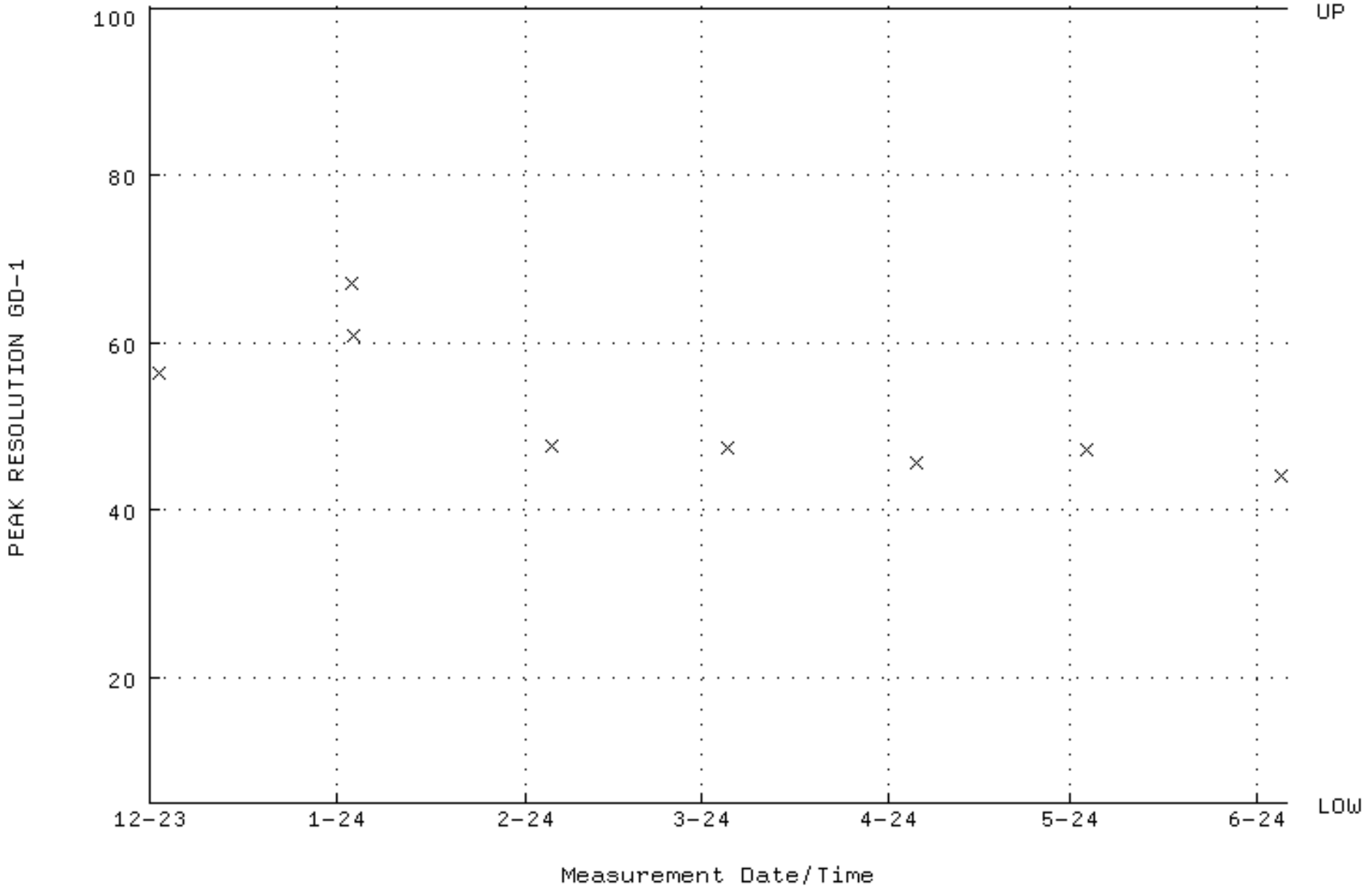
QA filename : DKA100:[ENV_ALPHA.QA.W]W034.QAF;7
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 0.340880 through 0.361960



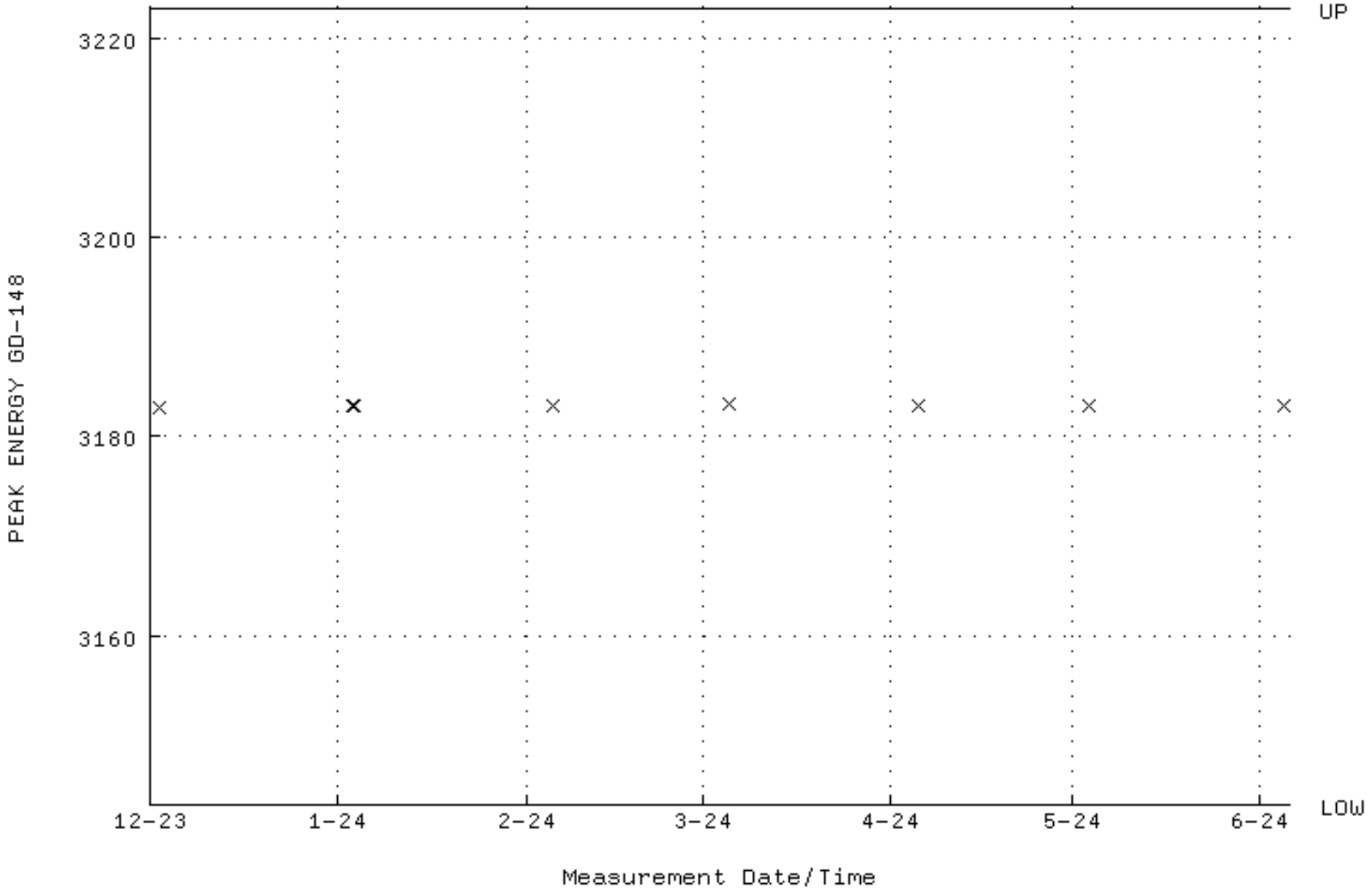
QA filename : DKA100:[ENV_ALPHA.QA.W]W034.QAF;7
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 171.090 through 189.100



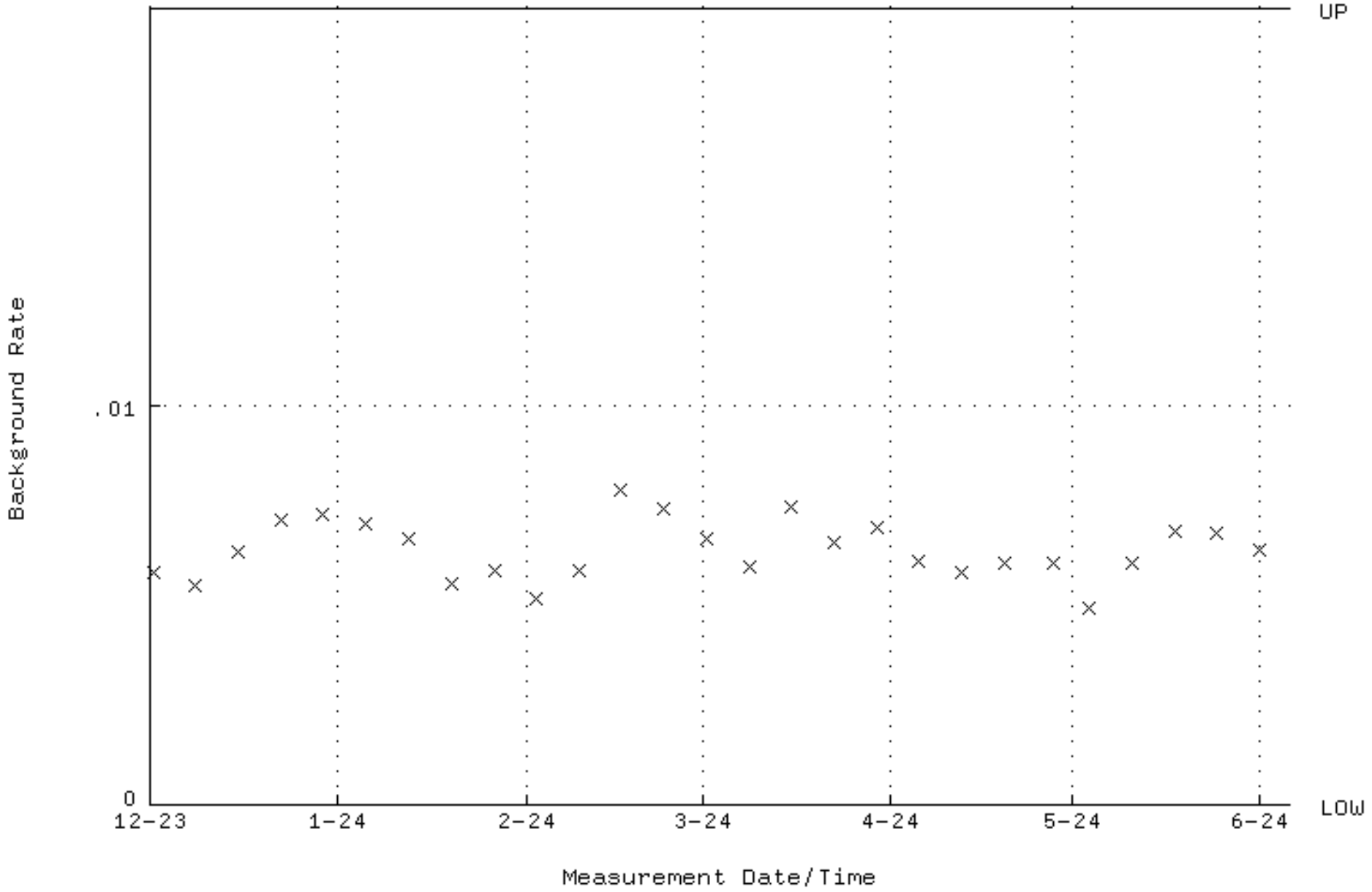
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Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



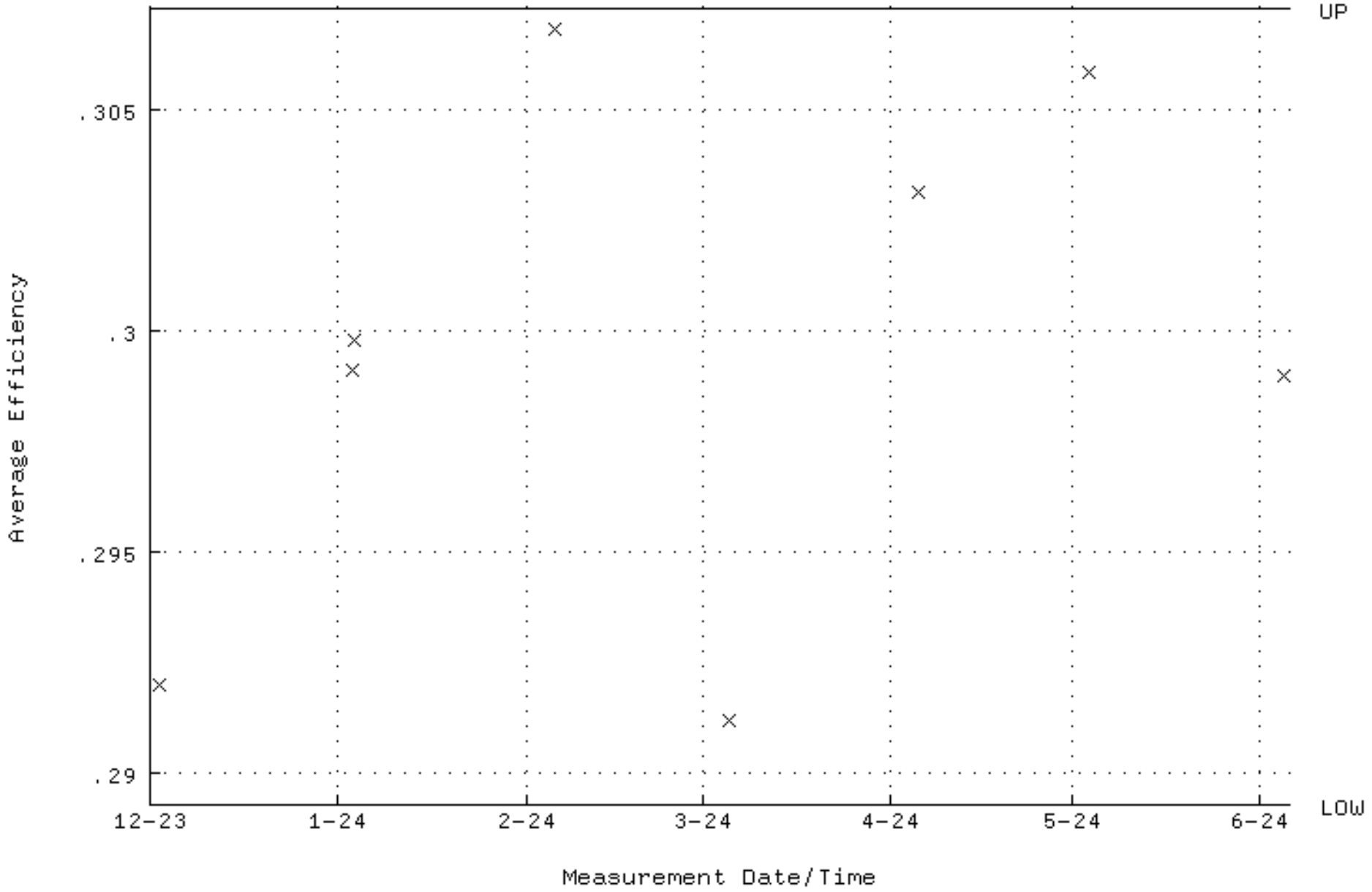
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Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00



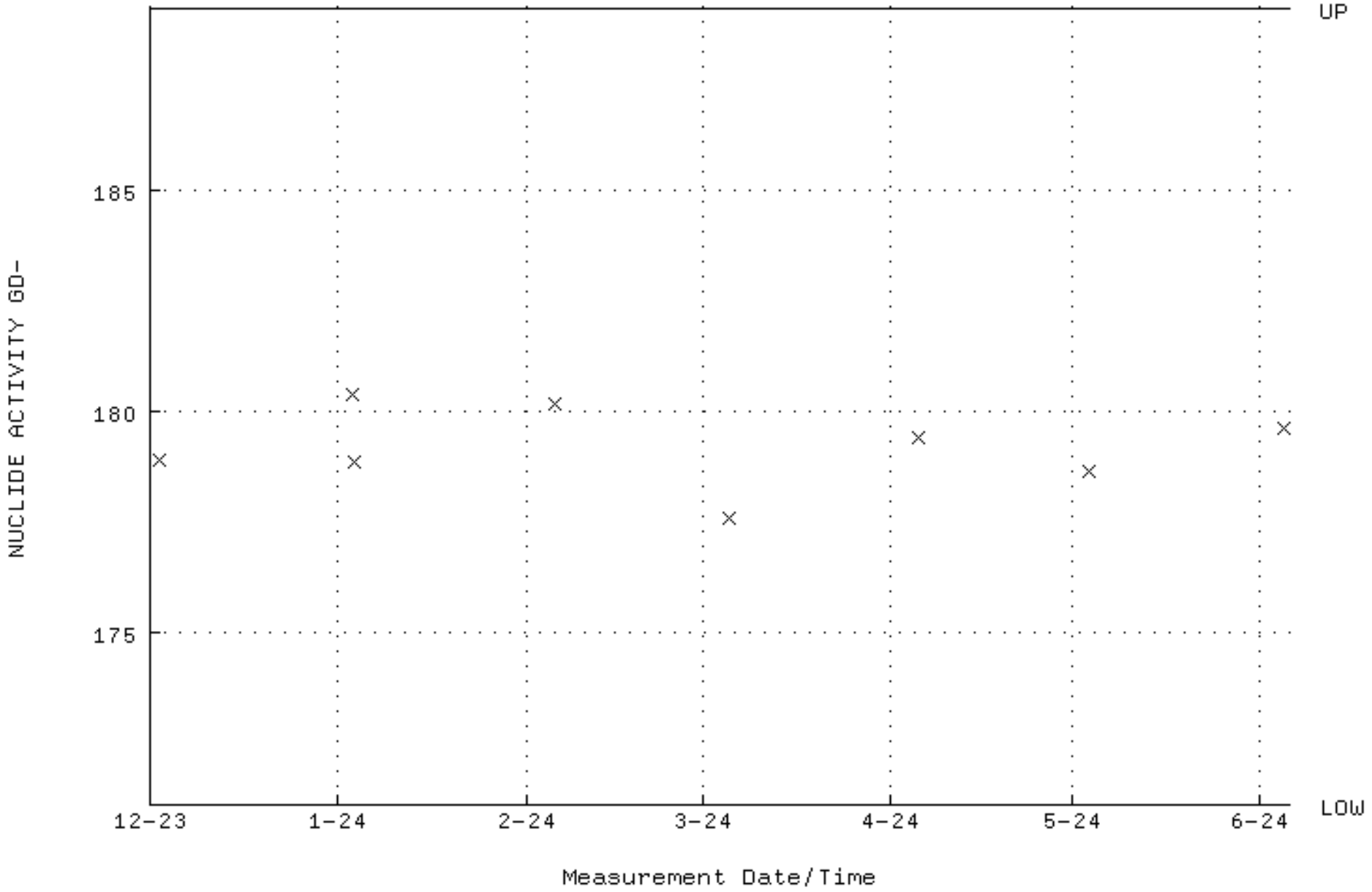
QA filename : DKA100:[ENV_ALPHA.QA.B]B034.QAF;4
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-DEC-2023 13:35:27 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



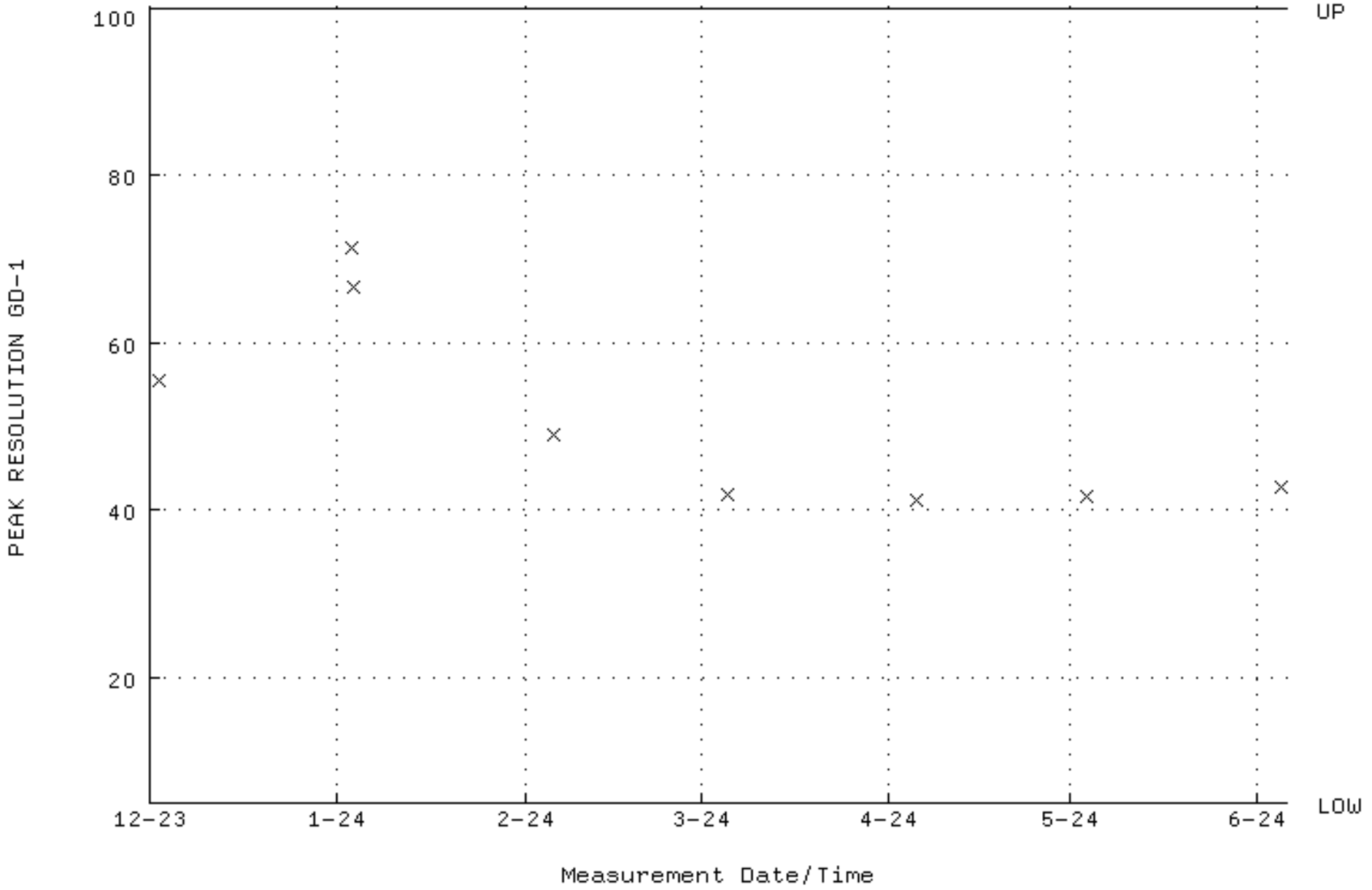
QA filename : DKA100:[ENV_ALPHA.QA.W]W035.QAF;7
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 0.289300 through 0.307300



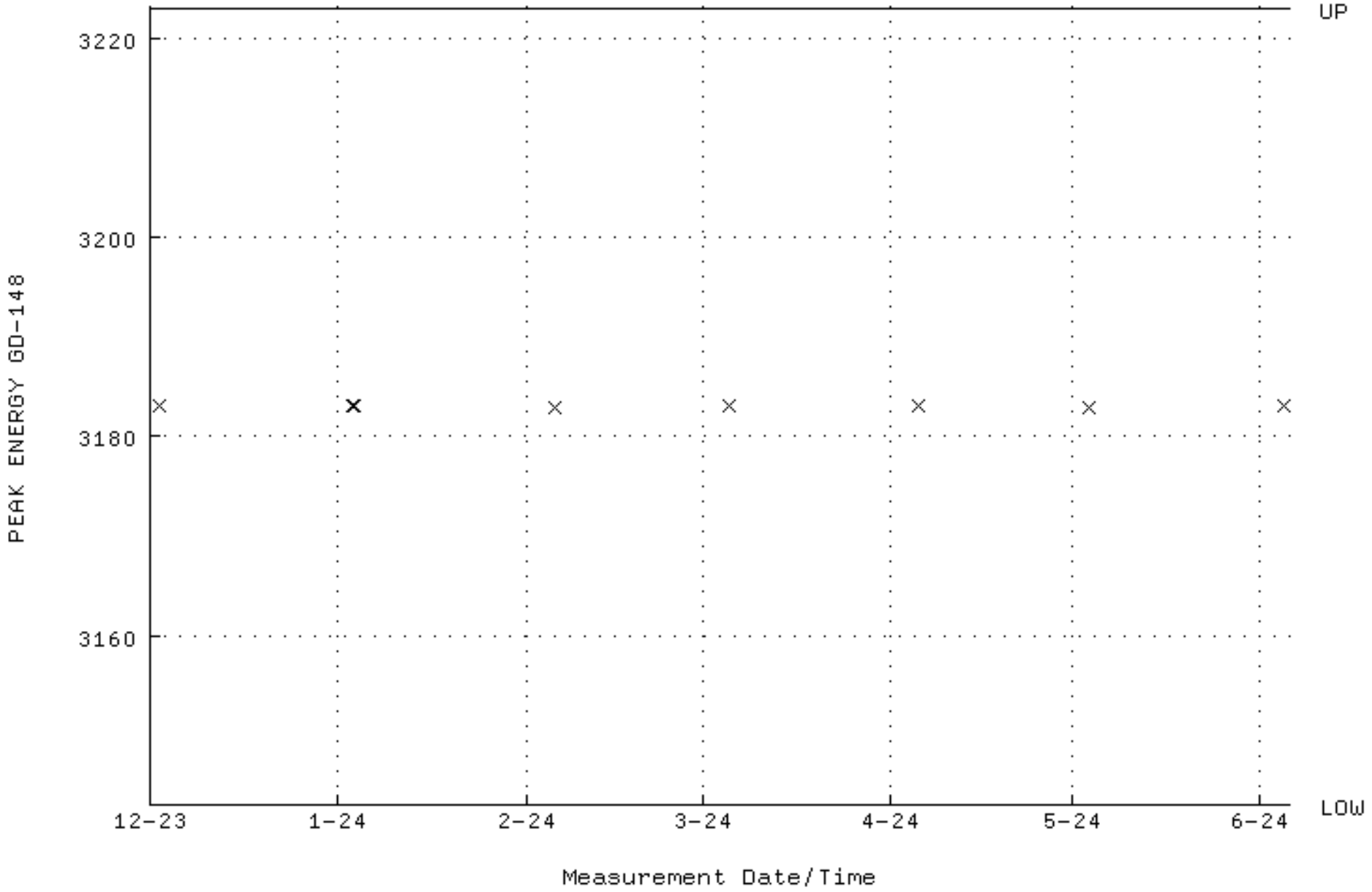
QA filename : DKA100:[ENV_ALPHA.QA.W]W035.QAF;7
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 171.090 through 189.100

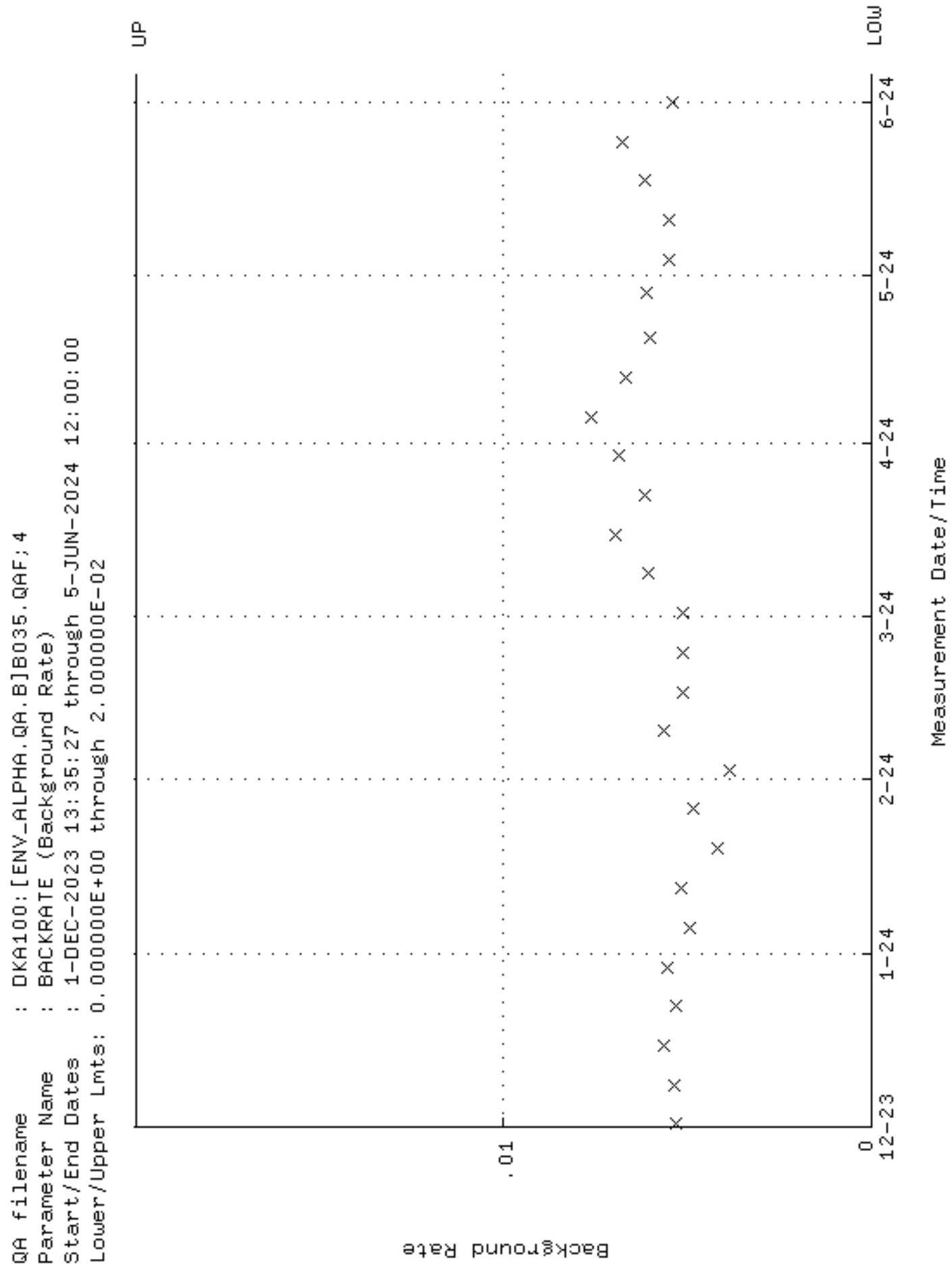


QA filename : DKA100:[ENV_ALPHA.QA.W]W035.QAF;7
Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000

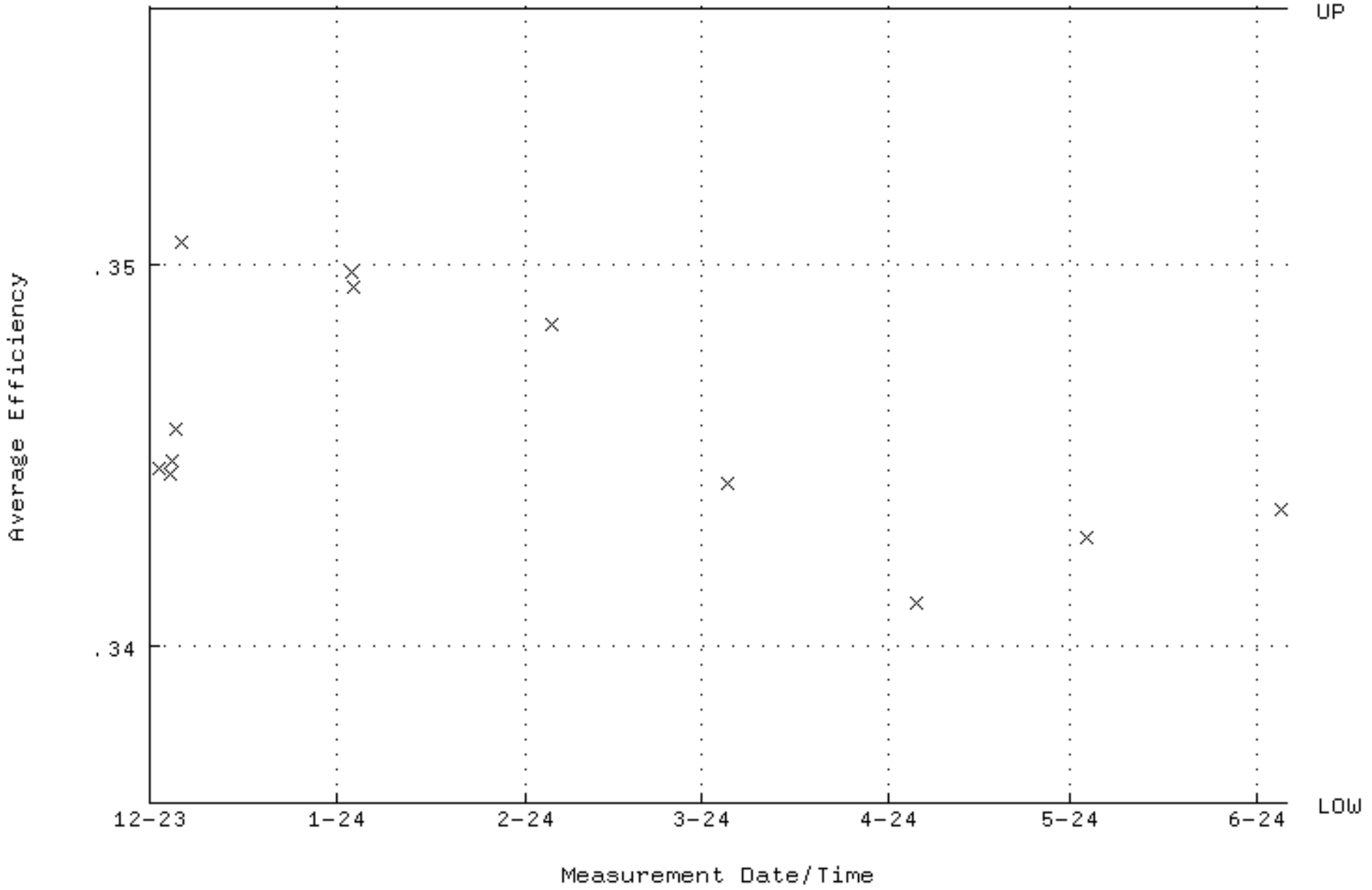


QA filename : DKA100:[ENV_ALPHA.QA.W]W035.QAF;7
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00

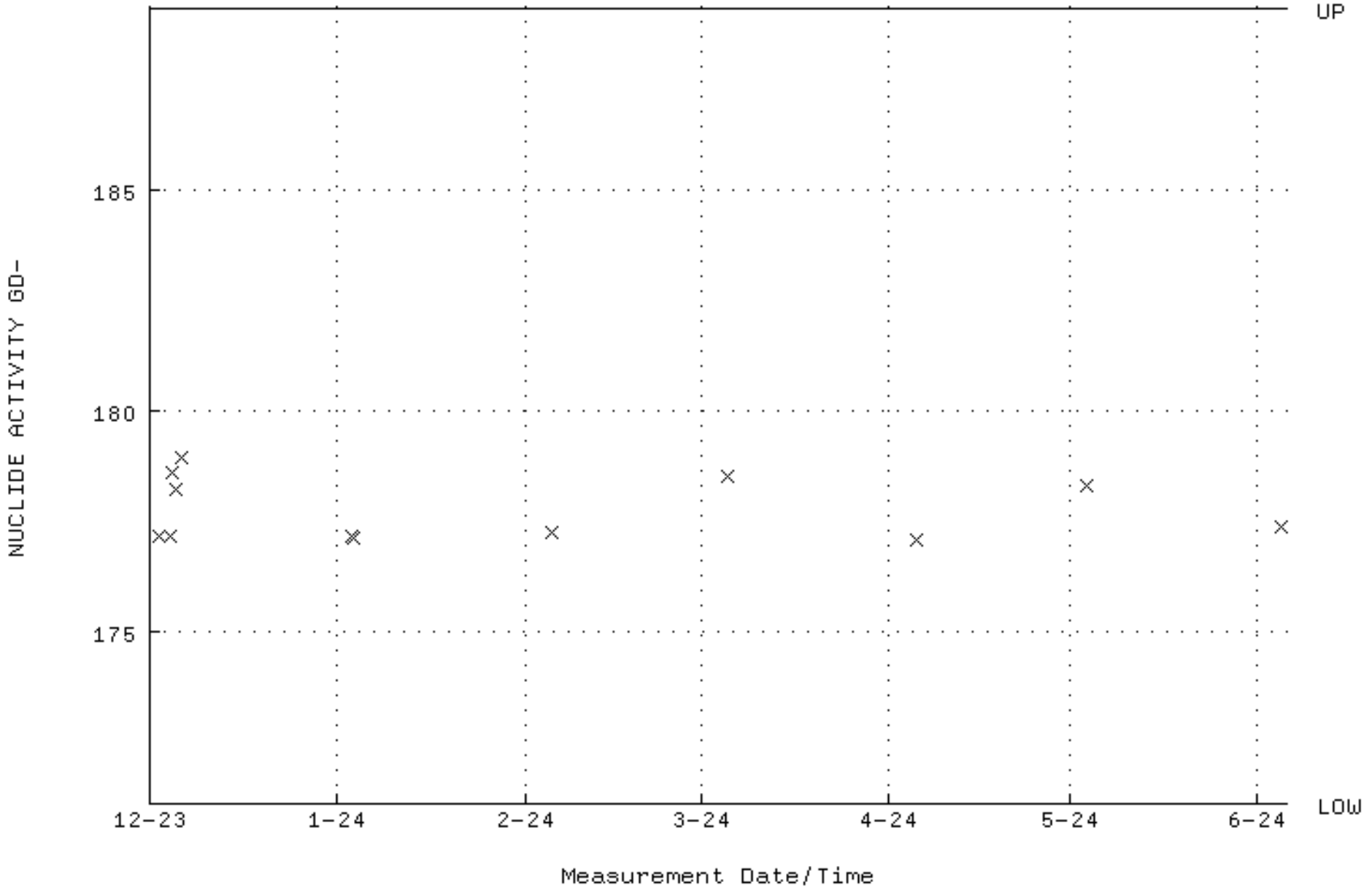



QA filename : DKA100:[ENV_ALPHA.QA.B]B035.QAF;4
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-DEC-2023 13:35:27 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 0.0000000E+00 through 2.0000000E-02
UP
LOW
Background Rate
.01
0
12-23
1-24
2-24
3-24
4-24
5-24
6-24
Measurement Date/Time

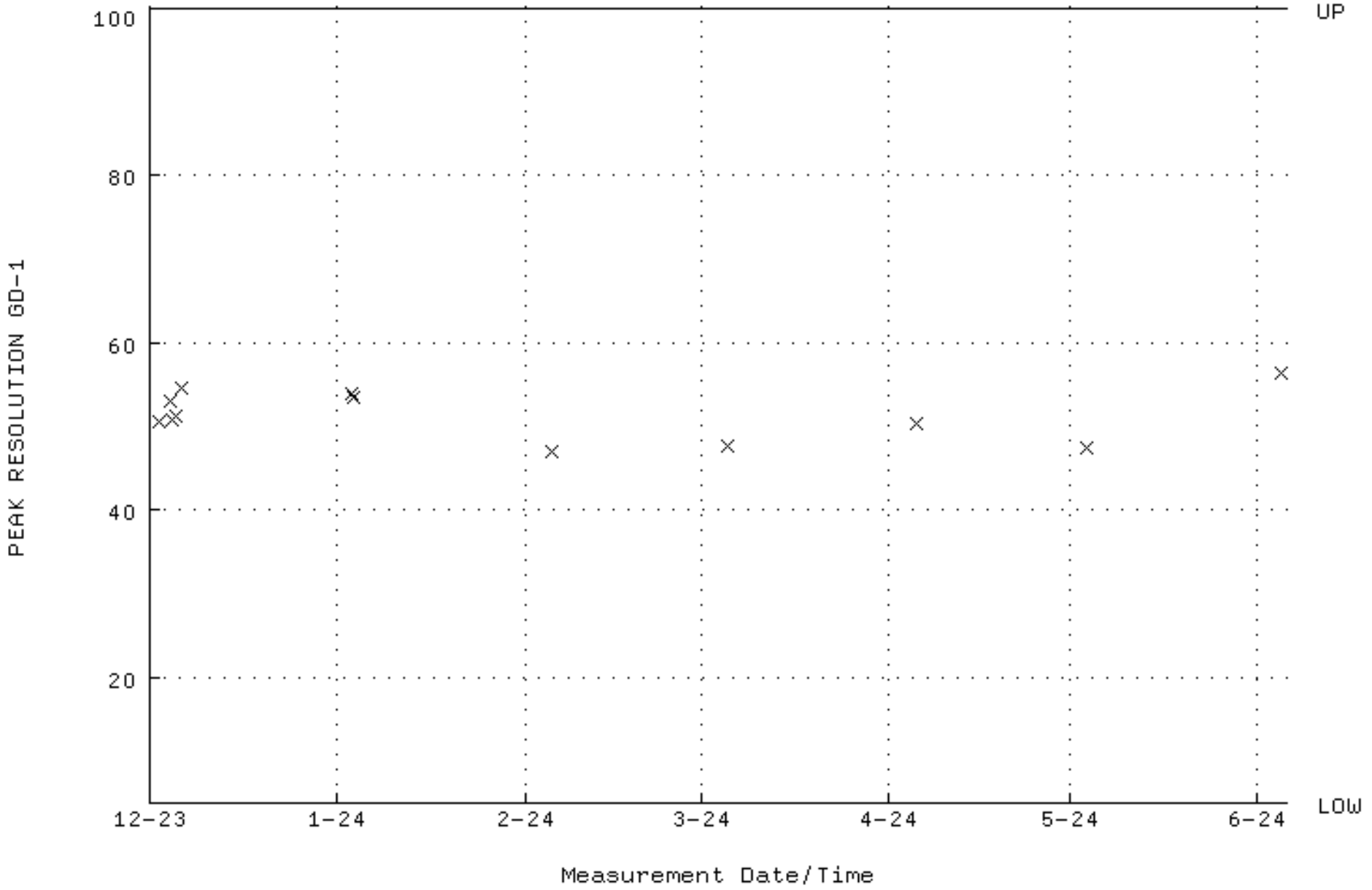
QA filename : DKA100:[ENV_ALPHA.QA.W]W036.QAF;7
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 0.335898 through 0.356676



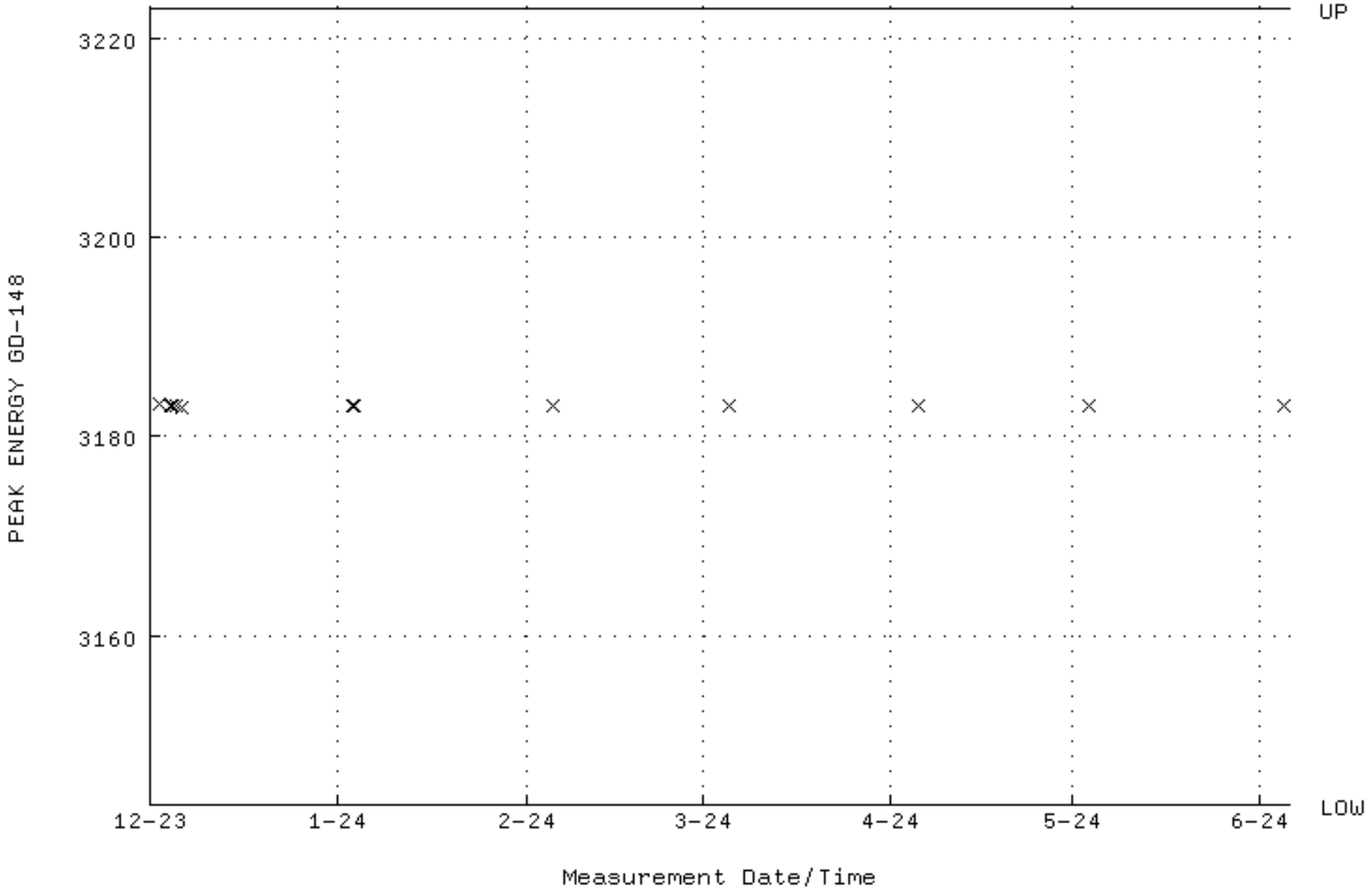
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Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 171.090 through 189.100



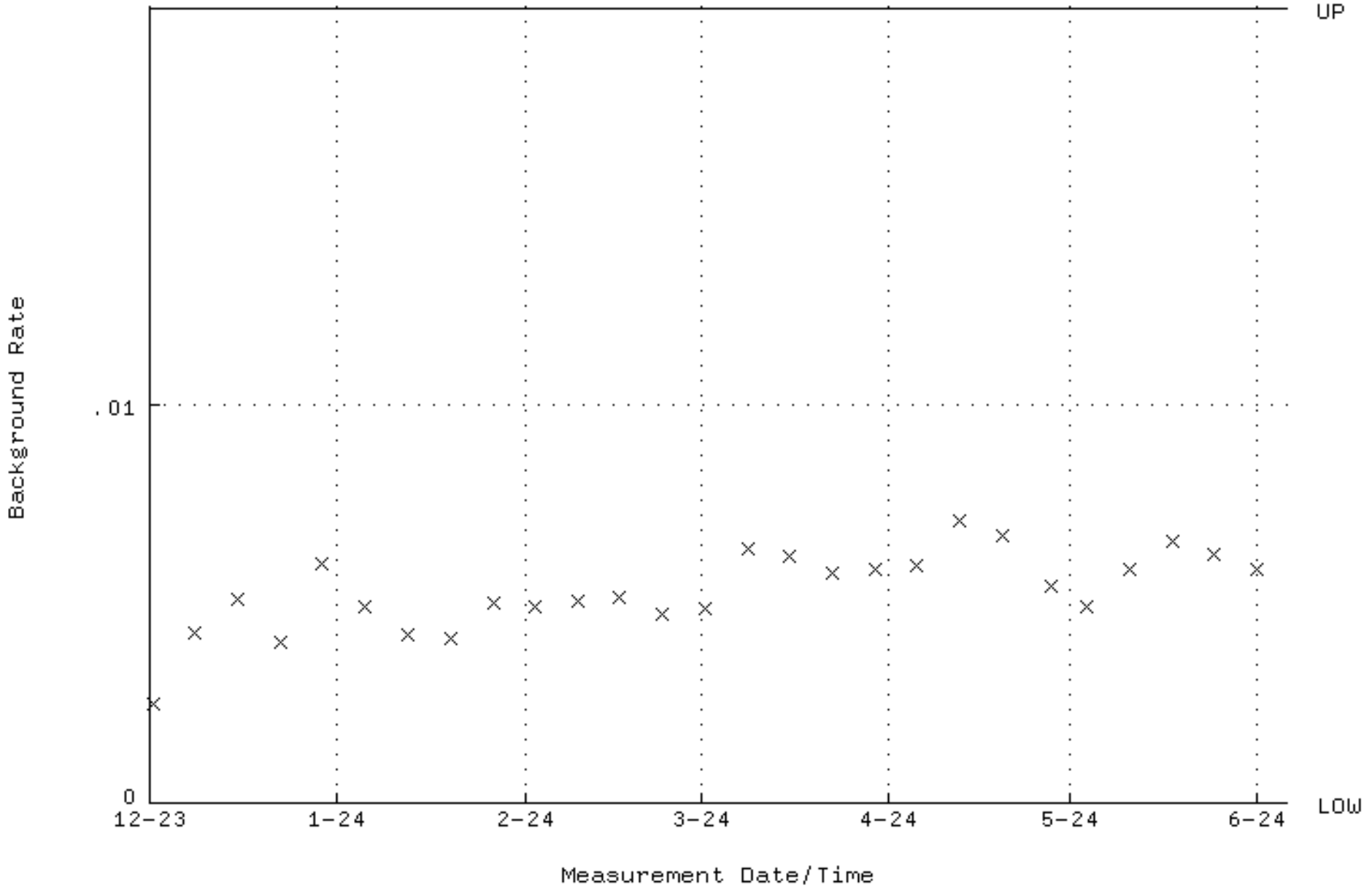
QA filename : DKA100:[ENV_ALPHA.QA.W]W036.QAF;7
Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



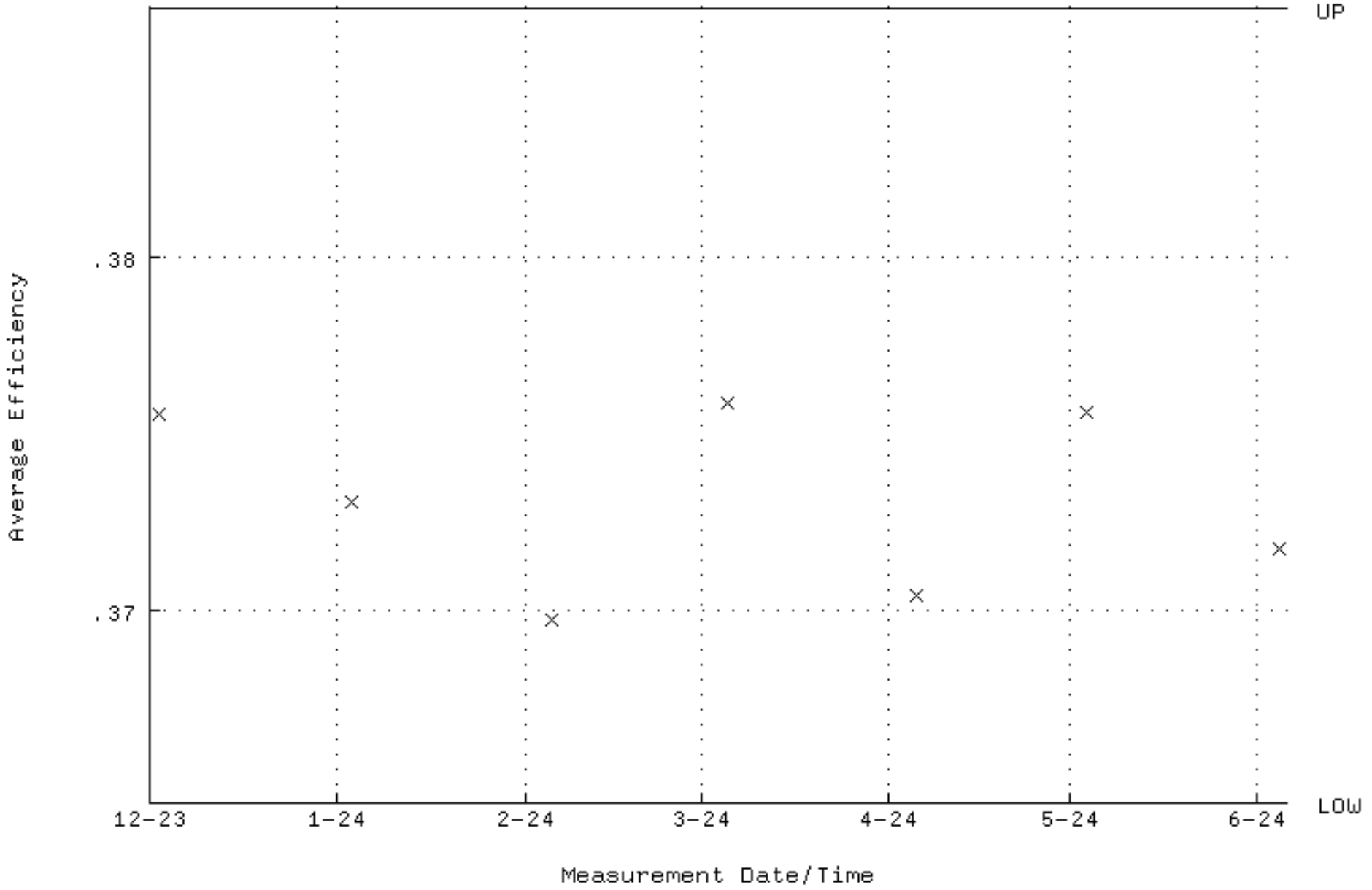
QA filename : DKA100:[ENV_ALPHA.QA.W]W036.QAF;7
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 2-DEC-2023 10:33:13 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00



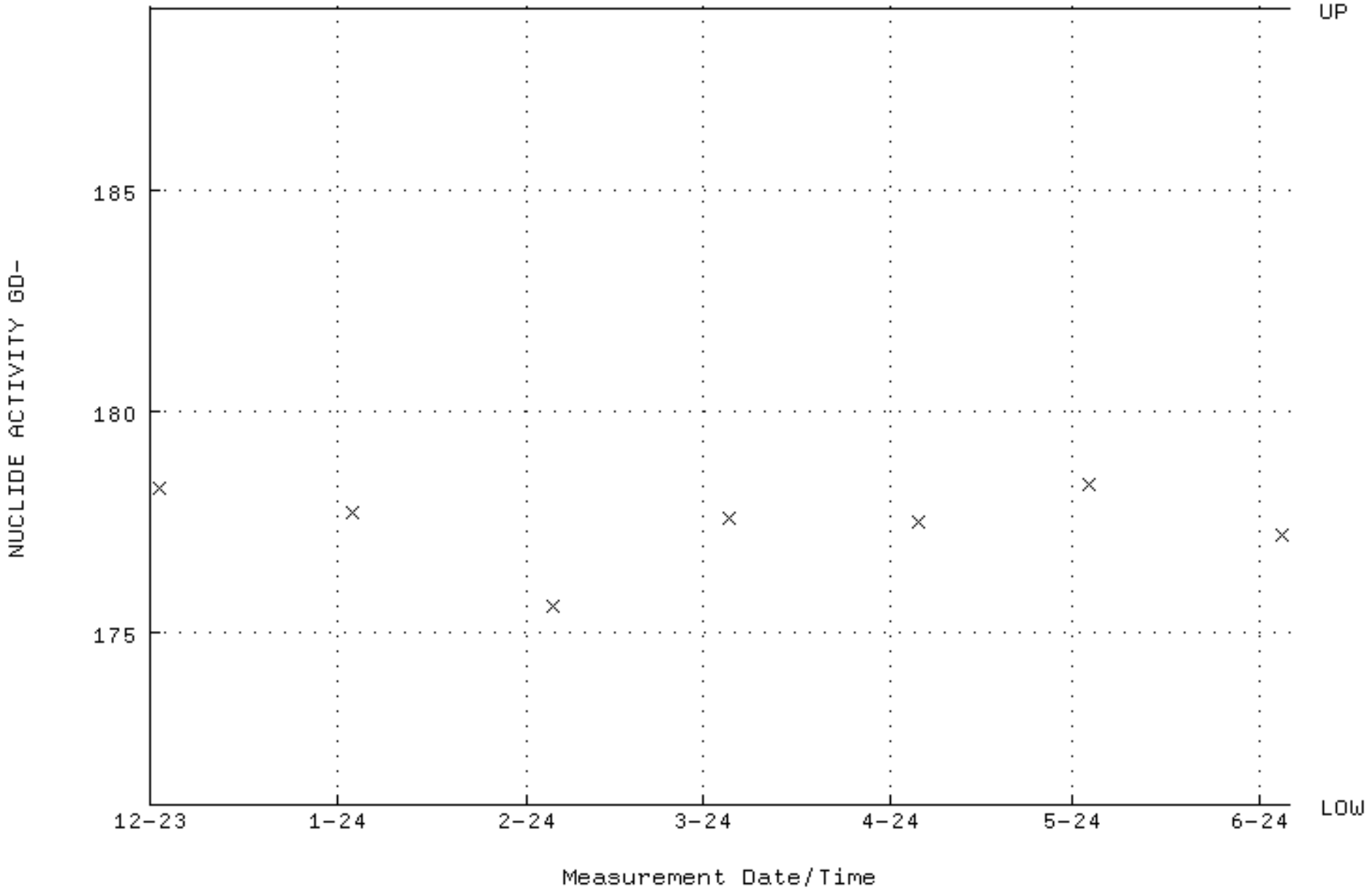
QA filename : DKA100:[ENV_ALPHA.QA.B]B036.QAF;4
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-DEC-2023 13:35:27 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



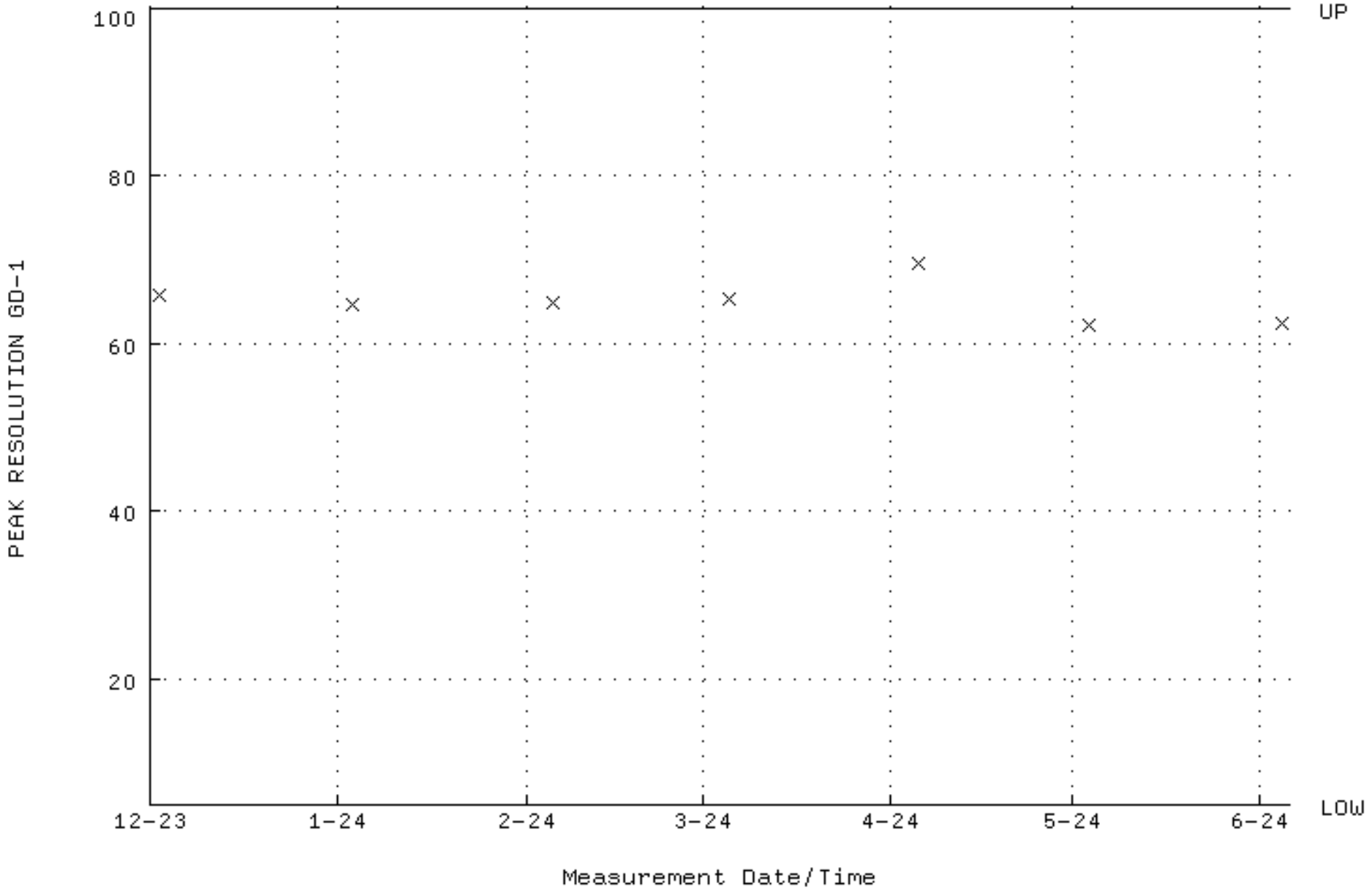
QA filename : DKA100:[ENV_ALPHA.QA.W]W037.QAF;10
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-DEC-2023 10:44:43 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 0.364520 through 0.387070



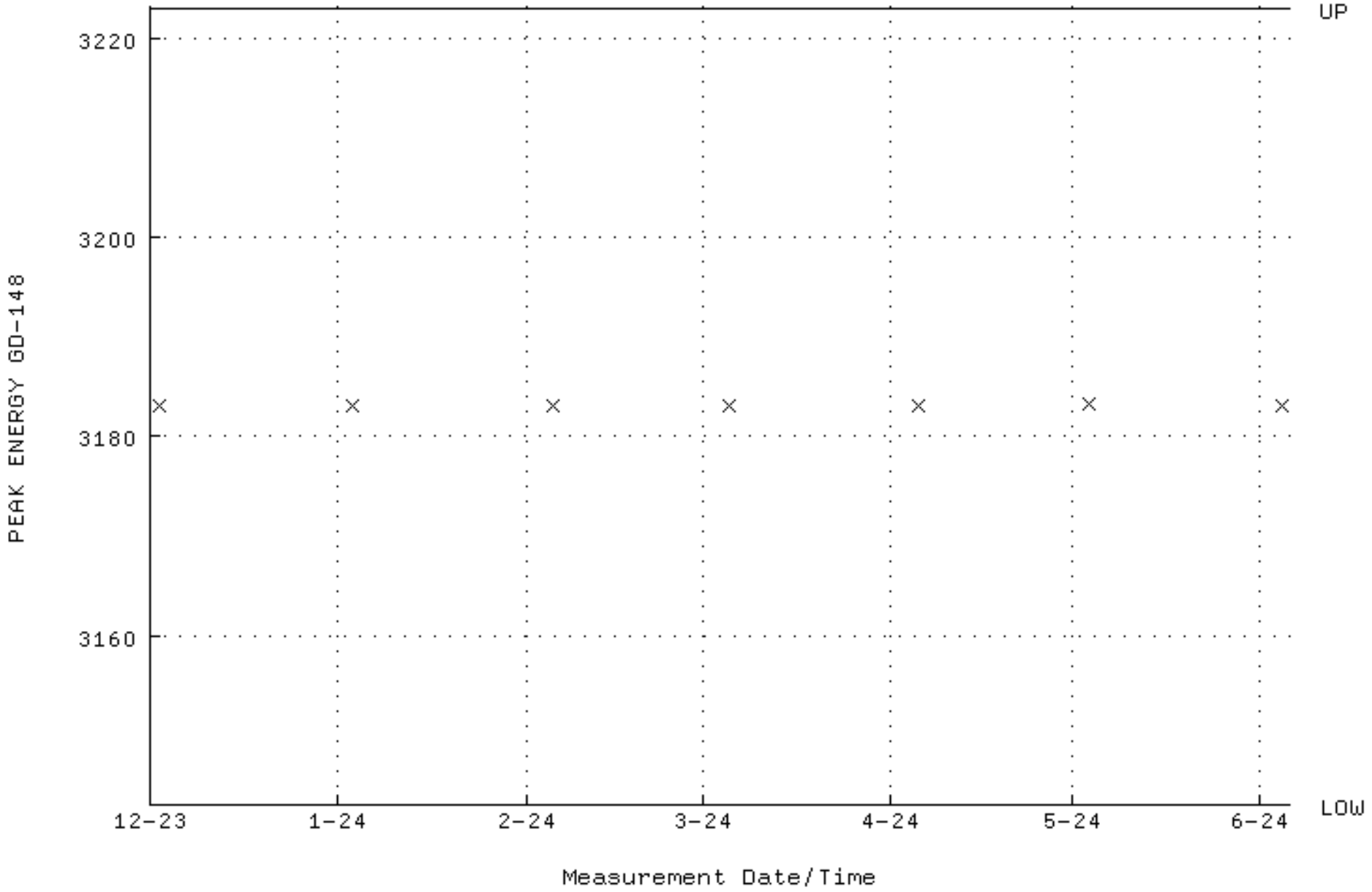
QA filename : DKA100:[ENV_ALPHA.QA.W]W037.QAF;10
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-DEC-2023 10:44:43 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 171.090 through 189.100



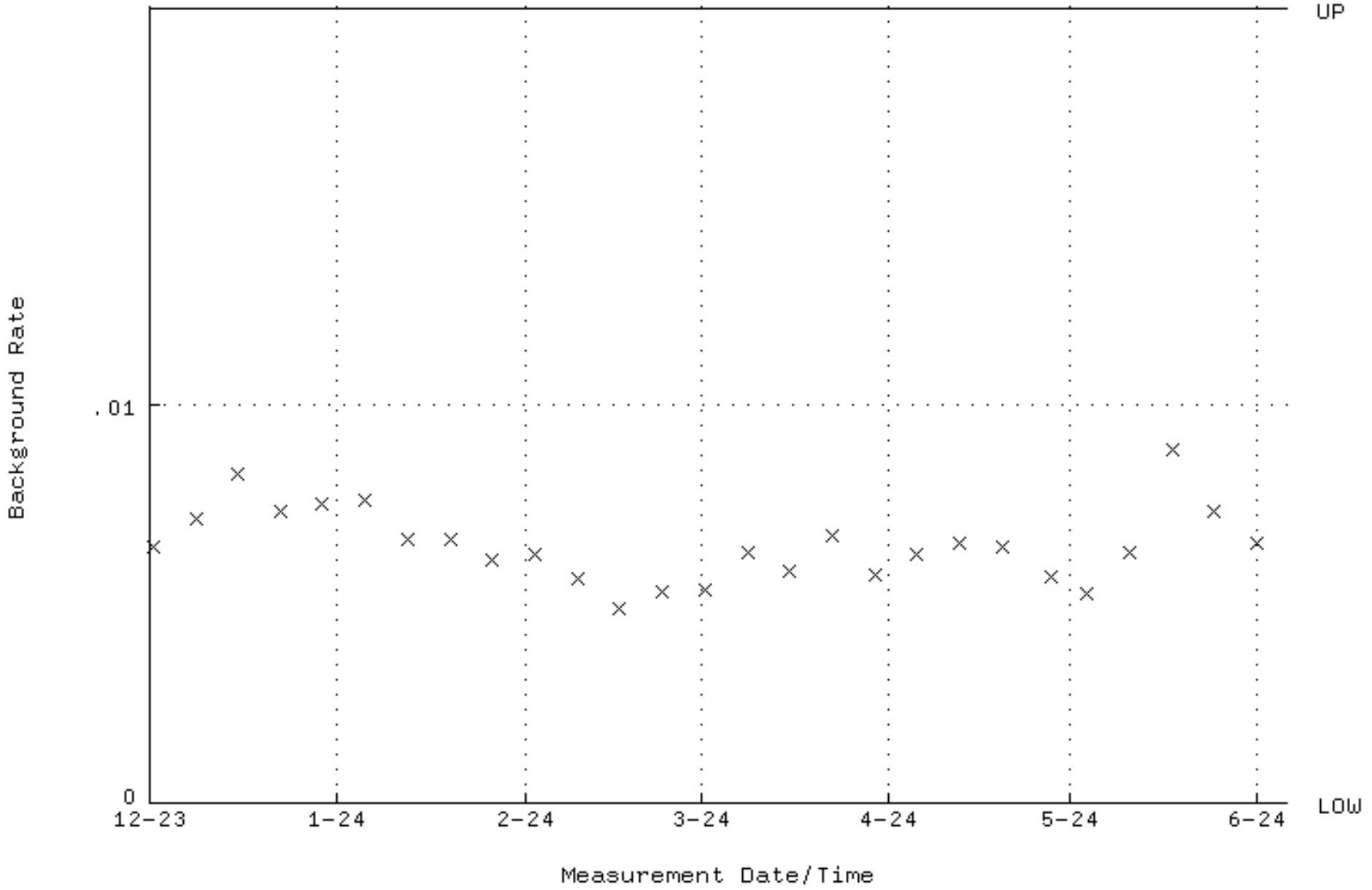
QA filename : DKA100:[ENV_ALPHA.QA.W]W037.QAF;10
Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 2-DEC-2023 10:44:43 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



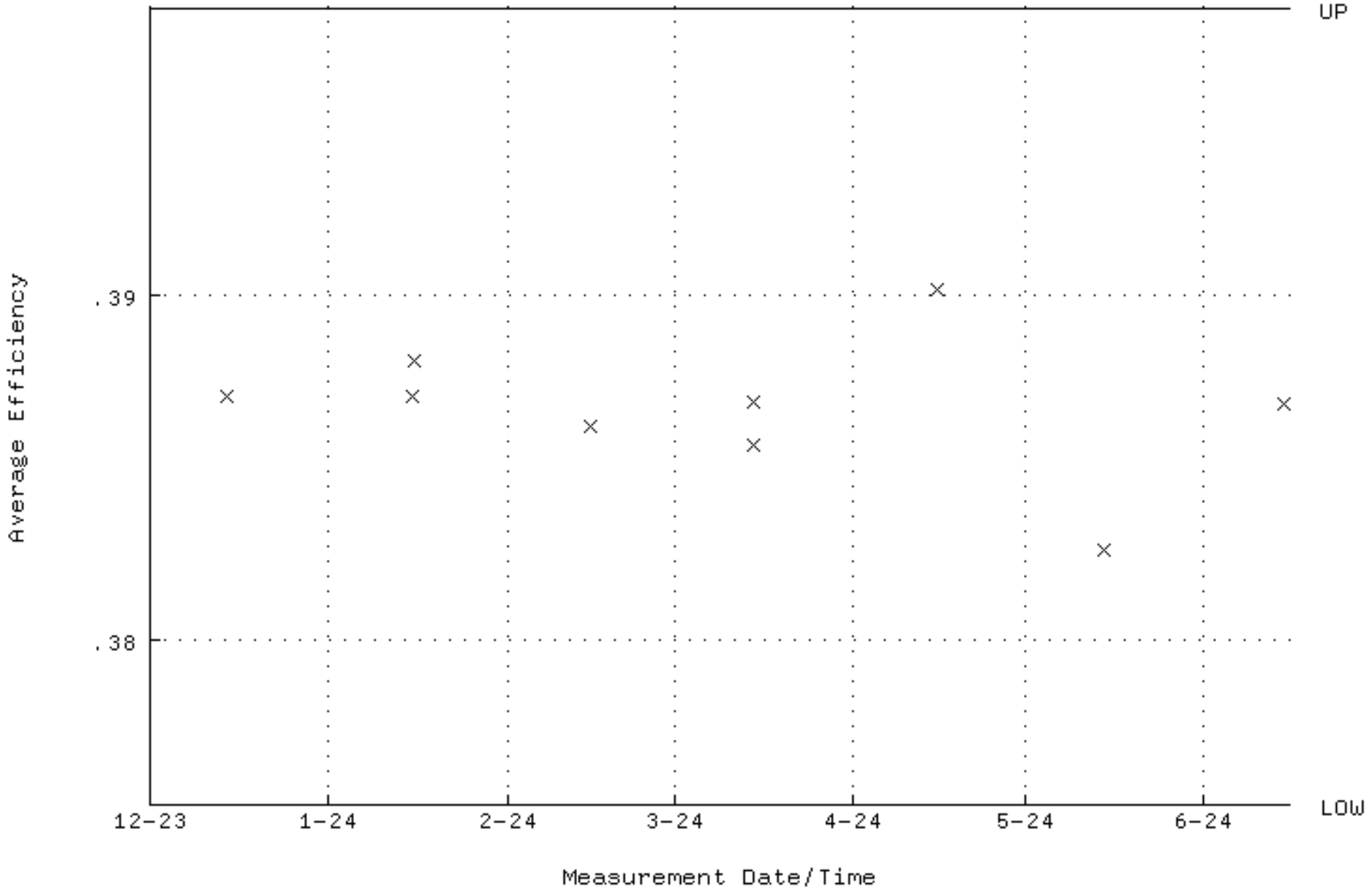
QA filename : DKA100:[ENV_ALPHA.QA.W]W037.QAF;10
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 2-DEC-2023 10:44:43 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00



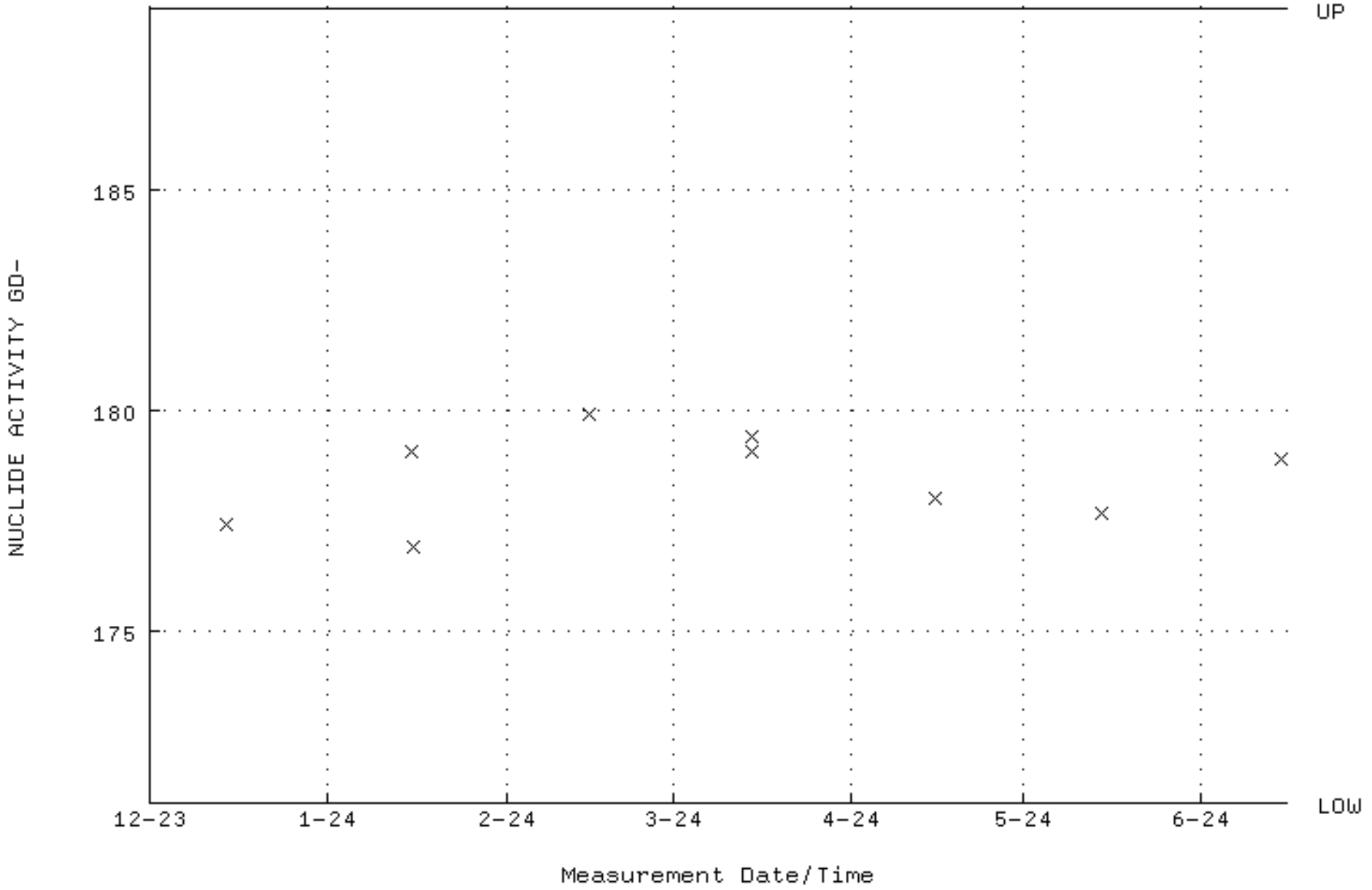
QA filename : DKA100:[ENV_ALPHA.QA.B]B037.QAF;4
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-DEC-2023 13:35:28 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



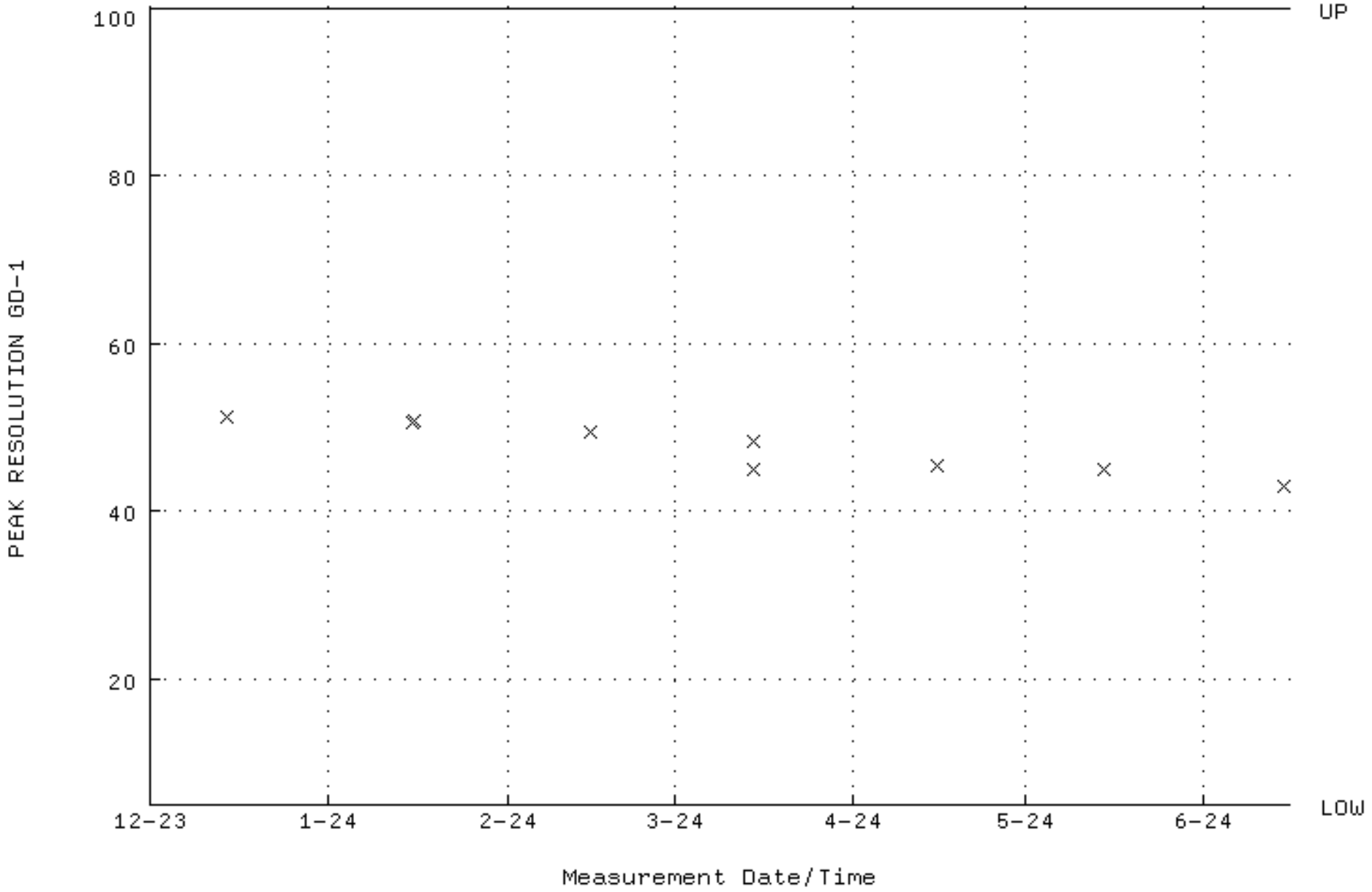
QA filename : DKA100:[ENV_ALPHA.QA.W]W153.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 14-DEC-2023 08:20:41 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 0.375170 through 0.398380



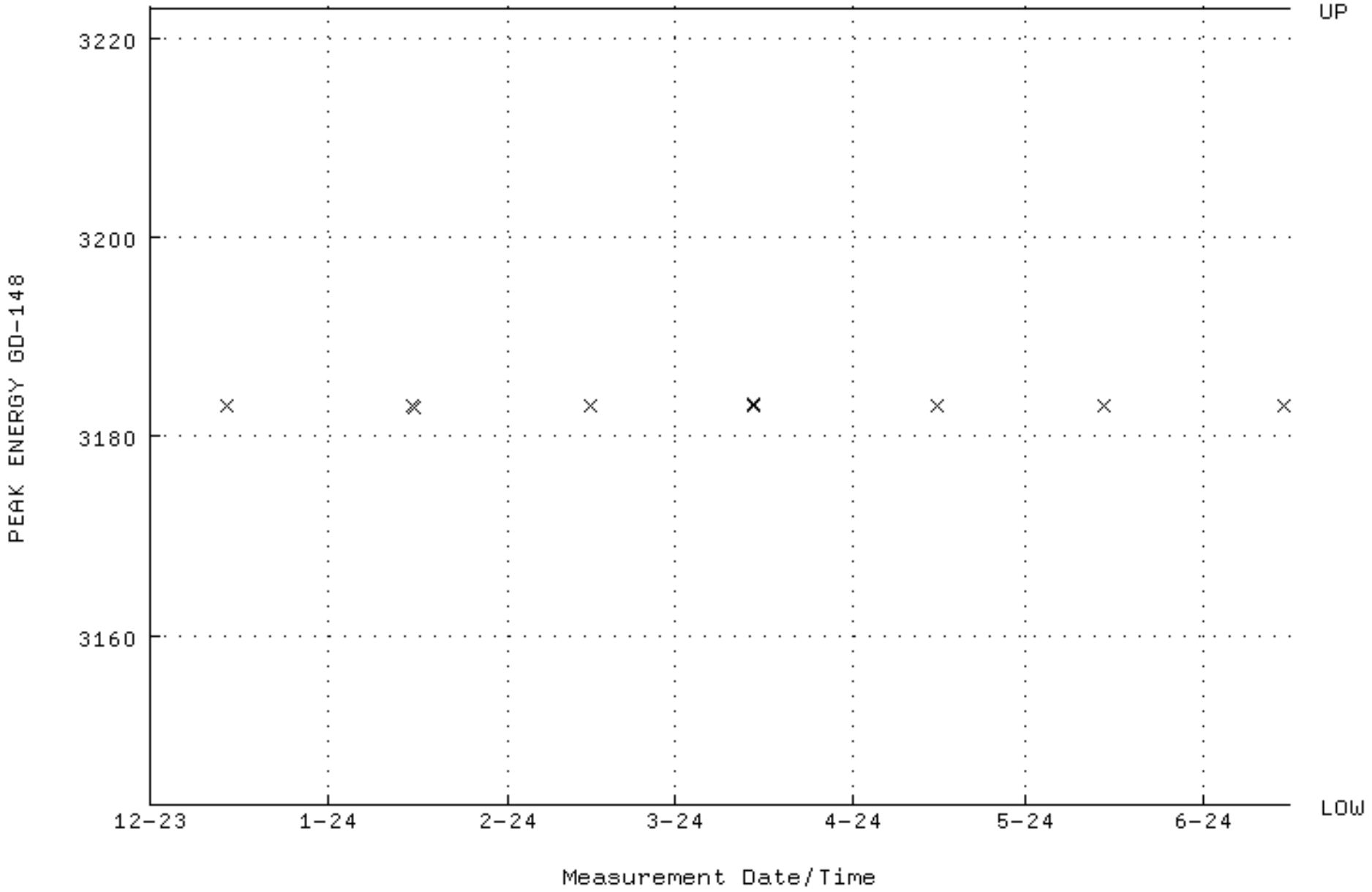
QA filename : DKA100:[ENV_ALPHA.QA.W]W153.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 14-DEC-2023 08:20:41 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 171.090 through 189.100



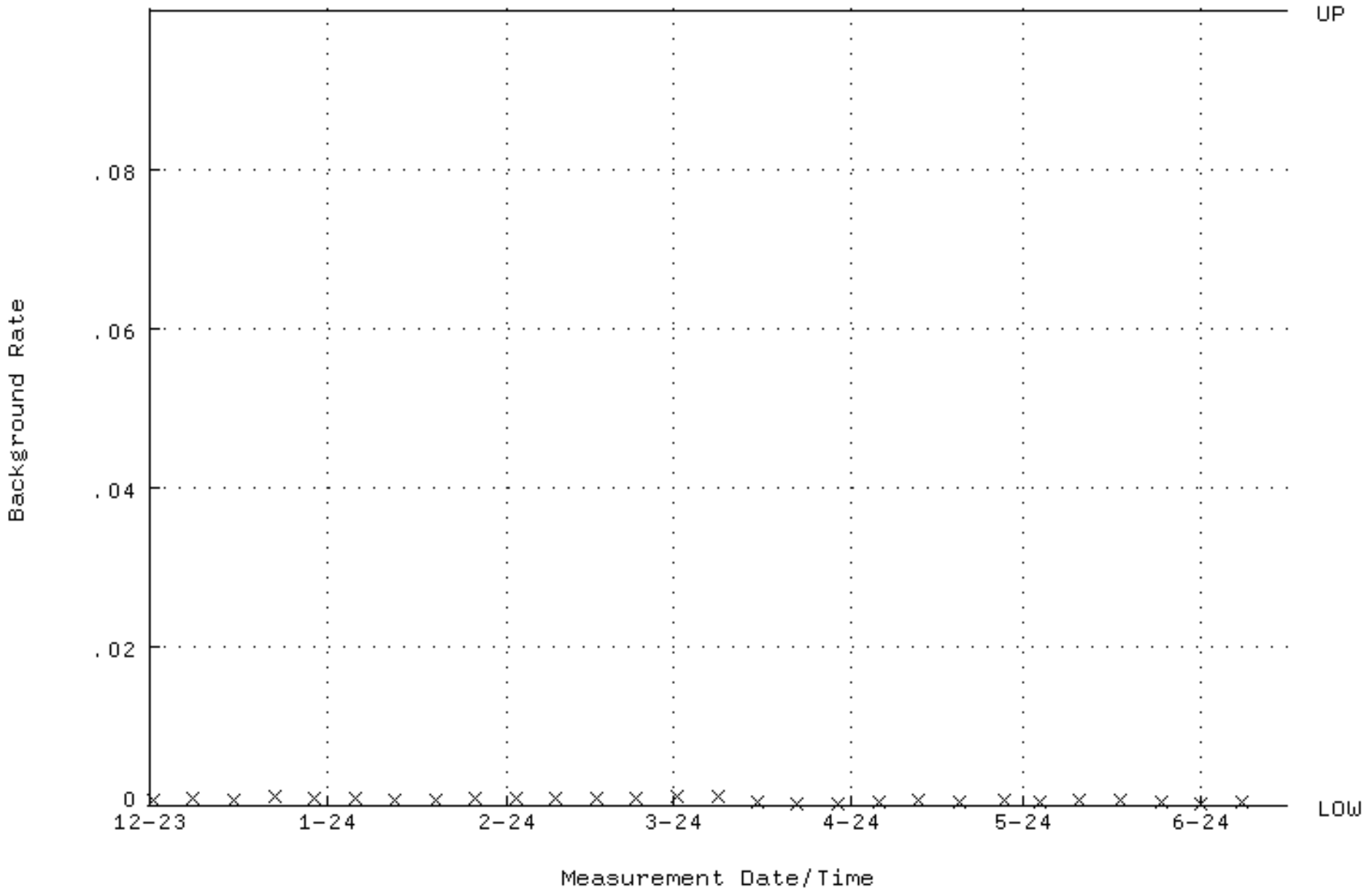
QA filename : DKA100:[ENV_ALPHA.QA.W]W153.QAF;3
Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 14-DEC-2023 08:20:41 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



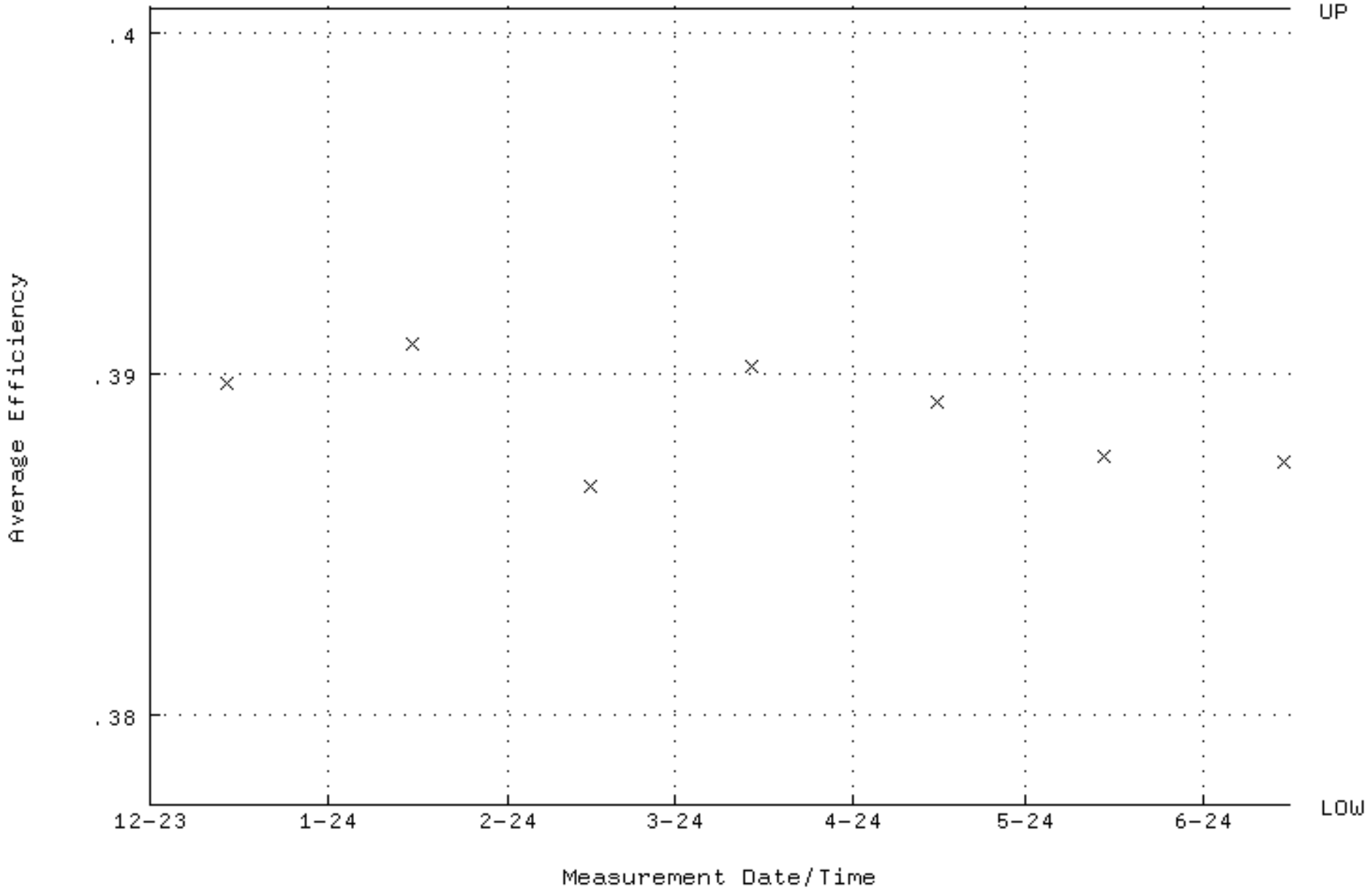
QA filename : DKA100:[ENV_ALPHA.QA.W]W153.QAF;3
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 14-DEC-2023 08:20:41 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00



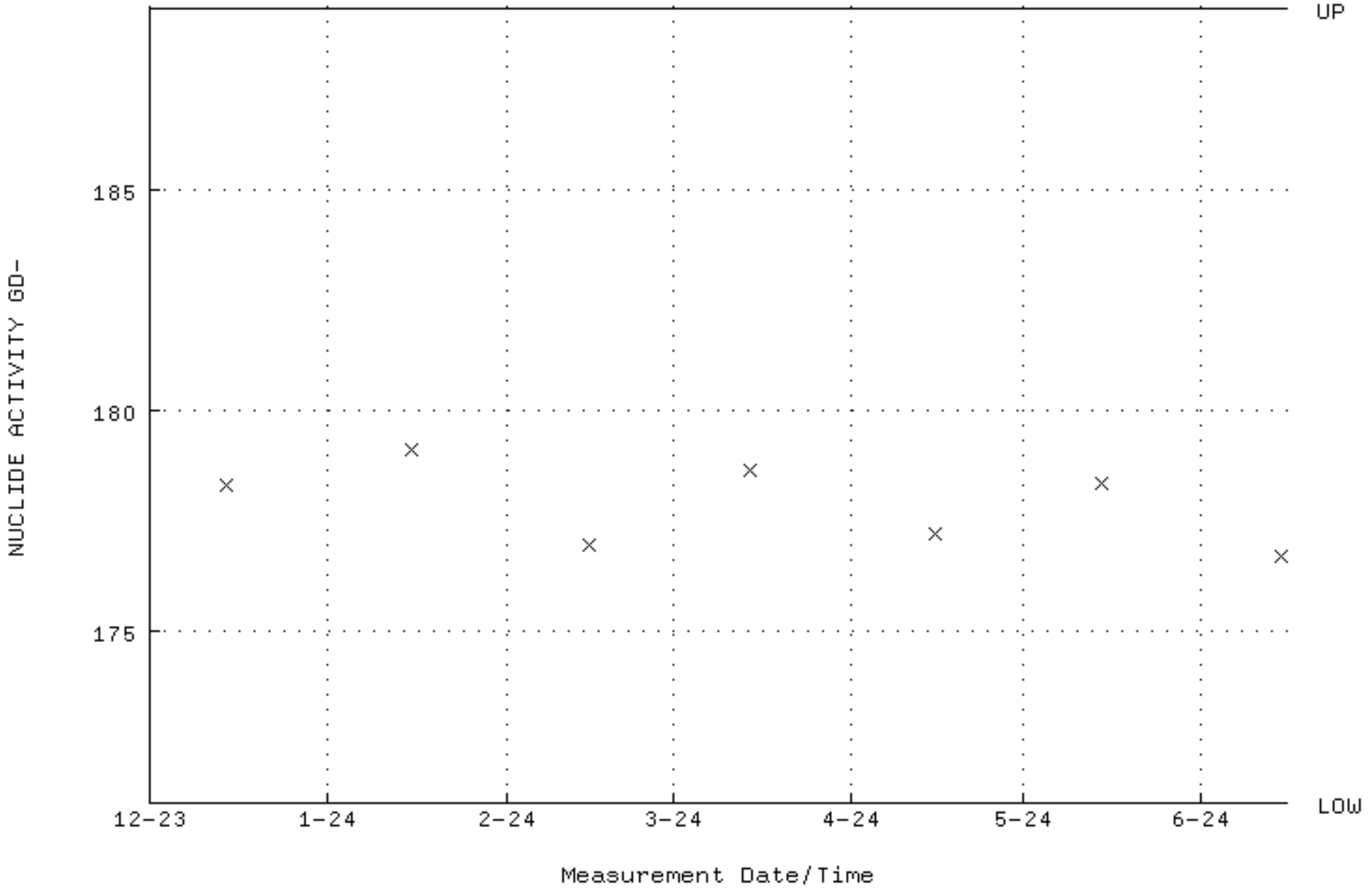
QA filename : DKA100:[ENV_ALPHA.QA.B]B153.QAF;4
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-DEC-2023 13:26:58 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



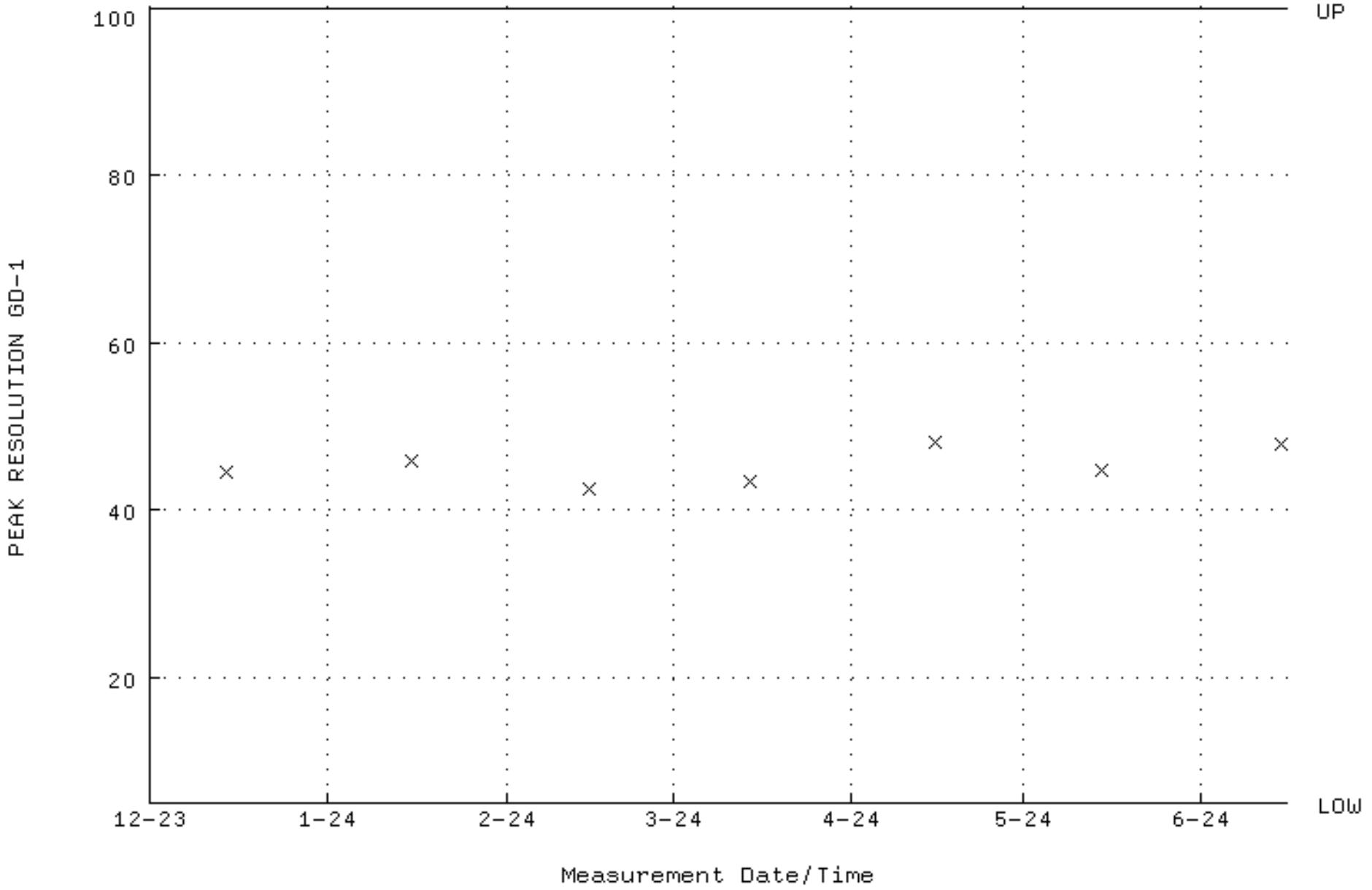
QA filename : DKA100:[ENV_ALPHA.QA.W]W154.QAF;4
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 14-DEC-2023 10:20:52 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 0.377360 through 0.400710



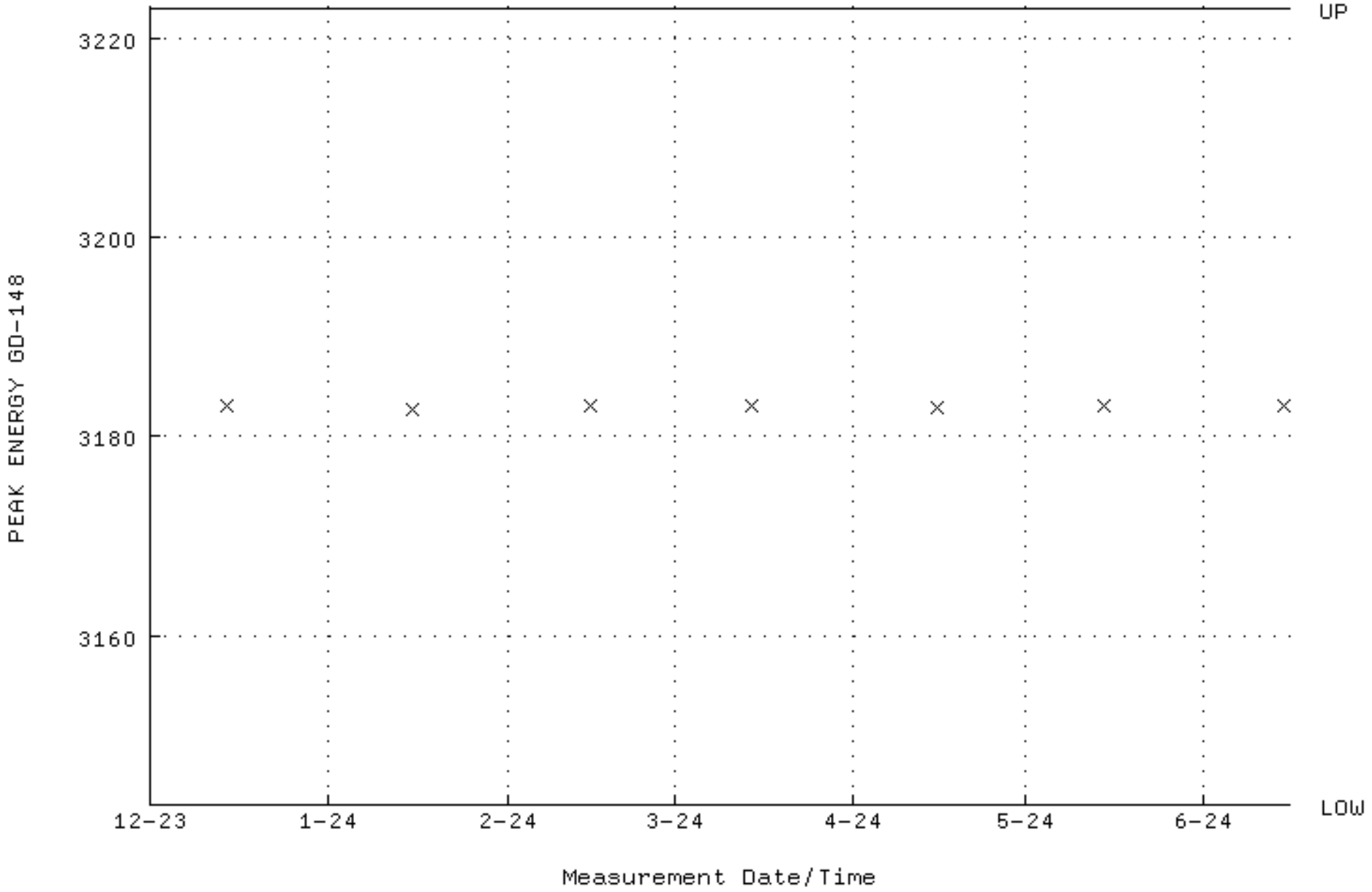
QA filename : DKA100:[ENV_ALPHA.QA.W]W154.QAF;4
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 14-DEC-2023 10:20:52 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 171.090 through 189.100



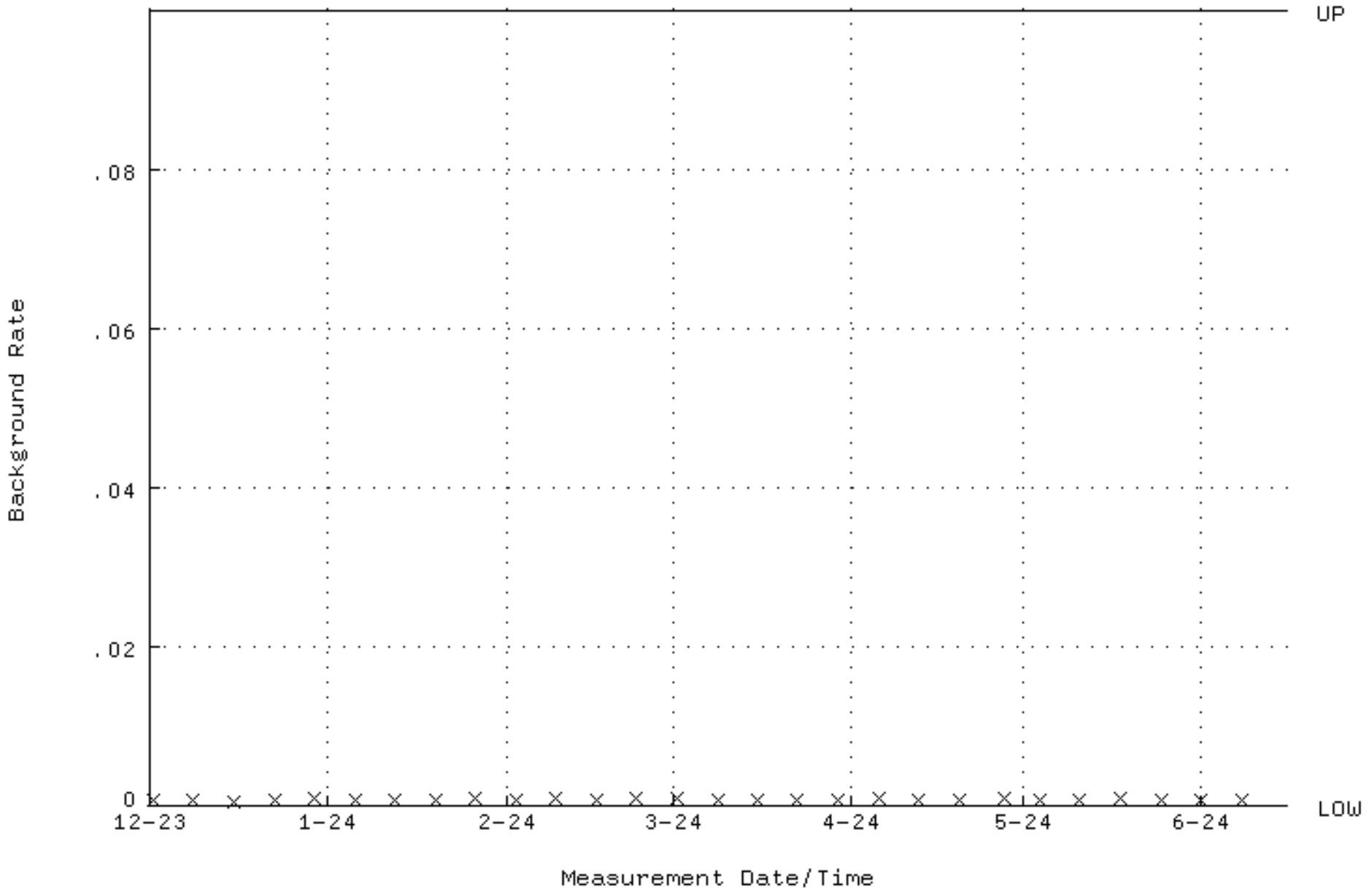
QA filename : DKA100:[ENV_ALPHA.QA.W]W154.QAF;4
Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 14-DEC-2023 10:20:52 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



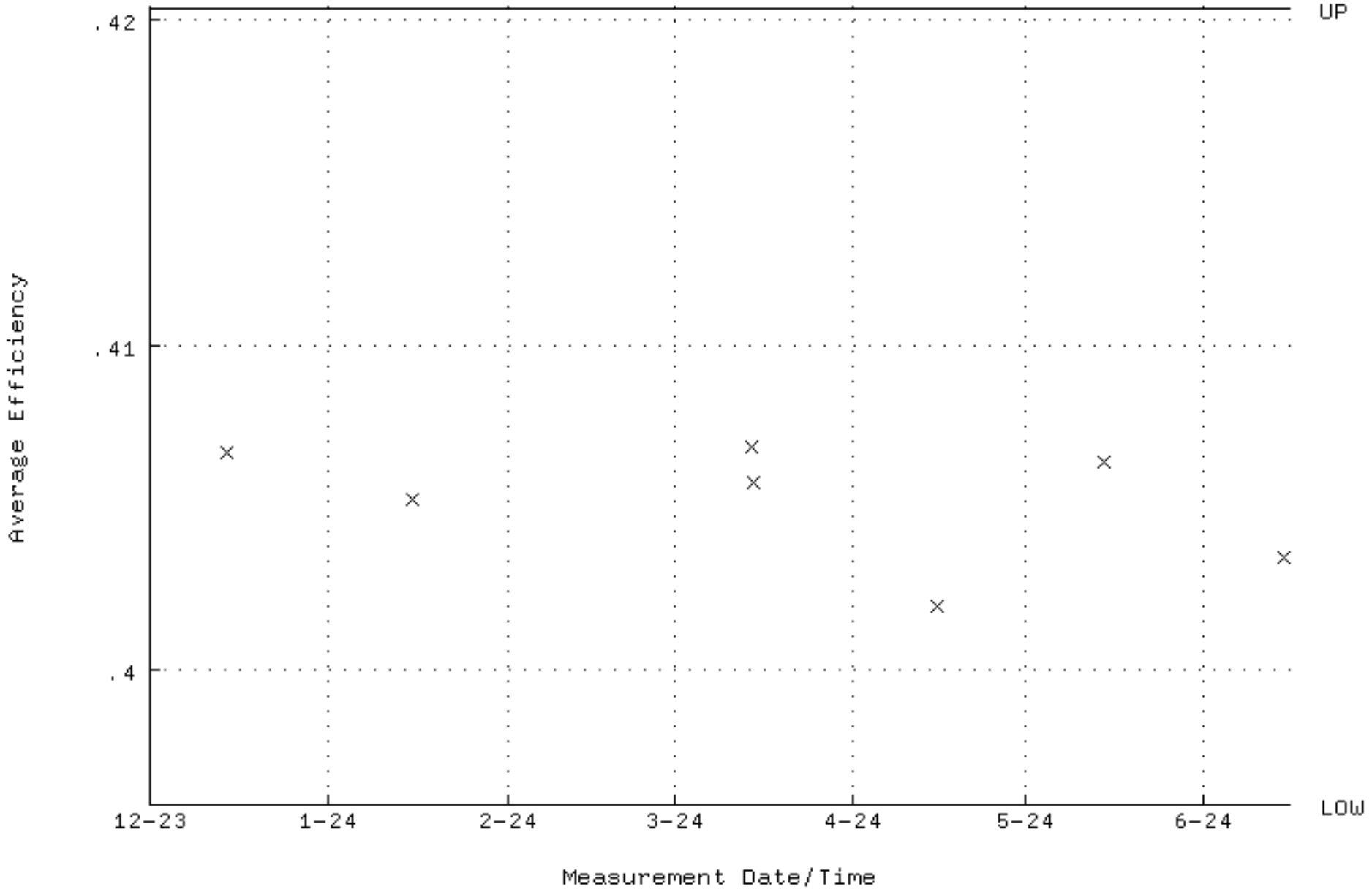
QA filename : DKA100:[ENV_ALPHA.QA.W]W154.QAF;4
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 14-DEC-2023 10:20:52 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00



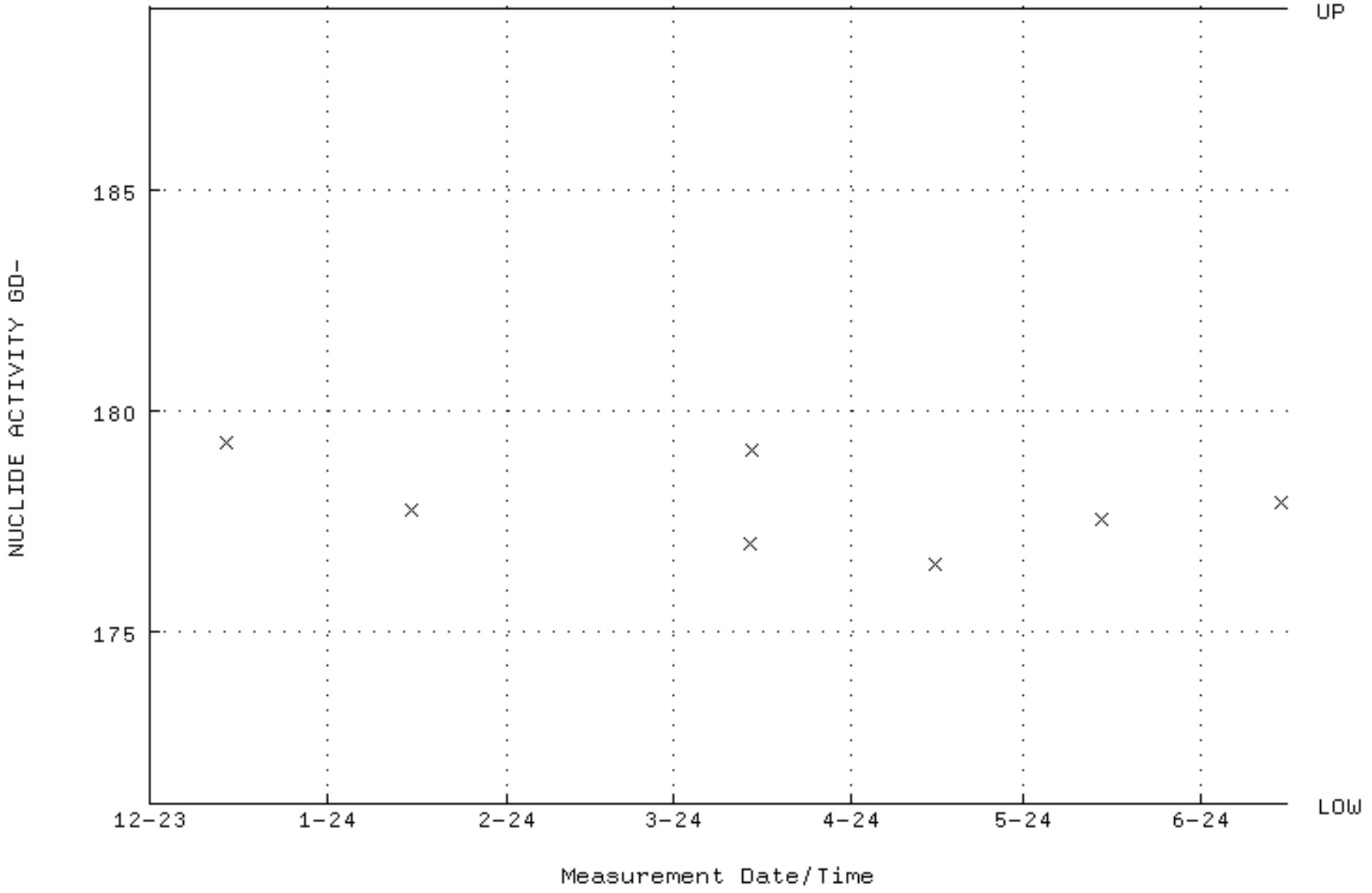
QA filename : DKA100:[ENV_ALPHA.QA.B]B154.QAF;4
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-DEC-2023 13:27:02 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



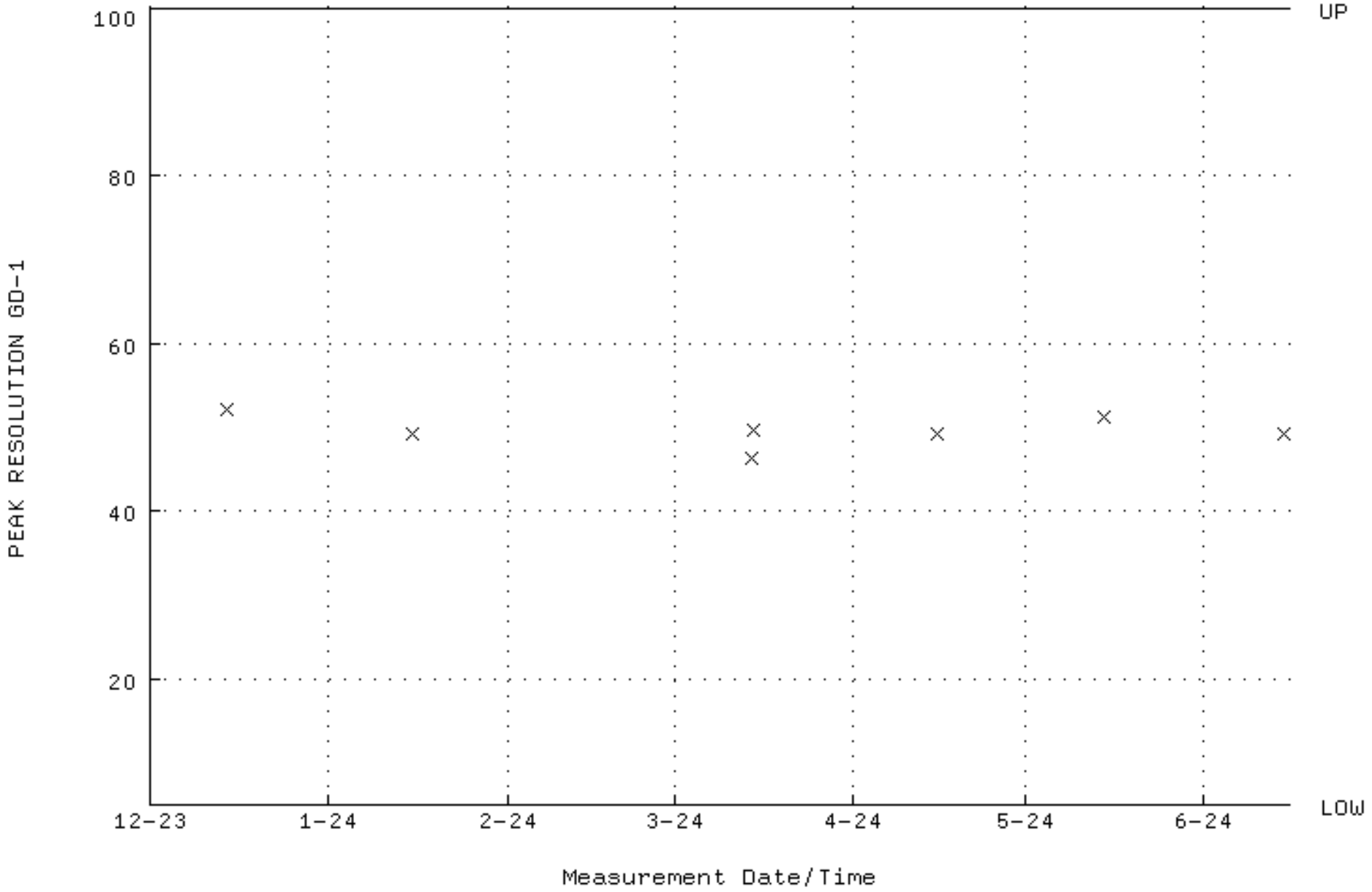
QA filename : DKA100:[ENV_ALPHA.QA.W]W155.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 14-DEC-2023 08:20:49 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 0.395880 through 0.420360



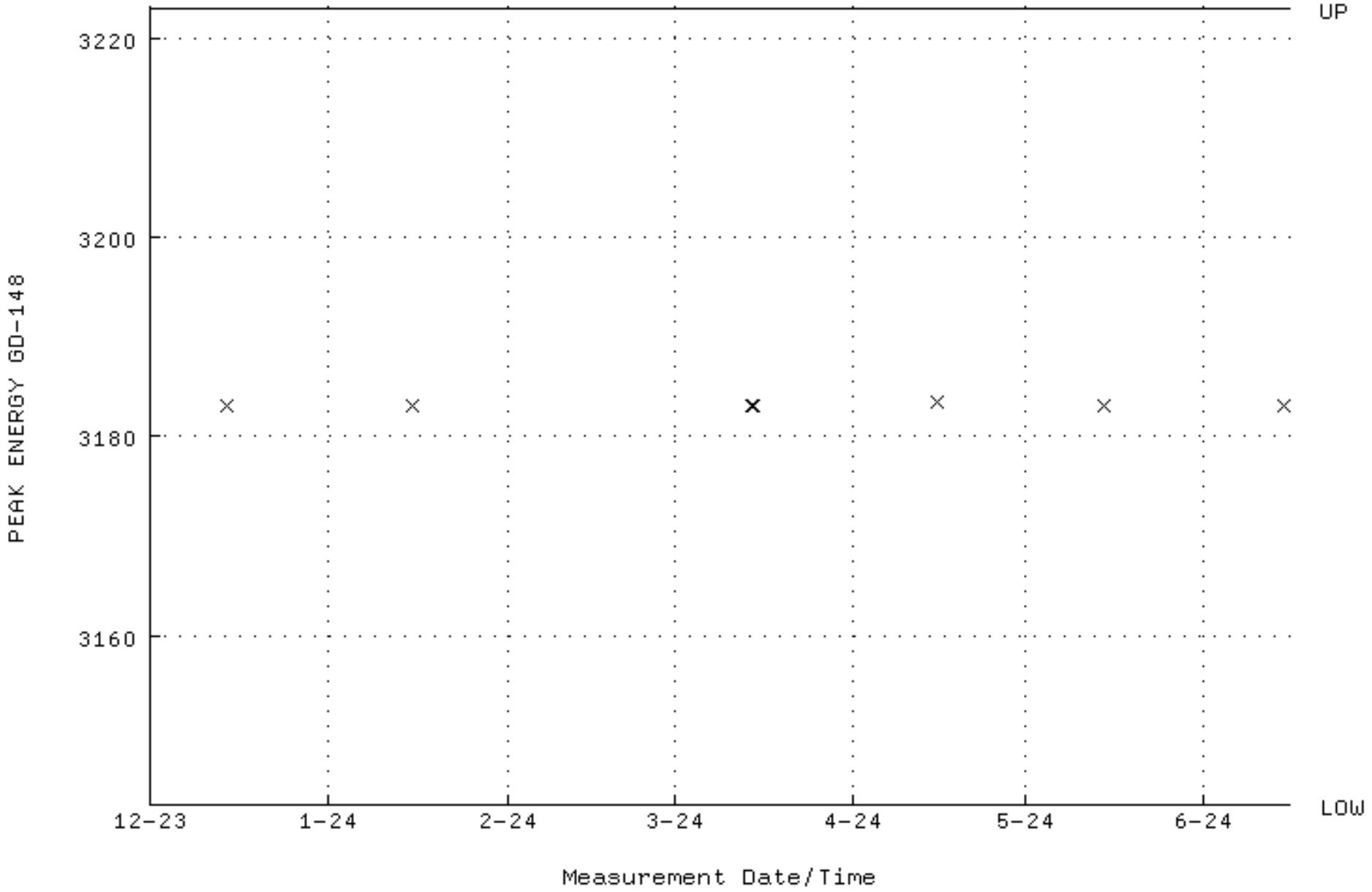
QA filename : DKA100:[ENV_ALPHA.QA.W]W155.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 14-DEC-2023 08:20:49 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 171.090 through 189.100



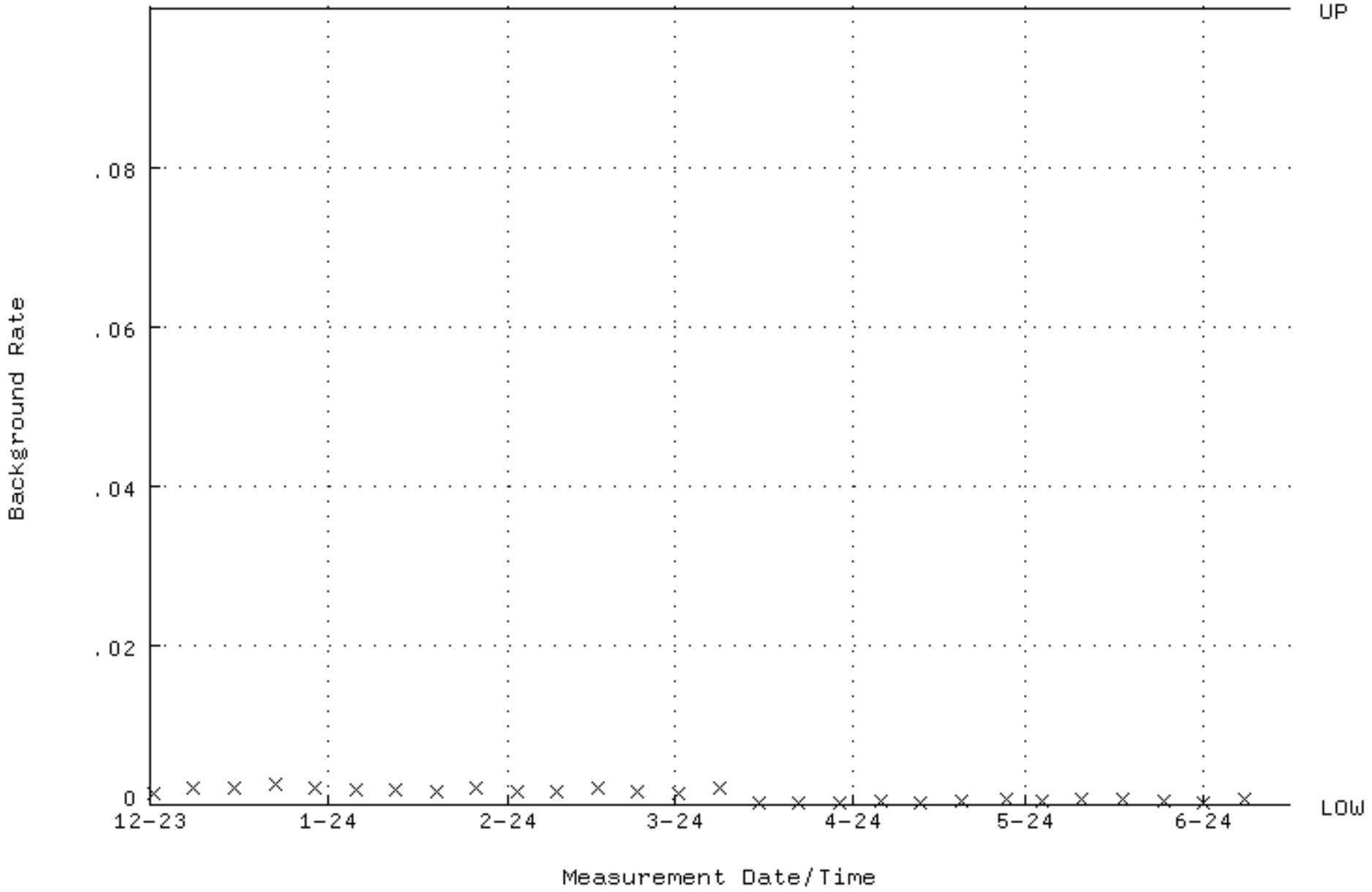
QA filename : DKA100:[ENV_ALPHA.QA.W]W155.QAF;3
Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 14-DEC-2023 08:20:49 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



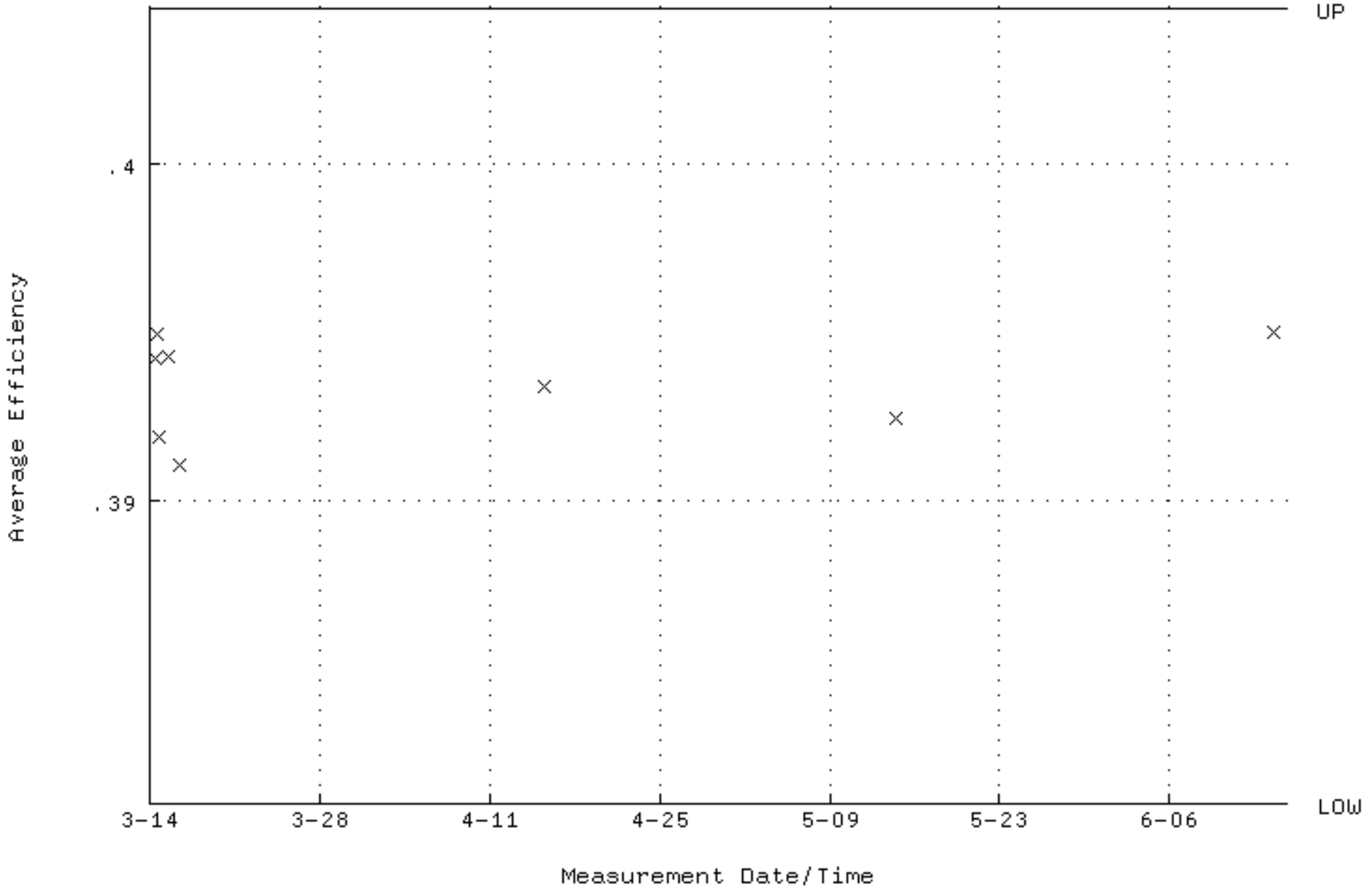
QA filename : DKA100:[ENV_ALPHA.QA.W]W155.QAF;3
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 14-DEC-2023 08:20:49 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00

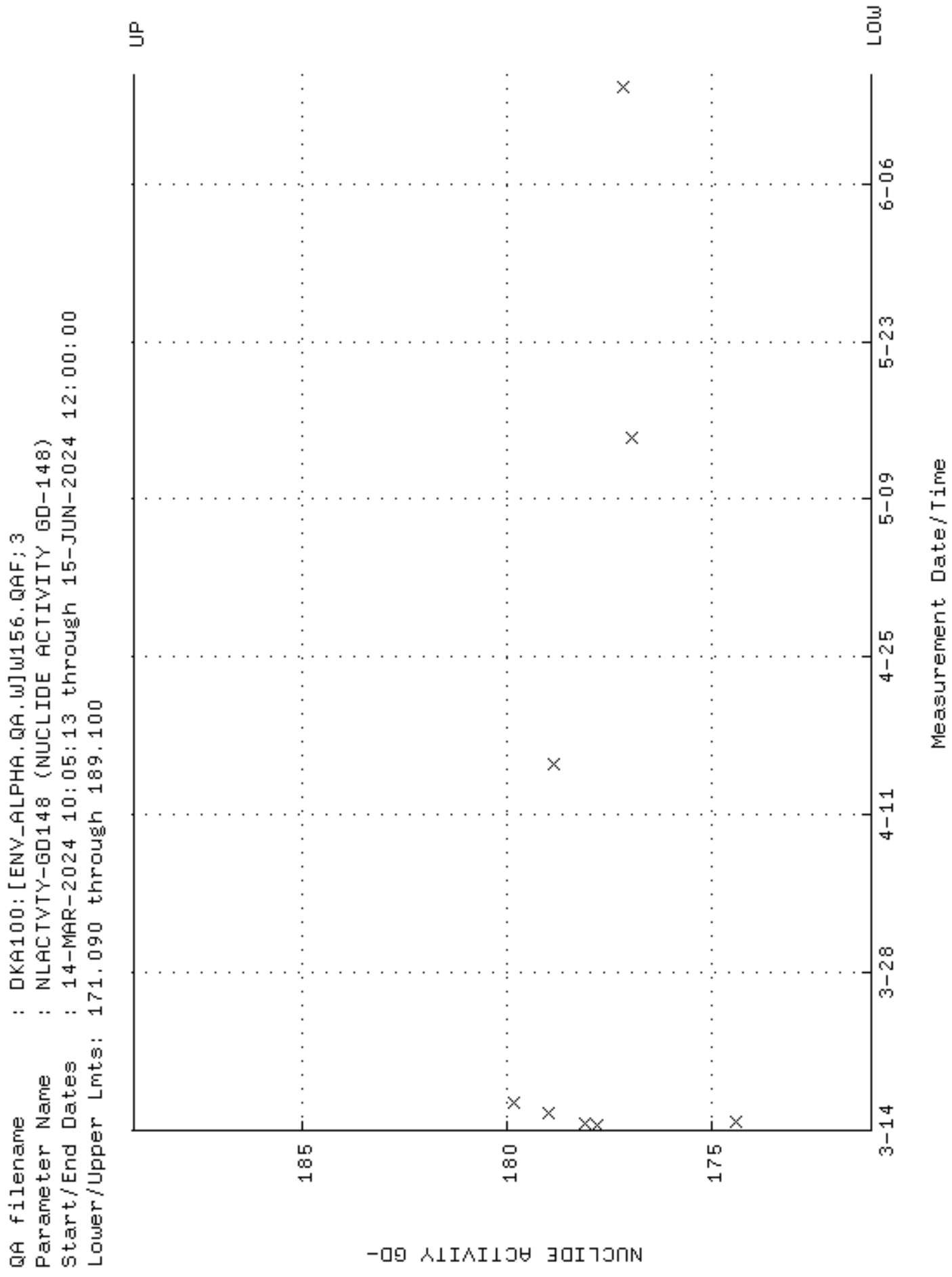


QA filename : DKA100:[ENV_ALPHA.QA.B]B155.QAF;4
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-DEC-2023 13:27:09 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000

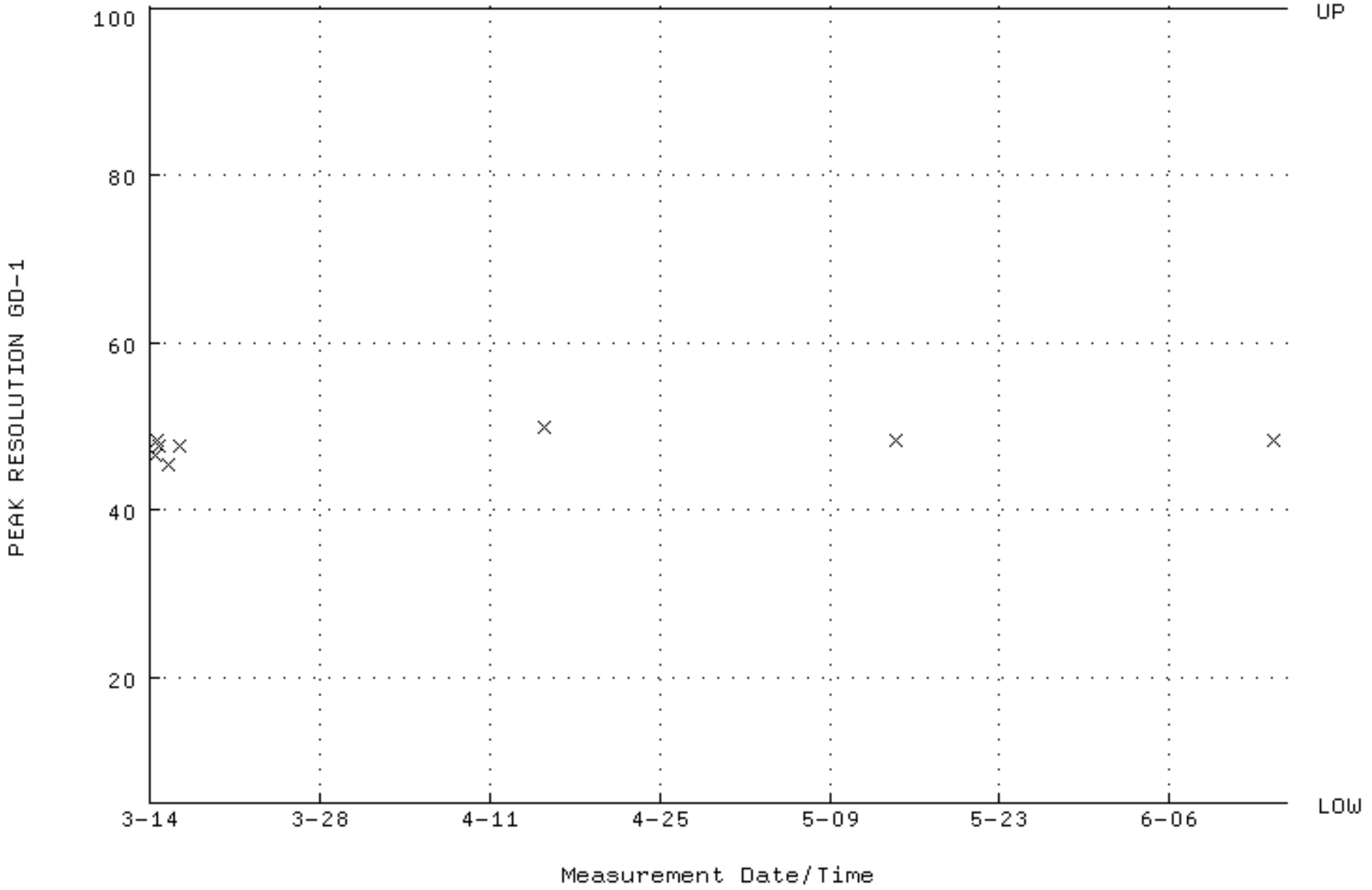


QA filename : DKA100:[ENV_ALPHA.QA.W]W156.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 14-MAR-2024 10:05:13 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 0.381030 through 0.404600

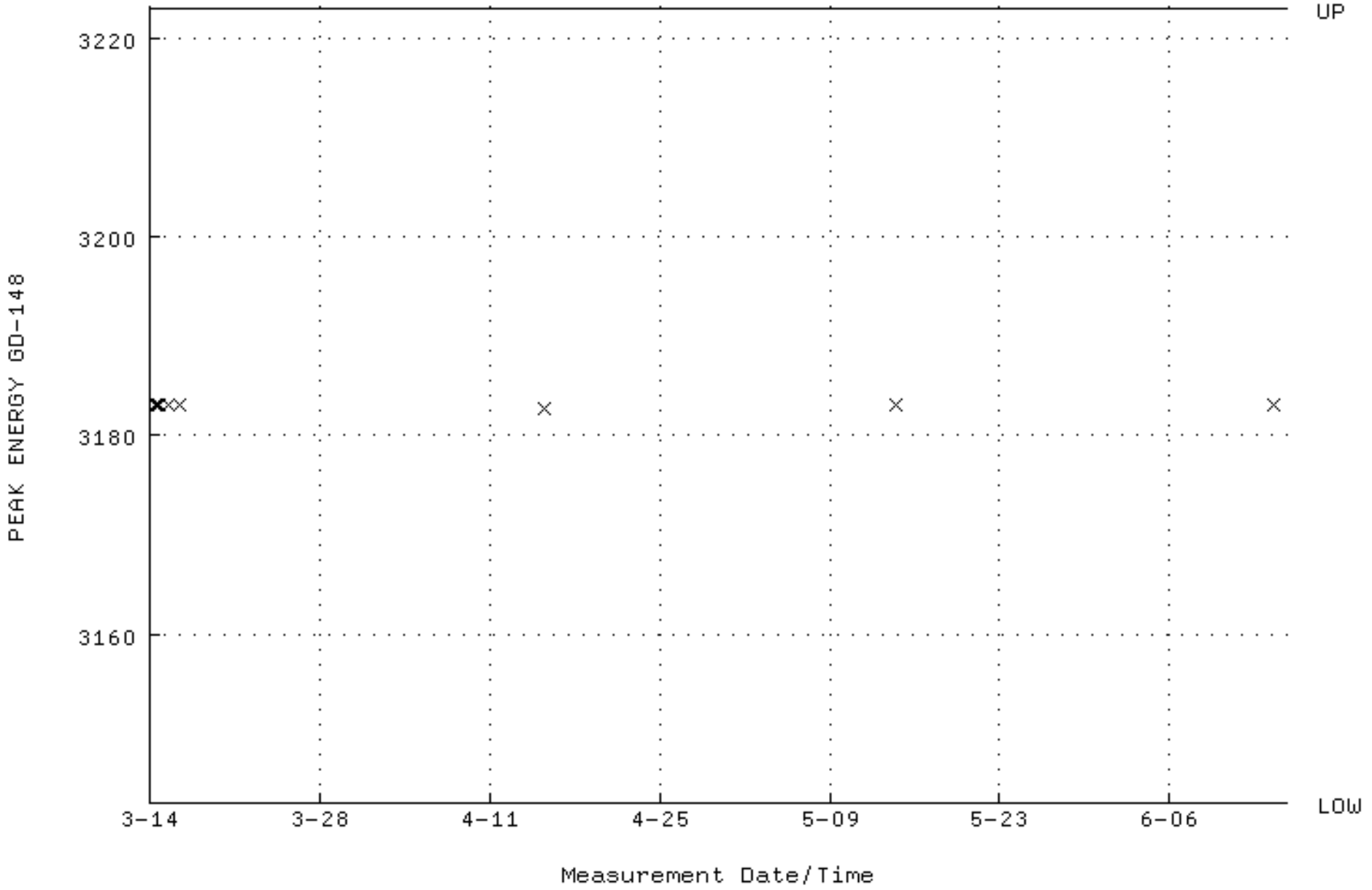



QA filename : DKA100:[ENV_ALPHA.QA.W]W156.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 14-MAR-2024 10:05:13 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 171.090 through 189.100
UP
LOW
NUCLIDE ACTIVITY GD-
185
180
175
3-14
3-28
4-11
4-25
5-09
5-23
6-06
Measurement Date/Time

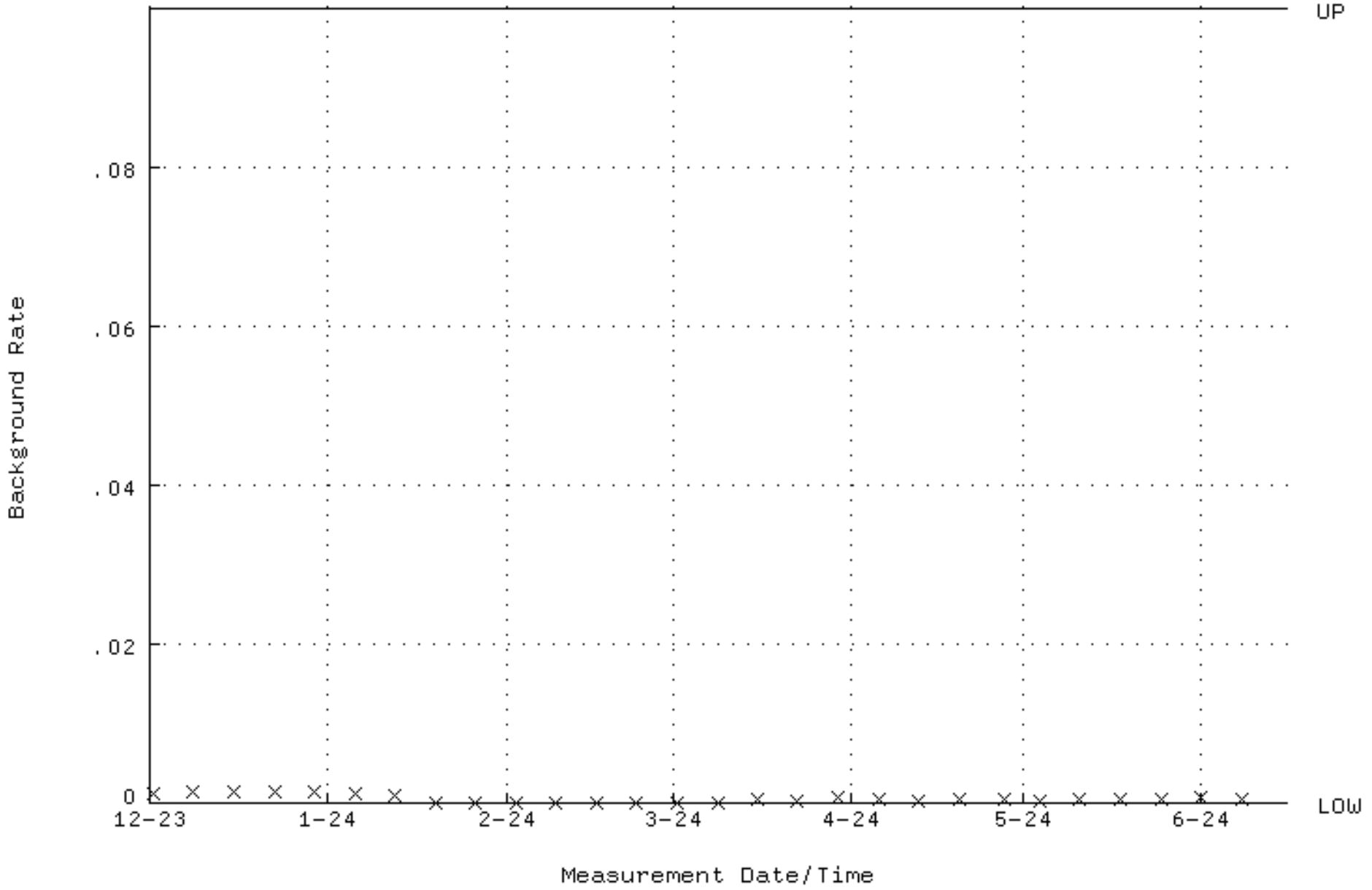
QA filename : DKA100:[ENV_ALPHA.QA.W]W156.QAF;3
Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 14-MAR-2024 10:05:13 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



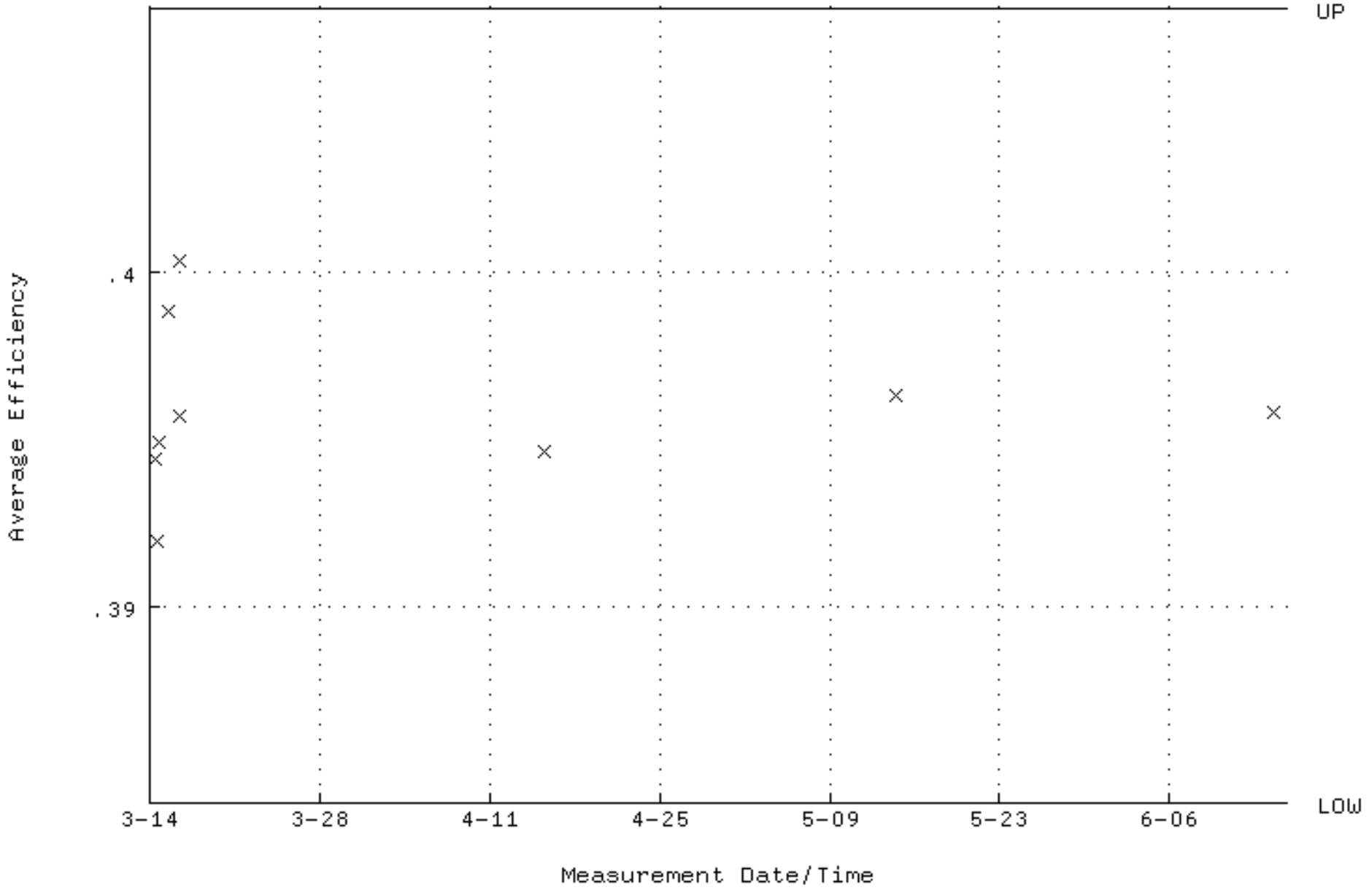
QA filename : DKA100:[ENV_ALPHA.QA.W]W156.QAF;3
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 14-MAR-2024 10:05:13 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00

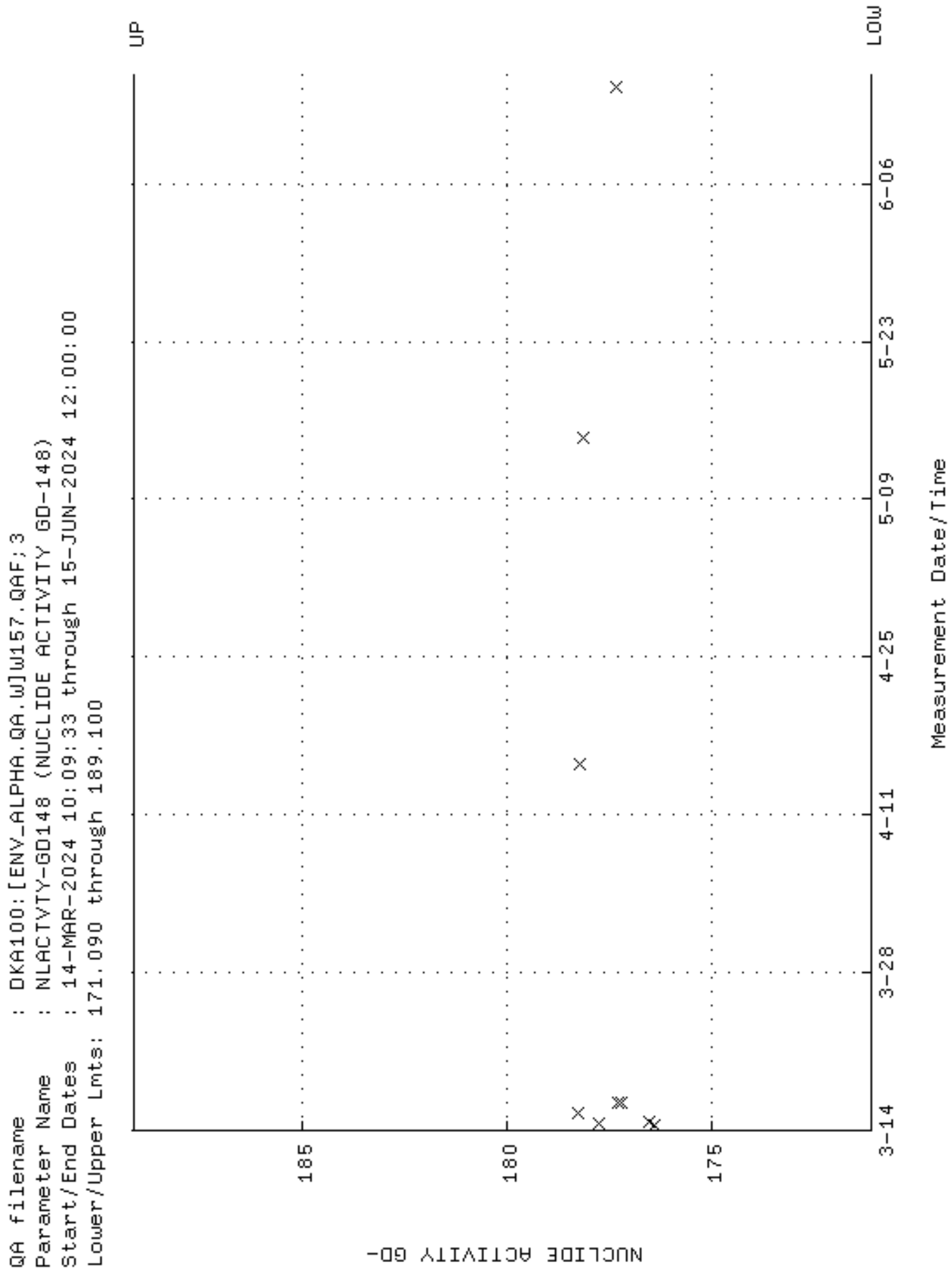


QA filename : DKA100:[ENV_ALPHA.QA.B]B156.QAF;4
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-DEC-2023 13:27:13 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000

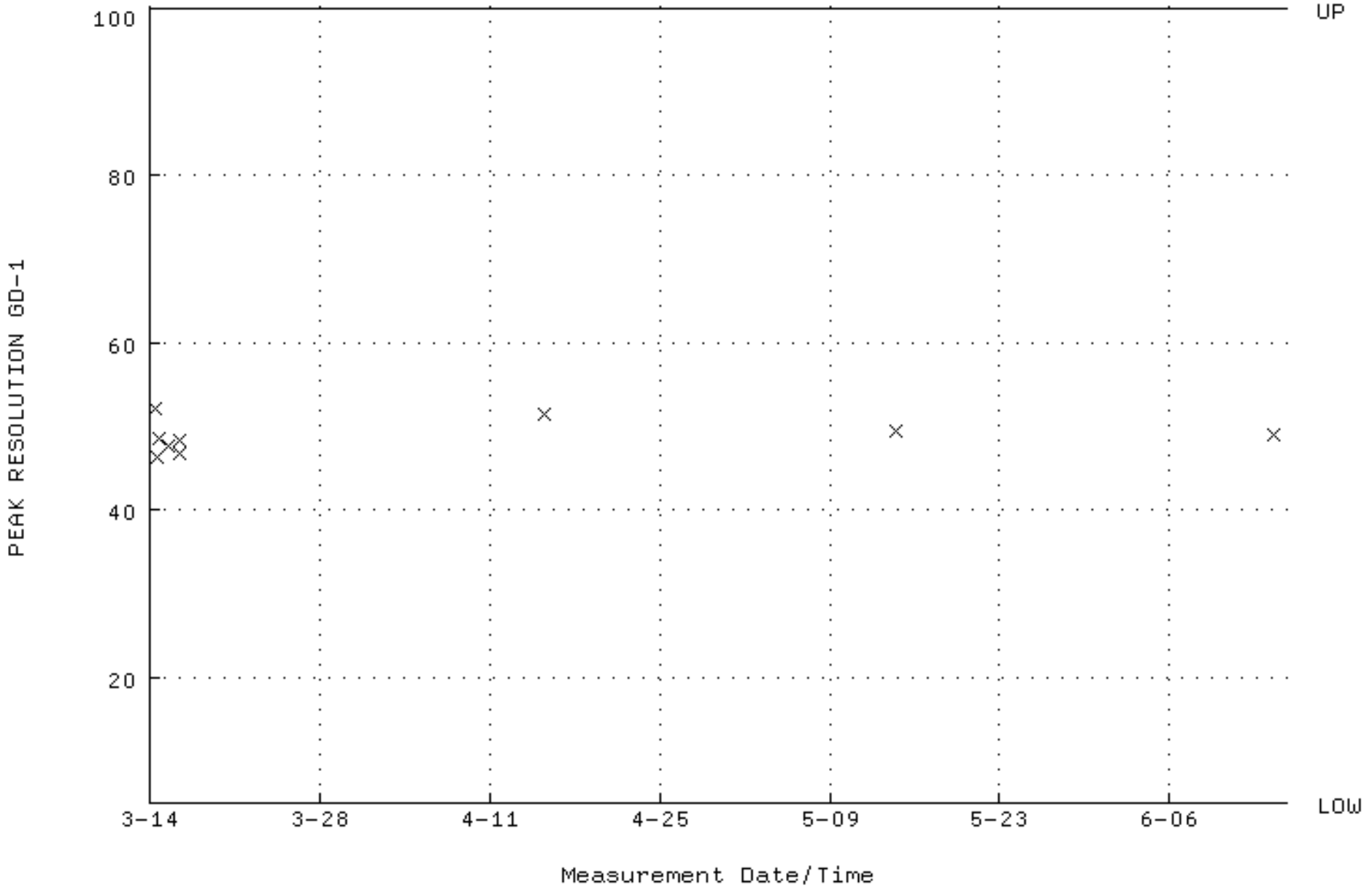


QA filename : DKA100:[ENV_ALPHA.QA.W]W157.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 14-MAR-2024 10:09:33 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 0.384138 through 0.407900

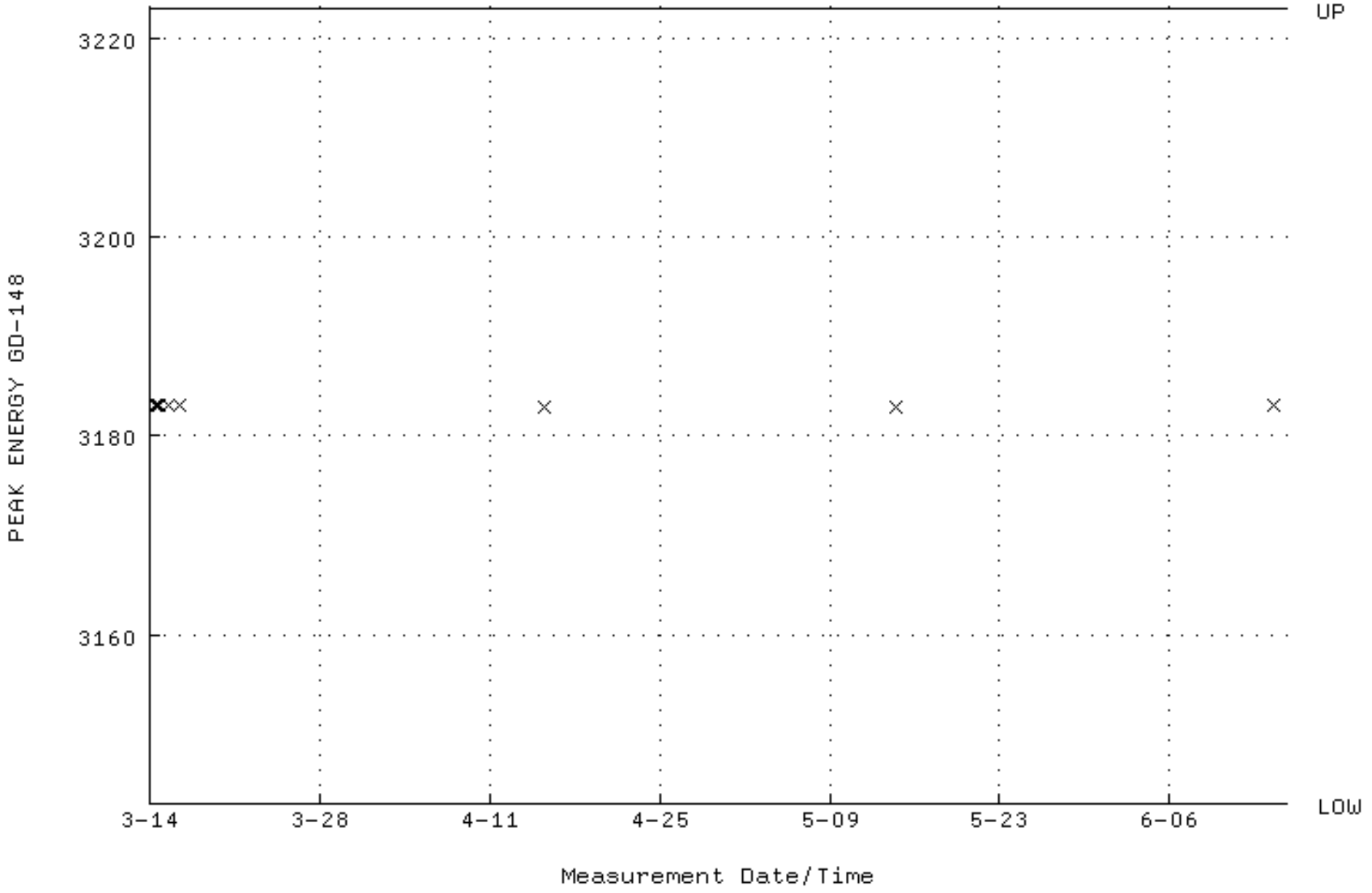



QA filename : DKA100:[ENV_ALPHA.QA.W]W157.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 14-MAR-2024 10:09:33 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 171.090 through 189.100
UP
LOW
NUCLIDE ACTIVITY GD-
185
180
175
3-14
3-28
4-11
4-25
5-09
5-23
6-06
Measurement Date/Time

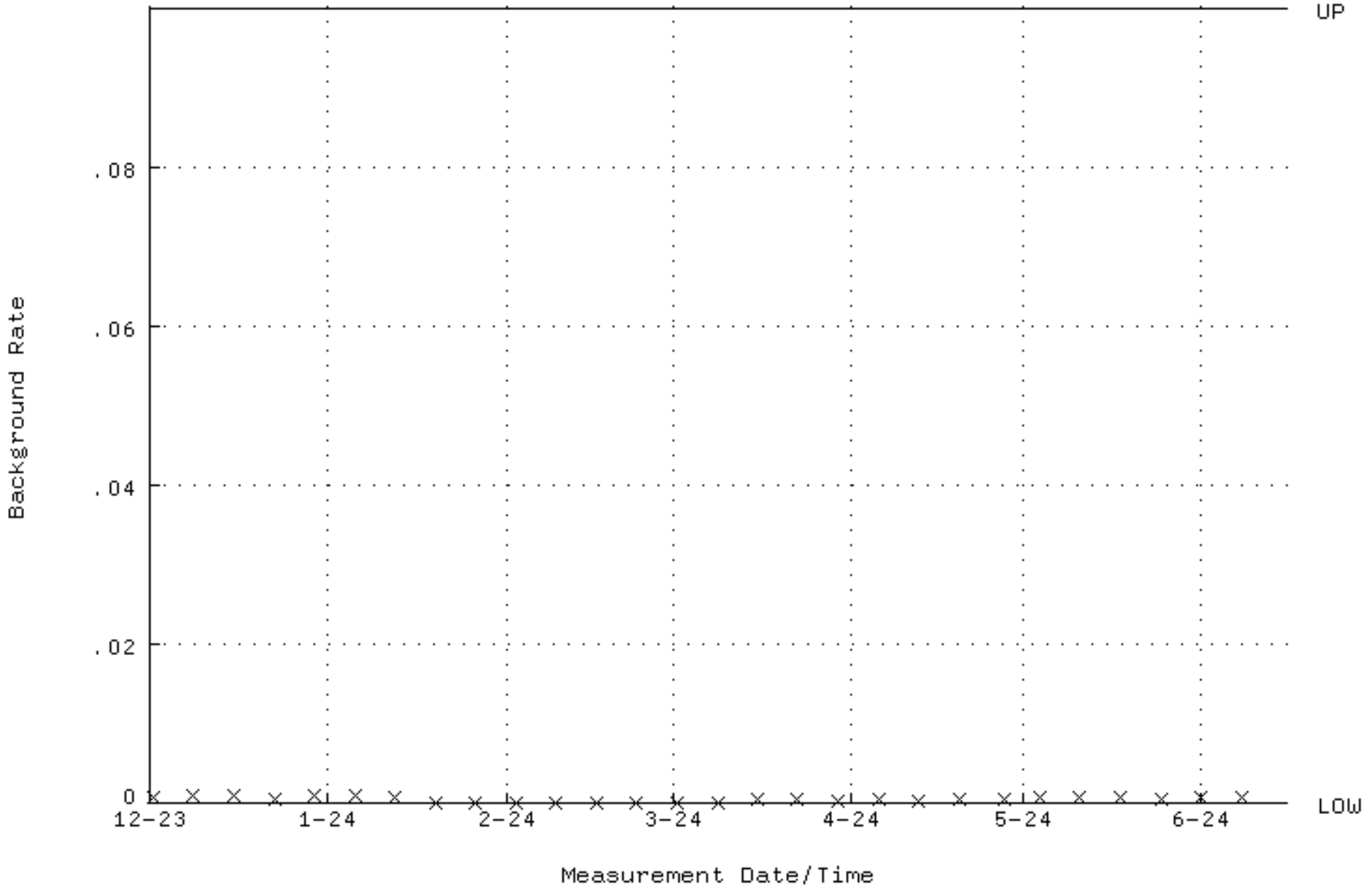
QA filename : DKA100:[ENV_ALPHA.QA.W]W157.QAF;3
Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 14-MAR-2024 10:09:33 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



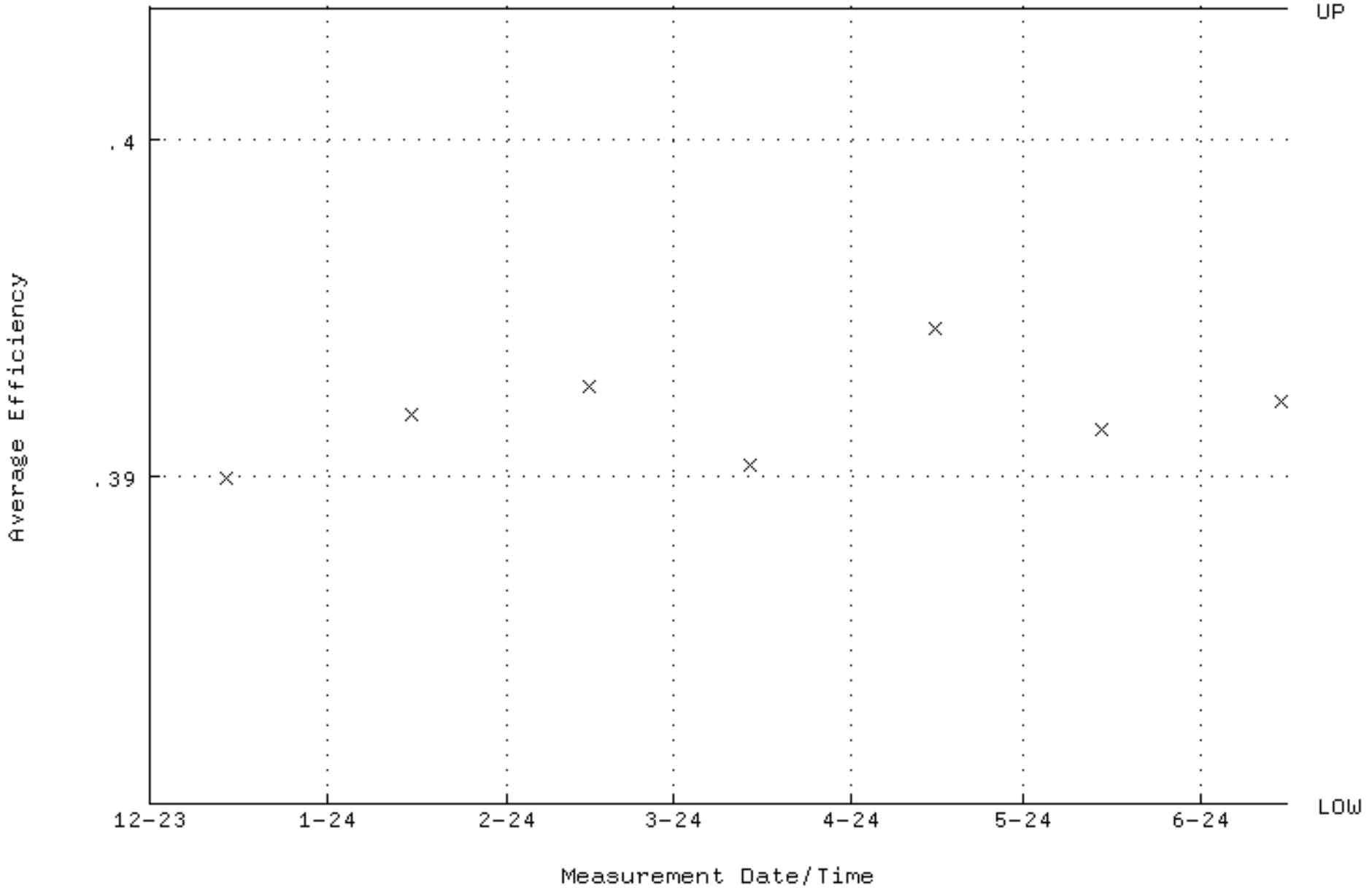
QA filename : DKA100:[ENV_ALPHA.QA.W]W157.QAF;3
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 14-MAR-2024 10:09:33 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00



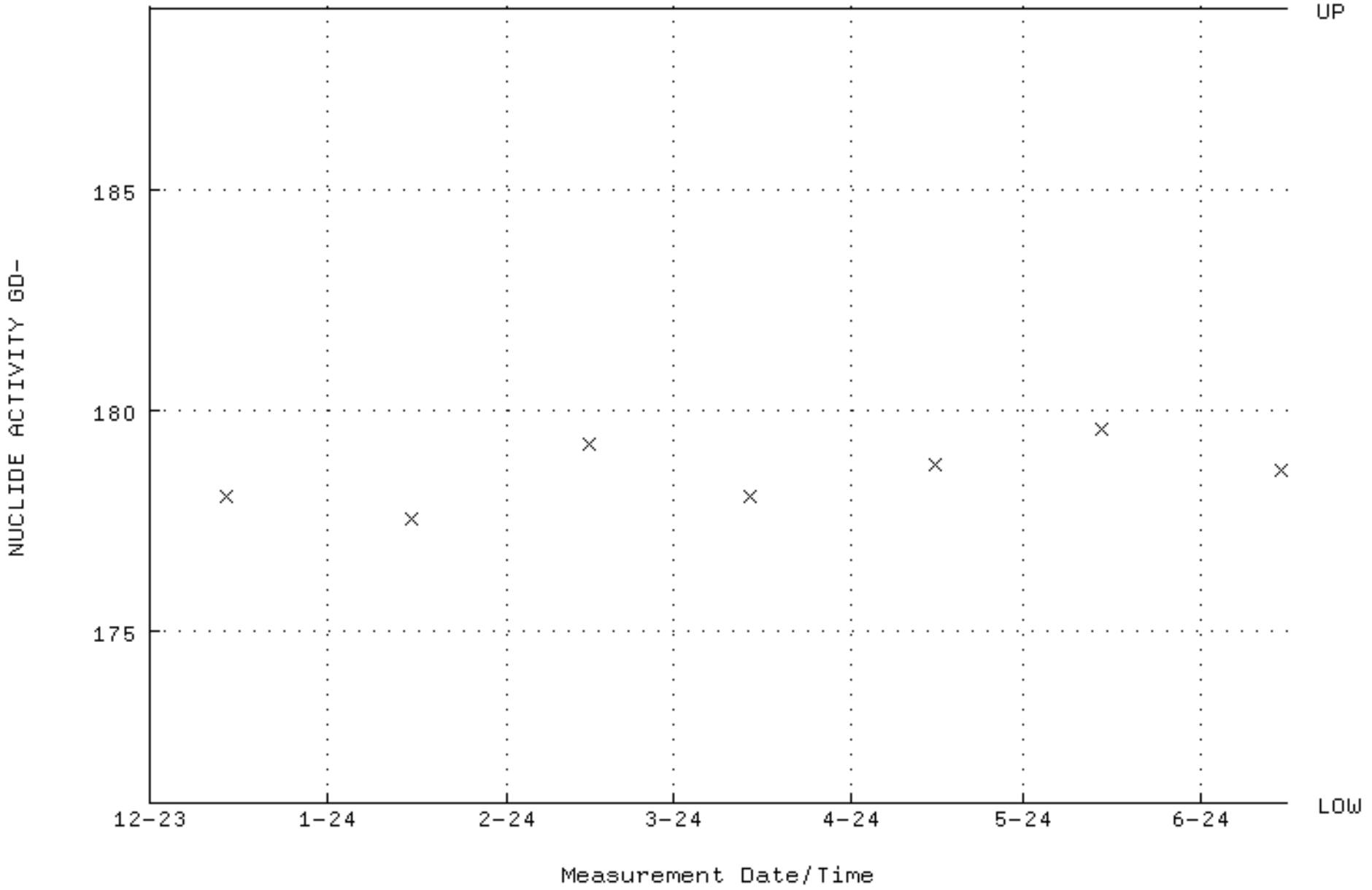
QA filename : DKA100:[ENV_ALPHA.QA.B]B157.QAF;4
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-DEC-2023 13:27:17 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



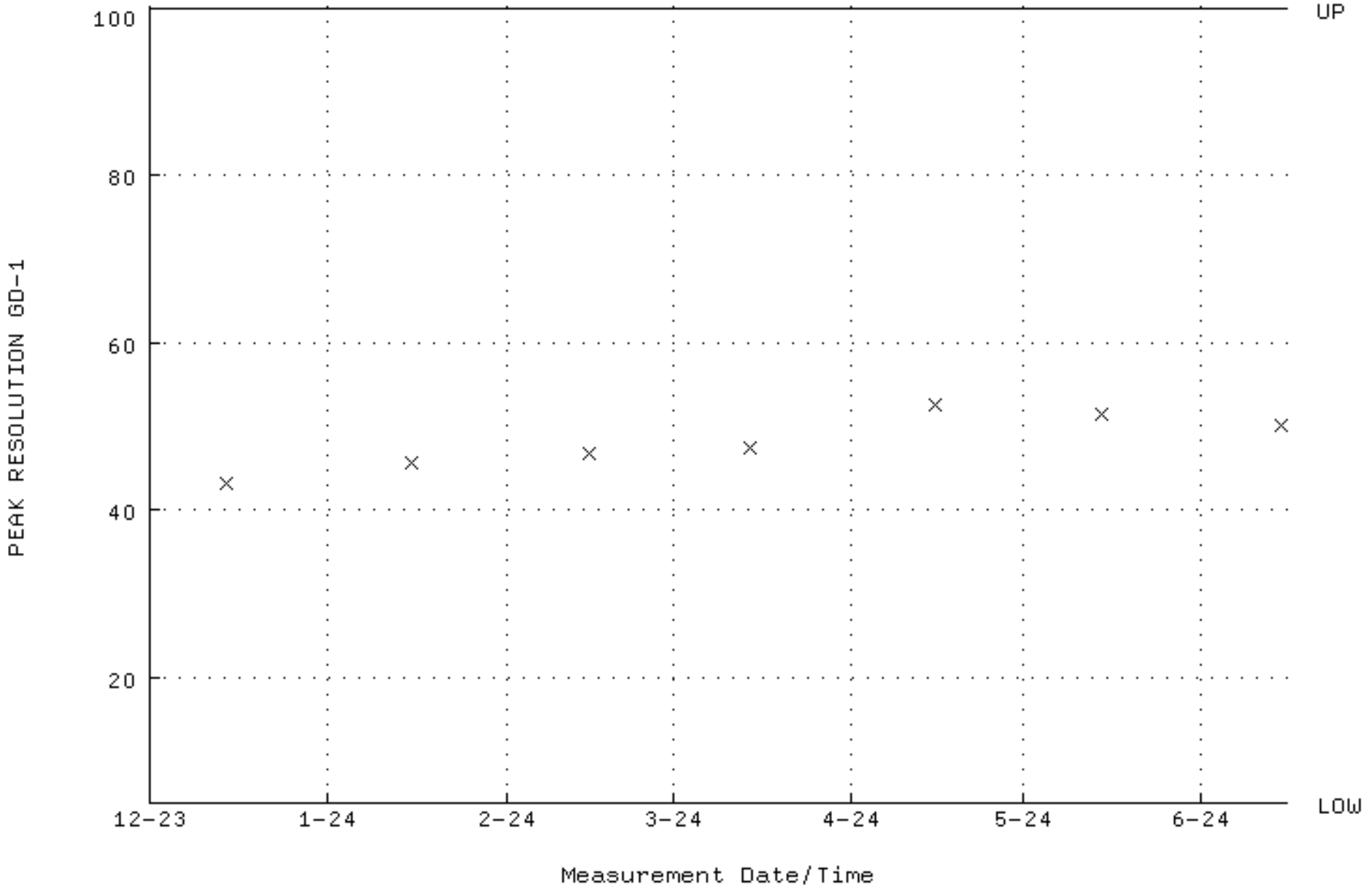
QA filename : DKA100:[ENV_ALPHA.QA.W]W158.QAF;4
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 14-DEC-2023 08:21:01 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 0.380330 through 0.403860



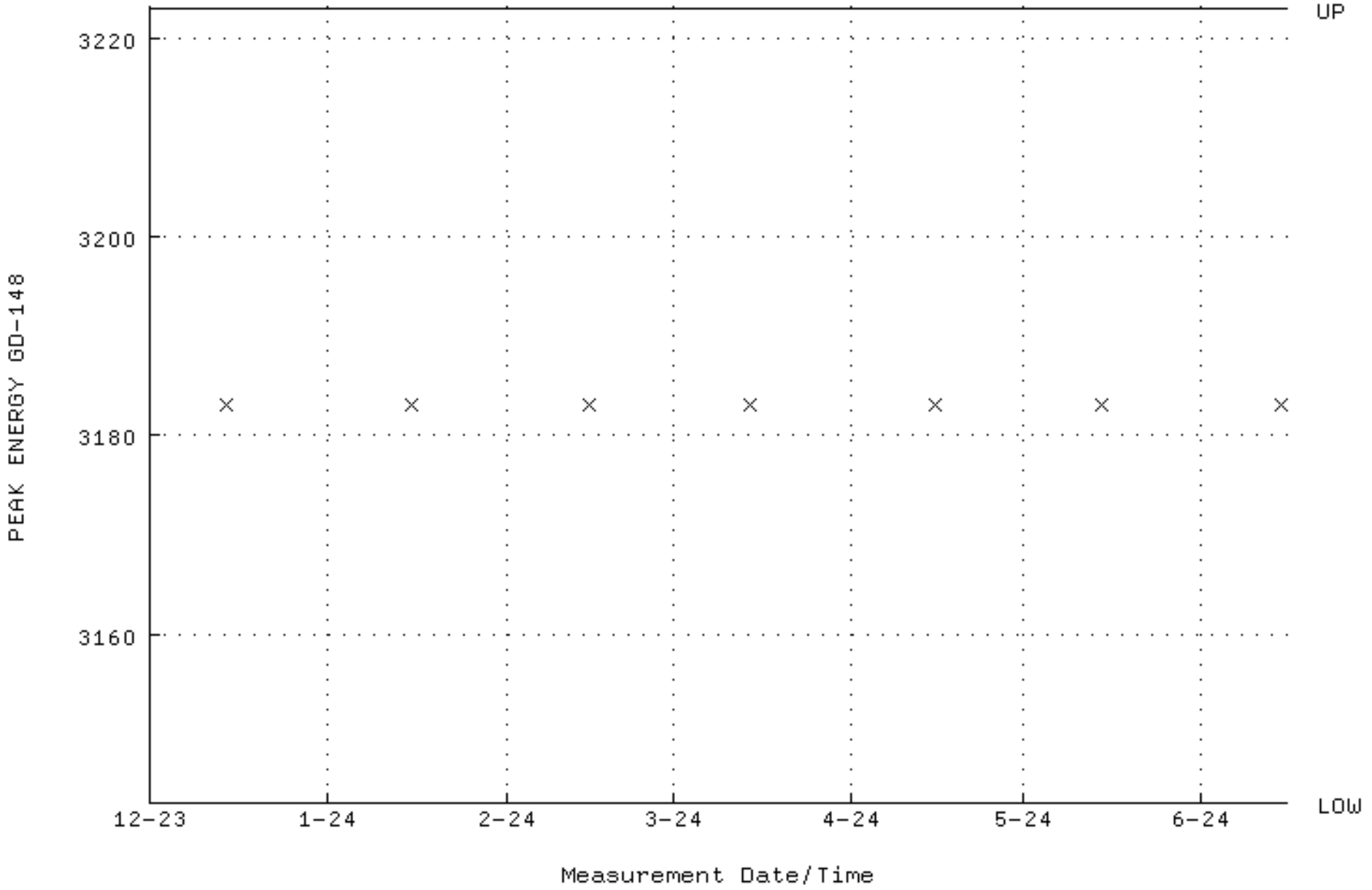
QA filename : DKA100:[ENV_ALPHA.QA.W]W158.QAF;4
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 14-DEC-2023 08:21:01 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 171.090 through 189.100



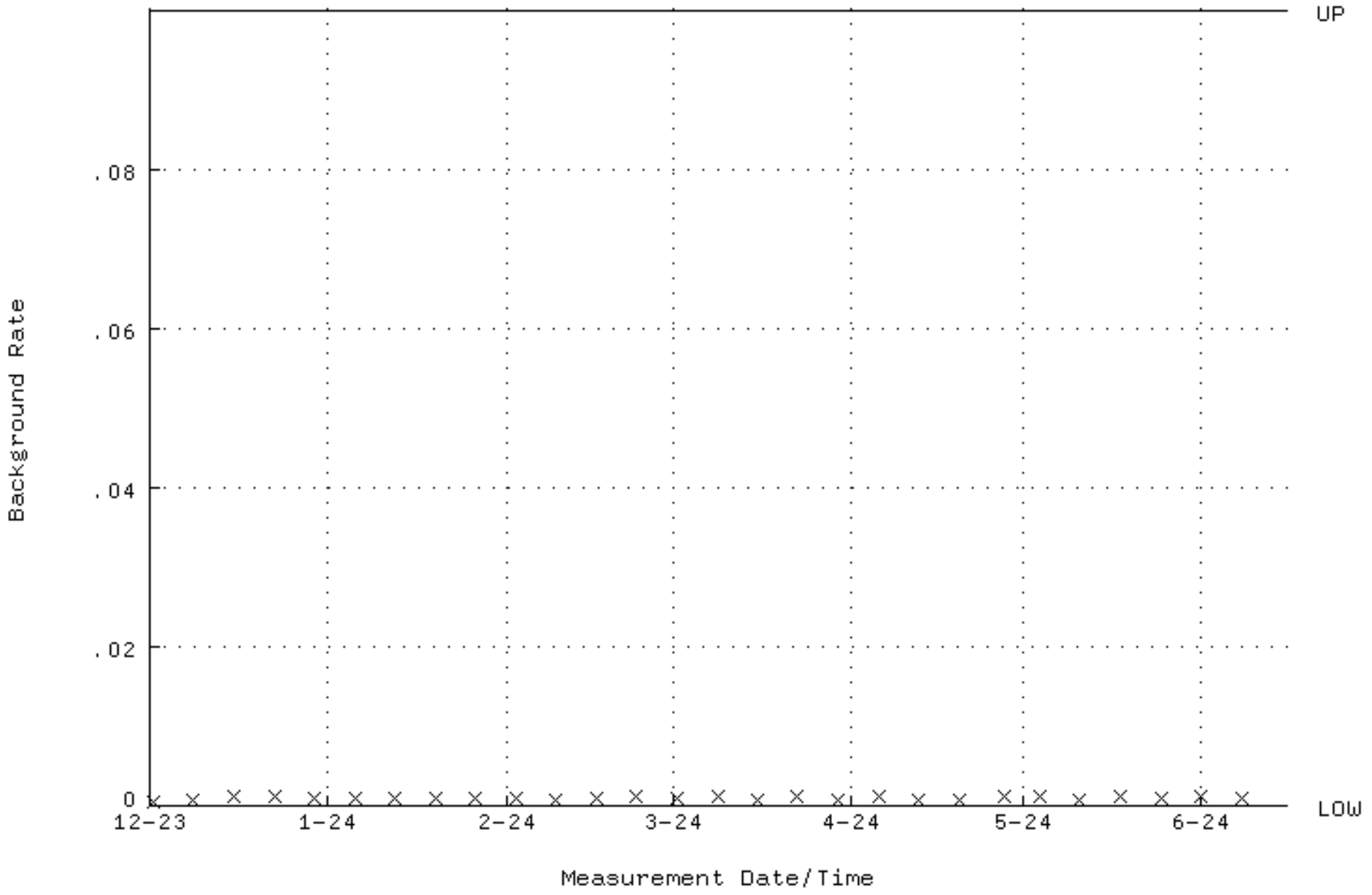
QA filename : DKA100:[ENV_ALPHA.QA.W]W158.QAF;4
Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 14-DEC-2023 08:21:01 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



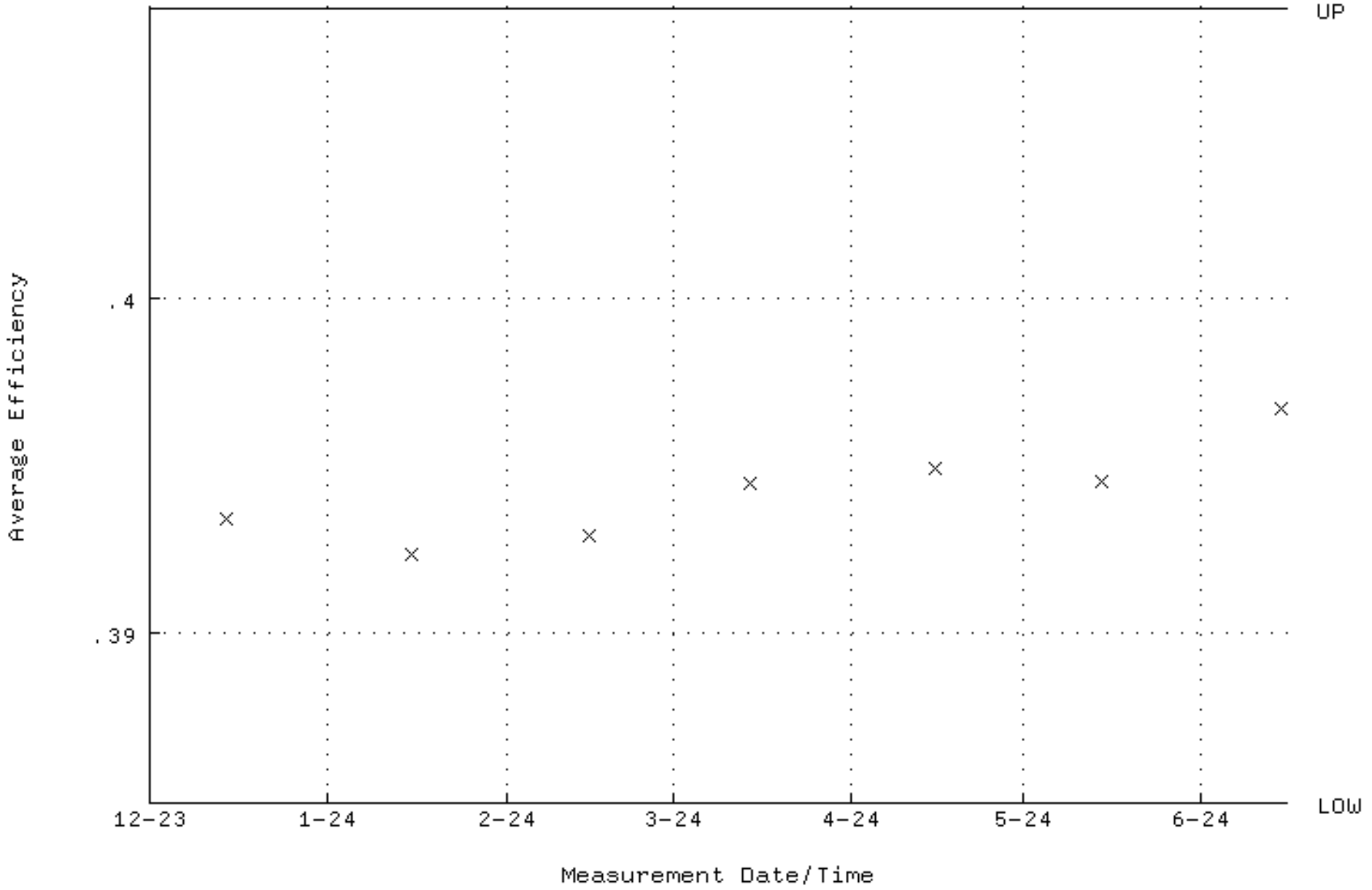
QA filename : DKA100:[ENV_ALPHA.QA.W]W158.QAF;4
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 14-DEC-2023 08:21:01 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00



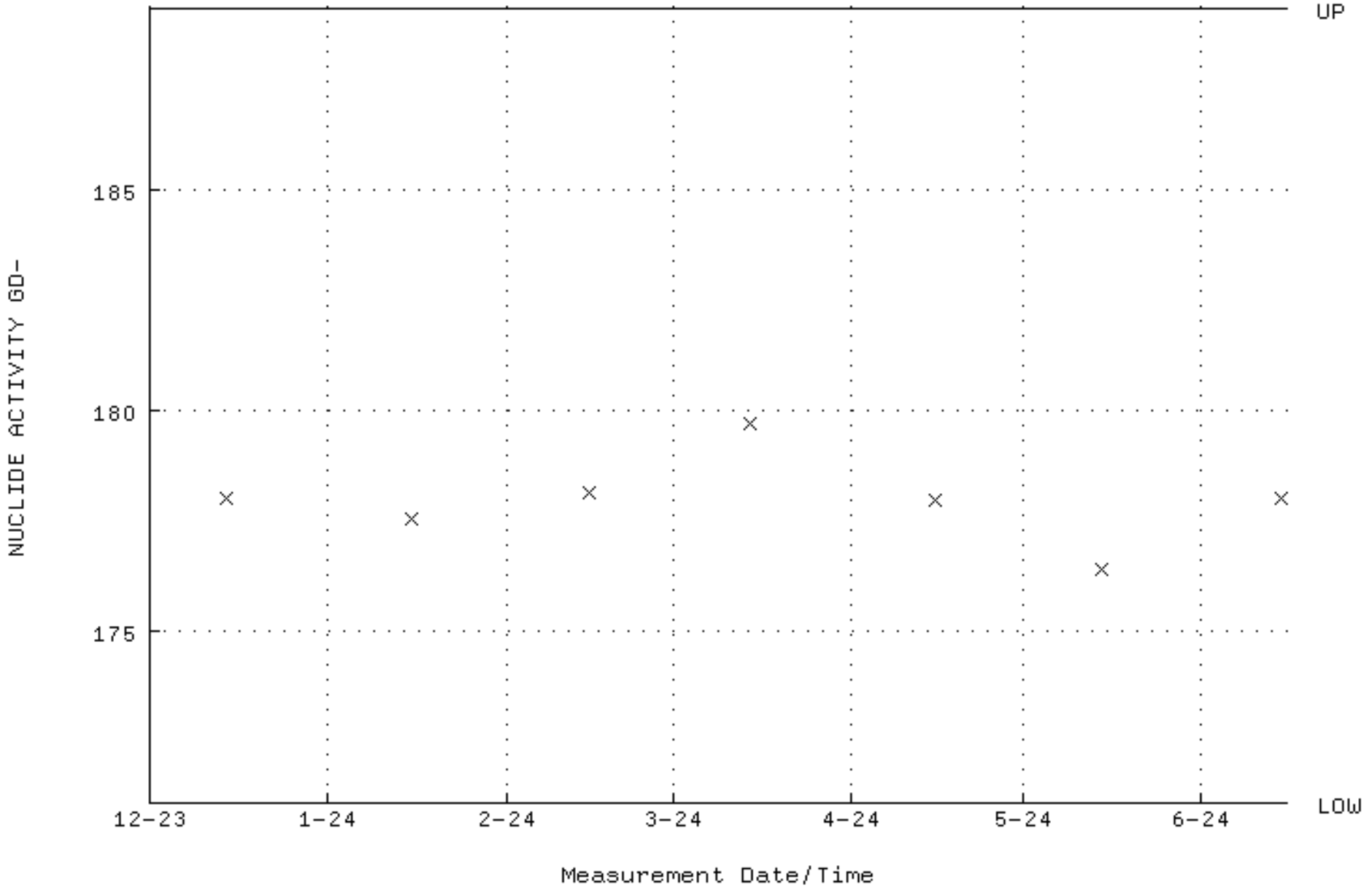
QA filename : DKA100:[ENV_ALPHA.QA.B]B158.QAF;4
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-DEC-2023 13:27:22 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



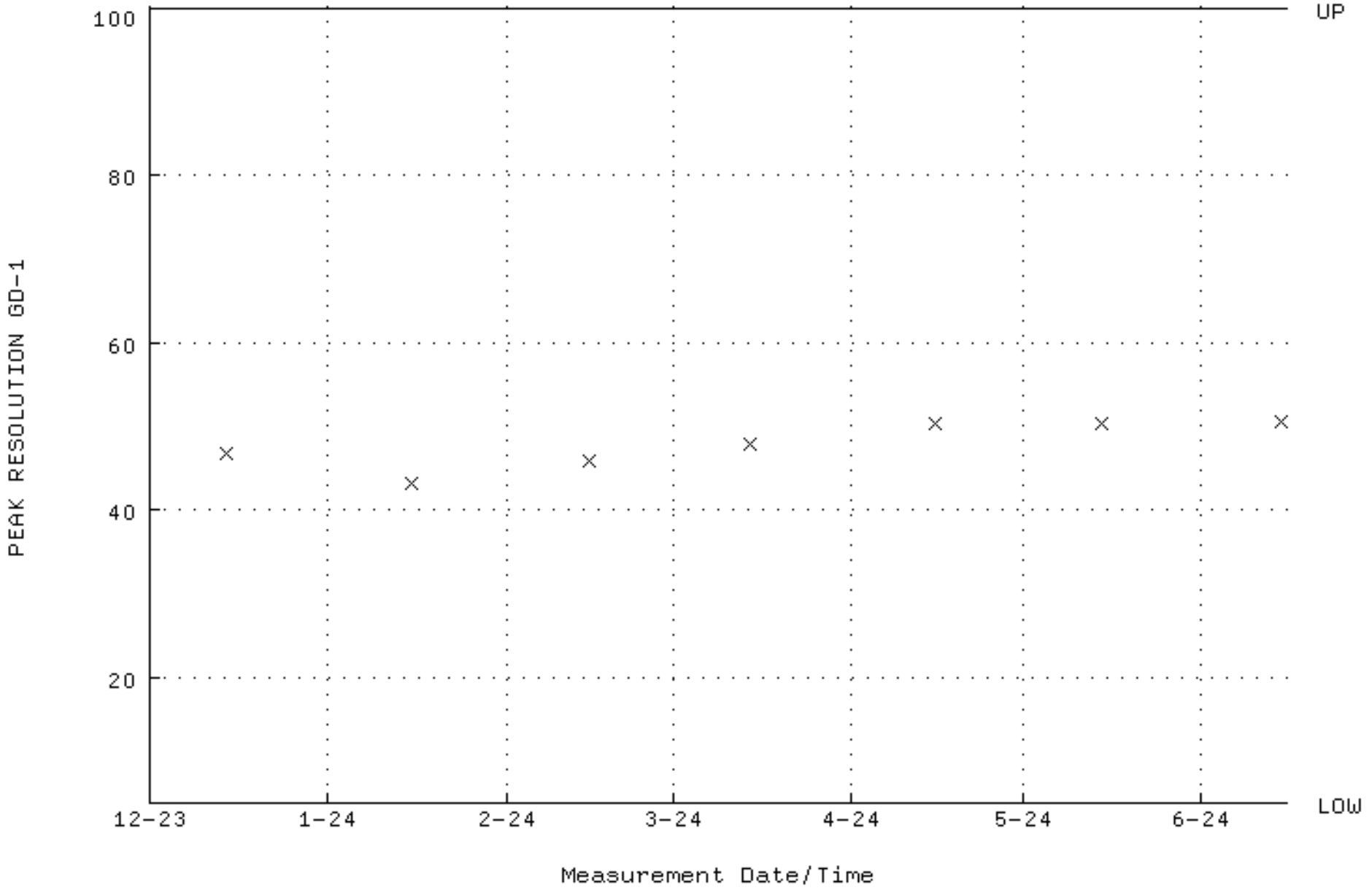
QA filename : DKA100:[ENV_ALPHA.QA.W]W159.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 14-DEC-2023 09:14:52 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 0.384880 through 0.408680



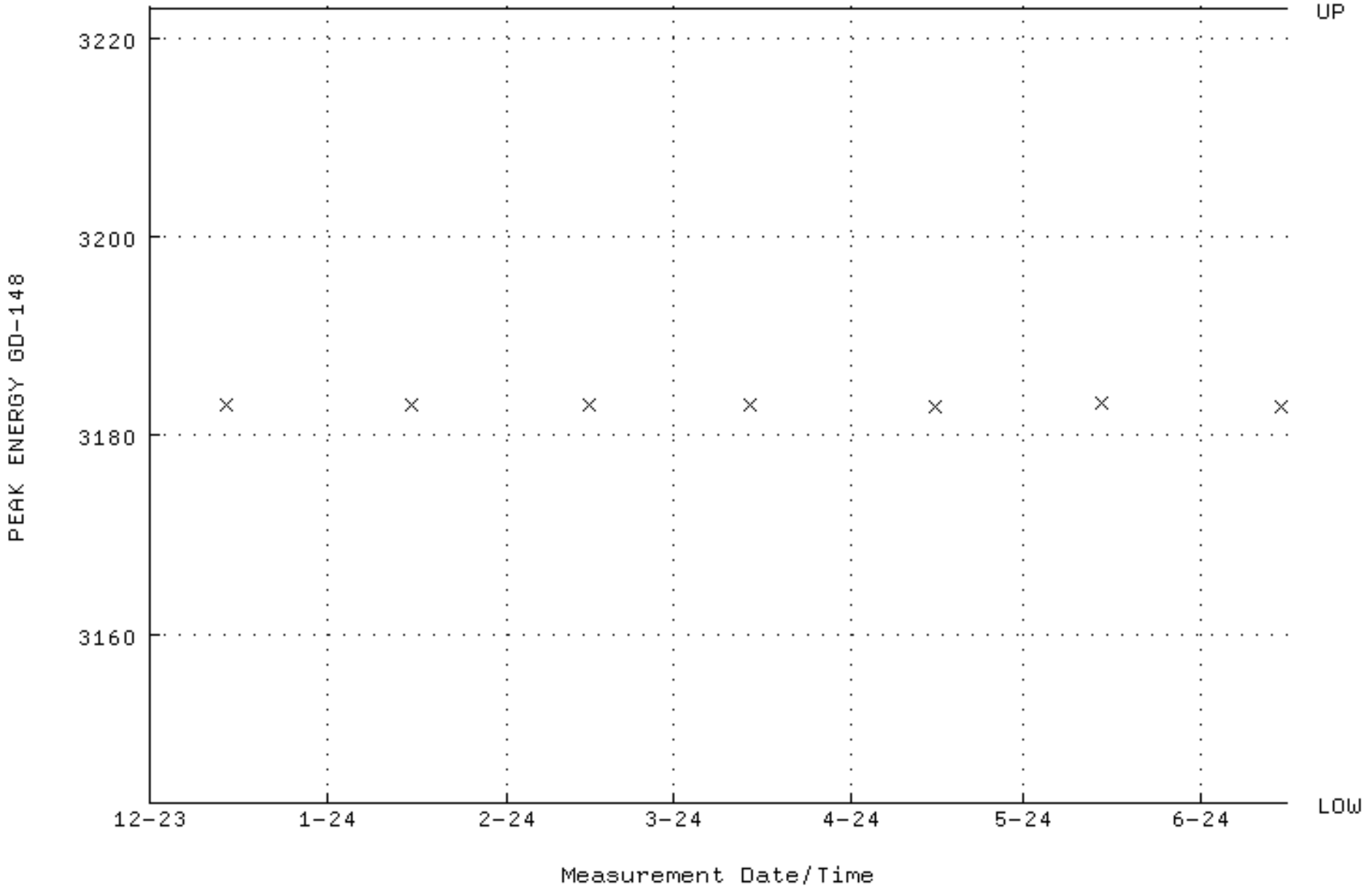
QA filename : DKA100:[ENV_ALPHA.QA.W]W159.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 14-DEC-2023 09:14:52 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 171.090 through 189.100



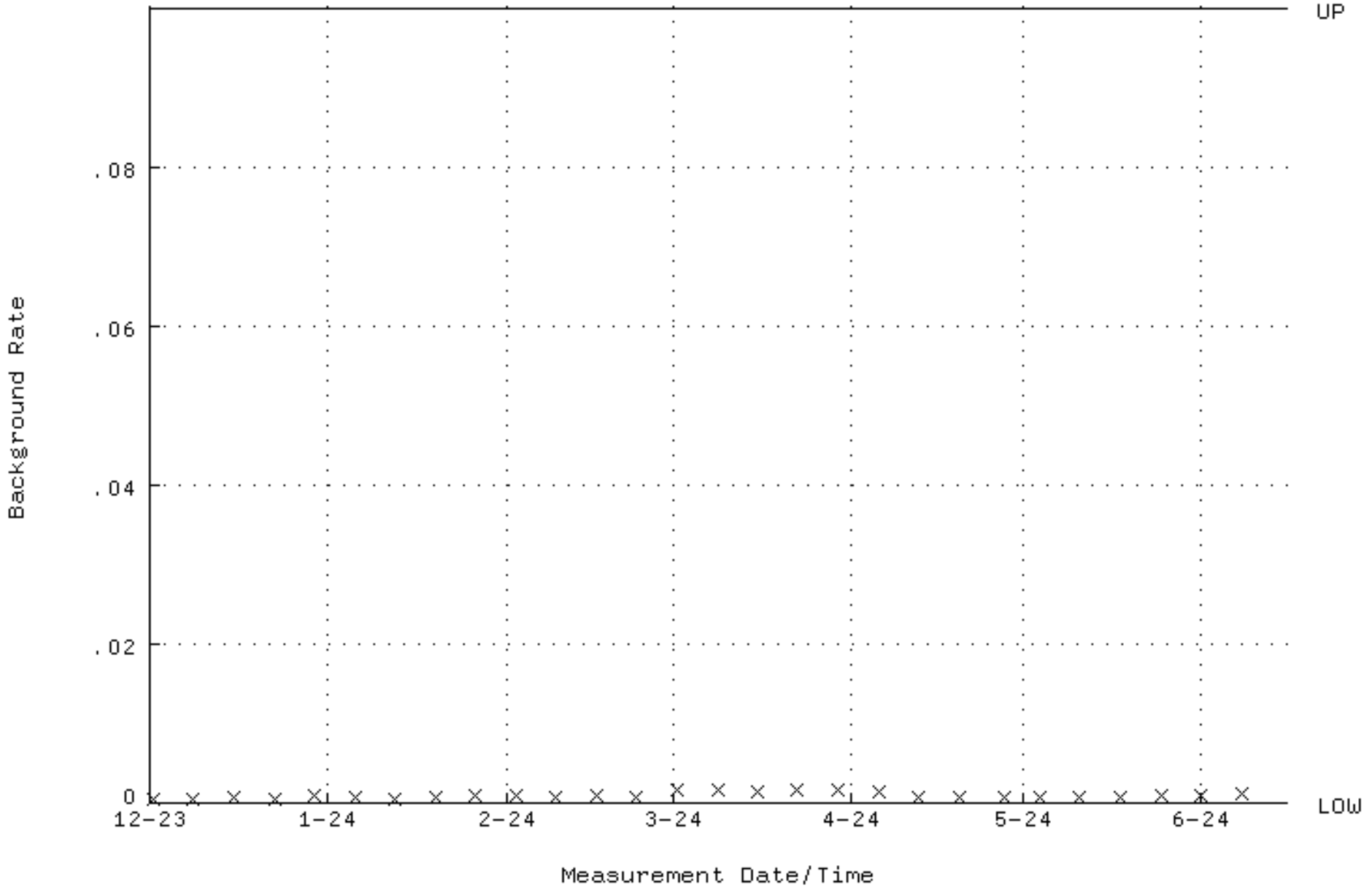
QA filename : DKA100:[ENV_ALPHA.QA.W]W159.QAF;3
Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 14-DEC-2023 09:14:52 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



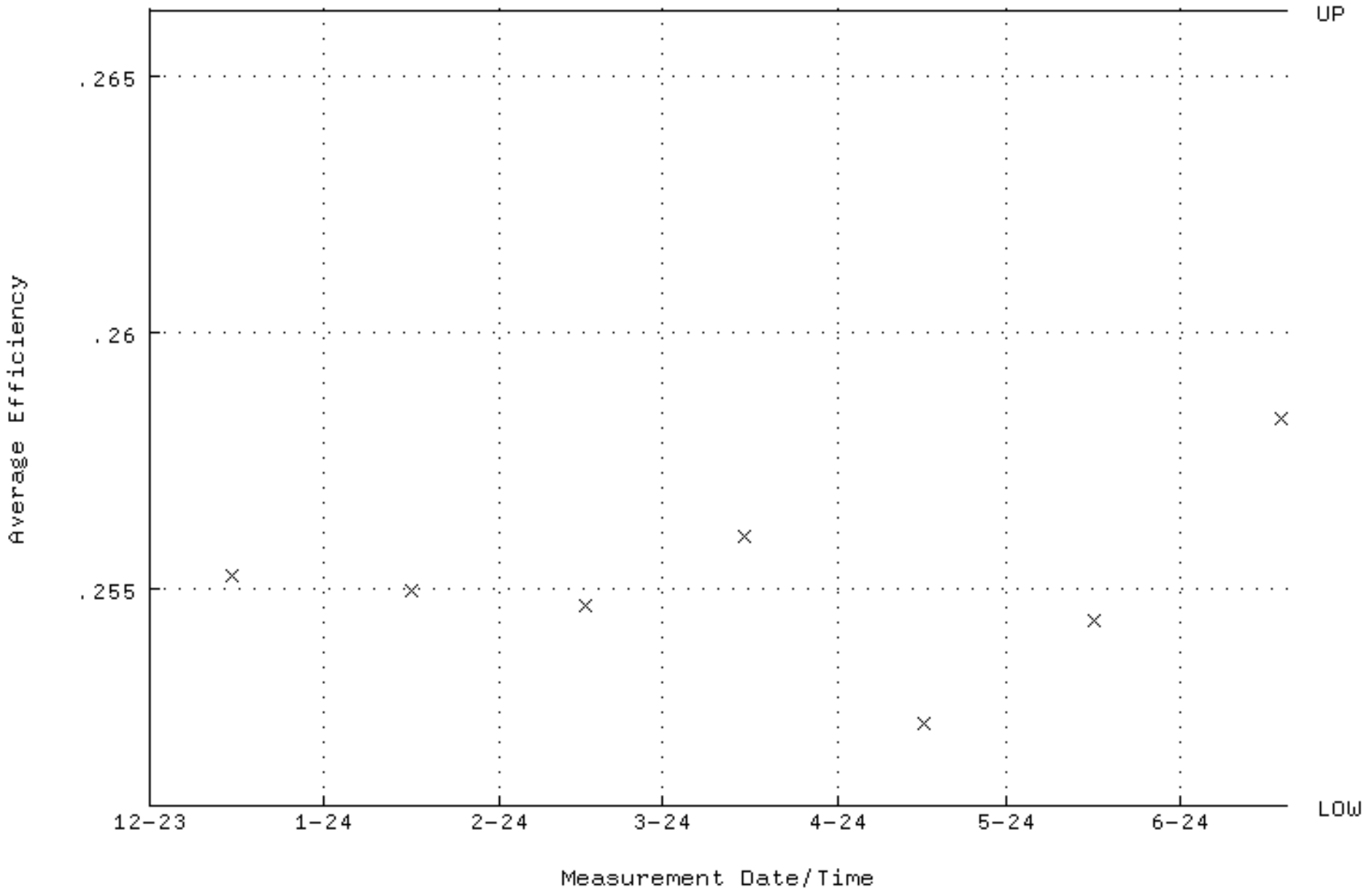
QA filename : DKA100:[ENV_ALPHA.QA.W]W159.QAF;3
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 14-DEC-2023 09:14:52 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00



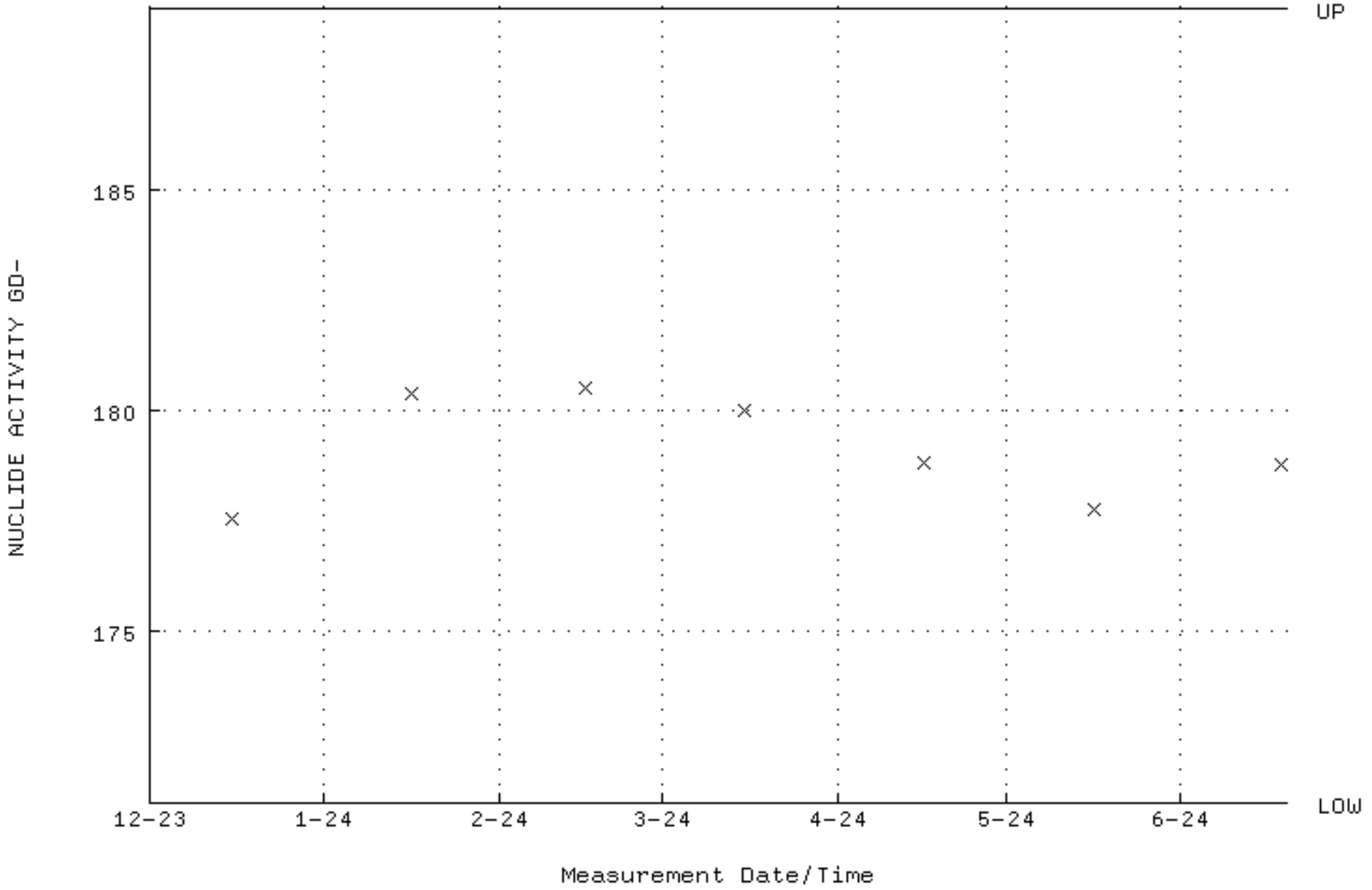
QA filename : DKA100:[ENV_ALPHA.QA.B]B159.QAF;4
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-DEC-2023 13:27:27 through 15-JUN-2024 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



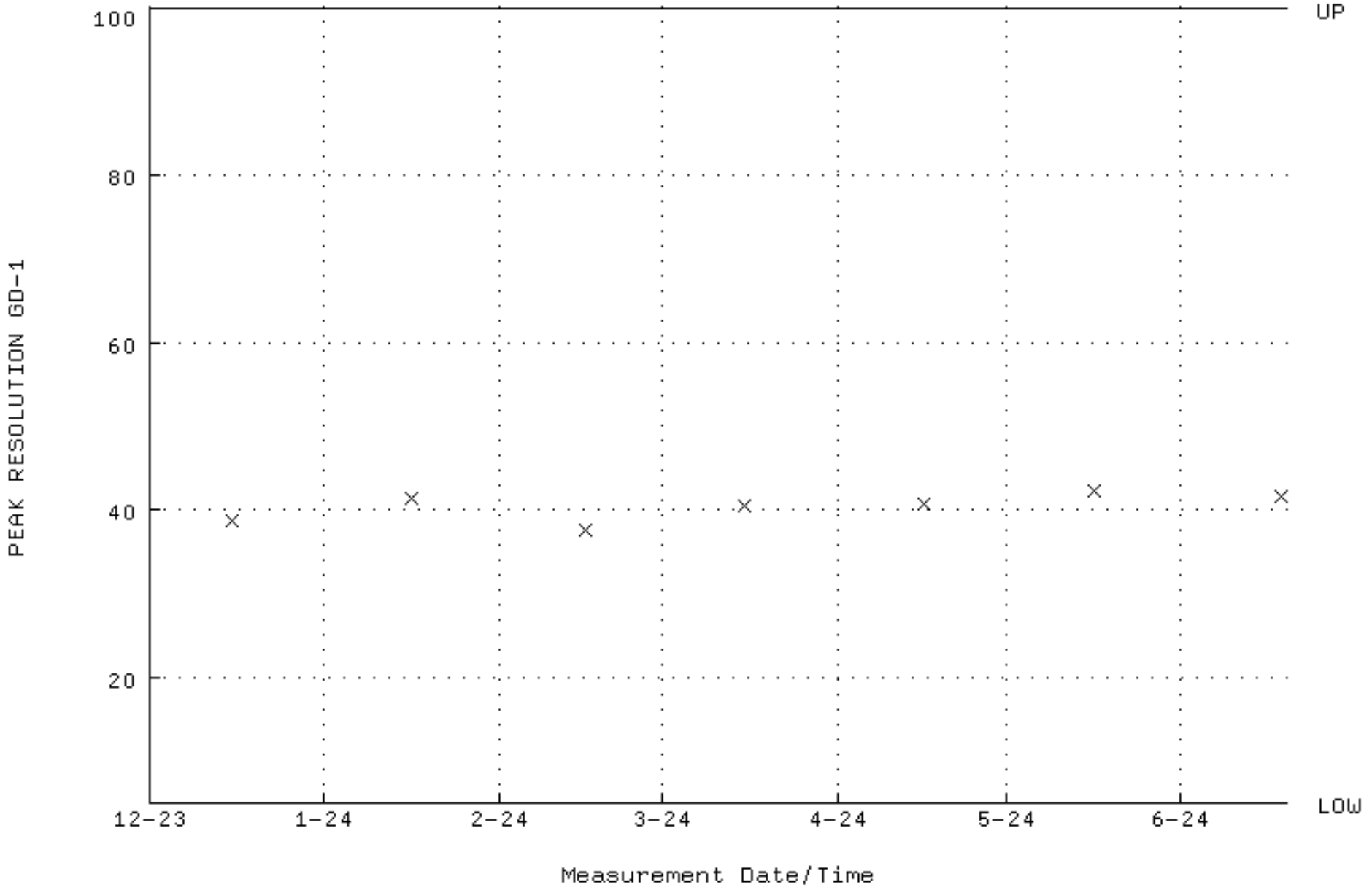
QA filename : DKA100:[ENV_ALPHA.QA.W]W166.QAF;6
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 15-DEC-2023 10:09:21 through 19-JUN-2024 12:00:00
Lower/Upper Lmts: 0.250770 through 0.266280



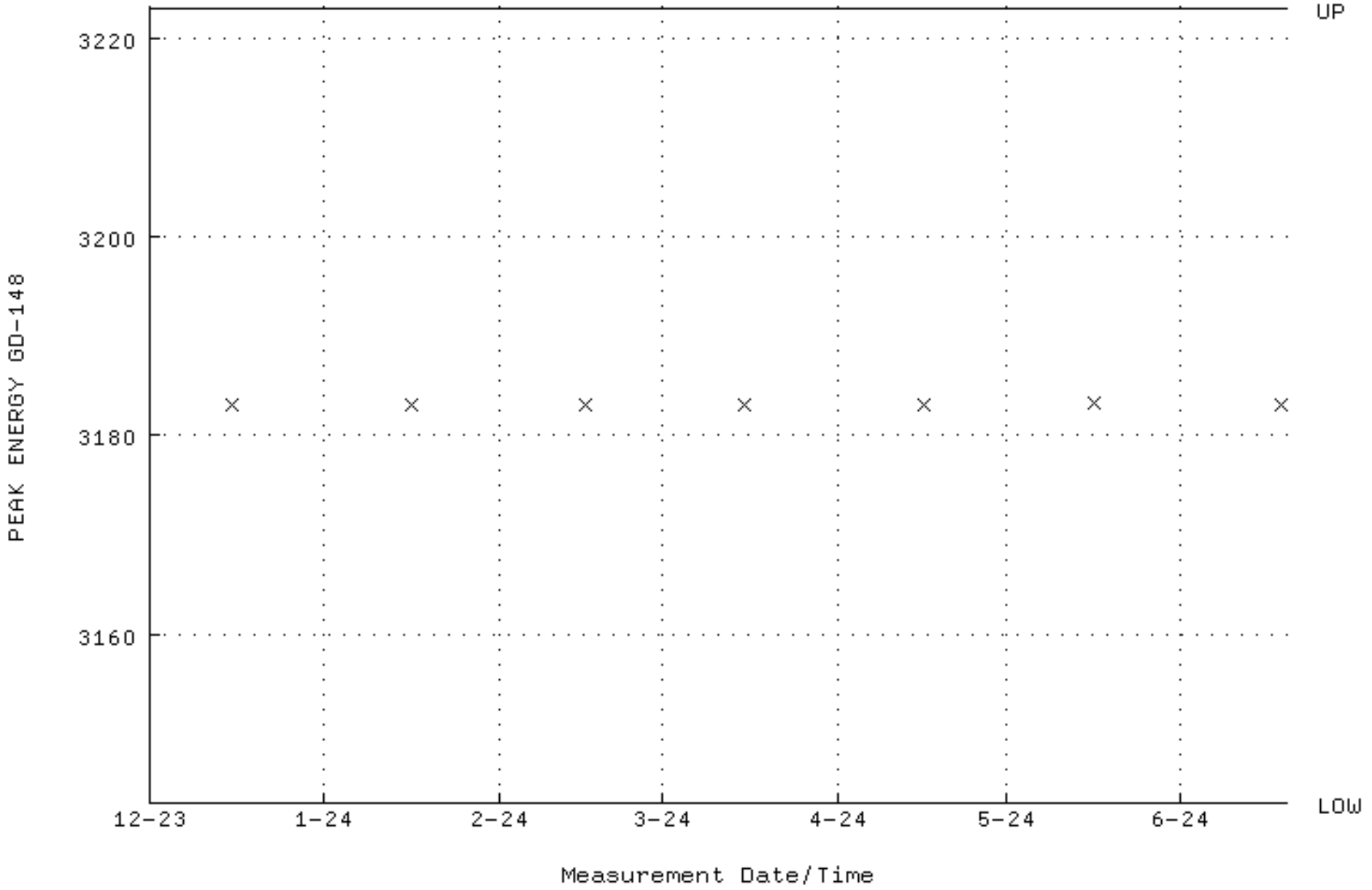
QA filename : DKA100:[ENV_ALPHA.QA.W]W166.QAF;6
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 15-DEC-2023 10:09:21 through 19-JUN-2024 12:00:00
Lower/Upper Lmts: 171.090 through 189.100



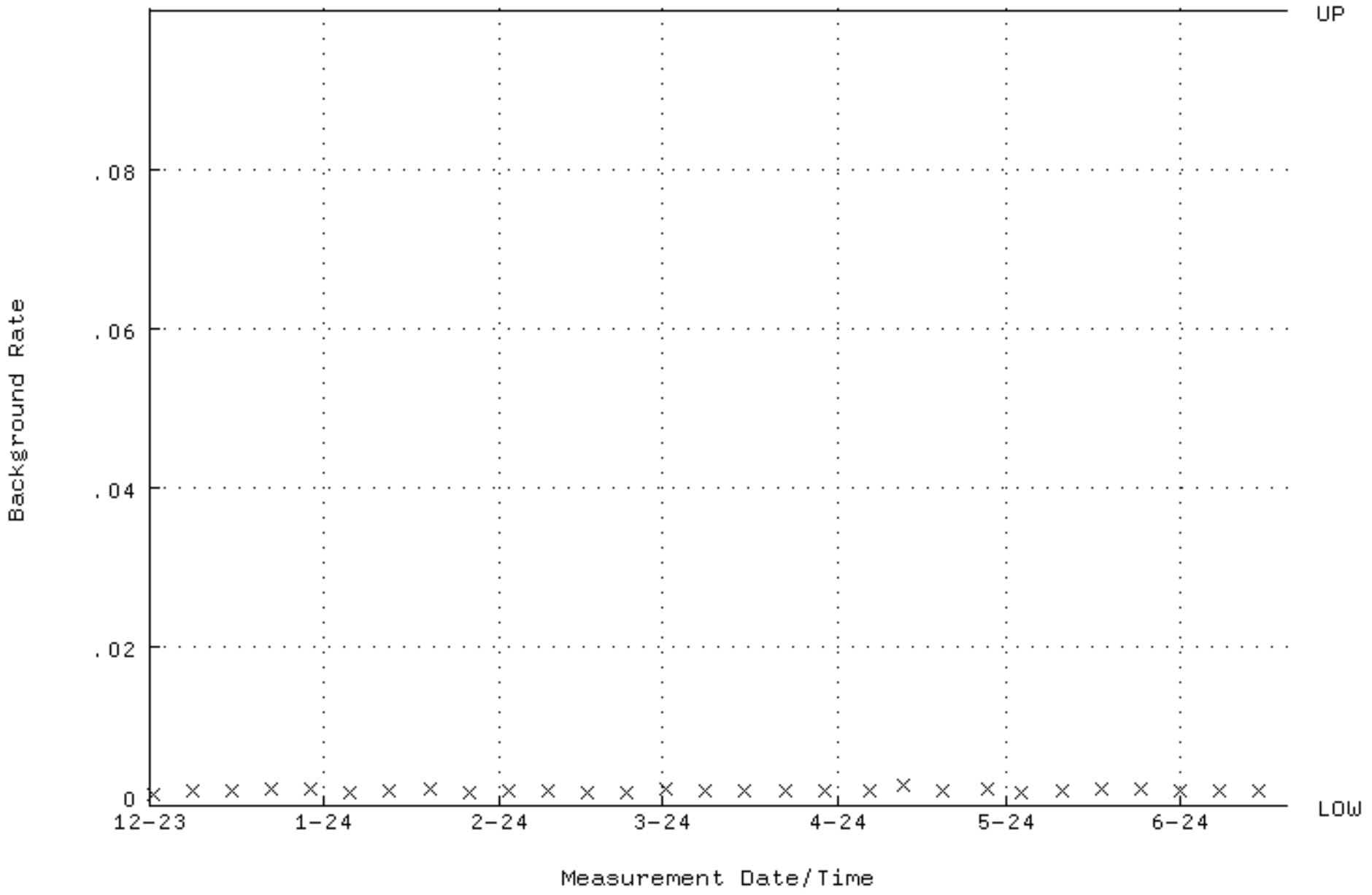
QA filename : DKA100:[ENV_ALPHA.QA.W]W166.QAF;6
Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 15-DEC-2023 10:09:21 through 19-JUN-2024 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



QA filename : DKA100:[ENV_ALPHA.QA.W]W166.QAF;6
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 15-DEC-2023 10:09:21 through 19-JUN-2024 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00



QA filename : DKA100:[ENV_ALPHA.QA.B]B166.QAF;5
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-DEC-2023 13:28:04 through 19-JUN-2024 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



RAD Standards Traceability

Eckert & Ziegler

Analytics

1845

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404·352·8677
Fax 404·352·2837
www.ezag.com

Received: 12-1-17 12:00

CERTIFICATE OF CALIBRATION

Standard Reference Source

SRS Number: 108018
Source Description: 5 mL Liquid in Flame Sealed Ampoule
Product Code: 8229
Customer: GEL Laboratories LLC
P.O. Number: GEL1718798, Item 1

This standard radionuclide source was prepared gravimetrically from a master solution calibrated by Eckert & Ziegler Analytics (EZA). The master solution was calibrated by liquid scintillation counting. Radionuclide calibration and purity were checked by germanium gamma-ray spectrometry, liquid scintillation counting, and/or alpha spectrometry, as applicable. The nuclear decay rate and reference date for this source are given below. EZA maintains traceability to the National Institute of Standards and Technology (NIST) through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Revision 2, July 2007, and compliance with ANSI N42.22-1995, "Traceability of Radioactive Sources to NIST."

Reference Date: 29-November-2017 12:00 PM EST

Isotope	Half-Life, d	Activity, Bq	Uncertainty u_A, %	Uncertainty u_B, %	Uncertainty U, %*	Calibration Method**
Th-229	2.897E+06	1.999E+04	0.5	1.5	3.1	4π LS

***Uncertainty:** U - Relative expanded uncertainty, k = 2. See NIST Technical Note 1297, "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results." ****Calibration Methods:** 4π LS - 4π Liquid Scintillation Counting, HPGe - High Purity Germanium Gamma-Ray Spectrometer, IC - Ionization Chamber.

(Certificate continued on reverse side)

Corporate Office
24937 Avenue Tibbitts Valencia, California 91355

Laboratory

SRS Number: 108018

Comments:

5.21561 g of 0.5 M HNO_3 solution, carrier free.

Impurities:

γ-impurities (other than decay products) < 0.1%

α-impurities: Th-228 6.6E+00 Bq, Th-230 1.2E+02 Bq, Th-232 8.0E+00 Bq

This source was wipe tested in its inactive areas with leak test results < 185 Bq (5 nCi) of removable activity per ISO 9978:1992.

Source Prepared by: _____

K. Hardley, Radiochemist

QC Approved by: _____ Date: 27-Nov-17

J. Lahr, Spectroscopist

Standard Logbook

Serial ID:	1845	**Open/Reference Date:**	29-NOV-17	**Aliquot :**	5.21561 g
Name:	Thorium-229	**Received:**	01-DEC-17	**Density :**	Hand Calculated
Type:	Source Material	**Expires:**	01-DEC-18	**Logbook Num :**	GL-CED-297-138
Employee:	Tim Chandler			**Lot Number :**	108018
Supplier:	Eckert & Ziegler			**Solvent :**	0.5M HNO3
				Uncertainty :	1.55 percent

Description: 1 ampoule

Comments: None

Analyte	Concentration	Analyte	Concentration
Thorium-229	19990 Bq		

Standard Traceability Log Rad

Source Material Info	
Parent Code:	1845
Prepared By:	Tim Chandler
Carrier Conc:	0.5M HNO3
Reference Date:	11/29/2017
Ampoule Mass (g):	5.21561 g
Uncertainty:	+/- 1.55 %
LogBook No:	GL-CED-297-138
Supplier:	Eckert & Ziegler

A Solution Material Info			
Isotope:	Thorium-229		
Prepared By:	Tim Chandler		
Prep Date:	06/08/2018		
Verification Date:	03/04/2024		
Expiration Date:	03/04/2025		
Primary Code:	1845-A		
Dilution(mL):	100 mL		
Mass of Parent(g):	5.1906 g		
Density(g/mL):	1.0291	Balance ID:	B733529066

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(5.1906 g) * (19990 Bq) * (60 dpm/Bq) / (5.21561 g * 100 mL) = 11936.4861 dpm/mL
(5.1906 g) * (19990 Bq) * (60 dpm/Bq) / (1.0291 g/mL)/ (5.21561 g * 100 mL) = 11598.7987 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
06/08/2018	Tim Chandler	2.0385	1000	1845-B	23.6442 dpm/mL	06/01/2020	06/01/2021
07/10/2019	Tim Chandler	4.0198	1000	1845-C	46.62485 dpm/mL	07/07/2020	07/07/2021
10/26/2020	Tim Chandler	4.0184	1000	1845-D	46.6086 dpm/mL	10/27/2020	10/27/2021
04/23/2021	Tim Chandler	4.2911	1000	1845-E	49.7716 dpm/mL	04/26/2021	04/26/2022
11/10/2021	Matelon DeFreese	4.211	1000	1845-F	48.8425 dpm/mL	11/10/2021	11/10/2022
05/11/2022	Matelon DeFreese	4.1951	1000	1845-G	48.6581 dpm/mL	05/12/2022	05/11/2023
01/11/2023	Matelon DeFreese	4.1664	1000	1845-H	48.3252 dpm/mL	01/11/2023	01/11/2024
06/27/2023	Matelon DeFreese	4.1464	1000	1845-I	48.093259 dpm/mL	06/27/2023	06/27/2024
03/04/2024	Matelon DeFreese	4.1756	1000	1845-J	48.4319439 dpm/mL	03/04/2024	03/04/2025
01/11/2023	Tim Chandler	4.1664	1000	2073-A	48.3252 dpm/mL	01/11/2023	01/11/2024
01/11/2023	Tim Chandler	4.1664	1000	2074-A	48.3252 dpm/mL	01/11/2023	01/11/2024

Verification for Th-229 Standard 1845-J

v1.2

Analyst	MXS2
Verification Prep Date	3/4/2024

Tracer Information	
Isotope	Th-232
Serial Number	1513-J
Amount of Std. (mL)	0.2
Expiration Date	4/25/2024

Standard Information	
Isotope	Th-229
Serial Number	1845-J
Isotope Halflife	7.3400E+03 Y
Reference Date	11/29/2017
Ref. Act. (dpm/mL)	48.4319439
Amount of Std. (mL)	0.2
Standard Prep Date	3/4/2024

Std #	Count Date	Activity pCi	Standard dpm/mL
1	3/4/2024	4.580	50.84
2	3/4/2024	4.470	49.62
3	3/4/2024	4.430	49.17
Mean Value =		4.493	49.876
Stdev =		0.077674535	0.862187335

	pCi	dpm/mL
Certificate Value* =	**4.3607**	**48.4033**
Two sigma =	0.1553	1.7244
10 % of Mean =	0.4493	4.9876
Rule A (Pass/Fail)	**Pass**	**Pass**
% Recovery	103.04%	103.04%
Rule B (Pass/Fail)	**Pass**	**Pass**
Expiration Date	**3/4/2025**	

Verification Rules

Rule A = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule B = The determined mean value shall be within 5% of the certificate value.

*** Certificate Value is decay corrected to Verification Prep Date.**

The analyst prepared three standard verification sources for Th-229 standard 1845-J using 0.2 mL for each source. Each standard was combined with 0.2 mL of Th-232 standard 1513-J and was diluted in a centrifuge tube containing 4 mL 2M HCl, diluted to 40 mL with DI water. 0.1 mL of neodymium carrier and 5 mL of 48% HF was added to precipitate neodymium (and Thorium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Th-229 were calculated by comparison to Th-232 certified values.

8/12/24

Eckert & Ziegler
Isotope Products

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661•309•1010
Fax 661•257•8303

~~1506~~ 1513
BR 11/30/10

RECEIVED
10/14/10 23
21

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOLUTION

Radionuclide:	Th-232	**Customer:**	GEL LABORATORIES, LLC
Half-life:	(1.405 ± 0.006)E+10 years	**P.O. No.:**	7347RD
Catalog No.:	7232	**Reference Date:**	1-Nov-10 12:00 PST
Source No.:	1451-62	**Contained Radioactivity: (Th-232 only)**	50.26 **nCi** 1860 **Bq**

Physical Description:

A. Mass of solution:	5.73256 g in 5 mL flame-sealed ampoule
B. Chemical form:	$Th(NO_3)_4$ in H_2O
C. Carrier content:	None
D. Density:	1.15 g/mL @ 20°C

Radioimpurities:

Not determined

Radionuclide Concentration: 8.767 nCi/g, 324.4 Bq/g

Method of Calibration:

Activity calculations are based upon known specific activity and mass.

Uncertainty of Measurement:

A. Type A (random) uncertainty:	±	0.0	%
B. Type B (systematic) uncertainty:	±	3.0	%
C. Uncertainty in aliquot weighing:	±	0.0	%
D. Total uncertainty at the 99% confidence level:	±	3.0	%

Notes:

- See reverse side for leak test(s) performed on this source.
- EZIP participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (as in NRC Regulatory Guide 4.15).
- Nuclear data was taken from NCRP Report No. 58, 1985.
- This solution has a working life of 5 years.

David James Van Dalsem
Quality Control

15-OCT-10
Date

EZIP Ref. No.: 1451-62

RC-S-060-058

Standard Logbook

Serial ID:	1513	**Open/Reference Date:**	01-NOV-10	**Aliquot :**	5.73256 g
Name:	Thorium-232	**Received:**	21-OCT-10	**Density :**	Hand Calculated g/mL
Type:	Source Material	**Expires:**	30-NOV-11	**Logbook Num :**	RC-S-060-058
Employee:	Gregory Ramsay	**Verified:**	28-APR-11	**Lot Number :**	1451-62
Supplier:	Eckert & Ziegler			**Solvent :**	DI water
				Uncertainty :	1.172 PERCENT

Description: in water

Comments: None

Analyte	Concentration	Analyte	Concentration
Thorium-232	324.4 Bq/g		

Standard Traceability Log Rad

Source Material Info	
Parent Code:	1513
Prepared By:	Gregory Ramsay
Carrier Conc:	DI water
Reference Date:	11/01/2010
Ampoule Mass (g):	5.73256 g
Uncertainty:	+/- 1.172 %
LogBook No:	RC-S-060-058
Supplier:	Eckert & Ziegler

A Solution Material Info			
Isotope:	Thorium-232		
Prepared By:	Christina Kimball		
Prep Date:	04/19/2011		
Verification Date:	06/14/2024		
Expiration Date:	06/14/2025		
Primary Code:	1513-A		
Dilution(mL):	250 mL		
Mass of Parent(g):	5.672 g		
Density(g/mL):	1.0020	Balance ID:	60108592

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (Bq/g)) * (conversion dpm to Bq) / (Dilution Vol) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (Bq/g)) * (conversion dpm to Bq) / Density (g/mL)/ (Dilution Vol) = Parent Activity (dpm/g)
(5.672 g) * (324.4 Bq/g) * (60 dpm/Bq) / (250 mL) = 441.5992 dpm/mL
(5.672 g) * (324.4 Bq/g) * (60 dpm/Bq) / (1.0020 g/mL) / (250 mL) = 440.7354 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
04/19/2011	Christina Kimball	5.0665	100	1513-B	22.3299 dpm/mL	04/11/2013	04/11/2014
02/26/2014	Matelon DeFreese	100.0316	1000	1513-C	44.08747 dpm/mL	12/14/2022	12/14/2023
04/18/2014	Christina Kimball	5.0477	100	1513-D	22.247 dpm/mL	07/14/2023	07/14/2024
01/04/2016	Christina Kimball	.2487	100	1513-E	1.096117 dpm/mL	02/11/2020	02/11/2021
08/01/2016	Christina Kimball	2.053	250	1513-F	3.61932 dpm/mL	07/21/2023	07/21/2024
02/21/2020	Christina Kimball	.248	100	1513-G	1.093 dpm/mL	02/16/2023	02/16/2024
11/11/2022	Christina Kimball	.3	100	1513-H	1.3222 dpm/mL	11/14/2022	11/14/2023
12/13/2022	Christina Kimball	.23	100	1513-I	1.0137 dpm/mL	12/20/2023	12/20/2024
04/25/2023	Matelon DeFreese	25.022	250	1513-J	44.1123247 dpm/mL	04/20/2024	04/20/2025

06/16/2023	Christina Kimball	5.02	100	1513-K	22.1249 dpm/mL	06/21/2023	06/21/2024
06/10/2024	Matelon DeFreese	25.0217	250	1513-L	44.1117958 dpm/mL	06/14/2024	06/14/2025

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Th-232 Standard 1513-J

v1.2

Analyst	MXS2
Verification Prep Date	4/20/2024

Tracer Information	
Isotope	Th-229
Serial Number	1845-J
Amount of Std. (mL)	0.1
Expiration Date	3/4/2025

Standard Information	
Isotope	Th-232
Serial Number	1513-J
Isotope Halflife	1.4050E+10 Y
Reference Date	11/1/2010
Ref. Act. (dpm/mL)	44.1123247
Amount of Std. (mL)	0.1
Standard Prep Date	4/25/2023

Std #	Count Date	Activity pCi	Standard dpm/mL
1	4/21/2024	1.990	44.18
2	4/21/2024	2.020	44.84
3	4/21/2024	2.010	44.62
Mean Value =		2.007	44.548
Stdev =		0.015275252	0.339110601

	pCi	dpm/mL
Certificate Value* =	**1.9870**	**44.1123**
Two sigma =	0.0306	0.6782
10 % of Mean =	0.2007	4.4548
Rule A (Pass/Fail)	**Pass**	**Pass**
% Recovery	100.99%	100.99%
Rule B (Pass/Fail)	**Pass**	**Pass**
Expiration Date	**4/20/2025**	

Verification Rules

Rule A = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule B = The determined mean value shall be within 5% of the certificate value.

*** Certificate Value is decay corrected to Verification Prep Date.**

The analyst prepared three standard verification sources for Th-232 standard 1513-J using 0.1 mL for each source. Each standard was combined with 0.1 mL of Th-229 standard 1845-J and was diluted in a centrifuge tube containing 4 mL 2M HCl, diluted to 40 mL with DI water. 0.1 mL of neodymium carrier and 5 mL of 48% HF was added to precipitate neodymium (and Thorium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Th-232 were calculated by comparison to Th-229 certified values.

1564

Eckert & Ziegler
Analytics

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404·352·8677
Fax 404·352·2837
www.analyticsinc.com

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

85621-278
5 mL Liquid in Flame Sealed Vial

Customer: General Engineering Labs/Charleston, SC
P.O. No.: 936814RD, Item 1

This standard radionuclide source was prepared gravimetrically from a master solution, calibrated by the Department Des Applications Et De La Metrologie Des Rayonnements Ionisants (DAMRI), Paris, France. Radionuclide purity and calibration were checked by germanium gamma-ray spectrometry. The nuclear decay rate and reference date for this source are given below. Eckert & Ziegler Analytics (EZA) maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Revision 1, February, 1979, and compliance with ANSI N42.22-1995, "Traceability of Radioactive Sources to NIST." EZA is accredited by the Health Physics Society (HPS) for the production of NIST-traceable sources, and this source was produced in accordance with the HPS accreditation requirements. Customers may report any concerns with the accreditation program to the HPS Secretariat, 1313 Dolley Madison Blvd., Ste. 402, McLean, VA 22101.

Isotope	Half-Life, Days	Activity (Bq)	Uncertainty* , % Type u_A	u_B	U	Reference Date (12:00 PM EST)
U-232	2.517E+04	3.393E+04	0.5	2.4	4.9	09/12/2011

***Uncertainty:** U - Relative expanded uncertainty, k = 2. See NIST Technical Note 1297, "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results."

Comments:
Impurities: γ-impurities (other than decay products) < 0.1 %, U-233 < 1.20E2 Bq, Am-241 < 5.8E1 Bq. 5.06048 grams 2M HNO3 solution.

Source Prepared by: M I Taskaeva
M. I. Taskaeva, Radiochemist

QA Approved:
J. D. McCorvey, QA Manager Alternate

Date: 9/12/11

RECEIVED 9/14/11 KM

ACCREDITED SOURCE CALIBRATION LABORATORY — HEALTH PHYSICS SOCIETY — FOUNDED 1956

ANA Form005 Rev. ---

Single Isotope Certificate, Rev 1 9/28/2009

Corporate Office
24937 Avenue Tibbitts Valencia, California 91355

Laboratory
1380 Seaboard Industrial Blvd. Atlanta, Georgia, 30318

Standard Logbook

Serial ID:	1564	**Open/Reference Date:**	12-SEP-11	**Aliquot :**	5.06048 g
Name:	Uranium-232	**Received:**	14-SEP-11	**Density :**	Hand Calculated
Type:	Source Material	**Expires:**	26-SEP-14	**Logbook Num :**	RC-S-060-109
Employee:	Ashley Drochter			**Lot Number :**	85621-278
Supplier:	Eckert & Ziegler			**Solvent :**	2M HNO3
				Uncertainty :	2.45 percent

Description: Ampoule

Comments: None

Analyte	Concentration	Analyte	Concentration
Uranium-232	33930 Bq		

Standard Traceability Log Rad

Source Material Info	
Parent Code:	1564
Prepared By:	Ashley Drochter
Carrier Conc:	2M HNO3
Reference Date:	09/12/2011
Ampoule Mass (g):	5.06048 g
Uncertainty:	+/- 2.45 %
LogBook No:	RC-S-060-109
Supplier:	Eckert & Ziegler

A Solution Material Info			
Isotope:	Uranium-232		
Prepared By:	Ashley Drochter		
Prep Date:	11/15/2012		
Verification Date:	10/10/2023		
Expiration Date:	10/10/2024		
Primary Code:	1564-A		
Dilution(mL):	100 mL		
Mass of Parent(g):	4.9067 g		
Density(g/mL):	1.0615	Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(4.9067 g) * (33930 Bq) * (60 dpm/Bq) / (5.06048 g * 100 mL) = 19739.3525 dpm/mL
(4.9067 g) * (33930 Bq) * (60 dpm/Bq) / (1.0615 g/mL)/ (5.06048 g * 100 mL) = 18595.7160 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
11/16/2012	Ashley Drochter	2.6179	1000	1564-B	48.6817 dpm/mL	11/13/2013	11/13/2014
07/26/2021	Christina Kimball	.635	500	1564-BB	23.6166 dpm/mL	07/21/2022	07/21/2023
07/26/2021	Christina Kimball	.635	500	1564-BB Spike	23.6166 dpm/mL	07/21/2022	07/21/2023
01/15/2013	Christina Kimball	.265	250	1564-C	19.7115 dpm/mL	01/13/2014	01/13/2015
12/14/2021	Tim Chandler	2.6412	1000	1564-CC	49.115 dpm/mL	12/15/2021	12/15/2022
02/18/2013	Christina Kimball	.116	500	1564-D	4.31421 dpm/mL	02/16/2015	02/13/2016
04/13/2022	Matelon DeFreese	2.7103	1000	1564-DD	50.4 dpm/mL	04/13/2022	04/13/2023
01/02/2014	Gregory Ramsay	2.6936	1000	1564-E	50.08942 dpm/mL	12/10/2014	12/10/2015
09/21/2022	Tim Chandler	2.6897	1000	1564-EE	50.0169 dpm/mL	09/21/2022	09/21/2023

03/17/2014	Christina Kimball	.266	250	1564-F	19.78584 dpm/mL	03/25/2015	03/25/2016
12/27/2022	Christina Kimball	.61	500	1564-FF	22.6868 dpm/mL	12/01/2023	12/01/2024
12/27/2022	Christina Kimball	.61	500	1564-FF Spike	22.6868 dpm/mL	12/01/2023	12/01/2024
12/10/2014	Tim Chandler	2.6312	1000	1564-G	48.929 dpm/mL	12/10/2014	12/10/2015
01/19/2023	Matelon DeFreese	2.689	1000	1564-GG	50.0039 dpm/mL	01/20/2023	01/20/2024
07/20/2015	Christina Kimball	.266	250	1564-H	19.78584 dpm/mL	07/25/2016	07/25/2017
05/19/2023	Matelon DeFreese	2.685	1000	1564-HH	49.9294975 dpm/mL	05/19/2023	05/19/2024
11/23/2015	Tim Chandler	2.6117	1000	1564-I	48.5664 dpm/mL	11/23/2015	11/23/2016
10/09/2023	Matelon DeFreese	2.6864	1000	1564-II	49.9555315 dpm/mL	10/10/2023	10/10/2024
01/05/2016	Christina Kimball	.119	500	1564-J	4.4258 dpm/mL	12/27/2017	12/27/2018
01/05/2016	Christina Kimball	.119	500	1564-J Spike	4.4258 dpm/mL	12/27/2017	12/27/2018
04/03/2024	Matelon DeFreese	2.6968	1000	1564-JJ	50.1489269 dpm/mL	04/03/2024	04/03/2025
09/20/2016	Tim Chandler	2.6389	1000	1564-K	49.0722 dpm/mL	09/18/2017	09/18/2018
12/20/2016	Christina Kimball	.276	250	1564-L	20.52974 dpm/mL	12/21/2017	12/21/2018
06/20/2017	Tim Chandler	2.6611	1000	1564-M	49.4851 dpm/mL	06/19/2018	06/19/2019
01/18/2018	Tim Chandler	2.6367	1000	1564-N	49.0313 dpm/mL	04/25/2018	04/25/2019
04/25/2018	Tim Chandler	2.6505	1000	1564-O	49.2879 dpm/mL	04/25/2018	04/25/2019
08/06/2018	Christina Kimball	.106	500	1564-P	3.9423 dpm/mL	12/19/2019	12/19/2020
08/06/2018	Christina Kimball	.106	500	1564-P Spike	3.9423 dpm/mL	12/19/2019	12/19/2020
12/13/2018	Tim Chandler	2.6502	1000	1564-Q	49.2824 dpm/mL	12/13/2018	12/13/2019
01/08/2019	Christina Kimball	.29	250	1564-R	21.571 dpm/mL	01/08/2019	01/08/2020
01/08/2019	Christina Kimball	.29	250	1564-R Spike	21.571 dpm/mL	01/08/2019	01/08/2020
10/01/2019	Tim Chandler	2.6957	1000	1564-S	50.1285 dpm/mL	10/01/2019	10/01/2020

12/18/2019	Christina Kimball	.307	250	1564-T	22.83554 dpm/mL	12/19/2019	12/19/2020
12/18/2019	Christina Kimball	.307	250	1564-T Spike	22.83554 dpm/mL	12/19/2019	12/19/2020
03/31/2020	Tim Chandler	2.6645	1000	1564-U	49.5483 dpm/mL	03/31/2020	03/31/2021
08/14/2020	Christina Kimball	.111	500	1564-V	4.1282 dpm/mL	08/14/2020	08/14/2021
08/14/2020	Christina Kimball	.111	500	1564-V Spike	4.1282 dpm/mL	08/14/2020	08/14/2021
10/13/2020	Tim Chandler	2.6983	1000	1564-W	50.1768 dpm/mL	10/13/2020	10/13/2021
11/04/2020	Christina Kimball	.315	250	1564-X	23.4306 dpm/mL	11/04/2020	11/04/2021
11/04/2020	Christina Kimball	.315	250	1564-X Spike	23.4306 dpm/mL	11/04/2020	11/04/2021
03/19/2021	Matelon DeFreese	2.7599	1000	1564-Y	51.32232 dpm/mL	03/19/2021	03/19/2022
03/19/2021	Matelon DeFreese	2.7599	1000	1564-Z	51.32232 dpm/mL	03/20/2021	03/20/2022

Verification for U-232 Standard 1564-JJ

v1.2

Analyst	MXS2
Verification Prep Date	4/3/2024

Tracer Information	
Isotope	U-238
Serial Number	1600-P
Amount of Std. (mL)	0.2
Expiration Date	5/8/2024

Standard Information	
Isotope	U-232
Serial Number	1564-JJ
Isotope Halflife	68.9000 Y
Reference Date	9/12/2011
Ref. Act. (dpm/mL)	50.1489269
Amount of Std. (mL)	0.2
Standard Prep Date	4/3/2024

Std #	Count Date	Activity pCi	Standard dpm/mL
1	4/3/2024	3.880	43.07
2	4/3/2024	3.950	43.85
3	4/3/2024	3.920	43.51
Mean Value =		3.917	43.475
Stdev =		0.035118846	0.389819189

	pCi	dpm/mL
Certificate Value* =	**3.9817**	**44.1970**
Two sigma =	0.0702	0.7796
10 % of Mean =	0.3917	4.3475
Rule A (Pass/Fail)	**Pass**	**Pass**
% Recovery	98.37%	98.37%
Rule B (Pass/Fail)	**Pass**	**Pass**
Expiration Date	**4/3/2025**	

Verification Rules

Rule A = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule B = The determined mean value shall be within 5% of the certificate value.

*** Certificate Value is decay corrected to Verification Prep Date.**

The analyst prepared three standard verification sources for U-232 standard 1564-JJ using 0.2 mL for each source. Each standard was combined with 0.2 mL of U-238 standard 1600-P and was diluted in a centrifuge tube containing 15 mL 0.1M HCl and 25 mL of DI water. 0.1 mL of neodymium carrier, 0.5 mL of titanium (III) chloride, and 5 mL of 48% HF was added to precipitate neodymium (and Uranium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for U-232 were calculated by comparison to U-238 certified values.

9/18/24

Eckert & Ziegler
Isotope Products

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661·309·1010
Fax 661·257·8303

HE Rec'd 3/29/12 1600

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOLUTION

Radionuclide:	U-238 (Nat)	**Customer:**	GENERAL ENGINEERING LABS.
Half-life:	(4.468 ± 0.005)E+09 years	**P.O. No.:**	936823 RD
Catalog No.:	7338	**Reference Date:**	15-Apr-12 12:00 PST
Source No.:	1577-71-2	**Contained Radioactivity: (Total Uranium)**	1.023 µCi 37.85 kBq

Physical Description:

A. Mass of solution:	7.05210 g in 10 mL flame-sealed ampoule
B. Chemical form:	$UO_2(NO_3)_2$ in dilute HNO_3
C. Carrier content:	None
D. Density:	Approximately 1.41 g/mL @ 20°C

Radioimpurities:

See Technical Data Sheet

Radionuclide Concentration: 0.1451 µCi/g, 5.369 kBq/g

Method of Calibration:

Activity calculations are based upon known specific activity and mass.

Uncertainty of Measurement:

A. Type A (random) uncertainty:	± 0.0 %
B. Type B (systematic) uncertainty:	± 3.0 %
C. Uncertainty in aliquot weighing:	± 0.0 %
D. Total uncertainty at the 99% confidence level:	± 3.0 %

Notes:

- See reverse side for leak test(s) performed on this source.
- EZIP participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (as in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This solution has a working life of 5 years.

Daniel James Van Dalsem
Quality Control

21-Mar-12
Date

EZIP Ref. No.: 1577-71

RC-S-065-030a

Eckert & Ziegler
Isotope Products

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661·309·1010
Fax 661·257·8303

U-238 Natural Technical Data

The U-238 Natural used to prepare your order was taken from Eckert & Ziegler Isotope Products Lot #4550102
It had the following composition as of 9 Feb 10:

Nuclide	Atom %	Activity %
U-234	0.0055	49.086
U-235	0.7200	2.241
U-238	99.274	48.673

Isotopic composition provided by New Brunswick Laboratory.

If you have any question, please contact Eckert & Ziegler Isotope Products Technical Service: (661) 309-1010

Standard Logbook

Serial ID:	1600	**Open/Reference Date:**	15-APR-12	**Aliquot :**	7.0521 g
Name:	Uranium-238	**Received:**	24-MAR-12	**Density :**	Hand Calculated g/mL
Type:	Source Material	**Expires:**	26-MAR-15	**Logbook Num :**	RC-S-065-030
Employee:	Ashley Drochter			**Lot Number :**	4550102
Supplier:	Eckert & Ziegler			**Solvent :**	UO2(NO3)2 in dilute HNO3
				Uncertainty :	1.17 percent

Description: Ampoule

Comments: None

Analyte	Concentration	Analyte	Concentration
Uranium-238	18.42 kbq		

Standard Traceability Log Rad

Source Material Info	
Parent Code:	1600
Prepared By:	Ashley Drochter
Carrier Conc:	UO2(NO3)2 in dilute HNO3
Reference Date:	04/15/2012
Ampoule Mass (g):	7.0521 g
Uncertainty:	+/- 1.17 %
LogBook No:	RC-S-065-030
Supplier:	Eckert & Ziegler

A Solution Material Info			
Isotope:	Uranium-238		
Prepared By:	Ashley Drochter		
Prep Date:	09/04/2012		
Verification Date:	06/10/2024		
Expiration Date:	06/10/2025		
Primary Code:	1600-A		
Dilution(mL):	100 mL		
Mass of Parent(g):	6.8204 g		
Density(g/mL):	1.0789	Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (kbq)) * (conversion dpm to kbq) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (kbq)) * (conversion dpm to kbq) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(6.8204 g) * (18.42 kbq) * (60000 dpm/kbq) / (7.0521 g * 100 mL) = 10688.8814 dpm/mL
(6.8204 g) * (18.42 kbq) * (60000 dpm/kbq) / (1.0789 g/mL)/ (7.0521 g * 100 mL) = 9907.0626 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
09/04/2012	Ashley Drochter	1.4579	500	1600-B	28.8913 dpm/mL	09/04/2012	09/04/2013
09/11/2012	Ashley Drochter	3.0288	500	1600-C	60.0219 dpm/mL	09/04/2013	09/04/2014
03/27/2014	Tim Chandler	3.0445	500	1600-D	60.3241 dpm/mL	03/18/2015	03/18/2016
07/24/2015	Tim Chandler	3.0177	500	1600-E	59.7931 dpm/mL	07/10/2017	07/10/2018
02/16/2017	Tim Chandler	3.0261	500	1600-F	59.9595 dpm/mL	02/06/2018	02/06/2019
10/10/2017	Christina Kimball	.539	250	1600-G	21.3596 dpm/mL	12/01/2023	12/01/2024
04/02/2018	Tim Chandler	3.0544	500	1600-H	60.5203 dpm/mL	03/29/2019	03/29/2020

06/21/2019	Tim Chandler	3.0536	500	1600-I	60.5044 dpm/mL	06/21/2019	06/21/2020
01/30/2020	Tim Chandler	3.0563	500	1600-J	60.5579 dpm/mL	01/26/2021	01/26/2022
03/13/2020	Christina Kimball	.01222	500	1600-K	.24207 dpm/mL	03/15/2022	03/15/2023
04/23/2021	Tim Chandler	3.0507	500	1600-L	60.4469 dpm/mL	04/26/2021	04/26/2022
01/21/2022	Matelon DeFreese	3.1075	500	1600-M	61.5723941 dpm/mL	01/21/2022	01/21/2023
05/19/2022	Christina Kimball	.01275	500	1600-N	.2527 dpm/mL	05/14/2024	05/14/2025
09/06/2022	Matelon DeFreese	3.1499	500	1600-O	62.412513 dpm/mL	09/06/2022	09/06/2023
05/08/2023	Matelon DeFreese	6.0105	1000	1600-P	59.5463998 dpm/mL	05/03/2024	05/03/2025
05/30/2024	Christina Kimball	.012077	500	1600-Q	.2393 dpm/mL	05/30/2024	05/30/2025
06/10/2024	Matelon DeFreese	6.011	1000	1600-R	59.5513533 dpm/mL	06/10/2024	06/10/2025

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for U-238 Standard 1600-P

v1.2

Analyst	MXS2
Verification Prep Date	5/3/2024

Tracer Information	
Isotope	U-232
Serial Number	1564-JJ
Amount of Std. (mL)	0.2
Expiration Date	4/3/2025

Standard Information	
Isotope	U-238
Serial Number	1600-P
Isotope Halflife	4.4680E+09 Y
Reference Date	4/15/2012
Ref. Act. (dpm/mL)	59.5463998
Amount of Std. (mL)	0.2
Standard Prep Date	5/8/2023

Std #	Count Date	Activity pCi	Standard dpm/mL
1	5/4/2024	5.510	61.16
2	5/4/2024	5.630	62.49
3	5/4/2024	5.620	62.38
Mean Value =		5.587	62.012
Stdev =		0.066583281	0.739074421

	pCi	dpm/mL
Certificate Value* =	**5.3645**	**59.5464**
Two sigma =	0.1332	1.4781
10 % of Mean =	0.5587	6.2012
Rule A (Pass/Fail)	**Pass**	**Pass**
% Recovery	104.14%	104.14%
Rule B (Pass/Fail)	**Pass**	**Pass**
Expiration Date	**5/3/2025**	

Verification Rules

Rule A = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule B = The determined mean value shall be within 5% of the certificate value.

*** Certificate Value is decay corrected to Verification Prep Date.**

The analyst prepared three standard verification sources for U-238 standard 1600-P using 0.2 mL for each source. Each standard was combined with 0.2 mL of U-232 standard 1564-JJ and was diluted in a centrifuge tube containing 15 mL 0.1M HCl and 25 mL of DI water. 0.1 mL of neodymium carrier, 0.5 mL of titanium (III) chloride, and 5 mL of 48% HF was added to precipitate neodymium (and Uranium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for U-238 were calculated by comparison to U-232 certified values.

5/7/24

Runlogs

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER **Batch ID: 2626051**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
669289003	SAMPLE	CM4	1153	JUN-22-24 08:29:35	DONE		14-JUN-24 13:00
669289004	SAMPLE	CM4	1154	JUN-22-24 08:29:38	DONE		14-JUN-24 12:44
669289005	SAMPLE	CM4	1155	JUN-22-24 08:29:40	DONE		14-JUN-24 12:09
669289013	SAMPLE	CM4	1156	JUN-22-24 08:29:43	DONE		14-JUN-24 12:09
1205760389	MB	CM4	1157	JUN-22-24 08:29:45	DONE		14-JUN-24 12:10
1205760390	DUP	CM4	1158	JUN-22-24 08:29:47	DONE		14-JUN-24 12:10
1205760391	LCS	CM4	1159	JUN-22-24 08:29:50	DONE		14-JUN-24 12:10

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER **Batch ID: 2626053**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
669289003	SAMPLE	CM4	1031	JUN-22-24 10:11:28	DONE		04-JUN-24 13:07
669289005	SAMPLE	CM4	1033	JUN-22-24 10:11:28	DONE		04-JUN-24 13:07
669289013	SAMPLE	CM4	1034	JUN-22-24 10:11:28	DONE		04-JUN-24 13:07
1205760392	MB	CM4	1035	JUN-22-24 10:11:28	DONE		04-JUN-24 13:08
1205760393	DUP	CM4	1036	JUN-22-24 10:11:28	DONE		04-JUN-24 13:08
1205760394	LCS	CM4	1037	JUN-22-24 10:11:32	DONE		04-JUN-24 13:08
669289004	SAMPLE	CM4	1166	JUN-25-24 17:58:11	DONE		18-JUN-24 13:33

Gamma Spectroscopy
Raw Data

Batch 2618905 Check-list

This check-list was completed on 20-JUN-24 by Tim Winters

This batch was reviewed by Spencer Collins on 20-JUN-24 and Tim Winters on 20-JUN-24.

Batch ID: 2618905 **Product:** GSCGAMMS **Description:** Gamma Spec Solid RAD A-013

#	Criteria	Yes	No	Comments
Preparation Information				
1	Did any sample(s) require dilution?		No	
2	Were all of the samples homogenous? Include sample description if not homogenous	Yes		
3	Was the preservation correct for this analysis?	Yes		
Internal Checklist Information				
4	Are instrument source checks within limits?	Yes		
5	Have sample historical results been reviewed for this batch?	Yes		
Technical Information				
6	Were any additional radionuclides added that were not requested by the client?		No	
7	Were all the samples prepared/analyzed within the required holding time period?	Yes		
Quality Control (QC) Information				
8	Was the method blank (MB) within the acceptance criteria?	Yes		
9	Were the laboratory control sample (LCS/LCSD) recoveries within the acceptance limits?	Yes		
10	Were the relative percent differences and/or error (RPD/RER) between the sample and its duplicate within acceptable limits?		No	
11	Has the method required detection limit been met?	Yes		
Miscellaneous Information				
12	Are sample-specific MDA/MDC calculated and reported?	Yes		

Prep Logbook

Gamma Spectroscopy

Batch ID: **2618905**
Analyst: Maggie Stamps (MXR1)
Method: DOE HASL 300, 4.5.2.3/Ga-01-R
Lab SOP: GL-RAD-A-013 REV# 29
Instrument: No instrument-manual method

Due Dates for Lab: 24-JUN-2024 **Hold: 02-JUN-2024** **Package: 25-JUN-2024** **SDG: 26-JUN**

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1205747505	84680-278	1556	1	mL

#	Sample ID	Prep Date	Min RDL (pCi/g)	Dry or Wet	Unadjusted Aliquot (g)	Aliquot (g)	Adjusted Aliquot (g)
1	669289001	31-MAY-2024	.1	Dry to Dry	111.23	111.23	111.23
2	669289002	31-MAY-2024	.1	Dry to Dry	125.25	125.25	125.25
3	669289003	31-MAY-2024	.1	Dry to Dry	123.25	123.25	123.25
4	669289004	31-MAY-2024	.1	Dry to Dry	136.93	136.93	136.93
5	669289005	31-MAY-2024	.1	Dry to Dry	146.58	146.58	146.58
6	669289006	31-MAY-2024	.1	Dry to Dry	125.47	125.47	125.47
7	669289007	31-MAY-2024	.1	Dry to Dry	147.41	147.41	147.41
8	669289008	31-MAY-2024	.1	Dry to Dry	129.74	129.74	129.74
9	669289009	31-MAY-2024	.1	Dry to Dry	122.7	122.7	122.7
10	669289010	31-MAY-2024	.1	Dry to Dry	122.9	122.9	122.9
11	669289011	31-MAY-2024	.1	Dry to Dry	137.78	137.78	137.78
12	669289012	31-MAY-2024	.1	Dry to Dry	114.25	114.25	114.25
13	669289013	31-MAY-2024	.1	Dry to Dry	155.86	155.86	155.86
14	669289014	31-MAY-2024	.1	Dry to Dry	136.12	136.12	136.12
15	1205747503 MB	31-MAY-2024	.1	Dry to Wet	155.86	155.86	155.86
16	1205747504 DUP (669289001)	31-MAY-2024	.1	Dry to Dry	111.23	111.23	111.23
17	1205747505 LCS	31-MAY-2024	.1	Dry to Wet	115	115	115

Reagent/Solvent Lot ID **Description** **Amount** **Comments:**

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:02:39.03

```
*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289001.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM04.CNF;770
                                    Background date  : 17-JUN-2024 11:33:32
Sample date      : 23-MAY-2024 16:00:00 Acquisition date : 20-JUN-2024 05:02:15
Sample ID        : G669289001           Sample quantity  : 1.11230E+02 GRAM
Detector name    : GAM04                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:00.38  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : MXR1
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 2618905              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
*************************************************************************
```

BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.43*	19	47	0.84	127.84	125	6	5.32E-03	65.2	
2	2	74.83	50	80	1.08	150.63	145	17	1.39E-02	31.8	3.12E+00
3	2	77.06	113	74	0.96	155.09	145	17	3.14E-02	15.5	
4	0	86.93	31	99	0.74	174.81	172	7	8.48E-03	57.2	
5	0	93.22*	56	144	1.37	187.39	183	12	1.55E-02	48.1	
6	0	128.42	66	87	1.91	257.76	252	11	1.84E-02	30.0	
7	0	186.26*	66	81	1.53	373.38	368	11	1.83E-02	30.7	
8	2	238.73*	216	72	1.14	478.27	474	15	6.01E-02	9.4	9.29E-01
9	2	241.87	67	66	1.39	484.55	474	15	1.85E-02	26.4	
10	0	291.51	25	39	1.49	583.78	578	9	6.81E-03	50.7	
11	0	295.24*	130	37	1.37	591.25	587	11	3.62E-02	12.8	
12	0	319.98	27	27	1.55	640.71	637	8	7.63E-03	37.5	
13	0	331.87	39	99	6.43	664.47	651	22	1.08E-02	68.7	
14	0	338.35	55	44	0.89	677.42	673	10	1.53E-02	26.0	
15	0	352.12*	177	25	1.04	704.96	700	11	4.91E-02	9.6	
16	0	370.45	22	23	1.33	741.61	736	10	6.15E-03	46.8	
17	0	463.40	15	9	1.09	927.43	924	6	4.20E-03	41.7	
18	0	511.76*	10	42	2.38	1024.13	1018	13	2.88E-03	155.9	
19	0	557.70	17	8	1.47	1115.98	1111	8	4.70E-03	37.8	
20	0	561.13	8	11	0.95	1122.84	1119	8	2.32E-03	74.6	
21	0	583.80*	64	45	1.45	1168.17	1160	16	1.78E-02	26.7	
22	0	609.72*	140	19	1.39	1219.99	1212	16	3.88E-02	11.2	
23	0	662.26	47	25	1.15	1325.04	1319	12	1.30E-02	26.5	
24	0	707.25	18	19	3.33	1414.99	1407	13	4.89E-03	56.9	
25	0	728.14	13	17	0.85	1456.78	1449	12	3.53E-03	72.2	
26	1	768.81	18	17	1.76	1538.10	1530	19	5.11E-03	49.6	1.04E+00
27	1	772.61*	12	8	1.76	1545.68	1530	19	3.39E-03	48.9	
28	0	882.70	8	10	1.70	1765.83	1762	9	2.31E-03	74.2	
29	0	911.46*	41	7	1.97	1823.34	1817	13	1.14E-02	20.8	
30	0	969.48*	25	3	0.83	1939.38	1935	11	6.88E-03	25.1	
31	0	979.34	12	5	1.45	1959.08	1954	10	3.33E-03	45.3	
32	0	1021.16	7	18	4.32	2042.72	2031	15	2.08E-03	130.5	
33	0	1120.86*	16	20	1.09	2242.10	2234	13	4.41E-03	64.4	
34	0	1238.68	14	11	0.94	2477.74	2472	12	3.98E-03	54.5	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
35	0	1341.17	11	0	3.94	2682.73	2677	11	3.06E-03	30.2	
36	0	1390.10	6	2	0.99	2780.59	2776	7	1.70E-03	54.3	
37	0	1461.15*	237	5	1.98	2922.70	2917	11	6.58E-02	6.9	
38	0	1764.84*	10	5	1.74	3530.20	3524	11	2.72E-03	63.2	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JUN-2024 06:02:40

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289001.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: MXR1		
Sample date	: 23-MAY-2024 16:00:00	Acquisition date	: 20-JUN-2024 05:02:15
Sample ID	: G669289001	Sample quantity	: 111.23 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA4	Detector geometry	: CAN
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:00.38 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	223	10.66*	8.675E-01	1.628E+01	1.628E+01	13.76
CR-51	320.08	27	9.91*	2.963E+00	6.281E-01	1.252E+00	74.95
RB-84	881.60	8	68.90*	1.383E+00	5.660E-02	1.013E-01	148.43
CD-109	88.03	32	3.70*	3.829E+00	1.514E+00	1.578E+00	114.32
SN-126	64.28	20	9.60	1.472E+00	9.629E-01	9.629E-01	130.48
	86.94	32	8.90	3.829E+00	6.295E-01	6.295E-01	114.32
	87.57	32	37.00*	3.829E+00	1.514E-01	1.514E-01	114.32
BA-137M	661.66	45	89.90*	1.774E+00	1.915E-01	1.918E-01	52.97
CS-137	661.66	45	85.10*	1.774E+00	2.023E-01	2.027E-01	52.97
TL-208	277.37	------	6.60	3.270E+00	------ Line Not Found		------
	583.19	63	85.00*	1.957E+00	2.538E-01	2.538E-01	53.49
	860.56	------	12.50	1.416E+00	------ Line Not Found		------
BI-211	72.87	------	1.23	2.515E+00	------ Line Not Found		------
	351.06	175	12.92*	2.777E+00	3.293E+00	3.293E+00	19.18
BI-212	727.33	12	6.67*	1.641E+00	7.563E-01	7.563E-01	144.33
	1620.50	------	1.47	8.062E-01	------ Line Not Found		------
PB-212	74.82	52	10.28	2.724E+00	1.259E+00	1.259E+00	63.58
	77.11	118	17.10	2.955E+00	1.578E+00	1.578E+00	31.09
	238.63	218	43.60*	3.632E+00	9.275E-01	9.275E-01	18.82
	300.09	------	3.30	3.096E+00	------ Line Not Found		------
BI-214	609.32	136	45.49*	1.893E+00	1.065E+00	1.065E+00	22.46
	1120.29	15	14.92	1.101E+00	6.206E-01	6.206E-01	128.72
	1764.49	9	15.30	7.710E-01	5.239E-01	5.239E-01	126.49
PB-214	74.82	52	5.80	2.724E+00	2.231E+00	2.231E+00	63.58
	77.11	118	9.70	2.955E+00	2.783E+00	2.783E+00	31.09
	87.09	32	3.41	3.829E+00	1.643E+00	1.643E+00	114.32
	242.00	67	7.25	3.599E+00	1.730E+00	1.731E+00	52.89
	295.22	130	18.42	3.131E+00	1.521E+00	1.521E+00	25.61
	351.93	175	35.60*	2.777E+00	1.195E+00	1.195E+00	19.18
RN-222	609.32	136	45.49*	1.893E+00	1.065E+00	1.065E+00	22.46
	1120.29	15	14.92	1.101E+00	6.206E-01	6.206E-01	128.72
	1764.49	9	15.30	7.710E-01	5.239E-01	5.239E-01	126.49
RA-224	240.99	67	4.10*	3.599E+00	3.060E+00	3.060E+00	52.89
RA-226	74.82	52	5.80	2.724E+00	2.231E+00	2.231E+00	63.58
	77.11	118	9.70	2.955E+00	2.783E+00	2.783E+00	31.09
	87.09	32	3.41	3.829E+00	1.643E+00	1.643E+00	114.32
	242.00	67	7.25	3.599E+00	1.730E+00	1.731E+00	52.89
	295.22	130	18.42	3.131E+00	1.521E+00	1.521E+00	25.61
	351.93	175	35.60*	2.777E+00	1.195E+00	1.195E+00	19.18
AC-228	105.21	------	1.10	4.756E+00	------ Line Not Found		------
	338.32	55	11.27	2.853E+00	1.150E+00	1.150E+00	51.94
	835.71	------	1.61	1.454E+00	------ Line Not Found		------
	911.20	39	25.80*	1.342E+00	7.684E-01	7.684E-01	41.69
	968.97	24	15.80	1.266E+00	7.986E-01	7.986E-01	50.19
RA-228	105.21	------	1.10	4.756E+00	------ Line Not Found		------
	338.32	55	11.27	2.853E+00	1.150E+00	1.150E+00	51.94
	835.71	------	1.61	1.454E+00	------ Line Not Found		------
	911.20	39	25.80*	1.342E+00	7.684E-01	7.684E-01	41.69
	968.97	24	15.80	1.266E+00	7.986E-01	7.986E-01	50.19

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-228	74.82	52	10.28	2.724E+00	1.259E+00	1.259E+00	63.58
	77.11	118	17.10	2.955E+00	1.578E+00	1.578E+00	31.09
	238.63	218	43.60*	3.632E+00	9.275E-01	9.275E-01	18.82
	300.09	------	3.30	3.096E+00	------ Line Not Found		------
TH-230	74.82	52	5.80	2.724E+00	2.231E+00	2.231E+00	63.58
	77.11	118	9.70	2.955E+00	2.783E+00	2.783E+00	31.09
	87.09	32	3.41	3.829E+00	1.643E+00	1.643E+00	114.32
	242.00	67	7.25	3.599E+00	1.730E+00	1.730E+00	52.89
	295.22	130	18.42	3.131E+00	1.521E+00	1.521E+00	25.61
	351.93	175	35.60*	2.777E+00	1.195E+00	1.195E+00	19.18
TH-232	105.21	------	1.10	4.756E+00	------ Line Not Found		------
	338.32	55	11.27	2.853E+00	1.150E+00	1.150E+00	51.94
	835.71	------	1.61	1.454E+00	------ Line Not Found		------
	911.20	39	25.80*	1.342E+00	7.684E-01	7.684E-01	41.69
	968.97	24	15.80	1.266E+00	7.986E-01	7.986E-01	50.19
TH-234	63.29	20	3.70*	1.472E+00	2.498E+00	2.498E+00	130.48
	92.59	58	4.23	4.246E+00	2.185E+00	2.185E+00	96.30
U-234	74.82	52	5.80	2.724E+00	2.231E+00	2.231E+00	63.58
	77.11	118	9.70	2.955E+00	2.783E+00	2.783E+00	31.09
	87.09	32	3.41	3.829E+00	1.643E+00	1.643E+00	114.32
	242.00	67	7.25	3.599E+00	1.730E+00	1.730E+00	52.89
	295.22	130	18.42	3.131E+00	1.521E+00	1.521E+00	25.61
	351.93	175	35.60*	2.777E+00	1.195E+00	1.195E+00	19.18
U-238	63.29	20	3.70*	1.472E+00	2.498E+00	2.498E+00	130.48
	92.59	58	4.23	4.246E+00	2.185E+00	2.185E+00	96.30
AM-243	43.53	------	5.90	8.958E-02	------ Line Not Found		------
	74.66	52	67.20*	2.724E+00	1.926E-01	1.926E-01	63.58
ANH-511	511.00	10	100.00*	2.154E+00	3.183E-02	3.183E-02	311.74

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:02:41.49

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289001.CNF;1		
Acquisition date	: 20-JUN-2024 05:02:15	Sensitivity	: 3.000
Detector ID	: GAM04	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.38	Half life ratio	: *****
Sample date	: 23-MAY-2024 16:00:00	Analyst initials	: MXR1
Sample ID	: G669289001	Sample Quantity	: 1.1123E+02 GRAM
Batch Number	: 2618905	Wet Weight	: 0.00000
Wet wt corr	: 1.00000	Dry Weight	: 0.00000
Nuclide Library	: SOLID.NLB;17		

CALIBRATION INFORMATION

Eff. Cal. date	: 13-DEC-2023 04:08:51	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM04_CAN.CNF;19		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	1.628E+01	2.195E+00	7.799E-01
CR-51	1.252E+00	9.196E-01	1.217E+00
RB-84	1.013E-01	1.474E-01	1.864E-01
CD-109	1.578E+00	1.768E+00	1.914E+00
SN-126	1.514E-01	1.696E-01	1.912E-01
BA-137M	1.918E-01	9.958E-02	8.588E-02
CS-137	2.027E-01	1.052E-01	9.073E-02
TL-208	2.538E-01	1.331E-01	9.457E-02
BI-211	3.293E+00	6.191E-01	4.929E-01
BI-212	7.563E-01	1.070E+00	1.140E+00
PB-212	9.275E-01	1.711E-01	1.502E-01
BI-214	1.065E+00	2.345E-01	1.361E-01
PB-214	1.195E+00	2.247E-01	1.793E-01
RN-222	1.065E+00	2.345E-01	1.361E-01
RA-224	3.060E+00	1.586E+00	1.610E+00
RA-226	1.195E+00	2.247E-01	1.793E-01
AC-228	7.684E-01	3.139E-01	3.410E-01
RA-228	7.684E-01	3.139E-01	3.410E-01
TH-228	9.275E-01	1.711E-01	1.502E-01
TH-230	1.195E+00	2.247E-01	1.792E-01
TH-232	7.684E-01	3.139E-01	3.410E-01
TH-234	2.498E+00	3.195E+00	3.610E+00
U-234	1.195E+00	2.247E-01	1.792E-01
U-238	2.498E+00	3.195E+00	3.610E+00
AM-243	1.926E-01	1.200E-01	1.343E-01
ANH-511	3.183E-02	9.725E-02	7.337E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	-1.902E-01	4.048E-01	7.456E-01	NOT IDENT.
NA-22	-2.578E-03	5.582E-02	1.126E-01	NOT IDENT.
NA-24	0.000E+00	1.061E+12	0.000E+00	SHORT HLIF
AL-26	-2.418E-02	5.039E-02	9.038E-02	NOT IDENT.

SC-46	3.745E-03	5.352E-02	1.053E-01	FAIL ABUN
V-48	4.052E-02	1.787E-01	3.229E-01	NOT IDENT.
MN-52	-6.818E-01	1.019E+00	1.732E+00	NOT IDENT.
MN-54	-1.302E-02	4.823E-02	8.762E-02	NOT IDENT.
CO-56	1.615E-02	5.124E-02	1.064E-01	FAIL ABUN
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	1.071E-02	3.173E-02	6.072E-02	NOT IDENT.
CO-58	5.101E-02	4.219E-02	1.067E-01	NOT IDENT.
FE-59	2.473E-02	1.178E-01	2.563E-01	NOT IDENT.
CO-60	1.524E-02	3.974E-02	9.482E-02	NOT IDENT.
ZN-65	7.196E-03	1.194E-01	2.190E-01	NOT IDENT.
GE-68	1.885E-01	1.552E+00	3.268E+00	NOT IDENT.
AS-73	1.430E+00	2.195E+00	4.614E+00	NOT IDENT.
AS-74	-3.580E-03	1.573E-01	3.114E-01	NOT IDENT.
SE-75	-1.318E-02	6.554E-02	1.142E-01	NOT IDENT.
BR-77	0.000E+00	1.001E+03	0.000E+00	SHORT HLIF
SR-82	-1.477E-01	5.716E-01	9.311E-01	NOT IDENT.
RB-83	-4.891E-02	9.626E-02	1.737E-01	NOT IDENT.
KR-85	4.040E+00	9.719E+00	1.808E+01	NOT IDENT.
SR-85	2.430E-02	5.869E-02	1.092E-01	NOT IDENT.
RB-86	1.089E-01	1.483E+00	3.105E+00	NOT IDENT.
Y-88	-2.163E-02	3.305E-02	4.745E-02	NOT IDENT.
Y-91	-6.401E+00	3.045E+01	5.899E+01	NOT IDENT.
NB-94	-3.952E-02	4.557E-02	6.085E-02	NOT IDENT.
NB-95	-2.882E-02	7.611E-02	1.173E-01	NOT IDENT.
NB-95M	3.445E-02	2.027E-01	3.405E-01	NOT IDENT.
ZR-95	-1.979E-02	9.232E-02	1.733E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.606E+11	0.000E+00	SHORT HLIF
MO-99	0.000E+00	3.503E+02	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	3.600E+31	0.000E+00	SHORT HLIF
RH-101	0.000E+00	8.064E-02	7.417E-02	FAIL ABUN
RH-102	1.841E-02	7.452E-02	1.483E-01	NOT IDENT.
RU-103	-1.549E-02	5.290E-02	1.005E-01	FAIL ABUN
RH-106	1.372E-01	4.219E-01	8.527E-01	NOT IDENT.
RU-106	1.372E-01	4.219E-01	8.527E-01	NOT IDENT.
AG-108M	1.005E-02	3.609E-02	7.340E-02	NOT IDENT.
AG-110	4.141E-01	9.970E-01	1.894E+00	NOT IDENT.
AG-110M	1.835E-02	7.718E-02	1.393E-01	FAIL ABUN
SN-113	-8.216E-02	5.972E-02	9.591E-02	NOT IDENT.
CD-115	0.000E+00	6.602E+02	0.000E+00	SHORT HLIF
SN-117M	1.351E-02	1.234E-01	2.286E-01	NOT IDENT.
SB-122	0.000E+00	7.621E+01	0.000E+00	SHORT HLIF
TE-123M	4.807E-04	3.670E-02	6.733E-02	NOT IDENT.
SB-124	-5.315E-02	1.007E-01	1.812E-01	NOT IDENT.
SB-125	-1.143E-01	1.047E-01	1.734E-01	FAIL ABUN
TE-125M	2.009E+00	1.355E+01	2.564E+01	NOT IDENT.
I-126	3.804E-01	4.779E-01	1.012E+00	NOT IDENT.
SB-126	-9.020E-02	3.354E-01	6.204E-01	NOT IDENT.
SB-127	-1.226E+00	1.700E+01	3.210E+01	NOT IDENT.
I-131	2.412E-01	4.188E-01	8.767E-01	NOT IDENT.
I-132	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
TE-132	5.832E+00	1.358E+01	2.566E+01	NOT IDENT.
BA-133	3.056E-02	4.698E-02	9.460E-02	NOT IDENT.
I-133	0.000E+00	1.299E+08	0.000E+00	SHORT HLIF
CS-134	5.387E-02	4.824E-02	1.120E-01	NOT IDENT.
I-135	0.000E+00	3.440E+29	0.000E+00	SHORT HLIF
CS-136	-7.951E-02	2.389E-01	4.635E-01	NOT IDENT.
LA-138	-1.132E-02	5.099E-02	1.082E-01	NOT IDENT.
CE-139	-7.679E-03	3.646E-02	6.544E-02	NOT IDENT.
BA-140	-1.034E-01	5.533E-01	1.068E+00	NOT IDENT.
LA-140	-7.752E-02	2.378E-01	4.740E-01	NOT IDENT.
CE-141	-1.818E-01	1.074E-01	1.621E-01	NOT IDENT.
CE-143	0.000E+00	8.381E+04	0.000E+00	SHORT HLIF
CE-144	-9.965E-02	2.613E-01	4.638E-01	NOT IDENT.
PM-144	4.478E-03	3.867E-02	7.736E-02	NOT IDENT.
PR-144	3.373E-01	2.913E+00	5.827E+00	NOT IDENT.
PM-146	5.274E-03	5.498E-02	1.083E-01	NOT IDENT.
ND-147	4.089E-01	1.474E+00	3.009E+00	FAIL ABUN
PM-147	-5.518E+02	9.136E+02	1.599E+03	NOT IDENT.
PM-149	0.000E+00	6.206E+03	0.000E+00	SHORT HLIF
EU-150	-1.059E-02	4.517E-02	7.001E-02	FAIL ABUN
EU-152	-6.499E-02	1.326E-01	2.451E-01	NOT IDENT.
GD-153	4.636E-02	1.079E-01	1.981E-01	NOT IDENT.
EU-154	-8.381E-02	1.734E-01	3.160E-01	NOT IDENT.
EU-155	7.212E-02	1.292E-01	2.532E-01	FAIL ABUN
TB-160	1.329E-01	1.354E-01	3.332E-01	FAIL ABUN
HO-166M	5.910E-02	7.722E-02	1.578E-01	NOT IDENT.

TM-171	-3.163E+01	4.566E+01	8.372E+01	NOT IDENT.
HF-172	-1.080E-03	2.444E-01	4.200E-01	FAIL ABUN
LU-172	4.689E-02	7.429E-02	1.711E-01	FAIL ABUN
LU-176	-2.733E-02	3.211E-02	4.973E-02	FAIL ABUN
HF-181	3.982E-02	7.152E-02	1.483E-01	NOT IDENT.
TA-182	6.127E-02	2.783E-01	5.707E-01	FAIL ABUN
RE-183	6.508E-03	4.840E-01	9.393E-01	NOT IDENT.
RE-184	3.461E-02	2.219E-01	4.335E-01	NOT IDENT.
W-188	1.709E+01	1.697E+01	2.187E+01	FAIL ABUN
IR-192	8.733E-03	5.120E-02	8.768E-02	FAIL ABUN
HG-203	-2.558E-03	6.611E-02	1.167E-01	NOT IDENT.
TL-204	-5.401E+00	8.214E+00	1.364E+01	NOT IDENT.
BI-207	3.827E-02	6.263E-02	1.422E-01	FAIL ABUN
BI-210	1.197E+01	1.468E+01	3.087E+01	NOT IDENT.
PB-210	1.197E+01	1.468E+01	3.087E+01	NOT IDENT.
PB-211	-3.687E-01	9.866E-01	1.830E+00	NOT IDENT.
BI-213	-4.941E-02	1.258E-01	2.340E-01	NOT IDENT.
RN-219	-2.153E-01	5.695E-01	1.055E+00	NOT IDENT.
RA-223	9.454E-02	1.246E+00	1.780E+00	FAIL ABUN
AC-225	1.007E+00	1.848E+00	3.518E+00	NOT IDENT.
AC-227	3.238E-02	3.041E-01	5.587E-01	NOT IDENT.
TH-227	3.238E-02	3.041E-01	5.587E-01	NOT IDENT.
TH-229	-4.413E-02	7.017E-01	1.257E+00	FAIL ABUN
PA-231	1.939E-01	7.042E-01	1.284E+00	NOT IDENT.
TH-231	9.454E-02	1.246E+00	1.780E+00	FAIL ABUN
PA-233	-2.182E-02	8.544E-02	1.470E-01	NOT IDENT.
PA-234	-1.491E-01	3.416E-01	5.983E-01	FAIL ABUN
PA-234M	-4.996E+00	7.369E+00	1.206E+01	NOT IDENT.
U-235	2.570E-01	2.498E-01	4.939E-01	FAIL ABUN
NP-237	-2.182E-02	8.544E-02	1.470E-01	FAIL ABUN
NP-238	0.000E+00	1.648E+03	0.000E+00	SHORT HLIF
NP-239	2.165E-01	2.991E-01	5.981E-01	NOT IDENT.
PU-239	0.000E+00	8.554E+02	8.868E+02	FAIL ABUN
AM-241	2.229E-01	2.778E-01	5.815E-01	NOT IDENT.
CM-243	-1.059E-01	1.238E-01	2.133E-01	NOT IDENT.
BK-247	-1.189E-02	1.050E-01	1.857E-01	NOT IDENT.
CM-247	1.564E-02	5.046E-02	1.012E-01	NOT IDENT.
CF-249	1.959E-02	4.911E-02	1.009E-01	NOT IDENT.
CF-251	-8.689E-03	1.590E-01	2.881E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:02:39.98

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	223	10.66*	8.675E-01	1.628E+01	1.628E+01	13.76
CR-51	320.08	27	9.91*	2.963E+00	6.281E-01	1.252E+00	74.95
RB-84	881.60	8	68.90*	1.383E+00	5.660E-02	1.013E-01	148.43
CD-109	88.03	32	3.70*	3.829E+00	1.514E+00	1.578E+00	114.32
SN-126	64.28	20	9.60	1.472E+00	9.629E-01	9.629E-01	130.48
	86.94	32	8.90	3.829E+00	6.295E-01	6.295E-01	114.32
	87.57	32	37.00*	3.829E+00	1.514E-01	1.514E-01	114.32
BA-137M	661.66	45	89.90*	1.774E+00	1.915E-01	1.918E-01	52.97
CS-137	661.66	45	85.10*	1.774E+00	2.023E-01	2.027E-01	52.97
TL-208	277.37	------	6.60	3.270E+00	------	Line Not Found	------
	583.19	63	85.00*	1.957E+00	2.538E-01	2.538E-01	53.49
	860.56	------	12.50	1.416E+00	------	Line Not Found	------
BI-211	72.87	------	1.23	2.515E+00	------	Line Not Found	------
	351.06	175	12.92*	2.777E+00	3.293E+00	3.293E+00	19.18
BI-212	727.33	12	6.67*	1.641E+00	7.563E-01	7.563E-01	144.33
	1620.50	------	1.47	8.062E-01	------	Line Not Found	------
PB-212	74.82	52	10.28	2.724E+00	1.259E+00	1.259E+00	63.58
	77.11	118	17.10	2.955E+00	1.578E+00	1.578E+00	31.09
	238.63	218	43.60*	3.632E+00	9.275E-01	9.275E-01	18.82
	300.09	------	3.30	3.096E+00	------	Line Not Found	------
BI-214	609.32	136	45.49*	1.893E+00	1.065E+00	1.065E+00	22.46
	1120.29	15	14.92	1.101E+00	6.206E-01	6.206E-01	128.72
	1764.49	9	15.30	7.710E-01	5.239E-01	5.239E-01	126.49
PB-214	74.82	52	5.80	2.724E+00	2.231E+00	2.231E+00	63.58
	77.11	118	9.70	2.955E+00	2.783E+00	2.783E+00	31.09
	87.09	32	3.41	3.829E+00	1.643E+00	1.643E+00	114.32
	242.00	67	7.25	3.599E+00	1.730E+00	1.731E+00	52.89
	295.22	130	18.42	3.131E+00	1.521E+00	1.521E+00	25.61
	351.93	175	35.60*	2.777E+00	1.195E+00	1.195E+00	19.18
RN-222	609.32	136	45.49*	1.893E+00	1.065E+00	1.065E+00	22.46
	1120.29	15	14.92	1.101E+00	6.206E-01	6.206E-01	128.72
	1764.49	9	15.30	7.710E-01	5.239E-01	5.239E-01	126.49
RA-224	240.99	67	4.10*	3.599E+00	3.060E+00	3.060E+00	52.89
RA-226	74.82	52	5.80	2.724E+00	2.231E+00	2.231E+00	63.58
	77.11	118	9.70	2.955E+00	2.783E+00	2.783E+00	31.09
	87.09	32	3.41	3.829E+00	1.643E+00	1.643E+00	114.32
	242.00	67	7.25	3.599E+00	1.730E+00	1.731E+00	52.89
	295.22	130	18.42	3.131E+00	1.521E+00	1.521E+00	25.61
	351.93	175	35.60*	2.777E+00	1.195E+00	1.195E+00	19.18
AC-228	105.21	------	1.10	4.756E+00	------	Line Not Found	------
	338.32	55	11.27	2.853E+00	1.150E+00	1.150E+00	51.94
	835.71	------	1.61	1.454E+00	------	Line Not Found	------
	911.20	39	25.80*	1.342E+00	7.684E-01	7.684E-01	41.69
	968.97	24	15.80	1.266E+00	7.986E-01	7.986E-01	50.19
RA-228	105.21	------	1.10	4.756E+00	------	Line Not Found	------
	338.32	55	11.27	2.853E+00	1.150E+00	1.150E+00	51.94
	835.71	------	1.61	1.454E+00	------	Line Not Found	------

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	911.20	39	25.80*	1.342E+00	7.684E-01	7.684E-01	41.69
	968.97	24	15.80	1.266E+00	7.986E-01	7.986E-01	50.19
TH-228	74.82	52	10.28	2.724E+00	1.259E+00	1.259E+00	63.58
	77.11	118	17.10	2.955E+00	1.578E+00	1.578E+00	31.09
	238.63	218	43.60*	3.632E+00	9.275E-01	9.275E-01	18.82
	300.09	------	3.30	3.096E+00	------ Line Not Found		------
TH-230	74.82	52	5.80	2.724E+00	2.231E+00	2.231E+00	63.58
	77.11	118	9.70	2.955E+00	2.783E+00	2.783E+00	31.09
	87.09	32	3.41	3.829E+00	1.643E+00	1.643E+00	114.32
	242.00	67	7.25	3.599E+00	1.730E+00	1.730E+00	52.89
	295.22	130	18.42	3.131E+00	1.521E+00	1.521E+00	25.61
	351.93	175	35.60*	2.777E+00	1.195E+00	1.195E+00	19.18
TH-232	105.21	------	1.10	4.756E+00	------ Line Not Found		------
	338.32	55	11.27	2.853E+00	1.150E+00	1.150E+00	51.94
	835.71	------	1.61	1.454E+00	------ Line Not Found		------
	911.20	39	25.80*	1.342E+00	7.684E-01	7.684E-01	41.69
	968.97	24	15.80	1.266E+00	7.986E-01	7.986E-01	50.19
TH-234	63.29	20	3.70*	1.472E+00	2.498E+00	2.498E+00	130.48
	92.59	58	4.23	4.246E+00	2.185E+00	2.185E+00	96.30
U-234	74.82	52	5.80	2.724E+00	2.231E+00	2.231E+00	63.58
	77.11	118	9.70	2.955E+00	2.783E+00	2.783E+00	31.09
	87.09	32	3.41	3.829E+00	1.643E+00	1.643E+00	114.32
	242.00	67	7.25	3.599E+00	1.730E+00	1.730E+00	52.89
	295.22	130	18.42	3.131E+00	1.521E+00	1.521E+00	25.61
	351.93	175	35.60*	2.777E+00	1.195E+00	1.195E+00	19.18
U-238	63.29	20	3.70*	1.472E+00	2.498E+00	2.498E+00	130.48
	92.59	58	4.23	4.246E+00	2.185E+00	2.185E+00	96.30
AM-243	43.53	------	5.90	8.958E-02	------ Line Not Found		------
	74.66	52	67.20*	2.724E+00	1.926E-01	1.926E-01	63.58
ANH-511	511.00	10	100.00*	2.154E+00	3.183E-02	3.183E-02	311.74

Flag: "*" = Keyline

Sample ID : G669289001 Acquisition date : 20-JUN-2024 05:02:15

Total number of lines in spectrum 38
Number of unidentified lines 8
Number of lines tentatively identified by NID 30 78.95%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	1.628E+01	1.628E+01	0.224E+01	13.76	
CR-51	27.70D	1.99	6.281E-01	1.252E+00	0.938E+00	74.95	
RB-84	32.82D	1.79	5.660E-02	1.013E-01	1.504E-01	148.43	
CD-109	461.40D	1.04	1.514E+00	1.578E+00	1.804E+00	114.32	
SN-126	2.30E+05Y	1.00	1.514E-01	1.514E-01	1.731E-01	114.32	
BA-137M	30.08Y	1.00	1.915E-01	1.918E-01	1.016E-01	52.97	
CS-137	30.08Y	1.00	2.023E-01	2.027E-01	1.073E-01	52.97	
TL-208	1.41E+10Y	1.00	2.538E-01	2.538E-01	1.358E-01	53.49	
BI-211	7.04E+08Y	1.00	3.293E+00	3.293E+00	0.632E+00	19.18	
BI-212	1.41E+10Y	1.00	7.563E-01	7.563E-01	10.92E-01	144.33	
PB-212	1.41E+10Y	1.00	9.275E-01	9.275E-01	1.746E-01	18.82	
BI-214	1600.00Y	1.00	1.065E+00	1.065E+00	0.239E+00	22.46	
PB-214	1600.00Y	1.00	1.195E+00	1.195E+00	0.229E+00	19.18	
RN-222	1600.00Y	1.00	1.065E+00	1.065E+00	0.239E+00	22.46	
RA-224	1.41E+10Y	1.00	3.060E+00	3.060E+00	1.618E+00	52.89	
RA-226	1600.00Y	1.00	1.195E+00	1.195E+00	0.229E+00	19.18	
AC-228	1.41E+10Y	1.00	7.684E-01	7.684E-01	3.203E-01	41.69	
RA-228	1.41E+10Y	1.00	7.684E-01	7.684E-01	3.203E-01	41.69	
TH-228	1.41E+10Y	1.00	9.275E-01	9.275E-01	1.746E-01	18.82	
TH-230	7.54E+04Y	1.00	1.195E+00	1.195E+00	0.229E+00	19.18	
TH-232	1.41E+10Y	1.00	7.684E-01	7.684E-01	3.203E-01	41.69	
TH-234	4.47E+09Y	1.00	2.498E+00	2.498E+00	3.260E+00	130.48	
U-234	2.45E+05Y	1.00	1.195E+00	1.195E+00	0.229E+00	19.18	
U-238	4.47E+09Y	1.00	2.498E+00	2.498E+00	3.260E+00	130.48	
AM-243	7370.00Y	1.00	1.926E-01	1.926E-01	1.224E-01	63.58	
ANH-511	1.00E+09Y	1.00	3.183E-02	3.183E-02	9.924E-02	311.74	
	Total Activity :		4.268E+01	4.341E+01			

Grand Total Activity : 4.268E+01 4.341E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G669289001 Acquisition date : 20-JUN-2024 05:02:15

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	128.42	68	89	1.91	257.76	252	11	1.84E-02	60.1	5.00E+00	T
0	186.26	67	83	1.53	373.38	368	11	1.83E-02	61.3	4.30E+00	T
0	291.51	24	38	1.49	583.78	578	9	6.81E-03	****	3.16E+00	T
0	331.87	39	98	6.43	664.47	651	22	1.08E-02	****	2.89E+00	
0	370.45	22	23	1.33	741.61	736	10	6.15E-03	93.7	2.68E+00	
0	463.40	15	9	1.09	927.43	924	6	4.20E-03	83.5	2.31E+00	T
0	557.70	16	8	1.47	1115.98	1111	8	4.70E-03	75.7	2.02E+00	
0	561.13	8	10	0.95	1122.84	1119	8	2.32E-03	****	2.02E+00	
0	707.25	17	19	3.33	1414.99	1407	13	4.89E-03	****	1.68E+00	T
1	768.81	18	16	1.76	1538.10	1530	19	5.11E-03	99.2	1.57E+00	
1	772.61	12	8	1.76	1545.68	1530	19	3.39E-03	97.8	1.56E+00	T
0	979.34	11	5	1.45	1959.08	1954	10	3.33E-03	90.5	1.25E+00	
0	1021.16	7	17	4.32	2042.72	2031	15	2.08E-03	****	1.20E+00	T
0	1238.68	14	10	0.94	2477.74	2472	12	3.98E-03	****	1.00E+00	T
0	1341.17	10	0	3.94	2682.73	2677	11	3.06E-03	60.3	9.32E-01	
0	1390.10	6	2	0.99	2780.59	2776	7	1.70E-03	****	9.03E-01	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:02:51.15

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289001.CNF;1   *
* Acquisition date : 20-JUN-2024 05:02:15 Sensitivity     : 3.000           *
* Detector ID      : GAM04                Energy tolerance: 1.500           *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 01:00:00.38     Half life ratio : *****           *
* Sample date      : 23-MAY-2024 16:00:00 Nuclide Library : SOLID           *
* Sample ID        : G669289001           Analyst initials: MXR1            *
* Batch Number     : 2618905              Sample Quantity : 1.1123E+02 GRAM *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000      *
*                                         Dry Weight      :    0.00000      *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   : 13-DEC-2023 04:08:51 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM04_CAN.CNF;19            *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	2.918E-01
CR-51	5.463E-01
RB-84	7.612E-02
CD-109	8.905E-01
SN-126	8.916E-02
BA-137M	3.722E-02
CS-137	3.932E-02
TL-208	4.180E-02
BI-211	2.210E-01
BI-212	4.867E-01
PB-212	6.930E-02
BI-214	5.747E-02
PB-214	8.037E-02
RN-222	5.747E-02
RA-224	7.429E-01
RA-226	8.037E-02
AC-228	1.442E-01
RA-228	1.442E-01
TH-228	6.930E-02
TH-230	8.037E-02
TH-232	1.442E-01
TH-234	1.633E+00
U-234	8.037E-02
U-238	1.633E+00
AM-243	6.205E-02
ANH-511	3.245E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	3.173E-01	NOT IDENT.
NA-22	4.677E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	3.329E-02	NOT IDENT.
SC-46	4.434E-02	FAIL ABUN

V-48	1.373E-01	NOT IDENT.
MN-52	5.512E-01	NOT IDENT.
MN-54	3.715E-02	NOT IDENT.
CO-56	4.509E-02	FAIL ABUN
MN-56	0.000E+00	SHORT HLIF
CO-57	2.805E-02	NOT IDENT.
CO-58	4.533E-02	NOT IDENT.
FE-59	1.061E-01	NOT IDENT.
CO-60	3.762E-02	NOT IDENT.
ZN-65	9.195E-02	NOT IDENT.
GE-68	1.369E+00	NOT IDENT.
AS-73	2.098E+00	NOT IDENT.
AS-74	1.322E-01	NOT IDENT.
SE-75	5.171E-02	NOT IDENT.
BR-77	0.000E+00	SHORT HLIF
SR-82	3.828E-01	NOT IDENT.
RB-83	7.494E-02	NOT IDENT.
KR-85	8.056E+00	NOT IDENT.
SR-85	4.863E-02	NOT IDENT.
RB-86	1.296E+00	NOT IDENT.
Y-88	9.319E-03	NOT IDENT.
Y-91	2.478E+01	NOT IDENT.
NB-94	2.501E-02	NOT IDENT.
NB-95	5.084E-02	NOT IDENT.
NB-95M	1.567E-01	NOT IDENT.
ZR-95	7.242E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	3.434E-02	FAIL ABUN
RH-102	6.520E-02	NOT IDENT.
RU-103	4.279E-02	FAIL ABUN
RH-106	3.745E-01	NOT IDENT.
RU-106	3.745E-01	NOT IDENT.
AG-108M	3.251E-02	NOT IDENT.
AG-110	8.243E-01	NOT IDENT.
AG-110M	5.984E-02	FAIL ABUN
SN-113	4.151E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	1.051E-01	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	3.093E-02	NOT IDENT.
SB-124	5.726E-02	NOT IDENT.
SB-125	7.385E-02	FAIL ABUN
TE-125M	1.184E+01	NOT IDENT.
I-126	4.371E-01	NOT IDENT.
SB-126	2.621E-01	NOT IDENT.
SB-127	1.400E+01	NOT IDENT.
I-131	3.937E-01	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	1.174E+01	NOT IDENT.
BA-133	4.192E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	4.881E-02	NOT IDENT.
I-135	0.000E+00	SHORT HLIF
CS-136	1.904E-01	NOT IDENT.
LA-138	3.835E-02	NOT IDENT.
CE-139	2.985E-02	NOT IDENT.
BA-140	4.535E-01	NOT IDENT.
LA-140	1.847E-01	NOT IDENT.
CE-141	7.400E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	2.141E-01	NOT IDENT.
PM-144	3.300E-02	NOT IDENT.
PR-144	2.486E+00	NOT IDENT.
PM-146	4.809E-02	NOT IDENT.
ND-147	1.315E+00	FAIL ABUN
PM-147	7.337E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	3.169E-02	FAIL ABUN
EU-152	1.103E-01	NOT IDENT.
GD-153	9.135E-02	NOT IDENT.
EU-154	1.312E-01	NOT IDENT.
EU-155	1.173E-01	FAIL ABUN
TB-160	1.382E-01	FAIL ABUN
HO-166M	6.885E-02	NOT IDENT.
TM-171	3.758E+01	NOT IDENT.

HF-172	1.932E-01	FAIL ABUN
LU-172	7.237E-02	FAIL ABUN
LU-176	2.165E-02	FAIL ABUN
HF-181	6.621E-02	NOT IDENT.
TA-182	2.462E-01	FAIL ABUN
RE-183	4.312E-01	NOT IDENT.
RE-184	1.865E-01	NOT IDENT.
W-188	9.987E+00	FAIL ABUN
IR-192	3.903E-02	FAIL ABUN
HG-203	5.316E-02	NOT IDENT.
TL-204	6.300E+00	NOT IDENT.
BI-207	6.056E-02	FAIL ABUN
BI-210	1.419E+01	NOT IDENT.
PB-210	1.419E+01	NOT IDENT.
PB-211	8.191E-01	NOT IDENT.
BI-213	1.022E-01	NOT IDENT.
RN-219	4.732E-01	NOT IDENT.
RA-223	8.121E-01	FAIL ABUN
AC-225	1.619E+00	NOT IDENT.
AC-227	2.514E-01	NOT IDENT.
TH-227	2.514E-01	NOT IDENT.
TH-229	5.788E-01	FAIL ABUN
PA-231	5.865E-01	NOT IDENT.
TH-231	8.121E-01	FAIL ABUN
PA-233	6.560E-02	NOT IDENT.
PA-234	2.406E-01	FAIL ABUN
PA-234M	5.149E+00	NOT IDENT.
U-235	2.298E-01	FAIL ABUN
NP-237	6.560E-02	FAIL ABUN
NP-238	0.000E+00	SHORT HLIF
NP-239	2.757E-01	NOT IDENT.
PU-239	4.143E+02	FAIL ABUN
AM-241	2.666E-01	NOT IDENT.
CM-243	9.725E-02	NOT IDENT.
BK-247	8.380E-02	NOT IDENT.
CM-247	4.559E-02	NOT IDENT.
CF-249	4.511E-02	NOT IDENT.
CF-251	1.321E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:02:55.22

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289001.CNF;1		
Acquisition date	: 20-JUN-2024 05:02:15	Sensitivity	: 3.000
Detector ID	: GAM04	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.38	Half life ratio	: *****
Sample date	: 23-MAY-2024 16:00:00	Nuclide Library	: SOLID
Sample ID	: G669289001	Analyst initials	: MXR1
Batch Number	: 2618905	Sample Quantity	: 1.1123E+02 GRAM
		Quantity Err(%)	: 1.7981E-03 %
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 13-DEC-2023 04:08:51	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM04_CAN.CNF;19		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	1.628E+01	2.854E+00	2.854E+00
CR-51	1.252E+00	9.253E-01	9.253E-01
RB-84	1.013E-01	1.477E-01	1.477E-01
CD-109	1.578E+00	1.787E+00	1.787E+00
SN-126	1.514E-01	1.713E-01	1.713E-01
BA-137M	1.918E-01	1.008E-01	1.008E-01
CS-137	2.027E-01	1.065E-01	1.065E-01
TL-208	2.538E-01	1.347E-01	1.347E-01
BI-211	3.293E+00	6.773E-01	6.773E-01
BI-212	7.563E-01	1.072E+00	1.072E+00
PB-212	9.275E-01	1.964E-01	1.964E-01
BI-214	1.065E+00	2.505E-01	2.505E-01
PB-214	1.195E+00	2.450E-01	2.450E-01
RN-222	1.065E+00	2.505E-01	2.505E-01
RA-224	3.060E+00	1.617E+00	1.617E+00
RA-226	1.195E+00	2.450E-01	2.450E-01
AC-228	7.684E-01	3.243E-01	3.243E-01
RA-228	7.684E-01	3.243E-01	3.243E-01
TH-228	9.275E-01	1.964E-01	1.964E-01
TH-230	1.195E+00	2.450E-01	2.450E-01
TH-232	7.684E-01	3.243E-01	3.243E-01
TH-234	2.498E+00	3.266E+00	3.266E+00
U-234	1.195E+00	2.450E-01	2.450E-01
U-238	2.498E+00	3.266E+00	3.266E+00
AM-243	1.926E-01	1.236E-01	1.236E-01
ANH-511	3.183E-02	9.729E-02	9.729E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	-1.902E-01	4.051E-01	4.140E-01	NOT IDENT.
NA-22	-2.578E-03	5.582E-02	5.584E-02	NOT IDENT.
NA-24	2.376E+11	1.062E+12	1.067E+12	SHORT HLIF
AL-26	-2.418E-02	5.043E-02	5.159E-02	NOT IDENT.

SC-46	3.745E-03	5.352E-02	5.354E-02	FAIL ABUN
V-48	4.052E-02	1.787E-01	1.797E-01	NOT IDENT.
MN-52	-6.818E-01	1.022E+00	1.067E+00	NOT IDENT.
MN-54	-1.302E-02	4.825E-02	4.860E-02	NOT IDENT.
CO-56	1.615E-02	5.127E-02	5.178E-02	FAIL ABUN
MN-56	1.000E+41	3.219E+41	0.000E+00	SHORT HLIF
CO-57	1.071E-02	3.174E-02	3.211E-02	NOT IDENT.
CO-58	5.101E-02	4.247E-02	4.829E-02	NOT IDENT.
FE-59	2.473E-02	1.178E-01	1.184E-01	NOT IDENT.
CO-60	1.524E-02	3.977E-02	4.036E-02	NOT IDENT.
ZN-65	7.196E-03	1.194E-01	1.195E-01	NOT IDENT.
GE-68	1.885E-01	1.552E+00	1.554E+00	NOT IDENT.
AS-73	1.430E+00	2.232E+00	2.323E+00	NOT IDENT.
AS-74	-3.580E-03	1.573E-01	1.573E-01	NOT IDENT.
SE-75	-1.318E-02	6.555E-02	6.582E-02	NOT IDENT.
BR-77	5.426E+03	4.465E+03	5.091E+03	SHORT HLIF
SR-82	-1.477E-01	5.718E-01	5.757E-01	NOT IDENT.
RB-83	-4.891E-02	9.656E-02	9.905E-02	NOT IDENT.
KR-85	4.040E+00	9.725E+00	9.894E+00	NOT IDENT.
SR-85	2.430E-02	5.872E-02	5.974E-02	NOT IDENT.
RB-86	1.089E-01	1.483E+00	1.484E+00	NOT IDENT.
Y-88	-2.163E-02	3.309E-02	3.450E-02	NOT IDENT.
Y-91	-6.401E+00	3.046E+01	3.059E+01	NOT IDENT.
NB-94	-3.952E-02	4.569E-02	4.904E-02	NOT IDENT.
NB-95	-2.882E-02	7.615E-02	7.725E-02	NOT IDENT.
NB-95M	3.445E-02	2.027E-01	2.033E-01	NOT IDENT.
ZR-95	-1.979E-02	9.233E-02	9.276E-02	NOT IDENT.
NB-97	1.000E+41	2.983E+41	0.000E+00	SHORT HLIF
ZR-97	-2.478E+11	5.610E+11	5.720E+11	SHORT HLIF
MO-99	-2.016E+02	3.508E+02	3.624E+02	SHORT HLIF
TC-99M	5.480E+31	3.672E+31	0.000E+00	SHORT HLIF
RH-101	1.369E-01	8.496E-02	1.050E-01	FAIL ABUN
RH-102	1.841E-02	7.454E-02	7.500E-02	NOT IDENT.
RU-103	-1.549E-02	5.292E-02	5.338E-02	FAIL ABUN
RH-106	1.372E-01	4.221E-01	4.266E-01	NOT IDENT.
RU-106	1.372E-01	4.221E-01	4.266E-01	NOT IDENT.
AG-108M	1.005E-02	3.610E-02	3.639E-02	NOT IDENT.
AG-110	4.141E-01	9.976E-01	1.015E+00	NOT IDENT.
AG-110M	1.835E-02	7.720E-02	7.764E-02	FAIL ABUN
SN-113	-8.216E-02	6.009E-02	7.059E-02	NOT IDENT.
CD-115	-7.959E+02	6.646E+02	7.553E+02	SHORT HLIF
SN-117M	1.351E-02	1.234E-01	1.235E-01	NOT IDENT.
SB-122	-2.745E+00	7.621E+01	7.622E+01	SHORT HLIF
TE-123M	4.807E-04	3.670E-02	3.670E-02	NOT IDENT.
SB-124	-5.315E-02	1.008E-01	1.036E-01	NOT IDENT.
SB-125	-1.143E-01	1.051E-01	1.171E-01	FAIL ABUN
TE-125M	2.009E+00	1.355E+01	1.358E+01	NOT IDENT.
I-126	3.804E-01	4.792E-01	5.090E-01	NOT IDENT.
SB-126	-9.020E-02	3.356E-01	3.380E-01	NOT IDENT.
SB-127	-1.226E+00	1.700E+01	1.701E+01	NOT IDENT.
I-131	2.412E-01	4.193E-01	4.332E-01	NOT IDENT.
I-132	-1.000E+41	2.938E+41	0.000E+00	SHORT HLIF
TE-132	5.832E+00	1.360E+01	1.385E+01	NOT IDENT.
BA-133	3.056E-02	4.705E-02	4.902E-02	NOT IDENT.
I-133	9.471E+06	1.299E+08	1.300E+08	SHORT HLIF
CS-134	5.387E-02	4.850E-02	5.424E-02	NOT IDENT.
I-135	-1.846E+29	3.633E+29	0.000E+00	SHORT HLIF
CS-136	-7.951E-02	2.391E-01	2.418E-01	NOT IDENT.
LA-138	-1.132E-02	5.101E-02	5.126E-02	NOT IDENT.
CE-139	-7.679E-03	3.651E-02	3.667E-02	NOT IDENT.
BA-140	-1.034E-01	5.534E-01	5.553E-01	NOT IDENT.
LA-140	-7.752E-02	2.379E-01	2.405E-01	NOT IDENT.
CE-141	-1.818E-01	1.091E-01	1.364E-01	NOT IDENT.
CE-143	1.231E+05	8.443E+04	1.010E+05	SHORT HLIF
CE-144	-9.965E-02	2.614E-01	2.653E-01	NOT IDENT.
PM-144	4.478E-03	3.867E-02	3.872E-02	NOT IDENT.
PR-144	3.373E-01	2.913E+00	2.917E+00	NOT IDENT.
PM-146	5.274E-03	5.499E-02	5.504E-02	NOT IDENT.
ND-147	4.089E-01	1.474E+00	1.486E+00	FAIL ABUN
PM-147	-5.518E+02	9.149E+02	9.481E+02	NOT IDENT.
PM-149	-3.177E+03	6.224E+03	6.387E+03	SHORT HLIF
EU-150	-1.059E-02	4.518E-02	4.543E-02	FAIL ABUN
EU-152	-6.499E-02	1.327E-01	1.359E-01	NOT IDENT.
GD-153	4.636E-02	1.080E-01	1.101E-01	NOT IDENT.
EU-154	-8.381E-02	1.736E-01	1.777E-01	NOT IDENT.
EU-155	7.212E-02	1.294E-01	1.335E-01	FAIL ABUN
TB-160	1.329E-01	1.362E-01	1.488E-01	FAIL ABUN
HO-166M	5.910E-02	7.741E-02	8.187E-02	NOT IDENT.

TM-171	-3.163E+01	4.617E+01	4.833E+01	NOT IDENT.
HF-172	-1.080E-03	2.444E-01	2.444E-01	FAIL ABUN
LU-172	4.689E-02	7.453E-02	7.747E-02	FAIL ABUN
LU-176	-2.733E-02	3.218E-02	3.446E-02	FAIL ABUN
HF-181	3.982E-02	7.159E-02	7.381E-02	NOT IDENT.
TA-182	6.127E-02	2.783E-01	2.797E-01	FAIL ABUN
RE-183	6.508E-03	4.840E-01	4.840E-01	NOT IDENT.
RE-184	3.461E-02	2.219E-01	2.225E-01	NOT IDENT.
W-188	1.709E+01	1.712E+01	1.877E+01	FAIL ABUN
IR-192	8.733E-03	5.120E-02	5.135E-02	FAIL ABUN
HG-203	-2.558E-03	6.611E-02	6.612E-02	NOT IDENT.
TL-204	-5.401E+00	8.264E+00	8.615E+00	NOT IDENT.
BI-207	3.827E-02	6.273E-02	6.506E-02	FAIL ABUN
BI-210	1.197E+01	1.478E+01	1.574E+01	NOT IDENT.
PB-210	1.197E+01	1.478E+01	1.574E+01	NOT IDENT.
PB-211	-3.687E-01	9.871E-01	1.001E+00	NOT IDENT.
BI-213	-4.941E-02	1.259E-01	1.279E-01	NOT IDENT.
RN-219	-2.153E-01	5.704E-01	5.786E-01	NOT IDENT.
RA-223	9.454E-02	1.246E+00	1.247E+00	FAIL ABUN
AC-225	1.007E+00	1.852E+00	1.907E+00	NOT IDENT.
AC-227	3.238E-02	3.041E-01	3.045E-01	NOT IDENT.
TH-227	3.238E-02	3.041E-01	3.045E-01	NOT IDENT.
TH-229	-4.413E-02	7.017E-01	7.020E-01	FAIL ABUN
PA-231	1.939E-01	7.056E-01	7.110E-01	NOT IDENT.
TH-231	9.454E-02	1.246E+00	1.247E+00	FAIL ABUN
PA-233	-2.182E-02	8.546E-02	8.603E-02	NOT IDENT.
PA-234	-1.491E-01	3.820E-01	3.879E-01	FAIL ABUN
PA-234M	-4.996E+00	7.385E+00	7.721E+00	NOT IDENT.
U-235	2.570E-01	2.512E-01	2.767E-01	FAIL ABUN
NP-237	-2.182E-02	8.546E-02	8.603E-02	FAIL ABUN
NP-238	5.086E+02	1.649E+03	1.665E+03	SHORT HLIF
NP-239	2.165E-01	3.001E-01	3.156E-01	NOT IDENT.
PU-239	1.452E+03	8.654E+02	1.085E+03	FAIL ABUN
AM-241	2.229E-01	2.807E-01	2.982E-01	NOT IDENT.
CM-243	-1.059E-01	1.246E-01	1.334E-01	NOT IDENT.
BK-247	-1.189E-02	1.050E-01	1.051E-01	NOT IDENT.
CM-247	1.564E-02	5.054E-02	5.103E-02	NOT IDENT.
CF-249	1.959E-02	4.916E-02	4.995E-02	NOT IDENT.
CF-251	-8.689E-03	1.590E-01	1.591E-01	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	41.5126	85.43	63.2523	131.20	31.8237
45.60	29.5105	86.55	64.0180	133.02	50.8693
46.54	30.4254	86.79	64.0511	133.52	55.9017
49.72	33.2332	86.94	64.0725	136.00	53.1173
51.35	31.7334	87.09	64.0933	136.47	53.1569
51.87	33.4575	87.57	64.1601	140.51	0.0000
52.39	36.0244	88.03	59.9426	143.76	34.4903
52.97	31.0526	88.34	59.9824	144.24	26.3940
53.44	24.3733	88.47	59.9994	145.44	67.1229
54.07	34.5243	89.96	64.4901	152.43	55.4930
57.36	0.0000	1093.63	64.5831	153.25	61.7331
57.53	43.3842	91.11	68.9569	323.87	52.5463
57.98	41.7365	92.59	57.4372	156.02	56.8169
59.27	34.1959	93.35	57.5280	158.56	41.4716
59.32	34.2007	94.56	57.6718	159.00	42.5352
59.54	28.2331	94.65	57.6823	162.33	41.6931
60.96	36.6484	94.67	57.6846	162.66	45.8832
61.17	34.3779	94.87	57.7083	163.33	37.5760
62.93	30.2261	97.43	38.6727	165.86	39.8027
63.29	30.2554	98.43	43.7504	176.31	46.7413
63.58	30.2792	98.44	43.7514	176.60	43.5706
64.28	41.6038	99.53	47.9179	177.52	41.4958
66.73	41.0016	100.11	47.0322	181.07	0.0000
67.24	46.2970	102.03	39.6563	181.52	37.0772
125.81	49.8480	103.18	49.2078	184.41	36.4991
67.75	49.8567	103.37	51.1194	143.76	36.5603
68.89	52.6350	105.21	42.7502	193.51	46.6901
69.67	43.0709	105.31	42.7581	197.03	38.1675
70.82	58.7692	106.12	43.7757	198.01	43.6719
70.83	58.7707	106.47	45.7094	201.83	48.2599
72.81	49.6105	109.28	45.9507	203.43	38.4618
72.87	49.6178	111.00	47.0572	205.31	36.3445
74.66	49.8348	111.76	42.3145	210.85	49.8820
74.82	49.8541	114.06	53.1142	215.65	39.0108
74.97	49.8720	116.30	38.7839	218.12	34.6489
77.11	50.1275	116.74	33.9623	222.11	43.7857
78.74	50.3198	119.76	39.9959	227.09	44.0267
79.69	50.4308	121.12	52.8019	227.38	40.6527
80.03	50.4702	121.22	52.8110	228.16	31.6457
80.12	50.4808	121.78	36.2203	228.18	31.6465
80.19	50.4890	122.06	43.0936	116.74	31.6465
80.57	51.7366	122.92	37.2720	235.69	41.0180
81.00	52.9917	123.07	37.2816	235.96	41.0301
81.07	53.0002	265.00	43.2131	238.63	48.0037
81.75	61.5275	125.81	44.6834	238.98	0.0000
82.47	58.9092	127.23	39.5200	240.99	48.1222
83.79	48.4790	127.91	39.5650	242.00	48.1735
84.00	44.8642	129.30	39.6558	244.70	44.4741

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.40	30.1411	344.28	34.3977	563.25	23.2148
252.80	35.9521	345.93	26.8822	564.24	0.0000
254.15	0.0000	351.06	25.3040	569.33	19.4092
256.23	25.6022	351.93	25.3210	946.00	17.4697
260.90	0.0000	355.39	0.0000	569.70	18.4418
264.66	34.0304	356.01	12.7008	583.19	19.5524
264.80	30.5140	364.49	18.7496	584.27	19.5630
265.00	30.5195	366.42	0.0000	595.83	10.8245
269.46	34.1879	372.51	16.7201	427.87	13.8103
270.03	29.4891	375.05	13.4015	602.52	0.0000
271.23	40.1509	377.52	18.0734	604.72	14.8285
273.65	41.4268	356.01	20.7520	607.14	9.8975
276.40	21.3607	388.16	19.0826	609.32	9.9084
277.37	43.9488	388.63	15.6182	610.33	9.9137
277.60	39.2056	391.69	31.3059	614.28	16.3899
278.00	36.8437	264.66	22.7548	618.01	24.8800
279.20	35.6955	401.81	30.6563	620.36	14.9457
279.54	35.7065	402.40	23.6591	621.93	13.9601
279.70	32.1408	404.85	29.8441	630.19	0.0000
280.46	27.3988	410.95	22.0378	631.29	15.0269
283.69	31.0654	413.71	8.8320	633.25	12.0332
284.31	25.1054	414.70	15.0248	634.78	13.0455
285.41	29.9179	423.72	16.0067	635.95	10.0407
285.90	0.0000	427.09	16.9342	636.99	17.0782
287.50	31.9735	427.87	23.1853	657.50	10.6530
290.67	28.8589	433.94	17.0119	657.76	12.1768
293.27	0.0000	439.40	17.0738	657.90	0.0000
351.93	25.7578	440.45	20.6823	661.66	14.2324
295.96	25.7754	453.88	19.9563	664.57	0.0000
879.38	43.5970	463.37	9.5823	666.33	6.1130
299.98	29.1006	468.07	15.5598	666.50	9.1703
300.09	35.5710	473.00	16.5260	667.71	0.0000
300.13	35.5728	475.06	13.7891	677.62	9.2183
301.36	32.7785	476.78	12.8835	685.70	16.4492
302.85	27.9590	477.60	15.6522	692.65	0.0000
256.23	19.4780	482.18	16.6198	695.00	8.2598
304.85	24.3549	487.02	17.5949	696.49	10.3316
306.78	26.8353	492.35	0.0000	696.51	10.3316
308.46	23.2102	497.08	13.9749	697.00	13.4343
311.90	26.9548	505.52	18.7264	697.30	14.4694
316.51	19.6807	507.63	0.0000	697.49	13.4369
319.41	25.8943	511.00	19.7260	702.65	17.0948
320.08	25.9091	514.00	16.9373	706.68	7.2655
321.04	26.3411	514.00	16.9380	711.68	7.8018
323.87	34.6548	520.40	18.8892	720.70	12.5332
325.23	41.3025	520.69	0.0000	721.93	0.0000
328.76	34.7958	522.65	0.0000	722.78	18.8167
333.37	34.9282	527.90	0.0000	722.91	18.8181
333.97	34.9453	528.26	16.1284	723.31	14.1158
334.37	34.9564	529.59	11.3931	724.19	6.2761
338.28	27.5530	529.87	0.0000	727.33	11.5223
338.32	27.5537	531.02	13.3027	733.00	11.3410
311.90	35.1290	537.26	12.3959	735.93	9.4629
340.48	35.1290	546.56	0.0000	333.97	13.6776
340.55	35.1316	552.55	8.6550	739.50	0.0000

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
744.23	16.8835	949.00	7.9980	1384.29	2.6024
747.24	10.5656	667.71	0.0000	1408.01	5.8905
748.06	10.5693	962.31	14.9228	1434.09	3.9529
752.31	8.4707	964.08	8.2699	1435.80	2.9659
753.82	14.8334	966.17	8.6206	1457.56	0.0000
756.73	10.6083	911.20	5.7528	1460.82	2.9843
756.80	10.6087	983.53	8.6725	1489.16	2.0032
884.68	11.1729	984.45	0.0000	1505.03	4.0215
765.81	19.1689	1274.44	17.4200	1584.12	2.0482
766.42	11.7170	1001.03	16.2849	1596.21	5.1346
766.84	11.7193	1002.74	15.1302	1620.50	2.0651
772.60	0.0000	1004.73	9.3174	1621.92	3.0987
776.52	9.6273	507.63	0.0000	1678.03	0.0000
739.50	0.0000	1025.87	0.0000	1690.97	3.1459
778.90	11.7784	1028.54	0.0000	1750.46	0.0000
783.70	16.0931	1037.84	11.4805	1764.49	2.1301
788.74	15.0516	1038.76	0.0000	1063.66	4.2654
792.07	13.9955	631.29	7.0850	1771.35	2.1332
795.86	5.3912	1048.07	9.7465	1791.20	0.0000
810.06	8.6758	1049.04	7.9772	1808.65	5.3738
810.29	4.3382	1050.41	5.3203	1810.72	0.0000
344.28	2.1693	1063.66	6.2335	1836.06	2.1615
810.76	2.1695	1077.00	8.0486		
815.77	7.6087	1077.34	8.0497		
1048.07	9.7932	1085.87	6.2775		
832.01	17.5033	1093.63	5.3939		
834.85	13.1421	1099.45	6.3044		
835.71	7.6688	1112.07	9.0417		
836.80	0.0000	1112.84	8.2684		
846.75	0.0000	1115.54	8.6895		
846.77	7.7018	1120.29	13.5965		
856.80	6.6272	1120.55	13.5974		
860.56	7.7428	1221.41	13.0570		
871.09	8.8844	1129.67	11.8177		
873.19	5.5573	1131.51	0.0000		
875.33	0.0000	1147.95	0.0000		
879.38	1.6710	1173.23	14.7354		
880.51	5.0153	1177.95	13.8336		
881.60	6.6897	1189.05	7.4019		
883.24	10.0408	1204.77	11.1541		
884.68	10.0463	1221.41	11.2068		
889.28	8.9453	1231.02	10.3011		
894.76	5.6020	1235.36	9.0012		
898.04	8.9743	1238.28	10.3226		
900.72	6.7373	1260.41	0.0000		
903.28	11.2394	1271.87	9.4720		
911.20	10.1448	1274.44	12.3224		
912.08	10.1481	1274.54	8.5309		
923.98	0.0000	1291.59	8.5710		
926.50	6.8008	1298.22	0.0000		
929.11	10.2107	1312.11	8.6182		
935.54	11.3713	1332.49	2.8885		
937.49	18.2064	1362.66	0.0000		
944.13	9.1247	1365.19	8.7396		
946.00	9.1309	1368.63	0.0000		

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:03:22.86

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289002.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM07.CNF;878
                                     Background date  : 16-JUN-2024 11:30:22
Sample date      : 21-MAY-2024 08:00:00 Acquisition date : 20-JUN-2024 05:02:44
Sample ID        : G669289002           Sample quantity  : 1.25250E+02 GRAM
Detector name    : GAM07                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:00.39  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : MXR1
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 2618905              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
*************************************************************************
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.63*	34	69	2.77	93.40	89	10	9.37E-03	50.2	
2	1	74.84*	87	82	1.11	149.80	144	19	2.41E-02	20.5	1.59E+00
3	1	77.05*	117	70	1.11	154.20	144	19	3.25E-02	16.0	
4	0	87.52	32	118	1.20	175.14	170	8	8.85E-03	62.3	
5	0	93.81*	56	124	1.44	187.70	182	14	1.56E-02	46.4	
6	0	99.43	36	64	0.81	198.93	196	8	1.01E-02	41.0	
7	0	106.75	16	48	0.61	213.56	209	7	4.57E-03	74.4	
8	0	139.74	31	53	1.11	279.50	276	8	8.65E-03	44.0	
9	0	186.22*	44	104	1.41	372.41	365	13	1.21E-02	51.8	
10	0	212.84	11	85	4.18	425.60	415	12	2.92E-03	179.7	
11	0	219.38	28	39	1.00	438.67	434	8	7.81E-03	43.1	
12	0	238.36*	148	109	1.22	476.62	470	13	4.11E-02	17.5	
13	0	242.20	30	48	0.87	484.29	482	6	8.25E-03	42.7	
14	0	258.13	40	43	2.94	516.12	510	13	1.11E-02	37.0	
15	0	270.34	33	52	1.60	540.52	535	10	9.17E-03	44.5	
16	0	279.46	17	35	2.63	558.76	553	9	4.61E-03	69.5	
17	0	295.15	80	43	1.38	590.12	582	13	2.24E-02	20.0	
18	0	338.49*	32	42	0.93	676.74	672	11	9.03E-03	43.0	
19	0	352.01*	132	47	1.11	703.77	698	11	3.65E-02	13.6	
20	0	425.81	20	19	1.77	851.28	847	8	5.56E-03	44.4	
21	0	492.21	18	14	3.48	984.00	978	14	5.00E-03	50.0	
22	0	501.93	17	28	4.02	1003.42	992	17	4.59E-03	79.2	
23	3	510.72*	3	20	2.02	1020.99	1013	21	9.19E-04	406.0	1.19E+00
24	3	514.22	25	9	2.02	1028.00	1013	21	6.94E-03	45.3	
25	0	583.11*	65	8	1.93	1165.68	1161	10	1.81E-02	15.7	
26	0	609.38*	93	19	1.17	1218.20	1214	11	2.57E-02	14.4	
27	0	642.92	12	11	1.67	1285.25	1279	11	3.33E-03	60.8	
28	0	661.35	35	23	1.81	1322.09	1314	13	9.72E-03	32.8	
29	0	665.09	10	15	0.55	1329.55	1326	10	2.78E-03	79.1	
30	0	727.38*	19	18	3.93	1454.06	1446	14	5.33E-03	52.3	
31	0	805.49	8	16	3.76	1610.20	1599	13	2.26E-03	107.9	
32	0	814.88	10	3	1.41	1628.98	1625	7	2.69E-03	45.1	
33	0	818.68	14	0	2.47	1636.57	1633	8	3.89E-03	26.7	
34	0	876.28	9	9	1.33	1751.72	1744	12	2.57E-03	72.5	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
35	0	889.77	7	5	0.91	1778.69	1772	9	1.81E-03	70.7	
36	0	910.97*	48	4	1.56	1821.07	1814	15	1.33E-02	18.0	
37	0	964.32	17	5	2.30	1927.71	1922	10	4.72E-03	34.6	
38	0	969.34	31	15	1.80	1937.74	1932	14	8.70E-03	31.1	
39	0	1036.21	11	5	1.62	2071.43	2066	9	2.92E-03	47.7	
40	0	1120.91	16	9	1.31	2240.75	2235	9	4.31E-03	42.9	
41	0	1137.75	12	0	0.73	2274.42	2271	8	3.33E-03	28.9	
42	0	1145.20	7	4	1.39	2289.31	2286	7	1.81E-03	61.8	
43	0	1173.80	6	5	1.44	2346.49	2343	8	1.53E-03	77.1	
44	0	1209.77	26	24	2.90	2418.39	2406	20	7.14E-03	51.4	
45	0	1227.54	22	3	0.99	2453.92	2447	12	6.05E-03	26.8	
46	0	1288.24	10	2	1.11	2575.27	2568	11	2.75E-03	44.6	
47	0	1460.62*	202	11	1.83	2919.89	2912	14	5.61E-02	7.9	
48	0	1763.79*	22	3	3.48	3526.05	3520	13	6.08E-03	28.2	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JUN-2024 06:03:24

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289002.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: MXR1		
Sample date	: 21-MAY-2024 08:00:00	Acquisition date	: 20-JUN-2024 05:02:44
Sample ID	: G669289002	Sample quantity	: 125.25 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA7	Detector geometry	: CAN
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:00.39 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	192	10.66*	1.065E+00	1.012E+01	1.012E+01	15.85
SC-46	889.28	6	99.98*	1.644E+00	2.322E-02	2.973E-02	141.42
	1120.55	15	99.99	1.335E+00	6.718E-02	8.603E-02	85.83
KR-85	514.00	25	0.43*	2.606E+00	1.340E+01	1.348E+01	90.61
SR-85	514.00	25	96.00*	2.606E+00	6.060E-02	8.342E-02	90.61
CD-109	88.03	36	3.70*	5.666E+00	1.020E+00	1.067E+00	124.63
SN-126	64.28	------	9.60	3.272E+00	------ Line Not Found		------
	86.94	36	8.90	5.666E+00	4.240E-01	4.240E-01	124.63
	87.57	36	37.00*	5.666E+00	1.020E-01	1.020E-01	124.63
BA-137M	661.66	35	89.90*	2.126E+00	1.095E-01	1.097E-01	65.65
CS-137	661.66	35	85.10*	2.126E+00	1.156E-01	1.159E-01	65.65
EU-155	86.55	36	30.70	5.666E+00	1.229E-01	1.244E-01	124.63
	105.31	18	21.10*	6.379E+00	8.119E-02	8.216E-02	148.75
HG-203	70.83	------	3.69	4.130E+00	------ Line Not Found		------
	72.87	------	6.19	4.371E+00	------ Line Not Found		------
	279.20	17	81.56*	4.130E+00	3.100E-02	4.836E-02	138.98
TL-208	277.37	------	6.60	4.153E+00	------ Line Not Found		------
	583.19	65	85.00*	2.358E+00	1.956E-01	1.956E-01	31.41
	860.56	------	12.50	1.694E+00	------ Line Not Found		------
BI-210	46.54	39	4.25*	8.708E-01	6.326E+00	6.342E+00	100.48
PB-210	46.54	39	4.25*	8.708E-01	6.326E+00	6.342E+00	100.48
BI-211	72.87	------	1.23	4.371E+00	------ Line Not Found		------
	351.06	136	12.92*	3.480E+00	1.816E+00	1.816E+00	27.26
BI-212	727.33	19	6.67*	1.961E+00	8.721E-01	8.721E-01	104.62
	1620.50	------	1.47	9.870E-01	------ Line Not Found		------
PB-212	74.82	98	10.28	4.590E+00	1.246E+00	1.246E+00	40.97
	77.11	132	17.10	4.818E+00	9.603E-01	9.603E-01	31.93
	238.63	157	43.60*	4.634E+00	4.654E-01	4.654E-01	35.07
	300.09	------	3.30	3.919E+00	------ Line Not Found		------
BI-214	609.32	93	45.49*	2.275E+00	5.380E-01	5.380E-01	28.71
	1120.29	15	14.92	1.335E+00	4.502E-01	4.502E-01	85.83
	1764.49	21	15.30	9.359E-01	8.599E-01	8.599E-01	56.39
PB-214	74.82	98	5.80	4.590E+00	2.208E+00	2.208E+00	40.97
	77.11	132	9.70	4.818E+00	1.693E+00	1.693E+00	31.93
	87.09	36	3.41	5.666E+00	1.107E+00	1.107E+00	124.63
	242.00	31	7.25	4.581E+00	5.675E-01	5.675E-01	85.48
	295.22	84	18.42	3.967E+00	6.906E-01	6.907E-01	40.10
	351.93	136	35.60*	3.480E+00	6.592E-01	6.592E-01	27.26
RN-222	609.32	93	45.49*	2.275E+00	5.380E-01	5.380E-01	28.71
	1120.29	15	14.92	1.335E+00	4.502E-01	4.502E-01	85.83
	1764.49	21	15.30	9.359E-01	8.599E-01	8.599E-01	56.39
RA-224	240.99	31	4.10*	4.581E+00	1.003E+00	1.003E+00	85.48
AC-225	218.12	30	11.40*	4.910E+00	3.205E-01	2.546E+00	86.23
RA-226	74.82	98	5.80	4.590E+00	2.208E+00	2.208E+00	40.97
	77.11	132	9.70	4.818E+00	1.693E+00	1.693E+00	31.93
	87.09	36	3.41	5.666E+00	1.107E+00	1.107E+00	124.63
	242.00	31	7.25	4.581E+00	5.675E-01	5.675E-01	85.48
	295.22	84	18.42	3.967E+00	6.906E-01	6.907E-01	40.10
	351.93	136	35.60*	3.480E+00	6.592E-01	6.592E-01	27.26

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AC-228	105.21	------	1.10	6.352E+00	------ Line Not Found		------
	338.32	34	11.27	3.584E+00	5.005E-01	5.005E-01	86.10
	835.71	------	1.61	1.738E+00	------ Line Not Found		------
	911.20	47	25.80*	1.610E+00	6.766E-01	6.766E-01	35.97
	968.97	30	15.80	1.522E+00	7.601E-01	7.601E-01	62.27
RA-228	105.21	------	1.10	6.352E+00	------ Line Not Found		------
	338.32	34	11.27	3.584E+00	5.005E-01	5.005E-01	86.10
	835.71	------	1.61	1.738E+00	------ Line Not Found		------
	911.20	47	25.80*	1.610E+00	6.766E-01	6.766E-01	35.97
	968.97	30	15.80	1.522E+00	7.601E-01	7.601E-01	62.27
TH-228	74.82	98	10.28	4.590E+00	1.246E+00	1.246E+00	40.97
	77.11	132	17.10	4.818E+00	9.603E-01	9.603E-01	31.93
	238.63	157	43.60*	4.634E+00	4.654E-01	4.654E-01	35.07
	300.09	------	3.30	3.919E+00	------ Line Not Found		------
TH-230	74.82	98	5.80	4.590E+00	2.208E+00	2.208E+00	40.97
	77.11	132	9.70	4.818E+00	1.693E+00	1.693E+00	31.93
	87.09	36	3.41	5.666E+00	1.107E+00	1.107E+00	124.63
	242.00	31	7.25	4.581E+00	5.675E-01	5.675E-01	85.48
	295.22	84	18.42	3.967E+00	6.906E-01	6.906E-01	40.10
	351.93	136	35.60*	3.480E+00	6.592E-01	6.592E-01	27.26
TH-232	105.21	------	1.10	6.352E+00	------ Line Not Found		------
	338.32	34	11.27	3.584E+00	5.005E-01	5.005E-01	86.10
	835.71	------	1.61	1.738E+00	------ Line Not Found		------
	911.20	47	25.80*	1.610E+00	6.766E-01	6.766E-01	35.97
	968.97	30	15.80	1.522E+00	7.601E-01	7.601E-01	62.27
U-234	74.82	98	5.80	4.590E+00	2.208E+00	2.208E+00	40.97
	77.11	132	9.70	4.818E+00	1.693E+00	1.693E+00	31.93
	87.09	36	3.41	5.666E+00	1.107E+00	1.107E+00	124.63
	242.00	31	7.25	4.581E+00	5.675E-01	5.675E-01	85.48
	295.22	84	18.42	3.967E+00	6.906E-01	6.906E-01	40.10
	351.93	136	35.60*	3.480E+00	6.592E-01	6.592E-01	27.26
AM-243	43.53	------	5.90	5.710E-01	------ Line Not Found		------
	74.66	98	67.20*	4.590E+00	1.906E-01	1.906E-01	40.97
ANH-511	511.00	3	100.00*	2.620E+00	7.664E-03	7.664E-03	811.97

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:03:25.20

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
*                                                                       *
*                        DETECTOR AND SAMPLE DATA                       *
*                                                                       *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289002.CNF;1    *
* Acquisition date : 20-JUN-2024 05:02:44 Sensitivity     : 3.000       *
* Detector ID      : GAM07                Energy tolerance: 1.500       *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000      *
* Elapsed real time:    0 01:00:00.39     Half life ratio : *****       *
* Sample date      : 21-MAY-2024 08:00:00 Analyst initials: MXR1        *
* Sample ID        : G669289002           Sample Quantity : 1.2525E+02 GRAM   *
* Batch Number     : 2618905              Wet Weight      :    0.00000  *
* Wet wt corr      :    1.00000           Dry Weight      :    0.00000  *
* Nuclide Library  : SOLID.NLB;17                                       *
*************************************************************************
*                                                                       *
*                        CALIBRATION INFORMATION                        *
*                                                                       *
* Eff. Cal. date   : 24-JUL-2023 06:56:54 Eff. Geometry   : CAN         *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM07_CAN.CNF;22        *
*************************************************************************
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	1.012E+01	1.572E+00	6.434E-01
SC-46	2.973E-02	4.121E-02	6.480E-02
KR-85	1.348E+01	1.197E+01	1.276E+01
SR-85	8.342E-02	7.407E-02	7.897E-02
CD-109	1.067E+00	1.303E+00	1.276E+00
SN-126	1.020E-01	1.246E-01	1.202E-01
BA-137M	1.097E-01	7.057E-02	5.477E-02
CS-137	1.159E-01	7.455E-02	5.785E-02
EU-155	8.216E-02	1.198E-01	1.477E-01
HG-203	4.836E-02	6.587E-02	7.715E-02
TL-208	1.956E-01	6.022E-02	6.761E-02
BI-210	6.342E+00	6.245E+00	5.242E+00
PB-210	6.342E+00	6.245E+00	5.242E+00
BI-211	1.816E+00	4.852E-01	3.560E-01
BI-212	8.721E-01	8.942E-01	8.432E-01
PB-212	4.654E-01	1.599E-01	9.208E-02
BI-214	5.380E-01	1.514E-01	1.315E-01
PB-214	6.592E-01	1.761E-01	1.295E-01
RN-222	5.380E-01	1.514E-01	1.315E-01
RA-224	1.003E+00	8.406E-01	1.489E+00
AC-225	2.546E+00	2.151E+00	2.385E+00
RA-226	6.592E-01	1.761E-01	1.295E-01
AC-228	6.766E-01	2.385E-01	2.200E-01
RA-228	6.766E-01	2.385E-01	2.200E-01
TH-228	4.654E-01	1.599E-01	9.208E-02
TH-230	6.592E-01	1.761E-01	1.295E-01
TH-232	6.766E-01	2.385E-01	2.200E-01
U-234	6.592E-01	1.761E-01	1.295E-01
AM-243	1.906E-01	7.653E-02	7.115E-02
ANH-511	7.664E-03	6.099E-02	5.479E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)

BE-7	-1.811E-01	3.780E-01	6.801E-01	NOT IDENT.
NA-22	6.052E-03	3.207E-02	7.219E-02	NOT IDENT.
NA-24	0.000E+00	9.970E+12	0.000E+00	SHORT HLIF
AL-26	-8.064E-03	2.389E-02	4.772E-02	NOT IDENT.
V-48	-5.675E-02	1.059E-01	1.966E-01	NOT IDENT.
CR-51	2.840E-01	5.006E-01	1.032E+00	NOT IDENT.
MN-52	-7.896E-01	1.618E+00	2.908E+00	NOT IDENT.
MN-54	8.396E-03	3.600E-02	7.161E-02	NOT IDENT.
CO-56	-7.607E-03	4.348E-02	8.007E-02	NOT IDENT.
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	-4.013E-03	2.067E-02	3.754E-02	NOT IDENT.
CO-58	7.406E-03	4.847E-02	8.577E-02	NOT IDENT.
FE-59	-5.217E-02	1.086E-01	1.994E-01	NOT IDENT.
CO-60	-3.794E-03	3.800E-02	7.620E-02	FAIL ABUN
ZN-65	-6.978E-03	9.653E-02	1.676E-01	NOT IDENT.
GE-68	-9.666E-01	1.240E+00	2.128E+00	NOT IDENT.
AS-73	-2.245E-01	8.240E-01	1.547E+00	NOT IDENT.
AS-74	-1.855E-01	1.667E-01	2.587E-01	NOT IDENT.
SE-75	-1.520E-02	4.088E-02	7.395E-02	FAIL ABUN
BR-77	0.000E+00	1.848E+03	0.000E+00	SHORT HLIF
SR-82	-2.242E-01	5.368E-01	9.355E-01	NOT IDENT.
RB-83	-3.290E-02	5.968E-02	1.065E-01	NOT IDENT.
RB-84	6.705E-02	7.970E-02	1.860E-01	NOT IDENT.
RB-86	-9.676E-01	1.311E+00	2.275E+00	NOT IDENT.
Y-88	4.889E-02	4.390E-02	1.198E-01	NOT IDENT.
Y-91	2.583E+01	2.993E+01	6.072E+01	NOT IDENT.
NB-94	2.584E-02	2.910E-02	6.470E-02	NOT IDENT.
NB-95	1.250E-02	4.502E-02	9.012E-02	NOT IDENT.
NB-95M	8.260E-02	1.341E-01	2.396E-01	NOT IDENT.
ZR-95	2.102E-02	7.751E-02	1.567E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	3.407E+12	0.000E+00	SHORT HLIF
MO-99	0.000E+00	3.758E+02	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	2.388E+34	0.000E+00	SHORT HLIF
RH-101	-3.359E-02	2.692E-02	4.281E-02	NOT IDENT.
RH-102	-8.329E-03	4.809E-02	9.070E-02	NOT IDENT.
RU-103	2.881E-03	4.069E-02	6.244E-02	FAIL ABUN
RH-106	-3.221E-03	3.099E-01	5.946E-01	NOT IDENT.
RU-106	-3.221E-03	3.099E-01	5.946E-01	NOT IDENT.
AG-108M	2.182E-02	2.420E-02	5.375E-02	NOT IDENT.
AG-110	-7.333E-02	8.106E-01	1.357E+00	NOT IDENT.
AG-110M	-1.538E-02	4.890E-02	8.236E-02	NOT IDENT.
SN-113	1.373E-02	4.481E-02	9.042E-02	NOT IDENT.
CD-115	0.000E+00	8.474E+02	0.000E+00	SHORT HLIF
SN-117M	-7.989E-02	9.705E-02	1.598E-01	NOT IDENT.
SB-122	0.000E+00	9.400E+01	0.000E+00	SHORT HLIF
TE-123M	-1.632E-02	2.571E-02	4.340E-02	NOT IDENT.
SB-124	-2.026E-02	3.971E-02	5.005E-02	NOT IDENT.
SB-125	-4.609E-03	7.468E-02	1.323E-01	NOT IDENT.
TE-125M	1.309E+00	8.647E+00	1.536E+01	NOT IDENT.
I-126	4.264E-01	6.608E-01	8.364E-01	FAIL ABUN
SB-126	-2.889E-02	3.481E-01	5.810E-01	FAIL ABUN
SB-127	-8.537E+00	2.032E+01	3.572E+01	NOT IDENT.
I-131	1.040E-01	3.514E-01	7.174E-01	NOT IDENT.
I-132	0.000E+00	1.905E+41	0.000E+00	SHORT HLIF
TE-132	-5.650E+00	1.536E+01	2.620E+01	NOT IDENT.
BA-133	9.080E-03	3.864E-02	7.107E-02	NOT IDENT.
I-133	0.000E+00	4.642E+08	0.000E+00	SHORT HLIF
CS-134	1.450E-02	3.952E-02	8.042E-02	NOT IDENT.
I-135	0.000E+00	8.218E+31	0.000E+00	SHORT HLIF
CS-136	9.321E-02	2.331E-01	4.988E-01	FAIL ABUN
LA-138	-5.013E-02	5.493E-02	8.352E-02	NOT IDENT.
CE-139	-4.571E-03	2.524E-02	4.515E-02	NOT IDENT.
BA-140	2.464E-01	5.307E-01	1.107E+00	NOT IDENT.
LA-140	-8.512E-02	2.050E-01	3.751E-01	FAIL ABUN
CE-141	-4.280E-03	6.570E-02	1.199E-01	NOT IDENT.
CE-143	0.000E+00	1.825E+05	0.000E+00	SHORT HLIF
CE-144	-8.572E-03	1.872E-01	3.399E-01	NOT IDENT.
PM-144	3.287E-02	3.307E-02	7.323E-02	NOT IDENT.
PR-144	2.470E+00	2.493E+00	5.518E+00	NOT IDENT.
PM-146	2.081E-02	3.985E-02	8.250E-02	NOT IDENT.
ND-147	-1.461E+00	9.479E-01	1.117E+00	NOT IDENT.
PM-147	-4.579E+02	5.991E+02	1.015E+03	NOT IDENT.
PM-149	0.000E+00	8.004E+03	0.000E+00	SHORT HLIF
EU-150	2.168E-02	2.258E-02	4.666E-02	FAIL ABUN
EU-152	-7.982E-02	7.361E-02	1.232E-01	FAIL ABUN
GD-153	4.183E-02	7.040E-02	1.204E-01	NOT IDENT.
EU-154	1.702E-02	9.017E-02	2.030E-01	NOT IDENT.

TB-160	-8.379E-02	1.472E-01	2.278E-01	FAIL ABUN
HO-166M	-3.150E-03	6.592E-02	1.230E-01	FAIL ABUN
TM-171	-3.309E+00	1.459E+01	2.766E+01	NOT IDENT.
HF-172	3.365E-02	1.538E-01	2.912E-01	NOT IDENT.
LU-172	5.765E-02	6.443E-02	1.478E-01	FAIL ABUN
LU-176	2.494E-02	2.225E-02	4.912E-02	FAIL ABUN
HF-181	-1.078E-02	4.852E-02	9.170E-02	NOT IDENT.
TA-182	5.136E-02	2.333E-01	4.248E-01	FAIL ABUN
RE-183	4.936E-03	1.845E-01	3.551E-01	NOT IDENT.
RE-184	4.142E-02	1.361E-01	2.989E-01	NOT IDENT.
W-188	-6.797E+00	7.537E+00	1.144E+01	NOT IDENT.
IR-192	2.795E-02	3.582E-02	7.587E-02	FAIL ABUN
TL-204	-2.414E+00	4.264E+00	6.984E+00	NOT IDENT.
BI-207	-7.771E-03	5.102E-02	1.002E-01	FAIL ABUN
PB-211	-4.361E-02	5.648E-01	1.104E+00	FAIL ABUN
BI-213	3.079E-02	9.298E-02	1.896E-01	NOT IDENT.
RN-219	1.699E-02	3.542E-01	6.967E-01	FAIL ABUN
RA-223	-3.133E-01	5.629E-01	1.031E+00	FAIL ABUN
AC-227	1.535E-01	1.986E-01	4.257E-01	NOT IDENT.
TH-227	1.535E-01	1.986E-01	4.257E-01	NOT IDENT.
TH-229	3.628E-01	4.391E-01	8.692E-01	FAIL ABUN
PA-231	3.639E-01	3.942E-01	8.513E-01	NOT IDENT.
TH-231	-3.133E-01	5.629E-01	1.031E+00	FAIL ABUN
PA-233	3.452E-02	5.089E-02	1.090E-01	NOT IDENT.
PA-234	-2.132E-02	2.425E-01	4.980E-01	FAIL ABUN
PA-234M	1.067E+00	3.388E+00	7.585E+00	NOT IDENT.
TH-234	-1.446E-01	1.133E+00	2.171E+00	FAIL ABUN
U-235	1.390E-01	1.574E-01	3.008E-01	FAIL ABUN
NP-237	3.452E-02	5.089E-02	1.090E-01	FAIL ABUN
NP-238	0.000E+00	1.844E+03	0.000E+00	SHORT HLIF
U-238	-1.446E-01	1.133E+00	2.171E+00	FAIL ABUN
NP-239	-5.032E-03	2.225E-01	4.104E-01	FAIL ABUN
PU-239	1.208E+02	2.713E+02	5.233E+02	NOT IDENT.
AM-241	3.333E-02	1.206E-01	2.368E-01	NOT IDENT.
CM-243	1.763E-02	9.623E-02	1.514E-01	FAIL ABUN
BK-247	-1.248E-02	6.925E-02	1.282E-01	FAIL ABUN
CM-247	-8.957E-03	3.315E-02	6.236E-02	FAIL ABUN
CF-249	-4.044E-04	3.396E-02	6.657E-02	NOT IDENT.
CF-251	-6.364E-02	1.057E-01	1.777E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:03:23.67

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	192	10.66*	1.065E+00	1.012E+01	1.012E+01	15.85
SC-46	889.28	6	99.98*	1.644E+00	2.322E-02	2.973E-02	141.42
	1120.55	15	99.99	1.335E+00	6.718E-02	8.603E-02	85.83
KR-85	514.00	25	0.43*	2.606E+00	1.340E+01	1.348E+01	90.61
SR-85	514.00	25	96.00*	2.606E+00	6.060E-02	8.342E-02	90.61
CD-109	88.03	36	3.70*	5.666E+00	1.020E+00	1.067E+00	124.63
SN-126	64.28	------	9.60	3.272E+00	------ Line Not Found		------
	86.94	36	8.90	5.666E+00	4.240E-01	4.240E-01	124.63
	87.57	36	37.00*	5.666E+00	1.020E-01	1.020E-01	124.63
BA-137M	661.66	35	89.90*	2.126E+00	1.095E-01	1.097E-01	65.65
CS-137	661.66	35	85.10*	2.126E+00	1.156E-01	1.159E-01	65.65
EU-155	86.55	36	30.70	5.666E+00	1.229E-01	1.244E-01	124.63
	105.31	18	21.10*	6.379E+00	8.119E-02	8.216E-02	148.75
HG-203	70.83	------	3.69	4.130E+00	------ Line Not Found		------
	72.87	------	6.19	4.371E+00	------ Line Not Found		------
	279.20	17	81.56*	4.130E+00	3.100E-02	4.836E-02	138.98
TL-208	277.37	------	6.60	4.153E+00	------ Line Not Found		------
	583.19	65	85.00*	2.358E+00	1.956E-01	1.956E-01	31.41
	860.56	------	12.50	1.694E+00	------ Line Not Found		------
BI-210	46.54	39	4.25*	8.708E-01	6.326E+00	6.342E+00	100.48
PB-210	46.54	39	4.25*	8.708E-01	6.326E+00	6.342E+00	100.48
BI-211	72.87	------	1.23	4.371E+00	------ Line Not Found		------
	351.06	136	12.92*	3.480E+00	1.816E+00	1.816E+00	27.26
BI-212	727.33	19	6.67*	1.961E+00	8.721E-01	8.721E-01	104.62
	1620.50	------	1.47	9.870E-01	------ Line Not Found		------
PB-212	74.82	98	10.28	4.590E+00	1.246E+00	1.246E+00	40.97
	77.11	132	17.10	4.818E+00	9.603E-01	9.603E-01	31.93
	238.63	157	43.60*	4.634E+00	4.654E-01	4.654E-01	35.07
	300.09	------	3.30	3.919E+00	------ Line Not Found		------
BI-214	609.32	93	45.49*	2.275E+00	5.380E-01	5.380E-01	28.71
	1120.29	15	14.92	1.335E+00	4.502E-01	4.502E-01	85.83
	1764.49	21	15.30	9.359E-01	8.599E-01	8.599E-01	56.39
PB-214	74.82	98	5.80	4.590E+00	2.208E+00	2.208E+00	40.97
	77.11	132	9.70	4.818E+00	1.693E+00	1.693E+00	31.93
	87.09	36	3.41	5.666E+00	1.107E+00	1.107E+00	124.63
	242.00	31	7.25	4.581E+00	5.675E-01	5.675E-01	85.48
	295.22	84	18.42	3.967E+00	6.906E-01	6.907E-01	40.10
	351.93	136	35.60*	3.480E+00	6.592E-01	6.592E-01	27.26
RN-222	609.32	93	45.49*	2.275E+00	5.380E-01	5.380E-01	28.71
	1120.29	15	14.92	1.335E+00	4.502E-01	4.502E-01	85.83
	1764.49	21	15.30	9.359E-01	8.599E-01	8.599E-01	56.39
RA-224	240.99	31	4.10*	4.581E+00	1.003E+00	1.003E+00	85.48
AC-225	218.12	30	11.40*	4.910E+00	3.205E-01	2.546E+00	86.23
RA-226	74.82	98	5.80	4.590E+00	2.208E+00	2.208E+00	40.97
	77.11	132	9.70	4.818E+00	1.693E+00	1.693E+00	31.93
	87.09	36	3.41	5.666E+00	1.107E+00	1.107E+00	124.63
	242.00	31	7.25	4.581E+00	5.675E-01	5.675E-01	85.48

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	295.22	84	18.42	3.967E+00	6.906E-01	6.907E-01	40.10
	351.93	136	35.60*	3.480E+00	6.592E-01	6.592E-01	27.26
AC-228	105.21	------	1.10	6.352E+00	------ Line Not Found		------
	338.32	34	11.27	3.584E+00	5.005E-01	5.005E-01	86.10
	835.71	------	1.61	1.738E+00	------ Line Not Found		------
	911.20	47	25.80*	1.610E+00	6.766E-01	6.766E-01	35.97
	968.97	30	15.80	1.522E+00	7.601E-01	7.601E-01	62.27
RA-228	105.21	------	1.10	6.352E+00	------ Line Not Found		------
	338.32	34	11.27	3.584E+00	5.005E-01	5.005E-01	86.10
	835.71	------	1.61	1.738E+00	------ Line Not Found		------
	911.20	47	25.80*	1.610E+00	6.766E-01	6.766E-01	35.97
	968.97	30	15.80	1.522E+00	7.601E-01	7.601E-01	62.27
TH-228	74.82	98	10.28	4.590E+00	1.246E+00	1.246E+00	40.97
	77.11	132	17.10	4.818E+00	9.603E-01	9.603E-01	31.93
	238.63	157	43.60*	4.634E+00	4.654E-01	4.654E-01	35.07
	300.09	------	3.30	3.919E+00	------ Line Not Found		------
TH-230	74.82	98	5.80	4.590E+00	2.208E+00	2.208E+00	40.97
	77.11	132	9.70	4.818E+00	1.693E+00	1.693E+00	31.93
	87.09	36	3.41	5.666E+00	1.107E+00	1.107E+00	124.63
	242.00	31	7.25	4.581E+00	5.675E-01	5.675E-01	85.48
	295.22	84	18.42	3.967E+00	6.906E-01	6.906E-01	40.10
	351.93	136	35.60*	3.480E+00	6.592E-01	6.592E-01	27.26
TH-232	105.21	------	1.10	6.352E+00	------ Line Not Found		------
	338.32	34	11.27	3.584E+00	5.005E-01	5.005E-01	86.10
	835.71	------	1.61	1.738E+00	------ Line Not Found		------
	911.20	47	25.80*	1.610E+00	6.766E-01	6.766E-01	35.97
	968.97	30	15.80	1.522E+00	7.601E-01	7.601E-01	62.27
U-234	74.82	98	5.80	4.590E+00	2.208E+00	2.208E+00	40.97
	77.11	132	9.70	4.818E+00	1.693E+00	1.693E+00	31.93
	87.09	36	3.41	5.666E+00	1.107E+00	1.107E+00	124.63
	242.00	31	7.25	4.581E+00	5.675E-01	5.675E-01	85.48
	295.22	84	18.42	3.967E+00	6.906E-01	6.906E-01	40.10
	351.93	136	35.60*	3.480E+00	6.592E-01	6.592E-01	27.26
AM-243	43.53	------	5.90	5.710E-01	------ Line Not Found		------
	74.66	98	67.20*	4.590E+00	1.906E-01	1.906E-01	40.97
ANH-511	511.00	3	100.00*	2.620E+00	7.664E-03	7.664E-03	811.97

Flag: "*" = Keyline

Sample ID : G669289002 Acquisition date : 20-JUN-2024 05:02:44

Total number of lines in spectrum 48
Number of unidentified lines 11
Number of lines tentatively identified by NID 37 77.08%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	1.012E+01	1.012E+01	0.160E+01	15.85	
SC-46	83.79D	1.28	2.322E-02	2.973E-02	4.205E-02	141.42	
KR-85	10.56Y	1.01	1.340E+01	1.348E+01	1.221E+01	90.61	
SR-85	64.84D	1.38	6.060E-02	8.342E-02	7.558E-02	90.61	
CD-109	461.40D	1.05	1.020E+00	1.067E+00	1.330E+00	124.63	
SN-126	2.30E+05Y	1.00	1.020E-01	1.020E-01	1.271E-01	124.63	
BA-137M	30.08Y	1.00	1.095E-01	1.097E-01	0.720E-01	65.65	
CS-137	30.08Y	1.00	1.156E-01	1.159E-01	0.761E-01	65.65	
EU-155	4.75Y	1.01	8.119E-02	8.216E-02	12.22E-02	148.75	
HG-203	46.59D	1.56	3.100E-02	4.836E-02	6.721E-02	138.98	
TL-208	1.41E+10Y	1.00	1.956E-01	1.956E-01	0.615E-01	31.41	
BI-210	22.20Y	1.00	6.326E+00	6.342E+00	6.372E+00	100.48	
PB-210	22.20Y	1.00	6.326E+00	6.342E+00	6.372E+00	100.48	
BI-211	7.04E+08Y	1.00	1.816E+00	1.816E+00	0.495E+00	27.26	
BI-212	1.41E+10Y	1.00	8.721E-01	8.721E-01	9.124E-01	104.62	
PB-212	1.41E+10Y	1.00	4.654E-01	4.654E-01	1.632E-01	35.07	
BI-214	1600.00Y	1.00	5.380E-01	5.380E-01	1.545E-01	28.71	
PB-214	1600.00Y	1.00	6.592E-01	6.592E-01	1.797E-01	27.26	
RN-222	1600.00Y	1.00	5.380E-01	5.380E-01	1.545E-01	28.71	
RA-224	1.41E+10Y	1.00	1.003E+00	1.003E+00	0.858E+00	85.48	
AC-225	10.00D	7.94	3.205E-01	2.546E+00	2.195E+00	86.23	
RA-226	1600.00Y	1.00	6.592E-01	6.592E-01	1.797E-01	27.26	
AC-228	1.41E+10Y	1.00	6.766E-01	6.766E-01	2.434E-01	35.97	
RA-228	1.41E+10Y	1.00	6.766E-01	6.766E-01	2.434E-01	35.97	
TH-228	1.41E+10Y	1.00	4.654E-01	4.654E-01	1.632E-01	35.07	
TH-230	7.54E+04Y	1.00	6.592E-01	6.592E-01	1.797E-01	27.26	
TH-232	1.41E+10Y	1.00	6.766E-01	6.766E-01	2.434E-01	35.97	
U-234	2.45E+05Y	1.00	6.592E-01	6.592E-01	1.797E-01	27.26	
AM-243	7370.00Y	1.00	1.906E-01	1.906E-01	0.781E-01	40.97	
ANH-511	1.00E+09Y	1.00	7.664E-03	7.664E-03	62.23E-03	811.97	
	Total Activity :		4.880E+01	5.122E+01			

Grand Total Activity : 4.880E+01 5.122E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	93.81	63	138	1.44	187.70	182	14	1.56E-02	92.7	6.00E+00	T
0	99.43	41	71	0.81	198.93	196	8	1.01E-02	82.1	6.21E+00	T
0	139.74	34	58	1.11	279.50	276	8	8.65E-03	88.1	6.28E+00	T
0	186.22	47	111	1.41	372.41	365	13	1.21E-02	****	5.47E+00	T
0	212.84	11	91	4.18	425.60	415	12	2.92E-03	****	5.01E+00	
0	258.13	42	45	2.94	516.12	510	13	1.11E-02	74.0	4.38E+00	
0	270.34	35	55	1.60	540.52	535	10	9.17E-03	89.1	4.23E+00	T
0	425.81	21	19	1.77	851.28	847	8	5.56E-03	88.8	3.01E+00	T
0	492.21	18	14	3.48	984.00	978	14	5.00E-03	****	2.70E+00	T
0	501.93	17	29	4.02	1003.42	992	17	4.59E-03	****	2.66E+00	
0	642.92	12	11	1.67	1285.25	1279	11	3.33E-03	****	2.18E+00	
0	665.09	10	15	0.55	1329.55	1326	10	2.78E-03	****	2.12E+00	T
0	805.49	8	16	3.76	1610.20	1599	13	2.26E-03	****	1.80E+00	
0	814.88	10	3	1.41	1628.98	1625	7	2.69E-03	90.2	1.78E+00	T
0	818.68	14	0	2.47	1636.57	1633	8	3.89E-03	53.5	1.77E+00	T
0	876.28	9	9	1.33	1751.72	1744	12	2.57E-03	****	1.67E+00	T
0	964.32	17	5	2.30	1927.71	1922	10	4.72E-03	69.1	1.53E+00	T
0	1036.21	10	4	1.62	2071.43	2066	9	2.92E-03	95.5	1.43E+00	
0	1137.75	12	0	0.73	2274.42	2271	8	3.33E-03	57.7	1.32E+00	
0	1145.20	6	3	1.39	2289.31	2286	7	1.81E-03	****	1.31E+00	
0	1173.80	5	4	1.44	2346.49	2343	8	1.53E-03	****	1.28E+00	T
0	1209.77	25	23	2.90	2418.39	2406	20	7.14E-03	****	1.25E+00	
0	1227.54	21	3	0.99	2453.92	2447	12	6.05E-03	53.5	1.23E+00	
0	1288.24	9	2	1.11	2575.27	2568	11	2.75E-03	89.2	1.18E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:03:34.89

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289002.CNF;1		
Acquisition date	: 20-JUN-2024 05:02:44	Sensitivity	: 3.000
Detector ID	: GAM07	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.39	Half life ratio	: *****
Sample date	: 21-MAY-2024 08:00:00	Nuclide Library	: SOLID
Sample ID	: G669289002	Analyst initials	: MXR1
Batch Number	: 2618905	Sample Quantity	: 1.2525E+02 GRAM
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 24-JUL-2023 06:56:54	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM07_CAN.CNF;22		

Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	2.504E-01
SC-46	2.605E-02
KR-85	5.650E+00
SR-85	3.498E-02
CD-109	5.963E-01
SN-126	5.612E-02
BA-137M	2.309E-02
CS-137	2.439E-02
EU-155	6.753E-02
HG-203	3.475E-02
TL-208	2.972E-02
BI-210	2.389E+00
PB-210	2.389E+00
BI-211	1.597E-01
BI-212	3.592E-01
PB-212	4.194E-02
BI-214	5.787E-02
PB-214	5.810E-02
RN-222	5.787E-02
RA-224	7.006E-01
AC-225	1.075E+00
RA-226	5.810E-02
AC-228	9.039E-02
RA-228	9.039E-02
TH-228	4.194E-02
TH-230	5.809E-02
TH-232	9.039E-02
U-234	5.809E-02
AM-243	3.284E-02
ANH-511	2.426E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	2.980E-01	NOT IDENT.

NA-22	2.914E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	1.508E-02	NOT IDENT.
V-48	7.844E-02	NOT IDENT.
CR-51	4.692E-01	NOT IDENT.
MN-52	1.149E+00	NOT IDENT.
MN-54	3.079E-02	NOT IDENT.
CO-56	3.382E-02	NOT IDENT.
MN-56	0.000E+00	SHORT HLIF
CO-57	1.714E-02	NOT IDENT.
CO-58	3.673E-02	NOT IDENT.
FE-59	8.284E-02	NOT IDENT.
CO-60	3.096E-02	FAIL ABUN
ZN-65	7.078E-02	NOT IDENT.
GE-68	8.671E-01	NOT IDENT.
AS-73	7.117E-01	NOT IDENT.
AS-74	1.101E-01	NOT IDENT.
SE-75	3.309E-02	FAIL ABUN
BR-77	0.000E+00	SHORT HLIF
SR-82	4.016E-01	NOT IDENT.
RB-83	4.424E-02	NOT IDENT.
RB-84	7.956E-02	NOT IDENT.
RB-86	9.307E-01	NOT IDENT.
Y-88	4.912E-02	NOT IDENT.
Y-91	2.681E+01	NOT IDENT.
NB-94	2.830E-02	NOT IDENT.
NB-95	3.904E-02	NOT IDENT.
NB-95M	1.099E-01	NOT IDENT.
ZR-95	6.738E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	1.946E-02	NOT IDENT.
RH-102	3.863E-02	NOT IDENT.
RU-103	2.550E-02	FAIL ABUN
RH-106	2.583E-01	NOT IDENT.
RU-106	2.583E-01	NOT IDENT.
AG-108M	2.382E-02	NOT IDENT.
AG-110	5.860E-01	NOT IDENT.
AG-110M	3.381E-02	NOT IDENT.
SN-113	4.049E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	7.248E-02	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	1.972E-02	NOT IDENT.
SB-124	0.000E+00	NOT IDENT.
SB-125	5.675E-02	NOT IDENT.
TE-125M	6.986E+00	NOT IDENT.
I-126	3.598E-01	FAIL ABUN
SB-126	2.494E-01	FAIL ABUN
SB-127	1.552E+01	NOT IDENT.
I-131	3.193E-01	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	1.182E+01	NOT IDENT.
BA-133	3.167E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	3.480E-02	NOT IDENT.
I-135	0.000E+00	SHORT HLIF
CS-136	2.148E-01	FAIL ABUN
LA-138	3.030E-02	NOT IDENT.
CE-139	2.050E-02	NOT IDENT.
BA-140	4.856E-01	NOT IDENT.
LA-140	1.444E-01	FAIL ABUN
CE-141	5.470E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	1.573E-01	NOT IDENT.
PM-144	3.234E-02	NOT IDENT.
PR-144	2.437E+00	NOT IDENT.
PM-146	3.681E-02	NOT IDENT.
ND-147	3.956E-01	NOT IDENT.
PM-147	4.613E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	2.095E-02	FAIL ABUN
EU-152	5.279E-02	FAIL ABUN
GD-153	5.506E-02	NOT IDENT.
EU-154	8.194E-02	NOT IDENT.
TB-160	9.218E-02	FAIL ABUN

HO-166M	5.394E-02	FAIL ABUN
TM-171	1.266E+01	NOT IDENT.
HF-172	1.338E-01	NOT IDENT.
LU-172	6.419E-02	FAIL ABUN
LU-176	2.227E-02	FAIL ABUN
HF-181	3.978E-02	NOT IDENT.
TA-182	1.833E-01	FAIL ABUN
RE-183	1.636E-01	NOT IDENT.
RE-184	1.258E-01	NOT IDENT.
W-188	5.029E+00	NOT IDENT.
IR-192	3.443E-02	FAIL ABUN
TL-204	3.230E+00	NOT IDENT.
BI-207	4.228E-02	FAIL ABUN
PB-211	4.825E-01	FAIL ABUN
BI-213	8.400E-02	NOT IDENT.
RN-219	3.088E-01	FAIL ABUN
RA-223	4.597E-01	FAIL ABUN
AC-227	1.931E-01	NOT IDENT.
TH-227	1.931E-01	NOT IDENT.
TH-229	3.993E-01	FAIL ABUN
PA-231	3.861E-01	NOT IDENT.
TH-231	4.597E-01	FAIL ABUN
PA-233	4.889E-02	NOT IDENT.
PA-234	2.054E-01	FAIL ABUN
PA-234M	3.138E+00	NOT IDENT.
TH-234	1.013E+00	FAIL ABUN
U-235	1.382E-01	FAIL ABUN
NP-237	4.889E-02	FAIL ABUN
NP-238	0.000E+00	SHORT HLIF
U-238	1.013E+00	FAIL ABUN
NP-239	1.889E-01	FAIL ABUN
PU-239	2.410E+02	NOT IDENT.
AM-241	1.094E-01	NOT IDENT.
CM-243	6.937E-02	FAIL ABUN
BK-247	5.768E-02	FAIL ABUN
CM-247	2.755E-02	FAIL ABUN
CF-249	2.943E-02	NOT IDENT.
CF-251	8.033E-02	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:03:39.22

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289002.CNF;1   *
* Acquisition date : 20-JUN-2024 05:02:44 Sensitivity     : 3.000           *
* Detector ID      : GAM07                Energy tolerance: 1.500           *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 01:00:00.39     Half life ratio : *****           *
* Sample date      : 21-MAY-2024 08:00:00 Nuclide Library : SOLID           *
* Sample ID        : G669289002           Analyst initials: MXR1            *
* Batch Number     : 2618905              Sample Quantity : 1.2525E+02 GRAM *
*                                         Quantity Err(%) : 1.5968E-03 %    *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000      *
*                                         Dry Weight      :    0.00000      *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   : 24-JUL-2023 06:56:54 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM07_CAN.CNF;22            *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	1.012E+01	1.815E+00	1.815E+00
SC-46	2.973E-02	4.130E-02	4.130E-02
KR-85	1.348E+01	1.203E+01	1.203E+01
SR-85	8.342E-02	7.445E-02	7.445E-02
CD-109	1.067E+00	1.308E+00	1.308E+00
SN-126	1.020E-01	1.249E-01	1.249E-01
BA-137M	1.097E-01	7.129E-02	7.129E-02
CS-137	1.159E-01	7.531E-02	7.531E-02
EU-155	8.216E-02	1.200E-01	1.200E-01
HG-203	4.836E-02	6.596E-02	6.596E-02
TL-208	1.956E-01	6.285E-02	6.285E-02
BI-210	6.342E+00	6.276E+00	6.276E+00
PB-210	6.342E+00	6.276E+00	6.276E+00
BI-211	1.816E+00	5.065E-01	5.065E-01
BI-212	8.721E-01	8.982E-01	8.982E-01
PB-212	4.654E-01	1.642E-01	1.642E-01
BI-214	5.380E-01	1.593E-01	1.593E-01
PB-214	6.592E-01	1.835E-01	1.835E-01
RN-222	5.380E-01	1.593E-01	1.593E-01
RA-224	1.003E+00	8.444E-01	8.444E-01
AC-225	2.546E+00	2.167E+00	2.167E+00
RA-226	6.592E-01	1.835E-01	1.835E-01
AC-228	6.766E-01	2.472E-01	2.472E-01
RA-228	6.766E-01	2.472E-01	2.472E-01
TH-228	4.654E-01	1.642E-01	1.642E-01
TH-230	6.592E-01	1.835E-01	1.835E-01
TH-232	6.766E-01	2.472E-01	2.472E-01
U-234	6.592E-01	1.835E-01	1.835E-01
AM-243	1.906E-01	7.825E-02	7.825E-02
ANH-511	7.664E-03	6.099E-02	6.099E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)

BE-7	-1.811E-01	3.783E-01	3.870E-01	NOT IDENT.
NA-22	6.052E-03	3.207E-02	3.219E-02	NOT IDENT.
NA-24	-8.300E+12	1.000E+13	1.068E+13	SHORT HLIF
AL-26	-8.064E-03	2.390E-02	2.417E-02	NOT IDENT.
V-48	-5.675E-02	1.060E-01	1.090E-01	NOT IDENT.
CR-51	2.840E-01	5.011E-01	5.172E-01	NOT IDENT.
MN-52	-7.896E-01	1.619E+00	1.658E+00	NOT IDENT.
MN-54	8.396E-03	3.601E-02	3.621E-02	NOT IDENT.
CO-56	-7.607E-03	4.348E-02	4.362E-02	NOT IDENT.
MN-56	-1.000E+41	5.716E+41	0.000E+00	SHORT HLIF
CO-57	-4.013E-03	2.068E-02	2.075E-02	NOT IDENT.
CO-58	7.406E-03	4.848E-02	4.859E-02	NOT IDENT.
FE-59	-5.217E-02	1.087E-01	1.113E-01	NOT IDENT.
CO-60	-3.794E-03	3.800E-02	3.804E-02	FAIL ABUN
ZN-65	-6.978E-03	9.653E-02	9.658E-02	NOT IDENT.
GE-68	-9.666E-01	1.243E+00	1.317E+00	NOT IDENT.
AS-73	-2.245E-01	8.253E-01	8.315E-01	NOT IDENT.
AS-74	-1.855E-01	1.681E-01	1.877E-01	NOT IDENT.
SE-75	-1.520E-02	4.090E-02	4.147E-02	FAIL ABUN
BR-77	5.377E+03	5.011E+03	5.567E+03	SHORT HLIF
SR-82	-2.242E-01	5.372E-01	5.467E-01	NOT IDENT.
RB-83	-3.290E-02	5.991E-02	6.172E-02	NOT IDENT.
RB-84	6.705E-02	7.994E-02	8.546E-02	NOT IDENT.
RB-86	-9.676E-01	1.314E+00	1.384E+00	NOT IDENT.
Y-88	4.889E-02	4.404E-02	4.925E-02	NOT IDENT.
Y-91	2.583E+01	3.000E+01	3.219E+01	NOT IDENT.
NB-94	2.584E-02	2.920E-02	3.144E-02	NOT IDENT.
NB-95	1.250E-02	4.503E-02	4.539E-02	NOT IDENT.
NB-95M	8.260E-02	1.343E-01	1.394E-01	NOT IDENT.
ZR-95	2.102E-02	7.754E-02	7.812E-02	NOT IDENT.
NB-97	1.000E+41	2.816E+41	0.000E+00	SHORT HLIF
ZR-97	-2.144E+12	3.412E+12	3.547E+12	SHORT HLIF
MO-99	7.542E+01	3.759E+02	3.774E+02	SHORT HLIF
TC-99M	2.767E+34	2.409E+34	0.000E+00	SHORT HLIF
RH-101	-3.359E-02	2.764E-02	3.152E-02	NOT IDENT.
RH-102	-8.329E-03	4.810E-02	4.825E-02	NOT IDENT.
RU-103	2.881E-03	4.069E-02	4.071E-02	FAIL ABUN
RH-106	-3.221E-03	3.099E-01	3.099E-01	NOT IDENT.
RU-106	-3.221E-03	3.099E-01	3.099E-01	NOT IDENT.
AG-108M	2.182E-02	2.427E-02	2.619E-02	NOT IDENT.
AG-110	-7.333E-02	8.107E-01	8.113E-01	NOT IDENT.
AG-110M	-1.538E-02	4.893E-02	4.941E-02	NOT IDENT.
SN-113	1.373E-02	4.482E-02	4.525E-02	NOT IDENT.
CD-115	4.541E+02	8.486E+02	8.730E+02	SHORT HLIF
SN-117M	-7.989E-02	9.726E-02	1.037E-01	NOT IDENT.
SB-122	-3.925E+01	9.407E+01	9.572E+01	SHORT HLIF
TE-123M	-1.632E-02	2.574E-02	2.678E-02	NOT IDENT.
SB-124	-2.026E-02	3.974E-02	4.078E-02	NOT IDENT.
SB-125	-4.609E-03	7.468E-02	7.471E-02	NOT IDENT.
TE-125M	1.309E+00	8.648E+00	8.668E+00	NOT IDENT.
I-126	4.264E-01	6.622E-01	6.895E-01	FAIL ABUN
SB-126	-2.889E-02	3.481E-01	3.484E-01	FAIL ABUN
SB-127	-8.537E+00	2.037E+01	2.073E+01	NOT IDENT.
I-131	1.040E-01	3.515E-01	3.546E-01	NOT IDENT.
I-132	-1.000E+41	2.652E+41	0.000E+00	SHORT HLIF
TE-132	-5.650E+00	1.538E+01	1.559E+01	NOT IDENT.
BA-133	9.080E-03	3.864E-02	3.886E-02	NOT IDENT.
I-133	3.141E+08	4.688E+08	4.897E+08	SHORT HLIF
CS-134	1.450E-02	3.954E-02	4.008E-02	NOT IDENT.
I-135	-3.304E+31	8.523E+31	0.000E+00	SHORT HLIF
CS-136	9.321E-02	2.333E-01	2.371E-01	FAIL ABUN
LA-138	-5.013E-02	5.509E-02	5.954E-02	NOT IDENT.
CE-139	-4.571E-03	2.526E-02	2.535E-02	NOT IDENT.
BA-140	2.464E-01	5.311E-01	5.426E-01	NOT IDENT.
LA-140	-8.512E-02	2.051E-01	2.087E-01	FAIL ABUN
CE-141	-4.280E-03	6.570E-02	6.572E-02	NOT IDENT.
CE-143	1.586E+05	1.829E+05	1.964E+05	SHORT HLIF
CE-144	-8.572E-03	1.872E-01	1.872E-01	NOT IDENT.
PM-144	3.287E-02	3.322E-02	3.637E-02	NOT IDENT.
PR-144	2.470E+00	2.503E+00	2.740E+00	NOT IDENT.
PM-146	2.081E-02	3.991E-02	4.100E-02	NOT IDENT.
ND-147	-1.461E+00	9.573E-01	1.162E+00	NOT IDENT.
PM-147	-4.579E+02	6.000E+02	6.345E+02	NOT IDENT.
PM-149	-3.798E+03	8.023E+03	8.204E+03	SHORT HLIF
EU-150	2.168E-02	2.264E-02	2.466E-02	FAIL ABUN
EU-152	-7.982E-02	7.393E-02	8.222E-02	FAIL ABUN
GD-153	4.183E-02	7.048E-02	7.296E-02	NOT IDENT.
EU-154	1.702E-02	9.019E-02	9.051E-02	NOT IDENT.

TB-160	-8.379E-02	1.474E-01	1.522E-01	FAIL ABUN
HO-166M	-3.150E-03	6.592E-02	6.593E-02	FAIL ABUN
TM-171	-3.309E+00	1.460E+01	1.467E+01	NOT IDENT.
HF-172	3.365E-02	1.539E-01	1.546E-01	NOT IDENT.
LU-172	5.765E-02	6.483E-02	6.985E-02	FAIL ABUN
LU-176	2.494E-02	2.233E-02	2.500E-02	FAIL ABUN
HF-181	-1.078E-02	4.853E-02	4.878E-02	NOT IDENT.
TA-182	5.136E-02	2.333E-01	2.345E-01	FAIL ABUN
RE-183	4.936E-03	1.845E-01	1.845E-01	NOT IDENT.
RE-184	4.142E-02	1.362E-01	1.374E-01	NOT IDENT.
W-188	-6.797E+00	7.585E+00	8.180E+00	NOT IDENT.
IR-192	2.795E-02	3.588E-02	3.803E-02	FAIL ABUN
TL-204	-2.414E+00	4.271E+00	4.408E+00	NOT IDENT.
BI-207	-7.771E-03	5.102E-02	5.114E-02	FAIL ABUN
PB-211	-4.361E-02	5.648E-01	5.652E-01	FAIL ABUN
BI-213	3.079E-02	9.302E-02	9.405E-02	NOT IDENT.
RN-219	1.699E-02	3.542E-01	3.543E-01	FAIL ABUN
RA-223	-3.133E-01	5.636E-01	5.810E-01	FAIL ABUN
AC-227	1.535E-01	1.999E-01	2.115E-01	NOT IDENT.
TH-227	1.535E-01	1.999E-01	2.115E-01	NOT IDENT.
TH-229	3.628E-01	4.400E-01	4.694E-01	FAIL ABUN
PA-231	3.639E-01	4.023E-01	4.345E-01	NOT IDENT.
TH-231	-3.133E-01	5.636E-01	5.810E-01	FAIL ABUN
PA-233	3.452E-02	5.096E-02	5.328E-02	NOT IDENT.
PA-234	-2.132E-02	2.437E-01	2.439E-01	FAIL ABUN
PA-234M	1.067E+00	3.389E+00	3.423E+00	NOT IDENT.
TH-234	-1.446E-01	1.133E+00	1.135E+00	FAIL ABUN
U-235	1.390E-01	1.578E-01	1.698E-01	FAIL ABUN
NP-237	3.452E-02	5.096E-02	5.328E-02	FAIL ABUN
NP-238	2.373E+02	1.845E+03	1.848E+03	SHORT HLIF
U-238	-1.446E-01	1.133E+00	1.135E+00	FAIL ABUN
NP-239	-5.032E-03	2.225E-01	2.225E-01	FAIL ABUN
PU-239	1.208E+02	2.714E+02	2.768E+02	NOT IDENT.
AM-241	3.333E-02	1.206E-01	1.216E-01	NOT IDENT.
CM-243	1.763E-02	9.625E-02	9.658E-02	FAIL ABUN
BK-247	-1.248E-02	6.930E-02	6.952E-02	FAIL ABUN
CM-247	-8.957E-03	3.319E-02	3.343E-02	FAIL ABUN
CF-249	-4.044E-04	3.396E-02	3.396E-02	NOT IDENT.
CF-251	-6.364E-02	1.060E-01	1.098E-01	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	23.5729	85.43	68.4555	131.20	62.0122
45.60	35.5738	86.55	65.8579	133.02	47.7405
46.54	35.6696	86.79	65.8877	133.52	52.2181
49.72	41.6691	86.94	65.9067	136.00	37.1638
51.35	41.8527	87.09	65.9253	136.47	41.6508
51.87	46.6732	87.57	65.9854	140.51	0.0000
52.39	42.9222	88.03	68.7943	143.76	27.0447
52.97	47.7642	88.34	57.8209	144.24	31.5726
53.44	49.7357	88.47	57.8350	145.44	37.2705
54.07	44.0689	89.96	60.0669	152.43	37.6144
57.36	0.0000	1093.63	47.6993	153.25	26.2442
57.53	52.1889	91.11	63.6541	323.87	41.1284
57.98	45.4741	92.59	59.6639	156.02	50.3842
59.27	43.6770	93.35	59.7461	158.56	47.1003
59.32	43.6823	94.56	59.8765	159.00	44.8277
59.54	43.7057	94.65	59.8861	162.33	40.3972
60.96	58.4740	94.67	59.8883	162.66	28.8670
61.17	58.5036	94.87	59.9097	163.33	24.2684
62.93	46.9980	97.43	27.2919	165.86	35.9360
63.29	55.8571	98.43	27.3398	176.31	34.0392
63.58	55.8951	98.44	27.3403	176.60	44.6182
64.28	57.9503	99.53	30.9039	177.52	39.9646
66.73	66.1770	100.11	30.9350	181.07	0.0000
67.24	65.2643	102.03	36.6799	181.52	34.6386
125.81	60.3796	103.18	44.5260	184.41	43.8359
67.75	48.5091	103.37	36.0565	143.76	43.9008
68.89	56.5721	105.21	39.7139	193.51	28.7234
69.67	48.7163	105.31	38.3019	197.03	45.6532
70.82	63.7886	106.12	38.3535	198.01	31.2693
70.83	63.7900	106.47	38.3758	201.83	36.2274
72.81	48.0469	109.28	31.4137	203.43	33.8695
72.87	48.0531	111.00	40.8084	205.31	42.0167
74.66	48.2351	111.76	35.4822	210.85	41.4468
74.82	48.2512	114.06	41.0079	215.65	45.7336
74.97	48.2666	116.30	48.7333	218.12	28.2453
77.11	48.4808	116.74	45.5155	222.11	32.8788
78.74	48.6423	119.76	44.6392	227.09	38.4090
79.69	48.7357	121.12	38.1854	227.38	38.4198
80.03	48.7683	121.22	46.9207	228.16	34.7283
80.12	48.7778	121.78	48.0525	228.18	34.7291
80.19	54.2049	122.06	40.4250	116.74	34.7291
80.57	54.2460	122.92	37.1953	235.69	29.9832
81.00	62.4367	123.07	37.2038	235.96	29.9908
81.07	62.4451	265.00	42.7140	238.63	35.0778
81.75	62.5294	125.81	35.1584	238.98	0.0000
82.47	51.7281	127.23	53.9485	240.99	85.3777
83.79	60.0502	127.91	40.7776	242.00	85.4576
84.00	60.0748	129.30	37.5470	244.70	34.0170

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.40	24.3606	344.28	24.5863	563.25	15.5450
252.80	19.0386	345.93	16.4103	564.24	0.0000
254.15	0.0000	351.06	25.6205	569.33	19.7491
256.23	21.2193	351.93	25.6365	946.00	17.6717
260.90	0.0000	355.39	0.0000	569.70	17.6731
264.66	29.7576	356.01	19.2825	583.19	17.7893
264.80	29.7611	364.49	18.4729	584.27	23.5565
265.00	29.7668	366.42	0.0000	595.83	24.2129
269.46	27.4772	372.51	25.0752	427.87	17.9366
270.03	27.4909	375.05	18.6064	602.52	0.0000
271.23	21.9296	377.52	24.2285	604.72	12.6860
273.65	24.1292	356.01	18.7158	607.14	14.2877
276.40	22.0261	388.16	19.7076	609.32	18.0099
277.37	22.0443	388.63	25.3460	610.33	18.0182
277.60	22.0484	391.69	20.6939	614.28	14.3350
278.00	27.6777	264.66	22.7065	618.01	18.0826
279.20	27.7057	401.81	19.8828	620.36	14.9075
279.54	32.4768	402.40	22.7314	621.93	14.9183
279.70	32.4814	404.85	17.0753	630.19	0.0000
280.46	28.6017	410.95	17.1412	631.29	12.8413
283.69	30.4171	413.71	19.0792	633.25	11.7819
284.31	27.8242	414.70	17.1815	634.78	8.5745
285.41	28.7199	423.72	21.5973	635.95	7.5067
285.90	0.0000	427.09	15.8709	636.99	6.4373
287.50	25.2818	427.87	12.9913	657.50	14.6157
290.67	31.4663	433.94	10.6247	657.76	11.3690
293.27	0.0000	439.40	21.3192	657.90	0.0000
351.93	24.5638	440.45	16.4840	661.66	9.7617
295.96	24.5786	453.88	16.6151	664.57	0.0000
879.38	31.6677	463.37	10.8102	666.33	8.1512
299.98	27.4758	468.07	12.8101	666.50	13.0430
300.09	27.4784	473.00	18.7746	667.71	0.0000
300.13	27.4790	475.06	17.8074	677.62	8.7370
301.36	19.3950	476.78	11.8831	685.70	19.7256
302.85	32.6580	477.60	22.7862	692.65	0.0000
256.23	22.9785	482.18	16.8852	695.00	20.9034
304.85	29.1731	487.02	11.9509	696.49	8.8066
306.78	16.8221	492.35	0.0000	696.51	8.8070
308.46	23.9365	497.08	6.0085	697.00	12.1118
311.90	16.8894	505.52	24.1440	697.30	13.2148
316.51	21.4097	507.63	0.0000	697.49	14.3171
319.41	30.3975	511.00	20.1788	702.65	7.7257
320.08	25.0457	514.00	20.2108	706.68	15.4771
321.04	25.9591	514.00	20.2108	711.68	17.7246
323.87	30.4998	520.40	13.1814	720.70	13.3428
325.23	29.6330	520.69	0.0000	721.93	0.0000
328.76	28.8112	522.65	0.0000	722.78	10.0155
333.37	19.5139	527.90	0.0000	722.91	10.0159
333.97	13.5571	528.26	6.1089	723.31	10.0177
334.37	18.9855	529.59	4.0754	724.19	15.0320
338.28	20.8536	529.87	0.0000	727.33	11.1487
338.32	20.8540	531.02	14.2740	733.00	12.0683
311.90	17.7084	537.26	12.2744	735.93	11.1873
340.48	17.7084	546.56	0.0000	333.97	6.7166
340.55	14.9847	552.55	16.4928	739.50	0.0000

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
744.23	11.2244	949.00	9.9661	1384.29	5.1126
747.24	13.4854	667.71	0.0000	1408.01	9.2549
748.06	12.3656	962.31	8.7354	1434.09	8.2769
752.31	5.6301	964.08	11.6539	1435.80	8.2803
753.82	13.5205	966.17	3.6443	1457.56	0.0000
756.73	10.1517	911.20	8.7542	1460.82	4.1641
756.80	10.1521	983.53	9.1614	1489.16	2.0955
884.68	18.0983	984.45	0.0000	1505.03	5.2573
765.81	11.3196	1274.44	10.1178	1584.12	6.4188
766.42	10.1902	1001.03	5.5270	1596.21	6.4354
766.84	9.0596	1002.74	9.2169	1620.50	5.3903
772.60	0.0000	1004.73	7.3779	1621.92	2.1567
776.52	17.0496	507.63	0.0000	1678.03	0.0000
739.50	0.0000	1025.87	0.0000	1690.97	1.0938
778.90	11.3770	1028.54	0.0000	1750.46	0.0000
783.70	15.9568	1037.84	2.9814	1764.49	2.2198
788.74	15.9875	1038.76	0.0000	1063.66	4.4448
792.07	13.7207	631.29	10.2756	1771.35	1.1115
795.86	10.3052	1048.07	9.3457	1791.20	0.0000
810.06	12.0868	1049.04	8.4133	1808.65	2.2389
810.29	12.0876	1050.41	13.0934	1810.72	0.0000
344.28	10.3616	1063.66	11.2676	1836.06	0.9002
810.76	10.3627	1077.00	13.1968		
815.77	0.0000	1077.34	13.1985		
1048.07	0.0000	1085.87	9.4513		
832.01	6.9624	1093.63	6.6309		
834.85	10.4546	1099.45	12.3351		
835.71	8.1336	1112.07	6.6659		
836.80	0.0000	1112.84	6.6676		
846.75	0.0000	1115.54	10.6764		
846.77	11.6659	1120.29	6.6817		
856.80	7.9027	1120.55	3.0547		
860.56	9.6717	1221.41	3.0555		
871.09	8.4721	1129.67	8.6138		
873.19	8.4782	1131.51	0.0000		
875.33	0.0000	1147.95	0.0000		
879.38	11.3285	1173.23	6.2000		
880.51	11.3332	1177.95	3.1041		
881.60	5.0614	1189.05	8.7567		
883.24	5.9082	1204.77	9.3803		
884.68	9.9309	1221.41	10.9922		
889.28	5.6838	1231.02	1.5743		
894.76	10.6769	1235.36	17.7308		
898.04	7.1260	1238.28	6.9009		
900.72	15.1567	1260.41	0.0000		
903.28	7.1387	1271.87	4.9722		
911.20	7.1580	1274.44	3.9805		
912.08	7.1599	1274.54	3.9805		
923.98	0.0000	1291.59	6.3965		
926.50	5.3959	1298.22	0.0000		
929.11	5.4007	1312.11	8.0371		
935.54	8.1183	1332.49	7.0684		
937.49	13.5393	1362.66	0.0000		
944.13	6.3320	1365.19	5.0894		
946.00	8.1461	1368.63	0.0000		

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:04:06.32

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289003.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM21.CNF;844
                                    Background date  : 16-JUN-2024 11:36:42
Sample date      : 21-MAY-2024 09:00:00 Acquisition date : 20-JUN-2024 05:03:08
Sample ID        : G669289003           Sample quantity  : 1.23250E+02 GRAM
Detector name    : GAM21                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:00.44  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : MXR1
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 2618905              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.23	39	125	0.97	91.88	89	8	1.08E-02	52.2	
2	0	49.79	36	94	1.98	99.01	96	7	1.01E-02	47.2	
3	0	63.47	36	120	0.90	126.36	123	6	9.92E-03	51.3	
4	2	74.75	116	138	0.83	148.92	146	15	3.23E-02	17.4	1.34E+00
5	2	77.15	268	108	0.84	153.72	146	15	7.45E-02	8.6	
6	0	88.03	32	235	0.97	175.49	169	9	8.95E-03	87.7	
7	0	89.85	60	83	1.42	179.13	177	6	1.66E-02	27.8	
8	0	93.03*	78	120	1.20	185.48	182	8	2.18E-02	26.8	
9	0	129.35	17	120	0.70	258.12	253	9	4.77E-03	117.2	
10	0	186.07*	66	98	1.28	371.58	367	11	1.82E-02	31.8	
11	0	210.06	24	76	1.12	419.56	415	7	6.64E-03	64.1	
12	4	238.62*	305	62	1.29	476.68	470	17	8.48E-02	7.1	6.94E+00
13	4	241.55	71	71	1.50	482.53	470	17	1.98E-02	26.9	
14	0	270.83	24	84	2.34	541.10	534	10	6.62E-03	75.1	
15	0	295.45	78	55	1.37	590.36	585	10	2.16E-02	21.1	
16	2	338.52	55	32	1.41	676.49	672	13	1.54E-02	23.1	3.41E+00
17	2	340.78	17	34	1.42	681.02	672	13	4.84E-03	57.7	
18	0	352.23*	138	53	1.42	703.92	699	11	3.83E-02	13.4	
19	0	388.97	24	25	2.77	777.42	772	11	6.80E-03	44.2	
20	0	393.32	14	16	1.06	786.12	783	7	3.89E-03	54.1	
21	0	415.96	16	29	4.36	831.41	823	13	4.44E-03	74.1	
22	0	511.25*	26	34	2.33	1022.01	1017	12	7.24E-03	58.8	
23	0	584.04*	62	39	1.21	1167.62	1162	13	1.71E-02	25.9	
24	0	596.37	6	21	1.02	1192.30	1189	8	1.73E-03	131.6	
25	0	609.44*	117	18	1.63	1218.45	1213	12	3.25E-02	11.9	
26	0	656.92	41	14	5.32	1313.43	1304	20	1.13E-02	28.1	
27	0	665.70	14	10	0.64	1331.00	1325	10	3.89E-03	50.0	
28	0	685.65	12	8	1.48	1370.92	1366	8	3.33E-03	50.0	
29	0	707.37	6	16	0.55	1414.36	1406	10	1.53E-03	146.8	
30	0	840.40	19	13	1.48	1680.53	1674	13	5.28E-03	45.4	
31	4	857.18	8	2	1.73	1714.10	1712	14	2.33E-03	37.6	8.13E-01
32	4	860.81	16	5	2.50	1721.35	1712	14	4.43E-03	33.8	
33	0	893.98	10	8	1.77	1787.73	1782	10	2.91E-03	57.9	
34	0	899.73	16	7	2.88	1799.22	1794	10	4.58E-03	39.2	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
35	0	911.29	51	4	1.54	1822.36	1815	16	1.41E-02	16.6	
36	0	934.09	16	8	0.96	1867.97	1860	15	4.31E-03	46.1	
37	0	969.34	26	14	1.27	1938.52	1932	11	7.35E-03	33.3	
38	0	973.87	10	8	3.62	1947.58	1942	11	2.69E-03	65.8	
39	0	986.47	7	15	0.75	1972.79	1966	10	1.94E-03	110.2	
40	0	1058.63	6	8	1.37	2117.17	2113	8	1.67E-03	91.3	
41	0	1111.93*	7	4	1.71	2223.83	2219	8	1.85E-03	69.7	
42	0	1120.33	19	26	0.68	2240.63	2232	13	5.28E-03	59.9	
43	0	1302.18	15	3	2.17	2604.55	2599	13	4.30E-03	34.5	
44	0	1312.06	15	6	1.17	2624.32	2619	12	4.03E-03	43.0	
45	0	1407.50	7	3	1.41	2815.33	2811	9	1.81E-03	57.7	
46	0	1460.77	316	0	2.49	2921.93	2914	16	8.78E-02	5.6	
47	0	1764.51	19	0	1.50	3529.89	3522	14	5.28E-03	22.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JUN-2024 06:04:07

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289003.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: MXR1		
Sample date	: 21-MAY-2024 09:00:00	Acquisition date	: 20-JUN-2024 05:03:08
Sample ID	: G669289003	Sample quantity	: 123.25 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA21	Detector geometry	: CAN
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:00.44 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	300	10.66*	9.276E-01	1.846E+01	1.846E+01	11.25
AS-74	595.83	6	59.00*	2.340E+00	2.744E-02	8.793E-02	263.10
	634.78	------	15.40	2.191E+00	------ Line Not Found		------
CD-109	88.03	36	3.70*	1.120E+01	5.249E-01	5.489E-01	175.48
AG-110	657.50	40	4.50*	2.113E+00	2.580E+00	2.803E+00	56.27
I-126	388.63	25	35.60	3.644E+00	1.177E-01	5.831E-01	88.40
	666.33	14	32.90*	2.084E+00	1.235E-01	6.121E-01	100.00
	753.82	------	4.15	1.828E+00	------ Line Not Found		------
SN-126	64.28	40	9.60	1.192E+01	2.143E-01	2.143E-01	102.64
	86.94	36	8.90	1.120E+01	2.182E-01	2.182E-01	175.48
	87.57	36	37.00*	1.120E+01	5.249E-02	5.249E-02	175.48
TL-208	277.37	------	6.60	5.077E+00	------ Line Not Found		------
	583.19	62	85.00*	2.392E+00	1.844E-01	1.844E-01	51.73
	860.56	16	12.50	1.591E+00	4.783E-01	4.783E-01	67.63
BI-210	46.54	45	4.25*	1.143E+01	5.607E-01	5.621E-01	104.46
PB-210	46.54	45	4.25*	1.143E+01	5.607E-01	5.621E-01	104.46
BI-211	72.87	------	1.23	1.175E+01	------ Line Not Found		------
	351.06	142	12.92*	4.027E+00	1.662E+00	1.662E+00	26.81
PB-212	74.82	130	10.28	1.169E+01	6.593E-01	6.593E-01	34.88
	77.11	299	17.10	1.162E+01	9.173E-01	9.173E-01	17.24
	238.63	321	43.60*	5.830E+00	7.691E-01	7.691E-01	14.25
	300.09	------	3.30	4.711E+00	------ Line Not Found		------
BI-214	609.32	117	45.49*	2.287E+00	6.831E-01	6.831E-01	23.81
	1120.29	18	14.92	1.211E+00	6.169E-01	6.169E-01	119.79
	1764.49	18	15.30	7.720E-01	9.186E-01	9.186E-01	45.88
PB-214	74.82	130	5.80	1.169E+01	1.169E+00	1.169E+00	34.88
	77.11	299	9.70	1.162E+01	1.617E+00	1.617E+00	17.24
	87.09	36	3.41	1.120E+01	5.695E-01	5.695E-01	175.48
	242.00	75	7.25	5.766E+00	1.090E+00	1.090E+00	53.87
	295.22	81	18.42	4.782E+00	5.602E-01	5.602E-01	42.20
	351.93	142	35.60*	4.027E+00	6.032E-01	6.033E-01	26.81
RN-222	609.32	117	45.49*	2.287E+00	6.831E-01	6.831E-01	23.81
	1120.29	18	14.92	1.211E+00	6.169E-01	6.169E-01	119.79
	1764.49	18	15.30	7.720E-01	9.186E-01	9.186E-01	45.88
RA-224	240.99	75	4.10*	5.766E+00	1.928E+00	1.928E+00	53.87
RA-226	74.82	130	5.80	1.169E+01	1.169E+00	1.169E+00	34.88
	77.11	299	9.70	1.162E+01	1.617E+00	1.617E+00	17.24
	87.09	36	3.41	1.120E+01	5.695E-01	5.695E-01	175.48
	242.00	75	7.25	5.766E+00	1.090E+00	1.090E+00	53.87
	295.22	81	18.42	4.782E+00	5.602E-01	5.602E-01	42.20
	351.93	142	35.60*	4.027E+00	6.032E-01	6.033E-01	26.81
AC-228	105.21	------	1.10	1.042E+01	------ Line Not Found		------
	338.32	57	11.27	4.188E+00	7.387E-01	7.387E-01	46.16
	835.71	------	1.61	1.641E+00	------ Line Not Found		------
	911.20	49	25.80*	1.499E+00	7.793E-01	7.793E-01	33.21
	968.97	26	15.80	1.406E+00	7.053E-01	7.053E-01	66.64
RA-228	105.21	------	1.10	1.042E+01	------ Line Not Found		------
	338.32	57	11.27	4.188E+00	7.387E-01	7.387E-01	46.16
	835.71	------	1.61	1.641E+00	------ Line Not Found		------

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	911.20	49	25.80*	1.499E+00	7.793E-01	7.793E-01	33.21
	968.97	26	15.80	1.406E+00	7.053E-01	7.053E-01	66.64
TH-228	74.82	130	10.28	1.169E+01	6.593E-01	6.593E-01	34.88
	77.11	299	17.10	1.162E+01	9.173E-01	9.173E-01	17.24
	238.63	321	43.60*	5.830E+00	7.691E-01	7.691E-01	14.25
	300.09	------	3.30	4.711E+00	------ Line Not Found		------
TH-230	74.82	130	5.80	1.169E+01	1.169E+00	1.169E+00	34.88
	77.11	299	9.70	1.162E+01	1.617E+00	1.617E+00	17.24
	87.09	36	3.41	1.120E+01	5.695E-01	5.695E-01	175.48
	242.00	75	7.25	5.766E+00	1.090E+00	1.090E+00	53.87
	295.22	81	18.42	4.782E+00	5.602E-01	5.602E-01	42.20
	351.93	142	35.60*	4.027E+00	6.032E-01	6.033E-01	26.81
TH-232	105.21	------	1.10	1.042E+01	------ Line Not Found		------
	338.32	57	11.27	4.188E+00	7.387E-01	7.387E-01	46.16
	835.71	------	1.61	1.641E+00	------ Line Not Found		------
	911.20	49	25.80*	1.499E+00	7.793E-01	7.793E-01	33.21
	968.97	26	15.80	1.406E+00	7.053E-01	7.053E-01	66.64
TH-234	63.29	40	3.70*	1.192E+01	5.560E-01	5.560E-01	102.64
	92.59	87	4.23	1.098E+01	1.138E+00	1.138E+00	53.52
U-234	74.82	130	5.80	1.169E+01	1.169E+00	1.169E+00	34.88
	77.11	299	9.70	1.162E+01	1.617E+00	1.617E+00	17.24
	87.09	36	3.41	1.120E+01	5.695E-01	5.695E-01	175.48
	242.00	75	7.25	5.766E+00	1.090E+00	1.090E+00	53.87
	295.22	81	18.42	4.782E+00	5.602E-01	5.602E-01	42.20
	351.93	142	35.60*	4.027E+00	6.032E-01	6.032E-01	26.81
U-235	89.96	66	3.47	1.112E+01	1.044E+00	1.044E+00	55.61
	93.35	87	5.60	1.098E+01	8.595E-01	8.595E-01	53.52
	143.76	------	10.96*	8.708E+00	------ Line Not Found		------
	163.33	------	5.08	7.960E+00	------ Line Not Found		------
	185.72	70	57.20	7.201E+00	1.033E-01	1.033E-01	63.66
	205.31	------	5.01	6.643E+00	------ Line Not Found		------
U-238	63.29	40	3.70*	1.192E+01	5.560E-01	5.560E-01	102.64
	92.59	87	4.23	1.098E+01	1.138E+00	1.138E+00	53.52
AM-243	43.53	------	5.90	1.119E+01	------ Line Not Found		------
	74.66	130	67.20*	1.169E+01	1.009E-01	1.009E-01	34.88
CF-249	252.80	------	2.50	5.533E+00	------ Line Not Found		------
	333.37	------	14.60	4.252E+00	------ Line Not Found		------
	388.16	25	66.00*	3.644E+00	6.346E-02	6.347E-02	88.40
ANH-511	511.00	26	100.00*	2.750E+00	5.824E-02	5.824E-02	117.66

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:04:08.63

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289003.CNF;1		
Acquisition date	: 20-JUN-2024 05:03:08	Sensitivity	: 3.000
Detector ID	: GAM21	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.44	Half life ratio	: *****
Sample date	: 21-MAY-2024 09:00:00	Analyst initials	: MXR1
Sample ID	: G669289003	Sample Quantity	: 1.2325E+02 GRAM
Batch Number	: 2618905	Wet Weight	: 0.00000
Wet wt corr	: 1.00000	Dry Weight	: 0.00000
Nuclide Library	: SOLID.NLB;17		

CALIBRATION INFORMATION

Eff. Cal. date	: 3-JUL-2023 09:20:00	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM21_CAN.CNF;25		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	1.846E+01	2.035E+00	4.628E-01
AS-74	8.793E-02	2.267E-01	2.512E-01
CD-109	5.489E-01	9.440E-01	7.402E-01
AG-110	2.803E+00	1.545E+00	1.332E+00
I-126	6.121E-01	5.999E-01	8.448E-01
SN-126	5.249E-02	9.026E-02	7.060E-02
TL-208	1.844E-01	9.346E-02	7.159E-02
BI-210	5.621E-01	5.754E-01	4.575E-01
PB-210	5.621E-01	5.754E-01	4.575E-01
BI-211	1.662E+00	4.367E-01	3.446E-01
PB-212	7.691E-01	1.074E-01	7.289E-02
BI-214	6.831E-01	1.594E-01	1.381E-01
PB-214	6.033E-01	1.585E-01	1.254E-01
RN-222	6.831E-01	1.594E-01	1.381E-01
RA-224	1.928E+00	1.018E+00	7.832E-01
RA-226	6.033E-01	1.585E-01	1.254E-01
AC-228	7.793E-01	2.536E-01	2.375E-01
RA-228	7.793E-01	2.536E-01	2.375E-01
TH-228	7.691E-01	1.074E-01	7.289E-02
TH-230	6.033E-01	1.585E-01	1.254E-01
TH-232	7.793E-01	2.536E-01	2.375E-01
TH-234	5.560E-01	5.592E-01	5.406E-01
U-234	6.032E-01	1.585E-01	1.254E-01
U-235	-1.821E-02	1.093E-01	2.107E-01
U-238	5.560E-01	5.592E-01	5.406E-01
AM-243	1.009E-01	3.448E-02	3.476E-02
CF-249	6.347E-02	5.498E-02	4.448E-02
ANH-511	5.824E-02	6.716E-02	5.396E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	-2.844E-03	2.966E-01	5.977E-01	NOT IDENT.
NA-22	-3.690E-02	5.643E-02	9.698E-02	NOT IDENT.

NA-24	0.000E+00	9.749E+12	0.000E+00	SHORT HLIF
AL-26	9.451E-04	3.083E-02	7.488E-02	NOT IDENT.
SC-46	-3.970E-04	3.322E-02	6.640E-02	FAIL ABUN
V-48	6.306E-02	1.686E-01	3.248E-01	FAIL ABUN
CR-51	3.195E-01	3.968E-01	8.168E-01	NOT IDENT.
MN-52	1.013E+00	1.472E+00	3.681E+00	FAIL ABUN
MN-54	2.628E-02	4.513E-02	8.666E-02	NOT IDENT.
CO-56	8.570E-03	4.420E-02	8.902E-02	NOT IDENT.
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	3.607E-03	1.308E-02	2.665E-02	NOT IDENT.
CO-58	-2.179E-03	4.308E-02	8.318E-02	NOT IDENT.
FE-59	-1.279E-02	1.254E-01	2.471E-01	NOT IDENT.
CO-60	-3.749E-03	5.063E-02	9.923E-02	NOT IDENT.
ZN-65	1.703E-01	1.234E-01	2.516E-01	NOT IDENT.
GE-68	2.543E-01	1.345E+00	2.830E+00	NOT IDENT.
AS-73	9.766E-02	1.092E-01	2.201E-01	NOT IDENT.
SE-75	2.409E-03	3.591E-02	6.753E-02	NOT IDENT.
BR-77	0.000E+00	1.226E+03	0.000E+00	SHORT HLIF
SR-82	-6.076E-02	4.170E-01	8.035E-01	NOT IDENT.
RB-83	3.515E-02	8.831E-02	1.780E-01	NOT IDENT.
RB-84	-5.989E-02	1.222E-01	2.081E-01	NOT IDENT.
KR-85	4.479E+00	5.065E+00	1.101E+01	NOT IDENT.
SR-85	2.771E-02	3.134E-02	6.810E-02	NOT IDENT.
RB-86	1.566E-01	1.383E+00	2.882E+00	NOT IDENT.
Y-88	-9.097E-03	4.916E-02	1.075E-01	NOT IDENT.
Y-91	7.387E+00	3.379E+01	6.704E+01	NOT IDENT.
NB-94	-2.138E-03	3.820E-02	6.474E-02	NOT IDENT.
NB-95	-3.554E-02	5.458E-02	9.196E-02	NOT IDENT.
NB-95M	4.864E-03	1.035E-01	1.807E-01	NOT IDENT.
ZR-95	-1.333E-03	1.025E-01	1.929E-01	NOT IDENT.
NB-97	0.000E+00	5.514E+40	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	3.346E+12	0.000E+00	SHORT HLIF
MO-99	0.000E+00	4.921E+02	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	8.979E+33	0.000E+00	SHORT HLIF
RH-101	-6.181E-04	1.564E-02	2.902E-02	NOT IDENT.
RH-102	-1.678E-03	5.164E-02	1.007E-01	FAIL ABUN
RU-103	-1.817E-03	3.684E-02	7.451E-02	FAIL ABUN
RH-106	2.064E-01	2.946E-01	6.413E-01	NOT IDENT.
RU-106	2.064E-01	2.946E-01	6.413E-01	NOT IDENT.
AG-108M	2.313E-03	2.437E-02	4.929E-02	NOT IDENT.
AG-110M	1.192E-02	5.333E-02	1.104E-01	FAIL ABUN
SN-113	1.593E-02	3.823E-02	6.539E-02	NOT IDENT.
CD-115	0.000E+00	9.646E+02	0.000E+00	SHORT HLIF
SN-117M	-9.951E-03	7.408E-02	1.411E-01	NOT IDENT.
SB-122	0.000E+00	8.278E+01	0.000E+00	SHORT HLIF
TE-123M	-9.791E-03	1.966E-02	3.626E-02	NOT IDENT.
SB-124	-1.859E-02	7.193E-02	1.647E-01	NOT IDENT.
SB-125	-3.569E-02	7.949E-02	1.484E-01	NOT IDENT.
TE-125M	-1.795E+00	5.203E+00	1.015E+01	NOT IDENT.
SB-126	-1.052E-01	2.947E-01	5.382E-01	FAIL ABUN
SB-127	2.105E+01	2.063E+01	4.084E+01	FAIL ABUN
I-131	3.714E-02	3.744E-01	6.878E-01	NOT IDENT.
I-132	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
TE-132	9.933E+00	1.096E+01	2.291E+01	FAIL ABUN
BA-133	-1.576E-02	3.995E-02	6.211E-02	NOT IDENT.
I-133	0.000E+00	6.762E+08	0.000E+00	SHORT HLIF
CS-134	-1.613E-02	5.415E-02	9.629E-02	NOT IDENT.
I-135	0.000E+00	9.666E+31	0.000E+00	SHORT HLIF
CS-136	-1.008E-03	2.566E-01	5.164E-01	FAIL ABUN
BA-137M	1.692E-02	3.477E-02	6.001E-02	NOT IDENT.
CS-137	1.788E-02	3.673E-02	6.339E-02	NOT IDENT.
LA-138	2.136E-02	4.945E-02	1.215E-01	NOT IDENT.
CE-139	2.446E-02	2.009E-02	4.264E-02	NOT IDENT.
BA-140	-2.927E-01	5.673E-01	1.031E+00	NOT IDENT.
LA-140	-5.972E-02	2.383E-01	4.559E-01	NOT IDENT.
CE-141	1.669E-02	4.618E-02	9.334E-02	NOT IDENT.
CE-143	0.000E+00	1.604E+05	0.000E+00	SHORT HLIF
CE-144	3.200E-03	1.143E-01	2.250E-01	NOT IDENT.
PM-144	-2.400E-02	3.299E-02	5.556E-02	NOT IDENT.
PR-144	-1.051E+00	2.330E+00	4.183E+00	NOT IDENT.
PM-146	1.335E-02	3.636E-02	7.549E-02	NOT IDENT.
ND-147	7.794E-01	1.283E+00	2.742E+00	FAIL ABUN
PM-147	-5.656E+01	3.589E+02	7.068E+02	NOT IDENT.
PM-149	0.000E+00	7.152E+03	0.000E+00	SHORT HLIF
EU-150	-1.309E-03	2.243E-02	3.767E-02	FAIL ABUN
EU-152	-4.466E-02	8.789E-02	1.343E-01	FAIL ABUN
GD-153	-1.712E-02	4.328E-02	6.929E-02	NOT IDENT.
EU-154	-1.071E-01	1.580E-01	2.701E-01	NOT IDENT.

EU-155	4.048E-02	4.909E-02	1.045E-01	FAIL ABUN
TB-160	1.361E-01	1.935E-01	4.032E-01	FAIL ABUN
HO-166M	1.471E-02	5.319E-02	1.100E-01	NOT IDENT.
TM-171	-7.994E-01	1.905E+00	3.276E+00	NOT IDENT.
HF-172	-3.105E-02	1.005E-01	1.801E-01	FAIL ABUN
LU-172	9.472E-03	7.877E-02	1.591E-01	FAIL ABUN
LU-176	1.234E-03	1.977E-02	3.702E-02	FAIL ABUN
HF-181	4.288E-02	4.936E-02	1.082E-01	NOT IDENT.
TA-182	1.121E-01	2.540E-01	5.267E-01	FAIL ABUN
RE-183	3.351E-02	4.062E-02	7.849E-02	NOT IDENT.
RE-184	-1.830E-02	1.582E-01	2.687E-01	FAIL ABUN
W-188	-4.029E+00	7.892E+00	1.235E+01	FAIL ABUN
IR-192	-2.583E-02	2.990E-02	4.810E-02	FAIL ABUN
HG-203	1.695E-02	3.420E-02	6.761E-02	NOT IDENT.
TL-204	-1.328E-01	1.602E+00	2.735E+00	NOT IDENT.
BI-207	3.845E-04	4.575E-02	9.330E-02	FAIL ABUN
PB-211	1.922E-01	5.088E-01	1.080E+00	NOT IDENT.
BI-212	4.163E-01	6.378E-01	1.296E+00	NOT IDENT.
BI-213	-2.255E-02	9.644E-02	1.851E-01	NOT IDENT.
RN-219	1.087E-01	3.038E-01	5.952E-01	FAIL ABUN
RA-223	-1.234E-01	4.240E-01	7.575E-01	FAIL ABUN
AC-225	1.632E-01	1.064E+00	2.052E+00	NOT IDENT.
AC-227	-4.202E-02	1.596E-01	2.919E-01	NOT IDENT.
TH-227	-4.202E-02	1.596E-01	2.919E-01	NOT IDENT.
TH-229	1.932E-02	3.749E-01	7.118E-01	FAIL ABUN
PA-231	1.125E-01	4.071E-01	7.675E-01	NOT IDENT.
TH-231	-1.234E-01	4.240E-01	7.575E-01	FAIL ABUN
PA-233	7.560E-03	4.736E-02	9.005E-02	FAIL ABUN
PA-234	-1.408E-01	3.296E-01	6.211E-01	NOT IDENT.
PA-234M	-2.060E+00	5.331E+00	1.046E+01	NOT IDENT.
NP-237	7.560E-03	4.736E-02	9.005E-02	FAIL ABUN
NP-238	0.000E+00	3.062E+03	0.000E+00	SHORT HLIF
NP-239	-8.028E-02	1.382E-01	2.614E-01	NOT IDENT.
PU-239	1.933E+02	4.442E+02	4.220E+02	FAIL ABUN
AM-241	-6.003E-03	3.232E-02	5.571E-02	NOT IDENT.
CM-243	-2.602E-02	4.565E-02	8.767E-02	NOT IDENT.
BK-247	2.656E-03	6.559E-02	1.135E-01	NOT IDENT.
CM-247	-4.540E-03	2.588E-02	5.147E-02	NOT IDENT.
CF-251	-2.190E-02	8.171E-02	1.528E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:04:07.12

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	300	10.66*	9.276E-01	1.846E+01	1.846E+01	11.25
AS-74	595.83	6	59.00*	2.340E+00	2.744E-02	8.793E-02	263.10
	634.78	------	15.40	2.191E+00	------ Line Not Found		------
CD-109	88.03	36	3.70*	1.120E+01	5.249E-01	5.489E-01	175.48
AG-110	657.50	40	4.50*	2.113E+00	2.580E+00	2.803E+00	56.27
I-126	388.63	25	35.60	3.644E+00	1.177E-01	5.831E-01	88.40
	666.33	14	32.90*	2.084E+00	1.235E-01	6.121E-01	100.00
	753.82	------	4.15	1.828E+00	------ Line Not Found		------
SN-126	64.28	40	9.60	1.192E+01	2.143E-01	2.143E-01	102.64
	86.94	36	8.90	1.120E+01	2.182E-01	2.182E-01	175.48
	87.57	36	37.00*	1.120E+01	5.249E-02	5.249E-02	175.48
TL-208	277.37	------	6.60	5.077E+00	------ Line Not Found		------
	583.19	62	85.00*	2.392E+00	1.844E-01	1.844E-01	51.73
	860.56	16	12.50	1.591E+00	4.783E-01	4.783E-01	67.63
BI-210	46.54	45	4.25*	1.143E+01	5.607E-01	5.621E-01	104.46
PB-210	46.54	45	4.25*	1.143E+01	5.607E-01	5.621E-01	104.46
BI-211	72.87	------	1.23	1.175E+01	------ Line Not Found		------
	351.06	142	12.92*	4.027E+00	1.662E+00	1.662E+00	26.81
PB-212	74.82	130	10.28	1.169E+01	6.593E-01	6.593E-01	34.88
	77.11	299	17.10	1.162E+01	9.173E-01	9.173E-01	17.24
	238.63	321	43.60*	5.830E+00	7.691E-01	7.691E-01	14.25
	300.09	------	3.30	4.711E+00	------ Line Not Found		------
BI-214	609.32	117	45.49*	2.287E+00	6.831E-01	6.831E-01	23.81
	1120.29	18	14.92	1.211E+00	6.169E-01	6.169E-01	119.79
	1764.49	18	15.30	7.720E-01	9.186E-01	9.186E-01	45.88
PB-214	74.82	130	5.80	1.169E+01	1.169E+00	1.169E+00	34.88
	77.11	299	9.70	1.162E+01	1.617E+00	1.617E+00	17.24
	87.09	36	3.41	1.120E+01	5.695E-01	5.695E-01	175.48
	242.00	75	7.25	5.766E+00	1.090E+00	1.090E+00	53.87
	295.22	81	18.42	4.782E+00	5.602E-01	5.602E-01	42.20
	351.93	142	35.60*	4.027E+00	6.032E-01	6.033E-01	26.81
RN-222	609.32	117	45.49*	2.287E+00	6.831E-01	6.831E-01	23.81
	1120.29	18	14.92	1.211E+00	6.169E-01	6.169E-01	119.79
	1764.49	18	15.30	7.720E-01	9.186E-01	9.186E-01	45.88
RA-224	240.99	75	4.10*	5.766E+00	1.928E+00	1.928E+00	53.87
RA-226	74.82	130	5.80	1.169E+01	1.169E+00	1.169E+00	34.88
	77.11	299	9.70	1.162E+01	1.617E+00	1.617E+00	17.24
	87.09	36	3.41	1.120E+01	5.695E-01	5.695E-01	175.48
	242.00	75	7.25	5.766E+00	1.090E+00	1.090E+00	53.87
	295.22	81	18.42	4.782E+00	5.602E-01	5.602E-01	42.20
	351.93	142	35.60*	4.027E+00	6.032E-01	6.033E-01	26.81
AC-228	105.21	------	1.10	1.042E+01	------ Line Not Found		------
	338.32	57	11.27	4.188E+00	7.387E-01	7.387E-01	46.16
	835.71	------	1.61	1.641E+00	------ Line Not Found		------
	911.20	49	25.80*	1.499E+00	7.793E-01	7.793E-01	33.21
	968.97	26	15.80	1.406E+00	7.053E-01	7.053E-01	66.64
RA-228	105.21	------	1.10	1.042E+01	------ Line Not Found		------

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	338.32	57	11.27	4.188E+00	7.387E-01	7.387E-01	46.16
	835.71	------	1.61	1.641E+00	------ Line Not Found		------
	911.20	49	25.80*	1.499E+00	7.793E-01	7.793E-01	33.21
	968.97	26	15.80	1.406E+00	7.053E-01	7.053E-01	66.64
TH-228	74.82	130	10.28	1.169E+01	6.593E-01	6.593E-01	34.88
	77.11	299	17.10	1.162E+01	9.173E-01	9.173E-01	17.24
	238.63	321	43.60*	5.830E+00	7.691E-01	7.691E-01	14.25
	300.09	------	3.30	4.711E+00	------ Line Not Found		------
TH-230	74.82	130	5.80	1.169E+01	1.169E+00	1.169E+00	34.88
	77.11	299	9.70	1.162E+01	1.617E+00	1.617E+00	17.24
	87.09	36	3.41	1.120E+01	5.695E-01	5.695E-01	175.48
	242.00	75	7.25	5.766E+00	1.090E+00	1.090E+00	53.87
	295.22	81	18.42	4.782E+00	5.602E-01	5.602E-01	42.20
	351.93	142	35.60*	4.027E+00	6.032E-01	6.033E-01	26.81
TH-232	105.21	------	1.10	1.042E+01	------ Line Not Found		------
	338.32	57	11.27	4.188E+00	7.387E-01	7.387E-01	46.16
	835.71	------	1.61	1.641E+00	------ Line Not Found		------
	911.20	49	25.80*	1.499E+00	7.793E-01	7.793E-01	33.21
	968.97	26	15.80	1.406E+00	7.053E-01	7.053E-01	66.64
TH-234	63.29	40	3.70*	1.192E+01	5.560E-01	5.560E-01	102.64
	92.59	87	4.23	1.098E+01	1.138E+00	1.138E+00	53.52
U-234	74.82	130	5.80	1.169E+01	1.169E+00	1.169E+00	34.88
	77.11	299	9.70	1.162E+01	1.617E+00	1.617E+00	17.24
	87.09	36	3.41	1.120E+01	5.695E-01	5.695E-01	175.48
	242.00	75	7.25	5.766E+00	1.090E+00	1.090E+00	53.87
	295.22	81	18.42	4.782E+00	5.602E-01	5.602E-01	42.20
	351.93	142	35.60*	4.027E+00	6.032E-01	6.032E-01	26.81
U-235	89.96	66	3.47	1.112E+01	1.044E+00	1.044E+00	55.61
	93.35	87	5.60	1.098E+01	8.595E-01	8.595E-01	53.52
	143.76	------	10.96*	8.708E+00	------ Line Not Found		------
	163.33	------	5.08	7.960E+00	------ Line Not Found		------
	185.72	70	57.20	7.201E+00	1.033E-01	1.033E-01	63.66
	205.31	------	5.01	6.643E+00	------ Line Not Found		------
U-238	63.29	40	3.70*	1.192E+01	5.560E-01	5.560E-01	102.64
	92.59	87	4.23	1.098E+01	1.138E+00	1.138E+00	53.52
AM-243	43.53	------	5.90	1.119E+01	------ Line Not Found		------
	74.66	130	67.20*	1.169E+01	1.009E-01	1.009E-01	34.88
CF-249	252.80	------	2.50	5.533E+00	------ Line Not Found		------
	333.37	------	14.60	4.252E+00	------ Line Not Found		------
	388.16	25	66.00*	3.644E+00	6.346E-02	6.347E-02	88.40
ANH-511	511.00	26	100.00*	2.750E+00	5.824E-02	5.824E-02	117.66

Flag: "*" = Keyline

Sample ID : G669289003 Acquisition date : 20-JUN-2024 05:03:08

Total number of lines in spectrum 47
Number of unidentified lines 6
Number of lines tentatively identified by NID 41 87.23%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	1.846E+01	1.846E+01	0.208E+01	11.25	
AS-74	17.77D	3.20	2.744E-02	8.793E-02	23.13E-02	263.10	
CD-109	461.40D	1.05	5.249E-01	5.489E-01	9.633E-01	175.48	
AG-110	249.76D	1.09	2.580E+00	2.803E+00	1.577E+00	56.27	
I-126	12.93D	4.96	1.235E-01	6.121E-01	6.121E-01	100.00	
SN-126	2.30E+05Y	1.00	5.249E-02	5.249E-02	9.210E-02	175.48	
TL-208	1.41E+10Y	1.00	1.844E-01	1.844E-01	0.954E-01	51.73	
BI-210	22.20Y	1.00	5.607E-01	5.621E-01	5.872E-01	104.46	
PB-210	22.20Y	1.00	5.607E-01	5.621E-01	5.872E-01	104.46	
BI-211	7.04E+08Y	1.00	1.662E+00	1.662E+00	0.446E+00	26.81	
PB-212	1.41E+10Y	1.00	7.691E-01	7.691E-01	1.096E-01	14.25	
BI-214	1600.00Y	1.00	6.831E-01	6.831E-01	1.627E-01	23.81	
PB-214	1600.00Y	1.00	6.032E-01	6.033E-01	1.617E-01	26.81	
RN-222	1600.00Y	1.00	6.831E-01	6.831E-01	1.627E-01	23.81	
RA-224	1.41E+10Y	1.00	1.928E+00	1.928E+00	1.039E+00	53.87	
RA-226	1600.00Y	1.00	6.032E-01	6.033E-01	1.617E-01	26.81	
AC-228	1.41E+10Y	1.00	7.793E-01	7.793E-01	2.588E-01	33.21	
RA-228	1.41E+10Y	1.00	7.793E-01	7.793E-01	2.588E-01	33.21	
TH-228	1.41E+10Y	1.00	7.691E-01	7.691E-01	1.096E-01	14.25	
TH-230	7.54E+04Y	1.00	6.032E-01	6.033E-01	1.617E-01	26.81	
TH-232	1.41E+10Y	1.00	7.793E-01	7.793E-01	2.588E-01	33.21	
TH-234	4.47E+09Y	1.00	5.560E-01	5.560E-01	5.707E-01	102.64	
U-234	2.45E+05Y	1.00	6.032E-01	6.032E-01	1.617E-01	26.81	
U-235	7.04E+08Y	1.00	1.033E-01	1.033E-01	0.658E-01	63.66	K
U-238	4.47E+09Y	1.00	5.560E-01	5.560E-01	5.707E-01	102.64	
AM-243	7370.00Y	1.00	1.009E-01	1.009E-01	0.352E-01	34.88	
CF-249	351.00Y	1.00	6.346E-02	6.347E-02	5.611E-02	88.40	
ANH-511	1.00E+09Y	1.00	5.824E-02	5.824E-02	6.853E-02	117.66	
			---	---			
	Total Activity :		3.576E+01	3.655E+01			

Grand Total Activity : 3.576E+01 3.655E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	49.79	41	107	1.98	99.01	96	7	1.01E-02	94.4	1.17E+01	T
0	129.35	19	130	0.70	258.12	253	9	4.77E-03	****	9.32E+00	T
0	210.06	25	81	1.12	419.56	415	7	6.64E-03	****	6.52E+00	T
0	270.83	25	88	2.34	541.10	534	10	6.62E-03	****	5.19E+00	T
2	340.78	18	35	1.42	681.02	672	13	4.84E-03	****	4.16E+00	T
0	393.32	14	16	1.06	786.12	783	7	3.89E-03	****	3.60E+00	
0	415.96	16	30	4.36	831.41	823	13	4.44E-03	****	3.40E+00	T
0	685.65	12	8	1.48	1370.92	1366	8	3.33E-03	****	2.02E+00	T
0	707.37	5	16	0.55	1414.36	1406	10	1.53E-03	****	1.95E+00	T
0	840.40	19	13	1.48	1680.53	1674	13	5.28E-03	90.7	1.63E+00	
4	857.18	8	2	1.73	1714.10	1712	14	2.33E-03	75.2	1.60E+00	T
0	893.98	10	7	1.77	1787.73	1782	10	2.91E-03	****	1.53E+00	T
0	899.73	16	6	2.88	1799.22	1794	10	4.58E-03	78.4	1.52E+00	T
0	934.09	15	7	0.96	1867.97	1860	15	4.31E-03	92.3	1.46E+00	T
0	973.87	9	8	3.62	1947.58	1942	11	2.69E-03	****	1.40E+00	
0	986.47	7	15	0.75	1972.79	1966	10	1.94E-03	****	1.38E+00	
0	1058.63	6	8	1.37	2117.17	2113	8	1.67E-03	****	1.28E+00	
0	1111.93	6	4	1.71	2223.83	2219	8	1.85E-03	****	1.22E+00	T
0	1302.18	15	2	2.17	2604.55	2599	13	4.30E-03	69.1	1.04E+00	
0	1312.06	14	6	1.17	2624.32	2619	12	4.03E-03	86.0	1.03E+00	T
0	1407.50	6	2	1.41	2815.33	2811	9	1.81E-03	****	9.62E-01	T

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:04:19.07

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289003.CNF;1		
Acquisition date	: 20-JUN-2024 05:03:08	Sensitivity	: 3.000
Detector ID	: GAM21	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.44	Half life ratio	: *****
Sample date	: 21-MAY-2024 09:00:00	Nuclide Library	: SOLID
Sample ID	: G669289003	Analyst initials	: MXR1
Batch Number	: 2618905	Sample Quantity	: 1.2325E+02 GRAM
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 3-JUL-2023 09:20:00	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM21_CAN.CNF;25		

Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	1.481E-01
AS-74	1.063E-01
CD-109	3.487E-01
AG-110	5.712E-01
I-126	3.623E-01
SN-126	3.326E-02
TL-208	3.172E-02
BI-210	2.111E-01
PB-210	2.111E-01
BI-211	1.563E-01
PB-212	3.315E-02
BI-214	6.107E-02
PB-214	5.690E-02
RN-222	6.107E-02
RA-224	3.562E-01
RA-226	5.690E-02
AC-228	9.734E-02
RA-228	9.734E-02
TH-228	3.315E-02
TH-230	5.689E-02
TH-232	9.734E-02
TH-234	2.510E-01
U-234	5.689E-02
U-235	9.648E-02
U-238	2.510E-01
AM-243	1.630E-02
CF-249	1.877E-02
ANH-511	2.396E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	2.589E-01	NOT IDENT.
NA-22	4.057E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF

AL-26	2.653E-02	NOT IDENT.
SC-46	2.631E-02	FAIL ABUN
V-48	1.406E-01	FAIL ABUN
CR-51	3.681E-01	NOT IDENT.
MN-52	1.488E+00	FAIL ABUN
MN-54	3.795E-02	NOT IDENT.
CO-56	3.782E-02	NOT IDENT.
MN-56	0.000E+00	SHORT HLIF
CO-57	1.222E-02	NOT IDENT.
CO-58	3.501E-02	NOT IDENT.
FE-59	1.047E-01	NOT IDENT.
CO-60	4.143E-02	NOT IDENT.
ZN-65	1.112E-01	NOT IDENT.
GE-68	1.196E+00	NOT IDENT.
AS-73	1.009E-01	NOT IDENT.
SE-75	3.058E-02	NOT IDENT.
BR-77	0.000E+00	SHORT HLIF
SR-82	3.316E-01	NOT IDENT.
RB-83	8.032E-02	NOT IDENT.
RB-84	8.952E-02	NOT IDENT.
KR-85	4.798E+00	NOT IDENT.
SR-85	2.968E-02	NOT IDENT.
RB-86	1.211E+00	NOT IDENT.
Y-88	4.024E-02	NOT IDENT.
Y-91	2.952E+01	NOT IDENT.
NB-94	2.815E-02	NOT IDENT.
NB-95	3.960E-02	NOT IDENT.
NB-95M	8.240E-02	NOT IDENT.
ZR-95	8.488E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	1.317E-02	NOT IDENT.
RH-102	4.351E-02	FAIL ABUN
RU-103	3.178E-02	FAIL ABUN
RH-106	2.812E-01	NOT IDENT.
RU-106	2.812E-01	NOT IDENT.
AG-108M	2.182E-02	NOT IDENT.
AG-110M	4.718E-02	FAIL ABUN
SN-113	2.844E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	6.508E-02	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	1.666E-02	NOT IDENT.
SB-124	5.206E-02	NOT IDENT.
SB-125	6.557E-02	NOT IDENT.
TE-125M	4.632E+00	NOT IDENT.
SB-126	2.261E-01	FAIL ABUN
SB-127	1.801E+01	FAIL ABUN
I-131	3.092E-01	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	1.044E+01	FAIL ABUN
BA-133	2.766E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	4.239E-02	NOT IDENT.
I-135	0.000E+00	SHORT HLIF
CS-136	2.199E-01	FAIL ABUN
BA-137M	2.559E-02	NOT IDENT.
CS-137	2.704E-02	NOT IDENT.
LA-138	4.745E-02	NOT IDENT.
CE-139	1.977E-02	NOT IDENT.
BA-140	4.493E-01	NOT IDENT.
LA-140	1.766E-01	NOT IDENT.
CE-141	4.285E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	1.035E-01	NOT IDENT.
PM-144	2.333E-02	NOT IDENT.
PR-144	1.757E+00	NOT IDENT.
PM-146	3.358E-02	NOT IDENT.
ND-147	1.213E+00	FAIL ABUN
PM-147	3.221E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	1.678E-02	FAIL ABUN
EU-152	5.947E-02	FAIL ABUN
GD-153	3.169E-02	NOT IDENT.
EU-154	1.128E-01	NOT IDENT.
EU-155	4.833E-02	FAIL ABUN

TB-160	1.781E-01	FAIL ABUN
HO-166M	4.708E-02	NOT IDENT.
TM-171	1.479E+00	NOT IDENT.
HF-172	8.189E-02	FAIL ABUN
LU-172	6.869E-02	FAIL ABUN
LU-176	1.657E-02	FAIL ABUN
HF-181	4.832E-02	NOT IDENT.
TA-182	2.304E-01	FAIL ABUN
RE-183	3.644E-02	NOT IDENT.
RE-184	1.086E-01	FAIL ABUN
W-188	5.596E+00	FAIL ABUN
IR-192	2.105E-02	FAIL ABUN
HG-203	3.063E-02	NOT IDENT.
TL-204	1.275E+00	NOT IDENT.
BI-207	3.797E-02	FAIL ABUN
PB-211	4.770E-01	NOT IDENT.
BI-212	5.825E-01	NOT IDENT.
BI-213	8.253E-02	NOT IDENT.
RN-219	2.617E-01	FAIL ABUN
RA-223	3.308E-01	FAIL ABUN
AC-225	9.335E-01	NOT IDENT.
AC-227	1.298E-01	NOT IDENT.
TH-227	1.298E-01	NOT IDENT.
TH-229	3.286E-01	FAIL ABUN
PA-231	3.504E-01	NOT IDENT.
TH-231	3.308E-01	FAIL ABUN
PA-233	4.023E-02	FAIL ABUN
PA-234	2.628E-01	NOT IDENT.
PA-234M	4.508E+00	NOT IDENT.
NP-237	4.023E-02	FAIL ABUN
NP-238	0.000E+00	SHORT HLIF
NP-239	1.199E-01	NOT IDENT.
PU-239	1.967E+02	FAIL ABUN
AM-241	2.586E-02	NOT IDENT.
CM-243	3.997E-02	NOT IDENT.
BK-247	5.145E-02	NOT IDENT.
CM-247	2.244E-02	NOT IDENT.
CF-251	6.989E-02	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:04:23.60

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
*                                                                       *
*                        DETECTOR AND SAMPLE DATA                       *
*                                                                       *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289003.CNF;1    *
* Acquisition date : 20-JUN-2024 05:03:08 Sensitivity     : 3.000          *
* Detector ID      : GAM21                Energy tolerance: 1.500          *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000         *
* Elapsed real time:    0 01:00:00.44     Half life ratio : *****          *
* Sample date      : 21-MAY-2024 09:00:00 Nuclide Library : SOLID          *
* Sample ID        : G669289003           Analyst initials: MXR1           *
* Batch Number     : 2618905              Sample Quantity : 1.2325E+02 GRAM   *
*                                         Quantity Err(%) : 1.6227E-03 %      *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000        *
*                                         Dry Weight      :    0.00000        *
*************************************************************************
*                                                                       *
*                        CALIBRATION INFORMATION                        *
*                                                                       *
* Eff. Cal. date   :  3-JUL-2023 09:20:00 Eff. Geometry   : CAN            *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM21_CAN.CNF;25           *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	1.846E+01	2.607E+00	2.607E+00
AS-74	8.793E-02	2.270E-01	2.270E-01
CD-109	5.489E-01	9.456E-01	9.456E-01
AG-110	2.803E+00	1.589E+00	1.589E+00
I-126	6.121E-01	6.059E-01	6.059E-01
SN-126	5.249E-02	9.037E-02	9.037E-02
TL-208	1.844E-01	9.602E-02	9.602E-02
BI-210	5.621E-01	5.779E-01	5.779E-01
PB-210	5.621E-01	5.779E-01	5.779E-01
BI-211	1.662E+00	4.578E-01	4.578E-01
PB-212	7.691E-01	1.360E-01	1.360E-01
BI-214	6.831E-01	1.805E-01	1.805E-01
PB-214	6.033E-01	1.659E-01	1.659E-01
RN-222	6.831E-01	1.805E-01	1.805E-01
RA-224	1.928E+00	1.038E+00	1.038E+00
RA-226	6.033E-01	1.659E-01	1.659E-01
AC-228	7.793E-01	2.668E-01	2.668E-01
RA-228	7.793E-01	2.668E-01	2.668E-01
TH-228	7.691E-01	1.360E-01	1.360E-01
TH-230	6.033E-01	1.659E-01	1.659E-01
TH-232	7.793E-01	2.668E-01	2.668E-01
TH-234	5.560E-01	5.732E-01	5.732E-01
U-234	6.032E-01	1.659E-01	1.659E-01
U-235	-1.821E-02	1.093E-01	1.093E-01
U-238	5.560E-01	5.732E-01	5.732E-01
AM-243	1.009E-01	3.543E-02	3.543E-02
CF-249	6.347E-02	5.542E-02	5.542E-02
ANH-511	5.824E-02	6.744E-02	6.744E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	-2.844E-03	2.966E-01	2.966E-01	NOT IDENT.
NA-22	-3.690E-02	5.651E-02	5.890E-02	NOT IDENT.

NA-24	4.189E+12	9.757E+12	9.938E+12	SHORT HLIF
AL-26	9.451E-04	3.083E-02	3.084E-02	NOT IDENT.
SC-46	-3.970E-04	3.322E-02	3.322E-02	FAIL ABUN
V-48	6.306E-02	1.687E-01	1.711E-01	FAIL ABUN
CR-51	3.195E-01	3.976E-01	4.229E-01	NOT IDENT.
MN-52	1.013E+00	1.474E+00	1.544E+00	FAIL ABUN
MN-54	2.628E-02	4.523E-02	4.676E-02	NOT IDENT.
CO-56	8.570E-03	4.421E-02	4.438E-02	NOT IDENT.
MN-56	1.000E+41	5.159E+41	0.000E+00	SHORT HLIF
CO-57	3.607E-03	1.309E-02	1.319E-02	NOT IDENT.
CO-58	-2.179E-03	4.308E-02	4.309E-02	NOT IDENT.
FE-59	-1.279E-02	1.255E-01	1.256E-01	NOT IDENT.
CO-60	-3.749E-03	5.063E-02	5.066E-02	NOT IDENT.
ZN-65	1.703E-01	1.242E-01	1.460E-01	NOT IDENT.
GE-68	2.543E-01	1.345E+00	1.350E+00	NOT IDENT.
AS-73	9.766E-02	1.111E-01	1.195E-01	NOT IDENT.
SE-75	2.409E-03	3.592E-02	3.593E-02	NOT IDENT.
BR-77	8.779E+03	7.720E+03	8.676E+03	SHORT HLIF
SR-82	-6.076E-02	4.170E-01	4.179E-01	NOT IDENT.
RB-83	3.515E-02	8.851E-02	8.992E-02	NOT IDENT.
RB-84	-5.989E-02	1.223E-01	1.253E-01	NOT IDENT.
KR-85	4.479E+00	5.087E+00	5.474E+00	NOT IDENT.
SR-85	2.771E-02	3.148E-02	3.387E-02	NOT IDENT.
RB-86	1.566E-01	1.383E+00	1.385E+00	NOT IDENT.
Y-88	-9.097E-03	4.917E-02	4.934E-02	NOT IDENT.
Y-91	7.387E+00	3.379E+01	3.396E+01	NOT IDENT.
NB-94	-2.138E-03	3.821E-02	3.822E-02	NOT IDENT.
NB-95	-3.554E-02	5.476E-02	5.705E-02	NOT IDENT.
NB-95M	4.864E-03	1.035E-01	1.035E-01	NOT IDENT.
ZR-95	-1.333E-03	1.025E-01	1.025E-01	NOT IDENT.
NB-97	1.000E+41	5.670E+40	0.000E+00	SHORT HLIF
ZR-97	3.619E+11	3.346E+12	3.350E+12	SHORT HLIF
MO-99	-1.870E+02	4.928E+02	4.999E+02	SHORT HLIF
TC-99M	1.494E+33	8.982E+33	0.000E+00	SHORT HLIF
RH-101	-6.181E-04	1.564E-02	1.564E-02	NOT IDENT.
RH-102	-1.678E-03	5.164E-02	5.165E-02	FAIL ABUN
RU-103	-1.817E-03	3.684E-02	3.685E-02	FAIL ABUN
RH-106	2.064E-01	2.959E-01	3.102E-01	NOT IDENT.
RU-106	2.064E-01	2.959E-01	3.102E-01	NOT IDENT.
AG-108M	2.313E-03	2.437E-02	2.439E-02	NOT IDENT.
AG-110M	1.192E-02	5.335E-02	5.362E-02	FAIL ABUN
SN-113	1.593E-02	3.825E-02	3.892E-02	NOT IDENT.
CD-115	-2.288E+02	9.649E+02	9.704E+02	SHORT HLIF
SN-117M	-9.951E-03	7.410E-02	7.423E-02	NOT IDENT.
SB-122	-4.586E+01	8.295E+01	8.548E+01	SHORT HLIF
TE-123M	-9.791E-03	1.970E-02	2.019E-02	NOT IDENT.
SB-124	-1.859E-02	7.194E-02	7.243E-02	NOT IDENT.
SB-125	-3.569E-02	7.956E-02	8.117E-02	NOT IDENT.
TE-125M	-1.795E+00	5.208E+00	5.270E+00	NOT IDENT.
SB-126	-1.052E-01	2.952E-01	2.990E-01	FAIL ABUN
SB-127	2.105E+01	2.102E+01	2.306E+01	FAIL ABUN
I-131	3.714E-02	3.744E-01	3.748E-01	NOT IDENT.
I-132	-1.000E+41	1.362E+42	0.000E+00	SHORT HLIF
TE-132	9.933E+00	1.104E+01	1.192E+01	FAIL ABUN
BA-133	-1.576E-02	3.997E-02	4.060E-02	NOT IDENT.
I-133	-1.974E+08	6.775E+08	6.833E+08	SHORT HLIF
CS-134	-1.613E-02	5.418E-02	5.467E-02	NOT IDENT.
I-135	1.132E+31	9.697E+31	0.000E+00	SHORT HLIF
CS-136	-1.008E-03	2.566E-01	2.566E-01	FAIL ABUN
BA-137M	1.692E-02	3.484E-02	3.566E-02	NOT IDENT.
CS-137	1.788E-02	3.680E-02	3.767E-02	NOT IDENT.
LA-138	2.136E-02	4.949E-02	5.041E-02	NOT IDENT.
CE-139	2.446E-02	2.091E-02	2.364E-02	NOT IDENT.
BA-140	-2.927E-01	5.682E-01	5.833E-01	NOT IDENT.
LA-140	-5.972E-02	2.383E-01	2.398E-01	NOT IDENT.
CE-141	1.669E-02	4.624E-02	4.684E-02	NOT IDENT.
CE-143	-2.115E+04	1.604E+05	1.607E+05	SHORT HLIF
CE-144	3.200E-03	1.143E-01	1.143E-01	NOT IDENT.
PM-144	-2.400E-02	3.314E-02	3.486E-02	NOT IDENT.
PR-144	-1.051E+00	2.334E+00	2.381E+00	NOT IDENT.
PM-146	1.335E-02	3.639E-02	3.688E-02	NOT IDENT.
ND-147	7.794E-01	1.286E+00	1.333E+00	FAIL ABUN
PM-147	-5.656E+01	3.590E+02	3.599E+02	NOT IDENT.
PM-149	1.344E+03	7.155E+03	7.180E+03	SHORT HLIF
EU-150	-1.309E-03	2.243E-02	2.244E-02	FAIL ABUN
EU-152	-4.466E-02	8.798E-02	9.025E-02	FAIL ABUN
GD-153	-1.712E-02	4.331E-02	4.399E-02	NOT IDENT.
EU-154	-1.071E-01	1.583E-01	1.655E-01	NOT IDENT.

EU-155	4.048E-02	4.933E-02	5.260E-02	FAIL ABUN
TB-160	1.361E-01	1.941E-01	2.036E-01	FAIL ABUN
HO-166M	1.471E-02	5.323E-02	5.364E-02	NOT IDENT.
TM-171	-7.994E-01	1.907E+00	1.941E+00	NOT IDENT.
HF-172	-3.105E-02	1.007E-01	1.017E-01	FAIL ABUN
LU-172	9.472E-03	7.878E-02	7.889E-02	FAIL ABUN
LU-176	1.234E-03	1.977E-02	1.978E-02	FAIL ABUN
HF-181	4.288E-02	4.955E-02	5.319E-02	NOT IDENT.
TA-182	1.121E-01	2.541E-01	2.591E-01	FAIL ABUN
RE-183	3.351E-02	4.078E-02	4.349E-02	NOT IDENT.
RE-184	-1.830E-02	1.582E-01	1.585E-01	FAIL ABUN
W-188	-4.029E+00	7.908E+00	8.114E+00	FAIL ABUN
IR-192	-2.583E-02	2.997E-02	3.215E-02	FAIL ABUN
HG-203	1.695E-02	3.422E-02	3.507E-02	NOT IDENT.
TL-204	-1.328E-01	1.602E+00	1.603E+00	NOT IDENT.
BI-207	3.845E-04	4.575E-02	4.575E-02	FAIL ABUN
PB-211	1.922E-01	5.091E-01	5.165E-01	NOT IDENT.
BI-212	4.163E-01	6.402E-01	6.671E-01	NOT IDENT.
BI-213	-2.255E-02	9.646E-02	9.699E-02	NOT IDENT.
RN-219	1.087E-01	3.042E-01	3.082E-01	FAIL ABUN
RA-223	-1.234E-01	4.242E-01	4.278E-01	FAIL ABUN
AC-225	1.632E-01	1.064E+00	1.067E+00	NOT IDENT.
AC-227	-4.202E-02	1.597E-01	1.608E-01	NOT IDENT.
TH-227	-4.202E-02	1.597E-01	1.608E-01	NOT IDENT.
TH-229	1.932E-02	3.749E-01	3.750E-01	FAIL ABUN
PA-231	1.125E-01	4.079E-01	4.110E-01	NOT IDENT.
TH-231	-1.234E-01	4.242E-01	4.278E-01	FAIL ABUN
PA-233	7.560E-03	4.737E-02	4.749E-02	FAIL ABUN
PA-234	-1.408E-01	3.671E-01	3.725E-01	NOT IDENT.
PA-234M	-2.060E+00	5.335E+00	5.416E+00	NOT IDENT.
NP-237	7.560E-03	4.737E-02	4.749E-02	FAIL ABUN
NP-238	2.686E+03	3.073E+03	3.303E+03	SHORT HLIF
NP-239	-8.028E-02	1.387E-01	1.433E-01	NOT IDENT.
PU-239	1.933E+02	4.450E+02	4.535E+02	FAIL ABUN
AM-241	-6.003E-03	3.232E-02	3.243E-02	NOT IDENT.
CM-243	-2.602E-02	4.577E-02	4.725E-02	NOT IDENT.
BK-247	2.656E-03	6.559E-02	6.560E-02	NOT IDENT.
CM-247	-4.540E-03	2.590E-02	2.598E-02	NOT IDENT.
CF-251	-2.190E-02	8.180E-02	8.239E-02	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	31.7982	85.43	87.6949	131.20	40.8218
45.60	47.7179	86.55	88.0570	133.02	50.7130
46.54	47.9901	86.79	88.1333	133.52	44.1179
49.72	44.0019	86.94	88.1827	136.00	54.4480
51.35	30.8386	87.09	88.2311	136.47	40.2554
51.87	42.0614	87.57	88.3847	140.51	0.0000
52.39	35.9783	88.03	88.5317	143.76	42.6895
52.97	49.7824	88.34	49.4011	144.24	43.5931
53.44	26.2023	88.47	49.4239	145.44	36.0034
54.07	37.5584	89.96	51.1488	152.43	47.9211
57.36	0.0000	1093.63	51.2717	153.25	40.1545
57.53	49.7141	91.11	20.5426	323.87	47.2401
57.98	39.6062	92.59	54.5718	156.02	48.3113
59.27	48.8641	93.35	54.7152	158.56	49.4683
59.32	48.8762	94.56	43.0628	159.00	52.1688
59.54	60.5178	94.65	43.0761	162.33	43.6429
60.96	62.2372	94.67	43.0792	162.66	41.0003
61.17	62.3005	94.87	47.5679	163.33	45.5230
62.93	56.2827	97.43	46.4787	165.86	32.3080
63.29	56.3784	98.43	39.1115	176.31	29.3462
63.58	56.4555	98.44	39.1127	176.60	33.0342
64.28	60.5921	99.53	49.0659	177.52	43.2076
66.73	63.9404	100.11	52.1838	181.07	0.0000
67.24	56.0767	102.03	36.5270	181.52	37.9927
125.81	54.8491	103.18	41.2432	184.41	38.5185
67.75	62.8952	103.37	45.0891	143.76	38.3049
68.89	67.2493	105.21	38.4323	193.51	47.4075
69.67	63.4309	105.31	36.9067	197.03	49.6260
70.82	65.1028	106.12	37.7706	198.01	43.9785
70.83	65.1064	106.47	38.5830	201.83	40.4331
72.81	83.4394	109.28	42.8068	203.43	41.5145
72.87	83.4608	111.00	43.0283	205.31	42.6223
74.66	75.8147	111.76	40.7734	210.85	45.6455
74.82	75.8650	114.06	44.9970	215.65	36.4891
74.97	75.9112	116.30	51.6456	218.12	31.6899
77.11	76.5750	116.74	51.7106	222.11	37.8829
78.74	77.0735	119.76	44.1302	227.09	29.1474
79.69	77.3622	121.12	37.8544	227.38	29.1611
80.03	60.5626	121.22	37.8648	228.16	22.1501
80.12	60.5849	121.78	39.5374	228.18	22.1511
80.19	60.6013	122.06	36.3380	116.74	22.1511
80.57	55.0449	122.92	44.5180	235.69	35.3247
81.00	57.9641	123.07	44.5360	235.96	35.3395
81.07	57.9803	265.00	40.5548	238.63	33.7810
81.75	58.1317	125.81	39.1575	238.98	0.0000
82.47	73.9319	127.23	32.7551	240.99	33.9044
83.79	65.7277	127.91	42.6588	242.00	33.9572
84.00	70.0696	129.30	42.8149	244.70	34.4421

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.40	36.5840	344.28	28.2319	563.25	16.2149
252.80	21.9632	345.93	17.6775	564.24	0.0000
254.15	0.0000	351.06	32.0015	569.33	17.2441
256.23	25.2277	351.93	32.0328	946.00	13.4138
260.90	0.0000	355.39	0.0000	569.70	18.2068
264.66	29.7919	356.01	28.6011	583.19	20.3164
264.80	29.7979	364.49	25.2567	584.27	20.3318
265.00	31.2257	366.42	0.0000	595.83	10.2479
269.46	33.2071	372.51	21.8331	427.87	16.1563
270.03	33.2336	375.05	31.6208	602.52	0.0000
271.23	30.0679	377.52	23.1673	604.72	14.7290
273.65	31.6053	356.01	16.3639	607.14	16.2281
276.40	24.8748	388.16	9.8613	609.32	19.6997
277.37	30.3225	388.63	9.8662	610.33	19.7127
277.60	35.7483	391.69	9.8965	614.28	7.4121
278.00	34.6846	264.66	18.7221	618.01	16.8423
279.20	23.8846	401.81	13.7450	620.36	14.8840
279.54	27.1538	402.40	17.5038	621.93	9.9333
279.70	20.6415	404.85	15.0392	630.19	0.0000
280.46	25.0124	410.95	22.6923	631.29	13.9920
283.69	31.6745	413.71	19.3819	633.25	17.0118
284.31	31.7010	414.70	19.4002	634.78	14.0239
285.41	21.8945	423.72	22.1179	635.95	11.0273
285.90	0.0000	427.09	22.1877	636.99	13.0407
287.50	35.1289	427.87	23.9115	657.50	12.1963
290.67	41.1546	433.94	18.8933	657.76	12.1982
293.27	0.0000	439.40	19.8503	657.90	0.0000
351.93	32.1577	440.45	25.9161	661.66	6.1140
295.96	32.1878	453.88	17.4858	664.57	0.0000
879.38	44.5471	463.37	21.1567	666.33	12.2637
299.98	31.2385	468.07	17.7022	666.50	15.3308
300.09	31.2428	473.00	13.3325	667.71	0.0000
300.13	31.2445	475.06	19.5884	677.62	17.4946
301.36	32.4108	476.78	15.1583	685.70	18.6152
302.85	43.6691	477.60	14.2764	692.65	0.0000
256.23	22.4408	482.18	13.4357	695.00	9.3596
304.85	23.5731	487.02	18.8856	696.49	16.6543
306.78	23.6301	492.35	0.0000	696.51	13.5316
308.46	21.4243	497.08	11.7876	697.00	13.5358
311.90	21.5153	505.52	18.2581	697.30	12.4966
316.51	28.4698	507.63	0.0000	697.49	13.5396
319.41	21.7130	511.00	21.0882	702.65	15.6708
320.08	17.1556	514.00	6.8930	706.68	9.4248
321.04	21.7554	514.00	6.8930	711.68	9.4523
323.87	19.5312	520.40	23.0916	720.70	12.6694
325.23	28.7689	520.69	0.0000	721.93	0.0000
328.76	26.5776	522.65	0.0000	722.78	13.7416
333.37	23.2355	527.90	0.0000	722.91	9.5142
333.97	23.2513	528.26	20.4442	723.31	10.5737
334.37	13.9574	529.59	23.2554	724.19	15.8685
338.28	22.1984	529.87	0.0000	727.33	18.0168
338.32	22.1995	531.02	13.0373	733.00	8.5062
311.90	22.2540	537.26	21.5204	735.93	6.3901
340.48	22.2540	546.56	0.0000	333.97	10.6596
340.55	22.2558	552.55	15.1426	739.50	0.0000

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
744.23	12.8403	949.00	9.7804	1384.29	6.2780
747.24	13.9336	667.71	0.0000	1408.01	3.3732
748.06	8.5785	962.31	13.2884	1434.09	2.1252
752.31	13.9733	964.08	14.3218	1435.80	2.1263
753.82	17.2122	966.17	14.3350	1457.56	0.0000
756.73	18.3177	911.20	15.7878	1460.82	1.0713
756.80	18.3184	983.53	10.1110	1489.16	2.1606
884.68	10.8179	984.45	0.0000	1505.03	4.3416
765.81	20.5748	1274.44	11.8007	1584.12	4.4404
766.42	18.4153	1001.03	12.7341	1596.21	5.5692
766.84	19.5029	1002.74	10.9230	1620.50	4.4851
772.60	0.0000	1004.73	8.1991	1621.92	4.4868
776.52	8.7135	507.63	0.0000	1678.03	0.0000
739.50	0.0000	1025.87	0.0000	1690.97	1.8280
778.90	15.2686	1028.54	0.0000	1750.46	0.0000
783.70	17.4948	1037.84	15.7040	1764.49	0.0000
788.74	15.3490	1038.76	0.0000	1063.66	6.5293
792.07	18.6712	631.29	15.7601	1771.35	1.8660
795.86	22.0101	1048.07	11.1313	1791.20	0.0000
810.06	8.8698	1049.04	9.2798	1808.65	1.8833
810.29	9.9796	1050.41	6.4997	1810.72	0.0000
344.28	9.9803	1063.66	6.4014	1836.06	2.8440
810.76	9.9818	1077.00	8.4468		
815.77	12.2318	1077.34	8.4479		
1048.07	14.4764	1085.87	14.1275		
832.01	14.5763	1093.63	12.2819		
834.85	10.1056	1099.45	11.3628		
835.71	8.4250	1112.07	19.0308		
836.80	0.0000	1112.84	20.3060		
846.75	0.0000	1115.54	3.8113		
846.77	9.0368	1120.29	16.2280		
856.80	6.8113	1120.55	13.7470		
860.56	9.0986	1221.41	12.2234		
871.09	4.5728	1129.67	13.4121		
873.19	10.2993	1131.51	0.0000		
875.33	0.0000	1147.95	0.0000		
879.38	11.4779	1173.23	12.6596		
880.51	14.9292	1177.95	13.6565		
881.60	18.3841	1189.05	13.7120		
883.24	10.3491	1204.77	15.7607		
884.68	8.0550	1221.41	11.8909		
889.28	3.4597	1231.02	9.9426		
894.76	10.4063	1235.36	21.9073		
898.04	6.9482	1238.28	12.9587		
900.72	8.6963	1260.41	0.0000		
903.28	6.9653	1271.87	11.0927		
911.20	6.9912	1274.44	15.1401		
912.08	6.9939	1274.54	15.1401		
923.98	0.0000	1291.59	17.2584		
926.50	13.0757	1298.22	0.0000		
929.11	9.8687	1312.11	12.2666		
935.54	7.9536	1332.49	9.2615		
937.49	8.4914	1362.66	0.0000		
944.13	9.7589	1365.19	4.1602		
946.00	14.2065	1368.63	0.0000		

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:04:50.94

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*********************************************************************************
*                              GEL Laboratories LLC                             *
*                                2040 Savage Road                               *
*                              Charleston, SC 29407                             *
*********************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289004.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM23.CNF;905
                                        Background date  : 16-JUN-2024 11:40:21
Sample date      : 21-MAY-2024 10:00:00 Acquisition date : 20-JUN-2024 05:03:37
Sample ID        : G669289004           Sample quantity  : 1.36930E+02 GRAM
Detector name    : GAM23                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:00.80  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : MXR1
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 2618905              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	53.78	24	25	0.54	107.56	105	5	6.61E-03	38.7	
2	0	63.57*	4	38	0.80	127.14	124	5	1.14E-03	253.1	
3	0	76.10*	57	148	3.09	152.18	147	11	1.58E-02	44.0	
4	0	84.38*	25	40	1.15	168.73	166	6	6.85E-03	47.3	
5	0	86.56*	22	77	1.16	173.10	172	7	6.05E-03	70.0	
6	0	92.66*	29	74	0.98	185.31	182	8	7.94E-03	60.4	
7	0	144.48*	13	58	3.01	288.92	287	7	3.54E-03	110.1	
8	0	186.29*	35	74	1.12	372.52	367	11	9.85E-03	52.2	
9	0	205.83	13	20	1.00	411.60	409	5	3.51E-03	60.3	
10	1	238.65*	176	35	1.29	477.23	471	17	4.88E-02	9.8	3.29E+00
11	1	241.92	50	39	1.30	483.76	471	17	1.38E-02	26.3	
12	0	270.86	26	55	1.66	541.64	536	12	7.35E-03	58.9	
13	0	295.52*	59	30	1.10	590.96	587	10	1.65E-02	22.4	
14	0	300.11	20	16	1.58	600.13	597	7	5.56E-03	39.8	
15	0	339.36	65	23	6.26	678.60	670	19	1.80E-02	21.9	
16	1	346.01	17	5	1.48	691.92	689	28	4.66E-03	32.5	5.60E+00
17	1	352.10	172	12	1.49	704.08	689	28	4.78E-02	7.4	
18	1	408.92	18	18	1.57	817.71	812	29	5.00E-03	48.9	1.53E+00
19	1	413.45	21	18	1.58	826.78	812	29	5.86E-03	42.3	
20	0	510.95*	39	7	2.21	1021.75	1014	15	1.08E-02	31.6	
21	0	584.03*	51	28	1.85	1167.89	1159	14	1.41E-02	26.7	
22	0	609.54*	70	16	2.09	1218.91	1213	14	1.96E-02	17.0	
23	0	676.15	14	13	0.64	1352.12	1343	17	3.92E-03	63.9	
24	5	724.41	9	6	1.92	1448.63	1447	14	2.42E-03	42.9	1.24E+00
25	5	727.10	20	9	1.79	1454.00	1447	14	5.58E-03	38.6	
26	0	776.97	7	12	3.30	1553.73	1543	12	1.97E-03	104.4	
27	0	839.75	7	7	1.50	1679.29	1676	7	1.94E-03	73.2	
28	0	848.85	7	5	0.61	1697.50	1693	7	1.81E-03	69.1	
29	0	910.97	42	6	1.60	1821.73	1816	12	1.17E-02	19.3	
30	0	969.71	16	5	2.03	1939.20	1935	9	4.35E-03	38.5	
31	0	1113.72	8	3	1.45	2227.21	2221	10	2.35E-03	49.1	
32	0	1120.34	27	0	0.67	2240.44	2233	14	7.50E-03	19.2	
33	0	1184.34	11	0	3.16	2368.45	2364	10	3.06E-03	30.2	
34	0	1238.08	7	3	1.40	2475.93	2471	10	2.04E-03	54.8	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
35	0	1280.41	9	7	3.84	2560.59	2551	13	2.36E-03	70.7	
36	0	1323.07	13	0	1.03	2645.92	2640	12	3.61E-03	27.7	
37	0	1460.62*	155	7	1.84	2921.03	2914	14	4.30E-02	9.0	
38	0	1628.64	9	6	1.37	3257.11	3249	13	2.63E-03	63.5	
39	0	1764.24	15	0	1.42	3528.33	3523	11	4.17E-03	25.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JUN-2024 06:04:52

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289004.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,INTERF V2.4
Sample title : MXR1
Sample date : 21-MAY-2024 10:00:00 Acquisition date : 20-JUN-2024 05:03:37
Sample ID : G669289004 Sample quantity : 136.93 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA23 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:00.80 0.0%
Energy tolerance : 1.50 keV Half life ratio : 10.00
Errors propagated: No Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
U-235	143.76	CE-141	145.44

Nuclide Type:

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
K-40	1460.82	10.66*	9.696E-01	7.860E+00	7.860E+00	17.94	OK
AS-73	53.44	10.30*	1.128E+00	1.375E+00	1.779E+00	77.49	OK
SR-82	776.52	15.08*	1.721E+00	1.513E-01	3.419E-01	208.75	OK
CD-109	88.03	3.70*	4.904E+00	7.810E-01	8.168E-01	140.00	OK
SN-126	64.28	9.60	2.360E+00	1.202E-01	1.202E-01	506.16	OK
	86.94	8.90	4.904E+00	3.247E-01	3.247E-01	140.00	OK
	87.57	37.00*	4.904E+00	7.810E-02	7.810E-02	140.00	OK
CE-141	145.44	48.29*	5.887E+00	9.256E-03	1.748E-02	693.70	OK
TL-208	277.37	6.60	3.918E+00	----- Line	Not Found	-----	Absent
	583.19	85.00*	2.200E+00	1.535E-01	1.535E-01	53.39	OK
	860.56	12.50	1.568E+00	----- Line	Not Found	-----	Absent
BI-211	72.87	1.23	3.550E+00	----- Line	Not Found	-----	Absent
	351.06	12.92*	3.271E+00	2.392E+00	2.392E+00	14.82	OK
BI-212	727.33	6.67*	1.826E+00	9.173E-01	9.173E-01	77.22	OK
	1620.50	1.47	8.981E-01	----- Line	Not Found	-----	Absent
PB-212	74.82	10.28	3.921E+00	9.238E-01	9.238E-01	87.98	OK
	77.11	17.10	3.921E+00	5.554E-01	5.554E-01	87.98	OK
	238.63	43.60*	4.380E+00	5.565E-01	5.565E-01	19.62	OK
	300.09	3.30	3.692E+00	9.783E-01	9.783E-01	79.62	OK
BI-214	609.32	45.49*	2.124E+00	4.107E-01	4.107E-01	33.98	OK
	1120.29	14.92	1.225E+00	7.922E-01	7.922E-01	38.49	OK
	1764.49	15.30	8.531E-01	5.930E-01	5.931E-01	51.64	OK
PB-214	74.82	5.80	3.921E+00	1.637E+00	1.638E+00	87.98	OK
	77.11	9.70	3.921E+00	9.791E-01	9.791E-01	87.98	OK
	87.09	3.41	4.904E+00	8.474E-01	8.474E-01	140.00	OK
	242.00	7.25	4.337E+00	9.552E-01	9.552E-01	52.51	OK
	295.22	18.42	3.736E+00	5.145E-01	5.145E-01	44.88	OK
	351.93	35.60*	3.271E+00	8.683E-01	8.683E-01	14.82	OK
RN-222	609.32	45.49*	2.124E+00	4.107E-01	4.107E-01	33.98	OK
	1120.29	14.92	1.225E+00	7.922E-01	7.922E-01	38.49	OK
	1764.49	15.30	8.531E-01	5.930E-01	5.931E-01	51.64	OK
RA-224	240.99	4.10*	4.337E+00	1.689E+00	1.689E+00	52.51	OK
RA-226	74.82	5.80	3.921E+00	1.637E+00	1.638E+00	87.98	OK
	77.11	9.70	3.921E+00	9.791E-01	9.791E-01	87.98	OK
	87.09	3.41	4.904E+00	8.474E-01	8.474E-01	140.00	OK
	242.00	7.25	4.337E+00	9.552E-01	9.552E-01	52.51	OK
	295.22	18.42	3.736E+00	5.145E-01	5.145E-01	44.88	OK
	351.93	35.60*	3.271E+00	8.683E-01	8.683E-01	14.82	OK
AC-228	105.21	1.10	5.840E+00	----- Line	Not Found	-----	Absent
	338.32	11.27	3.364E+00	1.009E+00	1.009E+00	43.70	OK
	835.71	1.61	1.611E+00	----- Line	Not Found	-----	Absent
	911.20	25.80*	1.487E+00	5.971E-01	5.971E-01	38.69	OK
	968.97	15.80	1.403E+00	3.830E-01	3.830E-01	76.91	OK
RA-228	105.21	1.10	5.840E+00	----- Line	Not Found	-----	Absent
	338.32	11.27	3.364E+00	1.009E+00	1.009E+00	43.70	OK
	835.71	1.61	1.611E+00	----- Line	Not Found	-----	Absent
	911.20	25.80*	1.487E+00	5.971E-01	5.971E-01	38.69	OK
	968.97	15.80	1.403E+00	3.830E-01	3.830E-01	76.91	OK
TH-228	74.82	10.28	3.921E+00	9.238E-01	9.238E-01	87.98	OK

Nuclide Type:

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
	77.11	17.10	3.921E+00	5.554E-01	5.554E-01	87.98	OK
	238.63	43.60*	4.380E+00	5.565E-01	5.565E-01	19.62	OK
	300.09	3.30	3.692E+00	9.783E-01	9.783E-01	79.62	OK
TH-230	74.82	5.80	3.921E+00	1.637E+00	1.637E+00	87.98	OK
	77.11	9.70	3.921E+00	9.791E-01	9.791E-01	87.98	OK
	87.09	3.41	4.904E+00	8.474E-01	8.474E-01	140.00	OK
	242.00	7.25	4.337E+00	9.552E-01	9.552E-01	52.51	OK
	295.22	18.42	3.736E+00	5.145E-01	5.145E-01	44.88	OK
	351.93	35.60*	3.271E+00	8.683E-01	8.683E-01	14.82	OK
PA-231	283.69	1.70	3.852E+00	----- Line Not Found		-----	Absent
	301.36	5.35*	3.692E+00	6.034E-01	6.034E-01	79.62	OK
TH-232	105.21	1.10	5.840E+00	----- Line Not Found		-----	Absent
	338.32	11.27	3.364E+00	1.009E+00	1.009E+00	43.70	OK
	835.71	1.61	1.611E+00	----- Line Not Found		-----	Absent
	911.20	25.80*	1.487E+00	5.971E-01	5.971E-01	38.69	OK
	968.97	15.80	1.403E+00	3.830E-01	3.830E-01	76.91	OK
TH-234	63.29	3.70*	2.360E+00	3.118E-01	3.118E-01	506.16	OK
	92.59	4.23	5.317E+00	8.232E-01	8.232E-01	120.86	OK
U-234	74.82	5.80	3.921E+00	1.637E+00	1.637E+00	87.98	OK
	77.11	9.70	3.921E+00	9.791E-01	9.791E-01	87.98	OK
	87.09	3.41	4.904E+00	8.474E-01	8.474E-01	140.00	OK
	242.00	7.25	4.337E+00	9.552E-01	9.552E-01	52.51	OK
	295.22	18.42	3.736E+00	5.145E-01	5.145E-01	44.88	OK
	351.93	35.60*	3.271E+00	8.683E-01	8.683E-01	14.82	OK
U-235	89.96	3.47	5.148E+00	----- Line Not Found		-----	Absent
	93.35	5.60	5.317E+00	6.218E-01	6.218E-01	120.86	OK
	143.76	10.96*	5.897E+00	----- Line Not Found		-----	<<INT Reject
	163.33	5.08	5.592E+00	----- Line Not Found		-----	Absent
	185.72	57.20	5.191E+00	7.363E-02	7.363E-02	104.42	OK
	205.31	5.01	4.864E+00	3.170E-01	3.170E-01	120.68	OK
U-238	63.29	3.70*	2.360E+00	3.118E-01	3.118E-01	506.16	OK
	92.59	4.23	5.317E+00	8.232E-01	8.232E-01	120.86	OK
AM-243	43.53	5.90	2.737E-01	----- Line Not Found		-----	Absent
	74.66	67.20*	3.921E+00	1.413E-01	1.413E-01	87.98	OK
ANH-511	511.00	100.00*	2.452E+00	9.086E-02	9.086E-02	63.29	OK

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:04:53.30

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289004.CNF;1		
Acquisition date	: 20-JUN-2024 05:03:37	Sensitivity	: 3.000
Detector ID	: GAM23	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.80	Half life ratio	: *****
Sample date	: 21-MAY-2024 10:00:00	Analyst initials	: MXR1
Sample ID	: G669289004	Sample Quantity	: 1.3693E+02 GRAM
Batch Number	: 2618905	Wet Weight	: 0.00000
Wet wt corr	: 1.00000	Dry Weight	: 0.00000
Nuclide Library	: SOLID.NLB;17		

CALIBRATION INFORMATION

Eff. Cal. date	: 6-SEP-2023 11:17:47	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM23_CAN.CNF;21		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	7.860E+00	1.382E+00	6.284E-01
AS-73	1.779E+00	1.351E+00	1.604E+00
SR-82	3.419E-01	6.995E-01	6.778E-01
CD-109	8.168E-01	1.121E+00	1.071E+00
SN-126	7.810E-02	1.072E-01	1.030E-01
CE-141	1.748E-02	1.188E-01	1.023E-01
TL-208	1.535E-01	8.031E-02	4.921E-02
BI-211	2.392E+00	3.475E-01	2.400E-01
BI-212	9.173E-01	6.942E-01	8.505E-01
PB-212	5.565E-01	1.070E-01	8.005E-02
BI-214	4.107E-01	1.368E-01	1.054E-01
PB-214	8.683E-01	1.261E-01	8.730E-02
RN-222	4.107E-01	1.368E-01	1.054E-01
RA-224	1.689E+00	8.692E-01	8.586E-01
RA-226	8.683E-01	1.261E-01	8.730E-02
AC-228	5.971E-01	2.264E-01	2.277E-01
RA-228	5.971E-01	2.264E-01	2.277E-01
TH-228	5.565E-01	1.070E-01	8.005E-02
TH-230	8.683E-01	1.261E-01	8.730E-02
PA-231	6.034E-01	4.708E-01	6.435E-01
TH-232	5.971E-01	2.264E-01	2.277E-01
TH-234	3.118E-01	1.547E+00	1.846E+00
U-234	8.683E-01	1.261E-01	8.730E-02
U-235	1.239E-01	2.672E-01	3.120E-01
U-238	3.118E-01	1.547E+00	1.846E+00
AM-243	1.413E-01	1.219E-01	8.553E-02
ANH-511	9.086E-02	5.635E-02	3.873E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	2.527E-01	3.257E-01	7.142E-01	NOT IDENT.
NA-22	2.715E-02	4.113E-02	8.939E-02	NOT IDENT.
NA-24	0.000E+00	7.359E+12	0.000E+00	SHORT HLIF

AL-26	5.867E-03	2.918E-02	7.013E-02	NOT IDENT.
SC-46	-2.080E-02	3.989E-02	7.340E-02	FAIL ABUN
V-48	-3.922E-02	1.045E-01	1.972E-01	NOT IDENT.
CR-51	-6.728E-02	4.039E-01	7.999E-01	NOT IDENT.
MN-52	-7.462E-01	1.494E+00	2.780E+00	NOT IDENT.
MN-54	-5.391E-03	3.065E-02	5.645E-02	NOT IDENT.
CO-56	-4.112E-03	4.825E-02	8.368E-02	FAIL ABUN
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	-8.908E-04	1.719E-02	3.388E-02	NOT IDENT.
CO-58	3.390E-02	3.934E-02	9.136E-02	NOT IDENT.
FE-59	-7.824E-02	1.084E-01	1.810E-01	NOT IDENT.
CO-60	-1.338E-02	2.952E-02	5.726E-02	NOT IDENT.
ZN-65	6.039E-02	4.716E-02	1.390E-01	NOT IDENT.
GE-68	-9.142E-01	1.184E+00	1.951E+00	NOT IDENT.
AS-74	4.794E-02	1.195E-01	2.562E-01	NOT IDENT.
SE-75	1.452E-02	3.719E-02	7.306E-02	NOT IDENT.
BR-77	0.000E+00	1.207E+03	0.000E+00	SHORT HLIF
RB-83	-4.099E-02	6.363E-02	1.107E-01	NOT IDENT.
RB-84	1.189E-02	7.286E-02	1.565E-01	NOT IDENT.
KR-85	5.921E-01	6.848E+00	1.204E+01	NOT IDENT.
SR-85	3.604E-03	4.235E-02	7.442E-02	NOT IDENT.
RB-86	-6.911E-01	1.143E+00	1.985E+00	NOT IDENT.
Y-88	2.177E-02	3.476E-02	9.401E-02	NOT IDENT.
Y-91	-8.133E+00	2.166E+01	3.920E+01	NOT IDENT.
NB-94	-3.449E-03	2.790E-02	5.603E-02	NOT IDENT.
NB-95	-3.729E-04	4.363E-02	8.784E-02	NOT IDENT.
NB-95M	2.866E-02	1.081E-01	1.943E-01	NOT IDENT.
ZR-95	4.984E-03	5.540E-02	1.205E-01	FAIL ABUN
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.553E+12	0.000E+00	SHORT HLIF
MO-99	0.000E+00	4.598E+02	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	9.110E+33	0.000E+00	SHORT HLIF
RH-101	1.397E-03	1.965E-02	3.926E-02	NOT IDENT.
RH-102	2.142E-02	4.354E-02	9.358E-02	FAIL ABUN
RU-103	-1.516E-02	4.487E-02	8.310E-02	FAIL ABUN
RH-106	1.354E-01	2.677E-01	5.699E-01	NOT IDENT.
RU-106	1.354E-01	2.677E-01	5.699E-01	NOT IDENT.
AG-108M	1.211E-02	2.500E-02	5.268E-02	NOT IDENT.
AG-110	7.290E-02	7.490E-01	1.442E+00	NOT IDENT.
AG-110M	-5.089E-03	3.977E-02	8.058E-02	FAIL ABUN
SN-113	2.222E-02	4.211E-02	8.857E-02	NOT IDENT.
CD-115	0.000E+00	9.122E+02	0.000E+00	SHORT HLIF
SN-117M	1.424E-02	8.177E-02	1.603E-01	NOT IDENT.
SB-122	0.000E+00	8.257E+01	0.000E+00	SHORT HLIF
TE-123M	-9.881E-03	2.297E-02	4.193E-02	NOT IDENT.
SB-124	-1.125E-03	9.015E-02	2.001E-01	NOT IDENT.
SB-125	1.635E-02	5.678E-02	1.195E-01	NOT IDENT.
TE-125M	-5.507E+00	8.029E+00	1.484E+01	NOT IDENT.
I-126	-4.694E-01	3.976E-01	5.547E-01	NOT IDENT.
SB-126	1.522E-01	3.488E-01	6.736E-01	FAIL ABUN
SB-127	4.700E-01	1.563E+01	3.041E+01	NOT IDENT.
I-131	-4.109E-02	3.734E-01	7.278E-01	NOT IDENT.
I-132	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
TE-132	-1.892E+00	1.333E+01	2.440E+01	NOT IDENT.
BA-133	3.685E-02	3.353E-02	7.235E-02	NOT IDENT.
I-133	0.000E+00	6.311E+08	0.000E+00	SHORT HLIF
CS-134	3.048E-02	3.140E-02	7.591E-02	NOT IDENT.
I-135	0.000E+00	7.673E+31	0.000E+00	SHORT HLIF
CS-136	-7.158E-03	1.891E-01	3.829E-01	FAIL ABUN
BA-137M	-4.605E-03	3.063E-02	5.728E-02	NOT IDENT.
CS-137	-4.865E-03	3.235E-02	6.051E-02	NOT IDENT.
LA-138	-2.796E-02	5.198E-02	9.608E-02	NOT IDENT.
CE-139	-3.663E-03	2.190E-02	4.131E-02	NOT IDENT.
BA-140	-4.132E-01	4.646E-01	7.545E-01	NOT IDENT.
LA-140	6.319E-04	1.771E-01	3.851E-01	NOT IDENT.
CE-143	0.000E+00	1.613E+05	0.000E+00	SHORT HLIF
CE-144	5.408E-02	1.494E-01	3.009E-01	NOT IDENT.
PM-144	4.401E-03	3.186E-02	6.583E-02	NOT IDENT.
PR-144	3.599E-01	2.408E+00	4.981E+00	NOT IDENT.
PM-146	8.865E-03	3.742E-02	7.576E-02	NOT IDENT.
ND-147	-4.845E-01	1.293E+00	2.357E+00	NOT IDENT.
PM-147	1.163E+02	4.763E+02	9.719E+02	NOT IDENT.
PM-149	0.000E+00	5.935E+03	0.000E+00	SHORT HLIF
EU-150	-1.444E-02	2.099E-02	3.330E-02	FAIL ABUN
EU-152	6.605E-02	6.714E-02	1.366E-01	NOT IDENT.
GD-153	2.844E-02	5.775E-02	1.217E-01	NOT IDENT.
EU-154	7.055E-02	1.143E-01	2.470E-01	FAIL ABUN
EU-155	1.827E-02	6.733E-02	1.389E-01	FAIL ABUN

TB-160	3.249E-02	1.213E-01	2.641E-01	FAIL ABUN
HO-166M	4.194E-03	5.434E-02	1.117E-01	NOT IDENT.
TM-171	3.104E+01	2.357E+01	3.558E+01	FAIL ABUN
HF-172	1.211E-02	1.277E-01	2.543E-01	FAIL ABUN
LU-172	1.729E-02	5.524E-02	1.190E-01	FAIL ABUN
LU-176	7.914E-03	1.995E-02	4.228E-02	NOT IDENT.
HF-181	-2.086E-03	4.152E-02	8.238E-02	FAIL ABUN
TA-182	1.303E-02	1.737E-01	3.499E-01	FAIL ABUN
RE-183	-1.860E-01	1.810E-01	3.440E-01	NOT IDENT.
RE-184	1.160E-01	1.283E-01	3.116E-01	NOT IDENT.
W-188	1.584E+00	6.280E+00	1.264E+01	FAIL ABUN
IR-192	-6.291E-03	3.452E-02	6.750E-02	FAIL ABUN
HG-203	1.111E-02	4.162E-02	7.859E-02	NOT IDENT.
TL-204	-1.014E+00	3.456E+00	6.929E+00	NOT IDENT.
BI-207	3.461E-02	5.147E-02	1.139E-01	FAIL ABUN
BI-210	2.091E+00	4.815E+00	9.285E+00	NOT IDENT.
PB-210	2.091E+00	4.815E+00	9.285E+00	NOT IDENT.
PB-211	3.071E-04	6.221E-01	1.112E+00	NOT IDENT.
BI-213	-5.349E-03	9.515E-02	1.846E-01	NOT IDENT.
RN-219	-8.815E-02	3.366E-01	6.430E-01	FAIL ABUN
RA-223	2.826E-01	4.879E-01	1.050E+00	FAIL ABUN
AC-225	9.732E-02	1.325E+00	2.488E+00	NOT IDENT.
AC-227	6.992E-02	1.925E-01	3.769E-01	FAIL ABUN
TH-227	6.992E-02	1.925E-01	3.769E-01	FAIL ABUN
TH-229	1.824E-01	3.790E-01	7.586E-01	FAIL ABUN
TH-231	2.826E-01	4.879E-01	1.050E+00	FAIL ABUN
PA-233	-2.468E-02	5.130E-02	9.743E-02	FAIL ABUN
PA-234	7.722E-02	2.010E-01	4.663E-01	NOT IDENT.
PA-234M	-9.343E-01	4.061E+00	7.747E+00	NOT IDENT.
NP-237	-2.468E-02	5.130E-02	9.743E-02	FAIL ABUN
NP-238	0.000E+00	1.915E+03	0.000E+00	SHORT HLIF
NP-239	1.315E-02	1.859E-01	3.698E-01	NOT IDENT.
PU-239	-3.050E+01	2.207E+02	4.278E+02	FAIL ABUN
AM-241	5.182E-02	1.143E-01	2.522E-01	NOT IDENT.
CM-243	-1.357E-02	6.237E-02	1.234E-01	NOT IDENT.
BK-247	4.550E-02	6.448E-02	1.308E-01	FAIL ABUN
CM-247	2.002E-02	2.846E-02	6.241E-02	NOT IDENT.
CF-249	-4.289E-03	2.895E-02	5.715E-02	NOT IDENT.
CF-251	3.400E-02	9.650E-02	1.906E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:04:51.76

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	148	10.66*	9.696E-01	7.860E+00	7.860E+00	17.94
AS-73	53.44	29	10.30*	1.128E+00	1.375E+00	1.779E+00	77.49
SR-82	776.52	7	15.08*	1.721E+00	1.513E-01	3.419E-01	208.75
CD-109	88.03	26	3.70*	4.904E+00	7.810E-01	8.168E-01	140.00
SN-126	64.28	5	9.60	2.360E+00	1.202E-01	1.202E-01	506.16
	86.94	26	8.90	4.904E+00	3.247E-01	3.247E-01	140.00
	87.57	26	37.00*	4.904E+00	7.810E-02	7.810E-02	140.00
CE-141	145.44	15	48.29*	5.887E+00	2.811E-02	5.308E-02	220.16
TL-208	277.37	------	6.60	3.918E+00	------ Line Not Found		------
	583.19	52	85.00*	2.200E+00	1.535E-01	1.535E-01	53.39
	860.56	------	12.50	1.568E+00	------ Line Not Found		------
BI-211	72.87	------	1.23	3.550E+00	------ Line Not Found		------
	351.06	184	12.92*	3.271E+00	2.392E+00	2.392E+00	14.82
BI-212	727.33	20	6.67*	1.826E+00	9.173E-01	9.173E-01	77.22
	1620.50	------	1.47	8.981E-01	------ Line Not Found		------
PB-212	74.82	68	10.28	3.921E+00	9.238E-01	9.238E-01	87.98
	77.11	68	17.10	3.921E+00	5.554E-01	5.554E-01	87.98
	238.63	194	43.60*	4.380E+00	5.565E-01	5.565E-01	19.62
	300.09	22	3.30	3.692E+00	9.783E-01	9.783E-01	79.62
BI-214	609.32	72	45.49*	2.124E+00	4.107E-01	4.107E-01	33.98
	1120.29	26	14.92	1.225E+00	7.922E-01	7.922E-01	38.49
	1764.49	14	15.30	8.531E-01	5.930E-01	5.931E-01	51.64
PB-214	74.82	68	5.80	3.921E+00	1.637E+00	1.638E+00	87.98
	77.11	68	9.70	3.921E+00	9.791E-01	9.791E-01	87.98
	87.09	26	3.41	4.904E+00	8.474E-01	8.474E-01	140.00
	242.00	55	7.25	4.337E+00	9.552E-01	9.552E-01	52.51
	295.22	65	18.42	3.736E+00	5.145E-01	5.145E-01	44.88
	351.93	184	35.60*	3.271E+00	8.683E-01	8.683E-01	14.82
RN-222	609.32	72	45.49*	2.124E+00	4.107E-01	4.107E-01	33.98
	1120.29	26	14.92	1.225E+00	7.922E-01	7.922E-01	38.49
	1764.49	14	15.30	8.531E-01	5.930E-01	5.931E-01	51.64
RA-224	240.99	55	4.10*	4.337E+00	1.689E+00	1.689E+00	52.51
RA-226	74.82	68	5.80	3.921E+00	1.637E+00	1.638E+00	87.98
	77.11	68	9.70	3.921E+00	9.791E-01	9.791E-01	87.98
	87.09	26	3.41	4.904E+00	8.474E-01	8.474E-01	140.00
	242.00	55	7.25	4.337E+00	9.552E-01	9.552E-01	52.51
	295.22	65	18.42	3.736E+00	5.145E-01	5.145E-01	44.88
	351.93	184	35.60*	3.271E+00	8.683E-01	8.683E-01	14.82
AC-228	105.21	------	1.10	5.840E+00	------ Line Not Found		------
	338.32	70	11.27	3.364E+00	1.009E+00	1.009E+00	43.70
	835.71	------	1.61	1.611E+00	------ Line Not Found		------
	911.20	42	25.80*	1.487E+00	5.971E-01	5.971E-01	38.69
	968.97	15	15.80	1.403E+00	3.830E-01	3.830E-01	76.91
RA-228	105.21	------	1.10	5.840E+00	------ Line Not Found		------
	338.32	70	11.27	3.364E+00	1.009E+00	1.009E+00	43.70
	835.71	------	1.61	1.611E+00	------ Line Not Found		------
	911.20	42	25.80*	1.487E+00	5.971E-01	5.971E-01	38.69

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	968.97	15	15.80	1.403E+00	3.830E-01	3.830E-01	76.91
TH-228	74.82	68	10.28	3.921E+00	9.238E-01	9.238E-01	87.98
	77.11	68	17.10	3.921E+00	5.554E-01	5.554E-01	87.98
	238.63	194	43.60*	4.380E+00	5.565E-01	5.565E-01	19.62
	300.09	22	3.30	3.692E+00	9.783E-01	9.783E-01	79.62
TH-230	74.82	68	5.80	3.921E+00	1.637E+00	1.637E+00	87.98
	77.11	68	9.70	3.921E+00	9.791E-01	9.791E-01	87.98
	87.09	26	3.41	4.904E+00	8.474E-01	8.474E-01	140.00
	242.00	55	7.25	4.337E+00	9.552E-01	9.552E-01	52.51
	295.22	65	18.42	3.736E+00	5.145E-01	5.145E-01	44.88
	351.93	184	35.60*	3.271E+00	8.683E-01	8.683E-01	14.82
PA-231	283.69	------	1.70	3.852E+00	------ Line Not Found		------
	301.36	22	5.35*	3.692E+00	6.034E-01	6.034E-01	79.62
TH-232	105.21	------	1.10	5.840E+00	------ Line Not Found		------
	338.32	70	11.27	3.364E+00	1.009E+00	1.009E+00	43.70
	835.71	------	1.61	1.611E+00	------ Line Not Found		------
	911.20	42	25.80*	1.487E+00	5.971E-01	5.971E-01	38.69
	968.97	15	15.80	1.403E+00	3.830E-01	3.830E-01	76.91
TH-234	63.29	5	3.70*	2.360E+00	3.118E-01	3.118E-01	506.16
	92.59	34	4.23	5.317E+00	8.232E-01	8.232E-01	120.86
U-234	74.82	68	5.80	3.921E+00	1.637E+00	1.637E+00	87.98
	77.11	68	9.70	3.921E+00	9.791E-01	9.791E-01	87.98
	87.09	26	3.41	4.904E+00	8.474E-01	8.474E-01	140.00
	242.00	55	7.25	4.337E+00	9.552E-01	9.552E-01	52.51
	295.22	65	18.42	3.736E+00	5.145E-01	5.145E-01	44.88
	351.93	184	35.60*	3.271E+00	8.683E-01	8.683E-01	14.82
U-235	89.96	------	3.47	5.148E+00	------ Line Not Found		------
	93.35	34	5.60	5.317E+00	6.218E-01	6.218E-01	120.86
	143.76	15	10.96*	5.887E+00	1.239E-01	1.239E-01	220.16
	163.33	------	5.08	5.592E+00	------ Line Not Found		------
	185.72	40	57.20	5.191E+00	7.363E-02	7.363E-02	104.42
	205.31	14	5.01	4.864E+00	3.170E-01	3.170E-01	120.68
U-238	63.29	5	3.70*	2.360E+00	3.118E-01	3.118E-01	506.16
	92.59	34	4.23	5.317E+00	8.232E-01	8.232E-01	120.86
AM-243	43.53	------	5.90	2.737E-01	------ Line Not Found		------
	74.66	68	67.20*	3.921E+00	1.413E-01	1.413E-01	87.98
ANH-511	511.00	41	100.00*	2.452E+00	9.086E-02	9.086E-02	63.29

Flag: "*" = Keyline

Sample ID : G669289004 Acquisition date : 20-JUN-2024 05:03:37

Total number of lines in spectrum 39
Number of unidentified lines 7
Number of lines tentatively identified by NID 32 82.05%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	7.860E+00	7.860E+00	1.410E+00	17.94	
AS-73	80.30D	1.29	1.375E+00	1.779E+00	1.379E+00	77.49	
SR-82	25.35D	2.26	1.513E-01	3.419E-01	7.138E-01	208.75	
CD-109	461.40D	1.05	7.810E-01	8.168E-01	11.43E-01	140.00	
SN-126	2.30E+05Y	1.00	7.810E-02	7.810E-02	10.93E-02	140.00	
CE-141	32.51D	1.89	2.811E-02	5.308E-02	11.69E-02	220.16	
TL-208	1.41E+10Y	1.00	1.535E-01	1.535E-01	0.819E-01	53.39	
BI-211	7.04E+08Y	1.00	2.392E+00	2.392E+00	0.355E+00	14.82	
BI-212	1.41E+10Y	1.00	9.173E-01	9.173E-01	7.084E-01	77.22	
PB-212	1.41E+10Y	1.00	5.565E-01	5.565E-01	1.092E-01	19.62	
BI-214	1600.00Y	1.00	4.107E-01	4.107E-01	1.395E-01	33.98	
PB-214	1600.00Y	1.00	8.683E-01	8.683E-01	1.287E-01	14.82	
RN-222	1600.00Y	1.00	4.107E-01	4.107E-01	1.395E-01	33.98	
RA-224	1.41E+10Y	1.00	1.689E+00	1.689E+00	0.887E+00	52.51	
RA-226	1600.00Y	1.00	8.683E-01	8.683E-01	1.287E-01	14.82	
AC-228	1.41E+10Y	1.00	5.971E-01	5.971E-01	2.310E-01	38.69	
RA-228	1.41E+10Y	1.00	5.971E-01	5.971E-01	2.310E-01	38.69	
TH-228	1.41E+10Y	1.00	5.565E-01	5.565E-01	1.092E-01	19.62	
TH-230	7.54E+04Y	1.00	8.683E-01	8.683E-01	1.287E-01	14.82	
PA-231	7.04E+08Y	1.00	6.034E-01	6.034E-01	4.804E-01	79.62	
TH-232	1.41E+10Y	1.00	5.971E-01	5.971E-01	2.310E-01	38.69	
TH-234	4.47E+09Y	1.00	3.118E-01	3.118E-01	15.78E-01	506.16	
U-234	2.45E+05Y	1.00	8.683E-01	8.683E-01	1.287E-01	14.82	
U-235	7.04E+08Y	1.00	1.239E-01	1.239E-01	2.727E-01	220.16	
U-238	4.47E+09Y	1.00	3.118E-01	3.118E-01	15.78E-01	506.16	
AM-243	7370.00Y	1.00	1.413E-01	1.413E-01	1.243E-01	87.98	
ANH-511	1.00E+09Y	1.00	9.086E-02	9.086E-02	5.750E-02	63.29	
	Total Activity :		2.421E+01	2.486E+01			

Grand Total Activity : 2.421E+01 2.486E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	84.38	29	47	1.15	168.73	166	6	6.85E-03	94.5	4.73E+00	T
0	270.86	29	60	1.66	541.64	536	12	7.35E-03	****	3.99E+00	T
1	346.01	18	6	1.48	691.92	689	28	4.66E-03	65.0	3.31E+00	T
1	408.92	19	19	1.57	817.71	812	29	5.00E-03	97.9	2.92E+00	
1	413.45	22	19	1.58	826.78	812	29	5.86E-03	84.6	2.89E+00	T
0	676.15	14	13	0.64	1352.12	1343	17	3.92E-03	****	1.94E+00	T
5	724.41	9	7	1.92	1448.63	1447	14	2.42E-03	85.7	1.83E+00	T
0	839.75	7	7	1.50	1679.29	1676	7	1.94E-03	****	1.60E+00	
0	848.85	7	5	0.61	1697.50	1693	7	1.81E-03	****	1.59E+00	
0	1113.72	8	2	1.45	2227.21	2221	10	2.35E-03	98.3	1.23E+00	T
0	1184.34	11	0	3.16	2368.45	2364	10	3.06E-03	60.3	1.16E+00	
0	1238.08	7	3	1.40	2475.93	2471	10	2.04E-03	****	1.12E+00	T
0	1280.41	8	6	3.84	2560.59	2551	13	2.36E-03	****	1.08E+00	
0	1323.07	13	0	1.03	2645.92	2640	12	3.61E-03	55.5	1.05E+00	
0	1628.64	9	5	1.37	3257.11	3249	13	2.63E-03	****	8.95E-01	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:05:03.44

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
*                                                                       *
*                        DETECTOR AND SAMPLE DATA                       *
*                                                                       *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289004.CNF;1    *
* Acquisition date : 20-JUN-2024 05:03:37 Sensitivity     : 3.000          *
* Detector ID      : GAM23                Energy tolerance: 1.500          *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000         *
* Elapsed real time:    0 01:00:00.80     Half life ratio : *****          *
* Sample date      : 21-MAY-2024 10:00:00 Nuclide Library : SOLID          *
* Sample ID        : G669289004           Analyst initials: MXR1           *
* Batch Number     : 2618905              Sample Quantity : 1.3693E+02 GRAM   *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000     *
*                                         Dry Weight      :    0.00000     *
*************************************************************************
*                                                                       *
*                        CALIBRATION INFORMATION                        *
*                                                                       *
* Eff. Cal. date   :  6-SEP-2023 11:17:47 Eff. Geometry   : CAN           *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM23_CAN.CNF;21          *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	2.423E-01
AS-73	7.113E-01
SR-82	2.734E-01
CD-109	4.914E-01
SN-126	4.727E-02
CE-141	4.601E-02
TL-208	2.056E-02
BI-211	1.020E-01
BI-212	3.634E-01
PB-212	3.601E-02
BI-214	4.490E-02
PB-214	3.710E-02
RN-222	4.490E-02
RA-224	3.863E-01
RA-226	3.710E-02
AC-228	9.430E-02
RA-228	9.430E-02
TH-228	3.601E-02
TH-230	3.710E-02
PA-231	2.829E-01
TH-232	9.430E-02
TH-234	8.316E-01
U-234	3.710E-02
U-235	1.441E-01
U-238	8.316E-01
AM-243	3.967E-02
ANH-511	1.627E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	3.157E-01	NOT IDENT.
NA-22	3.770E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	2.625E-02	NOT IDENT.

SC-46	3.039E-02	FAIL ABUN
V-48	7.888E-02	NOT IDENT.
CR-51	3.537E-01	NOT IDENT.
MN-52	1.085E+00	NOT IDENT.
MN-54	2.325E-02	NOT IDENT.
CO-56	3.568E-02	FAIL ABUN
MN-56	0.000E+00	SHORT HLIF
CO-57	1.532E-02	NOT IDENT.
CO-58	3.958E-02	NOT IDENT.
FE-59	7.361E-02	NOT IDENT.
CO-60	2.144E-02	NOT IDENT.
ZN-65	5.644E-02	NOT IDENT.
GE-68	7.781E-01	NOT IDENT.
AS-74	1.092E-01	NOT IDENT.
SE-75	3.272E-02	NOT IDENT.
BR-77	0.000E+00	SHORT HLIF
RB-83	4.647E-02	NOT IDENT.
RB-84	6.492E-02	NOT IDENT.
KR-85	5.301E+00	NOT IDENT.
SR-85	3.277E-02	NOT IDENT.
RB-86	7.862E-01	NOT IDENT.
Y-88	3.618E-02	NOT IDENT.
Y-91	1.604E+01	NOT IDENT.
NB-94	2.400E-02	NOT IDENT.
NB-95	3.795E-02	NOT IDENT.
NB-95M	8.750E-02	NOT IDENT.
ZR-95	4.940E-02	FAIL ABUN
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	1.771E-02	NOT IDENT.
RH-102	4.015E-02	FAIL ABUN
RU-103	3.593E-02	FAIL ABUN
RH-106	2.464E-01	NOT IDENT.
RU-106	2.464E-01	NOT IDENT.
AG-108M	2.333E-02	NOT IDENT.
AG-110	6.297E-01	NOT IDENT.
AG-110M	3.295E-02	FAIL ABUN
SN-113	3.964E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	7.297E-02	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	1.903E-02	NOT IDENT.
SB-124	7.489E-02	NOT IDENT.
SB-125	5.048E-02	NOT IDENT.
TE-125M	6.723E+00	NOT IDENT.
I-126	2.197E-01	NOT IDENT.
SB-126	2.963E-01	FAIL ABUN
SB-127	1.292E+01	NOT IDENT.
I-131	3.254E-01	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	1.097E+01	NOT IDENT.
BA-133	3.237E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	3.259E-02	NOT IDENT.
I-135	0.000E+00	SHORT HLIF
CS-136	1.570E-01	FAIL ABUN
BA-137M	2.440E-02	NOT IDENT.
CS-137	2.577E-02	NOT IDENT.
LA-138	3.649E-02	NOT IDENT.
CE-139	1.863E-02	NOT IDENT.
BA-140	3.105E-01	NOT IDENT.
LA-140	1.492E-01	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	1.380E-01	NOT IDENT.
PM-144	2.869E-02	NOT IDENT.
PR-144	2.172E+00	NOT IDENT.
PM-146	3.350E-02	NOT IDENT.
ND-147	1.019E+00	NOT IDENT.
PM-147	4.400E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	1.431E-02	FAIL ABUN
EU-152	5.965E-02	NOT IDENT.
GD-153	5.559E-02	NOT IDENT.
EU-154	1.038E-01	FAIL ABUN
EU-155	6.308E-02	FAIL ABUN
TB-160	1.105E-01	FAIL ABUN

HO-166M	4.838E-02	NOT IDENT.
TM-171	1.602E+01	FAIL ABUN
HF-172	1.154E-01	FAIL ABUN
LU-172	4.974E-02	FAIL ABUN
LU-176	1.889E-02	NOT IDENT.
HF-181	3.521E-02	FAIL ABUN
TA-182	1.457E-01	FAIL ABUN
RE-183	1.531E-01	NOT IDENT.
RE-184	1.323E-01	NOT IDENT.
W-188	5.645E+00	FAIL ABUN
IR-192	3.031E-02	FAIL ABUN
HG-203	3.555E-02	NOT IDENT.
TL-204	3.159E+00	NOT IDENT.
BI-207	4.915E-02	FAIL ABUN
BI-210	4.236E+00	NOT IDENT.
PB-210	4.236E+00	NOT IDENT.
PB-211	4.877E-01	NOT IDENT.
BI-213	8.168E-02	NOT IDENT.
RN-219	2.825E-01	FAIL ABUN
RA-223	4.699E-01	FAIL ABUN
AC-225	1.130E+00	NOT IDENT.
AC-227	1.690E-01	FAIL ABUN
TH-227	1.690E-01	FAIL ABUN
TH-229	3.449E-01	FAIL ABUN
TH-231	4.699E-01	FAIL ABUN
PA-233	4.318E-02	FAIL ABUN
PA-234	1.896E-01	NOT IDENT.
PA-234M	3.219E+00	NOT IDENT.
NP-237	4.318E-02	FAIL ABUN
NP-238	0.000E+00	SHORT HLIF
NP-239	1.687E-01	NOT IDENT.
PU-239	1.935E+02	FAIL ABUN
AM-241	1.141E-01	NOT IDENT.
CM-243	5.523E-02	NOT IDENT.
BK-247	5.909E-02	FAIL ABUN
CM-247	2.763E-02	NOT IDENT.
CF-249	2.477E-02	NOT IDENT.
CF-251	8.694E-02	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:05:07.53

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
*                                                                       *
*                        DETECTOR AND SAMPLE DATA                       *
*                                                                       *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289004.CNF;1    *
* Acquisition date : 20-JUN-2024 05:03:37 Sensitivity     : 3.000          *
* Detector ID      : GAM23                Energy tolerance: 1.500          *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000         *
* Elapsed real time:    0 01:00:00.80     Half life ratio : *****          *
* Sample date      : 21-MAY-2024 10:00:00 Nuclide Library : SOLID          *
* Sample ID        : G669289004           Analyst initials: MXR1           *
* Batch Number     : 2618905              Sample Quantity : 1.3693E+02 GRAM   *
*                                         Quantity Err(%) : 1.4606E-03 %      *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000        *
*                                         Dry Weight      :    0.00000        *
*************************************************************************
*                                                                       *
*                        CALIBRATION INFORMATION                        *
*                                                                       *
* Eff. Cal. date   :  6-SEP-2023 11:17:47 Eff. Geometry   : CAN           *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM23_CAN.CNF;21          *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	7.860E+00	1.547E+00	1.547E+00
AS-73	1.779E+00	1.412E+00	1.412E+00
SR-82	3.419E-01	7.002E-01	7.002E-01
CD-109	8.168E-01	1.126E+00	1.126E+00
SN-126	7.810E-02	1.076E-01	1.076E-01
CE-141	1.747E-02	1.189E-01	1.189E-01
TL-208	1.535E-01	8.146E-02	8.146E-02
BI-211	2.392E+00	3.974E-01	3.974E-01
BI-212	9.173E-01	6.994E-01	6.994E-01
PB-212	5.565E-01	1.186E-01	1.186E-01
BI-214	4.107E-01	1.416E-01	1.416E-01
PB-214	8.683E-01	1.436E-01	1.436E-01
RN-222	4.107E-01	1.416E-01	1.416E-01
RA-224	1.689E+00	8.827E-01	8.827E-01
RA-226	8.683E-01	1.436E-01	1.436E-01
AC-228	5.971E-01	2.331E-01	2.331E-01
RA-228	5.971E-01	2.331E-01	2.331E-01
TH-228	5.565E-01	1.186E-01	1.186E-01
TH-230	8.683E-01	1.435E-01	1.435E-01
PA-231	6.034E-01	4.894E-01	4.894E-01
TH-232	5.971E-01	2.331E-01	2.331E-01
TH-234	3.118E-01	1.548E+00	1.548E+00
U-234	8.683E-01	1.435E-01	1.435E-01
U-235	1.239E-01	2.675E-01	2.675E-01
U-238	3.118E-01	1.548E+00	1.548E+00
AM-243	1.413E-01	1.230E-01	1.230E-01
ANH-511	9.086E-02	5.691E-02	5.691E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	2.527E-01	3.264E-01	3.457E-01	NOT IDENT.
NA-22	2.715E-02	4.119E-02	4.297E-02	NOT IDENT.
NA-24	4.203E+11	7.360E+12	7.362E+12	SHORT HLIF

AL-26	5.867E-03	2.918E-02	2.930E-02	NOT IDENT.
SC-46	-2.080E-02	3.993E-02	4.102E-02	FAIL ABUN
V-48	-3.922E-02	1.045E-01	1.060E-01	NOT IDENT.
CR-51	-6.728E-02	4.039E-01	4.050E-01	NOT IDENT.
MN-52	-7.462E-01	1.495E+00	1.533E+00	NOT IDENT.
MN-54	-5.391E-03	3.065E-02	3.075E-02	NOT IDENT.
CO-56	-4.112E-03	4.825E-02	4.829E-02	FAIL ABUN
MN-56	-1.000E+41	4.413E+41	0.000E+00	SHORT HLIF
CO-57	-8.908E-04	1.719E-02	1.720E-02	NOT IDENT.
CO-58	3.390E-02	3.946E-02	4.232E-02	NOT IDENT.
FE-59	-7.824E-02	1.087E-01	1.143E-01	NOT IDENT.
CO-60	-1.338E-02	2.954E-02	3.015E-02	NOT IDENT.
ZN-65	6.039E-02	4.743E-02	5.468E-02	NOT IDENT.
GE-68	-9.142E-01	1.186E+00	1.256E+00	NOT IDENT.
AS-74	4.794E-02	1.197E-01	1.216E-01	NOT IDENT.
SE-75	1.452E-02	3.721E-02	3.778E-02	NOT IDENT.
BR-77	6.277E+03	5.563E+03	6.241E+03	SHORT HLIF
RB-83	-4.099E-02	6.396E-02	6.657E-02	NOT IDENT.
RB-84	1.189E-02	7.287E-02	7.307E-02	NOT IDENT.
KR-85	5.921E-01	6.849E+00	6.854E+00	NOT IDENT.
SR-85	3.604E-03	4.235E-02	4.238E-02	NOT IDENT.
RB-86	-6.911E-01	1.145E+00	1.186E+00	NOT IDENT.
Y-88	2.177E-02	3.480E-02	3.616E-02	NOT IDENT.
Y-91	-8.133E+00	2.167E+01	2.198E+01	NOT IDENT.
NB-94	-3.449E-03	2.790E-02	2.794E-02	NOT IDENT.
NB-95	-3.729E-04	4.363E-02	4.363E-02	NOT IDENT.
NB-95M	2.866E-02	1.082E-01	1.090E-01	NOT IDENT.
ZR-95	4.984E-03	5.540E-02	5.544E-02	FAIL ABUN
NB-97	1.000E+41	2.046E+42	0.000E+00	SHORT HLIF
ZR-97	2.625E+12	2.563E+12	2.823E+12	SHORT HLIF
MO-99	-8.784E+00	4.598E+02	4.599E+02	SHORT HLIF
TC-99M	4.493E+32	9.110E+33	0.000E+00	SHORT HLIF
RH-101	1.397E-03	1.965E-02	1.966E-02	NOT IDENT.
RH-102	2.142E-02	4.361E-02	4.467E-02	FAIL ABUN
RU-103	-1.516E-02	4.489E-02	4.541E-02	FAIL ABUN
RH-106	1.354E-01	2.680E-01	2.749E-01	NOT IDENT.
RU-106	1.354E-01	2.680E-01	2.749E-01	NOT IDENT.
AG-108M	1.211E-02	2.502E-02	2.561E-02	NOT IDENT.
AG-110	7.290E-02	7.490E-01	7.497E-01	NOT IDENT.
AG-110M	-5.089E-03	3.978E-02	3.984E-02	FAIL ABUN
SN-113	2.222E-02	4.215E-02	4.332E-02	NOT IDENT.
CD-115	3.094E+02	9.128E+02	9.234E+02	SHORT HLIF
SN-117M	1.424E-02	8.178E-02	8.204E-02	NOT IDENT.
SB-122	-1.619E+01	8.258E+01	8.291E+01	SHORT HLIF
TE-123M	-9.881E-03	2.299E-02	2.342E-02	NOT IDENT.
SB-124	-1.125E-03	9.015E-02	9.015E-02	NOT IDENT.
SB-125	1.635E-02	5.679E-02	5.727E-02	NOT IDENT.
TE-125M	-5.507E+00	8.044E+00	8.418E+00	NOT IDENT.
I-126	-4.694E-01	4.003E-01	4.528E-01	NOT IDENT.
SB-126	1.522E-01	3.493E-01	3.560E-01	FAIL ABUN
SB-127	4.700E-01	1.563E+01	1.563E+01	NOT IDENT.
I-131	-4.109E-02	3.734E-01	3.739E-01	NOT IDENT.
I-132	1.000E+41	3.784E+41	0.000E+00	SHORT HLIF
TE-132	-1.892E+00	1.333E+01	1.336E+01	NOT IDENT.
BA-133	3.685E-02	3.366E-02	3.753E-02	NOT IDENT.
I-133	-3.496E+08	6.353E+08	6.545E+08	SHORT HLIF
CS-134	3.048E-02	3.152E-02	3.438E-02	NOT IDENT.
I-135	-1.893E+31	7.780E+31	0.000E+00	SHORT HLIF
CS-136	-7.158E-03	1.891E-01	1.891E-01	FAIL ABUN
BA-137M	-4.605E-03	3.063E-02	3.070E-02	NOT IDENT.
CS-137	-4.865E-03	3.236E-02	3.243E-02	NOT IDENT.
LA-138	-2.796E-02	5.203E-02	5.353E-02	NOT IDENT.
CE-139	-3.663E-03	2.191E-02	2.198E-02	NOT IDENT.
BA-140	-4.132E-01	4.660E-01	5.019E-01	NOT IDENT.
LA-140	6.319E-04	1.771E-01	1.771E-01	NOT IDENT.
CE-143	5.278E+04	1.613E+05	1.631E+05	SHORT HLIF
CE-144	5.408E-02	1.495E-01	1.514E-01	NOT IDENT.
PM-144	4.401E-03	3.186E-02	3.192E-02	NOT IDENT.
PR-144	3.599E-01	2.408E+00	2.413E+00	NOT IDENT.
PM-146	8.865E-03	3.743E-02	3.764E-02	NOT IDENT.
ND-147	-4.845E-01	1.294E+00	1.313E+00	NOT IDENT.
PM-147	1.163E+02	4.764E+02	4.793E+02	NOT IDENT.
PM-149	-5.236E+03	5.985E+03	6.433E+03	SHORT HLIF
EU-150	-1.444E-02	2.102E-02	2.201E-02	FAIL ABUN
EU-152	6.605E-02	6.738E-02	7.367E-02	NOT IDENT.
GD-153	2.844E-02	5.783E-02	5.923E-02	NOT IDENT.
EU-154	7.055E-02	1.144E-01	1.187E-01	FAIL ABUN
EU-155	1.827E-02	6.735E-02	6.786E-02	FAIL ABUN

TB-160	3.249E-02	1.213E-01	1.222E-01	FAIL ABUN
HO-166M	4.194E-03	5.434E-02	5.438E-02	NOT IDENT.
TM-171	3.104E+01	2.396E+01	2.775E+01	FAIL ABUN
HF-172	1.211E-02	1.277E-01	1.278E-01	FAIL ABUN
LU-172	1.729E-02	5.528E-02	5.583E-02	FAIL ABUN
LU-176	7.914E-03	1.996E-02	2.028E-02	NOT IDENT.
HF-181	-2.086E-03	4.152E-02	4.153E-02	FAIL ABUN
TA-182	1.303E-02	1.737E-01	1.738E-01	FAIL ABUN
RE-183	-1.860E-01	1.831E-01	2.013E-01	NOT IDENT.
RE-184	1.160E-01	1.290E-01	1.392E-01	NOT IDENT.
W-188	1.584E+00	6.283E+00	6.323E+00	FAIL ABUN
IR-192	-6.291E-03	3.452E-02	3.464E-02	FAIL ABUN
HG-203	1.111E-02	4.163E-02	4.193E-02	NOT IDENT.
TL-204	-1.014E+00	3.459E+00	3.489E+00	NOT IDENT.
BI-207	3.461E-02	5.155E-02	5.386E-02	FAIL ABUN
BI-210	2.091E+00	4.821E+00	4.913E+00	NOT IDENT.
PB-210	2.091E+00	4.821E+00	4.913E+00	NOT IDENT.
PB-211	3.071E-04	6.221E-01	6.221E-01	NOT IDENT.
BI-213	-5.349E-03	9.515E-02	9.518E-02	NOT IDENT.
RN-219	-8.815E-02	3.368E-01	3.392E-01	FAIL ABUN
RA-223	2.826E-01	4.885E-01	5.048E-01	FAIL ABUN
AC-225	9.732E-02	1.325E+00	1.326E+00	NOT IDENT.
AC-227	6.992E-02	1.928E-01	1.954E-01	FAIL ABUN
TH-227	6.992E-02	1.928E-01	1.954E-01	FAIL ABUN
TH-229	1.824E-01	3.794E-01	3.882E-01	FAIL ABUN
TH-231	2.826E-01	4.885E-01	5.048E-01	FAIL ABUN
PA-233	-2.468E-02	5.133E-02	5.253E-02	FAIL ABUN
PA-234	7.722E-02	2.197E-01	2.224E-01	NOT IDENT.
PA-234M	-9.343E-01	4.062E+00	4.084E+00	NOT IDENT.
NP-237	-2.468E-02	5.133E-02	5.253E-02	FAIL ABUN
NP-238	2.436E+02	1.915E+03	1.918E+03	SHORT HLIF
NP-239	1.315E-02	1.859E-01	1.860E-01	NOT IDENT.
PU-239	-3.050E+01	2.207E+02	2.211E+02	FAIL ABUN
AM-241	5.182E-02	1.145E-01	1.169E-01	NOT IDENT.
CM-243	-1.357E-02	6.239E-02	6.269E-02	NOT IDENT.
BK-247	4.550E-02	6.519E-02	6.834E-02	FAIL ABUN
CM-247	2.002E-02	2.869E-02	3.008E-02	NOT IDENT.
CF-249	-4.289E-03	2.895E-02	2.901E-02	NOT IDENT.
CF-251	3.400E-02	9.663E-02	9.783E-02	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	29.2908	85.43	20.1449	131.20	45.9873
45.60	29.6404	86.55	20.2227	133.02	30.7939
46.54	24.1209	86.79	41.6028	133.52	34.6855
49.72	31.7566	86.94	41.6242	136.00	32.9531
51.35	23.2926	87.09	41.6457	136.47	24.2573
51.87	23.3547	87.57	41.7138	140.51	0.0000
52.39	33.6614	88.03	41.7786	143.76	24.9995
52.97	26.4209	88.34	41.8222	144.24	25.0268
53.44	20.5981	88.47	47.4948	145.44	26.7454
54.07	17.7108	89.96	44.3225	152.43	38.2261
57.36	0.0000	1093.63	44.4225	153.25	39.3011
57.53	36.0187	91.11	44.4911	323.87	30.2939
57.98	36.0947	92.59	37.8286	156.02	34.4659
59.27	19.6688	93.35	37.9219	158.56	31.5936
59.32	19.6734	94.56	25.3795	159.00	39.7831
59.54	24.2379	94.65	25.3867	162.33	38.0038
60.96	33.5432	94.67	25.3885	162.66	38.0292
61.17	34.5923	94.87	25.4046	163.33	29.8478
62.93	27.6862	97.43	29.6844	165.86	31.0355
63.29	27.7299	98.43	34.1556	176.31	30.6231
63.58	29.8218	98.44	34.1565	176.60	27.4703
64.28	26.8183	99.53	41.3014	177.52	30.6939
66.73	31.2692	100.11	30.8109	181.07	0.0000
67.24	28.2025	102.03	28.3340	181.52	28.4379
125.81	35.3176	103.18	27.5429	184.41	28.9483
67.75	35.3279	103.37	27.5585	143.76	29.0179
68.89	37.0720	105.21	28.6021	193.51	26.1581
69.67	33.2342	105.31	28.6106	197.03	21.9336
70.82	40.5430	106.12	32.2630	198.01	35.1538
70.83	40.5449	106.47	30.5015	201.83	21.0103
72.81	42.7344	109.28	42.5052	203.43	22.1765
72.87	42.7441	111.00	39.9854	205.31	24.4717
74.66	54.8791	111.76	28.2316	210.85	31.4342
74.82	54.9133	114.06	49.4912	215.65	33.9443
74.97	54.9449	116.30	23.0526	218.12	31.8072
77.11	55.3927	116.74	35.0817	222.11	37.7252
78.74	40.4311	119.76	33.5036	227.09	36.8677
79.69	27.4139	121.12	25.2175	227.38	35.7316
80.03	32.9370	121.22	27.0926	228.16	28.8506
80.12	43.9311	121.78	27.1320	228.18	28.8513
80.19	43.9425	122.06	30.8967	116.74	28.8513
80.57	42.9030	122.92	34.7191	235.69	23.3456
81.00	47.3768	123.07	34.7324	235.96	23.3551
81.07	47.3886	265.00	30.0862	238.63	26.9654
81.75	27.6189	125.81	31.1951	238.98	0.0000
82.47	27.6904	127.23	27.5119	240.99	27.0595
83.79	32.2707	127.91	36.1118	242.00	27.0995
84.00	32.2946	129.30	32.4223	244.70	28.3894

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.40	26.3120	344.28	5.3567	563.25	19.4055
252.80	29.9168	345.93	10.7324	564.24	0.0000
254.15	0.0000	351.06	10.7915	569.33	18.4049
256.23	20.4416	351.93	10.8015	946.00	18.4070
260.90	0.0000	355.39	0.0000	569.70	18.4097
264.66	19.4634	356.01	10.8481	583.19	8.7438
264.80	19.4673	364.49	25.5362	584.27	8.7503
265.00	19.4722	366.42	0.0000	595.83	7.7161
269.46	28.1597	372.51	20.2284	427.87	13.2695
270.03	28.1815	375.05	19.3585	602.52	0.0000
271.23	28.2264	377.52	24.0264	604.72	18.2946
273.65	14.7740	356.01	16.7384	607.14	14.9925
276.40	33.3619	388.16	15.8752	609.32	11.1214
277.37	19.7949	388.63	19.6196	610.33	11.1287
277.60	22.2759	391.69	17.8036	614.28	15.0623
278.00	22.2874	264.66	13.2312	618.01	11.1841
279.20	26.0424	401.81	20.8148	620.36	16.8011
279.54	27.2946	402.40	12.3065	621.93	8.9697
279.70	29.7825	404.85	17.0790	630.19	0.0000
280.46	28.5696	410.95	17.1760	631.29	7.8952
283.69	18.7097	413.71	17.2200	633.25	12.4224
284.31	18.7244	414.70	17.2357	634.78	12.4341
285.41	25.0012	423.72	8.6887	635.95	7.9186
285.90	0.0000	427.09	9.6834	636.99	4.5278
287.50	15.0403	427.87	6.7831	657.50	14.9027
290.67	20.1338	433.94	14.6136	657.76	13.7588
293.27	0.0000	439.40	17.6206	657.90	0.0000
351.93	22.7791	440.45	20.5762	661.66	12.6422
295.96	22.7999	453.88	16.8499	664.57	0.0000
879.38	10.1658	463.37	22.9794	666.33	16.1351
299.98	20.3665	468.07	21.0632	666.50	16.1368
300.09	20.3691	473.00	14.0991	667.71	0.0000
300.13	20.3701	475.06	18.1578	677.62	10.4429
301.36	17.8503	476.78	16.1628	685.70	10.4927
302.85	22.9922	477.60	11.1193	692.65	0.0000
256.23	23.5497	482.18	12.1750	695.00	14.9456
304.85	21.3404	487.02	10.1851	696.49	14.0781
306.78	18.8230	492.35	0.0000	696.51	14.0786
308.46	22.2898	497.08	17.4527	697.00	14.0825
311.90	26.6848	505.52	17.0509	697.30	13.2047
316.51	28.5601	507.63	0.0000	697.49	13.2060
319.41	17.3673	511.00	9.3395	702.65	13.2454
320.08	21.7255	514.00	17.1613	706.68	11.5059
321.04	22.6199	514.00	17.1613	711.68	13.3136
323.87	17.4561	520.40	15.6769	720.70	12.8461
325.23	27.9733	520.69	0.0000	721.93	0.0000
328.76	23.6964	522.65	0.0000	722.78	15.7190
333.37	18.5258	527.90	0.0000	722.91	15.7201
333.97	21.1865	528.26	13.6665	723.31	18.5828
334.37	17.2216	529.59	17.8896	724.19	18.5917
338.28	13.3047	529.87	0.0000	727.33	11.6404
338.32	13.3054	531.02	17.9082	733.00	11.4973
311.90	13.3368	537.26	15.8740	735.93	11.6956
340.48	13.3368	546.56	0.0000	333.97	14.4067
340.55	13.3377	552.55	12.8398	739.50	0.0000

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
744.23	9.9416	949.00	8.9854	1384.29	4.6807
747.24	9.0524	667.71	0.0000	1408.01	5.6575
748.06	9.0564	962.31	15.0623	1434.09	7.6027
752.31	10.8926	964.08	8.0393	1435.80	6.6558
753.82	9.0848	966.17	6.4373	1457.56	0.0000
756.73	6.3692	911.20	17.7235	1460.82	3.8316
756.80	6.3694	983.53	8.1062	1489.16	2.8975
884.68	10.9607	984.45	0.0000	1505.03	3.8809
765.81	13.7146	1274.44	6.1122	1584.12	6.9429
766.42	12.8046	1001.03	7.1451	1596.21	3.9803
766.84	10.0627	1002.74	4.0858	1620.50	4.2924
772.60	0.0000	1004.73	10.2231	1621.92	5.0098
776.52	5.8848	507.63	0.0000	1678.03	0.0000
739.50	0.0000	1025.87	0.0000	1690.97	3.0605
778.90	8.8380	1028.54	0.0000	1750.46	0.0000
783.70	8.3065	1037.84	5.1810	1764.49	1.7319
788.74	7.4028	1038.76	0.0000	1063.66	8.3250
792.07	15.7580	631.29	7.2790	1771.35	4.1637
795.86	4.6437	1048.07	7.2833	1791.20	0.0000
810.06	9.3546	1049.04	9.3675	1808.65	2.1008
810.29	9.3558	1050.41	8.3315	1810.72	0.0000
344.28	9.3564	1063.66	7.3281	1836.06	1.0573
810.76	6.5505	1077.00	9.4713		
815.77	5.6288	1077.34	11.5774		
1048.07	10.3336	1085.87	7.3918		
832.01	7.5659	1093.63	6.3549		
834.85	8.8392	1099.45	12.7383		
835.71	6.0637	1112.07	5.1196		
836.80	0.0000	1112.84	4.2676		
846.75	0.0000	1115.54	0.0000		
846.77	12.1930	1120.29	4.2795		
856.80	11.4862	1120.55	4.2800		
860.56	9.5892	1221.41	8.5625		
871.09	5.7823	1129.67	10.7367		
873.19	7.7173	1131.51	0.0000		
875.33	0.0000	1147.95	0.0000		
879.38	6.7723	1173.23	5.4544		
880.51	5.8079	1177.95	9.9905		
881.60	6.7793	1189.05	5.2658		
883.24	8.7229	1204.77	9.9283		
884.68	7.7590	1221.41	7.7669		
889.28	10.6912	1231.02	5.5661		
894.76	10.7184	1235.36	8.9189		
898.04	11.7103	1238.28	7.1426		
900.72	9.7708	1260.41	0.0000		
903.28	3.9128	1271.87	7.7398		
911.20	7.8540	1274.44	4.5188		
912.08	11.0000	1274.54	4.5190		
923.98	0.0000	1291.59	1.8178		
926.50	10.8738	1298.22	0.0000		
929.11	11.8759	1312.11	6.4049		
935.54	11.9099	1332.49	5.5263		
937.49	13.9069	1362.66	0.0000		
944.13	5.9775	1365.19	4.6528		
946.00	3.9883	1368.63	0.0000		

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:05:34.46

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289005.CNF;1
Background file : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM28.CNF;649
Background date : 16-JUN-2024 11:34:33
Sample date : 21-MAY-2024 10:00:00 Acquisition date : 20-JUN-2024 05:04:00
Sample ID : G669289005 Sample quantity : 1.46580E+02 GRAM
Detector name : GAM28 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:00.40 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 3.00000
Batch ID : 2618905 Detector SN# :
Matrix Spike ID : LCS ID :

BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	3	62.95*	32	52	1.22	126.40	122	15	8.98E-03	44.8	1.32E+00
2	3	66.44	22	58	1.23	133.39	122	15	6.14E-03	61.3	
3	2	74.74	77	61	0.90	149.98	143	18	2.14E-02	19.0	1.16E+00
4	2	77.07*	114	79	1.09	154.64	143	18	3.16E-02	16.5	
5	0	87.39	30	89	0.74	175.26	171	7	8.24E-03	56.5	
6	3	89.75	36	50	1.15	179.99	178	21	1.00E-02	34.0	1.00E+00
7	3	92.57*	51	80	1.30	185.63	178	21	1.42E-02	37.8	
8	0	100.05	22	69	1.09	200.56	198	7	6.10E-03	66.1	
9	0	112.10*	24	51	1.82	224.66	222	6	6.72E-03	52.1	
10	0	118.01	27	77	0.58	236.47	233	8	7.56E-03	58.8	
11	0	185.96*	39	85	1.11	372.30	368	9	1.07E-02	49.7	
12	0	202.07	18	78	0.84	404.51	400	9	4.89E-03	93.9	
13	0	209.22	17	51	0.81	418.79	416	6	4.72E-03	70.7	
14	0	238.60*	141	157	1.17	477.53	473	12	3.90E-02	19.8	
15	0	271.16	23	55	1.51	542.63	535	11	6.39E-03	65.8	
16	0	295.16	77	59	1.00	590.61	586	10	2.15E-02	21.9	
17	0	300.29	18	43	0.93	600.86	597	9	5.00E-03	69.6	
18	0	328.04	18	37	0.84	656.34	651	9	4.90E-03	67.3	
19	0	338.96*	29	61	1.08	678.17	672	11	7.98E-03	56.3	
20	0	347.85	12	17	1.10	695.94	691	7	3.44E-03	62.4	
21	0	351.64*	138	50	1.20	703.52	699	12	3.83E-02	13.4	
22	0	393.01	10	30	1.04	786.22	780	11	2.71E-03	113.8	
23	0	462.82*	26	35	1.61	925.78	919	13	7.29E-03	51.5	
24	3	514.47	15	13	1.91	1029.05	1015	19	4.04E-03	76.6	1.57E+00
25	0	582.96*	51	18	1.25	1165.99	1162	11	1.41E-02	21.7	
26	0	609.04*	99	44	1.77	1218.14	1213	11	2.74E-02	16.7	
27	0	641.65	10	11	2.59	1283.34	1278	9	2.73E-03	69.2	
28	0	727.13	21	22	2.41	1454.26	1446	14	5.90E-03	53.4	
29	0	798.87	12	11	2.80	1597.72	1593	10	3.42E-03	56.3	
30	0	910.42*	36	14	1.62	1820.78	1816	9	9.88E-03	26.3	
31	0	929.08	8	2	1.71	1858.09	1852	9	2.10E-03	51.4	
32	0	933.08	12	2	1.71	1866.09	1862	8	3.37E-03	34.9	
33	0	965.12	6	12	0.78	1930.17	1926	6	1.67E-03	100.0	
34	0	968.06*	37	7	1.07	1936.05	1932	8	1.02E-02	22.0	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
35	0	1048.19	12	5	2.71	2096.29	2090	10	3.33E-03	45.3	
36	0	1080.12	7	6	0.47	2160.14	2156	6	1.94E-03	67.0	
37	0	1103.84	15	6	0.69	2207.59	2200	11	4.03E-03	40.9	
38	0	1119.07	20	9	1.08	2238.05	2230	12	5.68E-03	36.6	
39	0	1213.69	8	5	1.22	2427.29	2423	7	2.19E-03	59.7	
40	0	1224.36	4	11	0.50	2448.64	2442	10	1.22E-03	143.7	
41	0	1237.30	15	5	1.39	2474.51	2471	9	4.18E-03	36.5	
42	0	1376.45	17	0	1.36	2752.82	2747	10	4.72E-03	24.3	
43	0	1459.77*	230	3	1.80	2919.49	2913	12	6.40E-02	6.9	
44	0	1763.41	13	3	1.36	3526.90	3521	10	3.72E-03	35.3	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JUN-2024 06:05:35

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289005.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: MXR1		
Sample date	: 21-MAY-2024 10:00:00	Acquisition date	: 20-JUN-2024 05:04:00
Sample ID	: G669289005	Sample quantity	: 146.58 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA28	Detector geometry	: CAN
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:00.40 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	222	10.66*	1.227E+00	8.684E+00	8.684E+00	13.71
KR-85	514.00	15	0.43*	2.859E+00	6.393E+00	6.428E+00	153.26
SR-85	514.00	15	96.00*	2.859E+00	2.890E-02	3.975E-02	153.26
CD-109	88.03	37	3.70*	5.650E+00	9.017E-01	9.430E-01	113.08
SN-113	391.69	11	64.94*	3.460E+00	2.427E-02	2.905E-02	227.67
SN-126	64.28	41	9.60	2.854E+00	7.692E-01	7.692E-01	89.62
	86.94	37	8.90	5.650E+00	3.749E-01	3.749E-01	113.08
	87.57	37	37.00*	5.650E+00	9.017E-02	9.017E-02	113.08
TL-208	277.37	------	6.60	4.410E+00	------ Line Not Found		------
	583.19	53	85.00*	2.608E+00	1.236E-01	1.236E-01	43.44
	860.56	------	12.50	1.916E+00	------ Line Not Found		------
BI-211	72.87	------	1.23	4.216E+00	------ Line Not Found		------
	351.06	152	12.92*	3.739E+00	1.613E+00	1.613E+00	26.76
BI-212	727.33	22	6.67*	2.199E+00	7.646E-01	7.646E-01	106.88
	1620.50	------	1.47	1.137E+00	------ Line Not Found		------
PB-212	74.82	97	10.28	4.443E+00	1.085E+00	1.085E+00	38.02
	77.11	142	17.10	4.708E+00	9.056E-01	9.056E-01	33.02
	238.63	160	43.60*	4.889E+00	3.855E-01	3.855E-01	39.60
	300.09	20	3.30	4.173E+00	7.493E-01	7.493E-01	139.24
BI-214	609.32	103	45.49*	2.524E+00	4.611E-01	4.612E-01	33.44
	1120.29	20	14.92	1.529E+00	4.542E-01	4.542E-01	73.13
	1764.49	13	15.30	1.079E+00	3.916E-01	3.916E-01	70.53
PB-214	74.82	97	5.80	4.443E+00	1.923E+00	1.923E+00	38.02
	77.11	142	9.70	4.708E+00	1.596E+00	1.596E+00	33.02
	87.09	37	3.41	5.650E+00	9.784E-01	9.784E-01	113.08
	242.00	------	7.25	4.843E+00	------ Line Not Found		------
	295.22	87	18.42	4.223E+00	5.697E-01	5.697E-01	43.79
	351.93	152	35.60*	3.739E+00	5.853E-01	5.854E-01	26.76
RN-222	609.32	103	45.49*	2.524E+00	4.611E-01	4.612E-01	33.44
	1120.29	20	14.92	1.529E+00	4.542E-01	4.542E-01	73.13
	1764.49	13	15.30	1.079E+00	3.916E-01	3.916E-01	70.53
RA-226	74.82	97	5.80	4.443E+00	1.923E+00	1.923E+00	38.02
	77.11	142	9.70	4.708E+00	1.596E+00	1.596E+00	33.02
	87.09	37	3.41	5.650E+00	9.784E-01	9.784E-01	113.08
	242.00	------	7.25	4.843E+00	------ Line Not Found		------
	295.22	87	18.42	4.223E+00	5.697E-01	5.697E-01	43.79
	351.93	152	35.60*	3.739E+00	5.853E-01	5.854E-01	26.76
AC-228	105.21	------	1.10	6.483E+00	------ Line Not Found		------
	338.32	32	11.27	3.836E+00	3.768E-01	3.768E-01	112.65
	835.71	------	1.61	1.963E+00	------ Line Not Found		------
	911.20	36	25.80*	1.827E+00	3.900E-01	3.900E-01	52.56
	968.97	37	15.80	1.733E+00	6.889E-01	6.889E-01	43.95
RA-228	105.21	------	1.10	6.483E+00	------ Line Not Found		------
	338.32	32	11.27	3.836E+00	3.768E-01	3.768E-01	112.65
	835.71	------	1.61	1.963E+00	------ Line Not Found		------
	911.20	36	25.80*	1.827E+00	3.900E-01	3.900E-01	52.56
	968.97	37	15.80	1.733E+00	6.889E-01	6.889E-01	43.95
TH-228	74.82	97	10.28	4.443E+00	1.085E+00	1.085E+00	38.02
	77.11	142	17.10	4.708E+00	9.056E-01	9.056E-01	33.02

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	238.63	160	43.60*	4.889E+00	3.855E-01	3.855E-01	39.60
	300.09	20	3.30	4.173E+00	7.493E-01	7.493E-01	139.24
TH-230	74.82	97	5.80	4.443E+00	1.923E+00	1.923E+00	38.02
	77.11	142	9.70	4.708E+00	1.596E+00	1.596E+00	33.02
	87.09	37	3.41	5.650E+00	9.784E-01	9.784E-01	113.08
	242.00	------	7.25	4.843E+00	------ Line Not Found		------
	295.22	87	18.42	4.223E+00	5.697E-01	5.697E-01	43.79
	351.93	152	35.60*	3.739E+00	5.853E-01	5.853E-01	26.76
PA-231	283.69	------	1.70	4.341E+00	------ Line Not Found		------
	301.36	20	5.35*	4.173E+00	4.622E-01	4.622E-01	139.24
TH-232	105.21	------	1.10	6.483E+00	------ Line Not Found		------
	338.32	32	11.27	3.836E+00	3.768E-01	3.768E-01	112.65
	835.71	------	1.61	1.963E+00	------ Line Not Found		------
	911.20	36	25.80*	1.827E+00	3.900E-01	3.900E-01	52.56
	968.97	37	15.80	1.733E+00	6.889E-01	6.889E-01	43.95
TH-234	63.29	41	3.70*	2.854E+00	1.996E+00	1.996E+00	89.62
	92.59	63	4.23	5.985E+00	1.277E+00	1.277E+00	75.60
U-234	74.82	97	5.80	4.443E+00	1.923E+00	1.923E+00	38.02
	77.11	142	9.70	4.708E+00	1.596E+00	1.596E+00	33.02
	87.09	37	3.41	5.650E+00	9.784E-01	9.784E-01	113.08
	242.00	------	7.25	4.843E+00	------ Line Not Found		------
	295.22	87	18.42	4.223E+00	5.697E-01	5.697E-01	43.79
	351.93	152	35.60*	3.739E+00	5.853E-01	5.853E-01	26.76
U-235	89.96	45	3.47	5.813E+00	1.133E+00	1.133E+00	68.06
	93.35	63	5.60	5.985E+00	9.646E-01	9.646E-01	75.60
	143.76	------	10.96*	6.469E+00	------ Line Not Found		------
	163.33	------	5.08	6.144E+00	------ Line Not Found		------
	185.72	45	57.20	5.733E+00	7.042E-02	7.042E-02	99.43
	205.31	------	5.01	5.397E+00	------ Line Not Found		------
U-238	63.29	41	3.70*	2.854E+00	1.996E+00	1.996E+00	89.62
	92.59	63	4.23	5.985E+00	1.277E+00	1.277E+00	75.60
AM-243	43.53	------	5.90	4.389E-01	------ Line Not Found		------
	74.66	97	67.20*	4.443E+00	1.660E-01	1.660E-01	38.02

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:05:36.73

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
*                                                                       *
*                        DETECTOR AND SAMPLE DATA                       *
*                                                                       *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289005.CNF;1    *
* Acquisition date : 20-JUN-2024 05:04:00 Sensitivity     : 3.000          *
* Detector ID      : GAM28                Energy tolerance: 1.500          *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000         *
* Elapsed real time:    0 01:00:00.40     Half life ratio : *****          *
* Sample date      : 21-MAY-2024 10:00:00 Analyst initials: MXR1           *
* Sample ID        : G669289005           Sample Quantity : 1.4658E+02 GRAM   *
* Batch Number     : 2618905              Wet Weight      :    0.00000     *
* Wet wt corr      :    1.00000           Dry Weight      :    0.00000     *
* Nuclide Library  : SOLID.NLB;17                                         *
*************************************************************************
*                                                                       *
*                        CALIBRATION INFORMATION                        *
*                                                                       *
* Eff. Cal. date   : 19-MAR-2024 04:24:53 Eff. Geometry   : CAN           *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM28_CAN.CNF;19          *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	8.684E+00	1.167E+00	1.068E-01
KR-85	6.428E+00	9.654E+00	1.007E+01
SR-85	3.975E-02	5.971E-02	6.229E-02
CD-109	9.430E-01	1.045E+00	8.623E-01
SN-113	2.905E-02	6.481E-02	6.573E-02
SN-126	9.017E-02	9.993E-02	8.291E-02
TL-208	1.236E-01	5.262E-02	4.292E-02
BI-211	1.613E+00	4.230E-01	2.632E-01
BI-212	7.646E-01	8.009E-01	7.126E-01
PB-212	3.855E-01	1.496E-01	9.134E-02
BI-214	4.612E-01	1.511E-01	1.126E-01
PB-214	5.854E-01	1.535E-01	9.569E-02
RN-222	4.612E-01	1.511E-01	1.126E-01
RA-226	5.854E-01	1.535E-01	9.569E-02
AC-228	3.900E-01	2.009E-01	2.074E-01
RA-228	3.900E-01	2.009E-01	2.074E-01
TH-228	3.855E-01	1.496E-01	9.134E-02
TH-230	5.853E-01	1.535E-01	9.569E-02
PA-231	4.622E-01	6.306E-01	6.759E-01
TH-232	3.900E-01	2.009E-01	2.074E-01
TH-234	1.996E+00	1.753E+00	1.437E+00
U-234	5.853E-01	1.535E-01	9.569E-02
U-235	4.755E-02	1.465E-01	2.918E-01
U-238	1.996E+00	1.753E+00	1.437E+00
AM-243	1.660E-01	6.185E-02	5.976E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	1.109E-01	2.802E-01	5.895E-01	NOT IDENT.
NA-22	-1.273E-03	2.659E-02	5.552E-02	NOT IDENT.
NA-24	0.000E+00	6.265E+12	0.000E+00	SHORT HLIF
AL-26	-1.061E-02	1.986E-02	3.552E-02	NOT IDENT.
SC-46	-7.462E-03	3.012E-02	5.717E-02	FAIL ABUN

V-48	-7.399E-02	9.772E-02	1.564E-01	NOT IDENT.
CR-51	-6.218E-03	3.588E-01	7.289E-01	NOT IDENT.
MN-52	-2.740E-01	4.894E-01	8.926E-01	NOT IDENT.
MN-54	-3.148E-03	2.696E-02	5.149E-02	NOT IDENT.
CO-56	-6.899E-03	2.947E-02	5.566E-02	FAIL ABUN
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	5.869E-04	1.718E-02	3.339E-02	NOT IDENT.
CO-58	2.152E-03	3.254E-02	6.469E-02	NOT IDENT.
FE-59	0.000E+00	7.644E-02	1.430E-01	NOT IDENT.
CO-60	2.827E-03	2.668E-02	5.759E-02	NOT IDENT.
ZN-65	6.205E-03	6.077E-02	1.160E-01	NOT IDENT.
GE-68	3.843E-01	1.053E+00	2.081E+00	NOT IDENT.
AS-73	1.292E-01	7.611E-01	1.572E+00	NOT IDENT.
AS-74	-2.149E-02	1.235E-01	2.368E-01	NOT IDENT.
SE-75	5.671E-03	3.405E-02	6.477E-02	NOT IDENT.
BR-77	0.000E+00	1.688E+03	0.000E+00	SHORT HLIF
SR-82	-6.008E-02	3.461E-01	6.607E-01	NOT IDENT.
RB-83	2.812E-02	4.933E-02	1.093E-01	NOT IDENT.
RB-84	5.929E-02	7.106E-02	1.588E-01	NOT IDENT.
RB-86	7.950E-01	1.101E+00	2.327E+00	NOT IDENT.
Y-88	-1.291E-03	2.954E-02	6.388E-02	NOT IDENT.
Y-91	3.421E+00	1.775E+01	3.712E+01	NOT IDENT.
NB-94	-6.370E-04	2.754E-02	5.286E-02	NOT IDENT.
NB-95	-1.533E-02	4.278E-02	7.699E-02	NOT IDENT.
NB-95M	9.418E-02	9.938E-02	1.946E-01	NOT IDENT.
ZR-95	9.349E-03	5.546E-02	1.138E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	3.142E+12	0.000E+00	SHORT HLIF
MO-99	0.000E+00	3.625E+02	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	1.017E+34	0.000E+00	SHORT HLIF
RH-101	1.130E-02	2.065E-02	4.202E-02	NOT IDENT.
RH-102	-2.730E-03	4.322E-02	8.384E-02	NOT IDENT.
RU-103	-1.064E-02	3.697E-02	7.088E-02	FAIL ABUN
RH-106	1.048E-01	2.402E-01	5.044E-01	NOT IDENT.
RU-106	1.048E-01	2.402E-01	5.044E-01	NOT IDENT.
AG-108M	-1.284E-02	2.073E-02	3.817E-02	NOT IDENT.
AG-110	7.207E-02	4.565E-01	9.514E-01	NOT IDENT.
AG-110M	-5.530E-03	4.183E-02	7.866E-02	NOT IDENT.
CD-115	0.000E+00	7.681E+02	0.000E+00	SHORT HLIF
SN-117M	1.088E-02	8.867E-02	1.688E-01	NOT IDENT.
SB-122	0.000E+00	6.007E+01	0.000E+00	SHORT HLIF
TE-123M	1.195E-02	2.288E-02	4.531E-02	NOT IDENT.
SB-124	-1.660E-02	8.256E-02	1.651E-01	NOT IDENT.
SB-125	-2.288E-02	5.121E-02	9.831E-02	FAIL ABUN
TE-125M	-4.546E+00	8.196E+00	1.375E+01	NOT IDENT.
I-126	2.108E-01	3.351E-01	7.281E-01	NOT IDENT.
SB-126	3.407E-02	2.625E-01	4.733E-01	NOT IDENT.
SB-127	4.981E+00	1.323E+01	2.771E+01	NOT IDENT.
I-131	8.522E-02	2.792E-01	5.871E-01	NOT IDENT.
I-132	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
TE-132	4.558E+00	1.290E+01	2.488E+01	FAIL ABUN
BA-133	-1.343E-02	3.310E-02	5.630E-02	NOT IDENT.
I-133	0.000E+00	5.188E+08	0.000E+00	SHORT HLIF
CS-134	7.295E-03	3.171E-02	5.787E-02	NOT IDENT.
I-135	0.000E+00	5.122E+31	0.000E+00	SHORT HLIF
CS-136	2.272E-01	2.015E-01	3.890E-01	FAIL ABUN
BA-137M	1.171E-02	2.490E-02	5.288E-02	NOT IDENT.
CS-137	1.237E-02	2.631E-02	5.586E-02	NOT IDENT.
LA-138	-2.483E-02	2.980E-02	4.634E-02	NOT IDENT.
CE-139	-1.521E-02	2.152E-02	3.757E-02	NOT IDENT.
BA-140	-2.634E-02	4.104E-01	8.137E-01	NOT IDENT.
LA-140	-9.350E-02	1.345E-01	2.268E-01	FAIL ABUN
CE-141	-2.646E-02	5.849E-02	1.063E-01	NOT IDENT.
CE-143	0.000E+00	1.903E+05	0.000E+00	SHORT HLIF
CE-144	-1.054E-02	1.452E-01	2.758E-01	NOT IDENT.
PM-144	-1.728E-03	2.534E-02	4.914E-02	NOT IDENT.
PR-144	-1.231E-01	1.913E+00	3.710E+00	NOT IDENT.
PM-146	1.237E-02	2.723E-02	5.879E-02	NOT IDENT.
ND-147	7.633E-01	9.731E-01	2.172E+00	FAIL ABUN
PM-147	1.609E+02	4.937E+02	9.283E+02	NOT IDENT.
PM-149	0.000E+00	7.799E+03	0.000E+00	SHORT HLIF
EU-150	-8.272E-03	2.163E-02	3.709E-02	FAIL ABUN
EU-152	-2.704E-02	6.912E-02	1.187E-01	FAIL ABUN
GD-153	1.185E-02	6.821E-02	1.124E-01	NOT IDENT.
EU-154	-1.424E-03	7.538E-02	1.581E-01	NOT IDENT.
EU-155	2.467E-03	7.514E-02	1.461E-01	FAIL ABUN
TB-160	-5.840E-02	1.239E-01	2.174E-01	FAIL ABUN
HO-166M	5.748E-03	3.970E-02	8.110E-02	NOT IDENT.

TM-171	9.789E+00	1.448E+01	3.125E+01	FAIL ABUN
HF-172	2.774E-02	1.259E-01	2.487E-01	FAIL ABUN
LU-172	5.925E-02	5.413E-02	1.254E-01	FAIL ABUN
LU-176	1.269E-02	1.654E-02	3.684E-02	FAIL ABUN
HF-181	-1.218E-02	4.203E-02	8.034E-02	NOT IDENT.
TA-182	-5.125E-02	1.832E-01	3.016E-01	FAIL ABUN
RE-183	3.915E-02	1.446E-01	3.046E-01	FAIL ABUN
RE-184	-2.119E-02	1.150E-01	2.175E-01	NOT IDENT.
W-188	5.960E-02	7.362E+00	1.236E+01	FAIL ABUN
IR-192	-1.781E-02	2.785E-02	5.250E-02	FAIL ABUN
HG-203	3.173E-03	3.500E-02	6.529E-02	NOT IDENT.
TL-204	-6.974E-02	3.223E+00	5.970E+00	NOT IDENT.
BI-207	-1.351E-02	2.717E-02	5.239E-02	FAIL ABUN
BI-210	-1.424E+00	2.868E+00	5.634E+00	NOT IDENT.
PB-210	-1.424E+00	2.868E+00	5.634E+00	NOT IDENT.
PB-211	-2.763E-02	5.272E-01	1.047E+00	NOT IDENT.
BI-213	-5.160E-03	7.101E-02	1.418E-01	NOT IDENT.
RN-219	1.343E-01	3.048E-01	6.387E-01	FAIL ABUN
RA-223	-1.053E-01	5.163E-01	9.115E-01	FAIL ABUN
RA-224	4.858E-01	6.404E-01	1.153E+00	NOT IDENT.
AC-225	3.105E-01	1.175E+00	2.258E+00	NOT IDENT.
AC-227	8.294E-02	1.870E-01	3.654E-01	FAIL ABUN
TH-227	8.294E-02	1.870E-01	3.654E-01	FAIL ABUN
TH-229	1.332E-01	4.015E-01	7.727E-01	FAIL ABUN
TH-231	-1.053E-01	5.163E-01	9.115E-01	FAIL ABUN
PA-233	3.725E-02	4.673E-02	1.019E-01	FAIL ABUN
PA-234	-2.414E-01	2.091E-01	2.877E-01	FAIL ABUN
PA-234M	-7.538E-01	3.407E+00	7.158E+00	NOT IDENT.
NP-237	3.725E-02	4.673E-02	1.019E-01	FAIL ABUN
NP-238	0.000E+00	1.573E+03	0.000E+00	SHORT HLIF
NP-239	3.195E-01	3.682E-01	3.522E-01	FAIL ABUN
PU-239	9.393E+01	2.168E+02	4.368E+02	NOT IDENT.
AM-241	-4.539E-02	9.771E-02	1.746E-01	NOT IDENT.
CM-243	5.160E-02	7.818E-02	1.512E-01	FAIL ABUN
BK-247	4.952E-03	6.284E-02	1.086E-01	NOT IDENT.
CM-247	2.006E-02	2.650E-02	5.786E-02	NOT IDENT.
CF-249	1.610E-02	2.696E-02	5.490E-02	NOT IDENT.
CF-251	1.907E-02	8.464E-02	1.646E-01	NOT IDENT.
ANH-511	-1.942E-03	4.124E-02	9.190E-02	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:05:35.27

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	222	10.66*	1.227E+00	8.684E+00	8.684E+00	13.71
KR-85	514.00	15	0.43*	2.859E+00	6.393E+00	6.428E+00	153.26
SR-85	514.00	15	96.00*	2.859E+00	2.890E-02	3.975E-02	153.26
CD-109	88.03	37	3.70*	5.650E+00	9.017E-01	9.430E-01	113.08
SN-113	391.69	11	64.94*	3.460E+00	2.427E-02	2.905E-02	227.67
SN-126	64.28	41	9.60	2.854E+00	7.692E-01	7.692E-01	89.62
	86.94	37	8.90	5.650E+00	3.749E-01	3.749E-01	113.08
	87.57	37	37.00*	5.650E+00	9.017E-02	9.017E-02	113.08
TL-208	277.37	------	6.60	4.410E+00	------	Line Not Found	------
	583.19	53	85.00*	2.608E+00	1.236E-01	1.236E-01	43.44
	860.56	------	12.50	1.916E+00	------	Line Not Found	------
BI-211	72.87	------	1.23	4.216E+00	------	Line Not Found	------
	351.06	152	12.92*	3.739E+00	1.613E+00	1.613E+00	26.76
BI-212	727.33	22	6.67*	2.199E+00	7.646E-01	7.646E-01	106.88
	1620.50	------	1.47	1.137E+00	------	Line Not Found	------
PB-212	74.82	97	10.28	4.443E+00	1.085E+00	1.085E+00	38.02
	77.11	142	17.10	4.708E+00	9.056E-01	9.056E-01	33.02
	238.63	160	43.60*	4.889E+00	3.855E-01	3.855E-01	39.60
	300.09	20	3.30	4.173E+00	7.493E-01	7.493E-01	139.24
BI-214	609.32	103	45.49*	2.524E+00	4.611E-01	4.612E-01	33.44
	1120.29	20	14.92	1.529E+00	4.542E-01	4.542E-01	73.13
	1764.49	13	15.30	1.079E+00	3.916E-01	3.916E-01	70.53
PB-214	74.82	97	5.80	4.443E+00	1.923E+00	1.923E+00	38.02
	77.11	142	9.70	4.708E+00	1.596E+00	1.596E+00	33.02
	87.09	37	3.41	5.650E+00	9.784E-01	9.784E-01	113.08
	242.00	------	7.25	4.843E+00	------	Line Not Found	------
	295.22	87	18.42	4.223E+00	5.697E-01	5.697E-01	43.79
	351.93	152	35.60*	3.739E+00	5.853E-01	5.854E-01	26.76
RN-222	609.32	103	45.49*	2.524E+00	4.611E-01	4.612E-01	33.44
	1120.29	20	14.92	1.529E+00	4.542E-01	4.542E-01	73.13
	1764.49	13	15.30	1.079E+00	3.916E-01	3.916E-01	70.53
RA-226	74.82	97	5.80	4.443E+00	1.923E+00	1.923E+00	38.02
	77.11	142	9.70	4.708E+00	1.596E+00	1.596E+00	33.02
	87.09	37	3.41	5.650E+00	9.784E-01	9.784E-01	113.08
	242.00	------	7.25	4.843E+00	------	Line Not Found	------
	295.22	87	18.42	4.223E+00	5.697E-01	5.697E-01	43.79
	351.93	152	35.60*	3.739E+00	5.853E-01	5.854E-01	26.76
AC-228	105.21	------	1.10	6.483E+00	------	Line Not Found	------
	338.32	32	11.27	3.836E+00	3.768E-01	3.768E-01	112.65
	835.71	------	1.61	1.963E+00	------	Line Not Found	------
	911.20	36	25.80*	1.827E+00	3.900E-01	3.900E-01	52.56
	968.97	37	15.80	1.733E+00	6.889E-01	6.889E-01	43.95
RA-228	105.21	------	1.10	6.483E+00	------	Line Not Found	------
	338.32	32	11.27	3.836E+00	3.768E-01	3.768E-01	112.65
	835.71	------	1.61	1.963E+00	------	Line Not Found	------
	911.20	36	25.80*	1.827E+00	3.900E-01	3.900E-01	52.56
	968.97	37	15.80	1.733E+00	6.889E-01	6.889E-01	43.95

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-228	74.82	97	10.28	4.443E+00	1.085E+00	1.085E+00	38.02
	77.11	142	17.10	4.708E+00	9.056E-01	9.056E-01	33.02
	238.63	160	43.60*	4.889E+00	3.855E-01	3.855E-01	39.60
	300.09	20	3.30	4.173E+00	7.493E-01	7.493E-01	139.24
TH-230	74.82	97	5.80	4.443E+00	1.923E+00	1.923E+00	38.02
	77.11	142	9.70	4.708E+00	1.596E+00	1.596E+00	33.02
	87.09	37	3.41	5.650E+00	9.784E-01	9.784E-01	113.08
	242.00	------	7.25	4.843E+00	------ Line Not Found		------
	295.22	87	18.42	4.223E+00	5.697E-01	5.697E-01	43.79
	351.93	152	35.60*	3.739E+00	5.853E-01	5.853E-01	26.76
PA-231	283.69	------	1.70	4.341E+00	------ Line Not Found		------
	301.36	20	5.35*	4.173E+00	4.622E-01	4.622E-01	139.24
TH-232	105.21	------	1.10	6.483E+00	------ Line Not Found		------
	338.32	32	11.27	3.836E+00	3.768E-01	3.768E-01	112.65
	835.71	------	1.61	1.963E+00	------ Line Not Found		------
	911.20	36	25.80*	1.827E+00	3.900E-01	3.900E-01	52.56
	968.97	37	15.80	1.733E+00	6.889E-01	6.889E-01	43.95
TH-234	63.29	41	3.70*	2.854E+00	1.996E+00	1.996E+00	89.62
	92.59	63	4.23	5.985E+00	1.277E+00	1.277E+00	75.60
U-234	74.82	97	5.80	4.443E+00	1.923E+00	1.923E+00	38.02
	77.11	142	9.70	4.708E+00	1.596E+00	1.596E+00	33.02
	87.09	37	3.41	5.650E+00	9.784E-01	9.784E-01	113.08
	242.00	------	7.25	4.843E+00	------ Line Not Found		------
	295.22	87	18.42	4.223E+00	5.697E-01	5.697E-01	43.79
	351.93	152	35.60*	3.739E+00	5.853E-01	5.853E-01	26.76
U-235	89.96	45	3.47	5.813E+00	1.133E+00	1.133E+00	68.06
	93.35	63	5.60	5.985E+00	9.646E-01	9.646E-01	75.60
	143.76	------	10.96*	6.469E+00	------ Line Not Found		------
	163.33	------	5.08	6.144E+00	------ Line Not Found		------
	185.72	45	57.20	5.733E+00	7.042E-02	7.042E-02	99.43
	205.31	------	5.01	5.397E+00	------ Line Not Found		------
U-238	63.29	41	3.70*	2.854E+00	1.996E+00	1.996E+00	89.62
	92.59	63	4.23	5.985E+00	1.277E+00	1.277E+00	75.60
AM-243	43.53	------	5.90	4.389E-01	------ Line Not Found		------
	74.66	97	67.20*	4.443E+00	1.660E-01	1.660E-01	38.02

Flag: "*" = Keyline

Sample ID : G669289005 Acquisition date : 20-JUN-2024 05:04:00

Total number of lines in spectrum	44	
Number of unidentified lines	10	
Number of lines tentatively identified by NID	34	77.27%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	8.684E+00	8.684E+00	1.191E+00	13.71	
KR-85	10.56Y	1.01	6.393E+00	6.428E+00	9.851E+00	153.26	
SR-85	64.84D	1.38	2.890E-02	3.975E-02	6.093E-02	153.26	
CD-109	461.40D	1.05	9.017E-01	9.430E-01	10.66E-01	113.08	
SN-113	115.09D	1.20	2.427E-02	2.905E-02	6.613E-02	227.67	
SN-126	2.30E+05Y	1.00	9.017E-02	9.017E-02	10.20E-02	113.08	
TL-208	1.41E+10Y	1.00	1.236E-01	1.236E-01	0.537E-01	43.44	
BI-211	7.04E+08Y	1.00	1.613E+00	1.613E+00	0.432E+00	26.76	
BI-212	1.41E+10Y	1.00	7.646E-01	7.646E-01	8.172E-01	106.88	
PB-212	1.41E+10Y	1.00	3.855E-01	3.855E-01	1.527E-01	39.60	
BI-214	1600.00Y	1.00	4.611E-01	4.612E-01	1.542E-01	33.44	
PB-214	1600.00Y	1.00	5.853E-01	5.854E-01	1.567E-01	26.76	
RN-222	1600.00Y	1.00	4.611E-01	4.612E-01	1.542E-01	33.44	
RA-226	1600.00Y	1.00	5.853E-01	5.854E-01	1.567E-01	26.76	
AC-228	1.41E+10Y	1.00	3.900E-01	3.900E-01	2.050E-01	52.56	
RA-228	1.41E+10Y	1.00	3.900E-01	3.900E-01	2.050E-01	52.56	
TH-228	1.41E+10Y	1.00	3.855E-01	3.855E-01	1.527E-01	39.60	
TH-230	7.54E+04Y	1.00	5.853E-01	5.853E-01	1.567E-01	26.76	
PA-231	7.04E+08Y	1.00	4.622E-01	4.622E-01	6.435E-01	139.24	
TH-232	1.41E+10Y	1.00	3.900E-01	3.900E-01	2.050E-01	52.56	
TH-234	4.47E+09Y	1.00	1.996E+00	1.996E+00	1.789E+00	89.62	
U-234	2.45E+05Y	1.00	5.853E-01	5.853E-01	1.567E-01	26.76	
U-235	7.04E+08Y	1.00	7.042E-02	7.042E-02	7.002E-02	99.43	K
U-238	4.47E+09Y	1.00	1.996E+00	1.996E+00	1.789E+00	89.62	
AM-243	7370.00Y	1.00	1.660E-01	1.660E-01	0.631E-01	38.02	
			---------	---------			
	Total Activity :		2.852E+01	2.861E+01			

Grand Total Activity : 2.852E+01 2.861E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	66.44	28	73	1.23	133.39	122	15	6.14E-03	****	3.36E+00	T
0	100.05	27	85	1.09	200.56	198	7	6.10E-03	****	6.33E+00	T
0	112.10	29	61	1.82	224.66	222	6	6.72E-03	****	6.61E+00	T
0	118.01	33	93	0.58	236.47	233	8	7.56E-03	****	6.65E+00	T
0	202.07	20	91	0.84	404.51	400	9	4.89E-03	****	5.45E+00	T
0	209.22	20	59	0.81	418.79	416	6	4.72E-03	****	5.33E+00	
0	271.16	26	62	1.51	542.63	535	11	6.39E-03	****	4.48E+00	T
0	328.04	20	41	0.84	656.34	651	9	4.90E-03	****	3.92E+00	T
0	347.85	14	18	1.10	695.94	691	7	3.44E-03	****	3.77E+00	
0	462.82	28	37	1.61	925.78	919	13	7.29E-03	****	3.08E+00	T
0	641.65	10	12	2.59	1283.34	1278	9	2.73E-03	****	2.43E+00	
0	798.87	13	11	2.80	1597.72	1593	10	3.42E-03	****	2.04E+00	
0	929.08	8	2	1.71	1858.09	1852	9	2.10E-03	****	1.80E+00	T
0	933.08	12	2	1.71	1866.09	1862	8	3.37E-03	69.9	1.79E+00	
0	965.12	6	12	0.78	1930.17	1926	6	1.67E-03	****	1.74E+00	T
0	1048.19	12	5	2.71	2096.29	2090	10	3.33E-03	90.5	1.62E+00	T
0	1080.12	7	6	0.47	2160.14	2156	6	1.94E-03	****	1.58E+00	
0	1103.84	14	5	0.69	2207.59	2200	11	4.03E-03	81.7	1.55E+00	
0	1213.69	8	5	1.22	2427.29	2423	7	2.19E-03	****	1.43E+00	
0	1224.36	4	10	0.50	2448.64	2442	10	1.22E-03	****	1.42E+00	
0	1237.30	15	5	1.39	2474.51	2471	9	4.18E-03	72.9	1.40E+00	T
0	1376.45	16	0	1.36	2752.82	2747	10	4.72E-03	48.5	1.28E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:05:46.37

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
*                                                                       *
*                        DETECTOR AND SAMPLE DATA                       *
*                                                                       *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289005.CNF;1    *
* Acquisition date : 20-JUN-2024 05:04:00 Sensitivity     : 3.000       *
* Detector ID      : GAM28                Energy tolerance: 1.500       *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000      *
* Elapsed real time:    0 01:00:00.40     Half life ratio : *****       *
* Sample date      : 21-MAY-2024 10:00:00 Nuclide Library : SOLID       *
* Sample ID        : G669289005           Analyst initials: MXR1        *
* Batch Number     : 2618905              Sample Quantity : 1.4658E+02 GRAM   *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000  *
*                                         Dry Weight      :    0.00000  *
*************************************************************************
*                                                                       *
*                        CALIBRATION INFORMATION                        *
*                                                                       *
* Eff. Cal. date   : 19-MAR-2024 04:24:53 Eff. Geometry   : CAN         *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM28_CAN.CNF;19        *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	0.000E+00
KR-85	4.459E+00
SR-85	2.758E-02
CD-109	3.945E-01
SN-113	2.905E-02
SN-126	3.792E-02
TL-208	1.825E-02
BI-211	1.167E-01
BI-212	3.081E-01
PB-212	4.228E-02
BI-214	5.011E-02
PB-214	4.245E-02
RN-222	5.011E-02
RA-226	4.245E-02
AC-228	8.877E-02
RA-228	8.877E-02
TH-228	4.228E-02
TH-230	4.244E-02
PA-231	3.056E-01
TH-232	8.877E-02
TH-234	6.489E-01
U-234	4.244E-02
U-235	1.356E-01
U-238	6.489E-01
AM-243	2.739E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	2.614E-01	NOT IDENT.
NA-22	2.254E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	1.123E-02	NOT IDENT.
SC-46	2.375E-02	FAIL ABUN
V-48	6.322E-02	NOT IDENT.

CR-51	3.261E-01	NOT IDENT.
MN-52	2.200E-01	NOT IDENT.
MN-54	2.191E-02	NOT IDENT.
CO-56	2.308E-02	FAIL ABUN
MN-56	0.000E+00	SHORT HLIF
CO-57	1.531E-02	NOT IDENT.
CO-58	2.763E-02	NOT IDENT.
FE-59	5.878E-02	NOT IDENT.
CO-60	2.344E-02	NOT IDENT.
ZN-65	4.819E-02	NOT IDENT.
GE-68	8.921E-01	NOT IDENT.
AS-73	7.228E-01	NOT IDENT.
AS-74	1.034E-01	NOT IDENT.
SE-75	2.918E-02	NOT IDENT.
BR-77	0.000E+00	SHORT HLIF
SR-82	2.796E-01	NOT IDENT.
RB-83	4.756E-02	NOT IDENT.
RB-84	6.917E-02	NOT IDENT.
RB-86	1.008E+00	NOT IDENT.
Y-88	2.391E-02	NOT IDENT.
Y-91	1.589E+01	NOT IDENT.
NB-94	2.329E-02	NOT IDENT.
NB-95	3.386E-02	NOT IDENT.
NB-95M	8.914E-02	NOT IDENT.
ZR-95	4.850E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	1.936E-02	NOT IDENT.
RH-102	3.669E-02	NOT IDENT.
RU-103	3.091E-02	FAIL ABUN
RH-106	2.218E-01	NOT IDENT.
RU-106	2.218E-01	NOT IDENT.
AG-108M	1.663E-02	NOT IDENT.
AG-110	4.038E-01	NOT IDENT.
AG-110M	3.371E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	7.820E-02	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	2.100E-02	NOT IDENT.
SB-124	6.396E-02	NOT IDENT.
SB-125	4.163E-02	FAIL ABUN
TE-125M	6.278E+00	NOT IDENT.
I-126	3.189E-01	NOT IDENT.
SB-126	2.050E-01	NOT IDENT.
SB-127	1.206E+01	NOT IDENT.
I-131	2.619E-01	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	1.140E+01	FAIL ABUN
BA-133	2.501E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	2.478E-02	NOT IDENT.
I-135	0.000E+00	SHORT HLIF
CS-136	1.685E-01	FAIL ABUN
BA-137M	2.311E-02	NOT IDENT.
CS-137	2.441E-02	NOT IDENT.
LA-138	1.460E-02	NOT IDENT.
CE-139	1.704E-02	NOT IDENT.
BA-140	3.536E-01	NOT IDENT.
LA-140	8.131E-02	FAIL ABUN
CE-141	4.870E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	1.271E-01	NOT IDENT.
PM-144	2.126E-02	NOT IDENT.
PR-144	1.606E+00	NOT IDENT.
PM-146	2.584E-02	NOT IDENT.
ND-147	9.583E-01	FAIL ABUN
PM-147	4.246E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	1.661E-02	FAIL ABUN
EU-152	5.222E-02	FAIL ABUN
GD-153	5.174E-02	NOT IDENT.
EU-154	6.439E-02	NOT IDENT.
EU-155	6.760E-02	FAIL ABUN
TB-160	9.216E-02	FAIL ABUN
HO-166M	3.470E-02	NOT IDENT.
TM-171	1.441E+01	FAIL ABUN

HF-172	1.143E-01	FAIL ABUN
LU-172	5.536E-02	FAIL ABUN
LU-176	1.655E-02	FAIL ABUN
HF-181	3.535E-02	NOT IDENT.
TA-182	1.290E-01	FAIL ABUN
RE-183	1.386E-01	FAIL ABUN
RE-184	9.073E-02	NOT IDENT.
W-188	5.615E+00	FAIL ABUN
IR-192	2.339E-02	FAIL ABUN
HG-203	2.950E-02	NOT IDENT.
TL-204	2.743E+00	NOT IDENT.
BI-207	2.029E-02	FAIL ABUN
BI-210	2.562E+00	NOT IDENT.
PB-210	2.562E+00	NOT IDENT.
PB-211	4.678E-01	NOT IDENT.
BI-213	6.227E-02	NOT IDENT.
RN-219	2.875E-01	FAIL ABUN
RA-223	4.102E-01	FAIL ABUN
RA-224	5.404E-01	NOT IDENT.
AC-225	1.032E+00	NOT IDENT.
AC-227	1.664E-01	FAIL ABUN
TH-227	1.664E-01	FAIL ABUN
TH-229	3.570E-01	FAIL ABUN
TH-231	4.102E-01	FAIL ABUN
PA-233	4.633E-02	FAIL ABUN
PA-234	1.106E-01	FAIL ABUN
PA-234M	3.083E+00	NOT IDENT.
NP-237	4.633E-02	FAIL ABUN
NP-238	0.000E+00	SHORT HLIF
NP-239	1.622E-01	FAIL ABUN
PU-239	2.009E+02	NOT IDENT.
AM-241	7.845E-02	NOT IDENT.
CM-243	7.014E-02	FAIL ABUN
BK-247	4.899E-02	NOT IDENT.
CM-247	2.601E-02	NOT IDENT.
CF-249	2.434E-02	NOT IDENT.
CF-251	7.516E-02	NOT IDENT.
ANH-511	4.348E-02	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:05:50.85

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289005.CNF;1		
Acquisition date	: 20-JUN-2024 05:04:00	Sensitivity	: 3.000
Detector ID	: GAM28	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.40	Half life ratio	: *****
Sample date	: 21-MAY-2024 10:00:00	Nuclide Library	: SOLID
Sample ID	: G669289005	Analyst initials	: MXR1
Batch Number	: 2618905	Sample Quantity	: 1.4658E+02 GRAM
		Quantity Err(%)	: 1.3644E-03 %
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 19-MAR-2024 04:24:53	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM28_CAN.CNF;19		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	8.684E+00	1.434E+00	1.434E+00
KR-85	6.428E+00	9.671E+00	9.671E+00
SR-85	3.975E-02	5.981E-02	5.981E-02
CD-109	9.430E-01	1.052E+00	1.052E+00
SN-113	2.905E-02	6.485E-02	6.485E-02
SN-126	9.017E-02	1.005E-01	1.005E-01
TL-208	1.236E-01	5.382E-02	5.382E-02
BI-211	1.613E+00	4.442E-01	4.442E-01
BI-212	7.646E-01	8.044E-01	8.044E-01
PB-212	3.855E-01	1.539E-01	1.539E-01
BI-214	4.612E-01	1.570E-01	1.570E-01
PB-214	5.854E-01	1.609E-01	1.609E-01
RN-222	4.612E-01	1.570E-01	1.570E-01
RA-226	5.854E-01	1.609E-01	1.609E-01
AC-228	3.900E-01	2.045E-01	2.045E-01
RA-228	3.900E-01	2.045E-01	2.045E-01
TH-228	3.855E-01	1.539E-01	1.539E-01
TH-230	5.853E-01	1.609E-01	1.609E-01
PA-231	4.622E-01	6.391E-01	6.391E-01
TH-232	3.900E-01	2.045E-01	2.045E-01
TH-234	1.996E+00	1.816E+00	1.816E+00
U-234	5.853E-01	1.609E-01	1.609E-01
U-235	4.755E-02	1.466E-01	1.466E-01
U-238	1.996E+00	1.816E+00	1.816E+00
AM-243	1.660E-01	6.437E-02	6.437E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	1.109E-01	2.803E-01	2.848E-01	NOT IDENT.
NA-22	-1.273E-03	2.659E-02	2.660E-02	NOT IDENT.
NA-24	-9.378E+11	6.266E+12	6.280E+12	SHORT HLIF
AL-26	-1.061E-02	1.988E-02	2.045E-02	NOT IDENT.
SC-46	-7.462E-03	3.013E-02	3.032E-02	FAIL ABUN

V-48	-7.399E-02	9.795E-02	1.035E-01	NOT IDENT.
CR-51	-6.218E-03	3.588E-01	3.588E-01	NOT IDENT.
MN-52	-2.740E-01	4.900E-01	5.054E-01	NOT IDENT.
MN-54	-3.148E-03	2.696E-02	2.700E-02	NOT IDENT.
CO-56	-6.899E-03	2.948E-02	2.964E-02	FAIL ABUN
MN-56	-1.000E+41	4.185E+41	0.000E+00	SHORT HLIF
CO-57	5.869E-04	1.718E-02	1.718E-02	NOT IDENT.
CO-58	2.152E-03	3.254E-02	3.255E-02	NOT IDENT.
FE-59	0.000E+00	7.644E-02	0.000E+00	NOT IDENT.
CO-60	2.827E-03	2.668E-02	2.671E-02	NOT IDENT.
ZN-65	6.205E-03	6.077E-02	6.084E-02	NOT IDENT.
GE-68	3.843E-01	1.054E+00	1.068E+00	NOT IDENT.
AS-73	1.292E-01	7.616E-01	7.639E-01	NOT IDENT.
AS-74	-2.149E-02	1.235E-01	1.239E-01	NOT IDENT.
SE-75	5.671E-03	3.406E-02	3.415E-02	NOT IDENT.
BR-77	4.348E+03	4.124E+03	4.566E+03	SHORT HLIF
SR-82	-6.008E-02	3.462E-01	3.472E-01	NOT IDENT.
RB-83	2.812E-02	4.953E-02	5.112E-02	NOT IDENT.
RB-84	5.929E-02	7.128E-02	7.613E-02	NOT IDENT.
RB-86	7.950E-01	1.103E+00	1.160E+00	NOT IDENT.
Y-88	-1.291E-03	2.954E-02	2.954E-02	NOT IDENT.
Y-91	3.421E+00	1.775E+01	1.781E+01	NOT IDENT.
NB-94	-6.370E-04	2.754E-02	2.754E-02	NOT IDENT.
NB-95	-1.533E-02	4.281E-02	4.336E-02	NOT IDENT.
NB-95M	9.418E-02	9.993E-02	1.086E-01	NOT IDENT.
ZR-95	9.349E-03	5.547E-02	5.563E-02	NOT IDENT.
NB-97	-1.000E+41	2.442E+41	0.000E+00	SHORT HLIF
ZR-97	-4.815E+11	3.143E+12	3.150E+12	SHORT HLIF
MO-99	-7.419E+01	3.625E+02	3.641E+02	SHORT HLIF
TC-99M	-8.525E+33	1.022E+34	0.000E+00	SHORT HLIF
RH-101	1.130E-02	2.076E-02	2.138E-02	NOT IDENT.
RH-102	-2.730E-03	4.322E-02	4.324E-02	NOT IDENT.
RU-103	-1.064E-02	3.698E-02	3.729E-02	FAIL ABUN
RH-106	1.048E-01	2.404E-01	2.450E-01	NOT IDENT.
RU-106	1.048E-01	2.404E-01	2.450E-01	NOT IDENT.
AG-108M	-1.284E-02	2.076E-02	2.155E-02	NOT IDENT.
AG-110	7.207E-02	4.566E-01	4.577E-01	NOT IDENT.
AG-110M	-5.530E-03	4.183E-02	4.191E-02	NOT IDENT.
CD-115	-5.261E+02	7.699E+02	8.056E+02	SHORT HLIF
SN-117M	1.088E-02	8.867E-02	8.881E-02	NOT IDENT.
SB-122	-2.637E+01	6.012E+01	6.128E+01	SHORT HLIF
TE-123M	1.195E-02	2.290E-02	2.353E-02	NOT IDENT.
SB-124	-1.660E-02	8.257E-02	8.291E-02	NOT IDENT.
SB-125	-2.288E-02	5.124E-02	5.227E-02	FAIL ABUN
TE-125M	-4.546E+00	8.205E+00	8.458E+00	NOT IDENT.
I-126	2.108E-01	3.358E-01	3.490E-01	NOT IDENT.
SB-126	3.407E-02	2.625E-01	2.630E-01	NOT IDENT.
SB-127	4.981E+00	1.326E+01	1.345E+01	NOT IDENT.
I-131	8.522E-02	2.793E-01	2.819E-01	NOT IDENT.
I-132	-1.000E+41	3.277E+41	0.000E+00	SHORT HLIF
TE-132	4.558E+00	1.291E+01	1.307E+01	FAIL ABUN
BA-133	-1.343E-02	3.312E-02	3.367E-02	NOT IDENT.
I-133	1.987E+08	5.204E+08	5.281E+08	SHORT HLIF
CS-134	7.295E-03	3.171E-02	3.188E-02	NOT IDENT.
I-135	6.642E+30	5.142E+31	0.000E+00	SHORT HLIF
CS-136	2.272E-01	2.032E-01	2.275E-01	FAIL ABUN
BA-137M	1.171E-02	2.493E-02	2.548E-02	NOT IDENT.
CS-137	1.237E-02	2.633E-02	2.692E-02	NOT IDENT.
LA-138	-2.483E-02	2.988E-02	3.191E-02	NOT IDENT.
CE-139	-1.521E-02	2.178E-02	2.283E-02	NOT IDENT.
BA-140	-2.634E-02	4.104E-01	4.106E-01	NOT IDENT.
LA-140	-9.350E-02	1.347E-01	1.412E-01	FAIL ABUN
CE-141	-2.646E-02	5.853E-02	5.973E-02	NOT IDENT.
CE-143	-1.348E+04	1.903E+05	1.904E+05	SHORT HLIF
CE-144	-1.054E-02	1.452E-01	1.453E-01	NOT IDENT.
PM-144	-1.728E-03	2.534E-02	2.536E-02	NOT IDENT.
PR-144	-1.231E-01	1.913E+00	1.913E+00	NOT IDENT.
PM-146	1.237E-02	2.726E-02	2.783E-02	NOT IDENT.
ND-147	7.633E-01	9.756E-01	1.035E+00	FAIL ABUN
PM-147	1.609E+02	4.939E+02	4.992E+02	NOT IDENT.
PM-149	3.695E+03	7.819E+03	7.995E+03	SHORT HLIF
EU-150	-8.272E-03	2.164E-02	2.196E-02	FAIL ABUN
EU-152	-2.704E-02	6.916E-02	7.023E-02	FAIL ABUN
GD-153	1.185E-02	6.822E-02	6.843E-02	NOT IDENT.
EU-154	-1.424E-03	7.538E-02	7.538E-02	NOT IDENT.
EU-155	2.467E-03	7.514E-02	7.515E-02	FAIL ABUN
TB-160	-5.840E-02	1.241E-01	1.268E-01	FAIL ABUN
HO-166M	5.748E-03	3.970E-02	3.979E-02	NOT IDENT.

TM-171	9.789E+00	1.453E+01	1.518E+01	FAIL ABUN
HF-172	2.774E-02	1.260E-01	1.267E-01	FAIL ABUN
LU-172	5.925E-02	5.463E-02	6.081E-02	FAIL ABUN
LU-176	1.269E-02	1.658E-02	1.754E-02	FAIL ABUN
HF-181	-1.218E-02	4.204E-02	4.240E-02	NOT IDENT.
TA-182	-5.125E-02	1.832E-01	1.847E-01	FAIL ABUN
RE-183	3.915E-02	1.447E-01	1.457E-01	FAIL ABUN
RE-184	-2.119E-02	1.150E-01	1.154E-01	NOT IDENT.
W-188	5.960E-02	7.362E+00	7.362E+00	FAIL ABUN
IR-192	-1.781E-02	2.788E-02	2.902E-02	FAIL ABUN
HG-203	3.173E-03	3.500E-02	3.503E-02	NOT IDENT.
TL-204	-6.974E-02	3.223E+00	3.223E+00	NOT IDENT.
BI-207	-1.351E-02	2.719E-02	2.786E-02	FAIL ABUN
BI-210	-1.424E+00	2.872E+00	2.943E+00	NOT IDENT.
PB-210	-1.424E+00	2.872E+00	2.943E+00	NOT IDENT.
PB-211	-2.763E-02	5.272E-01	5.273E-01	NOT IDENT.
BI-213	-5.160E-03	7.101E-02	7.105E-02	NOT IDENT.
RN-219	1.343E-01	3.055E-01	3.114E-01	FAIL ABUN
RA-223	-1.053E-01	5.163E-01	5.185E-01	FAIL ABUN
RA-224	4.858E-01	6.420E-01	6.783E-01	NOT IDENT.
AC-225	3.105E-01	1.176E+00	1.184E+00	NOT IDENT.
AC-227	8.294E-02	1.874E-01	1.911E-01	FAIL ABUN
TH-227	8.294E-02	1.874E-01	1.911E-01	FAIL ABUN
TH-229	1.332E-01	4.017E-01	4.062E-01	FAIL ABUN
TH-231	-1.053E-01	5.163E-01	5.185E-01	FAIL ABUN
PA-233	3.725E-02	4.684E-02	4.976E-02	FAIL ABUN
PA-234	-2.414E-01	3.470E-01	3.637E-01	FAIL ABUN
PA-234M	-7.538E-01	3.408E+00	3.425E+00	NOT IDENT.
NP-237	3.725E-02	4.684E-02	4.976E-02	FAIL ABUN
NP-238	6.050E+02	1.574E+03	1.598E+03	SHORT HLIF
NP-239	3.195E-01	3.696E-01	3.967E-01	FAIL ABUN
PU-239	9.393E+01	2.170E+02	2.211E+02	NOT IDENT.
AM-241	-4.539E-02	9.785E-02	9.996E-02	NOT IDENT.
CM-243	5.160E-02	7.842E-02	8.179E-02	FAIL ABUN
BK-247	4.952E-03	6.285E-02	6.289E-02	NOT IDENT.
CM-247	2.006E-02	2.676E-02	2.824E-02	NOT IDENT.
CF-249	1.610E-02	2.702E-02	2.797E-02	NOT IDENT.
CF-251	1.907E-02	8.469E-02	8.512E-02	NOT IDENT.
ANH-511	-1.942E-03	4.124E-02	4.125E-02	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	30.4414	85.43	55.2009	131.20	46.8272
45.60	40.2595	86.55	63.0419	133.02	41.7352
46.54	30.7175	86.79	63.0714	133.52	48.0306
49.72	31.8855	86.94	63.0903	136.00	53.4428
51.35	41.8178	87.09	63.1087	136.47	46.1390
51.87	45.4417	87.57	38.6740	140.51	0.0000
52.39	35.6912	88.03	38.7085	143.76	40.2590
52.97	34.8537	88.34	38.7317	144.24	41.3459
53.44	41.1618	88.47	38.7415	145.44	48.8476
54.07	43.9203	89.96	40.7952	152.43	53.5988
57.36	0.0000	1093.63	40.8480	153.25	43.9992
57.53	33.4659	91.11	40.8846	323.87	48.3529
57.98	29.8822	92.59	40.9986	156.02	60.3152
59.27	36.3394	93.35	41.0566	158.56	50.7895
59.32	36.3440	94.56	41.1489	159.00	43.2495
59.54	33.9397	94.65	41.1557	162.33	44.5203
60.96	26.7614	94.67	41.1573	162.66	43.4528
61.17	26.7752	94.87	41.1726	163.33	29.3553
62.93	29.3350	97.43	41.3652	165.86	44.7193
63.29	29.3605	98.43	27.6266	176.31	32.0382
63.58	29.3811	98.44	27.6272	176.60	36.4699
64.28	29.4304	99.53	46.1351	177.52	33.1906
66.73	29.6008	100.11	43.5438	181.07	0.0000
67.24	40.7491	102.03	54.2834	181.52	45.9469
125.81	38.3186	103.18	41.1261	184.41	52.0507
67.75	38.3246	103.37	41.1397	143.76	49.1509
68.89	42.1434	105.21	50.9230	193.51	42.8265
69.67	44.7019	105.31	50.9315	197.03	41.8633
70.82	43.5723	106.12	60.0027	198.01	37.7558
70.83	43.5734	106.47	60.0385	201.83	44.3594
72.81	40.3266	109.28	48.2593	203.43	47.0954
72.87	40.3319	111.00	41.6758	205.31	39.5792
74.66	40.4897	111.76	42.4012	210.85	44.4074
74.82	40.5034	114.06	34.4542	215.65	24.2393
74.97	40.5166	116.30	44.7493	218.12	33.5587
77.11	40.7022	116.74	48.8518	222.11	30.2101
78.74	40.8420	119.76	40.9052	227.09	36.2009
79.69	38.0676	121.12	32.7939	227.38	35.0436
80.03	38.0939	121.22	32.7991	228.16	33.9016
80.12	35.5614	121.78	41.0345	228.18	33.9025
80.19	35.5665	122.06	40.0259	116.74	33.9025
80.57	35.5944	122.92	33.9134	235.69	23.5544
81.00	39.4428	123.07	38.0329	235.96	26.7019
81.07	38.1760	265.00	41.1551	238.63	51.9673
81.75	45.8749	125.81	39.2249	238.98	0.0000
82.47	59.3421	127.23	36.2056	240.99	55.2422
83.79	46.0642	127.91	44.5270	242.00	45.8164
84.00	46.0833	129.30	36.3181	244.70	47.5177

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.40	28.7168	344.28	23.2267	563.25	14.7253
252.80	25.1365	345.93	14.2112	564.24	0.0000
254.15	0.0000	351.06	20.7485	569.33	12.8011
256.23	27.6177	351.93	20.7617	946.00	12.8022
260.90	0.0000	355.39	0.0000	569.70	14.7729
264.66	25.4092	356.01	27.3299	583.19	10.9060
264.80	25.4124	364.49	19.2026	584.27	10.9118
265.00	27.4341	366.42	0.0000	595.83	17.9561
269.46	24.3024	372.51	22.8214	427.87	17.9971
270.03	24.3146	375.05	21.9823	602.52	0.0000
271.23	24.3402	377.52	13.2117	604.72	34.5632
273.65	21.1398	356.01	19.4608	607.14	27.0802
276.40	35.4526	388.16	13.3072	609.32	22.0886
277.37	26.9179	388.63	17.3049	610.33	15.0671
277.60	20.8044	391.69	19.5633	614.28	15.6990
278.00	33.0529	264.66	24.1523	618.01	16.1302
279.20	28.1857	401.81	21.4849	620.36	13.1201
279.54	35.5491	402.40	17.0154	621.93	13.1296
279.70	35.5535	404.85	24.2188	630.19	0.0000
280.46	31.8962	410.95	18.9112	631.29	17.2442
283.69	34.4446	413.71	23.4551	633.25	11.1678
284.31	29.5393	414.70	15.3457	634.78	20.3198
285.41	23.4073	423.72	14.5257	635.95	19.5172
285.90	0.0000	427.09	10.0075	636.99	15.2551
287.50	32.0874	427.87	14.5635	657.50	9.2380
290.67	32.9980	433.94	22.8409	657.76	10.2657
293.27	0.0000	439.40	18.3341	657.90	0.0000
351.93	29.8103	440.45	18.3459	661.66	11.3120
295.96	29.8286	453.88	12.9464	664.57	0.0000
879.38	24.9103	463.37	20.4585	666.33	10.3048
299.98	29.9268	468.07	13.9874	666.50	10.3056
300.09	29.9290	473.00	15.8977	667.71	0.0000
300.13	29.9304	475.06	15.9164	677.62	11.3916
301.36	29.9604	476.78	10.3091	685.70	11.4315
302.85	13.3317	477.60	15.9396	692.65	0.0000
256.23	23.7790	482.18	21.6219	695.00	12.5205
304.85	23.7854	487.02	18.8534	696.49	14.6164
306.78	16.7175	492.35	0.0000	696.51	14.6164
308.46	26.7839	497.08	18.9596	697.00	17.7526
311.90	22.6609	505.52	8.5715	697.30	20.8879
316.51	31.1668	507.63	0.0000	697.49	16.7116
319.41	25.3271	511.00	20.0603	702.65	18.8416
320.08	24.4959	514.00	20.0925	706.68	15.7281
321.04	31.2767	514.00	20.0925	711.68	10.5074
323.87	30.4980	520.40	9.6008	720.70	12.6563
325.23	27.9854	520.69	0.0000	721.93	0.0000
328.76	24.2347	522.65	0.0000	722.78	17.4178
333.37	25.5994	527.90	0.0000	722.91	15.8350
333.97	30.7332	528.26	18.3181	723.31	15.8374
334.37	33.3038	529.59	14.4720	724.19	11.0905
338.28	23.1240	529.87	0.0000	727.33	13.7485
338.32	23.1246	531.02	10.6209	733.00	8.4805
311.90	30.8826	537.26	15.4993	735.93	8.4906
340.48	30.8826	546.56	0.0000	333.97	9.5577
340.55	30.8840	552.55	6.8348	739.50	0.0000

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
744.23	9.5841	949.00	4.5903	1384.29	1.9465
747.24	12.7944	667.71	0.0000	1408.01	4.8941
748.06	11.7318	962.31	3.4579	1434.09	1.9698
752.31	6.4102	964.08	15.5693	1435.80	4.9265
753.82	18.1732	966.17	13.8491	1457.56	0.0000
756.73	9.6321	911.20	8.6636	1460.82	0.0000
756.80	9.6324	983.53	12.7666	1489.16	7.9805
884.68	16.0999	984.45	0.0000	1505.03	7.0085
765.81	22.5560	1274.44	11.6532	1584.12	7.1324
766.42	17.1901	1001.03	9.6287	1596.21	6.1293
766.84	11.8200	1002.74	15.7643	1620.50	0.0000
772.60	0.0000	1004.73	10.5165	1621.92	2.0544
776.52	11.8647	507.63	0.0000	1678.03	0.0000
739.50	0.0000	1025.87	0.0000	1690.97	5.2106
778.90	8.6370	1028.54	0.0000	1750.46	0.0000
783.70	15.1427	1037.84	5.3130	1764.49	1.6923
788.74	15.1724	1038.76	0.0000	1063.66	2.1178
792.07	11.9364	631.29	7.9909	1771.35	2.1182
795.86	8.1503	1048.07	7.1060	1791.20	0.0000
810.06	8.7409	1049.04	2.8434	1808.65	3.2007
810.29	6.5562	1050.41	9.9559	1810.72	0.0000
344.28	7.6491	1063.66	7.1396	1836.06	3.2175
810.76	10.9290	1077.00	7.1685		
815.77	7.6645	1077.34	8.6033		
1048.07	7.6725	1085.87	11.6797		
832.01	9.9141	1093.63	8.1046		
834.85	12.1302	1099.45	7.2163		
835.71	12.1337	1112.07	11.5891		
836.80	0.0000	1112.84	15.9382		
846.75	0.0000	1115.54	7.2505		
846.77	9.9679	1120.29	7.2603		
856.80	13.3389	1120.55	5.8086		
860.56	8.9046	1221.41	5.8102		
871.09	7.8209	1129.67	9.1003		
873.19	8.9450	1131.51	0.0000		
875.33	0.0000	1147.95	0.0000		
879.38	14.5673	1173.23	9.2133		
880.51	12.3311	1177.95	9.2249		
881.60	6.7288	1189.05	12.0296		
883.24	12.3428	1204.77	10.2225		
884.68	13.4717	1221.41	14.9365		
889.28	8.9958	1231.02	5.6158		
894.76	11.2663	1235.36	7.4966		
898.04	11.2789	1238.28	6.0020		
900.72	15.8053	1260.41	0.0000		
903.28	10.1697	1271.87	5.6766		
911.20	11.8967	1274.44	6.6274		
912.08	17.0007	1274.54	6.6274		
923.98	0.0000	1291.59	2.8530		
926.50	5.1253	1298.22	0.0000		
929.11	0.0000	1312.11	4.7797		
935.54	6.8545	1332.49	5.7653		
937.49	6.8591	1362.66	0.0000		
944.13	10.3114	1365.19	4.8438		
946.00	13.7573	1368.63	0.0000		

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:06:18.24

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289006.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM32.CNF;638
                                     Background date  : 16-JUN-2024 11:42:36
Sample date      : 22-MAY-2024 08:00:00 Acquisition date : 20-JUN-2024 05:04:28
Sample ID        : G669289006           Sample quantity  : 1.25470E+02 GRAM
Detector name    : GAM32                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:00.63  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : MXR1
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 2618905              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
*************************************************************************
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	1	74.85	75	104	1.05	149.19	145	16	2.08E-02	24.1	3.03E+00
2	1	77.30	142	97	1.06	154.08	145	16	3.93E-02	13.8	
3	0	87.14	42	95	0.83	173.77	171	7	1.18E-02	40.8	
4	0	90.04	23	64	0.59	179.57	177	5	6.51E-03	55.6	
5	0	92.78*	47	98	0.85	185.04	182	8	1.32E-02	41.6	
6	0	123.44	17	64	1.36	246.36	244	7	4.60E-03	83.4	
7	0	140.47*	37	70	2.60	280.43	276	9	1.04E-02	44.3	
8	0	154.65	29	95	1.01	308.79	303	10	8.06E-03	65.6	
9	0	186.19*	27	65	1.10	371.86	368	8	7.53E-03	59.7	
10	0	210.12	13	60	1.32	419.72	415	7	3.56E-03	103.8	
11	4	238.76*	272	65	1.13	477.01	472	17	7.56E-02	7.9	1.17E+00
12	4	241.88	69	84	1.75	483.26	472	17	1.91E-02	33.1	
13	0	269.95	52	49	2.00	539.40	534	11	1.44E-02	29.7	
14	6	282.26	31	16	1.68	564.01	561	14	8.71E-03	26.3	2.35E+00
15	6	284.78	15	34	2.00	569.05	561	14	4.30E-03	86.7	
16	0	295.44	115	59	1.25	590.38	585	9	3.19E-02	15.2	
17	0	309.36	16	16	1.23	618.22	615	6	4.51E-03	46.4	
18	0	338.94	52	66	1.11	677.38	671	11	1.44E-02	33.3	
19	0	352.09*	170	57	1.20	703.67	699	11	4.73E-02	11.5	
20	0	425.82	16	22	0.92	851.14	845	9	4.47E-03	60.1	
21	0	463.56	10	33	1.10	926.63	924	8	2.73E-03	105.2	
22	0	511.63*	40	27	1.85	1022.76	1017	16	1.11E-02	43.5	
23	0	521.39	21	11	2.64	1042.29	1036	12	5.74E-03	39.9	
24	0	525.43	14	4	1.85	1050.37	1047	7	3.75E-03	35.6	
25	0	547.94	10	17	1.40	1095.39	1087	10	2.70E-03	86.5	
26	0	583.06*	98	13	1.42	1165.64	1158	14	2.72E-02	13.2	
27	0	609.32*	147	44	1.53	1218.16	1213	12	4.08E-02	12.5	
28	0	640.12	19	2	0.97	1279.75	1275	10	5.21E-03	27.8	
29	0	644.40	4	6	0.53	1288.32	1284	6	1.06E-03	114.7	
30	0	713.49	12	9	0.51	1426.50	1421	9	3.33E-03	53.5	
31	0	727.14	23	18	0.83	1453.81	1446	11	6.38E-03	42.2	
32	0	769.16	16	27	1.47	1537.85	1531	15	4.42E-03	74.8	
33	0	795.12	30	6	1.66	1589.77	1584	12	8.33E-03	24.5	
34	0	860.14	17	10	1.57	1719.82	1714	10	4.72E-03	42.4	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
35	0	911.28*	53	35	2.12	1822.12	1812	22	1.46E-02	31.5	
36	0	969.08	35	26	2.27	1937.72	1929	13	9.63E-03	34.8	
37	0	1001.57*	9	5	1.24	2002.69	1999	7	2.58E-03	55.3	
38	0	1029.19	10	7	2.88	2057.94	2048	13	2.81E-03	61.0	
39	0	1044.27	9	3	1.31	2088.11	2085	6	2.59E-03	43.5	
40	0	1054.97	18	0	2.35	2109.50	2105	10	5.00E-03	23.6	
41	0	1075.48	9	4	0.77	2150.53	2146	7	2.59E-03	47.0	
42	0	1082.65	8	5	0.64	2164.87	2160	9	2.08E-03	62.7	
43	0	1094.70	13	11	1.34	2188.98	2184	14	3.59E-03	60.3	
44	0	1120.11*	20	15	1.31	2239.79	2235	10	5.62E-03	43.0	
45	0	1137.64	10	3	4.30	2274.85	2269	11	2.82E-03	44.7	
46	0	1300.52	10	6	1.08	2600.65	2593	12	2.85E-03	56.9	
47	0	1460.69*	273	3	1.88	2921.02	2914	13	7.58E-02	6.3	
48	0	1729.27	13	0	1.94	3458.23	3452	11	3.61E-03	27.7	
49	0	1765.46*	19	7	0.67	3530.61	3522	12	5.31E-03	36.1	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JUN-2024 06:06:19

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289006.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: MXR1		
Sample date	: 22-MAY-2024 08:00:00	Acquisition date	: 20-JUN-2024 05:04:28
Sample ID	: G669289006	Sample quantity	: 125.47 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA32	Detector geometry	: CAN
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:00.63 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	259	10.66*	1.083E+00	1.344E+01	1.344E+01	12.57
CO-57	122.06	18	85.60*	6.035E+00	2.112E-02	2.274E-02	166.88
	136.47	------	10.68	6.005E+00	------ Line Not Found		------
CD-109	88.03	48	3.70*	4.705E+00	1.633E+00	1.705E+00	81.68
SN-126	64.28	------	9.60	2.113E+00	------ Line Not Found		------
	86.94	48	8.90	4.705E+00	6.789E-01	6.789E-01	81.68
	87.57	48	37.00*	4.705E+00	1.633E-01	1.633E-01	81.68
TL-208	277.37	------	6.60	4.072E+00	------ Line Not Found		------
	583.19	98	85.00*	2.397E+00	2.891E-01	2.891E-01	26.33
	860.56	17	12.50	1.735E+00	4.606E-01	4.606E-01	84.84
BI-211	72.87	------	1.23	3.214E+00	------ Line Not Found		------
	351.06	177	12.92*	3.448E+00	2.371E+00	2.371E+00	23.02
BI-212	727.33	23	6.67*	2.007E+00	1.019E+00	1.019E+00	84.37
	1620.50	------	1.47	1.006E+00	------ Line Not Found		------
PB-212	74.82	85	10.28	3.454E+00	1.427E+00	1.427E+00	48.10
	77.11	160	17.10	3.738E+00	1.496E+00	1.496E+00	27.56
	238.63	289	43.60*	4.516E+00	8.773E-01	8.773E-01	15.82
	300.09	------	3.30	3.855E+00	------ Line Not Found		------
BI-214	609.32	147	45.49*	2.317E+00	8.360E-01	8.361E-01	24.90
	1120.29	20	14.92	1.363E+00	5.747E-01	5.748E-01	85.94
	1764.49	18	15.30	9.594E-01	7.306E-01	7.306E-01	72.11
PB-214	74.82	85	5.80	3.454E+00	2.529E+00	2.529E+00	48.10
	77.11	160	9.70	3.738E+00	2.637E+00	2.637E+00	27.56
	87.09	48	3.41	4.705E+00	1.772E+00	1.772E+00	81.68
	242.00	73	7.25	4.476E+00	1.340E+00	1.340E+00	66.23
	295.22	120	18.42	3.897E+00	1.002E+00	1.002E+00	30.46
	351.93	177	35.60*	3.448E+00	8.604E-01	8.604E-01	23.02
RN-222	609.32	147	45.49*	2.317E+00	8.360E-01	8.361E-01	24.90
	1120.29	20	14.92	1.363E+00	5.747E-01	5.748E-01	85.94
	1764.49	18	15.30	9.594E-01	7.306E-01	7.306E-01	72.11
RA-224	240.99	73	4.10*	4.476E+00	2.370E+00	2.370E+00	66.23
RA-226	74.82	85	5.80	3.454E+00	2.529E+00	2.529E+00	48.10
	77.11	160	9.70	3.738E+00	2.637E+00	2.637E+00	27.56
	87.09	48	3.41	4.705E+00	1.772E+00	1.772E+00	81.68
	242.00	73	7.25	4.476E+00	1.340E+00	1.340E+00	66.23
	295.22	120	18.42	3.897E+00	1.002E+00	1.002E+00	30.46
	351.93	177	35.60*	3.448E+00	8.604E-01	8.604E-01	23.02
AC-228	105.21	------	1.10	5.728E+00	------ Line Not Found		------
	338.32	54	11.27	3.541E+00	8.098E-01	8.098E-01	66.56
	835.71	------	1.61	1.780E+00	------ Line Not Found		------
	911.20	51	25.80*	1.647E+00	7.246E-01	7.246E-01	62.93
	968.97	34	15.80	1.557E+00	8.217E-01	8.217E-01	69.60
RA-228	105.21	------	1.10	5.728E+00	------ Line Not Found		------
	338.32	54	11.27	3.541E+00	8.098E-01	8.098E-01	66.56
	835.71	------	1.61	1.780E+00	------ Line Not Found		------
	911.20	51	25.80*	1.647E+00	7.246E-01	7.246E-01	62.93
	968.97	34	15.80	1.557E+00	8.217E-01	8.217E-01	69.60
TH-228	74.82	85	10.28	3.454E+00	1.427E+00	1.427E+00	48.10
	77.11	160	17.10	3.738E+00	1.496E+00	1.496E+00	27.56

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	238.63	289	43.60*	4.516E+00	8.773E-01	8.773E-01	15.82
	300.09	------	3.30	3.855E+00	------ Line Not Found		------
TH-230	74.82	85	5.80	3.454E+00	2.529E+00	2.529E+00	48.10
	77.11	160	9.70	3.738E+00	2.637E+00	2.637E+00	27.56
	87.09	48	3.41	4.705E+00	1.772E+00	1.772E+00	81.68
	242.00	73	7.25	4.476E+00	1.340E+00	1.340E+00	66.23
	295.22	120	18.42	3.897E+00	1.002E+00	1.002E+00	30.46
	351.93	177	35.60*	3.448E+00	8.604E-01	8.604E-01	23.02
TH-232	105.21	------	1.10	5.728E+00	------ Line Not Found		------
	338.32	54	11.27	3.541E+00	8.098E-01	8.098E-01	66.56
	835.71	------	1.61	1.780E+00	------ Line Not Found		------
	911.20	51	25.80*	1.647E+00	7.246E-01	7.246E-01	62.93
	968.97	34	15.80	1.557E+00	8.217E-01	8.217E-01	69.60
U-234	74.82	85	5.80	3.454E+00	2.529E+00	2.529E+00	48.10
	77.11	160	9.70	3.738E+00	2.637E+00	2.637E+00	27.56
	87.09	48	3.41	4.705E+00	1.772E+00	1.772E+00	81.68
	242.00	73	7.25	4.476E+00	1.340E+00	1.340E+00	66.23
	295.22	120	18.42	3.897E+00	1.002E+00	1.002E+00	30.46
	351.93	177	35.60*	3.448E+00	8.604E-01	8.604E-01	23.02
U-235	89.96	26	3.47	4.932E+00	9.172E-01	9.172E-01	111.20
	93.35	53	5.60	5.123E+00	1.104E+00	1.104E+00	83.13
	143.76	------	10.96*	5.938E+00	------ Line Not Found		------
	163.33	------	5.08	5.667E+00	------ Line Not Found		------
	185.72	29	57.20	5.294E+00	5.762E-02	5.762E-02	119.34
	205.31	------	5.01	4.989E+00	------ Line Not Found		------
AM-243	43.53	------	5.90	1.776E-01	------ Line Not Found		------
	74.66	85	67.20*	3.454E+00	2.183E-01	2.183E-01	48.10
ANH-511	511.00	41	100.00*	2.645E+00	9.174E-02	9.174E-02	86.97

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:06:20.53

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289006.CNF;1    *
* Acquisition date : 20-JUN-2024 05:04:28 Sensitivity     : 3.000           *
* Detector ID      : GAM32                Energy tolerance: 1.500           *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 01:00:00.63     Half life ratio : *****           *
* Sample date      : 22-MAY-2024 08:00:00 Analyst initials: MXR1            *
* Sample ID        : G669289006           Sample Quantity : 1.2547E+02 GRAM  *
* Batch Number     : 2618905              Wet Weight      :    0.00000      *
* Wet wt corr      :    1.00000           Dry Weight      :    0.00000      *
* Nuclide Library  : SOLID.NLB;17                                           *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   : 17-JUL-2023 06:31:04 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM32_CAN.CNF;22            *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	1.344E+01	1.656E+00	6.775E-01
CO-57	2.274E-02	3.719E-02	4.224E-02
CD-109	1.705E+00	1.365E+00	1.321E+00
SN-126	1.633E-01	1.307E-01	1.430E-01
TL-208	2.891E-01	7.460E-02	5.593E-02
BI-211	2.371E+00	5.349E-01	3.455E-01
BI-212	1.019E+00	8.423E-01	8.237E-01
PB-212	8.773E-01	1.360E-01	9.936E-02
BI-214	8.361E-01	2.040E-01	1.472E-01
PB-214	8.604E-01	1.941E-01	1.257E-01
RN-222	8.361E-01	2.040E-01	1.472E-01
RA-224	2.370E+00	1.538E+00	1.065E+00
RA-226	8.604E-01	1.941E-01	1.257E-01
AC-228	7.246E-01	4.469E-01	2.493E-01
RA-228	7.246E-01	4.469E-01	2.493E-01
TH-228	8.773E-01	1.360E-01	9.936E-02
TH-230	8.604E-01	1.941E-01	1.256E-01
TH-232	7.246E-01	4.469E-01	2.493E-01
U-234	8.604E-01	1.941E-01	1.256E-01
U-235	1.288E-02	1.993E-01	3.517E-01
AM-243	2.183E-01	1.029E-01	1.152E-01
ANH-511	9.174E-02	7.820E-02	5.300E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	3.493E-01	3.936E-01	8.415E-01	NOT IDENT.
NA-22	-2.405E-02	4.346E-02	7.835E-02	NOT IDENT.
NA-24	0.000E+00	2.052E+12	0.000E+00	SHORT HLIF
AL-26	-1.046E-02	2.767E-02	5.357E-02	NOT IDENT.
SC-46	-2.907E-02	3.963E-02	6.405E-02	FAIL ABUN
V-48	1.660E-02	1.164E-01	2.327E-01	NOT IDENT.
CR-51	9.539E-03	4.863E-01	9.610E-01	NOT IDENT.
MN-52	-7.640E-01	1.427E+00	2.568E+00	NOT IDENT.

MN-54	-1.934E-02	3.415E-02	5.834E-02	NOT IDENT.
CO-56	-1.390E-02	4.720E-02	8.491E-02	NOT IDENT.
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-58	1.743E-02	4.055E-02	8.510E-02	NOT IDENT.
FE-59	-3.595E-02	1.340E-01	2.222E-01	NOT IDENT.
CO-60	-4.706E-04	2.780E-02	6.085E-02	NOT IDENT.
ZN-65	-1.607E-02	8.887E-02	1.531E-01	NOT IDENT.
GE-68	1.311E+00	8.446E-01	2.396E+00	NOT IDENT.
AS-73	-6.634E-02	1.572E+00	3.062E+00	NOT IDENT.
AS-74	4.869E-02	1.603E-01	3.212E-01	NOT IDENT.
SE-75	4.656E-02	5.134E-02	1.010E-01	NOT IDENT.
BR-77	0.000E+00	1.174E+03	0.000E+00	SHORT HLIF
SR-82	-2.073E-01	4.707E-01	8.324E-01	NOT IDENT.
RB-83	1.345E-01	1.053E-01	1.577E-01	FAIL ABUN
RB-84	-1.902E-02	8.656E-02	1.599E-01	NOT IDENT.
KR-85	2.491E+00	6.727E+00	1.360E+01	NOT IDENT.
SR-85	1.516E-02	4.119E-02	8.327E-02	NOT IDENT.
RB-86	1.617E+00	9.444E-01	2.640E+00	NOT IDENT.
Y-88	1.258E-02	1.931E-02	6.645E-02	NOT IDENT.
Y-91	4.328E+00	2.110E+01	4.455E+01	NOT IDENT.
NB-94	-1.813E-03	3.521E-02	6.631E-02	NOT IDENT.
NB-95	-5.035E-02	5.512E-02	7.261E-02	NOT IDENT.
NB-95M	2.272E-03	1.629E-01	2.670E-01	NOT IDENT.
ZR-95	3.532E-02	8.514E-02	1.732E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.229E+12	0.000E+00	SHORT HLIF
MO-99	0.000E+00	3.560E+02	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	1.921E+33	0.000E+00	SHORT HLIF
RH-101	-2.829E-02	3.496E-02	5.420E-02	NOT IDENT.
RH-102	4.478E-02	4.597E-02	1.050E-01	NOT IDENT.
RU-103	1.072E-03	4.994E-02	9.742E-02	FAIL ABUN
RH-106	-2.072E-02	2.784E-01	5.400E-01	NOT IDENT.
RU-106	-2.072E-02	2.784E-01	5.400E-01	NOT IDENT.
AG-108M	3.093E-03	2.640E-02	5.286E-02	NOT IDENT.
AG-110	-5.067E-02	6.121E-01	1.192E+00	NOT IDENT.
AG-110M	2.659E-03	5.118E-02	9.911E-02	NOT IDENT.
SN-113	3.640E-02	3.842E-02	8.603E-02	NOT IDENT.
CD-115	0.000E+00	5.821E+02	0.000E+00	SHORT HLIF
SN-117M	-4.848E-02	1.163E-01	1.862E-01	FAIL ABUN
SB-122	0.000E+00	6.164E+01	0.000E+00	SHORT HLIF
TE-123M	-1.164E-02	2.943E-02	5.175E-02	NOT IDENT.
SB-124	-1.044E-02	9.894E-02	2.056E-01	NOT IDENT.
SB-125	-6.867E-02	9.632E-02	1.479E-01	FAIL ABUN
TE-125M	6.327E+00	1.087E+01	2.135E+01	NOT IDENT.
I-126	6.623E-02	4.769E-01	9.281E-01	NOT IDENT.
SB-126	1.676E-01	2.817E-01	5.649E-01	NOT IDENT.
SB-127	-9.823E+00	1.377E+01	2.326E+01	NOT IDENT.
I-131	-5.721E-02	2.804E-01	5.511E-01	FAIL ABUN
I-132	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
TE-132	4.731E-01	1.344E+01	2.437E+01	NOT IDENT.
BA-133	-2.490E-02	4.394E-02	7.131E-02	NOT IDENT.
I-133	0.000E+00	2.927E+08	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.495E-02	1.050E-01	FAIL ABUN
I-135	0.000E+00	7.741E+30	0.000E+00	SHORT HLIF
CS-136	-1.693E-02	2.251E-01	4.009E-01	FAIL ABUN
BA-137M	1.269E-02	3.601E-02	7.246E-02	NOT IDENT.
CS-137	1.341E-02	3.804E-02	7.655E-02	NOT IDENT.
LA-138	8.047E-03	5.361E-02	1.166E-01	NOT IDENT.
CE-139	2.285E-02	3.060E-02	5.982E-02	NOT IDENT.
BA-140	4.193E-01	4.830E-01	1.074E+00	NOT IDENT.
LA-140	-2.775E-01	2.316E-01	3.190E-01	NOT IDENT.
CE-141	6.443E-02	7.736E-02	1.533E-01	NOT IDENT.
CE-143	0.000E+00	1.364E+05	0.000E+00	SHORT HLIF
CE-144	-1.130E-01	2.113E-01	3.696E-01	NOT IDENT.
PM-144	6.839E-03	4.126E-02	7.909E-02	NOT IDENT.
PR-144	5.155E-01	3.110E+00	5.962E+00	NOT IDENT.
PM-146	8.578E-03	3.837E-02	7.763E-02	NOT IDENT.
ND-147	-1.592E+00	1.136E+00	1.669E+00	FAIL ABUN
PM-147	-1.999E+02	6.979E+02	1.165E+03	NOT IDENT.
PM-149	0.000E+00	1.143E+04	0.000E+00	SHORT HLIF
EU-150	1.760E-02	2.723E-02	5.264E-02	FAIL ABUN
EU-152	-1.218E-02	8.643E-02	1.682E-01	NOT IDENT.
GD-153	-4.423E-02	8.192E-02	1.467E-01	NOT IDENT.
EU-154	-7.050E-02	1.216E-01	2.180E-01	FAIL ABUN
EU-155	9.102E-03	1.009E-01	1.906E-01	FAIL ABUN
TB-160	-8.882E-02	1.449E-01	2.431E-01	FAIL ABUN
HO-166M	2.808E-02	5.377E-02	1.068E-01	NOT IDENT.
TM-171	-7.599E+00	3.083E+01	5.905E+01	NOT IDENT.

HF-172	-1.357E-01	2.006E-01	3.164E-01	FAIL ABUN
LU-172	8.780E-02	1.038E-01	1.460E-01	FAIL ABUN
LU-176	-1.575E-02	2.813E-02	4.621E-02	FAIL ABUN
HF-181	3.635E-02	5.212E-02	1.109E-01	NOT IDENT.
TA-182	-5.344E-02	2.256E-01	4.266E-01	FAIL ABUN
RE-183	-2.422E-01	3.188E-01	5.763E-01	NOT IDENT.
RE-184	1.482E-01	1.845E-01	3.707E-01	NOT IDENT.
W-188	-3.855E+00	9.589E+00	1.464E+01	NOT IDENT.
IR-192	1.582E-02	3.494E-02	7.258E-02	FAIL ABUN
HG-203	1.146E-02	4.258E-02	7.465E-02	NOT IDENT.
TL-204	-6.754E+00	6.335E+00	9.975E+00	NOT IDENT.
BI-207	-9.002E-03	5.193E-02	1.022E-01	FAIL ABUN
BI-210	-7.524E-01	7.994E+00	1.548E+01	NOT IDENT.
PB-210	-7.524E-01	7.994E+00	1.548E+01	NOT IDENT.
PB-211	-3.039E-01	6.448E-01	1.193E+00	FAIL ABUN
BI-213	5.567E-02	9.154E-02	1.948E-01	NOT IDENT.
RN-219	3.880E-01	3.978E-01	8.566E-01	FAIL ABUN
RA-223	-3.364E-01	6.147E-01	1.139E+00	FAIL ABUN
AC-225	1.241E+00	1.341E+00	2.706E+00	NOT IDENT.
AC-227	2.987E-03	2.401E-01	4.336E-01	NOT IDENT.
TH-227	2.987E-03	2.401E-01	4.336E-01	NOT IDENT.
TH-229	-3.185E-01	5.203E-01	8.802E-01	FAIL ABUN
PA-231	-9.071E-02	4.757E-01	9.147E-01	FAIL ABUN
TH-231	-3.364E-01	6.147E-01	1.139E+00	FAIL ABUN
PA-233	-3.659E-03	5.963E-02	1.064E-01	NOT IDENT.
PA-234	-5.520E-02	3.102E-01	5.693E-01	NOT IDENT.
PA-234M	4.252E+00	4.612E+00	1.020E+01	FAIL ABUN
TH-234	-2.444E-01	1.696E+00	3.310E+00	FAIL ABUN
NP-237	-3.659E-03	5.963E-02	1.064E-01	NOT IDENT.
NP-238	0.000E+00	1.502E+03	0.000E+00	SHORT HLIF
U-238	-2.444E-01	1.696E+00	3.310E+00	FAIL ABUN
NP-239	-1.003E-01	2.507E-01	4.500E-01	NOT IDENT.
PU-239	1.927E+01	3.459E+02	6.395E+02	NOT IDENT.
AM-241	-2.216E-02	1.859E-01	3.592E-01	NOT IDENT.
CM-243	7.839E-03	1.037E-01	1.955E-01	NOT IDENT.
BK-247	6.376E-02	9.462E-02	1.692E-01	FAIL ABUN
CM-247	2.749E-02	3.789E-02	7.921E-02	NOT IDENT.
CF-249	2.635E-03	3.177E-02	6.423E-02	NOT IDENT.
CF-251	5.059E-02	1.294E-01	2.436E-01	FAIL ABUN

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:06:19.07

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	259	10.66*	1.083E+00	1.344E+01	1.344E+01	12.57
CO-57	122.06	18	85.60*	6.035E+00	2.112E-02	2.274E-02	166.88
	136.47	------	10.68	6.005E+00	------ Line Not Found		------
CD-109	88.03	48	3.70*	4.705E+00	1.633E+00	1.705E+00	81.68
SN-126	64.28	------	9.60	2.113E+00	------ Line Not Found		------
	86.94	48	8.90	4.705E+00	6.789E-01	6.789E-01	81.68
	87.57	48	37.00*	4.705E+00	1.633E-01	1.633E-01	81.68
TL-208	277.37	------	6.60	4.072E+00	------ Line Not Found		------
	583.19	98	85.00*	2.397E+00	2.891E-01	2.891E-01	26.33
	860.56	17	12.50	1.735E+00	4.606E-01	4.606E-01	84.84
BI-211	72.87	------	1.23	3.214E+00	------ Line Not Found		------
	351.06	177	12.92*	3.448E+00	2.371E+00	2.371E+00	23.02
BI-212	727.33	23	6.67*	2.007E+00	1.019E+00	1.019E+00	84.37
	1620.50	------	1.47	1.006E+00	------ Line Not Found		------
PB-212	74.82	85	10.28	3.454E+00	1.427E+00	1.427E+00	48.10
	77.11	160	17.10	3.738E+00	1.496E+00	1.496E+00	27.56
	238.63	289	43.60*	4.516E+00	8.773E-01	8.773E-01	15.82
	300.09	------	3.30	3.855E+00	------ Line Not Found		------
BI-214	609.32	147	45.49*	2.317E+00	8.360E-01	8.361E-01	24.90
	1120.29	20	14.92	1.363E+00	5.747E-01	5.748E-01	85.94
	1764.49	18	15.30	9.594E-01	7.306E-01	7.306E-01	72.11
PB-214	74.82	85	5.80	3.454E+00	2.529E+00	2.529E+00	48.10
	77.11	160	9.70	3.738E+00	2.637E+00	2.637E+00	27.56
	87.09	48	3.41	4.705E+00	1.772E+00	1.772E+00	81.68
	242.00	73	7.25	4.476E+00	1.340E+00	1.340E+00	66.23
	295.22	120	18.42	3.897E+00	1.002E+00	1.002E+00	30.46
	351.93	177	35.60*	3.448E+00	8.604E-01	8.604E-01	23.02
RN-222	609.32	147	45.49*	2.317E+00	8.360E-01	8.361E-01	24.90
	1120.29	20	14.92	1.363E+00	5.747E-01	5.748E-01	85.94
	1764.49	18	15.30	9.594E-01	7.306E-01	7.306E-01	72.11
RA-224	240.99	73	4.10*	4.476E+00	2.370E+00	2.370E+00	66.23
RA-226	74.82	85	5.80	3.454E+00	2.529E+00	2.529E+00	48.10
	77.11	160	9.70	3.738E+00	2.637E+00	2.637E+00	27.56
	87.09	48	3.41	4.705E+00	1.772E+00	1.772E+00	81.68
	242.00	73	7.25	4.476E+00	1.340E+00	1.340E+00	66.23
	295.22	120	18.42	3.897E+00	1.002E+00	1.002E+00	30.46
	351.93	177	35.60*	3.448E+00	8.604E-01	8.604E-01	23.02
AC-228	105.21	------	1.10	5.728E+00	------ Line Not Found		------
	338.32	54	11.27	3.541E+00	8.098E-01	8.098E-01	66.56
	835.71	------	1.61	1.780E+00	------ Line Not Found		------
	911.20	51	25.80*	1.647E+00	7.246E-01	7.246E-01	62.93
	968.97	34	15.80	1.557E+00	8.217E-01	8.217E-01	69.60
RA-228	105.21	------	1.10	5.728E+00	------ Line Not Found		------
	338.32	54	11.27	3.541E+00	8.098E-01	8.098E-01	66.56
	835.71	------	1.61	1.780E+00	------ Line Not Found		------
	911.20	51	25.80*	1.647E+00	7.246E-01	7.246E-01	62.93
	968.97	34	15.80	1.557E+00	8.217E-01	8.217E-01	69.60

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-228	74.82	85	10.28	3.454E+00	1.427E+00	1.427E+00	48.10
	77.11	160	17.10	3.738E+00	1.496E+00	1.496E+00	27.56
	238.63	289	43.60*	4.516E+00	8.773E-01	8.773E-01	15.82
	300.09	------	3.30	3.855E+00	------ Line Not Found		------
TH-230	74.82	85	5.80	3.454E+00	2.529E+00	2.529E+00	48.10
	77.11	160	9.70	3.738E+00	2.637E+00	2.637E+00	27.56
	87.09	48	3.41	4.705E+00	1.772E+00	1.772E+00	81.68
	242.00	73	7.25	4.476E+00	1.340E+00	1.340E+00	66.23
	295.22	120	18.42	3.897E+00	1.002E+00	1.002E+00	30.46
	351.93	177	35.60*	3.448E+00	8.604E-01	8.604E-01	23.02
TH-232	105.21	------	1.10	5.728E+00	------ Line Not Found		------
	338.32	54	11.27	3.541E+00	8.098E-01	8.098E-01	66.56
	835.71	------	1.61	1.780E+00	------ Line Not Found		------
	911.20	51	25.80*	1.647E+00	7.246E-01	7.246E-01	62.93
	968.97	34	15.80	1.557E+00	8.217E-01	8.217E-01	69.60
U-234	74.82	85	5.80	3.454E+00	2.529E+00	2.529E+00	48.10
	77.11	160	9.70	3.738E+00	2.637E+00	2.637E+00	27.56
	87.09	48	3.41	4.705E+00	1.772E+00	1.772E+00	81.68
	242.00	73	7.25	4.476E+00	1.340E+00	1.340E+00	66.23
	295.22	120	18.42	3.897E+00	1.002E+00	1.002E+00	30.46
	351.93	177	35.60*	3.448E+00	8.604E-01	8.604E-01	23.02
U-235	89.96	26	3.47	4.932E+00	9.172E-01	9.172E-01	111.20
	93.35	53	5.60	5.123E+00	1.104E+00	1.104E+00	83.13
	143.76	------	10.96*	5.938E+00	------ Line Not Found		------
	163.33	------	5.08	5.667E+00	------ Line Not Found		------
	185.72	29	57.20	5.294E+00	5.762E-02	5.762E-02	119.34
	205.31	------	5.01	4.989E+00	------ Line Not Found		------
AM-243	43.53	------	5.90	1.776E-01	------ Line Not Found		------
	74.66	85	67.20*	3.454E+00	2.183E-01	2.183E-01	48.10
ANH-511	511.00	41	100.00*	2.645E+00	9.174E-02	9.174E-02	86.97

Flag: "*" = Keyline

Sample ID : G669289006 Acquisition date : 20-JUN-2024 05:04:28

Total number of lines in spectrum	49	
Number of unidentified lines	13	
Number of lines tentatively identified by NID	36	73.47%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	1.344E+01	1.344E+01	0.169E+01	12.57	
CO-57	271.74D	1.08	2.112E-02	2.274E-02	3.795E-02	166.88	
CD-109	461.40D	1.04	1.633E+00	1.705E+00	1.393E+00	81.68	
SN-126	2.30E+05Y	1.00	1.633E-01	1.633E-01	1.334E-01	81.68	
TL-208	1.41E+10Y	1.00	2.891E-01	2.891E-01	0.761E-01	26.33	
BI-211	7.04E+08Y	1.00	2.371E+00	2.371E+00	0.546E+00	23.02	
BI-212	1.41E+10Y	1.00	1.019E+00	1.019E+00	0.860E+00	84.37	
PB-212	1.41E+10Y	1.00	8.773E-01	8.773E-01	1.388E-01	15.82	
BI-214	1600.00Y	1.00	8.360E-01	8.361E-01	2.082E-01	24.90	
PB-214	1600.00Y	1.00	8.604E-01	8.604E-01	1.981E-01	23.02	
RN-222	1600.00Y	1.00	8.360E-01	8.361E-01	2.082E-01	24.90	
RA-224	1.41E+10Y	1.00	2.370E+00	2.370E+00	1.570E+00	66.23	
RA-226	1600.00Y	1.00	8.604E-01	8.604E-01	1.981E-01	23.02	
AC-228	1.41E+10Y	1.00	7.246E-01	7.246E-01	4.560E-01	62.93	
RA-228	1.41E+10Y	1.00	7.246E-01	7.246E-01	4.560E-01	62.93	
TH-228	1.41E+10Y	1.00	8.773E-01	8.773E-01	1.388E-01	15.82	
TH-230	7.54E+04Y	1.00	8.604E-01	8.604E-01	1.981E-01	23.02	
TH-232	1.41E+10Y	1.00	7.246E-01	7.246E-01	4.560E-01	62.93	
U-234	2.45E+05Y	1.00	8.604E-01	8.604E-01	1.981E-01	23.02	
U-235	7.04E+08Y	1.00	5.762E-02	5.762E-02	6.876E-02	119.34	K
AM-243	7370.00Y	1.00	2.183E-01	2.183E-01	1.050E-01	48.10	
ANH-511	1.00E+09Y	1.00	9.174E-02	9.174E-02	7.979E-02	86.97	
			---	---			
Total Activity :			3.071E+01	3.079E+01			

Grand Total Activity :	3.071E+01	3.079E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G669289006 Acquisition date : 20-JUN-2024 05:04:28

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	140.47	41	76	2.60	280.43	276	9	1.04E-02	88.6	5.97E+00	T
0	154.65	32	103	1.01	308.79	303	10	8.06E-03	****	5.80E+00	T
0	210.12	14	64	1.32	419.72	415	7	3.56E-03	****	4.92E+00	T
0	269.95	55	52	2.00	539.40	534	11	1.44E-02	59.3	4.15E+00	T
6	282.26	33	17	1.68	564.01	561	14	8.71E-03	52.5	4.02E+00	
6	284.78	16	36	2.00	569.05	561	14	4.30E-03	****	4.00E+00	T
0	309.36	17	16	1.23	618.22	615	6	4.51E-03	92.7	3.77E+00	T
0	425.82	16	22	0.92	851.14	845	9	4.47E-03	****	3.02E+00	T
0	463.56	10	34	1.10	926.63	924	8	2.73E-03	****	2.84E+00	T
0	521.39	21	11	2.64	1042.29	1036	12	5.74E-03	79.8	2.61E+00	T
0	525.43	14	4	1.85	1050.37	1047	7	3.75E-03	71.2	2.59E+00	
0	547.94	10	17	1.40	1095.39	1087	10	2.70E-03	****	2.51E+00	T
0	640.12	19	2	0.97	1279.75	1275	10	5.21E-03	55.6	2.23E+00	
0	644.40	4	6	0.53	1288.32	1284	6	1.06E-03	****	2.22E+00	
0	713.49	12	9	0.51	1426.50	1421	9	3.33E-03	****	2.04E+00	
0	769.16	16	27	1.47	1537.85	1531	15	4.42E-03	****	1.91E+00	
0	795.12	30	6	1.66	1589.77	1584	12	8.33E-03	49.0	1.86E+00	T
0	1001.57	9	4	1.24	2002.69	1999	7	2.58E-03	****	1.51E+00	T
0	1029.19	10	7	2.88	2057.94	2048	13	2.81E-03	****	1.47E+00	T
0	1044.27	9	3	1.31	2088.11	2085	6	2.59E-03	87.0	1.45E+00	
0	1054.97	17	0	2.35	2109.50	2105	10	5.00E-03	47.1	1.44E+00	
0	1075.48	9	4	0.77	2150.53	2146	7	2.59E-03	94.0	1.41E+00	
0	1082.65	7	4	0.64	2164.87	2160	9	2.08E-03	****	1.41E+00	
0	1094.70	12	11	1.34	2188.98	2184	14	3.59E-03	****	1.39E+00	T
0	1137.64	10	3	4.30	2274.85	2269	11	2.82E-03	89.3	1.34E+00	
0	1300.52	10	6	1.08	2600.65	2593	12	2.85E-03	****	1.19E+00	
0	1729.27	12	0	1.94	3458.23	3452	11	3.61E-03	55.5	9.69E-01	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:06:31.13

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289006.CNF;1		
Acquisition date	: 20-JUN-2024 05:04:28	Sensitivity	: 3.000
Detector ID	: GAM32	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.63	Half life ratio	: *****
Sample date	: 22-MAY-2024 08:00:00	Nuclide Library	: SOLID
Sample ID	: G669289006	Analyst initials	: MXR1
Batch Number	: 2618905	Sample Quantity	: 1.2547E+02 GRAM
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 17-JUL-2023 06:31:04	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM32_CAN.CNF;22		

Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	2.687E-01
CO-57	1.938E-02
CD-109	6.109E-01
SN-126	6.673E-02
TL-208	2.395E-02
BI-211	1.543E-01
BI-212	3.509E-01
PB-212	4.549E-02
BI-214	6.584E-02
PB-214	5.613E-02
RN-222	6.584E-02
RA-224	4.875E-01
RA-226	5.613E-02
AC-228	1.055E-01
RA-228	1.055E-01
TH-228	4.549E-02
TH-230	5.612E-02
TH-232	1.055E-01
U-234	5.612E-02
U-235	1.631E-01
AM-243	5.396E-02
ANH-511	2.341E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	3.797E-01	NOT IDENT.
NA-22	3.235E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	1.827E-02	NOT IDENT.
SC-46	2.588E-02	FAIL ABUN
V-48	9.780E-02	NOT IDENT.
CR-51	4.340E-01	NOT IDENT.
MN-52	1.019E+00	NOT IDENT.
MN-54	2.429E-02	NOT IDENT.

CO-56	3.646E-02	NOT IDENT.
MN-56	0.000E+00	SHORT HLIF
CO-58	3.661E-02	NOT IDENT.
FE-59	9.487E-02	NOT IDENT.
CO-60	2.341E-02	NOT IDENT.
ZN-65	6.380E-02	NOT IDENT.
GE-68	1.006E+00	NOT IDENT.
AS-73	1.407E+00	NOT IDENT.
AS-74	1.425E-01	NOT IDENT.
SE-75	4.655E-02	NOT IDENT.
BR-77	0.000E+00	SHORT HLIF
SR-82	3.534E-01	NOT IDENT.
RB-83	7.004E-02	FAIL ABUN
RB-84	6.713E-02	NOT IDENT.
KR-85	6.081E+00	NOT IDENT.
SR-85	3.723E-02	NOT IDENT.
RB-86	1.125E+00	NOT IDENT.
Y-88	2.283E-02	NOT IDENT.
Y-91	1.883E+01	NOT IDENT.
NB-94	2.920E-02	NOT IDENT.
NB-95	3.049E-02	NOT IDENT.
NB-95M	1.235E-01	NOT IDENT.
ZR-95	7.607E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	2.504E-02	NOT IDENT.
RH-102	4.593E-02	NOT IDENT.
RU-103	4.316E-02	FAIL ABUN
RH-106	2.319E-01	NOT IDENT.
RU-106	2.319E-01	NOT IDENT.
AG-108M	2.338E-02	NOT IDENT.
AG-110	5.058E-01	NOT IDENT.
AG-110M	4.239E-02	NOT IDENT.
SN-113	3.831E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	8.581E-02	FAIL ABUN
SB-122	0.000E+00	SHORT HLIF
TE-123M	2.384E-02	NOT IDENT.
SB-124	7.868E-02	NOT IDENT.
SB-125	6.459E-02	FAIL ABUN
TE-125M	9.925E+00	NOT IDENT.
I-126	4.100E-01	NOT IDENT.
SB-126	2.445E-01	NOT IDENT.
SB-127	9.715E+00	NOT IDENT.
I-131	2.392E-01	FAIL ABUN
I-132	0.000E+00	SHORT HLIF
TE-132	1.113E+01	NOT IDENT.
BA-133	3.176E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	4.724E-02	FAIL ABUN
I-135	0.000E+00	SHORT HLIF
CS-136	1.684E-01	FAIL ABUN
BA-137M	3.204E-02	NOT IDENT.
CS-137	3.385E-02	NOT IDENT.
LA-138	4.705E-02	NOT IDENT.
CE-139	2.778E-02	NOT IDENT.
BA-140	4.735E-01	NOT IDENT.
LA-140	1.194E-01	NOT IDENT.
CE-141	7.125E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	1.714E-01	NOT IDENT.
PM-144	3.538E-02	NOT IDENT.
PR-144	2.667E+00	NOT IDENT.
PM-146	3.440E-02	NOT IDENT.
ND-147	6.837E-01	FAIL ABUN
PM-147	5.331E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	2.392E-02	FAIL ABUN
EU-152	7.521E-02	NOT IDENT.
GD-153	6.754E-02	NOT IDENT.
EU-154	8.982E-02	FAIL ABUN
EU-155	8.830E-02	FAIL ABUN
TB-160	1.006E-01	FAIL ABUN
HO-166M	4.605E-02	NOT IDENT.
TM-171	2.705E+01	NOT IDENT.
HF-172	1.456E-01	FAIL ABUN

LU-172	6.349E-02	FAIL ABUN
LU-176	2.079E-02	FAIL ABUN
HF-181	4.952E-02	NOT IDENT.
TA-182	1.849E-01	FAIL ABUN
RE-183	2.636E-01	NOT IDENT.
RE-184	1.627E-01	NOT IDENT.
W-188	6.629E+00	NOT IDENT.
IR-192	3.278E-02	FAIL ABUN
HG-203	3.349E-02	NOT IDENT.
TL-204	4.623E+00	NOT IDENT.
BI-207	4.345E-02	FAIL ABUN
BI-210	7.110E+00	NOT IDENT.
PB-210	7.110E+00	NOT IDENT.
PB-211	5.269E-01	FAIL ABUN
BI-213	8.666E-02	NOT IDENT.
RN-219	3.888E-01	FAIL ABUN
RA-223	5.131E-01	FAIL ABUN
AC-225	1.241E+00	NOT IDENT.
AC-227	1.966E-01	NOT IDENT.
TH-227	1.966E-01	NOT IDENT.
TH-229	4.038E-01	FAIL ABUN
PA-231	4.173E-01	FAIL ABUN
TH-231	5.131E-01	FAIL ABUN
PA-233	4.748E-02	NOT IDENT.
PA-234	2.421E-01	NOT IDENT.
PA-234M	4.461E+00	FAIL ABUN
TH-234	1.541E+00	FAIL ABUN
NP-237	4.748E-02	NOT IDENT.
NP-238	0.000E+00	SHORT HLIF
U-238	1.541E+00	FAIL ABUN
NP-239	2.074E-01	NOT IDENT.
PU-239	2.979E+02	NOT IDENT.
AM-241	1.642E-01	NOT IDENT.
CM-243	9.068E-02	NOT IDENT.
BK-247	7.805E-02	FAIL ABUN
CM-247	3.598E-02	NOT IDENT.
CF-249	2.825E-02	NOT IDENT.
CF-251	1.130E-01	FAIL ABUN

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:06:35.22

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289006.CNF;1		
Acquisition date	: 20-JUN-2024 05:04:28	Sensitivity	: 3.000
Detector ID	: GAM32	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.63	Half life ratio	: *****
Sample date	: 22-MAY-2024 08:00:00	Nuclide Library	: SOLID
Sample ID	: G669289006	Analyst initials	: MXR1
Batch Number	: 2618905	Sample Quantity	: 1.2547E+02 GRAM
		Quantity Err(%)	: 1.5940E-03 %
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 17-JUL-2023 06:31:04	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM32_CAN.CNF;22		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	1.344E+01	2.106E+00	2.106E+00
CO-57	2.274E-02	3.723E-02	3.723E-02
CD-109	1.705E+00	1.381E+00	1.381E+00
SN-126	1.633E-01	1.319E-01	1.319E-01
TL-208	2.891E-01	7.870E-02	7.870E-02
BI-211	2.371E+00	5.690E-01	5.690E-01
BI-212	1.019E+00	8.475E-01	8.475E-01
PB-212	8.773E-01	1.562E-01	1.562E-01
BI-214	8.361E-01	2.164E-01	2.164E-01
PB-214	8.604E-01	2.061E-01	2.061E-01
RN-222	8.361E-01	2.164E-01	2.164E-01
RA-224	2.370E+00	1.552E+00	1.552E+00
RA-226	8.604E-01	2.061E-01	2.061E-01
AC-228	7.246E-01	4.527E-01	4.527E-01
RA-228	7.246E-01	4.527E-01	4.527E-01
TH-228	8.773E-01	1.562E-01	1.562E-01
TH-230	8.604E-01	2.060E-01	2.060E-01
TH-232	7.246E-01	4.527E-01	4.527E-01
U-234	8.604E-01	2.060E-01	2.060E-01
U-235	1.288E-02	1.993E-01	1.993E-01
AM-243	2.183E-01	1.056E-01	1.056E-01
ANH-511	9.174E-02	7.860E-02	7.860E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	3.493E-01	3.948E-01	4.250E-01	NOT IDENT.
NA-22	-2.405E-02	4.351E-02	4.484E-02	NOT IDENT.
NA-24	-8.239E+11	2.054E+12	2.087E+12	SHORT HLIF
AL-26	-1.046E-02	2.768E-02	2.808E-02	NOT IDENT.
SC-46	-2.907E-02	3.972E-02	4.183E-02	FAIL ABUN
V-48	1.660E-02	1.164E-01	1.166E-01	NOT IDENT.
CR-51	9.539E-03	4.863E-01	4.863E-01	NOT IDENT.
MN-52	-7.640E-01	1.429E+00	1.470E+00	NOT IDENT.

MN-54	-1.934E-02	3.420E-02	3.530E-02	NOT IDENT.
CO-56	-1.390E-02	4.722E-02	4.763E-02	NOT IDENT.
MN-56	-1.000E+41	3.444E+41	0.000E+00	SHORT HLIF
CO-58	1.743E-02	4.058E-02	4.134E-02	NOT IDENT.
FE-59	-3.595E-02	1.340E-01	1.350E-01	NOT IDENT.
CO-60	-4.706E-04	2.780E-02	2.780E-02	NOT IDENT.
ZN-65	-1.607E-02	8.888E-02	8.918E-02	NOT IDENT.
GE-68	1.311E+00	8.524E-01	1.037E+00	NOT IDENT.
AS-73	-6.634E-02	1.572E+00	1.572E+00	NOT IDENT.
AS-74	4.869E-02	1.603E-01	1.618E-01	NOT IDENT.
SE-75	4.656E-02	5.147E-02	5.559E-02	NOT IDENT.
BR-77	7.575E+03	6.458E+03	7.305E+03	SHORT HLIF
SR-82	-2.073E-01	4.711E-01	4.803E-01	NOT IDENT.
RB-83	1.345E-01	1.073E-01	1.233E-01	FAIL ABUN
RB-84	-1.902E-02	8.658E-02	8.700E-02	NOT IDENT.
KR-85	2.491E+00	6.731E+00	6.824E+00	NOT IDENT.
SR-85	1.516E-02	4.121E-02	4.178E-02	NOT IDENT.
RB-86	1.617E+00	9.551E-01	1.202E+00	NOT IDENT.
Y-88	1.258E-02	1.933E-02	2.015E-02	NOT IDENT.
Y-91	4.328E+00	2.111E+01	2.120E+01	NOT IDENT.
NB-94	-1.813E-03	3.521E-02	3.522E-02	NOT IDENT.
NB-95	-5.035E-02	5.531E-02	5.978E-02	NOT IDENT.
NB-95M	2.272E-03	1.629E-01	1.629E-01	NOT IDENT.
ZR-95	3.532E-02	8.520E-02	8.667E-02	NOT IDENT.
NB-97	-1.000E+41	8.932E+41	0.000E+00	SHORT HLIF
ZR-97	3.816E+11	1.229E+12	1.241E+12	SHORT HLIF
MO-99	9.342E+01	3.561E+02	3.586E+02	SHORT HLIF
TC-99M	2.213E+33	1.941E+33	0.000E+00	SHORT HLIF
RH-101	-2.829E-02	3.538E-02	3.761E-02	NOT IDENT.
RH-102	4.478E-02	4.624E-02	5.045E-02	NOT IDENT.
RU-103	1.072E-03	4.994E-02	4.994E-02	FAIL ABUN
RH-106	-2.072E-02	2.784E-01	2.785E-01	NOT IDENT.
RU-106	-2.072E-02	2.784E-01	2.785E-01	NOT IDENT.
AG-108M	3.093E-03	2.640E-02	2.644E-02	NOT IDENT.
AG-110	-5.067E-02	6.121E-01	6.125E-01	NOT IDENT.
AG-110M	2.659E-03	5.118E-02	5.119E-02	NOT IDENT.
SN-113	3.640E-02	3.854E-02	4.189E-02	NOT IDENT.
CD-115	5.752E+02	5.849E+02	6.398E+02	SHORT HLIF
SN-117M	-4.848E-02	1.163E-01	1.184E-01	FAIL ABUN
SB-122	5.341E+01	6.181E+01	6.633E+01	SHORT HLIF
TE-123M	-1.164E-02	2.945E-02	2.992E-02	NOT IDENT.
SB-124	-1.044E-02	9.895E-02	9.906E-02	NOT IDENT.
SB-125	-6.867E-02	9.650E-02	1.013E-01	FAIL ABUN
TE-125M	6.327E+00	1.088E+01	1.125E+01	NOT IDENT.
I-126	6.623E-02	4.770E-01	4.779E-01	NOT IDENT.
SB-126	1.676E-01	2.825E-01	2.925E-01	NOT IDENT.
SB-127	-9.823E+00	1.386E+01	1.455E+01	NOT IDENT.
I-131	-5.721E-02	2.804E-01	2.816E-01	FAIL ABUN
I-132	1.000E+41	4.773E+41	0.000E+00	SHORT HLIF
TE-132	4.731E-01	1.344E+01	1.344E+01	NOT IDENT.
BA-133	-2.490E-02	4.398E-02	4.539E-02	NOT IDENT.
I-133	-4.369E+07	2.928E+08	2.935E+08	SHORT HLIF
CS-134	1.144E-01	5.593E-02	7.609E-02	FAIL ABUN
I-135	-3.199E+30	8.025E+30	0.000E+00	SHORT HLIF
CS-136	-1.693E-02	2.251E-01	2.252E-01	FAIL ABUN
BA-137M	1.269E-02	3.602E-02	3.647E-02	NOT IDENT.
CS-137	1.341E-02	3.805E-02	3.853E-02	NOT IDENT.
LA-138	8.047E-03	5.362E-02	5.374E-02	NOT IDENT.
CE-139	2.285E-02	3.100E-02	3.267E-02	NOT IDENT.
BA-140	4.193E-01	4.843E-01	5.199E-01	NOT IDENT.
LA-140	-2.775E-01	2.328E-01	2.643E-01	NOT IDENT.
CE-141	6.443E-02	7.756E-02	8.282E-02	NOT IDENT.
CE-143	4.163E+04	1.364E+05	1.377E+05	SHORT HLIF
CE-144	-1.130E-01	2.115E-01	2.176E-01	NOT IDENT.
PM-144	6.839E-03	4.126E-02	4.138E-02	NOT IDENT.
PR-144	5.155E-01	3.110E+00	3.119E+00	NOT IDENT.
PM-146	8.578E-03	3.838E-02	3.858E-02	NOT IDENT.
ND-147	-1.592E+00	1.145E+00	1.351E+00	FAIL ABUN
PM-147	-1.999E+02	6.981E+02	7.038E+02	NOT IDENT.
PM-149	6.725E+03	1.147E+04	1.186E+04	SHORT HLIF
EU-150	1.760E-02	2.727E-02	2.840E-02	FAIL ABUN
EU-152	-1.218E-02	8.644E-02	8.661E-02	NOT IDENT.
GD-153	-4.423E-02	8.203E-02	8.442E-02	NOT IDENT.
EU-154	-7.050E-02	1.218E-01	1.259E-01	FAIL ABUN
EU-155	9.102E-03	1.009E-01	1.010E-01	FAIL ABUN
TB-160	-8.882E-02	1.452E-01	1.506E-01	FAIL ABUN
HO-166M	2.808E-02	5.384E-02	5.530E-02	NOT IDENT.
TM-171	-7.599E+00	3.085E+01	3.104E+01	NOT IDENT.

HF-172	-1.357E-01	2.020E-01	2.111E-01	FAIL ABUN
LU-172	8.780E-02	1.044E-01	1.117E-01	FAIL ABUN
LU-176	-1.575E-02	2.815E-02	2.904E-02	FAIL ABUN
HF-181	3.635E-02	5.222E-02	5.473E-02	NOT IDENT.
TA-182	-5.344E-02	2.256E-01	2.269E-01	FAIL ABUN
RE-183	-2.422E-01	3.210E-01	3.390E-01	NOT IDENT.
RE-184	1.482E-01	1.853E-01	1.970E-01	NOT IDENT.
W-188	-3.855E+00	9.601E+00	9.757E+00	NOT IDENT.
IR-192	1.582E-02	3.496E-02	3.568E-02	FAIL ABUN
HG-203	1.146E-02	4.259E-02	4.290E-02	NOT IDENT.
TL-204	-6.754E+00	6.392E+00	7.080E+00	NOT IDENT.
BI-207	-9.002E-03	5.194E-02	5.210E-02	FAIL ABUN
BI-210	-7.524E-01	7.994E+00	8.002E+00	NOT IDENT.
PB-210	-7.524E-01	7.994E+00	8.002E+00	NOT IDENT.
PB-211	-3.039E-01	6.453E-01	6.597E-01	FAIL ABUN
BI-213	5.567E-02	9.166E-02	9.504E-02	NOT IDENT.
RN-219	3.880E-01	4.017E-01	4.382E-01	FAIL ABUN
RA-223	-3.364E-01	6.154E-01	6.338E-01	FAIL ABUN
AC-225	1.241E+00	1.348E+00	1.459E+00	NOT IDENT.
AC-227	2.987E-03	2.401E-01	2.401E-01	NOT IDENT.
TH-227	2.987E-03	2.401E-01	2.401E-01	NOT IDENT.
TH-229	-3.185E-01	5.212E-01	5.406E-01	FAIL ABUN
PA-231	-9.071E-02	4.761E-01	4.779E-01	FAIL ABUN
TH-231	-3.364E-01	6.154E-01	6.338E-01	FAIL ABUN
PA-233	-3.659E-03	5.963E-02	5.966E-02	NOT IDENT.
PA-234	-5.520E-02	3.166E-01	3.175E-01	NOT IDENT.
PA-234M	4.252E+00	4.630E+00	5.011E+00	FAIL ABUN
TH-234	-2.444E-01	1.697E+00	1.700E+00	FAIL ABUN
NP-237	-3.659E-03	5.963E-02	5.966E-02	NOT IDENT.
NP-238	4.092E+02	1.502E+03	1.513E+03	SHORT HLIF
U-238	-2.444E-01	1.697E+00	1.700E+00	FAIL ABUN
NP-239	-1.003E-01	2.509E-01	2.550E-01	NOT IDENT.
PU-239	1.927E+01	3.459E+02	3.460E+02	NOT IDENT.
AM-241	-2.216E-02	1.859E-01	1.862E-01	NOT IDENT.
CM-243	7.839E-03	1.037E-01	1.037E-01	NOT IDENT.
BK-247	6.376E-02	9.557E-02	9.980E-02	FAIL ABUN
CM-247	2.749E-02	3.822E-02	4.018E-02	NOT IDENT.
CF-249	2.635E-03	3.177E-02	3.179E-02	NOT IDENT.
CF-251	5.059E-02	1.295E-01	1.315E-01	FAIL ABUN

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	38.0372	85.43	57.3172	131.20	68.5269
45.60	55.1802	86.55	65.2740	133.02	70.8205
46.54	39.2666	86.79	65.3035	133.52	63.4671
49.72	40.5195	86.94	65.3229	136.00	48.1217
51.35	35.2731	87.09	65.3412	136.47	45.3210
51.87	39.8508	87.57	65.4012	140.51	0.0000
52.39	44.4410	88.03	51.0574	143.76	42.9193
52.97	38.1509	88.34	51.0875	144.24	47.2415
53.44	43.6551	88.47	51.1002	145.44	41.9409
54.07	46.4602	89.96	61.0979	152.43	39.0751
57.36	0.0000	1093.63	41.4415	153.25	44.5497
57.53	43.1967	91.11	41.4777	323.87	44.6054
57.98	52.4462	92.59	46.2120	156.02	50.8886
59.27	39.6913	93.35	46.2765	158.56	55.4298
59.32	39.6961	94.56	55.6535	159.00	53.6364
59.54	39.7176	94.65	55.6629	162.33	48.3654
60.96	47.2699	94.67	55.6646	162.66	50.5841
61.17	46.3665	94.87	55.6847	163.33	53.9287
62.93	54.9427	97.43	55.9402	165.86	41.9527
63.29	51.2612	98.43	54.0379	176.31	48.0732
63.58	57.8249	98.44	54.0387	176.60	49.2079
64.28	61.6565	99.53	55.1448	177.52	47.0219
66.73	46.9738	100.11	62.2261	181.07	0.0000
67.24	63.9586	102.03	45.3141	181.52	51.7402
125.81	70.6123	103.18	53.4751	184.41	57.1786
67.75	70.6238	103.37	53.4925	143.76	47.4685
68.89	70.8046	105.21	51.6342	193.51	53.5836
69.67	41.6109	105.31	51.6430	197.03	64.0912
70.82	79.6395	106.12	63.8810	198.01	53.8482
70.83	79.6414	106.47	63.9185	201.83	43.7160
72.81	58.4012	109.28	46.8879	203.43	38.0289
72.87	58.4087	111.00	69.5071	205.31	40.4137
74.66	73.6086	111.76	49.1243	210.85	60.3924
74.82	73.6338	114.06	52.3875	215.65	49.0194
74.97	73.6570	116.30	55.6661	218.12	25.7413
77.11	73.9869	116.74	54.6728	222.11	31.7185
78.74	74.2354	119.76	43.5294	227.09	40.1389
79.69	64.3977	121.12	44.3128	227.38	37.7886
80.03	64.4409	121.22	44.3193	228.16	36.6361
80.12	47.6957	121.78	40.1989	228.18	36.6365
80.19	47.7025	122.06	41.6028	116.74	36.6365
80.57	56.7707	122.92	37.4914	235.69	50.7923
81.00	56.8195	123.07	43.7499	235.96	41.2793
81.07	63.2852	265.00	43.7899	238.63	39.3945
81.75	56.9049	125.81	59.9679	238.98	0.0000
82.47	67.3476	127.23	68.4793	240.99	39.4826
83.79	42.8509	127.91	68.1986	242.00	39.5198
84.00	51.9617	129.30	60.9781	244.70	33.6166

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.40	29.0189	344.28	26.0468	563.25	14.8322
252.80	32.6582	345.93	26.9471	564.24	0.0000
254.15	0.0000	351.06	23.5563	569.33	15.8685
256.23	31.5463	351.93	23.5706	946.00	16.8617
260.90	0.0000	355.39	0.0000	569.70	15.8717
264.66	30.5611	356.01	28.8925	583.19	11.9824
264.80	34.2327	364.49	16.7336	584.27	11.9883
265.00	34.2386	366.42	0.0000	595.83	17.0782
269.46	30.6892	372.51	15.9404	427.87	21.1444
270.03	30.7045	375.05	20.4039	602.52	0.0000
271.23	30.7365	377.52	25.7697	604.72	25.7252
273.65	29.5686	356.01	16.9551	607.14	16.6645
276.40	34.5779	388.16	17.0038	609.32	24.2637
277.37	32.1342	388.63	22.3806	610.33	24.2754
277.60	32.1406	391.69	11.6612	614.28	18.2395
278.00	19.7856	264.66	24.3611	618.01	10.1506
279.20	21.4561	401.81	18.9616	620.36	12.1938
279.54	33.0192	402.40	22.5820	621.93	13.2195
279.70	33.0233	404.85	25.3317	630.19	0.0000
280.46	21.4789	410.95	17.2559	631.29	7.1487
283.69	22.3654	413.71	26.3839	633.25	15.3326
284.31	22.3770	414.70	23.6694	634.78	11.0470
285.41	22.3978	423.72	23.3449	635.95	10.7457
285.90	0.0000	427.09	22.0176	636.99	7.6791
287.50	33.2389	427.87	26.1581	657.50	11.3661
290.67	38.3249	433.94	18.4249	657.76	12.4009
293.27	0.0000	439.40	16.6370	657.90	0.0000
351.93	35.1222	440.45	14.7979	661.66	15.5273
295.96	30.1230	453.88	17.7132	664.57	0.0000
879.38	38.9912	463.37	15.4674	666.33	17.6336
299.98	32.7388	468.07	19.7392	666.50	13.4856
300.09	32.7420	473.00	13.1965	667.71	0.0000
300.13	32.7428	475.06	21.7052	677.62	7.2965
301.36	39.4985	476.78	17.0032	685.70	15.6891
302.85	44.5937	477.60	17.0112	692.65	0.0000
256.23	26.9596	482.18	15.1598	695.00	16.8014
304.85	35.3939	487.02	15.2008	696.49	22.0656
306.78	32.9166	492.35	0.0000	696.51	22.0656
308.46	30.4241	497.08	20.0622	697.00	19.9679
311.90	24.1507	505.52	22.0740	697.30	17.8688
316.51	22.9614	507.63	0.0000	697.49	18.9214
319.41	36.6496	511.00	19.2513	702.65	18.9624
320.08	28.9932	514.00	19.2822	706.68	10.5522
321.04	23.0411	514.00	19.2822	711.68	7.9306
323.87	35.9186	520.40	8.7063	720.70	7.9599
325.23	41.0928	520.69	0.0000	721.93	0.0000
328.76	30.0425	522.65	0.0000	722.78	15.9332
333.37	36.1749	527.90	0.0000	722.91	15.9344
333.97	23.2657	528.26	8.7426	723.31	15.9369
334.37	41.3740	529.59	12.8310	724.19	9.5654
338.28	31.1199	529.87	0.0000	727.33	11.1742
338.32	31.1206	531.02	21.4011	733.00	12.7998
311.90	20.7798	537.26	9.7591	735.93	12.8149
340.48	20.7798	546.56	0.0000	333.97	8.5485
340.55	20.7808	552.55	15.7370	739.50	0.0000

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
744.23	12.8574	949.00	8.0750	1384.29	6.8389
747.24	10.7275	667.71	0.0000	1408.01	6.8778
748.06	13.9500	962.31	10.4271	1434.09	8.8973
752.31	10.7491	964.08	12.1718	1435.80	4.9448
753.82	12.9063	966.17	17.4005	1457.56	0.0000
756.73	12.9214	911.20	18.5768	1460.82	4.9734
756.80	12.9214	983.53	8.1655	1489.16	6.0070
884.68	11.3378	984.45	0.0000	1505.03	10.0470
765.81	21.0718	1274.44	7.0273	1584.12	7.1559
766.42	17.8340	1001.03	7.0378	1596.21	11.2746
766.84	12.9722	1002.74	8.4498	1620.50	4.1208
772.60	0.0000	1004.73	5.6367	1621.92	4.1221
776.52	15.1912	507.63	0.0000	1678.03	0.0000
739.50	0.0000	1025.87	0.0000	1690.97	4.1814
778.90	16.2915	1028.54	0.0000	1750.46	0.0000
783.70	20.6738	1037.84	11.5670	1764.49	7.4255
788.74	16.3525	1038.76	0.0000	1063.66	4.2480
792.07	9.8240	631.29	12.8470	1771.35	1.0623
795.86	10.9314	1048.07	9.9969	1791.20	0.0000
810.06	13.1875	1049.04	7.1426	1808.65	3.2098
810.29	10.9904	1050.41	4.2873	1810.72	0.0000
344.28	8.7930	1063.66	12.5542	1836.06	0.0000
810.76	8.7939	1077.00	0.0000		
815.77	6.6077	1077.34	0.0000		
1048.07	7.7169	1085.87	7.2212		
832.01	12.1866	1093.63	5.7902		
834.85	12.1991	1099.45	14.5000		
835.71	13.3125	1112.07	5.4573		
836.80	0.0000	1112.84	11.8273		
846.75	0.0000	1115.54	10.1972		
846.77	15.5933	1120.29	13.6761		
856.80	5.0301	1120.55	13.6771		
860.56	10.0737	1221.41	16.0510		
871.09	10.1115	1129.67	9.1418		
873.19	15.7403	1131.51	0.0000		
875.33	0.0000	1147.95	0.0000		
879.38	13.5210	1173.23	13.8803		
880.51	10.1448	1177.95	8.3392		
881.60	11.2760	1189.05	10.2232		
883.24	9.0260	1204.77	8.4001		
884.68	11.2882	1221.41	16.8761		
889.28	12.4368	1231.02	9.3994		
894.76	12.4605	1235.36	18.8208		
898.04	7.9382	1238.28	8.4754		
900.72	17.0264	1260.41	0.0000		
903.28	8.5205	1271.87	3.8000		
911.20	10.2521	1274.44	12.3581		
912.08	10.2552	1274.54	12.3589		
923.98	0.0000	1291.59	7.6387		
926.50	11.4502	1298.22	0.0000		
929.11	10.3140	1312.11	7.6782		
935.54	8.0391	1332.49	3.8589		
937.49	13.7905	1362.66	0.0000		
944.13	11.5173	1365.19	1.9449		
946.00	12.6767	1368.63	0.0000		

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:07:02.32

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*********************************************************************************
*                              GEL Laboratories LLC                             *
*                                2040 Savage Road                               *
*                              Charleston, SC 29407                             *
*********************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289007.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM41.CNF;644
                                       Background date  : 19-JUN-2024 06:35:49
Sample date      : 22-MAY-2024 09:00:00 Acquisition date : 20-JUN-2024 05:04:56
Sample ID        : G669289007           Sample quantity  : 1.47410E+02 GRAM
Detector name    : GAM41                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:04.97  0.1%
Energy tolerance : 1.50000 keV          Analyst Initials : MXR1
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 2618905              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	45.87*	36	97	1.32	92.91	88	10	1.01E-02	57.1	
2	0	57.20	22	46	1.34	115.54	112	7	6.02E-03	56.7	
3	0	62.58*	11	72	1.20	126.31	121	9	3.17E-03	163.0	
4	0	76.55*	28	97	1.10	154.21	152	7	7.79E-03	63.6	
5	0	83.77*	9	100	1.34	168.64	162	10	2.51E-03	216.0	
6	0	92.31*	2	92	1.09	185.70	181	10	6.19E-04	965.5	
7	0	185.67*	9	64	1.34	372.24	364	12	2.41E-03	208.2	
8	4	237.95*	70	51	1.59	476.68	469	18	1.95E-02	23.7	2.30E+00
9	4	241.48	24	23	1.40	483.75	469	18	6.55E-03	40.4	
10	2	294.78*	41	37	1.92	590.24	582	20	1.13E-02	34.3	1.52E+00
11	2	298.93	23	8	1.93	598.53	582	20	6.29E-03	30.6	
12	0	339.20	16	26	0.50	679.00	674	10	4.40E-03	66.4	
13	0	351.47*	63	38	1.31	703.52	696	16	1.74E-02	26.1	
14	0	381.43	12	12	0.75	763.39	760	7	3.20E-03	58.5	
15	0	511.83	63	67	2.73	1023.98	1013	22	1.76E-02	36.0	
16	0	582.47*	16	10	1.20	1165.16	1161	9	4.48E-03	45.9	
17	0	608.74*	41	24	1.30	1217.67	1212	12	1.14E-02	30.0	
18	0	661.02	13	4	1.13	1322.15	1316	10	3.56E-03	42.4	
19	0	705.97	11	8	1.69	1412.00	1408	8	3.06E-03	53.8	
20	0	736.41	7	4	0.59	1472.85	1469	6	1.88E-03	62.2	
21	0	817.57	9	4	1.31	1635.08	1630	10	2.52E-03	55.6	
22	0	911.21	31	0	1.48	1822.26	1816	13	8.61E-03	18.0	
23	0	950.87	10	5	1.49	1901.55	1896	11	2.91E-03	52.4	
24	0	1284.41	6	3	1.40	2568.45	2564	8	1.64E-03	70.0	
25	0	1460.42*	195	7	2.39	2920.43	2913	14	5.40E-02	7.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JUN-2024 06:07:03

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289007.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: MXR1		
Sample date	: 22-MAY-2024 09:00:00	Acquisition date	: 20-JUN-2024 05:04:56
Sample ID	: G669289007	Sample quantity	: 147.41 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA41	Detector geometry	: CAN
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:04.97 0.1%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	187	10.66*	8.738E-01	1.024E+01	1.024E+01	15.63
BA-137M	661.66	13	89.90*	1.735E+00	4.366E-02	4.374E-02	84.71
CS-137	661.66	13	85.10*	1.735E+00	4.612E-02	4.620E-02	84.71
TL-208	277.37	------	6.60	3.700E+00	------	Line Not Found	------
	583.19	17	85.00*	1.942E+00	5.253E-02	5.253E-02	91.77
	860.56	------	12.50	1.372E+00	------	Line Not Found	------
BI-210	46.54	48	4.25*	7.222E+00	7.907E-01	7.927E-01	114.24
PB-210	46.54	48	4.25*	7.222E+00	7.907E-01	7.927E-01	114.24
BI-211	72.87	------	1.23	7.589E+00	------	Line Not Found	------
	351.06	69	12.92*	3.034E+00	9.005E-01	9.005E-01	52.20
PB-212	74.82	------	10.28	7.564E+00	------	Line Not Found	------
	77.11	35	17.10	7.538E+00	1.394E-01	1.394E-01	127.22
	238.63	80	43.60*	4.181E+00	2.241E-01	2.241E-01	47.31
	300.09	25	3.30	3.479E+00	1.127E+00	1.127E+00	61.20
PB-214	74.82	------	5.80	7.564E+00	------	Line Not Found	------
	77.11	35	9.70	7.538E+00	2.458E-01	2.458E-01	127.22
	87.09	------	3.41	7.336E+00	------	Line Not Found	------
	242.00	27	7.25	4.133E+00	4.584E-01	4.584E-01	80.89
	295.22	46	18.42	3.520E+00	3.596E-01	3.597E-01	68.52
	351.93	69	35.60*	3.034E+00	3.268E-01	3.268E-01	52.20
RA-224	240.99	27	4.10*	4.133E+00	8.105E-01	8.105E-01	80.89
RA-226	74.82	------	5.80	7.564E+00	------	Line Not Found	------
	77.11	35	9.70	7.538E+00	2.458E-01	2.458E-01	127.22
	87.09	------	3.41	7.336E+00	------	Line Not Found	------
	242.00	27	7.25	4.133E+00	4.584E-01	4.584E-01	80.89
	295.22	46	18.42	3.520E+00	3.596E-01	3.597E-01	68.52
	351.93	69	35.60*	3.034E+00	3.268E-01	3.268E-01	52.20
TH-228	74.82	------	10.28	7.564E+00	------	Line Not Found	------
	77.11	35	17.10	7.538E+00	1.394E-01	1.394E-01	127.22
	238.63	80	43.60*	4.181E+00	2.241E-01	2.241E-01	47.31
	300.09	25	3.30	3.479E+00	1.127E+00	1.127E+00	61.20
TH-230	74.82	------	5.80	7.564E+00	------	Line Not Found	------
	77.11	35	9.70	7.538E+00	2.458E-01	2.458E-01	127.22
	87.09	------	3.41	7.336E+00	------	Line Not Found	------
	242.00	27	7.25	4.133E+00	4.584E-01	4.584E-01	80.89
	295.22	46	18.42	3.520E+00	3.596E-01	3.596E-01	68.52
	351.93	69	35.60*	3.034E+00	3.268E-01	3.268E-01	52.20
TH-234	63.29	15	3.70*	7.645E+00	2.626E-01	2.626E-01	326.06
	92.59	3	4.23	7.215E+00	4.611E-02	4.611E-02	1930.91
U-234	74.82	------	5.80	7.564E+00	------	Line Not Found	------
	77.11	35	9.70	7.538E+00	2.458E-01	2.458E-01	127.22
	87.09	------	3.41	7.336E+00	------	Line Not Found	------
	242.00	27	7.25	4.133E+00	4.584E-01	4.584E-01	80.89
	295.22	46	18.42	3.520E+00	3.596E-01	3.596E-01	68.52
	351.93	69	35.60*	3.034E+00	3.268E-01	3.268E-01	52.20
U-238	63.29	15	3.70*	7.645E+00	2.626E-01	2.626E-01	326.06
	92.59	3	4.23	7.215E+00	4.611E-02	4.611E-02	1930.91
ANH-511	511.00	68	100.00*	2.180E+00	1.584E-01	1.584E-01	72.07

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:07:04.45

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289007.CNF;1		
Acquisition date	: 20-JUN-2024 05:04:56	Sensitivity	: 3.000
Detector ID	: GAM41	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:04.97	Half life ratio	: *****
Sample date	: 22-MAY-2024 09:00:00	Analyst initials	: MXR1
Sample ID	: G669289007	Sample Quantity	: 1.4741E+02 GRAM
Batch Number	: 2618905	Wet Weight	: 0.00000
Wet wt corr	: 1.00000	Dry Weight	: 0.00000
Nuclide Library	: SOLID.NLB;17		

CALIBRATION INFORMATION

Eff. Cal. date	: 5-DEC-2023 10:53:14	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM41_CAN.CNF;11		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	1.024E+01	1.569E+00	8.080E-01
BA-137M	4.374E-02	3.631E-02	6.360E-02
CS-137	4.620E-02	3.836E-02	6.719E-02
TL-208	5.253E-02	4.724E-02	5.935E-02
BI-210	7.927E-01	8.875E-01	6.432E-01
PB-210	7.927E-01	8.875E-01	6.432E-01
BI-211	9.005E-01	4.606E-01	2.644E-01
PB-212	2.241E-01	1.039E-01	7.680E-02
PB-214	3.268E-01	1.672E-01	9.616E-02
RA-224	8.105E-01	6.425E-01	8.234E-01
RA-226	3.268E-01	1.672E-01	9.616E-02
TH-228	2.241E-01	1.039E-01	7.680E-02
TH-230	3.268E-01	1.672E-01	9.616E-02
TH-234	2.626E-01	8.392E-01	7.891E-01
U-234	3.268E-01	1.672E-01	9.616E-02
U-238	2.626E-01	8.392E-01	7.891E-01
ANH-511	1.584E-01	1.119E-01	5.263E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	2.003E-01	2.985E-01	6.785E-01	NOT IDENT.
NA-22	4.822E-02	4.393E-02	1.067E-01	NOT IDENT.
NA-24	0.000E+00	2.641E+12	0.000E+00	SHORT HLIF
AL-26	-2.115E-02	3.071E-02	5.113E-02	NOT IDENT.
SC-46	1.416E-02	3.978E-02	8.642E-02	NOT IDENT.
V-48	-7.389E-03	1.447E-01	2.807E-01	NOT IDENT.
CR-51	-5.276E-02	3.558E-01	6.853E-01	NOT IDENT.
MN-52	-6.407E-01	1.368E+00	2.585E+00	NOT IDENT.
MN-54	-1.967E-02	2.945E-02	5.151E-02	NOT IDENT.
CO-56	9.662E-03	3.515E-02	7.719E-02	NOT IDENT.
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	-1.150E-02	1.600E-02	2.983E-02	NOT IDENT.
CO-58	4.831E-03	3.574E-02	7.619E-02	NOT IDENT.

FE-59	-3.908E-03	1.122E-01	2.200E-01	NOT IDENT.
CO-60	-7.506E-03	3.829E-02	7.763E-02	NOT IDENT.
ZN-65	3.702E-02	1.009E-01	2.072E-01	NOT IDENT.
GE-68	1.483E+00	1.120E+00	2.878E+00	NOT IDENT.
AS-73	-5.975E-02	1.968E-01	3.258E-01	NOT IDENT.
AS-74	-1.056E-01	1.309E-01	2.303E-01	NOT IDENT.
SE-75	-1.817E-03	2.992E-02	5.912E-02	NOT IDENT.
BR-77	0.000E+00	8.864E+02	0.000E+00	SHORT HLIF
SR-82	7.813E-02	4.680E-01	9.673E-01	NOT IDENT.
RB-83	-3.878E-02	6.816E-02	1.222E-01	NOT IDENT.
RB-84	6.276E-04	9.914E-02	1.965E-01	NOT IDENT.
KR-85	5.305E+00	6.896E+00	1.500E+01	NOT IDENT.
SR-85	3.236E-02	4.220E-02	9.176E-02	NOT IDENT.
RB-86	1.451E+00	1.121E+00	2.878E+00	NOT IDENT.
Y-88	-2.788E-04	3.368E-02	7.917E-02	NOT IDENT.
Y-91	3.262E+01	2.704E+01	6.221E+01	NOT IDENT.
NB-94	1.127E-03	3.436E-02	6.140E-02	NOT IDENT.
NB-95	-1.213E-02	3.903E-02	7.768E-02	NOT IDENT.
NB-95M	8.597E-02	1.043E-01	2.201E-01	NOT IDENT.
ZR-95	1.069E-01	8.088E-02	1.944E-01	NOT IDENT.
NB-97	0.000E+00	1.513E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.374E+12	0.000E+00	SHORT HLIF
MO-99	0.000E+00	4.339E+02	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	6.839E+32	0.000E+00	SHORT HLIF
RH-101	-1.004E-02	2.145E-02	3.970E-02	NOT IDENT.
RH-102	5.193E-02	5.335E-02	1.221E-01	NOT IDENT.
RU-103	4.479E-02	3.569E-02	8.956E-02	NOT IDENT.
RH-106	1.080E-02	2.834E-01	5.820E-01	NOT IDENT.
RU-106	1.080E-02	2.834E-01	5.820E-01	NOT IDENT.
AG-108M	-1.081E-02	2.569E-02	4.572E-02	NOT IDENT.
CD-109	2.567E-01	4.850E-01	9.151E-01	NOT IDENT.
AG-110	-4.642E-01	6.549E-01	9.009E-01	NOT IDENT.
AG-110M	2.266E-02	5.045E-02	1.094E-01	FAIL ABUN
SN-113	1.407E-02	3.922E-02	8.011E-02	NOT IDENT.
CD-115	0.000E+00	6.591E+02	0.000E+00	SHORT HLIF
SN-117M	2.898E-03	7.760E-02	1.538E-01	NOT IDENT.
SB-122	0.000E+00	5.252E+01	0.000E+00	SHORT HLIF
TE-123M	-3.869E-03	2.174E-02	4.215E-02	NOT IDENT.
SB-124	1.924E-02	3.771E-02	1.419E-01	NOT IDENT.
SB-125	3.571E-02	8.142E-02	1.665E-01	NOT IDENT.
TE-125M	7.444E-01	6.945E+00	1.408E+01	NOT IDENT.
I-126	3.903E-02	4.571E-01	8.992E-01	NOT IDENT.
SB-126	-9.179E-02	2.728E-01	5.207E-01	NOT IDENT.
SN-126	1.979E-02	5.001E-02	8.636E-02	NOT IDENT.
SB-127	3.917E+00	1.570E+01	3.255E+01	NOT IDENT.
I-131	-6.536E-02	2.858E-01	5.368E-01	NOT IDENT.
I-132	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
TE-132	6.567E-01	1.049E+01	2.061E+01	NOT IDENT.
BA-133	1.472E-02	2.809E-02	5.680E-02	NOT IDENT.
I-133	0.000E+00	2.858E+08	0.000E+00	SHORT HLIF
CS-134	-9.852E-03	4.860E-02	9.199E-02	NOT IDENT.
I-135	0.000E+00	6.401E+30	0.000E+00	SHORT HLIF
CS-136	2.356E-01	2.354E-01	5.415E-01	FAIL ABUN
LA-138	-2.167E-03	5.636E-02	1.194E-01	NOT IDENT.
CE-139	-5.653E-03	2.076E-02	4.001E-02	NOT IDENT.
BA-140	-3.479E-01	4.907E-01	8.916E-01	NOT IDENT.
LA-140	-5.885E-02	1.719E-01	3.408E-01	NOT IDENT.
CE-141	-3.244E-02	6.143E-02	1.151E-01	NOT IDENT.
CE-143	0.000E+00	1.145E+05	0.000E+00	SHORT HLIF
CE-144	-1.548E-02	1.329E-01	2.624E-01	NOT IDENT.
PM-144	-3.503E-03	3.229E-02	6.392E-02	NOT IDENT.
PR-144	-2.640E-01	2.434E+00	4.818E+00	NOT IDENT.
PM-146	-1.367E-02	3.249E-02	5.806E-02	FAIL ABUN
ND-147	-1.247E+00	1.118E+00	1.862E+00	FAIL ABUN
PM-147	1.352E+02	4.335E+02	9.037E+02	NOT IDENT.
PM-149	0.000E+00	5.608E+03	0.000E+00	SHORT HLIF
EU-150	-1.095E-02	2.670E-02	4.205E-02	FAIL ABUN
EU-152	2.480E-02	8.025E-02	1.557E-01	NOT IDENT.
GD-153	-2.612E-02	5.056E-02	9.378E-02	NOT IDENT.
EU-154	1.297E-01	1.222E-01	2.963E-01	NOT IDENT.
EU-155	8.479E-04	6.226E-02	1.255E-01	NOT IDENT.
TB-160	-2.271E-02	1.504E-01	2.927E-01	FAIL ABUN
HO-166M	2.931E-02	5.799E-02	1.255E-01	FAIL ABUN
TM-171	-1.648E+00	3.194E+00	5.618E+00	NOT IDENT.
HF-172	7.396E-02	1.248E-01	2.628E-01	FAIL ABUN
LU-172	1.362E-02	7.256E-02	1.460E-01	FAIL ABUN
LU-176	-6.703E-03	2.029E-02	3.759E-02	NOT IDENT.
HF-181	-1.335E-02	4.746E-02	9.332E-02	FAIL ABUN

TA-182	1.551E-01	2.217E-01	4.768E-01	NOT IDENT.
RE-183	7.252E-02	8.058E-02	9.706E-02	FAIL ABUN
RE-184	-8.847E-02	1.308E-01	2.257E-01	NOT IDENT.
W-188	-4.481E-01	7.206E+00	1.233E+01	FAIL ABUN
IR-192	-1.745E-04	3.096E-02	6.008E-02	FAIL ABUN
HG-203	9.982E-04	3.893E-02	7.520E-02	NOT IDENT.
TL-204	-1.128E+00	1.981E+00	3.838E+00	FAIL ABUN
BI-207	-2.878E-02	5.240E-02	9.162E-02	NOT IDENT.
PB-211	5.046E-01	5.103E-01	1.168E+00	NOT IDENT.
BI-212	-3.599E-02	4.446E-01	8.894E-01	NOT IDENT.
BI-213	-1.782E-02	9.747E-02	1.799E-01	NOT IDENT.
BI-214	0.000E+00	1.528E-01	2.279E-01	FAIL ABUN
RN-219	9.360E-02	3.400E-01	6.821E-01	NOT IDENT.
RN-222	0.000E+00	1.528E-01	2.279E-01	FAIL ABUN
RA-223	-2.874E-01	4.976E-01	8.806E-01	FAIL ABUN
AC-225	3.210E-01	1.046E+00	2.133E+00	NOT IDENT.
AC-227	1.540E-01	1.861E-01	4.004E-01	FAIL ABUN
TH-227	1.540E-01	1.861E-01	4.004E-01	FAIL ABUN
AC-228	0.000E+00	1.667E-01	4.055E-01	FAIL ABUN
RA-228	0.000E+00	1.667E-01	4.055E-01	FAIL ABUN
TH-229	-1.386E-02	3.741E-01	7.310E-01	NOT IDENT.
PA-231	-6.131E-02	3.556E-01	6.301E-01	NOT IDENT.
TH-231	-2.874E-01	4.976E-01	8.806E-01	FAIL ABUN
TH-232	0.000E+00	1.667E-01	4.055E-01	FAIL ABUN
PA-233	-3.658E-02	5.481E-02	9.571E-02	FAIL ABUN
PA-234	-7.878E-02	3.543E-01	5.787E-01	NOT IDENT.
PA-234M	-8.697E-01	4.333E+00	8.361E+00	NOT IDENT.
U-235	-7.726E-02	1.424E-01	2.684E-01	FAIL ABUN
NP-237	-3.658E-02	5.481E-02	9.571E-02	FAIL ABUN
NP-238	0.000E+00	2.135E+03	0.000E+00	SHORT HLIF
NP-239	-3.900E-02	1.488E-01	2.933E-01	NOT IDENT.
PU-239	1.209E+02	2.227E+02	4.544E+02	NOT IDENT.
AM-241	-1.199E-02	4.294E-02	6.122E-02	NOT IDENT.
AM-243	1.223E-02	3.017E-02	5.580E-02	NOT IDENT.
CM-243	2.194E-02	6.207E-02	1.289E-01	NOT IDENT.
BK-247	6.298E-04	5.038E-02	1.005E-01	FAIL ABUN
CM-247	-5.704E-03	3.292E-02	6.123E-02	NOT IDENT.
CF-249	1.709E-02	3.305E-02	6.872E-02	NOT IDENT.
CF-251	-5.460E-02	8.779E-02	1.614E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:07:03.07

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	187	10.66*	8.738E-01	1.024E+01	1.024E+01	15.63
BA-137M	661.66	13	89.90*	1.735E+00	4.366E-02	4.374E-02	84.71
CS-137	661.66	13	85.10*	1.735E+00	4.612E-02	4.620E-02	84.71
TL-208	277.37	------	6.60	3.700E+00	------	Line Not Found	------
	583.19	17	85.00*	1.942E+00	5.253E-02	5.253E-02	91.77
	860.56	------	12.50	1.372E+00	------	Line Not Found	------
BI-210	46.54	48	4.25*	7.222E+00	7.907E-01	7.927E-01	114.24
PB-210	46.54	48	4.25*	7.222E+00	7.907E-01	7.927E-01	114.24
BI-211	72.87	------	1.23	7.589E+00	------	Line Not Found	------
	351.06	69	12.92*	3.034E+00	9.005E-01	9.005E-01	52.20
PB-212	74.82	------	10.28	7.564E+00	------	Line Not Found	------
	77.11	35	17.10	7.538E+00	1.394E-01	1.394E-01	127.22
	238.63	80	43.60*	4.181E+00	2.241E-01	2.241E-01	47.31
	300.09	25	3.30	3.479E+00	1.127E+00	1.127E+00	61.20
PB-214	74.82	------	5.80	7.564E+00	------	Line Not Found	------
	77.11	35	9.70	7.538E+00	2.458E-01	2.458E-01	127.22
	87.09	------	3.41	7.336E+00	------	Line Not Found	------
	242.00	27	7.25	4.133E+00	4.584E-01	4.584E-01	80.89
	295.22	46	18.42	3.520E+00	3.596E-01	3.597E-01	68.52
	351.93	69	35.60*	3.034E+00	3.268E-01	3.268E-01	52.20
RA-224	240.99	27	4.10*	4.133E+00	8.105E-01	8.105E-01	80.89
RA-226	74.82	------	5.80	7.564E+00	------	Line Not Found	------
	77.11	35	9.70	7.538E+00	2.458E-01	2.458E-01	127.22
	87.09	------	3.41	7.336E+00	------	Line Not Found	------
	242.00	27	7.25	4.133E+00	4.584E-01	4.584E-01	80.89
	295.22	46	18.42	3.520E+00	3.596E-01	3.597E-01	68.52
	351.93	69	35.60*	3.034E+00	3.268E-01	3.268E-01	52.20
TH-228	74.82	------	10.28	7.564E+00	------	Line Not Found	------
	77.11	35	17.10	7.538E+00	1.394E-01	1.394E-01	127.22
	238.63	80	43.60*	4.181E+00	2.241E-01	2.241E-01	47.31
	300.09	25	3.30	3.479E+00	1.127E+00	1.127E+00	61.20
TH-230	74.82	------	5.80	7.564E+00	------	Line Not Found	------
	77.11	35	9.70	7.538E+00	2.458E-01	2.458E-01	127.22
	87.09	------	3.41	7.336E+00	------	Line Not Found	------
	242.00	27	7.25	4.133E+00	4.584E-01	4.584E-01	80.89
	295.22	46	18.42	3.520E+00	3.596E-01	3.596E-01	68.52
	351.93	69	35.60*	3.034E+00	3.268E-01	3.268E-01	52.20
TH-234	63.29	15	3.70*	7.645E+00	2.626E-01	2.626E-01	326.06
	92.59	3	4.23	7.215E+00	4.611E-02	4.611E-02	1930.91
U-234	74.82	------	5.80	7.564E+00	------	Line Not Found	------
	77.11	35	9.70	7.538E+00	2.458E-01	2.458E-01	127.22
	87.09	------	3.41	7.336E+00	------	Line Not Found	------
	242.00	27	7.25	4.133E+00	4.584E-01	4.584E-01	80.89
	295.22	46	18.42	3.520E+00	3.596E-01	3.596E-01	68.52
	351.93	69	35.60*	3.034E+00	3.268E-01	3.268E-01	52.20
U-238	63.29	15	3.70*	7.645E+00	2.626E-01	2.626E-01	326.06
	92.59	3	4.23	7.215E+00	4.611E-02	4.611E-02	1930.91

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
ANH-511	511.00	68	100.00*	2.180E+00	1.584E-01	1.584E-01	72.07

Flag: "*" = Keyline

Sample ID : G669289007 Acquisition date : 20-JUN-2024 05:04:56

Total number of lines in spectrum 25
Number of unidentified lines 3
Number of lines tentatively identified by NID 22 88.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	1.024E+01	1.024E+01	0.160E+01	15.63	
BA-137M	30.08Y	1.00	4.366E-02	4.374E-02	3.705E-02	84.71	
CS-137	30.08Y	1.00	4.612E-02	4.620E-02	3.914E-02	84.71	
TL-208	1.41E+10Y	1.00	5.253E-02	5.253E-02	4.821E-02	91.77	
BI-210	22.20Y	1.00	7.907E-01	7.927E-01	9.056E-01	114.24	
PB-210	22.20Y	1.00	7.907E-01	7.927E-01	9.056E-01	114.24	
BI-211	7.04E+08Y	1.00	9.005E-01	9.005E-01	4.700E-01	52.20	
PB-212	1.41E+10Y	1.00	2.241E-01	2.241E-01	1.060E-01	47.31	
PB-214	1600.00Y	1.00	3.268E-01	3.268E-01	1.706E-01	52.20	
RA-224	1.41E+10Y	1.00	8.105E-01	8.105E-01	6.557E-01	80.89	
RA-226	1600.00Y	1.00	3.268E-01	3.268E-01	1.706E-01	52.20	
TH-228	1.41E+10Y	1.00	2.241E-01	2.241E-01	1.060E-01	47.31	
TH-230	7.54E+04Y	1.00	3.268E-01	3.268E-01	1.706E-01	52.20	
TH-234	4.47E+09Y	1.00	2.626E-01	2.626E-01	8.563E-01	326.06	
U-234	2.45E+05Y	1.00	3.268E-01	3.268E-01	1.706E-01	52.20	
U-238	4.47E+09Y	1.00	2.626E-01	2.626E-01	8.563E-01	326.06	
ANH-511	1.00E+09Y	1.00	1.584E-01	1.584E-01	1.141E-01	72.07	
	Total Activity :		1.612E+01	1.612E+01			
	Grand Total Activity :		1.612E+01	1.612E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	57.20	28	60	1.34	115.54	112	7	6.02E-03	****	7.60E+00	T
0	83.77	11	125	1.34	168.64	162	10	2.51E-03	****	7.41E+00	T
0	185.67	10	74	1.34	372.24	364	12	2.41E-03	****	5.02E+00	T
0	339.20	18	29	0.50	679.00	674	10	4.40E-03	****	3.13E+00	T
0	381.43	13	14	0.75	763.39	760	7	3.20E-03	****	2.83E+00	
0	608.74	43	26	1.30	1217.67	1212	12	1.14E-02	60.1	1.87E+00	T
0	705.97	11	8	1.69	1412.00	1408	8	3.06E-03	****	1.64E+00	T
0	736.41	7	4	0.59	1472.85	1469	6	1.88E-03	****	1.58E+00	T
0	817.57	9	4	1.31	1635.08	1630	10	2.52E-03	****	1.44E+00	T
0	911.21	31	0	1.48	1822.26	1816	13	8.61E-03	35.9	1.31E+00	T
0	950.87	11	5	1.49	1901.55	1896	11	2.91E-03	****	1.26E+00	
0	1284.41	6	3	1.40	2568.45	2564	8	1.64E-03	****	9.72E-01	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:07:13.96

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289007.CNF;1   *
* Acquisition date : 20-JUN-2024 05:04:56 Sensitivity     : 3.000           *
* Detector ID      : GAM41                Energy tolerance: 1.500           *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 01:00:04.97     Half life ratio : *****           *
* Sample date      : 22-MAY-2024 09:00:00 Nuclide Library : SOLID           *
* Sample ID        : G669289007           Analyst initials: MXR1            *
* Batch Number     : 2618905              Sample Quantity : 1.4741E+02 GRAM *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000      *
*                                         Dry Weight      :    0.00000      *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   :  5-DEC-2023 10:53:14 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM41_CAN.CNF;11            *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	3.296E-01
BA-137M	2.727E-02
CS-137	2.880E-02
TL-208	2.539E-02
BI-210	2.974E-01
PB-210	2.974E-01
BI-211	1.139E-01
PB-212	3.443E-02
PB-214	4.145E-02
RA-224	3.692E-01
RA-226	4.145E-02
TH-228	3.443E-02
TH-230	4.145E-02
TH-234	3.684E-01
U-234	4.145E-02
U-238	3.684E-01
ANH-511	2.307E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	2.966E-01	NOT IDENT.
NA-22	4.609E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	1.616E-02	NOT IDENT.
SC-46	3.654E-02	NOT IDENT.
V-48	1.203E-01	NOT IDENT.
CR-51	2.973E-01	NOT IDENT.
MN-52	1.012E+00	NOT IDENT.
MN-54	2.044E-02	NOT IDENT.
CO-56	3.206E-02	NOT IDENT.
MN-56	0.000E+00	SHORT HLIF
CO-57	1.349E-02	NOT IDENT.
CO-58	3.162E-02	NOT IDENT.
FE-59	9.256E-02	NOT IDENT.

CO-60	3.137E-02	NOT IDENT.
ZN-65	8.996E-02	NOT IDENT.
GE-68	1.232E+00	NOT IDENT.
AS-73	1.506E-01	NOT IDENT.
AS-74	9.576E-02	NOT IDENT.
SE-75	2.580E-02	NOT IDENT.
BR-77	0.000E+00	SHORT HLIF
SR-82	4.154E-01	NOT IDENT.
RB-83	5.183E-02	NOT IDENT.
RB-84	8.432E-02	NOT IDENT.
KR-85	6.743E+00	NOT IDENT.
SR-85	4.126E-02	NOT IDENT.
RB-86	1.230E+00	NOT IDENT.
Y-88	2.805E-02	NOT IDENT.
Y-91	2.744E+01	NOT IDENT.
NB-94	2.640E-02	NOT IDENT.
NB-95	3.251E-02	NOT IDENT.
NB-95M	1.006E-01	NOT IDENT.
ZR-95	8.573E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	1.812E-02	NOT IDENT.
RH-102	5.396E-02	NOT IDENT.
RU-103	3.898E-02	NOT IDENT.
RH-106	2.500E-01	NOT IDENT.
RU-106	2.500E-01	NOT IDENT.
AG-108M	1.974E-02	NOT IDENT.
CD-109	4.292E-01	NOT IDENT.
AG-110	3.529E-01	NOT IDENT.
AG-110M	4.691E-02	FAIL ABUN
SN-113	3.532E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	7.031E-02	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	1.924E-02	NOT IDENT.
SB-124	4.486E-02	NOT IDENT.
SB-125	7.370E-02	NOT IDENT.
TE-125M	6.473E+00	NOT IDENT.
I-126	3.912E-01	NOT IDENT.
SB-126	2.192E-01	NOT IDENT.
SN-126	4.047E-02	NOT IDENT.
SB-127	1.422E+01	NOT IDENT.
I-131	2.324E-01	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	9.320E+00	NOT IDENT.
BA-133	2.454E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	4.026E-02	NOT IDENT.
I-135	0.000E+00	SHORT HLIF
CS-136	2.363E-01	FAIL ABUN
LA-138	4.778E-02	NOT IDENT.
CE-139	1.807E-02	NOT IDENT.
BA-140	3.790E-01	NOT IDENT.
LA-140	1.276E-01	NOT IDENT.
CE-141	5.281E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	1.197E-01	NOT IDENT.
PM-144	2.744E-02	NOT IDENT.
PR-144	2.068E+00	NOT IDENT.
PM-146	2.447E-02	FAIL ABUN
ND-147	7.722E-01	FAIL ABUN
PM-147	4.113E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	1.867E-02	FAIL ABUN
EU-152	6.910E-02	NOT IDENT.
GD-153	4.301E-02	NOT IDENT.
EU-154	1.278E-01	NOT IDENT.
EU-155	5.763E-02	NOT IDENT.
TB-160	1.236E-01	FAIL ABUN
HO-166M	5.474E-02	FAIL ABUN
TM-171	2.592E+00	NOT IDENT.
HF-172	1.209E-01	FAIL ABUN
LU-172	6.277E-02	FAIL ABUN
LU-176	1.654E-02	NOT IDENT.
HF-181	4.051E-02	FAIL ABUN
TA-182	2.082E-01	NOT IDENT.

RE-183	4.475E-02	FAIL ABUN
RE-184	8.825E-02	NOT IDENT.
W-188	5.497E+00	FAIL ABUN
IR-192	2.661E-02	FAIL ABUN
HG-203	3.393E-02	NOT IDENT.
TL-204	1.795E+00	FAIL ABUN
BI-207	3.760E-02	NOT IDENT.
PB-211	5.135E-01	NOT IDENT.
BI-212	3.785E-01	NOT IDENT.
BI-213	7.896E-02	NOT IDENT.
BI-214	1.056E-01	FAIL ABUN
RN-219	3.011E-01	NOT IDENT.
RN-222	1.056E-01	FAIL ABUN
RA-223	3.851E-01	FAIL ABUN
AC-225	9.618E-01	NOT IDENT.
AC-227	1.810E-01	FAIL ABUN
TH-227	1.810E-01	FAIL ABUN
AC-228	1.820E-01	FAIL ABUN
RA-228	1.820E-01	FAIL ABUN
TH-229	3.318E-01	NOT IDENT.
PA-231	2.762E-01	NOT IDENT.
TH-231	3.851E-01	FAIL ABUN
TH-232	1.820E-01	FAIL ABUN
PA-233	4.231E-02	FAIL ABUN
PA-234	2.432E-01	NOT IDENT.
PA-234M	3.489E+00	NOT IDENT.
U-235	1.230E-01	FAIL ABUN
NP-237	4.231E-02	FAIL ABUN
NP-238	0.000E+00	SHORT HLIF
NP-239	1.326E-01	NOT IDENT.
PU-239	2.087E+02	NOT IDENT.
AM-241	2.790E-02	NOT IDENT.
AM-243	2.645E-02	NOT IDENT.
CM-243	5.936E-02	NOT IDENT.
BK-247	4.402E-02	FAIL ABUN
CM-247	2.695E-02	NOT IDENT.
CF-249	3.048E-02	NOT IDENT.
CF-251	7.258E-02	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:07:17.95

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289007.CNF;1		
Acquisition date	: 20-JUN-2024 05:04:56	Sensitivity	: 3.000
Detector ID	: GAM41	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:04.97	Half life ratio	: *****
Sample date	: 22-MAY-2024 09:00:00	Nuclide Library	: SOLID
Sample ID	: G669289007	Analyst initials	: MXR1
Batch Number	: 2618905	Sample Quantity	: 1.4741E+02 GRAM
		Quantity Err(%)	: 1.3568E-03 %
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 5-DEC-2023 10:53:14	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM41_CAN.CNF;11		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	1.024E+01	1.807E+00	1.807E+00
BA-137M	4.374E-02	3.661E-02	3.661E-02
CS-137	4.620E-02	3.867E-02	3.867E-02
TL-208	5.253E-02	4.755E-02	4.755E-02
BI-210	7.927E-01	8.929E-01	8.929E-01
PB-210	7.927E-01	8.929E-01	8.929E-01
BI-211	9.005E-01	4.688E-01	4.688E-01
PB-212	2.241E-01	1.062E-01	1.062E-01
PB-214	3.268E-01	1.701E-01	1.701E-01
RA-224	8.105E-01	6.476E-01	6.476E-01
RA-226	3.268E-01	1.701E-01	1.701E-01
TH-228	2.241E-01	1.062E-01	1.062E-01
TH-230	3.268E-01	1.701E-01	1.701E-01
TH-234	2.626E-01	8.415E-01	8.415E-01
U-234	3.268E-01	1.701E-01	1.701E-01
U-238	2.626E-01	8.415E-01	8.415E-01
ANH-511	1.584E-01	1.129E-01	1.129E-01

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	2.003E-01	2.991E-01	3.124E-01	NOT IDENT.
NA-22	4.822E-02	4.410E-02	4.916E-02	NOT IDENT.
NA-24	1.004E+12	2.642E+12	2.681E+12	SHORT HLIF
AL-26	-2.115E-02	3.075E-02	3.219E-02	NOT IDENT.
SC-46	1.416E-02	3.980E-02	4.030E-02	NOT IDENT.
V-48	-7.389E-03	1.447E-01	1.447E-01	NOT IDENT.
CR-51	-5.276E-02	3.559E-01	3.567E-01	NOT IDENT.
MN-52	-6.407E-01	1.369E+00	1.399E+00	NOT IDENT.
MN-54	-1.967E-02	2.951E-02	3.082E-02	NOT IDENT.
CO-56	9.662E-03	3.516E-02	3.543E-02	NOT IDENT.
MN-56	0.000E+00	7.924E+41	0.000E+00	SHORT HLIF
CO-57	-1.150E-02	1.608E-02	1.689E-02	NOT IDENT.
CO-58	4.831E-03	3.574E-02	3.581E-02	NOT IDENT.

FE-59	-3.908E-03	1.122E-01	1.122E-01	NOT IDENT.
CO-60	-7.506E-03	3.829E-02	3.844E-02	NOT IDENT.
ZN-65	3.702E-02	1.009E-01	1.023E-01	NOT IDENT.
GE-68	1.483E+00	1.127E+00	1.310E+00	NOT IDENT.
AS-73	-5.975E-02	1.973E-01	1.991E-01	NOT IDENT.
AS-74	-1.056E-01	1.315E-01	1.398E-01	NOT IDENT.
SE-75	-1.817E-03	2.992E-02	2.993E-02	NOT IDENT.
BR-77	1.912E+03	1.831E+03	2.024E+03	SHORT HLIF
SR-82	7.813E-02	4.680E-01	4.694E-01	NOT IDENT.
RB-83	-3.878E-02	6.845E-02	7.065E-02	NOT IDENT.
RB-84	6.276E-04	9.914E-02	9.914E-02	NOT IDENT.
KR-85	5.305E+00	6.915E+00	7.317E+00	NOT IDENT.
SR-85	3.236E-02	4.232E-02	4.476E-02	NOT IDENT.
RB-86	1.451E+00	1.127E+00	1.303E+00	NOT IDENT.
Y-88	-2.788E-04	3.368E-02	3.368E-02	NOT IDENT.
Y-91	3.262E+01	2.717E+01	3.089E+01	NOT IDENT.
NB-94	1.127E-03	3.436E-02	3.436E-02	NOT IDENT.
NB-95	-1.213E-02	3.905E-02	3.943E-02	NOT IDENT.
NB-95M	8.597E-02	1.047E-01	1.117E-01	NOT IDENT.
ZR-95	1.069E-01	8.161E-02	9.478E-02	NOT IDENT.
NB-97	-1.000E+41	1.517E+41	0.000E+00	SHORT HLIF
ZR-97	1.231E+12	1.379E+12	1.487E+12	SHORT HLIF
MO-99	-1.421E+02	4.342E+02	4.389E+02	SHORT HLIF
TC-99M	-8.873E+31	6.840E+32	0.000E+00	SHORT HLIF
RH-101	-1.004E-02	2.156E-02	2.203E-02	NOT IDENT.
RH-102	5.193E-02	5.375E-02	5.863E-02	NOT IDENT.
RU-103	4.479E-02	3.596E-02	4.124E-02	NOT IDENT.
RH-106	1.080E-02	2.835E-01	2.835E-01	NOT IDENT.
RU-106	1.080E-02	2.835E-01	2.835E-01	NOT IDENT.
AG-108M	-1.081E-02	2.571E-02	2.616E-02	NOT IDENT.
CD-109	2.567E-01	4.858E-01	4.994E-01	NOT IDENT.
AG-110	-4.642E-01	6.568E-01	6.893E-01	NOT IDENT.
AG-110M	2.266E-02	5.050E-02	5.152E-02	FAIL ABUN
SN-113	1.407E-02	3.924E-02	3.975E-02	NOT IDENT.
CD-115	3.258E+02	6.600E+02	6.762E+02	SHORT HLIF
SN-117M	2.898E-03	7.760E-02	7.761E-02	NOT IDENT.
SB-122	-2.056E+01	5.256E+01	5.337E+01	SHORT HLIF
TE-123M	-3.869E-03	2.174E-02	2.181E-02	NOT IDENT.
SB-124	1.924E-02	3.774E-02	3.872E-02	NOT IDENT.
SB-125	3.571E-02	8.148E-02	8.305E-02	NOT IDENT.
TE-125M	7.444E-01	6.945E+00	6.953E+00	NOT IDENT.
I-126	3.903E-02	4.571E-01	4.575E-01	NOT IDENT.
SB-126	-9.179E-02	2.731E-01	2.762E-01	NOT IDENT.
SN-126	1.979E-02	5.004E-02	5.083E-02	NOT IDENT.
SB-127	3.917E+00	1.571E+01	1.581E+01	NOT IDENT.
I-131	-6.536E-02	2.859E-01	2.874E-01	NOT IDENT.
I-132	-1.000E+41	2.851E+41	0.000E+00	SHORT HLIF
TE-132	6.567E-01	1.049E+01	1.050E+01	NOT IDENT.
BA-133	1.472E-02	2.812E-02	2.890E-02	NOT IDENT.
I-133	1.264E+08	2.869E+08	2.925E+08	SHORT HLIF
CS-134	-9.852E-03	4.861E-02	4.882E-02	NOT IDENT.
I-135	-1.701E+30	6.498E+30	0.000E+00	SHORT HLIF
CS-136	2.356E-01	2.369E-01	2.596E-01	FAIL ABUN
LA-138	-2.167E-03	5.636E-02	5.637E-02	NOT IDENT.
CE-139	-5.653E-03	2.079E-02	2.095E-02	NOT IDENT.
BA-140	-3.479E-01	4.919E-01	5.163E-01	NOT IDENT.
LA-140	-5.885E-02	1.720E-01	1.740E-01	NOT IDENT.
CE-141	-3.244E-02	6.152E-02	6.323E-02	NOT IDENT.
CE-143	2.580E+05	1.179E+05	1.656E+05	SHORT HLIF
CE-144	-1.548E-02	1.329E-01	1.331E-01	NOT IDENT.
PM-144	-3.503E-03	3.230E-02	3.233E-02	NOT IDENT.
PR-144	-2.640E-01	2.434E+00	2.437E+00	NOT IDENT.
PM-146	-1.367E-02	3.252E-02	3.310E-02	FAIL ABUN
ND-147	-1.247E+00	1.125E+00	1.257E+00	FAIL ABUN
PM-147	1.352E+02	4.338E+02	4.381E+02	NOT IDENT.
PM-149	2.161E+03	5.619E+03	5.703E+03	SHORT HLIF
EU-150	-1.095E-02	2.672E-02	2.717E-02	FAIL ABUN
EU-152	2.480E-02	8.030E-02	8.107E-02	NOT IDENT.
GD-153	-2.612E-02	5.062E-02	5.197E-02	NOT IDENT.
EU-154	1.297E-01	1.227E-01	1.359E-01	NOT IDENT.
EU-155	8.479E-04	6.226E-02	6.226E-02	NOT IDENT.
TB-160	-2.271E-02	1.504E-01	1.508E-01	FAIL ABUN
HO-166M	2.931E-02	5.808E-02	5.957E-02	FAIL ABUN
TM-171	-1.648E+00	3.200E+00	3.285E+00	NOT IDENT.
HF-172	7.396E-02	1.257E-01	1.301E-01	FAIL ABUN
LU-172	1.362E-02	7.258E-02	7.284E-02	FAIL ABUN
LU-176	-6.703E-03	2.031E-02	2.053E-02	NOT IDENT.
HF-181	-1.335E-02	4.747E-02	4.785E-02	FAIL ABUN

TA-182	1.551E-01	2.221E-01	2.328E-01	NOT IDENT.
RE-183	7.252E-02	8.118E-02	8.752E-02	FAIL ABUN
RE-184	-8.847E-02	1.312E-01	1.371E-01	NOT IDENT.
W-188	-4.481E-01	7.207E+00	7.209E+00	FAIL ABUN
IR-192	-1.745E-04	3.096E-02	3.096E-02	FAIL ABUN
HG-203	9.982E-04	3.893E-02	3.893E-02	NOT IDENT.
TL-204	-1.128E+00	1.986E+00	2.050E+00	FAIL ABUN
BI-207	-2.878E-02	5.245E-02	5.403E-02	NOT IDENT.
PB-211	5.046E-01	5.123E-01	5.605E-01	NOT IDENT.
BI-212	-3.599E-02	4.446E-01	4.449E-01	NOT IDENT.
BI-213	-1.782E-02	9.748E-02	9.781E-02	NOT IDENT.
BI-214	2.595E-01	1.551E-01	1.943E-01	FAIL ABUN
RN-219	9.360E-02	3.402E-01	3.428E-01	NOT IDENT.
RN-222	2.595E-01	1.551E-01	1.943E-01	FAIL ABUN
RA-223	-2.874E-01	4.987E-01	5.152E-01	FAIL ABUN
AC-225	3.210E-01	1.046E+00	1.056E+00	NOT IDENT.
AC-227	1.540E-01	1.878E-01	2.002E-01	FAIL ABUN
TH-227	1.540E-01	1.878E-01	2.002E-01	FAIL ABUN
AC-228	4.737E-01	1.722E-01	2.743E-01	FAIL ABUN
RA-228	4.737E-01	1.722E-01	2.743E-01	FAIL ABUN
TH-229	-1.386E-02	3.741E-01	3.741E-01	NOT IDENT.
PA-231	-6.131E-02	3.559E-01	3.570E-01	NOT IDENT.
TH-231	-2.874E-01	4.987E-01	5.152E-01	FAIL ABUN
TH-232	4.737E-01	1.722E-01	2.743E-01	FAIL ABUN
PA-233	-3.658E-02	5.495E-02	5.737E-02	FAIL ABUN
PA-234	-7.878E-02	3.656E-01	3.673E-01	NOT IDENT.
PA-234M	-8.697E-01	4.333E+00	4.351E+00	NOT IDENT.
U-235	-7.726E-02	1.426E-01	1.468E-01	FAIL ABUN
NP-237	-3.658E-02	5.495E-02	5.737E-02	FAIL ABUN
NP-238	-1.447E+02	2.135E+03	2.136E+03	SHORT HLIF
NP-239	-3.900E-02	1.489E-01	1.499E-01	NOT IDENT.
PU-239	1.209E+02	2.232E+02	2.298E+02	NOT IDENT.
AM-241	-1.199E-02	4.297E-02	4.330E-02	NOT IDENT.
AM-243	1.223E-02	3.020E-02	3.070E-02	NOT IDENT.
CM-243	2.194E-02	6.213E-02	6.291E-02	NOT IDENT.
BK-247	6.298E-04	5.038E-02	5.039E-02	FAIL ABUN
CM-247	-5.704E-03	3.294E-02	3.304E-02	NOT IDENT.
CF-249	1.709E-02	3.310E-02	3.399E-02	NOT IDENT.
CF-251	-5.460E-02	8.806E-02	9.144E-02	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	61.9119	85.43	65.7457	131.20	32.0018
45.60	50.2483	86.55	69.7346	133.02	43.0661
46.54	50.3566	86.79	69.7606	133.52	38.5073
49.72	48.3002	86.94	63.7467	136.00	37.6993
51.35	54.5298	87.09	65.4849	136.47	40.4797
51.87	63.0824	87.57	63.8087	140.51	0.0000
52.39	53.4363	88.03	63.4224	143.76	40.8163
52.97	48.6380	88.34	63.4527	144.24	34.3409
53.44	51.9318	88.47	63.4650	145.44	51.1155
54.07	45.5000	89.96	68.8015	152.43	34.6499
57.36	0.0000	1093.63	72.7707	153.25	34.6803
57.53	41.7310	91.11	60.6850	323.87	43.1606
57.98	31.9405	92.59	60.8192	156.02	37.6029
59.27	41.8751	93.35	60.8879	158.56	37.7039
59.32	41.8791	94.56	39.2119	159.00	39.6070
59.54	41.8973	94.65	39.2171	162.33	35.0127
60.96	53.1342	94.67	39.2182	162.66	31.2379
61.17	53.1557	94.87	39.2297	163.33	31.2594
62.93	53.3346	97.43	42.0007	165.86	33.2397
63.29	66.1965	98.43	37.6795	176.31	43.1831
63.58	66.2326	98.44	37.6801	176.60	46.0752
64.28	59.6876	99.53	43.8820	177.52	36.5087
66.73	63.7056	100.11	51.8234	181.07	0.0000
67.24	67.5157	102.03	41.3944	181.52	39.0609
125.81	63.3987	103.18	39.6964	184.41	30.9476
67.75	63.4064	103.37	39.7069	143.76	30.9860
68.89	58.5206	105.21	42.4614	193.51	33.1613
69.67	71.1602	105.31	42.4670	197.03	24.4616
70.82	82.2100	106.12	38.9713	198.01	23.5039
70.83	82.2115	106.47	40.7622	201.83	25.5498
72.81	98.9947	109.28	41.8061	203.43	25.5861
72.87	99.0055	111.00	44.5763	205.31	35.4855
74.66	98.8027	111.76	49.0831	210.85	47.5430
74.82	98.8294	114.06	36.6993	215.65	41.7714
74.97	96.3203	116.30	37.7034	218.12	23.9194
77.11	92.4278	116.74	34.1317	222.11	27.9994
78.74	61.2184	119.76	33.3611	227.09	34.1397
79.69	48.5399	121.12	29.8054	227.38	35.1520
80.03	48.5666	121.22	29.8091	228.16	29.1446
80.12	48.5741	121.78	37.0614	228.18	29.1451
80.19	48.5797	122.06	41.5956	116.74	29.1451
80.57	48.6095	122.92	43.4502	235.69	25.2782
81.00	54.6172	123.07	43.4583	235.96	25.2836
81.07	54.6234	265.00	39.8669	238.63	25.3375
81.75	59.8098	125.81	34.5204	238.98	0.0000
82.47	59.8793	127.23	43.6797	240.99	25.3848
83.79	60.0046	127.91	45.5373	242.00	28.9615
84.00	73.3157	129.30	31.9292	244.70	21.3854

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.40	27.6592	344.28	17.0143	563.25	12.8020
252.80	26.6427	345.93	18.0140	564.24	0.0000
254.15	0.0000	351.06	13.1421	569.33	11.9185
256.23	18.4930	351.93	13.1489	946.00	11.9193
260.90	0.0000	355.39	0.0000	569.70	11.9205
264.66	16.5420	356.01	8.2382	583.19	11.8039
264.80	16.5436	364.49	16.5598	584.27	14.7617
265.00	16.5462	366.42	0.0000	595.83	15.7596
269.46	24.9004	372.51	18.8559	427.87	17.6478
270.03	28.0250	375.05	19.9944	602.52	0.0000
271.23	34.2823	377.52	15.0172	604.72	22.3301
273.65	26.0173	356.01	15.0716	607.14	20.8619
276.40	32.3251	388.16	14.5488	609.32	16.7789
277.37	17.7388	388.63	15.6720	610.33	10.4443
277.60	16.6982	391.69	14.5777	614.28	11.9555
278.00	21.9224	264.66	19.1582	618.01	12.1605
279.20	28.2101	401.81	15.7873	620.36	14.0442
279.54	27.1722	402.40	20.3046	621.93	12.1796
279.70	27.1754	404.85	7.9068	630.19	0.0000
280.46	33.4642	410.95	20.3994	631.29	9.4037
283.69	24.1076	413.71	20.4298	633.25	15.9987
284.31	20.9721	414.70	20.4404	634.78	11.2998
285.41	20.9884	423.72	11.4105	635.95	14.1312
285.90	0.0000	427.09	21.7186	636.99	12.2522
287.50	32.7895	427.87	14.8662	657.50	10.6398
290.67	23.6984	433.94	18.3548	657.76	9.1207
293.27	0.0000	439.40	13.8052	657.90	0.0000
351.93	16.9049	440.45	19.5677	661.66	12.1789
295.96	16.9137	453.88	13.9072	664.57	0.0000
879.38	16.9437	463.37	5.8221	666.33	14.1616
299.98	17.4900	468.07	14.8810	666.50	14.1625
300.09	17.4913	473.00	15.7945	667.71	0.0000
300.13	17.4916	475.06	15.8104	677.62	12.4438
301.36	14.3232	476.78	16.7027	685.70	13.4416
302.85	14.3377	477.60	9.6738	692.65	0.0000
256.23	21.2642	482.18	17.6276	695.00	18.3048
304.85	23.3965	487.02	19.4353	696.49	13.4950
306.78	22.3616	492.35	0.0000	696.51	13.4950
308.46	18.1223	497.08	4.4382	697.00	11.5693
311.90	28.8484	505.52	24.2395	697.30	13.4988
316.51	20.3618	507.63	0.0000	697.49	13.5001
319.41	13.9582	511.00	16.9751	702.65	12.3660
320.08	16.1124	514.00	16.9984	706.68	12.3840
321.04	19.3469	514.00	16.9984	711.68	10.6620
323.87	23.6892	520.40	16.4074	720.70	12.6414
325.23	22.6321	520.69	0.0000	721.93	0.0000
328.76	19.4425	522.65	0.0000	722.78	11.6774
333.37	25.9990	527.90	0.0000	722.91	10.7049
333.97	27.6343	528.26	10.8058	723.31	11.6796
334.37	17.8854	529.59	9.0100	724.19	10.7096
338.28	22.8192	529.87	0.0000	727.33	9.7470
338.32	22.8196	531.02	18.9332	733.00	15.6265
311.90	17.9536	537.26	18.0823	735.93	8.7990
340.48	17.9536	546.56	0.0000	333.97	9.3905
340.55	17.9546	552.55	15.4737	739.50	0.0000

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
744.23	11.7660	949.00	10.0430	1384.29	0.9323
747.24	7.8523	667.71	0.0000	1408.01	5.6221
748.06	8.8363	962.31	11.5519	1434.09	7.5371
752.31	13.7654	964.08	9.4562	1435.80	5.6549
753.82	15.7402	966.17	19.9753	1457.56	0.0000
756.73	5.9084	911.20	15.7823	1460.82	6.6319
756.80	7.8782	983.53	12.6779	1489.16	3.8115
884.68	8.8846	984.45	0.0000	1505.03	0.9560
765.81	7.9026	1274.44	9.5424	1584.12	3.8838
766.42	7.9041	1001.03	8.4934	1596.21	4.8660
766.84	7.9053	1002.74	10.6216	1620.50	1.9554
772.60	0.0000	1004.73	7.4392	1621.92	1.9560
776.52	10.9053	507.63	0.0000	1678.03	0.0000
739.50	0.0000	1025.87	0.0000	1690.97	0.0000
778.90	10.9141	1028.54	0.0000	1750.46	0.0000
783.70	10.9319	1037.84	7.5067	1764.49	3.0114
788.74	14.9323	1038.76	0.0000	1063.66	3.0144
792.07	10.9624	631.29	11.8245	1771.35	1.0050
795.86	18.9588	1048.07	6.4523	1791.20	0.0000
810.06	11.0275	1049.04	8.6050	1808.65	4.0463
810.29	7.0179	1050.41	10.7605	1810.72	0.0000
344.28	7.0184	1063.66	11.8782	1836.06	2.0327
810.76	7.0190	1077.00	2.1672		
815.77	6.4279	1077.34	2.1675		
1048.07	4.8252	1085.87	5.4306		
832.01	8.0769	1093.63	10.8832		
834.85	10.1053	1099.45	9.8097		
835.71	12.1296	1112.07	10.9351		
836.80	0.0000	1112.84	12.0306		
846.75	0.0000	1115.54	10.9448		
846.77	6.0862	1120.29	10.9576		
856.80	12.2109	1120.55	10.9583		
860.56	7.1314	1221.41	7.6725		
871.09	12.2651	1129.67	6.5903		
873.19	8.1821	1131.51	0.0000		
875.33	0.0000	1147.95	0.0000		
879.38	11.2719	1173.23	15.5449		
880.51	17.4259	1177.95	7.7814		
881.60	12.3047	1189.05	7.8024		
883.24	3.0777	1204.77	6.7130		
884.68	8.2109	1221.41	8.9863		
889.28	7.1946	1231.02	13.5103		
894.76	16.4722	1235.36	8.1145		
898.04	7.2138	1238.28	16.2404		
900.72	7.2196	1260.41	0.0000		
903.28	9.2895	1271.87	10.0021		
911.20	6.2076	1274.44	4.5491		
912.08	6.2093	1274.54	4.5493		
923.98	0.0000	1291.59	12.7873		
926.50	6.2358	1298.22	0.0000		
929.11	5.2005	1312.11	4.5881		
935.54	9.3785	1332.49	7.3746		
937.49	9.3840	1362.66	0.0000		
944.13	13.1331	1365.19	6.4989		
946.00	11.7069	1368.63	0.0000		

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:07:44.90

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289008.CNF;1
Background file : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM43.CNF;639
Background date : 16-JUN-2024 11:42:57
Sample date : 22-MAY-2024 10:00:00 Acquisition date : 20-JUN-2024 05:05:36
Sample ID : G669289008 Sample quantity : 1.29740E+02 GRAM
Detector name : GAM43 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:00.55 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 3.00000
Batch ID : 2618905 Detector SN# :
Matrix Spike ID : LCS ID :

BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	47.42	39	54	2.22	95.16	92	7	1.08E-02	35.2	
2	3	74.88	52	78	1.05	150.15	145	17	1.44E-02	30.8	1.20E+00
3	3	77.35*	104	86	1.21	155.09	145	17	2.88E-02	18.7	
4	6	92.79*	68	55	1.24	186.03	183	11	1.89E-02	21.1	1.87E+00
5	6	94.52	46	85	1.73	189.49	183	11	1.27E-02	46.2	
6	0	186.20*	56	103	1.15	373.07	367	13	1.55E-02	41.2	
7	0	210.76	44	72	2.19	422.25	416	13	1.22E-02	42.4	
8	3	239.15*	279	40	1.23	479.09	472	18	7.76E-02	7.1	2.15E+00
9	3	242.31	74	35	1.82	485.42	472	18	2.04E-02	20.6	
10	0	271.11	49	18	1.45	543.08	539	10	1.37E-02	22.0	
11	0	295.76	98	41	1.28	592.44	588	10	2.71E-02	16.1	
12	0	300.92	23	42	1.01	602.75	598	11	6.46E-03	57.4	
13	0	324.48	20	24	2.09	649.93	643	10	5.62E-03	52.4	
14	0	329.51	40	39	2.34	660.01	653	17	1.12E-02	38.7	
15	0	338.90	42	43	1.52	678.79	672	11	1.16E-02	34.5	
16	0	352.34*	160	28	1.05	705.71	700	10	4.44E-02	10.3	
17	0	371.82	12	35	0.64	744.71	738	12	3.28E-03	105.4	
18	0	511.99*	37	42	3.24	1025.30	1017	22	1.02E-02	56.1	
19	1	583.43*	82	17	2.15	1168.30	1160	25	2.29E-02	15.8	6.90E-01
20	1	590.08	16	7	2.16	1181.61	1160	25	4.57E-03	36.1	
21	0	609.90	122	15	1.88	1221.28	1213	16	3.38E-02	11.7	
22	0	631.05	15	16	3.12	1263.60	1257	12	4.30E-03	56.4	
23	0	728.08	16	16	1.65	1457.80	1450	13	4.37E-03	58.6	
24	0	796.92	9	14	0.85	1595.56	1586	14	2.50E-03	94.3	
25	0	860.49*	5	10	4.27	1722.76	1714	13	1.36E-03	146.4	
26	0	912.24*	43	23	0.95	1826.31	1816	18	1.21E-02	30.0	
27	0	968.21	49	14	0.80	1938.31	1928	19	1.36E-02	23.3	
28	0	1046.20	9	23	6.26	2094.33	2082	18	2.48E-03	129.4	
29	0	1086.69	17	3	1.39	2175.34	2168	14	4.62E-03	34.2	
30	0	1130.86	10	6	2.81	2263.70	2257	12	2.78E-03	58.3	
31	0	1187.17	19	10	2.80	2376.35	2364	20	5.31E-03	46.5	
32	0	1461.21*	191	8	2.12	2924.43	2916	16	5.31E-02	8.1	
33	0	1764.59	26	0	3.25	3531.04	3521	17	7.22E-03	19.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JUN-2024 06:07:46

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289008.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: MXR1		
Sample date	: 22-MAY-2024 10:00:00	Acquisition date	: 20-JUN-2024 05:05:36
Sample ID	: G669289008	Sample quantity	: 129.74 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA43	Detector geometry	: CAN
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:00.55 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	182	10.66*	1.026E+00	9.634E+00	9.634E+00	16.10
TL-208	277.37	------	6.60	4.229E+00	------ Line Not Found		------
	583.19	84	85.00*	2.359E+00	2.412E-01	2.412E-01	31.61
	860.56	5	12.50	1.672E+00	1.339E-01	1.339E-01	292.73
BI-210	46.54	46	4.25*	3.336E-01	1.890E+01	1.895E+01	70.31
PB-210	46.54	46	4.25*	3.336E-01	1.890E+01	1.895E+01	70.31
BI-211	72.87	------	1.23	3.150E+00	------ Line Not Found		------
	351.06	168	12.92*	3.521E+00	2.132E+00	2.132E+00	20.61
BI-212	727.33	16	6.67*	1.948E+00	7.001E-01	7.001E-01	117.18
	1620.50	------	1.47	9.504E-01	------ Line Not Found		------
PB-212	74.82	60	10.28	3.403E+00	9.926E-01	9.926E-01	61.59
	77.11	120	17.10	3.703E+00	1.095E+00	1.095E+00	37.46
	238.63	301	43.60*	4.722E+00	8.455E-01	8.455E-01	14.29
	300.09	25	3.30	3.975E+00	1.088E+00	1.088E+00	114.89
BI-214	609.32	123	45.49*	2.272E+00	6.888E-01	6.889E-01	23.32
	1120.29	------	14.92	1.302E+00	------ Line Not Found		------
	1764.49	24	15.30	9.024E-01	1.023E+00	1.023E+00	39.22
PB-214	74.82	60	5.80	3.403E+00	1.759E+00	1.759E+00	61.59
	77.11	120	9.70	3.703E+00	1.930E+00	1.930E+00	37.46
	87.09	------	3.41	4.732E+00	------ Line Not Found		------
	242.00	79	7.25	4.677E+00	1.350E+00	1.350E+00	41.26
	295.22	104	18.42	4.028E+00	8.079E-01	8.079E-01	32.11
	351.93	168	35.60*	3.521E+00	7.738E-01	7.739E-01	20.61
RN-222	609.32	123	45.49*	2.272E+00	6.888E-01	6.889E-01	23.32
	1120.29	------	14.92	1.302E+00	------ Line Not Found		------
	1764.49	24	15.30	9.024E-01	1.023E+00	1.023E+00	39.22
RA-224	240.99	79	4.10*	4.677E+00	2.388E+00	2.388E+00	41.26
RA-226	74.82	60	5.80	3.403E+00	1.759E+00	1.759E+00	61.59
	77.11	120	9.70	3.703E+00	1.930E+00	1.930E+00	37.46
	87.09	------	3.41	4.732E+00	------ Line Not Found		------
	242.00	79	7.25	4.677E+00	1.350E+00	1.350E+00	41.26
	295.22	104	18.42	4.028E+00	8.079E-01	8.079E-01	32.11
	351.93	168	35.60*	3.521E+00	7.738E-01	7.739E-01	20.61
AC-228	105.21	------	1.10	5.897E+00	------ Line Not Found		------
	338.32	44	11.27	3.629E+00	6.193E-01	6.193E-01	69.03
	835.71	------	1.61	1.718E+00	------ Line Not Found		------
	911.20	43	25.80*	1.583E+00	6.058E-01	6.058E-01	59.98
	968.97	48	15.80	1.496E+00	1.177E+00	1.177E+00	46.65
RA-228	105.21	------	1.10	5.897E+00	------ Line Not Found		------
	338.32	44	11.27	3.629E+00	6.193E-01	6.193E-01	69.03
	835.71	------	1.61	1.718E+00	------ Line Not Found		------
	911.20	43	25.80*	1.583E+00	6.058E-01	6.058E-01	59.98
	968.97	48	15.80	1.496E+00	1.177E+00	1.177E+00	46.65
TH-228	74.82	60	10.28	3.403E+00	9.926E-01	9.926E-01	61.59
	77.11	120	17.10	3.703E+00	1.095E+00	1.095E+00	37.46
	238.63	301	43.60*	4.722E+00	8.455E-01	8.455E-01	14.29
	300.09	25	3.30	3.975E+00	1.088E+00	1.088E+00	114.89
TH-230	74.82	60	5.80	3.403E+00	1.759E+00	1.759E+00	61.59
	77.11	120	9.70	3.703E+00	1.930E+00	1.930E+00	37.46

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	87.09	------	3.41	4.732E+00	------ Line Not Found		------
	242.00	79	7.25	4.677E+00	1.350E+00	1.350E+00	41.26
	295.22	104	18.42	4.028E+00	8.079E-01	8.079E-01	32.11
	351.93	168	35.60*	3.521E+00	7.738E-01	7.738E-01	20.61
PA-231	283.69	------	1.70	4.158E+00	------ Line Not Found		------
	301.36	25	5.35*	3.975E+00	6.711E-01	6.711E-01	114.89
TH-232	105.21	------	1.10	5.897E+00	------ Line Not Found		------
	338.32	44	11.27	3.629E+00	6.193E-01	6.193E-01	69.03
	835.71	------	1.61	1.718E+00	------ Line Not Found		------
	911.20	43	25.80*	1.583E+00	6.058E-01	6.058E-01	59.98
	968.97	48	15.80	1.496E+00	1.177E+00	1.177E+00	46.65
U-234	74.82	60	5.80	3.403E+00	1.759E+00	1.759E+00	61.59
	77.11	120	9.70	3.703E+00	1.930E+00	1.930E+00	37.46
	87.09	------	3.41	4.732E+00	------ Line Not Found		------
	242.00	79	7.25	4.677E+00	1.350E+00	1.350E+00	41.26
	295.22	104	18.42	4.028E+00	8.079E-01	8.079E-01	32.11
	351.93	168	35.60*	3.521E+00	7.738E-01	7.738E-01	20.61
AM-243	43.53	------	5.90	1.581E-01	------ Line Not Found		------
	74.66	60	67.20*	3.403E+00	1.518E-01	1.518E-01	61.59
ANH-511	511.00	38	100.00*	2.625E+00	8.328E-02	8.328E-02	112.13

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:07:47.12

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289008.CNF;1		
Acquisition date	: 20-JUN-2024 05:05:36	Sensitivity	: 3.000
Detector ID	: GAM43	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.55	Half life ratio	: *****
Sample date	: 22-MAY-2024 10:00:00	Analyst initials	: MXR1
Sample ID	: G669289008	Sample Quantity	: 1.2974E+02 GRAM
Batch Number	: 2618905	Wet Weight	: 0.00000
Wet wt corr	: 1.00000	Dry Weight	: 0.00000
Nuclide Library	: SOLID.NLB;17		

CALIBRATION INFORMATION

Eff. Cal. date	: 13-JUL-2023 04:10:21	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM43_CAN.CNF;21		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	9.634E+00	1.520E+00	6.286E-01
TL-208	2.412E-01	7.473E-02	6.825E-02
BI-210	1.895E+01	1.306E+01	1.457E+01
PB-210	1.895E+01	1.306E+01	1.457E+01
BI-211	2.132E+00	4.307E-01	3.699E-01
BI-212	7.001E-01	8.039E-01	8.422E-01
PB-212	8.455E-01	1.184E-01	8.891E-02
BI-214	6.889E-01	1.575E-01	1.549E-01
PB-214	7.739E-01	1.563E-01	1.346E-01
RN-222	6.889E-01	1.575E-01	1.549E-01
RA-224	2.388E+00	9.654E-01	9.538E-01
RA-226	7.739E-01	1.563E-01	1.346E-01
AC-228	6.058E-01	3.561E-01	3.129E-01
RA-228	6.058E-01	3.561E-01	3.129E-01
TH-228	8.455E-01	1.184E-01	8.891E-02
TH-230	7.738E-01	1.563E-01	1.345E-01
PA-231	6.711E-01	7.556E-01	7.311E-01
TH-232	6.058E-01	3.561E-01	3.129E-01
U-234	7.738E-01	1.563E-01	1.345E-01
AM-243	1.518E-01	9.166E-02	8.899E-02
ANH-511	8.328E-02	9.151E-02	5.619E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	-3.755E-02	3.183E-01	6.279E-01	NOT IDENT.
NA-22	-1.991E-02	4.122E-02	7.243E-02	NOT IDENT.
NA-24	0.000E+00	2.824E+12	0.000E+00	SHORT HLIF
AL-26	-4.605E-04	1.869E-02	4.776E-02	FAIL ABUN
SC-46	-2.206E-02	4.371E-02	8.008E-02	NOT IDENT.
V-48	-4.031E-03	1.343E-01	2.641E-01	NOT IDENT.
CR-51	-1.443E-01	5.440E-01	8.814E-01	NOT IDENT.
MN-52	-3.703E-01	9.266E-01	1.835E+00	NOT IDENT.
MN-54	-4.983E-03	3.741E-02	7.315E-02	NOT IDENT.

CO-56	-8.030E-03	3.442E-02	6.839E-02	NOT IDENT.
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	-9.542E-03	2.106E-02	3.758E-02	NOT IDENT.
CO-58	2.026E-02	3.832E-02	8.519E-02	NOT IDENT.
FE-59	-2.014E-02	1.337E-01	2.508E-01	NOT IDENT.
CO-60	-1.629E-02	4.452E-02	8.427E-02	NOT IDENT.
ZN-65	1.459E-02	1.001E-01	1.978E-01	NOT IDENT.
GE-68	5.574E-01	1.502E+00	3.080E+00	NOT IDENT.
AS-73	-6.509E-01	1.467E+00	2.870E+00	NOT IDENT.
AS-74	-6.274E-02	1.498E-01	2.735E-01	NOT IDENT.
SE-75	-1.722E-03	4.089E-02	7.854E-02	NOT IDENT.
BR-77	0.000E+00	9.982E+02	0.000E+00	SHORT HLIF
SR-82	3.758E-01	4.659E-01	1.016E+00	NOT IDENT.
RB-83	1.360E-02	7.698E-02	1.397E-01	NOT IDENT.
RB-84	-8.495E-02	1.027E-01	1.765E-01	NOT IDENT.
KR-85	1.009E+01	8.059E+00	1.729E+01	NOT IDENT.
SR-85	6.152E-02	4.929E-02	1.057E-01	NOT IDENT.
RB-86	6.666E-01	1.536E+00	3.172E+00	NOT IDENT.
Y-88	3.887E-02	3.445E-02	1.029E-01	NOT IDENT.
Y-91	-8.279E+00	2.556E+01	4.636E+01	NOT IDENT.
NB-94	-1.302E-02	3.435E-02	6.157E-02	NOT IDENT.
NB-95	-1.012E-02	5.801E-02	1.051E-01	NOT IDENT.
NB-95M	2.760E-03	1.242E-01	2.170E-01	NOT IDENT.
ZR-95	1.894E-02	7.960E-02	1.595E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.394E+12	0.000E+00	SHORT HLIF
MO-99	0.000E+00	3.231E+02	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	7.726E+32	0.000E+00	SHORT HLIF
RH-101	3.017E-02	2.663E-02	5.465E-02	FAIL ABUN
RH-102	7.420E-02	8.196E-02	1.254E-01	FAIL ABUN
RU-103	7.142E-03	4.570E-02	9.250E-02	FAIL ABUN
RH-106	1.726E-01	2.877E-01	6.162E-01	NOT IDENT.
RU-106	1.726E-01	2.877E-01	6.162E-01	NOT IDENT.
AG-108M	-1.178E-02	2.935E-02	5.109E-02	NOT IDENT.
CD-109	4.316E-01	7.341E-01	1.464E+00	NOT IDENT.
AG-110	8.982E-02	5.758E-01	1.185E+00	NOT IDENT.
AG-110M	2.055E-02	5.434E-02	1.140E-01	NOT IDENT.
SN-113	2.614E-02	5.122E-02	1.004E-01	NOT IDENT.
CD-115	0.000E+00	8.414E+02	0.000E+00	SHORT HLIF
SN-117M	-1.997E-02	8.665E-02	1.540E-01	NOT IDENT.
SB-122	0.000E+00	6.940E+01	0.000E+00	SHORT HLIF
TE-123M	-9.330E-04	2.444E-02	4.440E-02	NOT IDENT.
SB-124	3.595E-02	7.257E-02	1.970E-01	NOT IDENT.
SB-125	-4.767E-03	7.451E-02	1.397E-01	NOT IDENT.
TE-125M	-4.768E+00	9.961E+00	1.790E+01	NOT IDENT.
I-126	1.051E-01	4.239E-01	8.683E-01	NOT IDENT.
SB-126	-1.342E-02	3.609E-01	6.275E-01	NOT IDENT.
SN-126	1.113E-01	6.891E-02	1.479E-01	NOT IDENT.
SB-127	7.099E+00	1.442E+01	3.017E+01	NOT IDENT.
I-131	-3.128E-02	3.604E-01	6.689E-01	NOT IDENT.
I-132	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
TE-132	-5.924E+00	1.208E+01	2.235E+01	NOT IDENT.
BA-133	3.389E-02	4.015E-02	7.765E-02	NOT IDENT.
I-133	0.000E+00	3.249E+08	0.000E+00	SHORT HLIF
CS-134	3.464E-02	6.402E-02	8.645E-02	FAIL ABUN
I-135	0.000E+00	6.406E+30	0.000E+00	SHORT HLIF
CS-136	-1.556E-02	2.944E-01	4.882E-01	NOT IDENT.
BA-137M	-9.671E-03	3.053E-02	5.653E-02	NOT IDENT.
CS-137	-1.022E-02	3.226E-02	5.972E-02	NOT IDENT.
LA-138	-7.307E-03	4.314E-02	9.141E-02	NOT IDENT.
CE-139	9.425E-03	2.656E-02	4.995E-02	NOT IDENT.
BA-140	-1.099E-01	5.442E-01	1.036E+00	NOT IDENT.
LA-140	-5.766E-02	2.084E-01	4.019E-01	FAIL ABUN
CE-141	3.624E-02	7.389E-02	1.431E-01	NOT IDENT.
CE-143	0.000E+00	9.612E+04	0.000E+00	SHORT HLIF
CE-144	4.315E-02	1.772E-01	3.343E-01	NOT IDENT.
PM-144	-2.922E-02	3.669E-02	6.098E-02	NOT IDENT.
PR-144	-2.211E+00	2.764E+00	4.590E+00	NOT IDENT.
PM-146	1.937E-02	3.578E-02	7.654E-02	NOT IDENT.
ND-147	-5.995E-01	1.385E+00	2.544E+00	NOT IDENT.
PM-147	5.105E+02	5.750E+02	1.180E+03	NOT IDENT.
PM-149	0.000E+00	5.377E+03	0.000E+00	SHORT HLIF
EU-150	2.394E-03	3.670E-02	4.932E-02	FAIL ABUN
EU-152	3.335E-02	9.031E-02	1.777E-01	FAIL ABUN
GD-153	-2.421E-02	7.707E-02	1.316E-01	NOT IDENT.
EU-154	-4.018E-02	1.118E-01	2.038E-01	NOT IDENT.
EU-155	2.259E-02	8.445E-02	1.649E-01	NOT IDENT.
TB-160	8.970E-02	1.589E-01	3.416E-01	NOT IDENT.

HO-166M	-1.906E-02	6.137E-02	1.115E-01	NOT IDENT.
TM-171	-3.828E+00	2.929E+01	5.912E+01	NOT IDENT.
HF-172	-3.266E-02	1.646E-01	2.996E-01	NOT IDENT.
LU-172	-4.411E-02	8.894E-02	1.384E-01	FAIL ABUN
LU-176	3.208E-03	2.297E-02	4.288E-02	NOT IDENT.
HF-181	9.847E-03	4.969E-02	1.011E-01	NOT IDENT.
TA-182	1.252E-02	2.515E-01	4.768E-01	NOT IDENT.
RE-183	-2.099E-02	2.813E-01	5.668E-01	NOT IDENT.
RE-184	-2.531E-01	1.954E-01	2.447E-01	NOT IDENT.
W-188	3.598E+00	6.756E+00	1.336E+01	NOT IDENT.
IR-192	-1.472E-02	3.805E-02	6.869E-02	FAIL ABUN
HG-203	2.153E-02	4.219E-02	8.471E-02	NOT IDENT.
TL-204	7.568E-03	5.496E+00	1.001E+01	NOT IDENT.
BI-207	-3.122E-02	5.940E-02	1.081E-01	FAIL ABUN
PB-211	-3.903E-01	6.317E-01	1.072E+00	NOT IDENT.
BI-213	4.740E-02	1.034E-01	2.033E-01	NOT IDENT.
RN-219	1.599E-01	3.761E-01	7.434E-01	FAIL ABUN
RA-223	8.261E-01	8.491E-01	1.144E+00	FAIL ABUN
AC-225	5.366E-01	1.352E+00	2.710E+00	NOT IDENT.
AC-227	-7.940E-02	1.919E-01	3.564E-01	FAIL ABUN
TH-227	-7.940E-02	1.919E-01	3.564E-01	FAIL ABUN
TH-229	1.103E-01	4.344E-01	8.704E-01	FAIL ABUN
TH-231	8.261E-01	8.491E-01	1.144E+00	FAIL ABUN
PA-233	1.385E-02	5.508E-02	1.086E-01	FAIL ABUN
PA-234	2.268E-03	2.950E-01	5.903E-01	FAIL ABUN
PA-234M	3.827E+00	3.716E+00	9.009E+00	NOT IDENT.
TH-234	9.688E-01	1.599E+00	3.360E+00	FAIL ABUN
U-235	-7.529E-02	1.734E-01	3.086E-01	FAIL ABUN
NP-237	1.385E-02	5.508E-02	1.086E-01	FAIL ABUN
NP-238	0.000E+00	1.930E+03	0.000E+00	SHORT HLIF
U-238	9.688E-01	1.599E+00	3.360E+00	FAIL ABUN
NP-239	-1.252E-01	2.232E-01	3.951E-01	NOT IDENT.
PU-239	-5.821E+01	2.782E+02	5.052E+02	NOT IDENT.
AM-241	-9.316E-02	1.741E-01	3.346E-01	NOT IDENT.
CM-243	-6.685E-03	7.982E-02	1.518E-01	NOT IDENT.
BK-247	9.972E-03	6.555E-02	1.290E-01	NOT IDENT.
CM-247	5.138E-03	3.403E-02	6.502E-02	NOT IDENT.
CF-249	-1.831E-02	4.319E-02	7.552E-02	NOT IDENT.
CF-251	5.452E-03	1.102E-01	1.991E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:07:45.68

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	182	10.66*	1.026E+00	9.634E+00	9.634E+00	16.10
TL-208	277.37	------	6.60	4.229E+00	------ Line Not Found		------
	583.19	84	85.00*	2.359E+00	2.412E-01	2.412E-01	31.61
	860.56	5	12.50	1.672E+00	1.339E-01	1.339E-01	292.73
BI-210	46.54	46	4.25*	3.336E-01	1.890E+01	1.895E+01	70.31
PB-210	46.54	46	4.25*	3.336E-01	1.890E+01	1.895E+01	70.31
BI-211	72.87	------	1.23	3.150E+00	------ Line Not Found		------
	351.06	168	12.92*	3.521E+00	2.132E+00	2.132E+00	20.61
BI-212	727.33	16	6.67*	1.948E+00	7.001E-01	7.001E-01	117.18
	1620.50	------	1.47	9.504E-01	------ Line Not Found		------
PB-212	74.82	60	10.28	3.403E+00	9.926E-01	9.926E-01	61.59
	77.11	120	17.10	3.703E+00	1.095E+00	1.095E+00	37.46
	238.63	301	43.60*	4.722E+00	8.455E-01	8.455E-01	14.29
	300.09	25	3.30	3.975E+00	1.088E+00	1.088E+00	114.89
BI-214	609.32	123	45.49*	2.272E+00	6.888E-01	6.889E-01	23.32
	1120.29	------	14.92	1.302E+00	------ Line Not Found		------
	1764.49	24	15.30	9.024E-01	1.023E+00	1.023E+00	39.22
PB-214	74.82	60	5.80	3.403E+00	1.759E+00	1.759E+00	61.59
	77.11	120	9.70	3.703E+00	1.930E+00	1.930E+00	37.46
	87.09	------	3.41	4.732E+00	------ Line Not Found		------
	242.00	79	7.25	4.677E+00	1.350E+00	1.350E+00	41.26
	295.22	104	18.42	4.028E+00	8.079E-01	8.079E-01	32.11
	351.93	168	35.60*	3.521E+00	7.738E-01	7.739E-01	20.61
RN-222	609.32	123	45.49*	2.272E+00	6.888E-01	6.889E-01	23.32
	1120.29	------	14.92	1.302E+00	------ Line Not Found		------
	1764.49	24	15.30	9.024E-01	1.023E+00	1.023E+00	39.22
RA-224	240.99	79	4.10*	4.677E+00	2.388E+00	2.388E+00	41.26
RA-226	74.82	60	5.80	3.403E+00	1.759E+00	1.759E+00	61.59
	77.11	120	9.70	3.703E+00	1.930E+00	1.930E+00	37.46
	87.09	------	3.41	4.732E+00	------ Line Not Found		------
	242.00	79	7.25	4.677E+00	1.350E+00	1.350E+00	41.26
	295.22	104	18.42	4.028E+00	8.079E-01	8.079E-01	32.11
	351.93	168	35.60*	3.521E+00	7.738E-01	7.739E-01	20.61
AC-228	105.21	------	1.10	5.897E+00	------ Line Not Found		------
	338.32	44	11.27	3.629E+00	6.193E-01	6.193E-01	69.03
	835.71	------	1.61	1.718E+00	------ Line Not Found		------
	911.20	43	25.80*	1.583E+00	6.058E-01	6.058E-01	59.98
	968.97	48	15.80	1.496E+00	1.177E+00	1.177E+00	46.65
RA-228	105.21	------	1.10	5.897E+00	------ Line Not Found		------
	338.32	44	11.27	3.629E+00	6.193E-01	6.193E-01	69.03
	835.71	------	1.61	1.718E+00	------ Line Not Found		------
	911.20	43	25.80*	1.583E+00	6.058E-01	6.058E-01	59.98
	968.97	48	15.80	1.496E+00	1.177E+00	1.177E+00	46.65
TH-228	74.82	60	10.28	3.403E+00	9.926E-01	9.926E-01	61.59
	77.11	120	17.10	3.703E+00	1.095E+00	1.095E+00	37.46
	238.63	301	43.60*	4.722E+00	8.455E-01	8.455E-01	14.29
	300.09	25	3.30	3.975E+00	1.088E+00	1.088E+00	114.89

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-230	74.82	60	5.80	3.403E+00	1.759E+00	1.759E+00	61.59
	77.11	120	9.70	3.703E+00	1.930E+00	1.930E+00	37.46
	87.09	------	3.41	4.732E+00	------ Line Not Found		------
	242.00	79	7.25	4.677E+00	1.350E+00	1.350E+00	41.26
	295.22	104	18.42	4.028E+00	8.079E-01	8.079E-01	32.11
	351.93	168	35.60*	3.521E+00	7.738E-01	7.738E-01	20.61
PA-231	283.69	------	1.70	4.158E+00	------ Line Not Found		------
	301.36	25	5.35*	3.975E+00	6.711E-01	6.711E-01	114.89
TH-232	105.21	------	1.10	5.897E+00	------ Line Not Found		------
	338.32	44	11.27	3.629E+00	6.193E-01	6.193E-01	69.03
	835.71	------	1.61	1.718E+00	------ Line Not Found		------
	911.20	43	25.80*	1.583E+00	6.058E-01	6.058E-01	59.98
	968.97	48	15.80	1.496E+00	1.177E+00	1.177E+00	46.65
U-234	74.82	60	5.80	3.403E+00	1.759E+00	1.759E+00	61.59
	77.11	120	9.70	3.703E+00	1.930E+00	1.930E+00	37.46
	87.09	------	3.41	4.732E+00	------ Line Not Found		------
	242.00	79	7.25	4.677E+00	1.350E+00	1.350E+00	41.26
	295.22	104	18.42	4.028E+00	8.079E-01	8.079E-01	32.11
	351.93	168	35.60*	3.521E+00	7.738E-01	7.738E-01	20.61
AM-243	43.53	------	5.90	1.581E-01	------ Line Not Found		------
	74.66	60	67.20*	3.403E+00	1.518E-01	1.518E-01	61.59
ANH-511	511.00	38	100.00*	2.625E+00	8.328E-02	8.328E-02	112.13

Flag: "*" = Keyline

Sample ID : G669289008 Acquisition date : 20-JUN-2024 05:05:36

Total number of lines in spectrum 33
Number of unidentified lines 2
Number of lines tentatively identified by NID 31 93.94%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	9.634E+00	9.634E+00	1.551E+00	16.10	
TL-208	1.41E+10Y	1.00	2.412E-01	2.412E-01	0.763E-01	31.61	
BI-210	22.20Y	1.00	1.890E+01	1.895E+01	1.332E+01	70.31	
PB-210	22.20Y	1.00	1.890E+01	1.895E+01	1.332E+01	70.31	
BI-211	7.04E+08Y	1.00	2.132E+00	2.132E+00	0.440E+00	20.61	
BI-212	1.41E+10Y	1.00	7.001E-01	7.001E-01	8.203E-01	117.18	
PB-212	1.41E+10Y	1.00	8.455E-01	8.455E-01	1.208E-01	14.29	
BI-214	1600.00Y	1.00	6.888E-01	6.889E-01	1.607E-01	23.32	
PB-214	1600.00Y	1.00	7.738E-01	7.739E-01	1.595E-01	20.61	
RN-222	1600.00Y	1.00	6.888E-01	6.889E-01	1.607E-01	23.32	
RA-224	1.41E+10Y	1.00	2.388E+00	2.388E+00	0.985E+00	41.26	
RA-226	1600.00Y	1.00	7.738E-01	7.739E-01	1.595E-01	20.61	
AC-228	1.41E+10Y	1.00	6.058E-01	6.058E-01	3.634E-01	59.98	
RA-228	1.41E+10Y	1.00	6.058E-01	6.058E-01	3.634E-01	59.98	
TH-228	1.41E+10Y	1.00	8.455E-01	8.455E-01	1.208E-01	14.29	
TH-230	7.54E+04Y	1.00	7.738E-01	7.738E-01	1.595E-01	20.61	
PA-231	7.04E+08Y	1.00	6.711E-01	6.711E-01	7.710E-01	114.89	
TH-232	1.41E+10Y	1.00	6.058E-01	6.058E-01	3.634E-01	59.98	
U-234	2.45E+05Y	1.00	7.738E-01	7.738E-01	1.595E-01	20.61	
AM-243	7370.00Y	1.00	1.518E-01	1.518E-01	0.935E-01	61.59	
ANH-511	1.00E+09Y	1.00	8.328E-02	8.328E-02	9.338E-02	112.13	
			---------	---------			
	Total Activity :		6.178E+01	6.188E+01			

Grand Total Activity : 6.178E+01 6.188E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
6	92.79	78	63	1.24	186.03	183	11	1.89E-02	42.3	5.20E+00	T
6	94.52	52	97	1.73	189.49	183	11	1.27E-02	92.5	5.32E+00	T
0	186.20	61	112	1.15	373.07	367	13	1.55E-02	82.4	5.58E+00	T
0	210.76	48	78	2.19	422.25	416	13	1.22E-02	84.8	5.16E+00	T
0	271.11	53	19	1.45	543.08	539	10	1.37E-02	44.0	4.30E+00	T
0	324.48	21	25	2.09	649.93	643	10	5.62E-03	****	3.75E+00	T
0	329.51	42	41	2.34	660.01	653	17	1.12E-02	77.4	3.71E+00	T
0	371.82	12	37	0.64	744.71	738	12	3.28E-03	****	3.38E+00	T
1	590.08	17	7	2.16	1181.61	1160	25	4.57E-03	72.2	2.34E+00	
0	631.05	16	16	3.12	1263.60	1257	12	4.30E-03	****	2.21E+00	T
0	796.92	9	14	0.85	1595.56	1586	14	2.50E-03	****	1.79E+00	T
0	1046.20	9	23	6.26	2094.33	2082	18	2.48E-03	****	1.39E+00	T
0	1086.69	16	3	1.39	2175.34	2168	14	4.62E-03	68.3	1.34E+00	T
0	1130.86	10	6	2.81	2263.70	2257	12	2.78E-03	****	1.29E+00	T
0	1187.17	18	10	2.80	2376.35	2364	20	5.31E-03	93.1	1.23E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:07:56.84

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289008.CNF;1   *
* Acquisition date : 20-JUN-2024 05:05:36 Sensitivity     : 3.000           *
* Detector ID      : GAM43                Energy tolerance: 1.500           *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 01:00:00.55     Half life ratio : *****           *
* Sample date      : 22-MAY-2024 10:00:00 Nuclide Library : SOLID           *
* Sample ID        : G669289008           Analyst initials: MXR1            *
* Batch Number     : 2618905              Sample Quantity : 1.2974E+02 GRAM *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000      *
*                                         Dry Weight      :    0.00000      *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   : 13-JUL-2023 04:10:21 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM43_CAN.CNF;21            *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	2.428E-01
TL-208	3.017E-02
BI-210	6.605E+00
PB-210	6.605E+00
BI-211	1.674E-01
BI-212	3.603E-01
PB-212	4.056E-02
BI-214	6.980E-02
PB-214	6.091E-02
RN-222	6.980E-02
RA-224	4.352E-01
RA-226	6.091E-02
AC-228	1.372E-01
RA-228	1.372E-01
TH-228	4.056E-02
TH-230	6.091E-02
PA-231	3.279E-01
TH-232	1.372E-01
U-234	6.091E-02
AM-243	4.089E-02
ANH-511	2.508E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	2.740E-01	NOT IDENT.
NA-22	2.927E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	1.510E-02	FAIL ABUN
SC-46	3.386E-02	NOT IDENT.
V-48	1.134E-01	NOT IDENT.
CR-51	3.969E-01	NOT IDENT.
MN-52	6.494E-01	NOT IDENT.
MN-54	3.168E-02	NOT IDENT.
CO-56	2.817E-02	NOT IDENT.

MN-56	0.000E+00	SHORT HLIF
CO-57	1.717E-02	NOT IDENT.
CO-58	3.664E-02	NOT IDENT.
FE-59	1.090E-01	NOT IDENT.
CO-60	3.500E-02	NOT IDENT.
ZN-65	8.601E-02	NOT IDENT.
GE-68	1.346E+00	NOT IDENT.
AS-73	1.304E+00	NOT IDENT.
AS-74	1.189E-01	NOT IDENT.
SE-75	3.560E-02	NOT IDENT.
BR-77	0.000E+00	SHORT HLIF
SR-82	4.456E-01	NOT IDENT.
RB-83	6.126E-02	NOT IDENT.
RB-84	7.538E-02	NOT IDENT.
KR-85	7.944E+00	NOT IDENT.
SR-85	4.857E-02	NOT IDENT.
RB-86	1.390E+00	NOT IDENT.
Y-88	4.076E-02	NOT IDENT.
Y-91	1.969E+01	NOT IDENT.
NB-94	2.685E-02	NOT IDENT.
NB-95	4.674E-02	NOT IDENT.
NB-95M	9.925E-02	NOT IDENT.
ZR-95	6.918E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	2.541E-02	FAIL ABUN
RH-102	5.618E-02	FAIL ABUN
RU-103	4.085E-02	FAIL ABUN
RH-106	2.704E-01	NOT IDENT.
RU-106	2.704E-01	NOT IDENT.
AG-108M	2.260E-02	NOT IDENT.
CD-109	6.844E-01	NOT IDENT.
AG-110	5.030E-01	NOT IDENT.
AG-110M	4.977E-02	NOT IDENT.
SN-113	4.568E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	7.030E-02	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	2.032E-02	NOT IDENT.
SB-124	7.373E-02	NOT IDENT.
SB-125	6.083E-02	NOT IDENT.
TE-125M	8.246E+00	NOT IDENT.
I-126	3.806E-01	NOT IDENT.
SB-126	2.761E-01	NOT IDENT.
SN-126	6.936E-02	NOT IDENT.
SB-127	1.321E+01	NOT IDENT.
I-131	3.001E-01	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	1.022E+01	NOT IDENT.
BA-133	3.512E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	3.795E-02	FAIL ABUN
I-135	0.000E+00	SHORT HLIF
CS-136	2.118E-01	NOT IDENT.
BA-137M	2.410E-02	NOT IDENT.
CS-137	2.546E-02	NOT IDENT.
LA-138	3.422E-02	NOT IDENT.
CE-139	2.301E-02	NOT IDENT.
BA-140	4.565E-01	NOT IDENT.
LA-140	1.601E-01	FAIL ABUN
CE-141	6.657E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	1.547E-01	NOT IDENT.
PM-144	2.634E-02	NOT IDENT.
PR-144	1.983E+00	NOT IDENT.
PM-146	3.399E-02	NOT IDENT.
ND-147	1.125E+00	NOT IDENT.
PM-147	5.439E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	2.239E-02	FAIL ABUN
EU-152	8.044E-02	FAIL ABUN
GD-153	6.027E-02	NOT IDENT.
EU-154	8.236E-02	NOT IDENT.
EU-155	7.587E-02	NOT IDENT.
TB-160	1.497E-01	NOT IDENT.
HO-166M	4.837E-02	NOT IDENT.

TM-171	2.695E+01	NOT IDENT.
HF-172	1.381E-01	NOT IDENT.
LU-172	5.956E-02	FAIL ABUN
LU-176	1.926E-02	NOT IDENT.
HF-181	4.479E-02	NOT IDENT.
TA-182	2.096E-01	NOT IDENT.
RE-183	2.579E-01	NOT IDENT.
RE-184	9.956E-02	NOT IDENT.
W-188	6.029E+00	NOT IDENT.
IR-192	3.103E-02	FAIL ABUN
HG-203	3.877E-02	NOT IDENT.
TL-204	4.640E+00	NOT IDENT.
BI-207	4.633E-02	FAIL ABUN
PB-211	4.692E-01	NOT IDENT.
BI-213	9.127E-02	NOT IDENT.
RN-219	3.337E-01	FAIL ABUN
RA-223	5.186E-01	FAIL ABUN
AC-225	1.252E+00	NOT IDENT.
AC-227	1.594E-01	FAIL ABUN
TH-227	1.594E-01	FAIL ABUN
TH-229	4.017E-01	FAIL ABUN
TH-231	5.186E-01	FAIL ABUN
PA-233	4.891E-02	FAIL ABUN
PA-234	2.522E-01	FAIL ABUN
PA-234M	3.858E+00	NOT IDENT.
TH-234	1.564E+00	FAIL ABUN
U-235	1.425E-01	FAIL ABUN
NP-237	4.891E-02	FAIL ABUN
NP-238	0.000E+00	SHORT HLIF
U-238	1.564E+00	FAIL ABUN
NP-239	1.811E-01	NOT IDENT.
PU-239	2.323E+02	NOT IDENT.
AM-241	1.513E-01	NOT IDENT.
CM-243	6.918E-02	NOT IDENT.
BK-247	5.841E-02	NOT IDENT.
CM-247	2.903E-02	NOT IDENT.
CF-249	3.406E-02	NOT IDENT.
CF-251	9.141E-02	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:08:00.87

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289008.CNF;1		
Acquisition date	: 20-JUN-2024 05:05:36	Sensitivity	: 3.000
Detector ID	: GAM43	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.55	Half life ratio	: *****
Sample date	: 22-MAY-2024 10:00:00	Nuclide Library	: SOLID
Sample ID	: G669289008	Analyst initials	: MXR1
Batch Number	: 2618905	Sample Quantity	: 1.2974E+02 GRAM
		Quantity Err(%)	: 1.5415E-03 %
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 13-JUL-2023 04:10:21	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM43_CAN.CNF;21		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	9.634E+00	1.775E+00	1.775E+00
TL-208	2.412E-01	7.779E-02	7.779E-02
BI-210	1.895E+01	1.331E+01	1.331E+01
PB-210	1.895E+01	1.331E+01	1.331E+01
BI-211	2.132E+00	4.644E-01	4.644E-01
BI-212	7.001E-01	8.067E-01	8.067E-01
PB-212	8.455E-01	1.412E-01	1.412E-01
BI-214	6.889E-01	1.690E-01	1.690E-01
PB-214	7.739E-01	1.681E-01	1.681E-01
RN-222	6.889E-01	1.690E-01	1.690E-01
RA-224	2.388E+00	9.891E-01	9.891E-01
RA-226	7.739E-01	1.681E-01	1.681E-01
AC-228	6.058E-01	3.616E-01	3.616E-01
RA-228	6.058E-01	3.616E-01	3.616E-01
TH-228	8.455E-01	1.412E-01	1.412E-01
TH-230	7.738E-01	1.681E-01	1.681E-01
PA-231	6.711E-01	7.701E-01	7.701E-01
TH-232	6.058E-01	3.616E-01	3.616E-01
U-234	7.738E-01	1.681E-01	1.681E-01
AM-243	1.518E-01	9.304E-02	9.304E-02
ANH-511	8.328E-02	9.181E-02	9.181E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	-3.755E-02	3.183E-01	3.188E-01	NOT IDENT.
NA-22	-1.991E-02	4.126E-02	4.222E-02	NOT IDENT.
NA-24	6.749E+11	2.824E+12	2.841E+12	SHORT HLIF
AL-26	-4.605E-04	1.869E-02	1.869E-02	FAIL ABUN
SC-46	-2.206E-02	4.376E-02	4.488E-02	NOT IDENT.
V-48	-4.031E-03	1.343E-01	1.343E-01	NOT IDENT.
CR-51	-1.443E-01	5.441E-01	5.480E-01	NOT IDENT.
MN-52	-3.703E-01	9.272E-01	9.421E-01	NOT IDENT.
MN-54	-4.983E-03	3.741E-02	3.748E-02	NOT IDENT.

CO-56	-8.030E-03	3.443E-02	3.462E-02	NOT IDENT.
MN-56	-1.000E+41	4.288E+41	0.000E+00	SHORT HLIF
CO-57	-9.542E-03	2.108E-02	2.151E-02	NOT IDENT.
CO-58	2.026E-02	3.837E-02	3.945E-02	NOT IDENT.
FE-59	-2.014E-02	1.337E-01	1.341E-01	NOT IDENT.
CO-60	-1.629E-02	4.455E-02	4.515E-02	NOT IDENT.
ZN-65	1.459E-02	1.002E-01	1.004E-01	NOT IDENT.
GE-68	5.574E-01	1.502E+00	1.523E+00	NOT IDENT.
AS-73	-6.509E-01	1.475E+00	1.504E+00	NOT IDENT.
AS-74	-6.274E-02	1.500E-01	1.526E-01	NOT IDENT.
SE-75	-1.722E-03	4.089E-02	4.090E-02	NOT IDENT.
BR-77	7.127E+03	6.043E+03	6.844E+03	SHORT HLIF
SR-82	3.758E-01	4.673E-01	4.970E-01	NOT IDENT.
RB-83	1.360E-02	7.701E-02	7.726E-02	NOT IDENT.
RB-84	-8.495E-02	1.030E-01	1.099E-01	NOT IDENT.
KR-85	1.009E+01	8.109E+00	9.298E+00	NOT IDENT.
SR-85	6.152E-02	4.959E-02	5.682E-02	NOT IDENT.
RB-86	6.666E-01	1.537E+00	1.566E+00	NOT IDENT.
Y-88	3.887E-02	3.457E-02	3.876E-02	NOT IDENT.
Y-91	-8.279E+00	2.557E+01	2.584E+01	NOT IDENT.
NB-94	-1.302E-02	3.437E-02	3.487E-02	NOT IDENT.
NB-95	-1.012E-02	5.802E-02	5.820E-02	NOT IDENT.
NB-95M	2.760E-03	1.242E-01	1.242E-01	NOT IDENT.
ZR-95	1.894E-02	7.962E-02	8.008E-02	NOT IDENT.
NB-97	1.000E+41	3.149E+41	0.000E+00	SHORT HLIF
ZR-97	-1.111E+11	1.394E+12	1.395E+12	SHORT HLIF
MO-99	1.986E+02	3.237E+02	3.358E+02	SHORT HLIF
TC-99M	4.493E+32	7.748E+32	0.000E+00	SHORT HLIF
RH-101	3.017E-02	2.727E-02	3.047E-02	FAIL ABUN
RH-102	7.420E-02	8.239E-02	8.892E-02	FAIL ABUN
RU-103	7.142E-03	4.571E-02	4.582E-02	FAIL ABUN
RH-106	1.726E-01	2.882E-01	2.986E-01	NOT IDENT.
RU-106	1.726E-01	2.882E-01	2.986E-01	NOT IDENT.
AG-108M	-1.178E-02	2.937E-02	2.985E-02	NOT IDENT.
CD-109	4.316E-01	7.359E-01	7.611E-01	NOT IDENT.
AG-110	8.982E-02	5.758E-01	5.772E-01	NOT IDENT.
AG-110M	2.055E-02	5.438E-02	5.516E-02	NOT IDENT.
SN-113	2.614E-02	5.127E-02	5.260E-02	NOT IDENT.
CD-115	2.813E+02	8.419E+02	8.514E+02	SHORT HLIF
SN-117M	-1.997E-02	8.667E-02	8.714E-02	NOT IDENT.
SB-122	3.222E+01	6.946E+01	7.097E+01	SHORT HLIF
TE-123M	-9.330E-04	2.444E-02	2.445E-02	NOT IDENT.
SB-124	3.595E-02	7.263E-02	7.441E-02	NOT IDENT.
SB-125	-4.767E-03	7.451E-02	7.454E-02	NOT IDENT.
TE-125M	-4.768E+00	9.971E+00	1.020E+01	NOT IDENT.
I-126	1.051E-01	4.240E-01	4.267E-01	NOT IDENT.
SB-126	-1.342E-02	3.609E-01	3.609E-01	NOT IDENT.
SN-126	1.113E-01	6.990E-02	8.604E-02	NOT IDENT.
SB-127	7.099E+00	1.447E+01	1.482E+01	NOT IDENT.
I-131	-3.128E-02	3.604E-01	3.606E-01	NOT IDENT.
I-132	1.000E+41	1.977E+42	0.000E+00	SHORT HLIF
TE-132	-5.924E+00	1.211E+01	1.240E+01	NOT IDENT.
BA-133	3.389E-02	4.024E-02	4.304E-02	NOT IDENT.
I-133	1.595E+08	3.265E+08	3.344E+08	SHORT HLIF
CS-134	3.464E-02	6.410E-02	6.598E-02	FAIL ABUN
I-135	3.814E+30	6.883E+30	0.000E+00	SHORT HLIF
CS-136	-1.556E-02	2.944E-01	2.945E-01	NOT IDENT.
BA-137M	-9.671E-03	3.055E-02	3.085E-02	NOT IDENT.
CS-137	-1.022E-02	3.227E-02	3.260E-02	NOT IDENT.
LA-138	-7.307E-03	4.314E-02	4.327E-02	NOT IDENT.
CE-139	9.425E-03	2.665E-02	2.698E-02	NOT IDENT.
BA-140	-1.099E-01	5.443E-01	5.466E-01	NOT IDENT.
LA-140	-5.766E-02	2.085E-01	2.101E-01	FAIL ABUN
CE-141	3.624E-02	7.397E-02	7.575E-02	NOT IDENT.
CE-143	4.267E+04	9.618E+04	9.808E+04	SHORT HLIF
CE-144	4.315E-02	1.772E-01	1.783E-01	NOT IDENT.
PM-144	-2.922E-02	3.679E-02	3.907E-02	NOT IDENT.
PR-144	-2.211E+00	2.771E+00	2.945E+00	NOT IDENT.
PM-146	1.937E-02	3.584E-02	3.688E-02	NOT IDENT.
ND-147	-5.995E-01	1.386E+00	1.412E+00	NOT IDENT.
PM-147	5.105E+02	5.767E+02	6.209E+02	NOT IDENT.
PM-149	2.804E+02	5.377E+03	5.379E+03	SHORT HLIF
EU-150	2.394E-03	3.670E-02	3.671E-02	FAIL ABUN
EU-152	3.335E-02	9.035E-02	9.160E-02	FAIL ABUN
GD-153	-2.421E-02	7.711E-02	7.788E-02	NOT IDENT.
EU-154	-4.018E-02	1.118E-01	1.133E-01	NOT IDENT.
EU-155	2.259E-02	8.448E-02	8.509E-02	NOT IDENT.
TB-160	8.970E-02	1.592E-01	1.642E-01	NOT IDENT.

HO-166M	-1.906E-02	6.139E-02	6.199E-02	NOT IDENT.
TM-171	-3.828E+00	2.930E+01	2.935E+01	NOT IDENT.
HF-172	-3.266E-02	1.647E-01	1.653E-01	NOT IDENT.
LU-172	-4.411E-02	8.912E-02	9.131E-02	FAIL ABUN
LU-176	3.208E-03	2.297E-02	2.301E-02	NOT IDENT.
HF-181	9.847E-03	4.970E-02	4.989E-02	NOT IDENT.
TA-182	1.252E-02	2.515E-01	2.516E-01	NOT IDENT.
RE-183	-2.099E-02	2.813E-01	2.815E-01	NOT IDENT.
RE-184	-2.531E-01	1.977E-01	2.283E-01	NOT IDENT.
W-188	3.598E+00	6.771E+00	6.962E+00	NOT IDENT.
IR-192	-1.472E-02	3.806E-02	3.864E-02	FAIL ABUN
HG-203	2.153E-02	4.222E-02	4.332E-02	NOT IDENT.
TL-204	7.568E-03	5.496E+00	5.496E+00	NOT IDENT.
BI-207	-3.122E-02	5.947E-02	6.111E-02	FAIL ABUN
PB-211	-3.903E-01	6.327E-01	6.567E-01	NOT IDENT.
BI-213	4.740E-02	1.034E-01	1.056E-01	NOT IDENT.
RN-219	1.599E-01	3.768E-01	3.837E-01	FAIL ABUN
RA-223	8.261E-01	8.522E-01	9.300E-01	FAIL ABUN
AC-225	5.366E-01	1.354E+00	1.375E+00	NOT IDENT.
AC-227	-7.940E-02	1.922E-01	1.955E-01	FAIL ABUN
TH-227	-7.940E-02	1.922E-01	1.955E-01	FAIL ABUN
TH-229	1.103E-01	4.345E-01	4.373E-01	FAIL ABUN
TH-231	8.261E-01	8.522E-01	9.300E-01	FAIL ABUN
PA-233	1.385E-02	5.509E-02	5.544E-02	FAIL ABUN
PA-234	2.268E-03	2.950E-01	2.950E-01	FAIL ABUN
PA-234M	3.827E+00	3.735E+00	4.114E+00	NOT IDENT.
TH-234	9.688E-01	1.616E+00	1.674E+00	FAIL ABUN
U-235	-7.529E-02	1.735E-01	1.768E-01	FAIL ABUN
NP-237	1.385E-02	5.509E-02	5.544E-02	FAIL ABUN
NP-238	1.664E+02	1.931E+03	1.932E+03	SHORT HLIF
U-238	9.688E-01	1.616E+00	1.674E+00	FAIL ABUN
NP-239	-1.252E-01	2.236E-01	2.306E-01	NOT IDENT.
PU-239	-5.821E+01	2.782E+02	2.794E+02	NOT IDENT.
AM-241	-9.316E-02	1.745E-01	1.795E-01	NOT IDENT.
CM-243	-6.685E-03	7.982E-02	7.988E-02	NOT IDENT.
BK-247	9.972E-03	6.558E-02	6.574E-02	NOT IDENT.
CM-247	5.138E-03	3.404E-02	3.412E-02	NOT IDENT.
CF-249	-1.831E-02	4.323E-02	4.401E-02	NOT IDENT.
CF-251	5.452E-03	1.102E-01	1.102E-01	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	29.6361	85.43	80.8776	131.20	44.7462
45.60	31.8466	86.55	59.5071	133.02	37.2907
46.54	31.7835	86.79	53.8898	133.52	47.2248
49.72	29.5251	86.94	53.9215	136.00	51.9606
51.35	30.3497	87.09	49.2197	136.47	46.4906
51.87	33.6482	87.57	41.7247	140.51	0.0000
52.39	37.7694	88.03	56.0480	143.76	49.6296
52.97	41.1229	88.34	69.4294	144.24	44.0428
53.44	40.4266	88.47	69.4640	145.44	41.9101
54.07	35.7043	89.96	53.5891	152.43	43.7856
57.36	0.0000	1093.63	39.6547	153.25	54.2627
57.53	34.7458	91.11	55.1016	323.87	38.1865
57.98	35.6596	92.59	52.1823	156.02	26.7289
59.27	40.0822	93.35	52.3277	158.56	40.9163
59.32	40.0928	94.56	52.5576	159.00	39.7877
59.54	38.4670	94.65	52.5749	162.33	47.1680
60.96	39.5967	94.67	52.5786	162.66	43.6626
61.17	39.6398	94.87	52.6165	163.33	46.0929
62.93	44.2533	97.43	45.8869	165.86	39.2238
63.29	37.5131	98.43	49.9948	176.31	47.4188
63.58	38.4217	98.44	49.9964	176.60	47.4479
64.28	47.1241	99.53	35.6583	177.52	41.4448
66.73	47.6924	100.11	38.7072	181.07	0.0000
67.24	43.4631	102.03	43.9564	181.52	39.3330
125.81	49.6519	103.18	37.1067	184.41	38.3300
67.75	47.9257	103.37	37.1304	143.76	38.4317
68.89	58.6976	105.21	39.3773	193.51	43.6470
69.67	56.2749	105.31	39.3901	197.03	49.0154
70.82	54.2160	106.12	43.5459	198.01	41.4873
70.83	54.2188	106.47	43.5954	201.83	44.3468
72.81	54.7083	109.28	55.2467	203.43	34.2155
72.87	54.7228	111.00	37.0324	205.31	33.4767
74.66	43.1678	111.76	54.6502	210.85	38.1531
74.82	43.1982	114.06	27.0015	215.65	45.9161
74.97	43.2268	116.30	55.4193	218.12	42.1636
77.11	43.6285	116.74	51.3047	222.11	44.2261
78.74	43.9310	119.76	51.7690	227.09	45.4966
79.69	49.0068	121.12	30.7616	227.38	41.9488
80.03	49.0747	121.22	30.7705	228.16	46.4723
80.12	49.0942	121.78	35.0721	228.18	46.4738
80.19	46.6531	122.06	45.7370	116.74	46.4738
80.57	46.7265	122.92	47.9838	235.69	38.0078
81.00	46.8092	123.07	50.1379	235.96	40.7410
81.07	46.8224	265.00	38.4711	238.63	36.3717
81.75	59.3086	125.81	50.5320	238.98	0.0000
82.47	61.3418	127.23	36.7011	240.99	36.5104
83.79	54.1922	127.91	43.2605	242.00	36.5694
84.00	54.2378	129.30	47.7698	244.70	41.3177

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.40	24.1616	344.28	25.2163	563.25	16.4003
252.80	22.3167	345.93	23.1593	564.24	0.0000
254.15	0.0000	351.06	30.7092	569.33	20.3508
256.23	29.9121	351.93	30.7399	946.00	20.3534
260.90	0.0000	355.39	0.0000	569.70	24.2332
264.66	32.1856	356.01	17.5715	583.19	19.5789
264.80	23.6710	364.49	26.8773	584.27	19.5941
265.00	28.4137	366.42	0.0000	595.83	19.7565
269.46	24.3099	372.51	22.7769	427.87	21.8053
270.03	31.4854	375.05	17.9455	602.52	0.0000
271.23	28.6731	377.52	26.1719	604.72	25.4469
273.65	25.8959	356.01	23.0555	607.14	25.4898
276.40	32.3524	388.16	35.2917	609.32	27.9214
277.37	38.5685	388.63	35.3092	610.33	27.9410
277.60	38.5807	391.69	26.5664	614.28	12.8078
278.00	34.7424	264.66	16.7578	618.01	23.0730
279.20	30.9342	401.81	20.1328	620.36	13.0623
279.54	29.0149	402.40	21.2641	621.93	11.0645
279.70	29.0216	404.85	24.6824	630.19	0.0000
280.46	28.0843	410.95	28.2201	631.29	11.1346
283.69	34.0480	413.71	21.5060	633.25	19.4607
284.31	29.2090	414.70	28.3254	634.78	19.4807
285.41	21.4526	423.72	22.8605	635.95	9.7479
285.90	0.0000	427.09	17.2012	636.99	18.9674
287.50	21.5144	427.87	16.0664	657.50	9.2689
290.67	21.2146	433.94	25.3936	657.76	9.2703
293.27	0.0000	439.40	24.3641	657.90	0.0000
351.93	20.7522	440.45	19.7427	661.66	14.4567
295.96	20.7731	453.88	14.9915	664.57	0.0000
879.38	20.8458	463.37	14.2305	666.33	10.3574
299.98	25.3594	468.07	18.7557	666.50	11.3941
300.09	25.3630	473.00	17.0431	667.71	0.0000
300.13	25.3646	475.06	14.3779	677.62	14.6041
301.36	25.4056	476.78	17.9993	685.70	11.5327
302.85	26.9528	477.60	17.1115	692.65	0.0000
256.23	24.0098	482.18	18.0835	695.00	17.9261
304.85	28.5244	487.02	19.0662	696.49	23.2199
306.78	24.0811	492.35	0.0000	696.51	23.2199
308.46	23.1277	497.08	17.3976	697.00	24.2824
311.90	24.2397	505.52	16.2288	697.30	20.0634
316.51	35.5568	507.63	0.0000	697.49	20.0657
319.41	24.4707	511.00	23.1560	702.65	20.1289
320.08	32.1447	514.00	23.2124	706.68	16.9922
321.04	38.3133	514.00	23.2124	711.68	18.1087
323.87	18.4548	520.40	14.9326	720.70	18.5632
325.23	0.0000	520.69	0.0000	721.93	0.0000
328.76	20.6287	522.65	0.0000	722.78	20.5875
333.37	40.4504	527.90	0.0000	722.91	20.5893
333.97	31.1383	528.26	20.6613	723.31	18.8778
334.37	31.1530	529.59	19.7433	724.19	18.8880
338.28	25.0391	529.87	0.0000	727.33	11.8268
338.32	25.0400	531.02	25.4122	733.00	5.1779
311.90	17.2590	537.26	20.8076	735.93	11.8866
340.48	17.2590	546.56	0.0000	333.97	12.9785
340.55	17.2603	552.55	13.3980	739.50	0.0000

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
744.23	18.4583	949.00	11.5784	1384.29	13.2953
747.24	13.0521	667.71	0.0000	1408.01	7.6553
748.06	7.6174	962.31	11.3254	1434.09	3.8590
752.31	14.1807	964.08	12.9538	1435.80	3.8612
753.82	16.3765	966.17	12.6420	1457.56	0.0000
756.73	12.0292	911.20	12.6579	1460.82	3.8911
756.80	12.0299	983.53	12.7407	1489.16	8.8304
884.68	21.9611	984.45	0.0000	1505.03	3.9434
765.81	24.1820	1274.44	9.8557	1584.12	12.1045
766.42	19.7924	1001.03	3.9505	1596.21	7.0852
766.84	17.5972	1002.74	8.8952	1620.50	6.1143
772.60	0.0000	1004.73	7.9139	1621.92	5.0972
776.52	8.8462	507.63	0.0000	1678.03	0.0000
739.50	0.0000	1025.87	0.0000	1690.97	1.0388
778.90	16.6086	1028.54	0.0000	1750.46	0.0000
783.70	9.9915	1037.84	11.7060	1764.49	2.1178
788.74	16.0304	1038.76	0.0000	1063.66	1.8179
792.07	14.2750	631.29	13.4277	1771.35	13.7898
795.86	13.4106	1048.07	15.1150	1791.20	0.0000
810.06	12.6123	1049.04	15.1216	1808.65	1.0708
810.29	8.1088	1050.41	18.4927	1810.72	0.0000
344.28	8.1097	1063.66	14.1996	1836.06	0.0000
810.76	8.1110	1077.00	12.2379		
815.77	8.1325	1077.34	12.2396		
1048.07	6.3344	1085.87	9.2114		
832.01	10.9359	1093.63	19.0675		
834.85	15.5154	1099.45	16.4656		
835.71	15.5225	1112.07	15.5142		
836.80	0.0000	1112.84	13.4494		
846.75	0.0000	1115.54	13.4640		
846.77	9.1829	1120.29	13.4894		
856.80	13.8446	1120.55	14.5284		
860.56	10.7885	1221.41	14.5325		
871.09	13.9442	1129.67	10.4146		
873.19	14.8895	1131.51	0.0000		
875.33	0.0000	1147.95	0.0000		
879.38	11.2014	1173.23	12.7078		
880.51	13.0754	1177.95	10.6084		
881.60	20.5584	1189.05	12.4283		
883.24	17.7689	1204.77	13.9293		
884.68	12.1666	1221.41	17.2477		
889.28	15.0078	1231.02	16.2261		
894.76	12.2262	1235.36	15.1676		
898.04	7.5359	1238.28	13.0148		
900.72	8.4889	1260.41	0.0000		
903.28	21.5854	1271.87	7.6826		
911.20	17.0631	1274.44	8.7879		
912.08	17.0706	1274.54	9.8868		
923.98	0.0000	1291.59	6.4460		
926.50	13.3680	1298.22	0.0000		
929.11	17.2085	1312.11	8.3459		
935.54	9.5889	1332.49	11.2041		
937.49	21.1148	1362.66	0.0000		
944.13	10.5899	1365.19	8.4943		
946.00	11.5626	1368.63	0.0000		

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:08:27.63

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*********************************************************************************
*                              GEL Laboratories LLC                             *
*                                2040 Savage Road                               *
*                              Charleston, SC 29407                             *
*********************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289009.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM47.CNF;197
                                        Background date  : 16-JUN-2024 11:33:03
Sample date      : 22-MAY-2024 11:00:00 Acquisition date : 20-JUN-2024 05:06:03
Sample ID        : G669289009           Sample quantity  : 1.22700E+02 GRAM
Detector name    : GAM47                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:00.31  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : MXR1
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 2618905              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	18.47*	20	103	0.94	37.35	35	5	5.46E-03	85.0	
2	0	26.47	33	100	1.75	53.34	50	8	9.03E-03	56.1	
3	0	63.70*	11	164	0.59	127.85	124	8	3.11E-03	206.2	
4	4	74.83	177	116	0.86	150.10	146	13	4.90E-02	11.8	5.11E-01
5	4	76.98	264	134	0.99	154.40	146	13	7.34E-02	9.6	
6	0	84.07*	21	105	0.61	168.60	166	6	5.85E-03	82.3	
7	0	86.59	61	162	1.07	173.64	172	7	1.69E-02	36.6	
8	5	89.79	45	71	1.34	180.03	178	17	1.26E-02	29.6	2.10E+00
9	5	92.76*	107	102	1.25	185.97	178	17	2.96E-02	19.3	
10	5	94.86*	20	71	1.05	190.19	178	17	5.53E-03	84.2	
11	0	185.94*	55	79	0.92	372.41	367	10	1.52E-02	34.9	
12	0	209.46	33	99	0.89	419.48	414	10	9.15E-03	59.4	
13	0	224.56	26	60	1.18	449.67	446	8	7.09E-03	56.2	
14	0	233.66	9	41	1.23	467.88	463	6	2.39E-03	122.4	
15	0	238.46*	301	53	1.10	477.50	474	7	8.36E-02	7.3	
16	0	241.48	61	52	1.80	483.52	481	6	1.71E-02	22.5	
17	0	263.94	18	37	1.31	528.46	525	7	4.88E-03	62.1	
18	1	269.82	31	40	1.26	540.23	537	20	8.53E-03	34.8	1.86E+00
19	1	271.32	16	50	1.27	543.23	537	20	4.58E-03	80.0	
20	0	295.04*	122	43	1.16	590.68	586	9	3.39E-02	13.4	
21	0	299.74*	24	38	0.78	600.09	596	8	6.62E-03	51.5	
22	0	338.11	75	40	1.25	676.84	672	10	2.10E-02	19.4	
23	1	349.18	18	26	1.22	699.00	696	15	4.87E-03	47.6	1.21E+00
24	1	351.71*	157	48	1.30	704.06	696	15	4.35E-02	11.3	
25	0	409.31	12	24	0.75	819.29	817	6	3.34E-03	69.4	
26	0	463.08	18	17	1.04	926.85	923	7	4.92E-03	45.7	
27	0	511.27*	13	45	1.63	1023.24	1017	15	3.69E-03	137.3	
28	0	582.81*	100	19	1.06	1166.34	1161	11	2.79E-02	13.6	
29	0	609.04*	142	33	1.13	1218.79	1213	11	3.94E-02	11.7	
30	0	728.49	50	21	2.13	1457.70	1449	21	1.39E-02	26.9	
31	0	743.38	15	21	2.76	1487.48	1481	13	4.24E-03	65.2	
32	0	754.81	15	10	1.95	1510.34	1505	9	4.19E-03	47.0	
33	0	768.17	24	19	1.82	1537.06	1529	13	6.72E-03	42.6	
34	0	840.12	23	11	3.56	1680.96	1675	11	6.39E-03	34.9	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
35	0	859.30	30	6	4.35	1719.32	1713	12	8.33E-03	24.5	
36	0	910.65*	76	16	1.46	1822.00	1815	13	2.12E-02	16.1	
37	0	968.81	42	19	3.18	1938.31	1932	14	1.18E-02	28.5	
38	0	984.14	7	8	0.70	1968.95	1964	10	2.01E-03	80.3	
39	0	1002.80	3	13	1.20	2006.26	1999	10	8.25E-04	231.5	
40	0	1093.64	6	8	0.55	2187.90	2181	8	1.67E-03	91.3	
41	0	1120.36	20	32	0.65	2241.34	2233	14	5.59E-03	63.3	
42	0	1164.23	8	5	0.76	2329.05	2322	10	2.16E-03	65.0	
43	0	1181.19	7	3	1.82	2362.97	2360	6	1.86E-03	56.8	
44	0	1190.51	9	11	0.65	2381.61	2376	10	2.54E-03	78.2	
45	0	1213.50	14	16	5.11	2427.57	2419	16	3.89E-03	69.3	
46	0	1266.70	12	2	0.99	2533.92	2530	8	3.31E-03	35.6	
47	0	1376.72	7	2	2.43	2753.88	2749	9	1.88E-03	55.3	
48	0	1459.76*	271	16	1.83	2919.88	2913	12	7.54E-02	6.8	
49	0	1667.94	6	0	0.67	3336.00	3333	6	1.67E-03	40.8	
50	0	1763.03*	22	7	2.48	3526.05	3520	13	6.07E-03	32.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JUN-2024 06:08:29

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289009.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: MXR1		
Sample date	: 22-MAY-2024 11:00:00	Acquisition date	: 20-JUN-2024 05:06:03
Sample ID	: G669289009	Sample quantity	: 122.70 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA47	Detector geometry	: CAN
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:00.31 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	257	10.66*	1.266E+00	1.166E+01	1.166E+01	13.58
CD-109	88.03	67	3.70*	9.749E+00	1.141E+00	1.191E+00	73.23
SN-126	64.28	13	9.60	1.023E+01	7.827E-02	7.827E-02	412.40
	86.94	67	8.90	9.749E+00	4.743E-01	4.743E-01	73.23
	87.57	67	37.00*	9.749E+00	1.141E-01	1.141E-01	73.23
TL-208	277.37	------	6.60	5.073E+00	------ Line Not Found		------
	583.19	100	85.00*	2.808E+00	2.568E-01	2.568E-01	27.14
	860.56	29	12.50	2.008E+00	7.149E-01	7.149E-01	48.99
BI-211	72.87	------	1.23	1.012E+01	------ Line Not Found		------
	351.06	161	12.92*	4.237E+00	1.798E+00	1.798E+00	22.59
BI-212	727.33	49	6.67*	2.319E+00	1.952E+00	1.952E+00	53.85
	1620.50	------	1.47	1.160E+00	------ Line Not Found		------
PB-212	74.82	197	10.28	1.008E+01	1.162E+00	1.162E+00	23.63
	77.11	294	17.10	1.003E+01	1.050E+00	1.050E+00	19.28
	238.63	316	43.60*	5.657E+00	7.837E-01	7.837E-01	14.63
	300.09	25	3.30	4.788E+00	9.570E-01	9.570E-01	103.08
BI-214	609.32	141	45.49*	2.705E+00	7.026E-01	7.026E-01	23.35
	1120.29	19	14.92	1.591E+00	4.994E-01	4.994E-01	126.59
	1764.49	20	15.30	1.083E+00	7.567E-01	7.567E-01	65.90
PB-214	74.82	197	5.80	1.008E+01	2.060E+00	2.060E+00	23.63
	77.11	294	9.70	1.003E+01	1.851E+00	1.851E+00	19.28
	87.09	67	3.41	9.749E+00	1.238E+00	1.238E+00	73.23
	242.00	64	7.25	5.607E+00	9.708E-01	9.708E-01	45.04
	295.22	127	18.42	4.845E+00	8.691E-01	8.691E-01	26.78
	351.93	161	35.60*	4.237E+00	6.525E-01	6.525E-01	22.59
RN-222	609.32	141	45.49*	2.705E+00	7.026E-01	7.026E-01	23.35
	1120.29	19	14.92	1.591E+00	4.994E-01	4.994E-01	126.59
	1764.49	20	15.30	1.083E+00	7.567E-01	7.567E-01	65.90
RA-224	240.99	64	4.10*	5.607E+00	1.717E+00	1.717E+00	45.04
RA-226	74.82	197	5.80	1.008E+01	2.060E+00	2.060E+00	23.63
	77.11	294	9.70	1.003E+01	1.851E+00	1.851E+00	19.28
	87.09	67	3.41	9.749E+00	1.238E+00	1.238E+00	73.23
	242.00	64	7.25	5.607E+00	9.708E-01	9.708E-01	45.04
	295.22	127	18.42	4.845E+00	8.691E-01	8.691E-01	26.78
	351.93	161	35.60*	4.237E+00	6.525E-01	6.525E-01	22.59
AC-228	105.21	------	1.10	9.106E+00	------ Line Not Found		------
	338.32	78	11.27	4.369E+00	9.653E-01	9.653E-01	38.88
	835.71	------	1.61	2.058E+00	------ Line Not Found		------
	911.20	74	25.80*	1.908E+00	9.256E-01	9.256E-01	32.12
	968.97	41	15.80	1.807E+00	8.834E-01	8.834E-01	57.05
RA-228	105.21	------	1.10	9.106E+00	------ Line Not Found		------
	338.32	78	11.27	4.369E+00	9.653E-01	9.653E-01	38.88
	835.71	------	1.61	2.058E+00	------ Line Not Found		------
	911.20	74	25.80*	1.908E+00	9.256E-01	9.256E-01	32.12
	968.97	41	15.80	1.807E+00	8.834E-01	8.834E-01	57.05
TH-228	74.82	197	10.28	1.008E+01	1.162E+00	1.162E+00	23.63
	77.11	294	17.10	1.003E+01	1.050E+00	1.050E+00	19.28
	238.63	316	43.60*	5.657E+00	7.837E-01	7.837E-01	14.63
	300.09	25	3.30	4.788E+00	9.570E-01	9.570E-01	103.08

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-229	85.43	67	14.70	9.749E+00	2.871E-01	2.871E-01	73.23
	88.47	50	24.00	9.644E+00	1.325E-01	1.325E-01	59.10
	193.51	------	4.41*	6.521E+00	------ Line Not Found		------
	210.85	35	2.80	6.187E+00	1.229E+00	1.229E+00	118.73
TH-230	74.82	197	5.80	1.008E+01	2.060E+00	2.060E+00	23.63
	77.11	294	9.70	1.003E+01	1.851E+00	1.851E+00	19.28
	87.09	67	3.41	9.749E+00	1.238E+00	1.238E+00	73.23
	242.00	64	7.25	5.607E+00	9.708E-01	9.708E-01	45.04
	295.22	127	18.42	4.845E+00	8.691E-01	8.691E-01	26.78
	351.93	161	35.60*	4.237E+00	6.525E-01	6.525E-01	22.59
TH-232	105.21	------	1.10	9.106E+00	------ Line Not Found		------
	338.32	78	11.27	4.369E+00	9.653E-01	9.653E-01	38.88
	835.71	------	1.61	2.058E+00	------ Line Not Found		------
	911.20	74	25.80*	1.908E+00	9.256E-01	9.256E-01	32.12
	968.97	41	15.80	1.807E+00	8.834E-01	8.834E-01	57.05
TH-234	63.29	13	3.70*	1.023E+01	2.031E-01	2.031E-01	412.40
	92.59	118	4.23	9.544E+00	1.783E+00	1.783E+00	38.59
U-234	74.82	197	5.80	1.008E+01	2.060E+00	2.060E+00	23.63
	77.11	294	9.70	1.003E+01	1.851E+00	1.851E+00	19.28
	87.09	67	3.41	9.749E+00	1.238E+00	1.238E+00	73.23
	242.00	64	7.25	5.607E+00	9.708E-01	9.708E-01	45.04
	295.22	127	18.42	4.845E+00	8.691E-01	8.691E-01	26.78
	351.93	161	35.60*	4.237E+00	6.525E-01	6.525E-01	22.59
U-235	89.96	50	3.47	9.644E+00	9.165E-01	9.165E-01	59.10
	93.35	118	5.60	9.544E+00	1.347E+00	1.347E+00	38.59
	143.76	------	10.96*	7.816E+00	------ Line Not Found		------
	163.33	------	5.08	7.256E+00	------ Line Not Found		------
	185.72	58	57.20	6.692E+00	9.305E-02	9.305E-02	69.89
	205.31	------	5.01	6.270E+00	------ Line Not Found		------
U-238	63.29	13	3.70*	1.023E+01	2.031E-01	2.031E-01	412.40
	92.59	118	4.23	9.544E+00	1.783E+00	1.783E+00	38.59
AM-243	43.53	------	5.90	9.384E+00	------ Line Not Found		------
	74.66	197	67.20*	1.008E+01	1.778E-01	1.778E-01	23.63
BK-247	84.00	23	40.00	9.828E+00	3.629E-02	3.629E-02	164.66
	102.03	------	7.00	9.219E+00	------ Line Not Found		------
	106.47	------	11.00	9.061E+00	------ Line Not Found		------
	119.76	------	4.00	8.595E+00	------ Line Not Found		------
	123.68	------	1.00	8.461E+00	------ Line Not Found		------
	265.00	18	30.00*	5.260E+00	7.115E-02	7.116E-02	124.25
ANH-511	511.00	13	100.00*	3.135E+00	2.607E-02	2.607E-02	274.51

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:08:29.94

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289009.CNF;1		
Acquisition date	: 20-JUN-2024 05:06:03	Sensitivity	: 3.000
Detector ID	: GAM47	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.31	Half life ratio	: *****
Sample date	: 22-MAY-2024 11:00:00	Analyst initials	: MXR1
Sample ID	: G669289009	Sample Quantity	: 1.2270E+02 GRAM
Batch Number	: 2618905	Wet Weight	: 0.00000
Wet wt corr	: 1.00000	Dry Weight	: 0.00000
Nuclide Library	: SOLID.NLB;17		

CALIBRATION INFORMATION

Eff. Cal. date	: 2-NOV-2023 04:08:57	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM47_CAN.CNF;6		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	1.166E+01	1.552E+00	6.281E-01
CD-109	1.191E+00	8.549E-01	8.725E-01
SN-126	1.141E-01	8.187E-02	8.340E-02
TL-208	2.568E-01	6.832E-02	4.870E-02
BI-211	1.798E+00	3.981E-01	3.103E-01
BI-212	1.952E+00	1.030E+00	7.142E-01
PB-212	7.837E-01	1.124E-01	8.183E-02
BI-214	7.026E-01	1.608E-01	1.169E-01
PB-214	6.525E-01	1.445E-01	1.129E-01
RN-222	7.026E-01	1.608E-01	1.169E-01
RA-224	1.717E+00	7.576E-01	8.990E-01
RA-226	6.525E-01	1.445E-01	1.129E-01
AC-228	9.256E-01	2.914E-01	2.303E-01
RA-228	9.256E-01	2.914E-01	2.303E-01
TH-228	7.837E-01	1.124E-01	8.183E-02
TH-229	-3.891E-01	4.076E-01	6.722E-01
TH-230	6.525E-01	1.445E-01	1.128E-01
TH-232	9.256E-01	2.914E-01	2.303E-01
TH-234	2.031E-01	8.207E-01	7.203E-01
U-234	6.525E-01	1.445E-01	1.128E-01
U-235	8.851E-02	1.590E-01	3.069E-01
U-238	2.031E-01	8.207E-01	7.203E-01
AM-243	1.778E-01	4.117E-02	4.450E-02
BK-247	7.116E-02	8.664E-02	1.202E-01
ANH-511	2.607E-02	7.014E-02	4.952E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L.	Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	-1.216E-01		2.964E-01	5.590E-01	NOT IDENT.
NA-22	9.668E-03		3.804E-02	7.736E-02	NOT IDENT.
NA-24	0.000E+00		1.789E+12	0.000E+00	SHORT HLIF
AL-26	-1.092E-02		2.203E-02	4.234E-02	NOT IDENT.
SC-46	1.127E-02		3.975E-02	8.098E-02	FAIL ABUN

V-48	8.398E-02	1.322E-01	2.363E-01	FAIL ABUN
CR-51	-1.746E-01	3.910E-01	6.663E-01	NOT IDENT.
MN-52	-4.348E-01	6.777E-01	1.241E+00	FAIL ABUN
MN-54	-1.141E-02	3.856E-02	6.231E-02	NOT IDENT.
CO-56	-9.026E-03	3.772E-02	7.083E-02	NOT IDENT.
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	1.026E-03	1.622E-02	3.083E-02	NOT IDENT.
CO-58	-9.985E-04	3.199E-02	6.405E-02	NOT IDENT.
FE-59	3.439E-02	7.906E-02	1.732E-01	NOT IDENT.
CO-60	-8.455E-03	3.789E-02	6.957E-02	NOT IDENT.
ZN-65	2.110E-02	9.297E-02	1.663E-01	NOT IDENT.
GE-68	-8.258E-01	1.109E+00	1.809E+00	NOT IDENT.
AS-73	1.695E-01	1.483E-01	3.138E-01	NOT IDENT.
AS-74	-2.516E-02	1.201E-01	2.316E-01	NOT IDENT.
SE-75	4.281E-02	5.212E-02	7.603E-02	FAIL ABUN
BR-77	0.000E+00	9.356E+02	0.000E+00	SHORT HLIF
SR-82	-1.931E-01	3.472E-01	6.199E-01	NOT IDENT.
RB-83	3.034E-02	5.698E-02	1.231E-01	NOT IDENT.
RB-84	2.650E-02	7.359E-02	1.581E-01	NOT IDENT.
KR-85	-3.319E-02	5.884E+00	1.151E+01	NOT IDENT.
SR-85	-2.861E-04	3.598E-02	7.040E-02	NOT IDENT.
RB-86	-7.575E-01	1.073E+00	1.768E+00	NOT IDENT.
Y-88	-2.335E-02	3.805E-02	6.554E-02	NOT IDENT.
Y-91	-3.076E+00	1.955E+01	3.657E+01	NOT IDENT.
NB-94	-2.150E-03	2.731E-02	5.293E-02	NOT IDENT.
NB-95	-6.950E-03	3.747E-02	7.146E-02	NOT IDENT.
NB-95M	-6.256E-02	1.341E-01	1.804E-01	NOT IDENT.
ZR-95	1.677E-02	5.554E-02	1.114E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.099E+12	0.000E+00	SHORT HLIF
MO-99	0.000E+00	2.546E+02	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	6.204E+32	0.000E+00	SHORT HLIF
RH-101	-3.792E-03	2.214E-02	4.073E-02	NOT IDENT.
RH-102	6.534E-03	4.450E-02	8.999E-02	FAIL ABUN
RU-103	7.601E-03	3.767E-02	7.757E-02	FAIL ABUN
RH-106	6.512E-02	2.773E-01	5.619E-01	NOT IDENT.
RU-106	6.512E-02	2.773E-01	5.619E-01	NOT IDENT.
AG-108M	1.002E-02	2.248E-02	4.728E-02	NOT IDENT.
AG-110	-2.600E-01	5.498E-01	1.011E+00	NOT IDENT.
AG-110M	-2.729E-02	4.420E-02	7.641E-02	NOT IDENT.
SN-113	3.160E-03	3.537E-02	7.159E-02	NOT IDENT.
CD-115	0.000E+00	6.381E+02	0.000E+00	SHORT HLIF
SN-117M	-4.223E-02	7.215E-02	1.263E-01	NOT IDENT.
SB-122	0.000E+00	5.254E+01	0.000E+00	SHORT HLIF
TE-123M	-3.545E-03	2.011E-02	3.689E-02	NOT IDENT.
SB-124	-4.521E-02	5.116E-02	4.318E-02	NOT IDENT.
SB-125	4.254E-02	7.057E-02	1.504E-01	FAIL ABUN
TE-125M	2.144E+00	6.811E+00	1.324E+01	NOT IDENT.
I-126	2.982E-02	3.650E-01	7.289E-01	FAIL ABUN
SB-126	-2.501E-01	2.541E-01	4.144E-01	NOT IDENT.
SB-127	4.838E+00	1.222E+01	2.565E+01	NOT IDENT.
I-131	-3.081E-01	2.995E-01	4.489E-01	NOT IDENT.
I-132	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
TE-132	1.512E+00	1.086E+01	1.878E+01	NOT IDENT.
BA-133	-2.640E-02	4.434E-02	6.555E-02	NOT IDENT.
I-133	0.000E+00	2.595E+08	0.000E+00	SHORT HLIF
CS-134	-2.036E-02	3.680E-02	6.497E-02	NOT IDENT.
I-135	0.000E+00	4.541E+30	0.000E+00	SHORT HLIF
CS-136	-1.713E-03	1.603E-01	3.196E-01	NOT IDENT.
BA-137M	6.246E-03	2.629E-02	5.442E-02	NOT IDENT.
CS-137	6.599E-03	2.777E-02	5.748E-02	NOT IDENT.
LA-138	-1.875E-02	2.923E-02	5.348E-02	NOT IDENT.
CE-139	4.896E-03	2.279E-02	4.315E-02	NOT IDENT.
BA-140	-2.295E-01	4.170E-01	7.659E-01	NOT IDENT.
LA-140	-1.687E-02	1.758E-01	3.627E-01	NOT IDENT.
CE-141	-3.186E-02	6.340E-02	1.120E-01	NOT IDENT.
CE-143	0.000E+00	8.902E+04	0.000E+00	SHORT HLIF
CE-144	-7.910E-02	1.321E-01	2.324E-01	NOT IDENT.
PM-144	1.301E-02	2.575E-02	5.542E-02	NOT IDENT.
PR-144	9.727E-01	1.939E+00	4.172E+00	NOT IDENT.
PM-146	3.062E-02	3.273E-02	7.231E-02	NOT IDENT.
ND-147	1.557E-02	1.058E+00	2.106E+00	FAIL ABUN
PM-147	1.346E+02	4.553E+02	8.859E+02	NOT IDENT.
PM-149	0.000E+00	4.888E+03	0.000E+00	SHORT HLIF
EU-150	5.760E-03	2.245E-02	3.924E-02	FAIL ABUN
EU-152	-3.661E-02	6.971E-02	1.183E-01	NOT IDENT.
GD-153	-6.722E-02	5.523E-02	8.554E-02	NOT IDENT.
EU-154	2.968E-02	1.076E-01	2.195E-01	NOT IDENT.

EU-155	5.756E-02	6.771E-02	1.352E-01	FAIL ABUN
TB-160	-5.512E-02	1.268E-01	2.304E-01	FAIL ABUN
HO-166M	-2.404E-02	3.746E-02	6.625E-02	NOT IDENT.
TM-171	-3.699E-01	2.631E+00	5.066E+00	NOT IDENT.
HF-172	-2.240E-02	1.222E-01	2.260E-01	FAIL ABUN
LU-172	3.560E-02	6.369E-02	1.218E-01	FAIL ABUN
LU-176	-1.267E-02	2.119E-02	3.527E-02	FAIL ABUN
HF-181	1.894E-03	4.391E-02	8.766E-02	NOT IDENT.
TA-182	-1.543E-02	1.640E-01	3.099E-01	FAIL ABUN
RE-183	-1.037E-02	5.096E-02	9.664E-02	NOT IDENT.
RE-184	5.979E-02	1.018E-01	2.366E-01	NOT IDENT.
W-188	7.451E-01	6.950E+00	1.185E+01	FAIL ABUN
IR-192	-1.942E-02	3.165E-02	5.241E-02	FAIL ABUN
HG-203	-4.136E-03	3.711E-02	6.145E-02	NOT IDENT.
TL-204	-1.069E+00	2.038E+00	3.429E+00	NOT IDENT.
BI-207	3.063E-03	4.192E-02	8.364E-02	FAIL ABUN
BI-210	-1.343E-02	3.593E-01	7.031E-01	NOT IDENT.
PB-210	-1.343E-02	3.593E-01	7.031E-01	NOT IDENT.
PB-211	3.722E-01	5.267E-01	1.136E+00	NOT IDENT.
BI-213	-4.185E-02	7.187E-02	1.334E-01	NOT IDENT.
RN-219	-3.251E-02	3.023E-01	5.965E-01	FAIL ABUN
RA-223	-3.416E-01	4.727E-01	7.658E-01	FAIL ABUN
AC-225	9.840E-01	1.096E+00	2.216E+00	NOT IDENT.
AC-227	1.753E-01	1.757E-01	3.649E-01	FAIL ABUN
TH-227	1.753E-01	1.757E-01	3.649E-01	FAIL ABUN
PA-231	2.148E-01	3.826E-01	7.158E-01	NOT IDENT.
TH-231	-3.416E-01	4.727E-01	7.658E-01	FAIL ABUN
PA-233	-1.273E-03	4.813E-02	8.776E-02	FAIL ABUN
PA-234	-8.818E-02	2.180E-01	3.981E-01	FAIL ABUN
PA-234M	1.099E+00	3.683E+00	7.953E+00	NOT IDENT.
NP-237	-1.273E-03	4.813E-02	8.776E-02	FAIL ABUN
NP-238	0.000E+00	1.834E+03	0.000E+00	SHORT HLIF
NP-239	8.287E-03	1.705E-01	3.225E-01	NOT IDENT.
PU-239	7.739E+00	2.502E+02	4.664E+02	NOT IDENT.
AM-241	-3.210E-02	3.766E-02	6.777E-02	NOT IDENT.
CM-243	-2.158E-02	6.186E-02	1.135E-01	NOT IDENT.
CM-247	-4.657E-03	2.749E-02	5.389E-02	NOT IDENT.
CF-249	9.895E-03	3.513E-02	6.550E-02	NOT IDENT.
CF-251	5.640E-02	9.850E-02	1.913E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:08:28.47

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	257	10.66*	1.266E+00	1.166E+01	1.166E+01	13.58
CD-109	88.03	67	3.70*	9.749E+00	1.141E+00	1.191E+00	73.23
SN-126	64.28	13	9.60	1.023E+01	7.827E-02	7.827E-02	412.40
	86.94	67	8.90	9.749E+00	4.743E-01	4.743E-01	73.23
	87.57	67	37.00*	9.749E+00	1.141E-01	1.141E-01	73.23
TL-208	277.37	------	6.60	5.073E+00	------	Line Not Found	------
	583.19	100	85.00*	2.808E+00	2.568E-01	2.568E-01	27.14
	860.56	29	12.50	2.008E+00	7.149E-01	7.149E-01	48.99
BI-211	72.87	------	1.23	1.012E+01	------	Line Not Found	------
	351.06	161	12.92*	4.237E+00	1.798E+00	1.798E+00	22.59
BI-212	727.33	49	6.67*	2.319E+00	1.952E+00	1.952E+00	53.85
	1620.50	------	1.47	1.160E+00	------	Line Not Found	------
PB-212	74.82	197	10.28	1.008E+01	1.162E+00	1.162E+00	23.63
	77.11	294	17.10	1.003E+01	1.050E+00	1.050E+00	19.28
	238.63	316	43.60*	5.657E+00	7.837E-01	7.837E-01	14.63
	300.09	25	3.30	4.788E+00	9.570E-01	9.570E-01	103.08
BI-214	609.32	141	45.49*	2.705E+00	7.026E-01	7.026E-01	23.35
	1120.29	19	14.92	1.591E+00	4.994E-01	4.994E-01	126.59
	1764.49	20	15.30	1.083E+00	7.567E-01	7.567E-01	65.90
PB-214	74.82	197	5.80	1.008E+01	2.060E+00	2.060E+00	23.63
	77.11	294	9.70	1.003E+01	1.851E+00	1.851E+00	19.28
	87.09	67	3.41	9.749E+00	1.238E+00	1.238E+00	73.23
	242.00	64	7.25	5.607E+00	9.708E-01	9.708E-01	45.04
	295.22	127	18.42	4.845E+00	8.691E-01	8.691E-01	26.78
	351.93	161	35.60*	4.237E+00	6.525E-01	6.525E-01	22.59
RN-222	609.32	141	45.49*	2.705E+00	7.026E-01	7.026E-01	23.35
	1120.29	19	14.92	1.591E+00	4.994E-01	4.994E-01	126.59
	1764.49	20	15.30	1.083E+00	7.567E-01	7.567E-01	65.90
RA-224	240.99	64	4.10*	5.607E+00	1.717E+00	1.717E+00	45.04
RA-226	74.82	197	5.80	1.008E+01	2.060E+00	2.060E+00	23.63
	77.11	294	9.70	1.003E+01	1.851E+00	1.851E+00	19.28
	87.09	67	3.41	9.749E+00	1.238E+00	1.238E+00	73.23
	242.00	64	7.25	5.607E+00	9.708E-01	9.708E-01	45.04
	295.22	127	18.42	4.845E+00	8.691E-01	8.691E-01	26.78
	351.93	161	35.60*	4.237E+00	6.525E-01	6.525E-01	22.59
AC-228	105.21	------	1.10	9.106E+00	------	Line Not Found	------
	338.32	78	11.27	4.369E+00	9.653E-01	9.653E-01	38.88
	835.71	------	1.61	2.058E+00	------	Line Not Found	------
	911.20	74	25.80*	1.908E+00	9.256E-01	9.256E-01	32.12
	968.97	41	15.80	1.807E+00	8.834E-01	8.834E-01	57.05
RA-228	105.21	------	1.10	9.106E+00	------	Line Not Found	------
	338.32	78	11.27	4.369E+00	9.653E-01	9.653E-01	38.88
	835.71	------	1.61	2.058E+00	------	Line Not Found	------
	911.20	74	25.80*	1.908E+00	9.256E-01	9.256E-01	32.12
	968.97	41	15.80	1.807E+00	8.834E-01	8.834E-01	57.05
TH-228	74.82	197	10.28	1.008E+01	1.162E+00	1.162E+00	23.63
	77.11	294	17.10	1.003E+01	1.050E+00	1.050E+00	19.28

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	238.63	316	43.60*	5.657E+00	7.837E-01	7.837E-01	14.63
	300.09	25	3.30	4.788E+00	9.570E-01	9.570E-01	103.08
TH-229	85.43	67	14.70	9.749E+00	2.871E-01	2.871E-01	73.23
	88.47	50	24.00	9.644E+00	1.325E-01	1.325E-01	59.10
	193.51	------	4.41*	6.521E+00	------ Line Not Found		------
	210.85	35	2.80	6.187E+00	1.229E+00	1.229E+00	118.73
TH-230	74.82	197	5.80	1.008E+01	2.060E+00	2.060E+00	23.63
	77.11	294	9.70	1.003E+01	1.851E+00	1.851E+00	19.28
	87.09	67	3.41	9.749E+00	1.238E+00	1.238E+00	73.23
	242.00	64	7.25	5.607E+00	9.708E-01	9.708E-01	45.04
	295.22	127	18.42	4.845E+00	8.691E-01	8.691E-01	26.78
	351.93	161	35.60*	4.237E+00	6.525E-01	6.525E-01	22.59
TH-232	105.21	------	1.10	9.106E+00	------ Line Not Found		------
	338.32	78	11.27	4.369E+00	9.653E-01	9.653E-01	38.88
	835.71	------	1.61	2.058E+00	------ Line Not Found		------
	911.20	74	25.80*	1.908E+00	9.256E-01	9.256E-01	32.12
	968.97	41	15.80	1.807E+00	8.834E-01	8.834E-01	57.05
TH-234	63.29	13	3.70*	1.023E+01	2.031E-01	2.031E-01	412.40
	92.59	118	4.23	9.544E+00	1.783E+00	1.783E+00	38.59
U-234	74.82	197	5.80	1.008E+01	2.060E+00	2.060E+00	23.63
	77.11	294	9.70	1.003E+01	1.851E+00	1.851E+00	19.28
	87.09	67	3.41	9.749E+00	1.238E+00	1.238E+00	73.23
	242.00	64	7.25	5.607E+00	9.708E-01	9.708E-01	45.04
	295.22	127	18.42	4.845E+00	8.691E-01	8.691E-01	26.78
	351.93	161	35.60*	4.237E+00	6.525E-01	6.525E-01	22.59
U-235	89.96	50	3.47	9.644E+00	9.165E-01	9.165E-01	59.10
	93.35	118	5.60	9.544E+00	1.347E+00	1.347E+00	38.59
	143.76	------	10.96*	7.816E+00	------ Line Not Found		------
	163.33	------	5.08	7.256E+00	------ Line Not Found		------
	185.72	58	57.20	6.692E+00	9.305E-02	9.305E-02	69.89
	205.31	------	5.01	6.270E+00	------ Line Not Found		------
U-238	63.29	13	3.70*	1.023E+01	2.031E-01	2.031E-01	412.40
	92.59	118	4.23	9.544E+00	1.783E+00	1.783E+00	38.59
AM-243	43.53	------	5.90	9.384E+00	------ Line Not Found		------
	74.66	197	67.20*	1.008E+01	1.778E-01	1.778E-01	23.63
BK-247	84.00	23	40.00	9.828E+00	3.629E-02	3.629E-02	164.66
	102.03	------	7.00	9.219E+00	------ Line Not Found		------
	106.47	------	11.00	9.061E+00	------ Line Not Found		------
	119.76	------	4.00	8.595E+00	------ Line Not Found		------
	123.68	------	1.00	8.461E+00	------ Line Not Found		------
	265.00	18	30.00*	5.260E+00	7.115E-02	7.116E-02	124.25
ANH-511	511.00	13	100.00*	3.135E+00	2.607E-02	2.607E-02	274.51

Flag: "*" = Keyline

Sample ID : G669289009 Acquisition date : 20-JUN-2024 05:06:03

Total number of lines in spectrum 50
Number of unidentified lines 13
Number of lines tentatively identified by NID 37 74.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	1.166E+01	1.166E+01	0.158E+01	13.58	
CD-109	461.40D	1.04	1.141E+00	1.191E+00	0.872E+00	73.23	
SN-126	2.30E+05Y	1.00	1.141E-01	1.141E-01	0.835E-01	73.23	
TL-208	1.41E+10Y	1.00	2.568E-01	2.568E-01	0.697E-01	27.14	
BI-211	7.04E+08Y	1.00	1.798E+00	1.798E+00	0.406E+00	22.59	
BI-212	1.41E+10Y	1.00	1.952E+00	1.952E+00	1.051E+00	53.85	
PB-212	1.41E+10Y	1.00	7.837E-01	7.837E-01	1.146E-01	14.63	
BI-214	1600.00Y	1.00	7.026E-01	7.026E-01	1.640E-01	23.35	
PB-214	1600.00Y	1.00	6.525E-01	6.525E-01	1.474E-01	22.59	
RN-222	1600.00Y	1.00	7.026E-01	7.026E-01	1.640E-01	23.35	
RA-224	1.41E+10Y	1.00	1.717E+00	1.717E+00	0.773E+00	45.04	
RA-226	1600.00Y	1.00	6.525E-01	6.525E-01	1.474E-01	22.59	
AC-228	1.41E+10Y	1.00	9.256E-01	9.256E-01	2.973E-01	32.12	
RA-228	1.41E+10Y	1.00	9.256E-01	9.256E-01	2.973E-01	32.12	
TH-228	1.41E+10Y	1.00	7.837E-01	7.837E-01	1.146E-01	14.63	
TH-229	7340.00Y	1.00	1.325E-01	1.325E-01	0.783E-01	59.10	K
TH-230	7.54E+04Y	1.00	6.525E-01	6.525E-01	1.474E-01	22.59	
TH-232	1.41E+10Y	1.00	9.256E-01	9.256E-01	2.973E-01	32.12	
TH-234	4.47E+09Y	1.00	2.031E-01	2.031E-01	8.375E-01	412.40	
U-234	2.45E+05Y	1.00	6.525E-01	6.525E-01	1.474E-01	22.59	
U-235	7.04E+08Y	1.00	9.305E-02	9.305E-02	6.503E-02	69.89	K
U-238	4.47E+09Y	1.00	2.031E-01	2.031E-01	8.375E-01	412.40	
AM-243	7370.00Y	1.00	1.778E-01	1.778E-01	0.420E-01	23.63	
BK-247	1380.00Y	1.00	7.115E-02	7.116E-02	8.841E-02	124.25	
ANH-511	1.00E+09Y	1.00	2.607E-02	2.607E-02	7.157E-02	274.51	
			---------	---------			
	Total Activity :		2.791E+01	2.796E+01			

Grand Total Activity : 2.791E+01 2.796E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	18.47	23	123	0.94	37.35	35	5	5.46E-03	****	2.67E+00	
0	26.47	38	118	1.75	53.34	50	8	9.03E-03	****	5.73E+00	
5	94.86	22	78	1.05	190.19	178	17	5.53E-03	****	9.47E+00	T
0	224.56	27	64	1.18	449.67	446	8	7.09E-03	****	5.90E+00	
0	233.66	9	43	1.23	467.88	463	6	2.39E-03	****	5.74E+00	
1	269.82	32	41	1.26	540.23	537	20	8.53E-03	69.6	5.18E+00	T
1	271.32	17	52	1.27	543.23	537	20	4.58E-03	****	5.16E+00	T
1	349.18	18	26	1.22	699.00	696	15	4.87E-03	95.2	4.26E+00	
0	409.31	12	24	0.75	819.29	817	6	3.34E-03	****	3.76E+00	
0	463.08	18	17	1.04	926.85	923	7	4.92E-03	91.5	3.40E+00	T
0	743.38	15	20	2.76	1487.48	1481	13	4.24E-03	****	2.28E+00	T
0	754.81	15	10	1.95	1510.34	1505	9	4.19E-03	93.9	2.25E+00	T
0	768.17	24	18	1.82	1537.06	1529	13	6.72E-03	85.2	2.21E+00	T
0	840.12	23	11	3.56	1680.96	1675	11	6.39E-03	69.7	2.05E+00	
0	984.14	7	8	0.70	1968.95	1964	10	2.01E-03	****	1.78E+00	T
0	1002.80	3	13	1.20	2006.26	1999	10	8.25E-04	****	1.75E+00	T
0	1093.64	6	8	0.55	2187.90	2181	8	1.67E-03	****	1.62E+00	T
0	1164.23	7	5	0.76	2329.05	2322	10	2.16E-03	****	1.54E+00	
0	1181.19	6	3	1.82	2362.97	2360	6	1.86E-03	****	1.52E+00	
0	1190.51	9	10	0.65	2381.61	2376	10	2.54E-03	****	1.51E+00	T
0	1213.50	13	15	5.11	2427.57	2419	16	3.89E-03	****	1.48E+00	
0	1266.70	11	2	0.99	2533.92	2530	8	3.31E-03	71.1	1.43E+00	
0	1376.72	6	2	2.43	2753.88	2749	9	1.88E-03	****	1.33E+00	
0	1667.94	6	0	0.67	3336.00	3333	6	1.67E-03	81.6	1.13E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:08:39.60

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
*                                                                       *
*                        DETECTOR AND SAMPLE DATA                       *
*                                                                       *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289009.CNF;1    *
* Acquisition date : 20-JUN-2024 05:06:03 Sensitivity     : 3.000       *
* Detector ID      : GAM47                Energy tolerance: 1.500       *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000      *
* Elapsed real time:    0 01:00:00.31     Half life ratio : *****       *
* Sample date      : 22-MAY-2024 11:00:00 Nuclide Library : SOLID       *
* Sample ID        : G669289009           Analyst initials: MXR1        *
* Batch Number     : 2618905              Sample Quantity : 1.2270E+02 GRAM   *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000  *
*                                         Dry Weight      :    0.00000  *
*************************************************************************
*                                                                       *
*                        CALIBRATION INFORMATION                        *
*                                                                       *
* Eff. Cal. date   :  2-NOV-2023 04:08:57 Eff. Geometry   : CAN         *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM47_CAN.CNF;6         *
*************************************************************************
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	2.528E-01
CD-109	4.115E-01
SN-126	3.934E-02
TL-208	2.085E-02
BI-211	1.398E-01
BI-212	3.034E-01
PB-212	3.750E-02
BI-214	5.166E-02
PB-214	5.086E-02
RN-222	5.166E-02
RA-224	4.129E-01
RA-226	5.086E-02
AC-228	9.827E-02
RA-228	9.827E-02
TH-228	3.750E-02
TH-229	3.067E-01
TH-230	5.086E-02
TH-232	9.827E-02
TH-234	3.376E-01
U-234	5.086E-02
U-235	1.436E-01
U-238	3.376E-01
AM-243	2.099E-02
BK-247	5.475E-02
ANH-511	2.210E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	2.443E-01	NOT IDENT.
NA-22	3.274E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	1.338E-02	NOT IDENT.
SC-46	3.508E-02	FAIL ABUN
V-48	1.020E-01	FAIL ABUN

CR-51	2.949E-01	NOT IDENT.
MN-52	3.921E-01	FAIL ABUN
MN-54	2.685E-02	NOT IDENT.
CO-56	3.012E-02	NOT IDENT.
MN-56	0.000E+00	SHORT HLIF
CO-57	1.416E-02	NOT IDENT.
CO-58	2.678E-02	NOT IDENT.
FE-59	7.239E-02	NOT IDENT.
CO-60	2.868E-02	NOT IDENT.
ZN-65	7.205E-02	NOT IDENT.
GE-68	7.361E-01	NOT IDENT.
AS-73	1.463E-01	NOT IDENT.
AS-74	1.000E-01	NOT IDENT.
SE-75	3.480E-02	FAIL ABUN
BR-77	0.000E+00	SHORT HLIF
SR-82	2.547E-01	NOT IDENT.
RB-83	5.399E-02	NOT IDENT.
RB-84	6.780E-02	NOT IDENT.
KR-85	5.138E+00	NOT IDENT.
SR-85	3.141E-02	NOT IDENT.
RB-86	7.141E-01	NOT IDENT.
Y-88	2.322E-02	NOT IDENT.
Y-91	1.529E+01	NOT IDENT.
NB-94	2.298E-02	NOT IDENT.
NB-95	3.060E-02	NOT IDENT.
NB-95M	8.209E-02	NOT IDENT.
ZR-95	4.641E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	1.884E-02	NOT IDENT.
RH-102	3.924E-02	FAIL ABUN
RU-103	3.403E-02	FAIL ABUN
RH-106	2.476E-01	NOT IDENT.
RU-106	2.476E-01	NOT IDENT.
AG-108M	2.106E-02	NOT IDENT.
AG-110	4.264E-01	NOT IDENT.
AG-110M	3.188E-02	NOT IDENT.
SN-113	3.185E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	5.738E-02	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	1.683E-02	NOT IDENT.
SB-124	0.000E+00	NOT IDENT.
SB-125	6.731E-02	FAIL ABUN
TE-125M	6.123E+00	NOT IDENT.
I-126	3.172E-01	FAIL ABUN
SB-126	1.740E-01	NOT IDENT.
SB-127	1.118E+01	NOT IDENT.
I-131	1.945E-01	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	8.553E+00	NOT IDENT.
BA-133	2.954E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	2.783E-02	NOT IDENT.
I-135	0.000E+00	SHORT HLIF
CS-136	1.319E-01	NOT IDENT.
BA-137M	2.352E-02	NOT IDENT.
CS-137	2.485E-02	NOT IDENT.
LA-138	1.691E-02	NOT IDENT.
CE-139	1.988E-02	NOT IDENT.
BA-140	3.285E-01	NOT IDENT.
LA-140	1.462E-01	NOT IDENT.
CE-141	5.185E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	1.061E-01	NOT IDENT.
PM-144	2.404E-02	NOT IDENT.
PR-144	1.810E+00	NOT IDENT.
PM-146	3.240E-02	NOT IDENT.
ND-147	9.241E-01	FAIL ABUN
PM-147	4.073E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	1.763E-02	FAIL ABUN
EU-152	5.179E-02	NOT IDENT.
GD-153	3.937E-02	NOT IDENT.
EU-154	9.302E-02	NOT IDENT.
EU-155	6.310E-02	FAIL ABUN

TB-160	9.670E-02	FAIL ABUN
HO-166M	2.661E-02	NOT IDENT.
TM-171	2.346E+00	NOT IDENT.
HF-172	1.038E-01	FAIL ABUN
LU-172	5.257E-02	FAIL ABUN
LU-176	1.573E-02	FAIL ABUN
HF-181	3.878E-02	NOT IDENT.
TA-182	1.302E-01	FAIL ABUN
RE-183	4.506E-02	NOT IDENT.
RE-184	9.837E-02	NOT IDENT.
W-188	5.358E+00	FAIL ABUN
IR-192	2.331E-02	FAIL ABUN
HG-203	2.759E-02	NOT IDENT.
TL-204	1.606E+00	NOT IDENT.
BI-207	3.514E-02	FAIL ABUN
BI-210	3.306E-01	NOT IDENT.
PB-210	3.306E-01	NOT IDENT.
PB-211	5.094E-01	NOT IDENT.
BI-213	5.757E-02	NOT IDENT.
RN-219	2.650E-01	FAIL ABUN
RA-223	3.363E-01	FAIL ABUN
AC-225	1.018E+00	NOT IDENT.
AC-227	1.660E-01	FAIL ABUN
TH-227	1.660E-01	FAIL ABUN
PA-231	3.250E-01	NOT IDENT.
TH-231	3.363E-01	FAIL ABUN
PA-233	3.918E-02	FAIL ABUN
PA-234	1.616E-01	FAIL ABUN
PA-234M	3.415E+00	NOT IDENT.
NP-237	3.918E-02	FAIL ABUN
NP-238	0.000E+00	SHORT HLIF
NP-239	1.490E-01	NOT IDENT.
PU-239	2.170E+02	NOT IDENT.
AM-241	3.155E-02	NOT IDENT.
CM-243	5.229E-02	NOT IDENT.
CM-247	2.389E-02	NOT IDENT.
CF-249	2.951E-02	NOT IDENT.
CF-251	8.854E-02	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:08:44.02

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289009.CNF;1		
Acquisition date	: 20-JUN-2024 05:06:03	Sensitivity	: 3.000
Detector ID	: GAM47	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.31	Half life ratio	: *****
Sample date	: 22-MAY-2024 11:00:00	Nuclide Library	: SOLID
Sample ID	: G669289009	Analyst initials	: MXR1
Batch Number	: 2618905	Sample Quantity	: 1.2270E+02 GRAM
		Quantity Err(%)	: 1.6300E-03 %
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 2-NOV-2023 04:08:57	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM47_CAN.CNF;6		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	1.166E+01	1.855E+00	1.855E+00
CD-109	1.191E+00	8.629E-01	8.629E-01
SN-126	1.141E-01	8.242E-02	8.242E-02
TL-208	2.568E-01	7.336E-02	7.336E-02
BI-211	1.798E+00	4.242E-01	4.242E-01
BI-212	1.952E+00	1.053E+00	1.053E+00
PB-212	7.837E-01	1.356E-01	1.356E-01
BI-214	7.026E-01	1.774E-01	1.774E-01
PB-214	6.525E-01	1.536E-01	1.536E-01
RN-222	7.026E-01	1.774E-01	1.774E-01
RA-224	1.717E+00	7.754E-01	7.754E-01
RA-226	6.525E-01	1.536E-01	1.536E-01
AC-228	9.256E-01	3.062E-01	3.062E-01
RA-228	9.256E-01	3.062E-01	3.062E-01
TH-228	7.837E-01	1.356E-01	1.356E-01
TH-229	-3.891E-01	4.098E-01	4.098E-01
TH-230	6.525E-01	1.536E-01	1.536E-01
TH-232	9.256E-01	3.062E-01	3.062E-01
TH-234	2.031E-01	8.220E-01	8.220E-01
U-234	6.525E-01	1.536E-01	1.536E-01
U-235	8.851E-02	1.593E-01	1.593E-01
U-238	2.031E-01	8.220E-01	8.220E-01
AM-243	1.778E-01	4.355E-02	4.355E-02
BK-247	7.116E-02	8.796E-02	8.796E-02
ANH-511	2.607E-02	7.019E-02	7.019E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	-1.216E-01	2.966E-01	3.017E-01	NOT IDENT.
NA-22	9.668E-03	3.805E-02	3.830E-02	NOT IDENT.
NA-24	-2.245E+11	1.789E+12	1.792E+12	SHORT HLIF
AL-26	-1.092E-02	2.205E-02	2.259E-02	NOT IDENT.
SC-46	1.127E-02	3.977E-02	4.009E-02	FAIL ABUN

V-48	8.398E-02	1.324E-01	1.377E-01	FAIL ABUN
CR-51	-1.746E-01	3.912E-01	3.991E-01	NOT IDENT.
MN-52	-4.348E-01	6.786E-01	7.063E-01	FAIL ABUN
MN-54	-1.141E-02	3.858E-02	3.892E-02	NOT IDENT.
CO-56	-9.026E-03	3.773E-02	3.795E-02	NOT IDENT.
MN-56	-1.000E+41	4.106E+41	0.000E+00	SHORT HLIF
CO-57	1.026E-03	1.622E-02	1.623E-02	NOT IDENT.
CO-58	-9.985E-04	3.199E-02	3.199E-02	NOT IDENT.
FE-59	3.439E-02	7.914E-02	8.064E-02	NOT IDENT.
CO-60	-8.455E-03	3.790E-02	3.809E-02	NOT IDENT.
ZN-65	2.110E-02	9.299E-02	9.347E-02	NOT IDENT.
GE-68	-8.258E-01	1.112E+00	1.172E+00	NOT IDENT.
AS-73	1.695E-01	1.524E-01	1.705E-01	NOT IDENT.
AS-74	-2.516E-02	1.201E-01	1.207E-01	NOT IDENT.
SE-75	4.281E-02	5.225E-02	5.570E-02	FAIL ABUN
BR-77	6.527E+03	5.535E+03	6.268E+03	SHORT HLIF
SR-82	-1.931E-01	3.478E-01	3.585E-01	NOT IDENT.
RB-83	3.034E-02	5.720E-02	5.881E-02	NOT IDENT.
RB-84	2.650E-02	7.364E-02	7.460E-02	NOT IDENT.
KR-85	-3.319E-02	5.884E+00	5.884E+00	NOT IDENT.
SR-85	-2.861E-04	3.598E-02	3.599E-02	NOT IDENT.
RB-86	-7.575E-01	1.075E+00	1.128E+00	NOT IDENT.
Y-88	-2.335E-02	3.808E-02	3.951E-02	NOT IDENT.
Y-91	-3.076E+00	1.955E+01	1.960E+01	NOT IDENT.
NB-94	-2.150E-03	2.731E-02	2.733E-02	NOT IDENT.
NB-95	-6.950E-03	3.748E-02	3.761E-02	NOT IDENT.
NB-95M	-6.256E-02	1.343E-01	1.372E-01	NOT IDENT.
ZR-95	1.677E-02	5.557E-02	5.608E-02	NOT IDENT.
NB-97	-1.000E+41	2.376E+41	0.000E+00	SHORT HLIF
ZR-97	6.542E+11	1.101E+12	1.140E+12	SHORT HLIF
MO-99	-3.031E+01	2.546E+02	2.549E+02	SHORT HLIF
TC-99M	-3.141E+32	6.221E+32	0.000E+00	SHORT HLIF
RH-101	-3.792E-03	2.215E-02	2.222E-02	NOT IDENT.
RH-102	6.534E-03	4.451E-02	4.461E-02	FAIL ABUN
RU-103	7.601E-03	3.768E-02	3.784E-02	FAIL ABUN
RH-106	6.512E-02	2.774E-01	2.790E-01	NOT IDENT.
RU-106	6.512E-02	2.774E-01	2.790E-01	NOT IDENT.
AG-108M	1.002E-02	2.249E-02	2.294E-02	NOT IDENT.
AG-110	-2.600E-01	5.506E-01	5.629E-01	NOT IDENT.
AG-110M	-2.729E-02	4.429E-02	4.597E-02	NOT IDENT.
SN-113	3.160E-03	3.537E-02	3.540E-02	NOT IDENT.
CD-115	-4.067E+01	6.381E+02	6.384E+02	SHORT HLIF
SN-117M	-4.223E-02	7.231E-02	7.477E-02	NOT IDENT.
SB-122	4.453E+01	5.273E+01	5.642E+01	SHORT HLIF
TE-123M	-3.545E-03	2.011E-02	2.018E-02	NOT IDENT.
SB-124	-4.521E-02	5.128E-02	5.518E-02	NOT IDENT.
SB-125	4.254E-02	7.066E-02	7.322E-02	FAIL ABUN
TE-125M	2.144E+00	6.815E+00	6.883E+00	NOT IDENT.
I-126	2.982E-02	3.651E-01	3.653E-01	FAIL ABUN
SB-126	-2.501E-01	2.566E-01	2.803E-01	NOT IDENT.
SB-127	4.838E+00	1.225E+01	1.245E+01	NOT IDENT.
I-131	-3.081E-01	3.005E-01	3.311E-01	NOT IDENT.
I-132	1.000E+41	2.655E+41	0.000E+00	SHORT HLIF
TE-132	1.512E+00	1.086E+01	1.088E+01	NOT IDENT.
BA-133	-2.640E-02	4.439E-02	4.595E-02	NOT IDENT.
I-133	1.840E+08	2.622E+08	2.750E+08	SHORT HLIF
CS-134	-2.036E-02	3.686E-02	3.798E-02	NOT IDENT.
I-135	-2.261E+30	4.779E+30	0.000E+00	SHORT HLIF
CS-136	-1.713E-03	1.603E-01	1.603E-01	NOT IDENT.
BA-137M	6.246E-03	2.630E-02	2.645E-02	NOT IDENT.
CS-137	6.599E-03	2.778E-02	2.794E-02	NOT IDENT.
LA-138	-1.875E-02	2.927E-02	3.046E-02	NOT IDENT.
CE-139	4.896E-03	2.282E-02	2.293E-02	NOT IDENT.
BA-140	-2.295E-01	4.177E-01	4.303E-01	NOT IDENT.
LA-140	-1.687E-02	1.758E-01	1.760E-01	NOT IDENT.
CE-141	-3.186E-02	6.351E-02	6.511E-02	NOT IDENT.
CE-143	8.224E+04	8.925E+04	9.665E+04	SHORT HLIF
CE-144	-7.910E-02	1.325E-01	1.372E-01	NOT IDENT.
PM-144	1.301E-02	2.579E-02	2.645E-02	NOT IDENT.
PR-144	9.727E-01	1.942E+00	1.991E+00	NOT IDENT.
PM-146	3.062E-02	3.289E-02	3.567E-02	NOT IDENT.
ND-147	1.557E-02	1.058E+00	1.058E+00	FAIL ABUN
PM-147	1.346E+02	4.556E+02	4.596E+02	NOT IDENT.
PM-149	-9.691E+01	4.888E+03	4.888E+03	SHORT HLIF
EU-150	5.760E-03	2.245E-02	2.260E-02	FAIL ABUN
EU-152	-3.661E-02	6.978E-02	7.171E-02	NOT IDENT.
GD-153	-6.722E-02	5.558E-02	6.330E-02	NOT IDENT.
EU-154	2.968E-02	1.076E-01	1.084E-01	NOT IDENT.

EU-155	5.756E-02	6.801E-02	7.279E-02	FAIL ABUN
TB-160	-5.512E-02	1.270E-01	1.294E-01	FAIL ABUN
HO-166M	-2.404E-02	3.756E-02	3.909E-02	NOT IDENT.
TM-171	-3.699E-01	2.631E+00	2.636E+00	NOT IDENT.
HF-172	-2.240E-02	1.223E-01	1.227E-01	FAIL ABUN
LU-172	3.560E-02	6.385E-02	6.584E-02	FAIL ABUN
LU-176	-1.267E-02	2.121E-02	2.197E-02	FAIL ABUN
HF-181	1.894E-03	4.391E-02	4.392E-02	NOT IDENT.
TA-182	-1.543E-02	1.640E-01	1.641E-01	FAIL ABUN
RE-183	-1.037E-02	5.097E-02	5.118E-02	NOT IDENT.
RE-184	5.979E-02	1.020E-01	1.055E-01	NOT IDENT.
W-188	7.451E-01	6.951E+00	6.959E+00	FAIL ABUN
IR-192	-1.942E-02	3.169E-02	3.287E-02	FAIL ABUN
HG-203	-4.136E-03	3.711E-02	3.716E-02	NOT IDENT.
TL-204	-1.069E+00	2.041E+00	2.097E+00	NOT IDENT.
BI-207	3.063E-03	4.192E-02	4.194E-02	FAIL ABUN
BI-210	-1.343E-02	3.593E-01	3.594E-01	NOT IDENT.
PB-210	-1.343E-02	3.593E-01	3.594E-01	NOT IDENT.
PB-211	3.722E-01	5.278E-01	5.538E-01	NOT IDENT.
BI-213	-4.185E-02	7.196E-02	7.439E-02	NOT IDENT.
RN-219	-3.251E-02	3.024E-01	3.027E-01	FAIL ABUN
RA-223	-3.416E-01	4.737E-01	4.981E-01	FAIL ABUN
AC-225	9.840E-01	1.103E+00	1.189E+00	NOT IDENT.
AC-227	1.753E-01	1.777E-01	1.945E-01	FAIL ABUN
TH-227	1.753E-01	1.777E-01	1.945E-01	FAIL ABUN
PA-231	2.148E-01	3.856E-01	3.976E-01	NOT IDENT.
TH-231	-3.416E-01	4.737E-01	4.981E-01	FAIL ABUN
PA-233	-1.273E-03	4.813E-02	4.813E-02	FAIL ABUN
PA-234	-8.818E-02	2.403E-01	2.436E-01	FAIL ABUN
PA-234M	1.099E+00	3.685E+00	3.718E+00	NOT IDENT.
NP-237	-1.273E-03	4.813E-02	4.813E-02	FAIL ABUN
NP-238	1.165E+03	1.837E+03	1.911E+03	SHORT HLIF
NP-239	8.287E-03	1.705E-01	1.706E-01	NOT IDENT.
PU-239	7.739E+00	2.502E+02	2.502E+02	NOT IDENT.
AM-241	-3.210E-02	3.776E-02	4.043E-02	NOT IDENT.
CM-243	-2.158E-02	6.192E-02	6.268E-02	NOT IDENT.
CM-247	-4.657E-03	2.751E-02	2.759E-02	NOT IDENT.
CF-249	9.895E-03	3.515E-02	3.543E-02	NOT IDENT.
CF-251	5.640E-02	9.886E-02	1.021E-01	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	62.6305	85.43	65.5630	131.20	45.1071
45.60	59.5167	86.55	91.9647	133.02	47.2230
46.54	70.0342	86.79	92.0014	133.52	45.2424
49.72	60.1292	86.94	92.0253	136.00	46.3938
51.35	59.4896	87.09	92.0492	136.47	41.3754
51.87	61.3146	87.57	92.1240	140.51	0.0000
52.39	55.2507	88.03	92.1950	143.76	53.9705
52.97	56.2039	88.34	79.0659	144.24	54.0020
53.44	41.3197	88.47	79.0833	145.44	62.2445
54.07	47.5427	89.96	54.1117	152.43	54.5325
57.36	0.0000	1093.63	54.1730	153.25	57.6740
57.53	55.0132	91.11	54.2150	323.87	41.2421
57.98	68.3904	92.59	54.3466	156.02	48.5605
59.27	80.1624	93.35	54.4136	158.56	43.5214
59.32	80.1710	94.56	54.5203	159.00	39.3962
59.54	80.2095	94.65	54.5282	162.33	37.4634
60.96	79.8583	94.67	54.5299	162.66	36.4361
61.17	79.8937	94.87	54.5474	163.33	41.6724
62.93	74.5054	97.43	64.9593	165.86	41.7896
63.29	74.5614	98.43	51.0286	176.31	51.7746
63.58	74.6064	98.44	51.0295	176.60	46.5056
64.28	74.7145	99.53	45.0464	177.52	41.2614
66.73	60.3119	100.11	54.6799	181.07	0.0000
67.24	80.9004	102.03	48.1068	181.52	36.8307
125.81	73.4186	103.18	53.0102	184.41	33.0335
67.75	73.4285	103.37	53.0257	143.76	33.0780
68.89	79.9548	105.21	45.4387	193.51	54.8474
69.67	78.2577	105.31	45.4455	197.03	58.2764
70.82	87.5530	106.12	60.9904	198.01	36.7278
70.83	87.5544	106.47	61.0221	201.83	33.6116
72.81	85.4471	109.28	44.7408	203.43	43.4363
72.87	85.4563	111.00	52.6536	205.31	44.9655
74.66	92.7896	111.76	44.9022	210.85	43.7433
74.82	92.8173	114.06	48.9677	215.65	40.6432
74.97	92.8428	116.30	45.1932	218.12	27.5242
77.11	93.2119	116.74	48.1701	222.11	32.4123
78.74	87.6269	119.76	45.4108	227.09	32.5569
79.69	67.9964	121.12	38.5724	227.38	35.5259
80.03	54.4298	121.22	38.5778	228.16	32.5882
80.12	64.3367	121.78	38.6072	228.18	32.5887
80.19	64.3451	122.06	41.5927	116.74	32.5887
80.57	78.0092	122.92	39.6585	235.69	44.7321
81.00	84.2654	123.07	40.6581	235.96	44.7430
81.07	84.2758	265.00	46.6464	238.63	40.3616
81.75	74.4507	125.81	45.7845	238.98	0.0000
82.47	75.7877	127.23	54.8454	240.99	42.6897
83.79	68.4910	127.91	49.9044	242.00	32.9817
84.00	68.5156	129.30	58.9946	244.70	43.5755

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.40	24.9528	344.28	20.6306	563.25	10.9404
252.80	26.0957	345.93	14.5785	564.24	0.0000
254.15	0.0000	351.06	28.0362	569.33	15.5418
256.23	19.3424	351.93	28.0523	946.00	15.5432
260.90	0.0000	355.39	0.0000	569.70	17.3734
264.66	27.4937	356.01	39.1318	583.19	11.9595
264.80	27.4966	364.49	28.2790	584.27	9.6643
265.00	35.1401	366.42	0.0000	595.83	15.7272
269.46	34.4980	372.51	16.0643	427.87	18.5409
270.03	34.5135	375.05	19.8032	602.52	0.0000
271.23	34.5456	377.52	24.7919	604.72	20.8960
273.65	34.6115	356.01	24.8883	607.14	23.7070
276.40	34.6848	388.16	23.7054	609.32	19.5422
277.37	26.2263	388.63	26.2083	610.33	19.5508
277.60	26.2312	391.69	20.8389	614.28	16.7856
278.00	27.7822	264.66	20.1123	618.01	22.4170
279.20	27.8079	401.81	22.6417	620.36	14.0247
279.54	29.3605	402.40	22.6494	621.93	15.9050
279.70	32.4553	404.85	16.8018	630.19	0.0000
280.46	25.5154	410.95	22.7631	631.29	14.0894
283.69	29.0665	413.71	21.1105	633.25	19.7413
284.31	22.1010	414.70	22.8126	634.78	14.1101
285.41	29.1039	423.72	19.5335	635.95	13.1763
285.90	0.0000	427.09	23.8250	636.99	19.7729
287.50	39.6445	427.87	17.0256	657.50	14.2432
290.67	28.0503	433.94	17.0833	657.76	14.2450
293.27	0.0000	439.40	17.1350	657.90	0.0000
351.93	25.0182	440.45	19.7170	661.66	11.4141
295.96	30.5076	453.88	13.8167	664.57	0.0000
879.38	23.5126	463.37	19.5287	666.33	14.2944
299.98	36.0891	468.07	20.0122	666.50	13.3420
300.09	36.0919	473.00	26.1707	667.71	0.0000
300.13	36.0938	475.06	20.0857	677.62	14.3591
301.36	18.8481	476.78	19.2299	685.70	11.5239
302.85	28.3030	477.60	20.9868	692.65	0.0000
256.23	34.2401	482.18	19.2836	695.00	9.6383
304.85	23.6200	487.02	19.3315	696.49	9.6440
306.78	31.9315	492.35	0.0000	696.51	9.6440
308.46	28.4172	497.08	15.0144	697.00	9.6460
311.90	23.7390	505.52	28.7369	697.30	9.6472
316.51	30.9615	507.63	0.0000	697.49	10.6124
319.41	23.8647	511.00	23.1232	702.65	15.4674
320.08	26.2640	514.00	23.1573	706.68	17.4280
321.04	23.8922	514.00	23.1573	711.68	10.6710
323.87	27.5301	520.40	11.6146	720.70	19.4686
325.23	25.1592	520.69	0.0000	721.93	0.0000
328.76	30.0240	522.65	0.0000	722.78	8.7678
333.37	20.8822	527.90	0.0000	722.91	5.8455
333.97	22.4976	528.26	18.8339	723.31	5.8462
334.37	30.5410	529.59	15.2561	724.19	8.7722
338.28	20.5481	529.87	0.0000	727.33	10.7346
338.32	20.5491	531.02	17.0626	733.00	7.3346
311.90	22.5962	537.26	18.0143	735.93	8.8110
340.48	22.5962	546.56	0.0000	333.97	7.3468
340.55	22.5970	552.55	13.6084	739.50	0.0000

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
744.23	11.7847	949.00	5.2596	1384.29	7.0728
747.24	17.6960	667.71	0.0000	1408.01	2.6666
748.06	4.4255	962.31	19.0115	1434.09	3.5759
752.31	14.7748	964.08	15.8514	1435.80	3.5774
753.82	9.8551	966.17	19.0334	1457.56	0.0000
756.73	5.9194	911.20	12.6997	1460.82	5.7551
756.80	5.9194	983.53	11.6924	1489.16	1.8094
884.68	14.8370	984.45	0.0000	1505.03	4.5386
765.81	13.8576	1274.44	11.5233	1584.12	7.3818
766.42	13.8604	1001.03	6.4106	1596.21	6.4749
766.84	13.8627	1002.74	6.4138	1620.50	4.6472
772.60	0.0000	1004.73	11.2310	1621.92	1.8595
776.52	11.9238	507.63	0.0000	1678.03	0.0000
739.50	0.0000	1025.87	0.0000	1690.97	2.8270
778.90	7.9561	1028.54	0.0000	1750.46	0.0000
783.70	9.9622	1037.84	5.3996	1764.49	4.5864
788.74	5.9878	1038.76	0.0000	1063.66	5.7389
792.07	13.9880	631.29	6.4956	1771.35	2.8702
795.86	18.0088	1048.07	7.5811	1791.20	0.0000
810.06	10.0545	1049.04	7.5833	1808.65	2.8898
810.29	10.0553	1050.41	5.4187	1810.72	0.0000
344.28	9.0502	1063.66	8.7025	1836.06	3.8721
810.76	9.0513	1077.00	12.0098		
815.77	7.0521	1077.34	13.1035		
1048.07	9.0754	1085.87	4.3779		
832.01	15.1959	1093.63	8.2263		
834.85	16.7316	1099.45	5.4928		
835.71	10.6504	1112.07	14.3298		
836.80	0.0000	1112.84	10.5844		
846.75	0.0000	1115.54	11.5852		
846.77	13.2354	1120.29	12.1521		
856.80	9.1937	1120.55	12.1530		
860.56	12.2734	1221.41	11.6031		
871.09	8.2106	1129.67	8.8600		
873.19	10.2702	1131.51	0.0000		
875.33	0.0000	1147.95	0.0000		
879.38	12.3491	1173.23	7.8420		
880.51	13.3835	1177.95	8.4125		
881.60	7.2088	1189.05	16.8726		
883.24	8.2432	1204.77	10.1638		
884.68	14.4324	1221.41	10.2063		
889.28	11.3563	1231.02	13.6416		
894.76	15.5133	1235.36	19.3464		
898.04	5.1766	1238.28	12.5272		
900.72	7.2534	1260.41	0.0000		
903.28	4.1481	1271.87	10.3345		
911.20	11.4360	1274.44	8.0425		
912.08	14.0389	1274.54	8.0430		
923.98	0.0000	1291.59	9.2298		
926.50	17.7588	1298.22	0.0000		
929.11	12.5459	1312.11	2.3187		
935.54	8.3805	1332.49	9.3190		
937.49	13.6268	1362.66	0.0000		
944.13	8.4030	1365.19	7.9228		
946.00	9.4589	1368.63	0.0000		

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:21:37.58

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289010.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM02.CNF;636
                                     Background date  : 16-JUN-2024 11:28:02
Sample date      : 21-MAY-2024 11:00:00 Acquisition date : 20-JUN-2024 05:21:10
Sample ID        : G669289010           Sample quantity  : 1.22900E+02 GRAM
Detector name    : GAM02                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:00.89  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : MXR1
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 2618905              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
*************************************************************************
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	1	61.09	23	45	1.04	122.84	121	16	6.45E-03	44.2	1.35E+00
2	1	63.27*	14	66	1.05	127.19	121	16	3.84E-03	112.2	
3	1	66.17	19	64	0.96	133.00	121	16	5.30E-03	70.9	
4	1	74.77*	25	136	1.08	150.20	147	14	6.95E-03	75.6	2.31E+00
5	1	77.20	84	97	0.96	155.07	147	14	2.34E-02	22.4	
6	3	83.67*	16	71	1.00	168.00	163	16	4.57E-03	94.9	3.08E+00
7	3	87.28	71	93	1.34	175.22	163	16	1.98E-02	27.1	
8	3	92.87*	43	124	1.36	186.42	182	12	1.18E-02	53.6	1.10E+00
9	3	94.88*	16	88	1.37	190.44	182	12	4.50E-03	133.3	
10	6	98.67*	38	69	1.83	198.02	194	15	1.06E-02	43.9	1.57E+00
11	6	101.63	40	68	1.85	203.94	194	15	1.12E-02	47.4	
12	0	144.39*	41	83	1.77	289.48	285	10	1.15E-02	45.9	
13	0	186.08*	50	70	1.25	372.87	369	10	1.39E-02	39.6	
14	0	238.98*	172	100	1.29	478.71	472	10	4.77E-02	13.5	
15	0	241.77	40	51	1.76	484.28	482	7	1.10E-02	34.6	
16	0	295.56*	69	57	1.11	591.89	588	10	1.92E-02	24.2	
17	0	328.23	38	73	3.06	657.23	648	20	1.07E-02	57.5	
18	0	339.00*	53	45	1.22	678.76	673	13	1.46E-02	30.2	
19	0	352.13*	116	54	1.02	705.03	700	11	3.21E-02	15.8	
20	0	496.80	36	23	6.09	994.38	988	15	9.96E-03	33.4	
21	0	511.11*	30	30	2.66	1023.00	1017	15	8.39E-03	55.5	
22	0	551.99	12	7	1.36	1104.75	1100	8	3.35E-03	49.1	
23	0	582.91*	68	11	1.45	1166.57	1159	15	1.90E-02	17.1	
24	0	609.49*	79	28	1.09	1219.73	1214	10	2.19E-02	17.4	
25	0	648.21	17	25	2.66	1297.16	1289	14	4.80E-03	65.4	
26	0	664.61	24	33	4.06	1329.94	1318	22	6.67E-03	64.3	
27	0	712.63	14	34	7.84	1425.96	1413	20	3.76E-03	110.4	
28	0	795.11*	20	6	1.16	1590.87	1585	11	5.44E-03	35.5	
29	0	841.81	5	9	1.23	1684.24	1679	7	1.25E-03	118.2	
30	0	846.33	6	13	0.75	1693.28	1686	10	1.70E-03	116.1	
31	0	862.24	10	19	2.19	1725.08	1714	14	2.78E-03	101.2	
32	0	892.94	22	3	1.38	1786.45	1779	14	5.99E-03	28.3	
33	0	899.69	8	8	1.68	1799.96	1794	10	2.35E-03	69.6	
34	0	911.78*	38	11	1.84	1824.12	1816	14	1.05E-02	26.1	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
35	0	964.91	8	11	0.82	1930.33	1926	6	2.34E-03	70.0	
36	0	969.34*	14	18	1.59	1939.18	1934	9	4.01E-03	61.7	
37	0	1115.42	11	0	0.73	2231.18	2227	9	3.06E-03	30.2	
38	0	1120.96*	38	0	1.60	2242.26	2236	15	1.05E-02	17.4	
39	0	1238.83	6	10	0.69	2477.82	2473	8	1.57E-03	106.1	
40	0	1461.05*	144	15	2.13	2921.90	2914	14	3.99E-02	10.3	
41	0	1518.66	9	0	0.50	3037.00	3031	10	2.50E-03	33.3	
42	0	1588.48	12	0	1.37	3176.50	3170	11	3.33E-03	28.9	
43	0	1764.81*	25	0	0.90	3528.74	3522	13	6.85E-03	23.1	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JUN-2024 06:21:39

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289010.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,INTERF V2.4
Sample title : MXR1
Sample date : 21-MAY-2024 11:00:00 Acquisition date : 20-JUN-2024 05:21:10
Sample ID : G669289010 Sample quantity : 122.90 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA2 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:00.89 0.0%
Energy tolerance : 1.50 keV Half life ratio : 10.00
Errors propagated: No Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
U-235	143.76	CE-141	145.44

Nuclide Type:

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
K-40	1460.82	10.66*	9.735E-01	8.014E+00	8.014E+00	20.65	OK
CO-56	846.77	99.94*	1.569E+00	2.328E-02	3.041E-02	232.22	OK
	1037.84	14.17	1.308E+00	----- Line Not Found		-----	Absent
	1238.28	66.90	1.117E+00	4.428E-02	5.784E-02	212.15	OK
	1771.35	15.47	8.579E-01	----- Line Not Found		-----	Absent
ZN-65	1115.54	50.60*	1.226E+00	1.043E-01	1.135E-01	60.30	OK
RU-103	497.08	91.00*	2.405E+00	1.010E-01	1.709E-01	66.77	OK
	610.33	5.76	2.059E+00	4.058E+00	6.866E+00	34.87	OK
CD-109	88.03	3.70*	4.699E+00	2.767E+00	2.894E+00	54.14	OK
SN-126	64.28	9.60	2.225E+00	4.448E-01	4.448E-01	224.47	OK
	86.94	8.90	4.699E+00	1.150E+00	1.150E+00	54.14	OK
	87.57	37.00*	4.699E+00	2.767E-01	2.767E-01	54.14	OK
CE-141	145.44	48.29*	5.486E+00	7.585E-02	1.431E-01	127.21	OK
TL-208	277.37	6.60	3.664E+00	----- Line Not Found		-----	Absent
	583.19	85.00*	2.132E+00	2.300E-01	2.300E-01	34.17	OK
	860.56	12.50	1.547E+00	----- Line Not Found		-----	Absent
BI-211	72.87	1.23	3.389E+00	----- Line Not Found		-----	Absent
	351.06	12.92*	3.085E+00	1.821E+00	1.821E+00	31.53	OK
PB-212	74.82	10.28	3.597E+00	4.614E-01	4.614E-01	151.14	OK
	77.11	17.10	3.849E+00	8.726E-01	8.726E-01	44.75	OK
	238.63	43.60*	4.077E+00	6.199E-01	6.199E-01	27.08	OK
	300.09	3.30	3.462E+00	----- Line Not Found		-----	Absent
BI-214	609.32	45.49*	2.059E+00	5.139E-01	5.139E-01	34.87	OK
	1120.29	14.92	1.221E+00	1.225E+00	1.225E+00	34.83	OK
	1764.49	15.30	8.596E-01	1.073E+00	1.073E+00	46.19	OK
PB-214	74.82	5.80	3.597E+00	8.178E-01	8.179E-01	151.14	OK
	77.11	9.70	3.849E+00	1.538E+00	1.538E+00	44.75	OK
	87.09	3.41	4.699E+00	3.003E+00	3.003E+00	54.14	OK
	242.00	7.25	4.044E+00	8.686E-01	8.687E-01	69.21	OK
	295.22	18.42	3.500E+00	6.788E-01	6.788E-01	48.33	OK
	351.93	35.60*	3.085E+00	6.610E-01	6.610E-01	31.53	OK
RN-222	609.32	45.49*	2.059E+00	5.139E-01	5.139E-01	34.87	OK
	1120.29	14.92	1.221E+00	1.225E+00	1.225E+00	34.83	OK
	1764.49	15.30	8.596E-01	1.073E+00	1.073E+00	46.19	OK
RA-224	240.99	4.10*	4.044E+00	1.536E+00	1.536E+00	69.21	OK
RA-226	74.82	5.80	3.597E+00	8.178E-01	8.179E-01	151.14	OK
	77.11	9.70	3.849E+00	1.538E+00	1.538E+00	44.75	OK
	87.09	3.41	4.699E+00	3.003E+00	3.003E+00	54.14	OK
	242.00	7.25	4.044E+00	8.686E-01	8.687E-01	69.21	OK
	295.22	18.42	3.500E+00	6.788E-01	6.788E-01	48.33	OK
	351.93	35.60*	3.085E+00	6.610E-01	6.610E-01	31.53	OK
AC-228	105.21	1.10	5.492E+00	----- Line Not Found		-----	Absent
	338.32	11.27	3.171E+00	9.251E-01	9.251E-01	60.32	OK
	835.71	1.61	1.587E+00	----- Line Not Found		-----	Absent
	911.20	25.80*	1.470E+00	5.930E-01	5.930E-01	52.18	OK
	968.97	15.80	1.391E+00	3.893E-01	3.893E-01	123.44	OK
RA-228	105.21	1.10	5.492E+00	----- Line Not Found		-----	Absent
	338.32	11.27	3.171E+00	9.251E-01	9.251E-01	60.32	OK
	835.71	1.61	1.587E+00	----- Line Not Found		-----	Absent

Nuclide Type:

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
	911.20	25.80*	1.470E+00	5.930E-01	5.930E-01	52.18	OK
	968.97	15.80	1.391E+00	3.893E-01	3.893E-01	123.44	OK
TH-228	74.82	10.28	3.597E+00	4.614E-01	4.614E-01	151.14	OK
	77.11	17.10	3.849E+00	8.726E-01	8.726E-01	44.75	OK
	238.63	43.60*	4.077E+00	6.199E-01	6.199E-01	27.08	OK
	300.09	3.30	3.462E+00	----- Line Not Found		-----	Absent
TH-230	74.82	5.80	3.597E+00	8.178E-01	8.178E-01	151.14	OK
	77.11	9.70	3.849E+00	1.538E+00	1.538E+00	44.75	OK
	87.09	3.41	4.699E+00	3.003E+00	3.003E+00	54.14	OK
	242.00	7.25	4.044E+00	8.686E-01	8.686E-01	69.21	OK
	295.22	18.42	3.500E+00	6.788E-01	6.788E-01	48.33	OK
	351.93	35.60*	3.085E+00	6.610E-01	6.610E-01	31.53	OK
TH-232	105.21	1.10	5.492E+00	----- Line Not Found		-----	Absent
	338.32	11.27	3.171E+00	9.251E-01	9.251E-01	60.32	OK
	835.71	1.61	1.587E+00	----- Line Not Found		-----	Absent
	911.20	25.80*	1.470E+00	5.930E-01	5.930E-01	52.18	OK
	968.97	15.80	1.391E+00	3.893E-01	3.893E-01	123.44	OK
TH-234	63.29	3.70*	2.225E+00	1.154E+00	1.154E+00	224.47	OK
	92.59	4.23	5.036E+00	1.347E+00	1.347E+00	107.21	OK
U-234	74.82	5.80	3.597E+00	8.178E-01	8.178E-01	151.14	OK
	77.11	9.70	3.849E+00	1.538E+00	1.538E+00	44.75	OK
	87.09	3.41	4.699E+00	3.003E+00	3.003E+00	54.14	OK
	242.00	7.25	4.044E+00	8.686E-01	8.686E-01	69.21	OK
	295.22	18.42	3.500E+00	6.788E-01	6.788E-01	48.33	OK
	351.93	35.60*	3.085E+00	6.610E-01	6.610E-01	31.53	OK
U-235	89.96	3.47	4.872E+00	----- Line Not Found		-----	Absent
	93.35	5.60	5.036E+00	1.017E+00	1.017E+00	107.21	OK
	143.76	10.96*	5.495E+00	----- Line Not Found		-----	<<INT Reject
	163.33	5.08	5.200E+00	----- Line Not Found		-----	Absent
	185.72	57.20	4.828E+00	1.176E-01	1.176E-01	79.28	OK
	205.31	5.01	4.530E+00	----- Line Not Found		-----	Absent
U-238	63.29	3.70*	2.225E+00	1.154E+00	1.154E+00	224.47	OK
	92.59	4.23	5.036E+00	1.347E+00	1.347E+00	107.21	OK
AM-243	43.53	5.90	2.631E-01	----- Line Not Found		-----	Absent
	74.66	67.20*	3.597E+00	7.059E-02	7.059E-02	151.14	OK
ANH-511	511.00	100.00*	2.355E+00	7.891E-02	7.891E-02	110.95	OK

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:21:39.91

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289010.CNF;1		
Acquisition date	: 20-JUN-2024 05:21:10	Sensitivity	: 3.000
Detector ID	: GAM02	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.89	Half life ratio	: *****
Sample date	: 21-MAY-2024 11:00:00	Analyst initials	: MXR1
Sample ID	: G669289010	Sample Quantity	: 1.2290E+02 GRAM
Batch Number	: 2618905	Wet Weight	: 0.00000
Wet wt corr	: 1.00000	Dry Weight	: 0.00000
Nuclide Library	: SOLID.NLB;17		

CALIBRATION INFORMATION

Eff. Cal. date	: 13-SEP-2023 09:49:44	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM02_CAN.CNF;19		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	8.014E+00	1.622E+00	8.047E-01
CO-56	3.041E-02	6.920E-02	9.571E-02
ZN-65	1.135E-01	6.710E-02	1.563E-01
RU-103	1.709E-01	1.118E-01	1.169E-01
CD-109	2.894E+00	1.535E+00	1.716E+00
SN-126	2.767E-01	1.468E-01	1.475E-01
CE-141	1.431E-01	1.784E-01	1.293E-01
TL-208	2.300E-01	7.702E-02	6.893E-02
BI-211	1.821E+00	5.627E-01	4.196E-01
PB-212	6.199E-01	1.645E-01	1.167E-01
BI-214	5.139E-01	1.756E-01	1.619E-01
PB-214	6.610E-01	2.042E-01	1.526E-01
RN-222	5.139E-01	1.756E-01	1.619E-01
RA-224	1.536E+00	1.042E+00	1.348E+00
RA-226	6.610E-01	2.042E-01	1.526E-01
AC-228	5.930E-01	3.032E-01	2.374E-01
RA-228	5.930E-01	3.032E-01	2.374E-01
TH-228	6.199E-01	1.645E-01	1.167E-01
TH-230	6.610E-01	2.042E-01	1.526E-01
TH-232	5.930E-01	3.032E-01	2.374E-01
TH-234	1.154E+00	2.539E+00	3.006E+00
U-234	6.610E-01	2.042E-01	1.526E-01
U-235	4.517E-01	4.065E-01	4.519E-01
U-238	1.154E+00	2.539E+00	3.006E+00
AM-243	7.059E-02	1.046E-01	1.141E-01
ANH-511	7.891E-02	8.580E-02	5.712E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	1.458E-02	4.315E-01	8.284E-01	NOT IDENT.
NA-22	-2.682E-03	4.020E-02	8.354E-02	NOT IDENT.
NA-24	0.000E+00	1.043E+13	0.000E+00	SHORT HLIF
AL-26	-1.318E-02	3.912E-02	7.727E-02	NOT IDENT.

SC-46	-5.357E-04	3.938E-02	7.324E-02	FAIL ABUN
V-48	-1.533E-02	1.490E-01	2.916E-01	NOT IDENT.
CR-51	1.680E-02	6.053E-01	1.169E+00	NOT IDENT.
MN-52	7.671E-02	1.844E+00	3.717E+00	NOT IDENT.
MN-54	-8.268E-03	3.836E-02	7.454E-02	NOT IDENT.
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	-1.472E-02	2.690E-02	4.670E-02	NOT IDENT.
CO-58	-8.151E-03	4.338E-02	8.579E-02	NOT IDENT.
FE-59	6.315E-02	9.657E-02	2.268E-01	NOT IDENT.
CO-60	-1.662E-02	4.490E-02	8.195E-02	NOT IDENT.
GE-68	-3.961E-01	1.606E+00	3.007E+00	NOT IDENT.
AS-73	-2.256E-01	1.285E+00	2.455E+00	NOT IDENT.
AS-74	6.560E-03	2.003E-01	3.765E-01	NOT IDENT.
SE-75	4.443E-03	5.617E-02	1.093E-01	NOT IDENT.
BR-77	0.000E+00	1.839E+03	0.000E+00	SHORT HLIF
SR-82	-2.165E-01	5.112E-01	9.629E-01	NOT IDENT.
RB-83	5.396E-02	8.657E-02	1.804E-01	FAIL ABUN
RB-84	-4.889E-03	8.068E-02	1.661E-01	NOT IDENT.
KR-85	6.654E+00	8.152E+00	1.592E+01	NOT IDENT.
SR-85	4.101E-02	5.039E-02	9.834E-02	NOT IDENT.
RB-86	-5.287E-01	1.656E+00	3.062E+00	NOT IDENT.
Y-88	-1.418E-02	4.274E-02	8.589E-02	NOT IDENT.
Y-91	-1.344E+01	2.483E+01	4.354E+01	NOT IDENT.
NB-94	-4.559E-03	3.784E-02	6.926E-02	NOT IDENT.
NB-95	6.743E-03	5.161E-02	1.050E-01	NOT IDENT.
NB-95M	3.583E-02	1.609E-01	2.895E-01	NOT IDENT.
ZR-95	1.548E-02	7.910E-02	1.671E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	3.759E+12	0.000E+00	SHORT HLIF
MO-99	0.000E+00	5.475E+02	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	1.318E+34	0.000E+00	SHORT HLIF
RH-101	-2.333E-02	3.609E-02	6.169E-02	NOT IDENT.
RH-102	-6.564E-04	6.004E-02	1.137E-01	NOT IDENT.
RH-106	1.925E-01	3.680E-01	7.507E-01	NOT IDENT.
RU-106	1.925E-01	3.680E-01	7.507E-01	NOT IDENT.
AG-108M	-7.163E-03	3.489E-02	6.469E-02	NOT IDENT.
AG-110	-5.636E-02	8.939E-01	1.487E+00	NOT IDENT.
AG-110M	-1.326E-02	4.159E-02	8.153E-02	NOT IDENT.
SN-113	1.156E-02	5.170E-02	1.024E-01	NOT IDENT.
CD-115	0.000E+00	1.217E+03	0.000E+00	SHORT HLIF
SN-117M	3.667E-02	1.226E-01	2.276E-01	NOT IDENT.
SB-122	0.000E+00	9.627E+01	0.000E+00	SHORT HLIF
TE-123M	1.682E-02	3.320E-02	6.276E-02	NOT IDENT.
SB-124	-7.573E-03	9.116E-02	2.048E-01	NOT IDENT.
SB-125	3.048E-05	9.131E-02	1.772E-01	NOT IDENT.
TE-125M	4.458E+00	1.196E+01	2.279E+01	NOT IDENT.
I-126	2.471E-01	5.490E-01	1.103E+00	NOT IDENT.
SB-126	1.638E-01	3.575E-01	7.596E-01	NOT IDENT.
SB-127	-7.716E+00	2.278E+01	3.997E+01	NOT IDENT.
I-131	-3.501E-01	4.526E-01	7.882E-01	NOT IDENT.
I-132	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
TE-132	1.057E+01	1.786E+01	3.662E+01	NOT IDENT.
BA-133	-2.380E-02	4.659E-02	7.395E-02	NOT IDENT.
I-133	0.000E+00	8.242E+08	0.000E+00	SHORT HLIF
CS-134	8.525E-02	5.928E-02	1.128E-01	FAIL ABUN
I-135	0.000E+00	7.314E+31	0.000E+00	SHORT HLIF
CS-136	1.739E-03	2.208E-01	4.497E-01	NOT IDENT.
BA-137M	9.465E-03	4.511E-02	9.044E-02	NOT IDENT.
CS-137	9.998E-03	4.765E-02	9.554E-02	NOT IDENT.
LA-138	4.313E-02	6.910E-02	1.572E-01	NOT IDENT.
CE-139	-1.126E-02	3.474E-02	6.029E-02	NOT IDENT.
BA-140	6.940E-01	7.181E-01	1.524E+00	NOT IDENT.
LA-140	-1.332E-02	1.543E-01	3.496E-01	FAIL ABUN
CE-143	0.000E+00	2.253E+05	0.000E+00	SHORT HLIF
CE-144	-1.439E-02	2.079E-01	3.771E-01	NOT IDENT.
PM-144	-1.446E-02	4.252E-02	7.444E-02	NOT IDENT.
PR-144	-1.080E+00	3.208E+00	5.620E+00	NOT IDENT.
PM-146	4.241E-03	4.450E-02	8.679E-02	NOT IDENT.
ND-147	1.232E+00	1.459E+00	3.165E+00	NOT IDENT.
PM-147	-3.807E+02	8.009E+02	1.400E+03	NOT IDENT.
PM-149	0.000E+00	8.934E+03	0.000E+00	SHORT HLIF
EU-150	1.529E-02	3.275E-02	5.194E-02	FAIL ABUN
EU-152	-3.287E-03	1.207E-01	2.076E-01	FAIL ABUN
GD-153	0.000E+00	1.559E-01	1.753E-01	FAIL ABUN
EU-154	-7.546E-03	1.131E-01	2.349E-01	NOT IDENT.
EU-155	8.478E-02	1.027E-01	1.951E-01	FAIL ABUN
TB-160	2.863E-02	1.548E-01	3.238E-01	FAIL ABUN
HO-166M	8.310E-02	1.799E-01	1.218E-01	FAIL ABUN

TM-171	-2.632E+00	2.648E+01	5.080E+01	FAIL ABUN
HF-172	-4.721E-02	1.995E-01	3.567E-01	FAIL ABUN
LU-172	9.316E-04	5.492E-02	1.144E-01	FAIL ABUN
LU-176	3.418E-03	2.874E-02	5.634E-02	FAIL ABUN
HF-181	-2.157E-02	6.356E-02	1.152E-01	NOT IDENT.
TA-182	-5.152E-02	2.280E-01	4.249E-01	FAIL ABUN
RE-183	-4.133E-01	2.966E-01	4.961E-01	FAIL ABUN
RE-184	2.397E-01	1.993E-01	4.414E-01	NOT IDENT.
W-188	3.061E+00	8.801E+00	1.707E+01	FAIL ABUN
IR-192	3.760E-02	4.576E-02	9.515E-02	FAIL ABUN
HG-203	1.304E-02	5.262E-02	1.040E-01	NOT IDENT.
TL-204	-4.364E+00	5.810E+00	1.026E+01	FAIL ABUN
BI-207	5.043E-03	5.435E-02	1.108E-01	FAIL ABUN
BI-210	3.519E+00	6.524E+00	1.298E+01	NOT IDENT.
PB-210	3.519E+00	6.524E+00	1.298E+01	NOT IDENT.
PB-211	4.965E-01	7.959E-01	1.635E+00	NOT IDENT.
BI-212	6.116E-01	5.358E-01	1.234E+00	NOT IDENT.
BI-213	8.069E-02	1.041E-01	2.232E-01	NOT IDENT.
RN-219	-4.222E-01	4.945E-01	8.426E-01	NOT IDENT.
RA-223	-3.504E-01	8.066E-01	1.306E+00	FAIL ABUN
AC-225	-2.082E-01	1.802E+00	3.150E+00	NOT IDENT.
AC-227	-4.574E-02	2.612E-01	5.012E-01	NOT IDENT.
TH-227	-4.574E-02	2.612E-01	5.012E-01	NOT IDENT.
TH-229	2.352E-01	5.313E-01	1.000E+00	FAIL ABUN
PA-231	-2.602E-01	5.254E-01	9.622E-01	NOT IDENT.
TH-231	-3.504E-01	8.066E-01	1.306E+00	FAIL ABUN
PA-233	6.231E-02	7.157E-02	1.502E-01	FAIL ABUN
PA-234	-5.847E-02	3.206E-01	6.224E-01	FAIL ABUN
PA-234M	-3.074E+00	5.052E+00	9.570E+00	NOT IDENT.
NP-237	6.231E-02	7.157E-02	1.502E-01	FAIL ABUN
NP-238	0.000E+00	2.764E+03	0.000E+00	SHORT HLIF
NP-239	9.040E-02	2.609E-01	4.979E-01	FAIL ABUN
PU-239	1.780E+02	3.968E+02	7.448E+02	NOT IDENT.
AM-241	9.639E-02	1.930E-01	3.632E-01	NOT IDENT.
CM-243	-4.602E-02	1.114E-01	1.818E-01	FAIL ABUN
BK-247	-1.439E-02	9.344E-02	1.780E-01	FAIL ABUN
CM-247	-3.719E-02	4.408E-02	7.518E-02	NOT IDENT.
CF-249	9.569E-03	4.036E-02	8.064E-02	NOT IDENT.
CF-251	1.344E-01	1.471E-01	2.855E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:21:38.36

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	136	10.66*	9.735E-01	8.014E+00	8.014E+00	20.65
CO-56	846.77	6	99.94*	1.569E+00	2.328E-02	3.041E-02	232.22
	1037.84	------	14.17	1.308E+00	------ Line Not Found		------
	1238.28	5	66.90	1.117E+00	4.428E-02	5.784E-02	212.15
	1771.35	------	15.47	8.579E-01	------ Line Not Found		------
ZN-65	1115.54	11	50.60*	1.226E+00	1.043E-01	1.135E-01	60.30
RU-103	497.08	36	91.00*	2.405E+00	1.010E-01	1.709E-01	66.77
	610.33	79	5.76	2.059E+00	4.058E+00	6.866E+00	34.87
CD-109	88.03	79	3.70*	4.699E+00	2.767E+00	2.894E+00	54.14
SN-126	64.28	16	9.60	2.225E+00	4.448E-01	4.448E-01	224.47
	86.94	79	8.90	4.699E+00	1.150E+00	1.150E+00	54.14
	87.57	79	37.00*	4.699E+00	2.767E-01	2.767E-01	54.14
CE-141	145.44	44	48.29*	5.486E+00	1.025E-01	1.935E-01	91.82
TL-208	277.37	------	6.60	3.664E+00	------ Line Not Found		------
	583.19	68	85.00*	2.132E+00	2.300E-01	2.300E-01	34.17
	860.56	------	12.50	1.547E+00	------ Line Not Found		------
BI-211	72.87	------	1.23	3.389E+00	------ Line Not Found		------
	351.06	119	12.92*	3.085E+00	1.821E+00	1.821E+00	31.53
PB-212	74.82	28	10.28	3.597E+00	4.614E-01	4.614E-01	151.14
	77.11	94	17.10	3.849E+00	8.726E-01	8.726E-01	44.75
	238.63	180	43.60*	4.077E+00	6.199E-01	6.199E-01	27.08
	300.09	------	3.30	3.462E+00	------ Line Not Found		------
BI-214	609.32	79	45.49*	2.059E+00	5.139E-01	5.139E-01	34.87
	1120.29	37	14.92	1.221E+00	1.225E+00	1.225E+00	34.83
	1764.49	23	15.30	8.596E-01	1.073E+00	1.073E+00	46.19
PB-214	74.82	28	5.80	3.597E+00	8.178E-01	8.179E-01	151.14
	77.11	94	9.70	3.849E+00	1.538E+00	1.538E+00	44.75
	87.09	79	3.41	4.699E+00	3.003E+00	3.003E+00	54.14
	242.00	42	7.25	4.044E+00	8.686E-01	8.687E-01	69.21
	295.22	72	18.42	3.500E+00	6.788E-01	6.788E-01	48.33
	351.93	119	35.60*	3.085E+00	6.610E-01	6.610E-01	31.53
RN-222	609.32	79	45.49*	2.059E+00	5.139E-01	5.139E-01	34.87
	1120.29	37	14.92	1.221E+00	1.225E+00	1.225E+00	34.83
	1764.49	23	15.30	8.596E-01	1.073E+00	1.073E+00	46.19
RA-224	240.99	42	4.10*	4.044E+00	1.536E+00	1.536E+00	69.21
RA-226	74.82	28	5.80	3.597E+00	8.178E-01	8.179E-01	151.14
	77.11	94	9.70	3.849E+00	1.538E+00	1.538E+00	44.75
	87.09	79	3.41	4.699E+00	3.003E+00	3.003E+00	54.14
	242.00	42	7.25	4.044E+00	8.686E-01	8.687E-01	69.21
	295.22	72	18.42	3.500E+00	6.788E-01	6.788E-01	48.33
	351.93	119	35.60*	3.085E+00	6.610E-01	6.610E-01	31.53
AC-228	105.21	------	1.10	5.492E+00	------ Line Not Found		------
	338.32	54	11.27	3.171E+00	9.251E-01	9.251E-01	60.32
	835.71	------	1.61	1.587E+00	------ Line Not Found		------
	911.20	37	25.80*	1.470E+00	5.930E-01	5.930E-01	52.18
	968.97	14	15.80	1.391E+00	3.893E-01	3.893E-01	123.44
RA-228	105.21	------	1.10	5.492E+00	------ Line Not Found		------

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	338.32	54	11.27	3.171E+00	9.251E-01	9.251E-01	60.32
	835.71	------	1.61	1.587E+00	------ Line Not Found		------
	911.20	37	25.80*	1.470E+00	5.930E-01	5.930E-01	52.18
	968.97	14	15.80	1.391E+00	3.893E-01	3.893E-01	123.44
TH-228	74.82	28	10.28	3.597E+00	4.614E-01	4.614E-01	151.14
	77.11	94	17.10	3.849E+00	8.726E-01	8.726E-01	44.75
	238.63	180	43.60*	4.077E+00	6.199E-01	6.199E-01	27.08
	300.09	------	3.30	3.462E+00	------ Line Not Found		------
TH-230	74.82	28	5.80	3.597E+00	8.178E-01	8.178E-01	151.14
	77.11	94	9.70	3.849E+00	1.538E+00	1.538E+00	44.75
	87.09	79	3.41	4.699E+00	3.003E+00	3.003E+00	54.14
	242.00	42	7.25	4.044E+00	8.686E-01	8.686E-01	69.21
	295.22	72	18.42	3.500E+00	6.788E-01	6.788E-01	48.33
	351.93	119	35.60*	3.085E+00	6.610E-01	6.610E-01	31.53
TH-232	105.21	------	1.10	5.492E+00	------ Line Not Found		------
	338.32	54	11.27	3.171E+00	9.251E-01	9.251E-01	60.32
	835.71	------	1.61	1.587E+00	------ Line Not Found		------
	911.20	37	25.80*	1.470E+00	5.930E-01	5.930E-01	52.18
	968.97	14	15.80	1.391E+00	3.893E-01	3.893E-01	123.44
TH-234	63.29	16	3.70*	2.225E+00	1.154E+00	1.154E+00	224.47
	92.59	47	4.23	5.036E+00	1.347E+00	1.347E+00	107.21
U-234	74.82	28	5.80	3.597E+00	8.178E-01	8.178E-01	151.14
	77.11	94	9.70	3.849E+00	1.538E+00	1.538E+00	44.75
	87.09	79	3.41	4.699E+00	3.003E+00	3.003E+00	54.14
	242.00	42	7.25	4.044E+00	8.686E-01	8.686E-01	69.21
	295.22	72	18.42	3.500E+00	6.788E-01	6.788E-01	48.33
	351.93	119	35.60*	3.085E+00	6.610E-01	6.610E-01	31.53
U-235	89.96	------	3.47	4.872E+00	------ Line Not Found		------
	93.35	47	5.60	5.036E+00	1.017E+00	1.017E+00	107.21
	143.76	44	10.96*	5.486E+00	4.517E-01	4.517E-01	91.82
	163.33	------	5.08	5.200E+00	------ Line Not Found		------
	185.72	53	57.20	4.828E+00	1.176E-01	1.176E-01	79.28
	205.31	------	5.01	4.530E+00	------ Line Not Found		------
U-238	63.29	16	3.70*	2.225E+00	1.154E+00	1.154E+00	224.47
	92.59	47	4.23	5.036E+00	1.347E+00	1.347E+00	107.21
AM-243	43.53	------	5.90	2.631E-01	------ Line Not Found		------
	74.66	28	67.20*	3.597E+00	7.059E-02	7.059E-02	151.14
ANH-511	511.00	30	100.00*	2.355E+00	7.891E-02	7.891E-02	110.95

Flag: "*" = Keyline

Sample ID : G669289010 Acquisition date : 20-JUN-2024 05:21:10

Total number of lines in spectrum 43
Number of unidentified lines 6
Number of lines tentatively identified by NID 37 86.05%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	8.014E+00	8.014E+00	1.655E+00	20.65	
CO-56	77.23D	1.31	2.328E-02	3.041E-02	7.061E-02	232.22	
ZN-65	244.06D	1.09	1.043E-01	1.135E-01	0.685E-01	60.30	
RU-103	39.26D	1.69	1.010E-01	1.709E-01	1.141E-01	66.77	
CD-109	461.40D	1.05	2.767E+00	2.894E+00	1.567E+00	54.14	
SN-126	2.30E+05Y	1.00	2.767E-01	2.767E-01	1.498E-01	54.14	
CE-141	32.51D	1.89	1.025E-01	1.935E-01	1.777E-01	91.82	
TL-208	1.41E+10Y	1.00	2.300E-01	2.300E-01	0.786E-01	34.17	
BI-211	7.04E+08Y	1.00	1.821E+00	1.821E+00	0.574E+00	31.53	
PB-212	1.41E+10Y	1.00	6.199E-01	6.199E-01	1.679E-01	27.08	
BI-214	1600.00Y	1.00	5.139E-01	5.139E-01	1.792E-01	34.87	
PB-214	1600.00Y	1.00	6.610E-01	6.610E-01	2.084E-01	31.53	
RN-222	1600.00Y	1.00	5.139E-01	5.139E-01	1.792E-01	34.87	
RA-224	1.41E+10Y	1.00	1.536E+00	1.536E+00	1.063E+00	69.21	
RA-226	1600.00Y	1.00	6.610E-01	6.610E-01	2.084E-01	31.53	
AC-228	1.41E+10Y	1.00	5.930E-01	5.930E-01	3.094E-01	52.18	
RA-228	1.41E+10Y	1.00	5.930E-01	5.930E-01	3.094E-01	52.18	
TH-228	1.41E+10Y	1.00	6.199E-01	6.199E-01	1.679E-01	27.08	
TH-230	7.54E+04Y	1.00	6.610E-01	6.610E-01	2.084E-01	31.53	
TH-232	1.41E+10Y	1.00	5.930E-01	5.930E-01	3.094E-01	52.18	
TH-234	4.47E+09Y	1.00	1.154E+00	1.154E+00	2.591E+00	224.47	
U-234	2.45E+05Y	1.00	6.610E-01	6.610E-01	2.084E-01	31.53	
U-235	7.04E+08Y	1.00	4.517E-01	4.517E-01	4.148E-01	91.82	
U-238	4.47E+09Y	1.00	1.154E+00	1.154E+00	2.591E+00	224.47	
AM-243	7370.00Y	1.00	7.059E-02	7.059E-02	10.67E-02	151.14	
ANH-511	1.00E+09Y	1.00	7.891E-02	7.891E-02	8.755E-02	110.95	
			---------	---------			
	Total Activity :		2.458E+01	2.488E+01			

Grand Total Activity : 2.458E+01 2.488E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G669289010 Acquisition date : 20-JUN-2024 05:21:10

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	61.09	26	51	1.04	122.84	121	16	6.45E-03	88.3	1.95E+00	T
1	66.17	21	72	0.96	133.00	121	16	5.30E-03	****	2.59E+00	T
3	83.67	18	79	1.00	168.00	163	16	4.57E-03	****	4.43E+00	T
3	94.88	18	97	1.37	190.44	182	12	4.50E-03	****	5.14E+00	T
6	98.67	42	76	1.83	198.02	194	15	1.06E-02	87.8	5.29E+00	T
6	101.63	44	75	1.85	203.94	194	15	1.12E-02	94.9	5.40E+00	T
0	328.23	40	75	3.06	657.23	648	20	1.07E-02	****	3.25E+00	T
0	551.99	12	7	1.36	1104.75	1100	8	3.35E-03	98.2	2.22E+00	T
0	648.21	17	25	2.66	1297.16	1289	14	4.80E-03	****	1.96E+00	
0	664.61	24	33	4.06	1329.94	1318	22	6.67E-03	****	1.92E+00	T
0	712.63	13	34	7.84	1425.96	1413	20	3.76E-03	****	1.82E+00	T
0	795.11	19	5	1.16	1590.87	1585	11	5.44E-03	71.0	1.66E+00	T
0	841.81	4	8	1.23	1684.24	1679	7	1.25E-03	****	1.58E+00	
0	862.24	10	19	2.19	1725.08	1714	14	2.78E-03	****	1.54E+00	
0	892.94	21	3	1.38	1786.45	1779	14	5.99E-03	56.6	1.50E+00	
0	899.69	8	7	1.68	1799.96	1794	10	2.35E-03	****	1.49E+00	T
0	964.91	8	10	0.82	1930.33	1926	6	2.34E-03	****	1.40E+00	T
0	1518.66	9	0	0.50	3037.00	3031	10	2.50E-03	66.7	9.46E-01	
0	1588.48	11	0	1.37	3176.50	3170	11	3.33E-03	57.7	9.16E-01	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:21:51.84

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*********************************************************************************
*                            GEL Laboratories LLC                                 *
*                              2040 Savage Road                                   *
*                            Charleston, SC 29407                                 *
*********************************************************************************
*                                                                                *
*                          DETECTOR AND SAMPLE DATA                              *
*                                                                                *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289010.CNF;1       *
* Acquisition date : 20-JUN-2024 05:21:10 Sensitivity     : 3.000                *
* Detector ID      : GAM02                Energy tolerance: 1.500                *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000               *
* Elapsed real time:    0 01:00:00.89     Half life ratio : *****                *
* Sample date      : 21-MAY-2024 11:00:00 Nuclide Library : SOLID                *
* Sample ID        : G669289010           Analyst initials: MXR1                 *
* Batch Number     : 2618905              Sample Quantity : 1.2290E+02 GRAM      *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000           *
*                                         Dry Weight      :    0.00000           *
*********************************************************************************
*                                                                                *
*                          CALIBRATION INFORMATION                               *
*                                                                                *
* Eff. Cal. date   : 13-SEP-2023 09:49:44 Eff. Geometry   : CAN                  *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM02_CAN.CNF;19                 *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	3.229E-01
CO-56	4.094E-02
ZN-65	6.365E-02
RU-103	5.200E-02
CD-109	8.075E-01
SN-126	6.886E-02
CE-141	5.862E-02
TL-208	2.987E-02
BI-211	1.888E-01
PB-212	5.363E-02
BI-214	7.207E-02
PB-214	6.868E-02
RN-222	7.207E-02
RA-224	6.237E-01
RA-226	6.868E-02
AC-228	9.686E-02
RA-228	9.686E-02
TH-228	5.363E-02
TH-230	6.867E-02
TH-232	9.686E-02
TH-234	1.399E+00
U-234	6.867E-02
U-235	2.119E-01
U-238	1.399E+00
AM-243	5.354E-02
ANH-511	2.501E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	3.666E-01	NOT IDENT.
NA-22	3.402E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	2.893E-02	NOT IDENT.
SC-46	2.955E-02	FAIL ABUN

V-48	1.238E-01	NOT IDENT.
CR-51	5.306E-01	NOT IDENT.
MN-52	1.523E+00	NOT IDENT.
MN-54	3.169E-02	NOT IDENT.
MN-56	0.000E+00	SHORT HLIF
CO-57	2.146E-02	NOT IDENT.
CO-58	3.603E-02	NOT IDENT.
FE-59	9.464E-02	NOT IDENT.
CO-60	3.302E-02	NOT IDENT.
GE-68	1.284E+00	NOT IDENT.
AS-73	1.125E+00	NOT IDENT.
AS-74	1.667E-01	NOT IDENT.
SE-75	5.018E-02	NOT IDENT.
BR-77	0.000E+00	SHORT HLIF
SR-82	4.078E-01	NOT IDENT.
RB-83	8.005E-02	FAIL ABUN
RB-84	6.815E-02	NOT IDENT.
KR-85	7.134E+00	NOT IDENT.
SR-85	4.408E-02	NOT IDENT.
RB-86	1.302E+00	NOT IDENT.
Y-88	3.101E-02	NOT IDENT.
Y-91	1.782E+01	NOT IDENT.
NB-94	3.010E-02	NOT IDENT.
NB-95	4.579E-02	NOT IDENT.
NB-95M	1.334E-01	NOT IDENT.
ZR-95	7.136E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	2.860E-02	NOT IDENT.
RH-102	4.932E-02	NOT IDENT.
RH-106	3.317E-01	NOT IDENT.
RU-106	3.317E-01	NOT IDENT.
AG-108M	2.886E-02	NOT IDENT.
AG-110	6.401E-01	NOT IDENT.
AG-110M	3.255E-02	NOT IDENT.
SN-113	4.582E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	1.053E-01	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	2.911E-02	NOT IDENT.
SB-124	7.470E-02	NOT IDENT.
SB-125	7.790E-02	NOT IDENT.
TE-125M	1.059E+01	NOT IDENT.
I-126	4.866E-01	NOT IDENT.
SB-126	3.341E-01	NOT IDENT.
SB-127	1.741E+01	NOT IDENT.
I-131	3.494E-01	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	1.687E+01	NOT IDENT.
BA-133	3.254E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	5.037E-02	FAIL ABUN
I-135	0.000E+00	SHORT HLIF
CS-136	1.865E-01	NOT IDENT.
BA-137M	4.042E-02	NOT IDENT.
CS-137	4.270E-02	NOT IDENT.
LA-138	6.587E-02	NOT IDENT.
CE-139	2.777E-02	NOT IDENT.
BA-140	6.862E-01	NOT IDENT.
LA-140	1.270E-01	FAIL ABUN
CE-143	0.000E+00	SHORT HLIF
CE-144	1.739E-01	NOT IDENT.
PM-144	3.244E-02	NOT IDENT.
PR-144	2.450E+00	NOT IDENT.
PM-146	3.834E-02	NOT IDENT.
ND-147	1.400E+00	NOT IDENT.
PM-147	6.464E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	2.324E-02	FAIL ABUN
EU-152	9.370E-02	FAIL ABUN
GD-153	8.157E-02	FAIL ABUN
EU-154	9.567E-02	NOT IDENT.
EU-155	9.016E-02	FAIL ABUN
TB-160	1.377E-01	FAIL ABUN
HO-166M	5.246E-02	FAIL ABUN
TM-171	2.341E+01	FAIL ABUN

HF-172	1.647E-01	FAIL ABUN
LU-172	4.634E-02	FAIL ABUN
LU-176	2.554E-02	FAIL ABUN
HF-181	5.073E-02	NOT IDENT.
TA-182	1.801E-01	FAIL ABUN
RE-183	2.267E-01	FAIL ABUN
RE-184	1.944E-01	NOT IDENT.
W-188	7.745E+00	FAIL ABUN
IR-192	4.355E-02	FAIL ABUN
HG-203	4.763E-02	NOT IDENT.
TL-204	4.783E+00	FAIL ABUN
BI-207	4.672E-02	FAIL ABUN
BI-210	6.033E+00	NOT IDENT.
PB-210	6.033E+00	NOT IDENT.
PB-211	7.380E-01	NOT IDENT.
BI-212	5.471E-01	NOT IDENT.
BI-213	9.932E-02	NOT IDENT.
RN-219	3.761E-01	NOT IDENT.
RA-223	5.889E-01	FAIL ABUN
AC-225	1.441E+00	NOT IDENT.
AC-227	2.278E-01	NOT IDENT.
TH-227	2.278E-01	NOT IDENT.
TH-229	4.595E-01	FAIL ABUN
PA-231	4.357E-01	NOT IDENT.
TH-231	5.889E-01	FAIL ABUN
PA-233	6.864E-02	FAIL ABUN
PA-234	2.627E-01	FAIL ABUN
PA-234M	4.056E+00	NOT IDENT.
NP-237	6.864E-02	FAIL ABUN
NP-238	0.000E+00	SHORT HLIF
NP-239	2.300E-01	FAIL ABUN
PU-239	3.486E+02	NOT IDENT.
AM-241	1.680E-01	NOT IDENT.
CM-243	8.342E-02	FAIL ABUN
BK-247	8.159E-02	FAIL ABUN
CM-247	3.344E-02	NOT IDENT.
CF-249	3.591E-02	NOT IDENT.
CF-251	1.329E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:21:55.87

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289010.CNF;1		
Acquisition date	: 20-JUN-2024 05:21:10	Sensitivity	: 3.000
Detector ID	: GAM02	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.89	Half life ratio	: *****
Sample date	: 21-MAY-2024 11:00:00	Nuclide Library	: SOLID
Sample ID	: G669289010	Analyst initials	: MXR1
Batch Number	: 2618905	Sample Quantity	: 1.2290E+02 GRAM
		Quantity Err(%)	: 1.6273E-03 %
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 13-SEP-2023 09:49:44	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM02_CAN.CNF;19		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	8.014E+00	1.851E+00	1.851E+00
CO-56	3.041E-02	6.927E-02	6.927E-02
ZN-65	1.135E-01	6.780E-02	6.780E-02
RU-103	1.709E-01	1.129E-01	1.129E-01
CD-109	2.894E+00	1.574E+00	1.574E+00
SN-126	2.767E-01	1.498E-01	1.498E-01
CE-141	1.431E-01	1.789E-01	1.789E-01
TL-208	2.300E-01	7.949E-02	7.949E-02
BI-211	1.821E+00	5.822E-01	5.822E-01
PB-212	6.199E-01	1.726E-01	1.726E-01
BI-214	5.139E-01	1.810E-01	1.810E-01
PB-214	6.610E-01	2.110E-01	2.110E-01
RN-222	5.139E-01	1.810E-01	1.810E-01
RA-224	1.536E+00	1.050E+00	1.050E+00
RA-226	6.610E-01	2.110E-01	2.110E-01
AC-228	5.930E-01	3.100E-01	3.100E-01
RA-228	5.930E-01	3.100E-01	3.100E-01
TH-228	6.199E-01	1.726E-01	1.726E-01
TH-230	6.610E-01	2.110E-01	2.110E-01
TH-232	5.930E-01	3.100E-01	3.100E-01
TH-234	1.154E+00	2.554E+00	2.554E+00
U-234	6.610E-01	2.110E-01	2.110E-01
U-235	4.517E-01	4.082E-01	4.082E-01
U-238	1.154E+00	2.554E+00	2.554E+00
AM-243	7.059E-02	1.048E-01	1.048E-01
ANH-511	7.891E-02	8.607E-02	8.607E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	1.458E-02	4.315E-01	4.316E-01	NOT IDENT.
NA-22	-2.682E-03	4.021E-02	4.022E-02	NOT IDENT.
NA-24	-2.643E+12	1.044E+13	1.050E+13	SHORT HLIF
AL-26	-1.318E-02	3.913E-02	3.958E-02	NOT IDENT.

SC-46	-5.357E-04	3.938E-02	3.938E-02	FAIL ABUN
V-48	-1.533E-02	1.491E-01	1.492E-01	NOT IDENT.
CR-51	1.680E-02	6.053E-01	6.054E-01	NOT IDENT.
MN-52	7.671E-02	1.844E+00	1.844E+00	NOT IDENT.
MN-54	-8.268E-03	3.836E-02	3.855E-02	NOT IDENT.
MN-56	1.000E+41	2.278E+41	0.000E+00	SHORT HLIF
CO-57	-1.472E-02	2.692E-02	2.773E-02	NOT IDENT.
CO-58	-8.151E-03	4.339E-02	4.354E-02	NOT IDENT.
FE-59	6.315E-02	9.681E-02	1.009E-01	NOT IDENT.
CO-60	-1.662E-02	4.494E-02	4.556E-02	NOT IDENT.
GE-68	-3.961E-01	1.606E+00	1.616E+00	NOT IDENT.
AS-73	-2.256E-01	1.286E+00	1.290E+00	NOT IDENT.
AS-74	6.560E-03	2.003E-01	2.003E-01	NOT IDENT.
SE-75	4.443E-03	5.617E-02	5.621E-02	NOT IDENT.
BR-77	6.931E+03	6.261E+03	6.998E+03	SHORT HLIF
SR-82	-2.165E-01	5.116E-01	5.208E-01	NOT IDENT.
RB-83	5.396E-02	8.698E-02	9.032E-02	FAIL ABUN
RB-84	-4.889E-03	8.068E-02	8.071E-02	NOT IDENT.
KR-85	6.654E+00	8.172E+00	8.705E+00	NOT IDENT.
SR-85	4.101E-02	5.051E-02	5.378E-02	NOT IDENT.
RB-86	-5.287E-01	1.656E+00	1.673E+00	NOT IDENT.
Y-88	-1.418E-02	4.275E-02	4.323E-02	NOT IDENT.
Y-91	-1.344E+01	2.485E+01	2.558E+01	NOT IDENT.
NB-94	-4.559E-03	3.785E-02	3.790E-02	NOT IDENT.
NB-95	6.743E-03	5.161E-02	5.170E-02	NOT IDENT.
NB-95M	3.583E-02	1.610E-01	1.618E-01	NOT IDENT.
ZR-95	1.548E-02	7.911E-02	7.942E-02	NOT IDENT.
NB-97	1.000E+41	1.750E+42	0.000E+00	SHORT HLIF
ZR-97	2.281E+12	3.764E+12	3.902E+12	SHORT HLIF
MO-99	-2.556E+02	5.481E+02	5.601E+02	SHORT HLIF
TC-99M	6.629E+33	1.320E+34	0.000E+00	SHORT HLIF
RH-101	-2.333E-02	3.635E-02	3.785E-02	NOT IDENT.
RH-102	-6.564E-04	6.004E-02	6.004E-02	NOT IDENT.
RH-106	1.925E-01	3.684E-01	3.785E-01	NOT IDENT.
RU-106	1.925E-01	3.684E-01	3.785E-01	NOT IDENT.
AG-108M	-7.163E-03	3.490E-02	3.505E-02	NOT IDENT.
AG-110	-5.636E-02	8.939E-01	8.942E-01	NOT IDENT.
AG-110M	-1.326E-02	4.162E-02	4.205E-02	NOT IDENT.
SN-113	1.156E-02	5.171E-02	5.197E-02	NOT IDENT.
CD-115	-2.547E+02	1.217E+03	1.222E+03	SHORT HLIF
SN-117M	3.667E-02	1.226E-01	1.237E-01	NOT IDENT.
SB-122	9.722E+01	9.662E+01	1.061E+02	SHORT HLIF
TE-123M	1.682E-02	3.322E-02	3.408E-02	NOT IDENT.
SB-124	-7.573E-03	9.116E-02	9.122E-02	NOT IDENT.
SB-125	3.048E-05	9.131E-02	9.131E-02	NOT IDENT.
TE-125M	4.458E+00	1.196E+01	1.213E+01	NOT IDENT.
I-126	2.471E-01	5.495E-01	5.607E-01	NOT IDENT.
SB-126	1.638E-01	3.581E-01	3.656E-01	NOT IDENT.
SB-127	-7.716E+00	2.281E+01	2.308E+01	NOT IDENT.
I-131	-3.501E-01	4.535E-01	4.802E-01	NOT IDENT.
I-132	1.000E+41	6.498E+41	0.000E+00	SHORT HLIF
TE-132	1.057E+01	1.790E+01	1.852E+01	NOT IDENT.
BA-133	-2.380E-02	4.663E-02	4.785E-02	NOT IDENT.
I-133	-3.592E+08	8.275E+08	8.432E+08	SHORT HLIF
CS-134	8.525E-02	5.984E-02	7.112E-02	FAIL ABUN
I-135	-6.854E+30	7.329E+31	0.000E+00	SHORT HLIF
CS-136	1.739E-03	2.208E-01	2.208E-01	NOT IDENT.
BA-137M	9.465E-03	4.511E-02	4.532E-02	NOT IDENT.
CS-137	9.998E-03	4.766E-02	4.787E-02	NOT IDENT.
LA-138	4.313E-02	6.926E-02	7.194E-02	NOT IDENT.
CE-139	-1.126E-02	3.482E-02	3.519E-02	NOT IDENT.
BA-140	6.940E-01	7.206E-01	7.856E-01	NOT IDENT.
LA-140	-1.332E-02	1.543E-01	1.544E-01	FAIL ABUN
CE-143	-7.770E+04	2.253E+05	2.280E+05	SHORT HLIF
CE-144	-1.439E-02	2.079E-01	2.080E-01	NOT IDENT.
PM-144	-1.446E-02	4.254E-02	4.303E-02	NOT IDENT.
PR-144	-1.080E+00	3.210E+00	3.246E+00	NOT IDENT.
PM-146	4.241E-03	4.450E-02	4.454E-02	NOT IDENT.
ND-147	1.232E+00	1.463E+00	1.565E+00	NOT IDENT.
PM-147	-3.807E+02	8.014E+02	8.196E+02	NOT IDENT.
PM-149	3.141E+03	8.946E+03	9.057E+03	SHORT HLIF
EU-150	1.529E-02	3.277E-02	3.349E-02	FAIL ABUN
EU-152	-3.287E-03	1.207E-01	1.207E-01	FAIL ABUN
GD-153	1.813E-01	1.568E-01	1.768E-01	FAIL ABUN
EU-154	-7.546E-03	1.131E-01	1.131E-01	NOT IDENT.
EU-155	8.478E-02	1.030E-01	1.099E-01	FAIL ABUN
TB-160	2.863E-02	1.548E-01	1.553E-01	FAIL ABUN
HO-166M	8.310E-02	1.800E-01	1.839E-01	FAIL ABUN

TM-171	-2.632E+00	2.648E+01	2.651E+01	FAIL ABUN
HF-172	-4.721E-02	1.997E-01	2.008E-01	FAIL ABUN
LU-172	9.316E-04	5.492E-02	5.492E-02	FAIL ABUN
LU-176	3.418E-03	2.874E-02	2.878E-02	FAIL ABUN
HF-181	-2.157E-02	6.359E-02	6.433E-02	NOT IDENT.
TA-182	-5.152E-02	2.280E-01	2.292E-01	FAIL ABUN
RE-183	-4.133E-01	3.028E-01	3.556E-01	FAIL ABUN
RE-184	2.397E-01	2.015E-01	2.287E-01	NOT IDENT.
W-188	3.061E+00	8.809E+00	8.917E+00	FAIL ABUN
IR-192	3.760E-02	4.586E-02	4.889E-02	FAIL ABUN
HG-203	1.304E-02	5.262E-02	5.295E-02	NOT IDENT.
TL-204	-4.364E+00	5.835E+00	6.157E+00	FAIL ABUN
BI-207	5.043E-03	5.435E-02	5.440E-02	FAIL ABUN
BI-210	3.519E+00	6.538E+00	6.728E+00	NOT IDENT.
PB-210	3.519E+00	6.538E+00	6.728E+00	NOT IDENT.
PB-211	4.965E-01	7.971E-01	8.279E-01	NOT IDENT.
BI-212	6.116E-01	5.389E-01	6.053E-01	NOT IDENT.
BI-213	8.069E-02	1.043E-01	1.105E-01	NOT IDENT.
RN-219	-4.222E-01	4.982E-01	5.333E-01	NOT IDENT.
RA-223	-3.504E-01	8.072E-01	8.225E-01	FAIL ABUN
AC-225	-2.082E-01	1.802E+00	1.804E+00	NOT IDENT.
AC-227	-4.574E-02	2.612E-01	2.621E-01	NOT IDENT.
TH-227	-4.574E-02	2.612E-01	2.621E-01	NOT IDENT.
TH-229	2.352E-01	5.316E-01	5.421E-01	FAIL ABUN
PA-231	-2.602E-01	5.286E-01	5.414E-01	NOT IDENT.
TH-231	-3.504E-01	8.072E-01	8.225E-01	FAIL ABUN
PA-233	6.231E-02	7.174E-02	7.705E-02	FAIL ABUN
PA-234	-5.847E-02	3.275E-01	3.286E-01	FAIL ABUN
PA-234M	-3.074E+00	5.061E+00	5.248E+00	NOT IDENT.
NP-237	6.231E-02	7.174E-02	7.705E-02	FAIL ABUN
NP-238	3.256E+02	2.765E+03	2.768E+03	SHORT HLIF
NP-239	9.040E-02	2.610E-01	2.642E-01	FAIL ABUN
PU-239	1.780E+02	3.970E+02	4.051E+02	NOT IDENT.
AM-241	9.639E-02	1.934E-01	1.982E-01	NOT IDENT.
CM-243	-4.602E-02	1.115E-01	1.134E-01	FAIL ABUN
BK-247	-1.439E-02	9.349E-02	9.371E-02	FAIL ABUN
CM-247	-3.719E-02	4.460E-02	4.765E-02	NOT IDENT.
CF-249	9.569E-03	4.037E-02	4.060E-02	NOT IDENT.
CF-251	1.344E-01	1.481E-01	1.600E-01	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	30.4185	85.43	66.4295	131.20	55.0003
45.60	45.0609	86.55	66.5982	133.02	58.4782
46.54	43.3991	86.79	66.6335	133.52	48.5883
49.72	57.5718	86.94	66.6566	136.00	38.8078
51.35	42.2596	87.09	66.6788	136.47	41.0570
51.87	32.2075	87.57	66.7503	140.51	0.0000
52.39	47.9304	88.03	85.0424	143.76	31.4346
52.97	50.7885	88.34	85.1010	144.24	31.4581
53.44	43.4651	88.47	72.9646	145.44	31.5175
54.07	52.8167	89.96	58.9704	152.43	45.5090
57.36	0.0000	1093.63	73.3140	153.25	50.1217
57.53	58.0571	91.11	85.6201	323.87	49.0528
57.98	64.6980	92.59	79.0774	156.02	52.6169
59.27	48.9432	93.35	79.2066	158.56	45.9253
59.32	48.9503	94.56	79.4108	159.00	44.8057
59.54	41.4460	94.65	79.4255	162.33	55.4121
60.96	60.5327	94.67	79.4290	162.66	54.2835
61.17	60.5691	94.87	79.4627	163.33	47.3987
62.93	60.8715	97.43	37.1898	165.86	52.2112
63.29	60.9326	98.43	28.9852	176.31	49.4398
63.58	60.9819	98.44	28.9859	176.60	60.0574
64.28	61.1005	99.53	29.0508	177.52	42.4462
66.73	61.5103	100.11	29.0852	181.07	0.0000
67.24	55.1782	102.03	29.1982	181.52	45.0438
125.81	64.2365	103.18	40.4140	184.41	69.8063
67.75	64.2481	103.37	50.1881	143.76	42.9093
68.89	59.2870	105.21	33.5808	193.51	34.9128
69.67	49.0771	105.31	33.5874	197.03	54.4146
70.82	80.6361	106.12	42.0508	198.01	53.2698
70.83	80.6386	106.47	61.0152	201.83	53.5216
72.81	72.9110	109.28	49.7123	203.43	49.9694
72.87	72.9224	111.00	55.1810	205.31	34.2036
74.66	76.5212	111.76	48.8838	210.85	44.2683
74.82	76.5515	114.06	57.6325	215.65	44.5182
74.97	76.5801	116.30	49.2975	218.12	40.9257
77.11	76.9854	116.74	42.9019	222.11	43.6047
78.74	77.2895	119.76	49.6071	227.09	38.4218
79.69	43.6985	121.12	58.3761	227.38	40.1050
80.03	47.7092	121.22	58.3864	228.16	35.9589
80.12	47.7198	121.78	54.1153	228.18	35.9597
80.19	47.7279	122.06	54.1420	116.74	35.9597
80.57	47.7708	122.92	53.1395	235.69	41.7394
81.00	47.8195	123.07	45.5603	235.96	41.7515
81.07	47.8275	265.00	41.2653	238.63	43.1418
81.75	47.9037	125.81	53.4080	238.98	0.0000
82.47	65.9789	127.23	68.8351	240.99	50.8838
83.79	66.1808	127.91	55.7890	242.00	38.2040
84.00	66.2125	129.30	61.4030	244.70	30.6511

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.40	29.1821	344.28	29.4050	563.25	19.4304
252.80	29.1942	345.93	26.1731	564.24	0.0000
254.15	0.0000	351.06	27.2200	569.33	10.8305
256.23	36.1909	351.93	27.2388	946.00	11.9149
260.90	0.0000	355.39	0.0000	569.70	11.9162
264.66	40.8448	356.01	25.4432	583.19	14.1854
264.80	43.4580	364.49	31.3047	584.27	14.1939
265.00	43.4672	366.42	0.0000	595.83	19.7739
269.46	46.2790	372.51	20.0451	427.87	20.9243
270.03	37.5681	375.05	18.1712	602.52	0.0000
271.23	37.6119	377.52	24.9124	604.72	11.5882
273.65	37.7011	356.01	16.3667	607.14	19.8904
276.40	36.0435	388.16	19.3168	609.32	22.1257
277.37	43.9962	388.63	21.2557	610.33	24.9042
277.60	41.3660	391.69	21.3035	614.28	19.9644
278.00	36.9790	264.66	28.2666	618.01	13.3350
279.20	35.2588	401.81	36.0937	620.36	20.0259
279.54	35.2702	402.40	34.1576	621.93	13.3613
279.70	35.2759	404.85	20.5305	630.19	0.0000
280.46	30.8885	410.95	24.5473	631.29	14.5435
283.69	38.0659	413.71	27.5471	633.25	15.6777
284.31	33.6590	414.70	22.6434	634.78	11.2069
285.41	32.8071	423.72	14.8608	635.95	11.2134
285.90	0.0000	427.09	14.8953	636.99	17.9505
287.50	24.8760	427.87	17.8839	657.50	13.5991
290.67	26.7316	433.94	25.9392	657.76	11.9009
293.27	0.0000	439.40	15.0201	657.90	0.0000
351.93	35.7918	440.45	13.0267	661.66	13.6265
295.96	35.8162	453.88	18.1981	664.57	0.0000
879.38	36.3505	463.37	20.3451	666.33	13.6572
299.98	25.6124	468.07	13.2642	666.50	13.6582
300.09	26.9635	473.00	14.3293	667.71	0.0000
300.13	26.9641	475.06	15.3729	677.62	16.0194
301.36	38.6923	476.78	29.7534	685.70	19.5262
302.85	35.1398	477.60	19.5037	692.65	0.0000
256.23	25.2662	482.18	22.6477	695.00	13.8433
304.85	28.8841	487.02	17.5534	696.49	19.6244
306.78	29.8384	492.35	0.0000	696.51	19.6251
308.46	24.4495	497.08	21.8177	697.00	17.3199
311.90	24.5242	505.52	17.2301	697.30	12.7031
316.51	26.4470	507.63	0.0000	697.49	12.7044
319.41	36.5698	511.00	16.7630	702.65	16.2074
320.08	32.0171	514.00	14.1691	706.68	12.1782
321.04	38.4521	514.00	14.1691	711.68	17.4371
323.87	35.7928	520.40	13.6956	720.70	13.1310
325.23	25.7271	520.69	0.0000	721.93	0.0000
328.76	25.8040	522.65	0.0000	722.78	17.5244
333.37	18.5030	527.90	0.0000	722.91	17.5256
333.97	16.6608	528.26	17.9919	723.31	19.2816
334.37	22.2222	529.59	22.2424	724.19	21.9193
338.28	21.3650	529.87	0.0000	727.33	8.7802
338.32	21.3660	531.02	10.6006	733.00	8.8025
311.90	21.4039	537.26	14.8938	735.93	9.6952
340.48	21.4039	546.56	0.0000	333.97	12.3478
340.55	21.4053	552.55	12.8770	739.50	0.0000

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
744.23	15.9230	949.00	12.4688	1384.29	2.1888
747.24	11.5150	667.71	0.0000	1408.01	5.5057
748.06	12.4051	962.31	9.2514	1434.09	6.6508
752.31	7.9895	964.08	18.5145	1435.80	4.4358
753.82	8.8831	966.17	27.0199	1457.56	0.0000
756.73	9.7838	911.20	19.3188	1460.82	5.5795
756.80	9.7841	983.53	11.6506	1489.16	2.2474
884.68	16.9514	984.45	0.0000	1505.03	6.3171
765.81	14.2866	1274.44	8.7764	1584.12	4.5972
766.42	13.3969	1001.03	10.7442	1596.21	2.7661
766.84	15.1863	1002.74	12.7052	1620.50	5.5629
772.60	0.0000	1004.73	6.8460	1621.92	6.4921
776.52	14.3516	507.63	0.0000	1678.03	0.0000
739.50	0.0000	1025.87	0.0000	1690.97	2.8254
778.90	9.8768	1028.54	0.0000	1750.46	0.0000
783.70	5.3981	1037.84	14.8343	1764.49	6.6972
788.74	14.4258	1038.76	0.0000	1063.66	12.4528
792.07	17.3350	631.29	5.9509	1771.35	6.7067
795.86	10.1278	1048.07	7.9385	1791.20	0.0000
810.06	9.0958	1049.04	5.9557	1808.65	4.8279
810.29	10.0063	1050.41	6.9513	1810.72	0.0000
344.28	10.0070	1063.66	8.9764	1836.06	3.8840
810.76	10.9178	1077.00	14.0231		
815.77	9.1168	1077.34	14.0248		
1048.07	9.1269	1085.87	9.0406		
832.01	11.0120	1093.63	6.0421		
834.85	12.8618	1099.45	4.0354		
835.71	14.7046	1112.07	12.9648		
836.80	0.0000	1112.84	9.7260		
846.75	0.0000	1115.54	6.4895		
846.77	11.8152	1120.29	12.9984		
856.80	10.3790	1120.55	12.9992		
860.56	10.2084	1221.41	13.0023		
871.09	11.1819	1129.67	15.2765		
873.19	10.2585	1131.51	0.0000		
875.33	0.0000	1147.95	0.0000		
879.38	9.3478	1173.23	9.2878		
880.51	8.4166	1177.95	7.2341		
881.60	7.4846	1189.05	7.2581		
883.24	8.4254	1204.77	11.4586		
884.68	7.4934	1221.41	12.5603		
889.28	6.0051	1231.02	13.6451		
894.76	0.0000	1235.36	6.7258		
898.04	0.0000	1238.28	7.3627		
900.72	21.1087	1260.41	0.0000		
903.28	6.0367	1271.87	6.3710		
911.20	6.6223	1274.44	5.3128		
912.08	6.6245	1274.54	5.3131		
923.98	0.0000	1291.59	10.6763		
926.50	13.3190	1298.22	0.0000		
929.11	11.4272	1312.11	3.2210		
935.54	10.4995	1332.49	8.6367		
937.49	11.4620	1362.66	0.0000		
944.13	7.6597	1365.19	5.4449		
946.00	11.4972	1368.63	0.0000		

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:22:24.24

```
*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289011.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM08.CNF;718
                                    Background date  : 17-JUN-2024 09:14:18
Sample date      : 21-MAY-2024 13:00:00 Acquisition date : 20-JUN-2024 05:21:41
Sample ID        : G669289011           Sample quantity  : 1.37780E+02 GRAM
Detector name    : GAM08                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:00.51  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : MXR1
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 2618905              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
*************************************************************************
```

BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.27*	38	83	1.64	126.74	122	10	1.07E-02	48.9	
2	0	74.72	40	97	0.96	149.64	146	7	1.11E-02	43.6	
3	0	77.61	57	110	1.10	155.43	152	7	1.60E-02	33.2	
4	0	86.48	22	125	0.63	173.17	172	8	6.24E-03	88.0	
5	0	186.71*	42	134	1.38	373.70	367	15	1.18E-02	63.9	
6	0	210.25	17	55	1.86	420.80	417	8	4.75E-03	77.7	
7	2	238.86*	157	49	1.20	478.04	473	18	4.36E-02	11.2	1.11E+00
8	2	242.06	48	49	1.68	484.45	473	18	1.34E-02	37.5	
9	0	295.34*	63	42	1.08	591.02	585	12	1.76E-02	24.4	
10	0	319.44*	13	49	3.91	639.24	629	13	3.58E-03	117.0	
11	0	338.73	31	39	1.82	677.82	673	10	8.69E-03	41.7	
12	0	352.09*	109	44	1.36	704.56	699	11	3.01E-02	15.6	
13	0	374.93	10	20	1.33	750.25	745	8	2.78E-03	83.7	
14	0	511.34*	34	49	1.84	1023.11	1014	19	9.32E-03	60.7	
15	0	583.46*	45	21	1.54	1167.38	1162	9	1.24E-02	24.6	
16	0	609.35*	97	15	1.58	1219.18	1213	12	2.70E-02	13.4	
17	0	727.10*	18	5	1.64	1454.69	1451	9	5.05E-03	34.4	
18	0	911.42*	39	10	2.37	1823.36	1818	12	1.08E-02	24.8	
19	0	968.07	34	21	2.03	1936.65	1927	17	9.39E-03	35.6	
20	0	997.15	9	2	0.78	1994.81	1991	8	2.42E-03	44.4	
21	0	1121.22*	24	10	1.35	2242.95	2235	14	6.75E-03	35.7	
22	0	1238.59	29	0	2.75	2477.66	2471	15	8.06E-03	18.6	
23	0	1377.63	10	6	0.75	2755.68	2750	11	2.64E-03	57.8	
24	0	1460.79*	187	7	2.52	2921.97	2915	14	5.19E-02	8.0	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JUN-2024 06:22:26

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289011.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: MXR1		
Sample date	: 21-MAY-2024 13:00:00	Acquisition date	: 20-JUN-2024 05:21:41
Sample ID	: G669289011	Sample quantity	: 137.78 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA8	Detector geometry	: CAN
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:00.51 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	179	10.66*	9.539E-01	9.586E+00	9.586E+00	16.03
CR-51	320.08	14	9.91*	3.317E+00	2.313E-01	4.864E-01	233.94
SN-126	64.28	47	9.60	2.138E+00	1.240E+00	1.240E+00	97.90
	86.94	27	8.90	4.534E+00	3.617E-01	3.617E-01	175.95
	87.57	27	37.00*	4.534E+00	8.701E-02	8.701E-02	175.95
TL-208	277.37	------	6.60	3.683E+00	------ Line Not Found		------
	583.19	46	85.00*	2.102E+00	1.405E-01	1.405E-01	49.16
	860.56	------	12.50	1.517E+00	------ Line Not Found		------
BI-211	72.87	------	1.23	3.277E+00	------ Line Not Found		------
	351.06	117	12.92*	3.086E+00	1.595E+00	1.595E+00	31.14
BI-212	727.33	18	6.67*	1.755E+00	8.589E-01	8.589E-01	68.75
	1620.50	------	1.47	8.851E-01	------ Line Not Found		------
PB-212	74.82	48	10.28	3.478E+00	7.353E-01	7.353E-01	87.22
	77.11	69	17.10	3.774E+00	5.826E-01	5.826E-01	66.30
	238.63	174	43.60*	4.107E+00	5.290E-01	5.290E-01	22.40
	300.09	------	3.30	3.475E+00	------ Line Not Found		------
BI-214	609.32	100	45.49*	2.030E+00	5.902E-01	5.902E-01	26.84
	1120.29	24	14.92	1.195E+00	7.274E-01	7.274E-01	71.40
	1764.49	------	15.30	8.411E-01	------ Line Not Found		------
PB-214	74.82	48	5.80	3.478E+00	1.303E+00	1.303E+00	87.22
	77.11	69	9.70	3.774E+00	1.027E+00	1.027E+00	66.30
	87.09	27	3.41	4.534E+00	9.441E-01	9.442E-01	175.95
	242.00	53	7.25	4.068E+00	9.881E-01	9.881E-01	74.95
	295.22	69	18.42	3.516E+00	5.822E-01	5.822E-01	48.88
	351.93	117	35.60*	3.086E+00	5.787E-01	5.787E-01	31.14
RN-222	609.32	100	45.49*	2.030E+00	5.902E-01	5.902E-01	26.84
	1120.29	24	14.92	1.195E+00	7.274E-01	7.274E-01	71.40
	1764.49	------	15.30	8.411E-01	------ Line Not Found		------
RA-224	240.99	53	4.10*	4.068E+00	1.747E+00	1.747E+00	74.95
RA-226	74.82	48	5.80	3.478E+00	1.303E+00	1.303E+00	87.22
	77.11	69	9.70	3.774E+00	1.027E+00	1.027E+00	66.30
	87.09	27	3.41	4.534E+00	9.441E-01	9.442E-01	175.95
	242.00	53	7.25	4.068E+00	9.881E-01	9.881E-01	74.95
	295.22	69	18.42	3.516E+00	5.822E-01	5.822E-01	48.88
	351.93	117	35.60*	3.086E+00	5.787E-01	5.787E-01	31.14
AC-228	105.21	------	1.10	5.421E+00	------ Line Not Found		------
	338.32	34	11.27	3.176E+00	5.136E-01	5.136E-01	83.35
	835.71	------	1.61	1.556E+00	------ Line Not Found		------
	911.20	39	25.80*	1.441E+00	5.675E-01	5.675E-01	49.54
	968.97	34	15.80	1.365E+00	8.469E-01	8.469E-01	71.29
RA-228	105.21	------	1.10	5.421E+00	------ Line Not Found		------
	338.32	34	11.27	3.176E+00	5.136E-01	5.136E-01	83.35
	835.71	------	1.61	1.556E+00	------ Line Not Found		------
	911.20	39	25.80*	1.441E+00	5.675E-01	5.675E-01	49.54
	968.97	34	15.80	1.365E+00	8.469E-01	8.469E-01	71.29
TH-228	74.82	48	10.28	3.478E+00	7.353E-01	7.353E-01	87.22
	77.11	69	17.10	3.774E+00	5.826E-01	5.826E-01	66.30
	238.63	174	43.60*	4.107E+00	5.290E-01	5.290E-01	22.40
	300.09	------	3.30	3.475E+00	------ Line Not Found		------

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-230	74.82	48	5.80	3.478E+00	1.303E+00	1.303E+00	87.22
	77.11	69	9.70	3.774E+00	1.027E+00	1.027E+00	66.30
	87.09	27	3.41	4.534E+00	9.441E-01	9.441E-01	175.95
	242.00	53	7.25	4.068E+00	9.881E-01	9.881E-01	74.95
	295.22	69	18.42	3.516E+00	5.822E-01	5.822E-01	48.88
	351.93	117	35.60*	3.086E+00	5.787E-01	5.787E-01	31.14
TH-232	105.21	------	1.10	5.421E+00	------ Line Not Found		------
	338.32	34	11.27	3.176E+00	5.136E-01	5.136E-01	83.35
	835.71	------	1.61	1.556E+00	------ Line Not Found		------
	911.20	39	25.80*	1.441E+00	5.675E-01	5.675E-01	49.54
	968.97	34	15.80	1.365E+00	8.469E-01	8.469E-01	71.29
U-234	74.82	48	5.80	3.478E+00	1.303E+00	1.303E+00	87.22
	77.11	69	9.70	3.774E+00	1.027E+00	1.027E+00	66.30
	87.09	27	3.41	4.534E+00	9.441E-01	9.441E-01	175.95
	242.00	53	7.25	4.068E+00	9.881E-01	9.881E-01	74.95
	295.22	69	18.42	3.516E+00	5.822E-01	5.822E-01	48.88
	351.93	117	35.60*	3.086E+00	5.787E-01	5.787E-01	31.14
AM-243	43.53	------	5.90	2.524E-01	------ Line Not Found		------
	74.66	48	67.20*	3.478E+00	1.125E-01	1.125E-01	87.22
ANH-511	511.00	35	100.00*	2.330E+00	8.194E-02	8.194E-02	121.50

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:22:26.97

```
*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
*                                                                       *
*                        DETECTOR AND SAMPLE DATA                       *
*                                                                       *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289011.CNF;1    *
* Acquisition date : 20-JUN-2024 05:21:41 Sensitivity     : 3.000          *
* Detector ID      : GAM08                Energy tolerance: 1.500          *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000         *
* Elapsed real time:    0 01:00:00.51     Half life ratio : *****          *
* Sample date      : 21-MAY-2024 13:00:00 Analyst initials: MXR1           *
* Sample ID        : G669289011           Sample Quantity : 1.3778E+02 GRAM   *
* Batch Number     : 2618905              Wet Weight      :    0.00000     *
* Wet wt corr      :    1.00000           Dry Weight      :    0.00000     *
* Nuclide Library  : SOLID.NLB;17                                         *
*************************************************************************
*                                                                       *
*                        CALIBRATION INFORMATION                        *
*                                                                       *
* Eff. Cal. date   : 13-FEB-2024 11:13:03 Eff. Geometry   : CAN           *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM08_CAN.CNF;21          *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	9.586E+00	1.506E+00	6.837E-01
CR-51	4.864E-01	1.115E+00	1.011E+00
SN-126	8.701E-02	1.500E-01	1.512E-01
TL-208	1.405E-01	6.769E-02	6.679E-02
BI-211	1.595E+00	4.866E-01	3.737E-01
BI-212	8.589E-01	5.788E-01	7.647E-01
PB-212	5.290E-01	1.161E-01	9.439E-02
BI-214	5.902E-01	1.552E-01	1.396E-01
PB-214	5.787E-01	1.766E-01	1.359E-01
RN-222	5.902E-01	1.552E-01	1.396E-01
RA-224	1.747E+00	1.283E+00	1.012E+00
RA-226	5.787E-01	1.766E-01	1.359E-01
AC-228	5.675E-01	2.755E-01	2.683E-01
RA-228	5.675E-01	2.755E-01	2.683E-01
TH-228	5.290E-01	1.161E-01	9.439E-02
TH-230	5.787E-01	1.766E-01	1.359E-01
TH-232	5.675E-01	2.755E-01	2.683E-01
U-234	5.787E-01	1.766E-01	1.359E-01
AM-243	1.125E-01	9.615E-02	1.037E-01
ANH-511	8.194E-02	9.757E-02	4.891E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	3.040E-01	3.509E-01	7.658E-01	NOT IDENT.
NA-22	2.645E-02	4.467E-02	9.777E-02	NOT IDENT.
NA-24	0.000E+00	5.496E+12	0.000E+00	SHORT HLIF
AL-26	-1.964E-02	3.404E-02	6.098E-02	NOT IDENT.
SC-46	2.722E-02	4.483E-02	9.822E-02	FAIL ABUN
V-48	-2.648E-03	1.300E-01	2.588E-01	NOT IDENT.
MN-52	1.513E+00	1.524E+00	3.832E+00	NOT IDENT.
MN-54	-1.047E-02	3.576E-02	6.804E-02	NOT IDENT.
CO-56	-1.366E-02	4.429E-02	8.390E-02	FAIL ABUN
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF

CO-57	-3.811E-03	2.454E-02	4.402E-02	NOT IDENT.
CO-58	-2.345E-02	4.134E-02	7.496E-02	NOT IDENT.
FE-59	-6.630E-02	1.125E-01	1.907E-01	NOT IDENT.
CO-60	6.603E-04	4.309E-02	8.539E-02	NOT IDENT.
ZN-65	5.557E-02	9.363E-02	1.883E-01	NOT IDENT.
GE-68	2.018E-01	1.248E+00	2.644E+00	NOT IDENT.
AS-73	2.399E-01	1.118E+00	2.228E+00	NOT IDENT.
AS-74	-8.839E-03	1.500E-01	3.023E-01	NOT IDENT.
SE-75	-1.951E-02	4.675E-02	8.666E-02	NOT IDENT.
BR-77	0.000E+00	1.268E+03	0.000E+00	SHORT HLIF
SR-82	1.083E-01	4.557E-01	9.582E-01	NOT IDENT.
RB-83	5.863E-03	7.401E-02	1.438E-01	NOT IDENT.
RB-84	-6.885E-02	1.173E-01	2.078E-01	NOT IDENT.
KR-85	4.792E+00	6.712E+00	1.403E+01	NOT IDENT.
SR-85	2.940E-02	4.143E-02	8.655E-02	NOT IDENT.
RB-86	4.755E-01	1.286E+00	2.830E+00	NOT IDENT.
Y-88	-8.121E-03	2.747E-02	5.936E-02	NOT IDENT.
Y-91	-4.844E+00	2.104E+01	3.987E+01	NOT IDENT.
NB-94	1.341E-02	3.291E-02	6.938E-02	NOT IDENT.
NB-95	-4.069E-02	5.188E-02	9.031E-02	NOT IDENT.
NB-95M	5.805E-02	1.308E-01	2.431E-01	NOT IDENT.
ZR-95	1.552E-02	7.160E-02	1.518E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	3.648E+12	0.000E+00	SHORT HLIF
MO-99	0.000E+00	4.537E+02	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	1.057E+34	0.000E+00	SHORT HLIF
RH-101	-1.189E-02	3.191E-02	5.584E-02	NOT IDENT.
RH-102	1.899E-02	4.804E-02	1.042E-01	NOT IDENT.
RU-103	3.532E-02	4.137E-02	9.296E-02	FAIL ABUN
RH-106	4.521E-02	2.937E-01	6.112E-01	NOT IDENT.
RU-106	4.521E-02	2.937E-01	6.112E-01	NOT IDENT.
AG-108M	6.373E-03	2.681E-02	5.364E-02	NOT IDENT.
CD-109	2.903E-01	8.795E-01	1.648E+00	NOT IDENT.
AG-110	-2.943E-01	6.246E-01	1.182E+00	NOT IDENT.
AG-110M	-5.381E-02	6.212E-02	1.044E-01	NOT IDENT.
SN-113	-1.599E-02	4.592E-02	8.404E-02	NOT IDENT.
CD-115	0.000E+00	9.618E+02	0.000E+00	SHORT HLIF
SN-117M	-6.745E-02	1.016E-01	1.903E-01	NOT IDENT.
SB-122	0.000E+00	8.538E+01	0.000E+00	SHORT HLIF
TE-123M	-2.016E-02	2.694E-02	5.008E-02	NOT IDENT.
SB-124	3.839E-02	8.908E-02	2.248E-01	NOT IDENT.
SB-125	4.879E-02	8.902E-02	1.833E-01	NOT IDENT.
TE-125M	3.422E+00	1.061E+01	2.012E+01	NOT IDENT.
I-126	-1.583E-01	4.129E-01	7.902E-01	NOT IDENT.
SB-126	6.804E-02	3.100E-01	6.431E-01	NOT IDENT.
SB-127	9.749E+00	1.652E+01	3.642E+01	NOT IDENT.
I-131	-1.361E-01	4.043E-01	7.425E-01	NOT IDENT.
I-132	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
TE-132	5.860E-01	1.619E+01	3.155E+01	NOT IDENT.
BA-133	-7.273E-04	4.137E-02	7.157E-02	NOT IDENT.
I-133	0.000E+00	6.175E+08	0.000E+00	SHORT HLIF
CS-134	1.007E-02	3.958E-02	8.457E-02	NOT IDENT.
I-135	0.000E+00	4.929E+31	0.000E+00	SHORT HLIF
CS-136	-1.643E-01	2.063E-01	3.395E-01	NOT IDENT.
BA-137M	5.488E-03	2.723E-02	5.849E-02	NOT IDENT.
CS-137	5.798E-03	2.877E-02	6.179E-02	NOT IDENT.
LA-138	1.335E-02	6.297E-02	1.370E-01	NOT IDENT.
CE-139	-4.527E-04	2.704E-02	5.358E-02	NOT IDENT.
BA-140	1.802E-01	6.736E-01	1.306E+00	NOT IDENT.
LA-140	-3.715E-02	1.995E-01	4.069E-01	NOT IDENT.
CE-141	-6.037E-02	8.468E-02	1.403E-01	NOT IDENT.
CE-143	0.000E+00	1.735E+05	0.000E+00	SHORT HLIF
CE-144	-1.604E-01	1.887E-01	3.049E-01	NOT IDENT.
PM-144	7.319E-03	3.340E-02	6.917E-02	NOT IDENT.
PR-144	5.327E-01	2.515E+00	5.205E+00	NOT IDENT.
PM-146	-5.138E-03	3.693E-02	6.993E-02	NOT IDENT.
ND-147	3.254E-01	1.369E+00	2.712E+00	FAIL ABUN
PM-147	3.191E+01	6.934E+02	1.272E+03	NOT IDENT.
PM-149	0.000E+00	8.581E+03	0.000E+00	SHORT HLIF
EU-150	-9.941E-03	2.890E-02	4.694E-02	FAIL ABUN
EU-152	-1.064E-02	8.208E-02	1.573E-01	NOT IDENT.
GD-153	-1.784E-02	8.499E-02	1.536E-01	NOT IDENT.
EU-154	7.439E-02	1.256E-01	2.750E-01	FAIL ABUN
EU-155	1.174E-02	1.007E-01	1.870E-01	FAIL ABUN
TB-160	1.285E-01	1.882E-01	3.995E-01	FAIL ABUN
HO-166M	-3.171E-02	5.466E-02	1.001E-01	NOT IDENT.
TM-171	-1.946E+01	2.223E+01	3.887E+01	NOT IDENT.
HF-172	-7.308E-02	1.813E-01	3.175E-01	FAIL ABUN

LU-172	3.223E-02	7.291E-02	1.522E-01	FAIL ABUN
LU-176	-6.178E-03	2.673E-02	5.010E-02	NOT IDENT.
HF-181	1.596E-02	5.941E-02	1.165E-01	NOT IDENT.
TA-182	2.855E-02	2.100E-01	4.165E-01	FAIL ABUN
RE-183	9.678E-02	2.542E-01	5.082E-01	NOT IDENT.
RE-184	5.658E-02	1.248E-01	2.854E-01	NOT IDENT.
W-188	-1.535E+00	8.048E+00	1.364E+01	FAIL ABUN
IR-192	-2.120E-02	3.773E-02	6.794E-02	FAIL ABUN
HG-203	-2.976E-02	4.327E-02	7.743E-02	NOT IDENT.
TL-204	-3.434E-01	4.804E+00	8.313E+00	NOT IDENT.
BI-207	4.378E-02	5.669E-02	1.250E-01	FAIL ABUN
BI-210	2.521E+00	5.593E+00	1.100E+01	NOT IDENT.
PB-210	2.521E+00	5.593E+00	1.100E+01	NOT IDENT.
PB-211	-1.010E-01	7.315E-01	1.367E+00	NOT IDENT.
BI-213	-6.251E-02	1.012E-01	1.754E-01	NOT IDENT.
RN-219	-8.526E-02	3.851E-01	7.166E-01	NOT IDENT.
RA-223	-3.616E-01	5.565E-01	9.891E-01	FAIL ABUN
AC-225	2.124E-01	1.432E+00	2.844E+00	NOT IDENT.
AC-227	1.206E-01	2.408E-01	4.902E-01	NOT IDENT.
TH-227	1.206E-01	2.408E-01	4.902E-01	NOT IDENT.
TH-229	5.061E-02	4.834E-01	9.547E-01	FAIL ABUN
PA-231	2.729E-01	4.579E-01	9.378E-01	NOT IDENT.
TH-231	-3.616E-01	5.565E-01	9.891E-01	FAIL ABUN
PA-233	-2.850E-02	7.211E-02	1.166E-01	NOT IDENT.
PA-234	-6.708E-02	2.864E-01	5.493E-01	NOT IDENT.
PA-234M	-2.456E+00	4.954E+00	8.248E+00	NOT IDENT.
TH-234	0.000E+00	3.086E+00	3.207E+00	FAIL ABUN
U-235	1.000E-01	2.002E-01	3.780E-01	FAIL ABUN
NP-237	-2.850E-02	7.211E-02	1.166E-01	NOT IDENT.
NP-238	0.000E+00	2.237E+03	0.000E+00	SHORT HLIF
U-238	0.000E+00	3.086E+00	3.207E+00	FAIL ABUN
NP-239	-1.736E-01	2.560E-01	4.336E-01	NOT IDENT.
PU-239	1.216E+02	3.561E+02	6.606E+02	FAIL ABUN
AM-241	-5.940E-02	1.766E-01	2.994E-01	NOT IDENT.
CM-243	-2.312E-02	1.046E-01	1.888E-01	NOT IDENT.
BK-247	-3.429E-02	8.120E-02	1.501E-01	NOT IDENT.
CM-247	1.063E-02	3.464E-02	6.943E-02	NOT IDENT.
CF-249	1.791E-02	3.843E-02	7.821E-02	NOT IDENT.
CF-251	-9.602E-02	1.070E-01	1.942E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:22:25.28

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	179	10.66*	9.539E-01	9.586E+00	9.586E+00	16.03
CR-51	320.08	14	9.91*	3.317E+00	2.313E-01	4.864E-01	233.94
SN-126	64.28	47	9.60	2.138E+00	1.240E+00	1.240E+00	97.90
	86.94	27	8.90	4.534E+00	3.617E-01	3.617E-01	175.95
	87.57	27	37.00*	4.534E+00	8.701E-02	8.701E-02	175.95
TL-208	277.37	------	6.60	3.683E+00	------	Line Not Found	------
	583.19	46	85.00*	2.102E+00	1.405E-01	1.405E-01	49.16
	860.56	------	12.50	1.517E+00	------	Line Not Found	------
BI-211	72.87	------	1.23	3.277E+00	------	Line Not Found	------
	351.06	117	12.92*	3.086E+00	1.595E+00	1.595E+00	31.14
BI-212	727.33	18	6.67*	1.755E+00	8.589E-01	8.589E-01	68.75
	1620.50	------	1.47	8.851E-01	------	Line Not Found	------
PB-212	74.82	48	10.28	3.478E+00	7.353E-01	7.353E-01	87.22
	77.11	69	17.10	3.774E+00	5.826E-01	5.826E-01	66.30
	238.63	174	43.60*	4.107E+00	5.290E-01	5.290E-01	22.40
	300.09	------	3.30	3.475E+00	------	Line Not Found	------
BI-214	609.32	100	45.49*	2.030E+00	5.902E-01	5.902E-01	26.84
	1120.29	24	14.92	1.195E+00	7.274E-01	7.274E-01	71.40
	1764.49	------	15.30	8.411E-01	------	Line Not Found	------
PB-214	74.82	48	5.80	3.478E+00	1.303E+00	1.303E+00	87.22
	77.11	69	9.70	3.774E+00	1.027E+00	1.027E+00	66.30
	87.09	27	3.41	4.534E+00	9.441E-01	9.442E-01	175.95
	242.00	53	7.25	4.068E+00	9.881E-01	9.881E-01	74.95
	295.22	69	18.42	3.516E+00	5.822E-01	5.822E-01	48.88
	351.93	117	35.60*	3.086E+00	5.787E-01	5.787E-01	31.14
RN-222	609.32	100	45.49*	2.030E+00	5.902E-01	5.902E-01	26.84
	1120.29	24	14.92	1.195E+00	7.274E-01	7.274E-01	71.40
	1764.49	------	15.30	8.411E-01	------	Line Not Found	------
RA-224	240.99	53	4.10*	4.068E+00	1.747E+00	1.747E+00	74.95
RA-226	74.82	48	5.80	3.478E+00	1.303E+00	1.303E+00	87.22
	77.11	69	9.70	3.774E+00	1.027E+00	1.027E+00	66.30
	87.09	27	3.41	4.534E+00	9.441E-01	9.442E-01	175.95
	242.00	53	7.25	4.068E+00	9.881E-01	9.881E-01	74.95
	295.22	69	18.42	3.516E+00	5.822E-01	5.822E-01	48.88
	351.93	117	35.60*	3.086E+00	5.787E-01	5.787E-01	31.14
AC-228	105.21	------	1.10	5.421E+00	------	Line Not Found	------
	338.32	34	11.27	3.176E+00	5.136E-01	5.136E-01	83.35
	835.71	------	1.61	1.556E+00	------	Line Not Found	------
	911.20	39	25.80*	1.441E+00	5.675E-01	5.675E-01	49.54
	968.97	34	15.80	1.365E+00	8.469E-01	8.469E-01	71.29
RA-228	105.21	------	1.10	5.421E+00	------	Line Not Found	------
	338.32	34	11.27	3.176E+00	5.136E-01	5.136E-01	83.35
	835.71	------	1.61	1.556E+00	------	Line Not Found	------
	911.20	39	25.80*	1.441E+00	5.675E-01	5.675E-01	49.54
	968.97	34	15.80	1.365E+00	8.469E-01	8.469E-01	71.29
TH-228	74.82	48	10.28	3.478E+00	7.353E-01	7.353E-01	87.22
	77.11	69	17.10	3.774E+00	5.826E-01	5.826E-01	66.30

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	238.63	174	43.60*	4.107E+00	5.290E-01	5.290E-01	22.40
	300.09	------	3.30	3.475E+00	------ Line Not Found		------
TH-230	74.82	48	5.80	3.478E+00	1.303E+00	1.303E+00	87.22
	77.11	69	9.70	3.774E+00	1.027E+00	1.027E+00	66.30
	87.09	27	3.41	4.534E+00	9.441E-01	9.441E-01	175.95
	242.00	53	7.25	4.068E+00	9.881E-01	9.881E-01	74.95
	295.22	69	18.42	3.516E+00	5.822E-01	5.822E-01	48.88
	351.93	117	35.60*	3.086E+00	5.787E-01	5.787E-01	31.14
TH-232	105.21	------	1.10	5.421E+00	------ Line Not Found		------
	338.32	34	11.27	3.176E+00	5.136E-01	5.136E-01	83.35
	835.71	------	1.61	1.556E+00	------ Line Not Found		------
	911.20	39	25.80*	1.441E+00	5.675E-01	5.675E-01	49.54
	968.97	34	15.80	1.365E+00	8.469E-01	8.469E-01	71.29
U-234	74.82	48	5.80	3.478E+00	1.303E+00	1.303E+00	87.22
	77.11	69	9.70	3.774E+00	1.027E+00	1.027E+00	66.30
	87.09	27	3.41	4.534E+00	9.441E-01	9.441E-01	175.95
	242.00	53	7.25	4.068E+00	9.881E-01	9.881E-01	74.95
	295.22	69	18.42	3.516E+00	5.822E-01	5.822E-01	48.88
	351.93	117	35.60*	3.086E+00	5.787E-01	5.787E-01	31.14
AM-243	43.53	------	5.90	2.524E-01	------ Line Not Found		------
	74.66	48	67.20*	3.478E+00	1.125E-01	1.125E-01	87.22
ANH-511	511.00	35	100.00*	2.330E+00	8.194E-02	8.194E-02	121.50

Flag: "*" = Keyline

Sample ID : G669289011 Acquisition date : 20-JUN-2024 05:21:41

Total number of lines in spectrum 24
Number of unidentified lines 1
Number of lines tentatively identified by NID 23 95.83%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	9.586E+00	9.586E+00	1.537E+00	16.03	
CR-51	27.70D	2.10	2.313E-01	4.864E-01	11.38E-01	233.94	
SN-126	2.30E+05Y	1.00	8.701E-02	8.701E-02	15.31E-02	175.95	
TL-208	1.41E+10Y	1.00	1.405E-01	1.405E-01	0.691E-01	49.16	
BI-211	7.04E+08Y	1.00	1.595E+00	1.595E+00	0.497E+00	31.14	
BI-212	1.41E+10Y	1.00	8.589E-01	8.589E-01	5.906E-01	68.75	
PB-212	1.41E+10Y	1.00	5.290E-01	5.290E-01	1.185E-01	22.40	
BI-214	1600.00Y	1.00	5.902E-01	5.902E-01	1.584E-01	26.84	
PB-214	1600.00Y	1.00	5.787E-01	5.787E-01	1.802E-01	31.14	
RN-222	1600.00Y	1.00	5.902E-01	5.902E-01	1.584E-01	26.84	
RA-224	1.41E+10Y	1.00	1.747E+00	1.747E+00	1.310E+00	74.95	
RA-226	1600.00Y	1.00	5.787E-01	5.787E-01	1.802E-01	31.14	
AC-228	1.41E+10Y	1.00	5.675E-01	5.675E-01	2.811E-01	49.54	
RA-228	1.41E+10Y	1.00	5.675E-01	5.675E-01	2.811E-01	49.54	
TH-228	1.41E+10Y	1.00	5.290E-01	5.290E-01	1.185E-01	22.40	
TH-230	7.54E+04Y	1.00	5.787E-01	5.787E-01	1.802E-01	31.14	
TH-232	1.41E+10Y	1.00	5.675E-01	5.675E-01	2.811E-01	49.54	
U-234	2.45E+05Y	1.00	5.787E-01	5.787E-01	1.802E-01	31.14	
AM-243	7370.00Y	1.00	1.125E-01	1.125E-01	0.981E-01	87.22	
ANH-511	1.00E+09Y	1.00	8.194E-02	8.194E-02	9.956E-02	121.50	
	Total Activity :		2.070E+01	2.095E+01			

Grand Total Activity : 2.070E+01 2.095E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G669289011 Acquisition date : 20-JUN-2024 05:21:41

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	186.71	48	151	1.38	373.70	367	15	1.18E-02	****	4.85E+00	T
0	210.25	19	61	1.86	420.80	417	8	4.75E-03	****	4.49E+00	T
0	374.93	11	21	1.33	750.25	745	8	2.78E-03	****	2.94E+00	T
0	997.15	9	2	0.78	1994.81	1991	8	2.42E-03	88.8	1.33E+00	T
0	1238.59	28	0	2.75	2477.66	2471	15	8.06E-03	37.1	1.09E+00	T
0	1377.63	9	5	0.75	2755.68	2750	11	2.64E-03	****	1.00E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:22:37.13

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289011.CNF;1		
Acquisition date	: 20-JUN-2024 05:21:41	Sensitivity	: 3.000
Detector ID	: GAM08	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.51	Half life ratio	: *****
Sample date	: 21-MAY-2024 13:00:00	Nuclide Library	: SOLID
Sample ID	: G669289011	Analyst initials	: MXR1
Batch Number	: 2618905	Sample Quantity	: 1.3778E+02 GRAM
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 13-FEB-2024 11:13:03	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM08_CAN.CNF;21		

Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	2.692E-01
CR-51	4.571E-01
SN-126	7.106E-02
TL-208	2.919E-02
BI-211	1.679E-01
BI-212	3.183E-01
PB-212	4.294E-02
BI-214	6.167E-02
PB-214	6.106E-02
RN-222	6.167E-02
RA-224	4.603E-01
RA-226	6.106E-02
AC-228	1.141E-01
RA-228	1.141E-01
TH-228	4.294E-02
TH-230	6.106E-02
TH-232	1.141E-01
U-234	6.106E-02
AM-243	4.850E-02
ANH-511	2.122E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	3.396E-01	NOT IDENT.
NA-22	4.180E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	2.161E-02	NOT IDENT.
SC-46	4.264E-02	FAIL ABUN
V-48	1.093E-01	NOT IDENT.
MN-52	1.613E+00	NOT IDENT.
MN-54	2.890E-02	NOT IDENT.
CO-56	3.562E-02	FAIL ABUN
MN-56	0.000E+00	SHORT HLIF
CO-57	2.028E-02	NOT IDENT.

CO-58	3.119E-02	NOT IDENT.
FE-59	7.818E-02	NOT IDENT.
CO-60	3.542E-02	NOT IDENT.
ZN-65	8.086E-02	NOT IDENT.
GE-68	1.121E+00	NOT IDENT.
AS-73	1.016E+00	NOT IDENT.
AS-74	1.315E-01	NOT IDENT.
SE-75	3.930E-02	NOT IDENT.
BR-77	0.000E+00	SHORT HLIF
SR-82	4.118E-01	NOT IDENT.
RB-83	6.267E-02	NOT IDENT.
RB-84	9.028E-02	NOT IDENT.
KR-85	6.262E+00	NOT IDENT.
SR-85	3.864E-02	NOT IDENT.
RB-86	1.206E+00	NOT IDENT.
Y-88	1.876E-02	NOT IDENT.
Y-91	1.632E+01	NOT IDENT.
NB-94	3.054E-02	NOT IDENT.
NB-95	3.900E-02	NOT IDENT.
NB-95M	1.113E-01	NOT IDENT.
ZR-95	6.473E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	2.587E-02	NOT IDENT.
RH-102	4.519E-02	NOT IDENT.
RU-103	4.061E-02	FAIL ABUN
RH-106	2.656E-01	NOT IDENT.
RU-106	2.656E-01	NOT IDENT.
AG-108M	2.366E-02	NOT IDENT.
CD-109	7.768E-01	NOT IDENT.
AG-110	4.964E-01	NOT IDENT.
AG-110M	4.468E-02	NOT IDENT.
SN-113	3.713E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	8.753E-02	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	2.298E-02	NOT IDENT.
SB-124	8.708E-02	NOT IDENT.
SB-125	8.196E-02	NOT IDENT.
TE-125M	9.315E+00	NOT IDENT.
I-126	3.358E-01	NOT IDENT.
SB-126	2.799E-01	NOT IDENT.
SB-127	1.589E+01	NOT IDENT.
I-131	3.311E-01	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	1.450E+01	NOT IDENT.
BA-133	3.177E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	3.676E-02	NOT IDENT.
I-135	0.000E+00	SHORT HLIF
CS-136	1.348E-01	NOT IDENT.
BA-137M	2.484E-02	NOT IDENT.
CS-137	2.624E-02	NOT IDENT.
LA-138	5.681E-02	NOT IDENT.
CE-139	2.464E-02	NOT IDENT.
BA-140	5.839E-01	NOT IDENT.
LA-140	1.600E-01	NOT IDENT.
CE-141	6.466E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	1.391E-01	NOT IDENT.
PM-144	3.021E-02	NOT IDENT.
PR-144	2.272E+00	NOT IDENT.
PM-146	3.037E-02	NOT IDENT.
ND-147	1.190E+00	FAIL ABUN
PM-147	5.870E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	2.100E-02	FAIL ABUN
EU-152	6.954E-02	NOT IDENT.
GD-153	7.115E-02	NOT IDENT.
EU-154	1.176E-01	FAIL ABUN
EU-155	8.666E-02	FAIL ABUN
TB-160	1.777E-01	FAIL ABUN
HO-166M	4.228E-02	NOT IDENT.
TM-171	1.752E+01	NOT IDENT.
HF-172	1.463E-01	FAIL ABUN
LU-172	6.617E-02	FAIL ABUN

LU-176	2.267E-02	NOT IDENT.
HF-181	5.201E-02	NOT IDENT.
TA-182	1.786E-01	FAIL ABUN
RE-183	2.337E-01	NOT IDENT.
RE-184	1.186E-01	NOT IDENT.
W-188	6.104E+00	FAIL ABUN
IR-192	3.034E-02	FAIL ABUN
HG-203	3.475E-02	NOT IDENT.
TL-204	3.827E+00	NOT IDENT.
BI-207	5.457E-02	FAIL ABUN
BI-210	5.062E+00	NOT IDENT.
PB-210	5.062E+00	NOT IDENT.
PB-211	6.115E-01	NOT IDENT.
BI-213	7.654E-02	NOT IDENT.
RN-219	3.173E-01	NOT IDENT.
RA-223	4.366E-01	FAIL ABUN
AC-225	1.302E+00	NOT IDENT.
AC-227	2.246E-01	NOT IDENT.
TH-227	2.246E-01	NOT IDENT.
TH-229	4.408E-01	FAIL ABUN
PA-231	4.279E-01	NOT IDENT.
TH-231	4.366E-01	FAIL ABUN
PA-233	5.248E-02	NOT IDENT.
PA-234	2.301E-01	NOT IDENT.
PA-234M	3.455E+00	NOT IDENT.
TH-234	1.505E+00	FAIL ABUN
U-235	1.762E-01	FAIL ABUN
NP-237	5.248E-02	NOT IDENT.
NP-238	0.000E+00	SHORT HLIF
U-238	1.505E+00	FAIL ABUN
NP-239	1.995E-01	NOT IDENT.
PU-239	3.086E+02	FAIL ABUN
AM-241	1.368E-01	NOT IDENT.
CM-243	8.748E-02	NOT IDENT.
BK-247	6.839E-02	NOT IDENT.
CM-247	3.096E-02	NOT IDENT.
CF-249	3.511E-02	NOT IDENT.
CF-251	8.824E-02	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:22:41.53

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289011.CNF;1		
Acquisition date	: 20-JUN-2024 05:21:41	Sensitivity	: 3.000
Detector ID	: GAM08	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.51	Half life ratio	: *****
Sample date	: 21-MAY-2024 13:00:00	Nuclide Library	: SOLID
Sample ID	: G669289011	Analyst initials	: MXR1
Batch Number	: 2618905	Sample Quantity	: 1.3778E+02 GRAM
		Quantity Err(%)	: 1.4516E-03 %
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 13-FEB-2024 11:13:03	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM08_CAN.CNF;21		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	9.586E+00	1.758E+00	1.758E+00
CR-51	4.864E-01	1.116E+00	1.116E+00
SN-126	8.701E-02	1.504E-01	1.504E-01
TL-208	1.405E-01	6.880E-02	6.880E-02
BI-211	1.595E+00	5.110E-01	5.110E-01
BI-212	8.589E-01	5.839E-01	5.839E-01
PB-212	5.290E-01	1.284E-01	1.284E-01
BI-214	5.902E-01	1.634E-01	1.634E-01
PB-214	5.787E-01	1.852E-01	1.852E-01
RN-222	5.902E-01	1.634E-01	1.634E-01
RA-224	1.747E+00	1.296E+00	1.296E+00
RA-226	5.787E-01	1.852E-01	1.852E-01
AC-228	5.675E-01	2.809E-01	2.809E-01
RA-228	5.675E-01	2.809E-01	2.809E-01
TH-228	5.290E-01	1.284E-01	1.284E-01
TH-230	5.787E-01	1.852E-01	1.852E-01
TH-232	5.675E-01	2.809E-01	2.809E-01
U-234	5.787E-01	1.852E-01	1.852E-01
AM-243	1.125E-01	9.694E-02	9.694E-02
ANH-511	8.194E-02	9.784E-02	9.784E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	3.040E-01	3.519E-01	3.777E-01	NOT IDENT.
NA-22	2.645E-02	4.472E-02	4.629E-02	NOT IDENT.
NA-24	1.477E+12	5.498E+12	5.539E+12	SHORT HLIF
AL-26	-1.964E-02	3.407E-02	3.520E-02	NOT IDENT.
SC-46	2.722E-02	4.490E-02	4.655E-02	FAIL ABUN
V-48	-2.648E-03	1.300E-01	1.300E-01	NOT IDENT.
MN-52	1.513E+00	1.530E+00	1.675E+00	NOT IDENT.
MN-54	-1.047E-02	3.577E-02	3.608E-02	NOT IDENT.
CO-56	-1.366E-02	4.431E-02	4.474E-02	FAIL ABUN
MN-56	-1.000E+41	3.152E+41	0.000E+00	SHORT HLIF

CO-57	-3.811E-03	2.454E-02	2.460E-02	NOT IDENT.
CO-58	-2.345E-02	4.139E-02	4.272E-02	NOT IDENT.
FE-59	-6.630E-02	1.128E-01	1.167E-01	NOT IDENT.
CO-60	6.603E-04	4.309E-02	4.309E-02	NOT IDENT.
ZN-65	5.557E-02	9.375E-02	9.703E-02	NOT IDENT.
GE-68	2.018E-01	1.248E+00	1.251E+00	NOT IDENT.
AS-73	2.399E-01	1.119E+00	1.124E+00	NOT IDENT.
AS-74	-8.839E-03	1.500E-01	1.501E-01	NOT IDENT.
SE-75	-1.951E-02	4.679E-02	4.761E-02	NOT IDENT.
BR-77	5.774E+03	5.142E+03	5.764E+03	SHORT HLIF
SR-82	1.083E-01	4.558E-01	4.584E-01	NOT IDENT.
RB-83	5.863E-03	7.402E-02	7.406E-02	NOT IDENT.
RB-84	-6.885E-02	1.175E-01	1.215E-01	NOT IDENT.
KR-85	4.792E+00	6.725E+00	7.064E+00	NOT IDENT.
SR-85	2.940E-02	4.151E-02	4.358E-02	NOT IDENT.
RB-86	4.755E-01	1.286E+00	1.304E+00	NOT IDENT.
Y-88	-8.121E-03	2.748E-02	2.772E-02	NOT IDENT.
Y-91	-4.844E+00	2.104E+01	2.115E+01	NOT IDENT.
NB-94	1.341E-02	3.292E-02	3.348E-02	NOT IDENT.
NB-95	-4.069E-02	5.200E-02	5.514E-02	NOT IDENT.
NB-95M	5.805E-02	1.310E-01	1.336E-01	NOT IDENT.
ZR-95	1.552E-02	7.161E-02	7.195E-02	NOT IDENT.
NB-97	-1.000E+41	2.608E+41	0.000E+00	SHORT HLIF
ZR-97	1.156E+12	3.649E+12	3.686E+12	SHORT HLIF
MO-99	-1.953E+02	4.541E+02	4.625E+02	SHORT HLIF
TC-99M	-5.988E+33	1.059E+34	0.000E+00	SHORT HLIF
RH-101	-1.189E-02	3.199E-02	3.243E-02	NOT IDENT.
RH-102	1.899E-02	4.809E-02	4.884E-02	NOT IDENT.
RU-103	3.532E-02	4.150E-02	4.445E-02	FAIL ABUN
RH-106	4.521E-02	2.937E-01	2.944E-01	NOT IDENT.
RU-106	4.521E-02	2.937E-01	2.944E-01	NOT IDENT.
AG-108M	6.373E-03	2.682E-02	2.697E-02	NOT IDENT.
CD-109	2.903E-01	8.803E-01	8.900E-01	NOT IDENT.
AG-110	-2.943E-01	6.251E-01	6.390E-01	NOT IDENT.
AG-110M	-5.381E-02	6.233E-02	6.689E-02	NOT IDENT.
SN-113	-1.599E-02	4.595E-02	4.651E-02	NOT IDENT.
CD-115	8.326E+01	9.618E+02	9.626E+02	SHORT HLIF
SN-117M	-6.745E-02	1.018E-01	1.062E-01	NOT IDENT.
SB-122	5.198E+01	8.550E+01	8.865E+01	SHORT HLIF
TE-123M	-2.016E-02	2.700E-02	2.849E-02	NOT IDENT.
SB-124	3.839E-02	8.914E-02	9.080E-02	NOT IDENT.
SB-125	4.879E-02	8.913E-02	9.180E-02	NOT IDENT.
TE-125M	3.422E+00	1.061E+01	1.072E+01	NOT IDENT.
I-126	-1.583E-01	4.131E-01	4.192E-01	NOT IDENT.
SB-126	6.804E-02	3.101E-01	3.116E-01	NOT IDENT.
SB-127	9.749E+00	1.659E+01	1.716E+01	NOT IDENT.
I-131	-1.361E-01	4.045E-01	4.091E-01	NOT IDENT.
I-132	-1.000E+41	3.525E+41	0.000E+00	SHORT HLIF
TE-132	5.860E-01	1.619E+01	1.619E+01	NOT IDENT.
BA-133	-7.273E-04	4.137E-02	4.138E-02	NOT IDENT.
I-133	7.887E+07	6.177E+08	6.187E+08	SHORT HLIF
CS-134	1.007E-02	3.959E-02	3.985E-02	NOT IDENT.
I-135	-4.639E+31	5.850E+31	0.000E+00	SHORT HLIF
CS-136	-1.643E-01	2.072E-01	2.200E-01	NOT IDENT.
BA-137M	5.488E-03	2.724E-02	2.735E-02	NOT IDENT.
CS-137	5.798E-03	2.877E-02	2.889E-02	NOT IDENT.
LA-138	1.335E-02	6.298E-02	6.327E-02	NOT IDENT.
CE-139	-4.527E-04	2.704E-02	2.704E-02	NOT IDENT.
BA-140	1.802E-01	6.738E-01	6.787E-01	NOT IDENT.
LA-140	-3.715E-02	1.995E-01	2.002E-01	NOT IDENT.
CE-141	-6.037E-02	8.482E-02	8.908E-02	NOT IDENT.
CE-143	1.349E+05	1.741E+05	1.844E+05	SHORT HLIF
CE-144	-1.604E-01	1.892E-01	2.025E-01	NOT IDENT.
PM-144	7.319E-03	3.340E-02	3.357E-02	NOT IDENT.
PR-144	5.327E-01	2.515E+00	2.527E+00	NOT IDENT.
PM-146	-5.138E-03	3.694E-02	3.701E-02	NOT IDENT.
ND-147	3.254E-01	1.370E+00	1.378E+00	FAIL ABUN
PM-147	3.191E+01	6.934E+02	6.936E+02	NOT IDENT.
PM-149	1.036E+03	8.583E+03	8.596E+03	SHORT HLIF
EU-150	-9.941E-03	2.891E-02	2.926E-02	FAIL ABUN
EU-152	-1.064E-02	8.209E-02	8.223E-02	NOT IDENT.
GD-153	-1.784E-02	8.500E-02	8.538E-02	NOT IDENT.
EU-154	7.439E-02	1.258E-01	1.302E-01	FAIL ABUN
EU-155	1.174E-02	1.007E-01	1.008E-01	FAIL ABUN
TB-160	1.285E-01	1.886E-01	1.973E-01	FAIL ABUN
HO-166M	-3.171E-02	5.474E-02	5.657E-02	NOT IDENT.
TM-171	-1.946E+01	2.240E+01	2.406E+01	NOT IDENT.
HF-172	-7.308E-02	1.817E-01	1.847E-01	FAIL ABUN

LU-172	3.223E-02	7.303E-02	7.446E-02	FAIL ABUN
LU-176	-6.178E-03	2.674E-02	2.688E-02	NOT IDENT.
HF-181	1.596E-02	5.943E-02	5.986E-02	NOT IDENT.
TA-182	2.855E-02	2.100E-01	2.104E-01	FAIL ABUN
RE-183	9.678E-02	2.546E-01	2.583E-01	NOT IDENT.
RE-184	5.658E-02	1.250E-01	1.276E-01	NOT IDENT.
W-188	-1.535E+00	8.051E+00	8.081E+00	FAIL ABUN
IR-192	-2.120E-02	3.779E-02	3.898E-02	FAIL ABUN
HG-203	-2.976E-02	4.338E-02	4.541E-02	NOT IDENT.
TL-204	-3.434E-01	4.804E+00	4.807E+00	NOT IDENT.
BI-207	4.378E-02	5.682E-02	6.015E-02	FAIL ABUN
BI-210	2.521E+00	5.600E+00	5.714E+00	NOT IDENT.
PB-210	2.521E+00	5.600E+00	5.714E+00	NOT IDENT.
PB-211	-1.010E-01	7.315E-01	7.330E-01	NOT IDENT.
BI-213	-6.251E-02	1.014E-01	1.052E-01	NOT IDENT.
RN-219	-8.526E-02	3.853E-01	3.872E-01	NOT IDENT.
RA-223	-3.616E-01	5.579E-01	5.812E-01	FAIL ABUN
AC-225	2.124E-01	1.432E+00	1.436E+00	NOT IDENT.
AC-227	1.206E-01	2.416E-01	2.477E-01	NOT IDENT.
TH-227	1.206E-01	2.416E-01	2.477E-01	NOT IDENT.
TH-229	5.061E-02	4.834E-01	4.839E-01	FAIL ABUN
PA-231	2.729E-01	4.623E-01	4.784E-01	NOT IDENT.
TH-231	-3.616E-01	5.579E-01	5.812E-01	FAIL ABUN
PA-233	-2.850E-02	7.217E-02	7.330E-02	NOT IDENT.
PA-234	-6.708E-02	2.966E-01	2.981E-01	NOT IDENT.
PA-234M	-2.456E+00	4.959E+00	5.082E+00	NOT IDENT.
TH-234	3.217E+00	3.184E+00	3.498E+00	FAIL ABUN
U-235	1.000E-01	2.004E-01	2.054E-01	FAIL ABUN
NP-237	-2.850E-02	7.217E-02	7.330E-02	NOT IDENT.
NP-238	-4.789E+00	2.237E+03	2.237E+03	SHORT HLIF
U-238	3.217E+00	3.184E+00	3.498E+00	FAIL ABUN
NP-239	-1.736E-01	2.567E-01	2.683E-01	NOT IDENT.
PU-239	1.216E+02	3.562E+02	3.604E+02	FAIL ABUN
AM-241	-5.940E-02	1.768E-01	1.788E-01	NOT IDENT.
CM-243	-2.312E-02	1.046E-01	1.051E-01	NOT IDENT.
BK-247	-3.429E-02	8.156E-02	8.301E-02	NOT IDENT.
CM-247	1.063E-02	3.469E-02	3.502E-02	NOT IDENT.
CF-249	1.791E-02	3.848E-02	3.932E-02	NOT IDENT.
CF-251	-9.602E-02	1.078E-01	1.161E-01	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	50.9985	85.43	61.6881	131.20	56.0800
45.60	55.4218	86.55	76.9021	133.02	50.1170
46.54	33.9626	86.79	81.4636	133.52	51.3766
49.72	34.2728	86.94	81.4878	136.00	31.9188
51.35	42.7741	87.09	81.5114	136.47	46.6819
51.87	44.9244	87.57	81.5872	140.51	0.0000
52.39	42.8954	88.03	81.6597	143.76	43.4381
52.97	34.5797	88.34	81.7086	144.24	45.9508
53.44	32.5249	88.47	81.7289	145.44	62.1979
54.07	30.4776	89.96	81.9619	152.43	48.5540
57.36	0.0000	1093.63	124.6208	153.25	44.4163
57.53	33.9346	91.11	111.0416	323.87	52.8634
57.98	37.1583	92.59	48.0482	156.02	49.6240
59.27	44.0250	93.35	59.5724	158.56	56.5387
59.32	44.0304	94.56	93.0024	159.00	55.7258
59.54	44.0546	94.65	93.0179	162.33	50.0273
60.96	32.8007	94.67	93.0216	162.66	51.7449
61.17	32.8176	94.87	91.9067	163.33	53.4869
62.93	48.3625	97.43	51.9382	165.86	44.2881
63.29	48.4042	98.43	43.9378	176.31	37.9548
63.58	48.4379	98.44	43.9387	176.60	37.1053
64.28	48.5186	99.53	48.6580	177.52	48.3756
66.73	37.5924	100.11	66.1037	181.07	0.0000
67.24	44.8747	102.03	48.8724	181.52	49.4726
125.81	42.0220	103.18	50.1360	184.41	52.2516
67.75	48.9125	103.37	53.6518	143.76	51.4581
68.89	50.1297	105.21	45.6314	193.51	46.6349
69.67	52.4019	105.31	46.8094	197.03	42.4009
70.82	46.6989	106.12	52.7333	198.01	44.2149
70.83	46.7002	106.47	52.7646	201.83	46.1760
72.81	45.4389	109.28	45.9456	203.43	49.8140
72.87	45.4448	111.00	53.1656	205.31	35.2965
74.66	70.6396	111.76	50.8660	210.85	49.7600
74.82	70.6641	114.06	46.3074	215.65	41.4493
74.97	70.6865	116.30	50.0493	218.12	37.0378
77.11	72.4881	116.74	58.4316	222.11	30.8395
78.74	46.0163	119.76	39.5400	227.09	43.7559
79.69	74.3657	121.12	46.8281	227.38	47.4159
80.03	74.4171	121.22	46.8353	228.16	42.8902
80.12	64.0110	121.78	49.2800	228.18	42.8907
80.19	64.0201	122.06	49.3012	116.74	42.8907
80.57	56.6200	122.92	38.5300	235.69	31.7162
81.00	55.1786	123.07	43.3562	235.96	31.7247
81.07	70.1017	265.00	45.8078	238.63	34.1113
81.75	58.2497	125.81	49.5843	238.98	0.0000
82.47	51.6040	127.23	56.9618	240.99	34.1880
83.79	65.9875	127.91	53.3806	242.00	34.2212
84.00	66.0148	129.30	59.5692	244.70	23.6450

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.40	42.9612	344.28	21.1440	563.25	24.1172
252.80	41.1081	345.93	27.2181	564.24	0.0000
254.15	0.0000	351.06	26.3079	569.33	11.5190
256.23	31.8653	351.93	26.3243	946.00	11.5202
260.90	0.0000	355.39	0.0000	569.70	11.5214
264.66	38.7186	356.01	21.3243	583.19	16.2371
264.80	42.5015	364.49	27.5817	584.27	15.6654
265.00	42.5089	366.42	0.0000	595.83	15.7533
269.46	36.9862	372.51	29.2764	427.87	14.9124
270.03	40.8007	375.05	30.8716	602.52	0.0000
271.23	40.8435	377.52	24.7388	604.72	12.6563
273.65	35.2182	356.01	25.8804	607.14	12.6708
276.40	39.1190	388.16	19.7263	609.32	19.3782
277.37	26.7376	388.63	20.7711	610.33	21.1501
277.60	24.8326	391.69	23.9354	614.28	12.7134
278.00	23.8856	264.66	21.9835	618.01	10.6132
279.20	36.3440	401.81	23.0474	620.36	15.0519
279.54	37.3107	402.40	18.8643	621.93	13.2907
279.70	36.3595	404.85	26.2421	630.19	0.0000
280.46	40.2124	410.95	27.3991	631.29	10.6783
283.69	31.6821	413.71	26.3916	633.25	11.5785
284.31	35.5411	414.70	16.9014	634.78	19.6085
285.41	32.6899	423.72	24.4342	635.95	16.9433
285.90	0.0000	427.09	21.2915	636.99	14.2749
287.50	29.8578	427.87	17.0417	657.50	13.5068
290.67	27.5224	433.94	16.0364	657.76	11.7075
293.27	0.0000	439.40	17.1628	657.90	0.0000
351.93	19.3868	440.45	23.6136	661.66	9.0213
295.96	19.3986	453.88	16.2305	664.57	0.0000
879.38	30.6182	463.37	14.1452	666.33	14.4634
299.98	30.6528	468.07	10.9106	666.50	14.4648
300.09	24.8162	473.00	17.5068	667.71	0.0000
300.13	24.8173	475.06	15.3367	677.62	8.1760
301.36	27.2777	476.78	21.9307	685.70	10.0278
302.85	44.8667	477.60	10.9707	692.65	0.0000
256.23	22.4633	482.18	19.7985	695.00	15.5593
304.85	28.3309	487.02	24.2644	696.49	13.7375
306.78	34.2452	492.35	0.0000	696.51	13.7375
308.46	28.4129	497.08	7.7639	697.00	12.8242
311.90	33.8936	505.52	23.3998	697.30	11.9098
316.51	31.5514	507.63	0.0000	697.49	12.8268
319.41	28.1637	511.00	14.5287	702.65	13.7732
320.08	29.6613	514.00	14.5525	706.68	18.3954
321.04	22.2624	514.00	14.5525	711.68	15.6688
323.87	27.7647	520.40	14.6023	720.70	12.9520
325.23	30.7717	520.69	0.0000	721.93	0.0000
328.76	26.8731	522.65	0.0000	722.78	11.8520
333.37	28.7643	527.90	0.0000	722.91	14.8159
333.97	29.9762	528.26	14.6631	723.31	14.8184
334.37	29.9854	529.59	15.8024	724.19	10.3766
338.28	27.0654	529.87	0.0000	727.33	8.3491
338.32	27.0665	531.02	14.6848	733.00	12.7517
311.90	27.1093	537.26	20.3987	735.93	10.2403
340.48	27.1093	546.56	0.0000	333.97	8.3837
340.55	27.1110	552.55	14.8488	739.50	0.0000

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
744.23	8.4065	949.00	12.0762	1384.29	5.6879
747.24	11.2222	667.71	0.0000	1408.01	4.5764
748.06	8.4194	962.31	9.7031	1434.09	2.7628
752.31	8.4337	964.08	9.7090	1435.80	6.4490
753.82	12.1895	966.17	18.2164	1457.56	0.0000
756.73	9.3875	911.20	18.2329	1460.82	4.6335
756.80	9.3875	983.53	10.1773	1489.16	4.6638
884.68	7.5313	984.45	0.0000	1505.03	1.8723
765.81	22.6106	1274.44	13.0801	1584.12	2.8579
766.42	16.9618	1001.03	9.8250	1596.21	5.7308
766.84	15.0801	1002.74	7.0216	1620.50	4.8003
772.60	0.0000	1004.73	9.2216	1621.92	5.7621
776.52	10.4068	507.63	0.0000	1678.03	0.0000
739.50	0.0000	1025.87	0.0000	1690.97	1.9485
778.90	13.2570	1028.54	0.0000	1750.46	0.0000
783.70	13.2818	1037.84	10.3522	1764.49	5.9326
788.74	12.3569	1038.76	0.0000	1063.66	5.9394
792.07	10.4693	631.29	5.1901	1771.35	2.9704
795.86	9.5313	1048.07	11.4236	1791.20	0.0000
810.06	12.4577	1049.04	9.3494	1808.65	4.9868
810.29	11.5001	1050.41	4.1570	1810.72	0.0000
344.28	11.5009	1063.66	8.3472	1836.06	2.0053
810.76	13.4194	1077.00	5.2380		
815.77	8.6429	1077.34	6.2860		
1048.07	6.7291	1085.87	7.3525		
832.01	13.5258	1093.63	10.5273		
834.85	13.5399	1099.45	10.5457		
835.71	10.6418	1112.07	12.7017		
836.80	0.0000	1112.84	11.6459		
846.75	0.0000	1115.54	6.7809		
846.77	13.5988	1120.29	12.7317		
856.80	17.5479	1120.55	12.7324		
860.56	7.8096	1221.41	12.7354		
871.09	10.7784	1129.67	7.4469		
873.19	9.8059	1131.51	0.0000		
875.33	0.0000	1147.95	0.0000		
879.38	13.7582	1173.23	5.3851		
880.51	12.7806	1177.95	8.6274		
881.60	21.6368	1189.05	11.8990		
883.24	15.7451	1204.77	8.6909		
884.68	21.6603	1221.41	10.9131		
889.28	8.8753	1231.02	7.5025		
894.76	9.8804	1235.36	8.7627		
898.04	17.8044	1238.28	8.7695		
900.72	6.9304	1260.41	0.0000		
903.28	4.9547	1271.87	8.8477		
911.20	10.9298	1274.44	6.6401		
912.08	10.9332	1274.54	6.6401		
923.98	0.0000	1291.59	6.6694		
926.50	11.9857	1298.22	0.0000		
929.11	5.9982	1312.11	5.5872		
935.54	5.0092	1332.49	7.8622		
937.49	10.0250	1362.66	0.0000		
944.13	7.0331	1365.19	4.5291		
946.00	11.0587	1368.63	0.0000		

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:23:09.28

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289012.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM12.CNF;1044
                                    Background date  : 16-JUN-2024 11:36:18
Sample date      : 21-MAY-2024 13:00:00 Acquisition date : 20-JUN-2024 05:22:11
Sample ID        : G669289012           Sample quantity  : 1.14250E+02 GRAM
Detector name    : GAM12                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:00.48  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : MXR1
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 2618905              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
*************************************************************************
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	3	37.06*	36	32	2.18	74.08	67	24	1.01E-02	50.9	2.19E+00
2	3	40.16	56	59	2.19	80.28	67	24	1.55E-02	35.3	
3	3	43.19*	36	61	1.82	86.33	67	24	9.93E-03	42.1	
4	0	63.24*	11	138	1.10	126.41	122	10	3.06E-03	207.0	
5	3	75.11*	100	190	2.27	150.13	144	20	2.79E-02	30.9	2.72E+00
6	3	77.55	113	157	1.71	155.00	144	20	3.15E-02	23.9	
7	0	86.62	39	169	1.19	173.13	171	9	1.09E-02	61.5	
8	0	93.31*	31	189	1.65	186.49	182	11	8.52E-03	93.8	
9	0	129.64	25	89	0.83	259.10	253	9	6.82E-03	73.0	
10	0	132.44	32	32	1.63	264.69	262	6	8.83E-03	33.8	
11	1	160.11	35	85	1.80	320.00	313	18	9.83E-03	52.2	4.07E+00
12	1	163.11*	34	57	1.81	326.00	313	18	9.31E-03	46.9	
13	0	186.18*	69	115	1.23	372.11	365	13	1.92E-02	35.7	
14	1	238.58*	490	68	1.84	476.83	467	22	1.36E-01	5.3	1.01E+01
15	1	241.48	80	92	2.06	482.63	467	22	2.21E-02	34.0	
16	0	265.10	29	51	3.22	529.85	524	12	8.17E-03	51.9	
17	0	294.95	135	58	1.56	589.51	584	13	3.74E-02	14.5	
18	0	300.38	23	46	1.49	600.37	596	10	6.41E-03	58.4	
19	0	329.33	16	45	1.64	658.24	650	10	4.58E-03	81.4	
20	0	338.34*	45	42	1.40	676.24	672	10	1.25E-02	31.1	
21	0	351.64*	221	42	1.15	702.83	696	14	6.13E-02	9.3	
22	0	395.91	7	27	0.74	791.33	786	8	2.08E-03	123.9	
23	0	410.61	11	36	1.13	820.73	813	9	3.06E-03	102.9	
24	0	461.70	41	26	0.65	922.86	915	17	1.12E-02	32.6	
25	0	511.29*	29	39	2.96	1022.00	1015	14	8.19E-03	59.1	
26	0	516.56	14	11	1.86	1032.54	1028	7	3.78E-03	50.1	
27	0	568.21*	41	39	3.05	1135.81	1126	16	1.13E-02	39.4	
28	0	582.99*	81	16	1.56	1165.36	1161	10	2.25E-02	14.7	
29	0	609.24	171	29	1.55	1217.85	1210	17	4.74E-02	10.6	
30	0	786.43	12	25	0.83	1572.20	1562	15	3.36E-03	96.1	
31	0	795.31	16	15	1.16	1589.96	1583	12	4.50E-03	53.8	
32	0	911.42*	64	9	1.67	1822.19	1816	13	1.79E-02	16.6	
33	0	964.16	24	8	2.62	1927.67	1922	10	6.79E-03	29.1	
34	0	969.07*	50	3	2.69	1937.50	1932	13	1.39E-02	16.6	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
35	0	1067.40	16	17	0.47	2134.20	2120	23	4.38E-03	72.9	
36	0	1121.60	10	27	2.54	2242.63	2235	12	2.90E-03	104.0	
37	0	1133.09	16	0	0.83	2265.63	2258	13	4.44E-03	25.0	
38	0	1377.55	18	7	0.65	2754.78	2745	14	5.00E-03	39.1	
39	0	1460.71*	203	14	2.02	2921.20	2910	17	5.64E-02	8.2	
40	0	1764.38*	19	5	1.08	3529.05	3523	11	5.29E-03	34.2	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JUN-2024 06:23:11

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289012.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: MXR1		
Sample date	: 21-MAY-2024 13:00:00	Acquisition date	: 20-JUN-2024 05:22:11
Sample ID	: G669289012	Sample quantity	: 114.25 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA12	Detector geometry	: CAN
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:00.48 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	192	10.66*	1.082E+00	1.091E+01	1.091E+01	16.34
CD-109	88.03	42	3.70*	4.284E+00	1.722E+00	1.800E+00	122.99
TE-123M	159.00	37	84.00*	5.686E+00	5.032E-02	5.981E-02	104.31
SN-126	64.28	12	9.60	1.976E+00	4.087E-01	4.087E-01	414.00
	86.94	42	8.90	4.284E+00	7.158E-01	7.158E-01	122.99
	87.57	42	37.00*	4.284E+00	1.722E-01	1.722E-01	122.99
CE-144	80.12	------	1.36	3.736E+00	------ Line Not Found		------
	133.52	33	11.09*	5.825E+00	3.367E-01	3.619E-01	67.67
TL-208	277.37	------	6.60	4.130E+00	------ Line Not Found		------
	583.19	79	85.00*	2.288E+00	2.684E-01	2.684E-01	29.45
	860.56	------	12.50	1.669E+00	------ Line Not Found		------
BI-211	72.87	------	1.23	3.022E+00	------ Line Not Found		------
	351.06	221	12.92*	3.434E+00	3.269E+00	3.269E+00	18.56
PB-212	74.82	107	10.28	3.253E+00	2.099E+00	2.099E+00	61.83
	77.11	121	17.10	3.494E+00	1.327E+00	1.327E+00	47.80
	238.63	498	43.60*	4.605E+00	1.631E+00	1.631E+00	10.62
	300.09	23	3.30	3.886E+00	1.192E+00	1.192E+00	116.71
BI-214	609.32	167	45.49*	2.208E+00	1.092E+00	1.092E+00	21.18
	1120.29	10	14.92	1.342E+00	3.269E-01	3.269E-01	207.98
	1764.49	18	15.30	9.359E-01	8.179E-01	8.179E-01	68.48
PB-214	74.82	107	5.80	3.253E+00	3.720E+00	3.720E+00	61.83
	77.11	121	9.70	3.494E+00	2.339E+00	2.339E+00	47.80
	87.09	42	3.41	4.284E+00	1.868E+00	1.868E+00	122.99
	242.00	81	7.25	4.567E+00	1.605E+00	1.606E+00	68.03
	295.22	136	18.42	3.941E+00	1.227E+00	1.227E+00	29.07
	351.93	221	35.60*	3.434E+00	1.186E+00	1.186E+00	18.56
RN-222	609.32	167	45.49*	2.208E+00	1.092E+00	1.092E+00	21.18
	1120.29	10	14.92	1.342E+00	3.269E-01	3.269E-01	207.98
	1764.49	18	15.30	9.359E-01	8.179E-01	8.179E-01	68.48
RA-224	240.99	81	4.10*	4.567E+00	2.839E+00	2.839E+00	68.03
RA-226	74.82	107	5.80	3.253E+00	3.720E+00	3.720E+00	61.83
	77.11	121	9.70	3.494E+00	2.339E+00	2.339E+00	47.80
	87.09	42	3.41	4.284E+00	1.868E+00	1.868E+00	122.99
	242.00	81	7.25	4.567E+00	1.605E+00	1.606E+00	68.03
	295.22	136	18.42	3.941E+00	1.227E+00	1.227E+00	29.07
	351.93	221	35.60*	3.434E+00	1.186E+00	1.186E+00	18.56
AC-228	105.21	------	1.10	5.335E+00	------ Line Not Found		------
	338.32	45	11.27	3.541E+00	7.415E-01	7.415E-01	62.23
	835.71	------	1.61	1.709E+00	------ Line Not Found		------
	911.20	62	25.80*	1.592E+00	9.914E-01	9.914E-01	33.13
	968.97	48	15.80	1.514E+00	1.319E+00	1.319E+00	33.17
RA-228	105.21	------	1.10	5.335E+00	------ Line Not Found		------
	338.32	45	11.27	3.541E+00	7.415E-01	7.415E-01	62.23
	835.71	------	1.61	1.709E+00	------ Line Not Found		------
	911.20	62	25.80*	1.592E+00	9.914E-01	9.914E-01	33.13
	968.97	48	15.80	1.514E+00	1.319E+00	1.319E+00	33.17
TH-228	74.82	107	10.28	3.253E+00	2.099E+00	2.099E+00	61.83
	77.11	121	17.10	3.494E+00	1.327E+00	1.327E+00	47.80
	238.63	498	43.60*	4.605E+00	1.631E+00	1.631E+00	10.62

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	300.09	23	3.30	3.886E+00	1.192E+00	1.192E+00	116.71
TH-230	74.82	107	5.80	3.253E+00	3.720E+00	3.720E+00	61.83
	77.11	121	9.70	3.494E+00	2.339E+00	2.339E+00	47.80
	87.09	42	3.41	4.284E+00	1.868E+00	1.868E+00	122.99
	242.00	81	7.25	4.567E+00	1.605E+00	1.605E+00	68.03
	295.22	136	18.42	3.941E+00	1.227E+00	1.227E+00	29.07
	351.93	221	35.60*	3.434E+00	1.186E+00	1.186E+00	18.56
PA-231	283.69	------	1.70	4.060E+00	------ Line Not Found		------
	301.36	23	5.35*	3.886E+00	7.351E-01	7.351E-01	116.71
TH-232	105.21	------	1.10	5.335E+00	------ Line Not Found		------
	338.32	45	11.27	3.541E+00	7.415E-01	7.415E-01	62.23
	835.71	------	1.61	1.709E+00	------ Line Not Found		------
	911.20	62	25.80*	1.592E+00	9.914E-01	9.914E-01	33.13
	968.97	48	15.80	1.514E+00	1.319E+00	1.319E+00	33.17
TH-234	63.29	12	3.70*	1.976E+00	1.060E+00	1.060E+00	414.00
	92.59	32	4.23	4.749E+00	1.058E+00	1.058E+00	187.62
U-234	74.82	107	5.80	3.253E+00	3.720E+00	3.720E+00	61.83
	77.11	121	9.70	3.494E+00	2.339E+00	2.339E+00	47.80
	87.09	42	3.41	4.284E+00	1.868E+00	1.868E+00	122.99
	242.00	81	7.25	4.567E+00	1.605E+00	1.605E+00	68.03
	295.22	136	18.42	3.941E+00	1.227E+00	1.227E+00	29.07
	351.93	221	35.60*	3.434E+00	1.186E+00	1.186E+00	18.56
U-235	89.96	------	3.47	4.529E+00	------ Line Not Found		------
	93.35	32	5.60	4.749E+00	7.994E-01	7.994E-01	187.62
	143.76	------	10.96*	5.814E+00	------ Line Not Found		------
	163.33	35	5.08	5.653E+00	7.918E-01	7.918E-01	93.86
	185.72	71	57.20	5.351E+00	1.524E-01	1.524E-01	71.39
	205.31	------	5.01	5.073E+00	------ Line Not Found		------
U-238	63.29	12	3.70*	1.976E+00	1.060E+00	1.060E+00	414.00
	92.59	32	4.23	4.749E+00	1.058E+00	1.058E+00	187.62
AM-243	43.53	39	5.90	2.691E-01	1.607E+01	1.607E+01	84.11
	74.66	107	67.20*	3.253E+00	3.211E-01	3.211E-01	61.83
ANH-511	511.00	29	100.00*	2.543E+00	7.506E-02	7.506E-02	118.24

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:23:11.96

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
*                                                                       *
*                        DETECTOR AND SAMPLE DATA                       *
*                                                                       *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289012.CNF;1    *
* Acquisition date : 20-JUN-2024 05:22:11 Sensitivity     : 3.000          *
* Detector ID      : GAM12                Energy tolerance: 1.500          *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000         *
* Elapsed real time:    0 01:00:00.48     Half life ratio : *****          *
* Sample date      : 21-MAY-2024 13:00:00 Analyst initials: MXR1           *
* Sample ID        : G669289012           Sample Quantity : 1.1425E+02 GRAM   *
* Batch Number     : 2618905              Wet Weight      :    0.00000     *
* Wet wt corr      :    1.00000           Dry Weight      :    0.00000     *
* Nuclide Library  : SOLID.NLB;17                                         *
*************************************************************************
*                                                                       *
*                        CALIBRATION INFORMATION                        *
*                                                                       *
* Eff. Cal. date   : 11-OCT-2023 07:18:34 Eff. Geometry   : CAN           *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM12_CAN.CNF;20          *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	1.091E+01	1.747E+00	8.892E-01
CD-109	1.800E+00	2.170E+00	2.521E+00
TE-123M	5.981E-02	6.113E-02	7.034E-02
SN-126	1.722E-01	2.075E-01	2.430E-01
CE-144	3.619E-01	2.400E-01	4.343E-01
TL-208	2.684E-01	7.747E-02	8.476E-02
BI-211	3.269E+00	5.946E-01	4.281E-01
PB-212	1.631E+00	1.697E-01	1.215E-01
BI-214	1.092E+00	2.267E-01	1.541E-01
PB-214	1.186E+00	2.158E-01	1.557E-01
RN-222	1.092E+00	2.267E-01	1.541E-01
RA-224	2.839E+00	1.893E+00	1.301E+00
RA-226	1.186E+00	2.158E-01	1.557E-01
AC-228	9.914E-01	3.219E-01	3.156E-01
RA-228	9.914E-01	3.219E-01	3.156E-01
TH-228	1.631E+00	1.697E-01	1.215E-01
TH-230	1.186E+00	2.158E-01	1.557E-01
PA-231	7.351E-01	8.407E-01	1.162E+00
TH-232	9.914E-01	3.219E-01	3.156E-01
TH-234	1.060E+00	4.302E+00	4.222E+00
U-234	1.186E+00	2.158E-01	1.557E-01
U-235	3.169E-02	2.662E-01	4.970E-01
U-238	1.060E+00	4.302E+00	4.222E+00
AM-243	3.211E-01	1.945E-01	1.599E-01
ANH-511	7.506E-02	8.698E-02	7.074E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	4.914E-01	5.109E-01	1.056E+00	NOT IDENT.
NA-22	1.062E-04	4.189E-02	8.608E-02	NOT IDENT.
NA-24	0.000E+00	8.070E+12	0.000E+00	SHORT HLIF
AL-26	-4.003E-04	4.000E-02	8.553E-02	NOT IDENT.
SC-46	-6.647E-02	5.273E-02	7.319E-02	FAIL ABUN

V-48	-6.783E-03	1.522E-01	3.026E-01	NOT IDENT.
CR-51	1.262E-01	6.806E-01	1.288E+00	NOT IDENT.
MN-52	5.235E-01	1.948E+00	4.118E+00	NOT IDENT.
MN-54	-2.106E-02	4.857E-02	8.431E-02	NOT IDENT.
CO-56	-3.536E-02	5.462E-02	9.097E-02	NOT IDENT.
MN-56	0.000E+00	1.555E+41	0.000E+00	SHORT HLIF
CO-57	3.919E-02	3.552E-02	7.115E-02	NOT IDENT.
CO-58	-2.326E-02	5.396E-02	9.438E-02	NOT IDENT.
FE-59	9.081E-02	1.213E-01	2.725E-01	NOT IDENT.
CO-60	-5.208E-03	4.827E-02	9.563E-02	NOT IDENT.
ZN-65	-1.785E-02	1.321E-01	2.183E-01	NOT IDENT.
GE-68	4.622E-01	1.469E+00	3.089E+00	NOT IDENT.
AS-73	-3.921E-01	2.452E+00	4.217E+00	NOT IDENT.
AS-74	-1.981E-01	2.334E-01	3.984E-01	NOT IDENT.
SE-75	9.236E-02	9.397E-02	1.218E-01	FAIL ABUN
BR-77	0.000E+00	1.852E+03	0.000E+00	SHORT HLIF
SR-82	-3.212E-01	5.622E-01	9.585E-01	NOT IDENT.
RB-83	4.114E-02	1.057E-01	1.881E-01	NOT IDENT.
RB-84	-4.247E-02	1.196E-01	2.110E-01	NOT IDENT.
KR-85	0.000E+00	7.924E+00	2.054E+01	NOT IDENT.
SR-85	0.000E+00	4.891E-02	1.268E-01	NOT IDENT.
RB-86	1.084E+00	1.594E+00	3.495E+00	NOT IDENT.
Y-88	-9.356E-03	5.253E-02	1.057E-01	NOT IDENT.
Y-91	1.253E+01	2.946E+01	6.134E+01	NOT IDENT.
NB-94	4.258E-02	4.338E-02	9.121E-02	NOT IDENT.
NB-95	-3.802E-02	6.459E-02	1.092E-01	NOT IDENT.
NB-95M	2.359E-01	1.778E-01	3.596E-01	NOT IDENT.
ZR-95	1.222E-02	1.111E-01	2.107E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.144E+12	0.000E+00	SHORT HLIF
MO-99	0.000E+00	6.369E+02	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	1.378E+34	0.000E+00	SHORT HLIF
RH-101	1.132E-02	4.754E-02	8.029E-02	NOT IDENT.
RH-102	2.290E-02	7.142E-02	1.396E-01	NOT IDENT.
RU-103	4.563E-02	6.556E-02	1.331E-01	FAIL ABUN
RH-106	-2.878E-01	4.026E-01	6.745E-01	NOT IDENT.
RU-106	-2.878E-01	4.026E-01	6.745E-01	NOT IDENT.
AG-108M	-2.901E-02	4.060E-02	6.933E-02	NOT IDENT.
AG-110	4.890E-01	9.102E-01	1.850E+00	NOT IDENT.
AG-110M	1.327E-02	6.741E-02	1.305E-01	NOT IDENT.
SN-113	-2.570E-02	6.691E-02	1.032E-01	NOT IDENT.
CD-115	0.000E+00	1.452E+03	0.000E+00	SHORT HLIF
SN-117M	7.916E-03	1.405E-01	2.634E-01	NOT IDENT.
SB-122	0.000E+00	1.321E+02	0.000E+00	SHORT HLIF
SB-124	-8.292E-03	1.222E-01	2.537E-01	NOT IDENT.
SB-125	-4.083E-03	1.215E-01	2.255E-01	NOT IDENT.
TE-125M	-6.192E+00	1.881E+01	3.164E+01	NOT IDENT.
I-126	-5.862E-02	5.953E-01	1.100E+00	NOT IDENT.
SB-126	1.424E-01	3.663E-01	7.387E-01	NOT IDENT.
SB-127	1.035E+01	2.341E+01	4.652E+01	NOT IDENT.
I-131	8.525E-02	5.307E-01	1.004E+00	NOT IDENT.
I-132	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
TE-132	8.301E+00	2.179E+01	4.151E+01	NOT IDENT.
BA-133	2.730E-02	5.236E-02	9.386E-02	NOT IDENT.
I-133	0.000E+00	9.053E+08	0.000E+00	SHORT HLIF
CS-134	6.957E-02	7.341E-02	1.181E-01	FAIL ABUN
I-135	0.000E+00	7.899E+31	0.000E+00	SHORT HLIF
CS-136	-4.347E-02	2.694E-01	5.227E-01	NOT IDENT.
BA-137M	-4.772E-02	4.623E-02	7.287E-02	NOT IDENT.
CS-137	-5.041E-02	4.884E-02	7.698E-02	NOT IDENT.
LA-138	1.569E-02	8.537E-02	1.736E-01	NOT IDENT.
CE-139	-1.096E-02	4.156E-02	6.678E-02	NOT IDENT.
BA-140	1.464E-01	5.932E-01	1.188E+00	FAIL ABUN
LA-140	-1.043E-01	2.741E-01	5.078E-01	FAIL ABUN
CE-141	1.838E-02	1.105E-01	2.082E-01	NOT IDENT.
CE-143	0.000E+00	3.317E+05	0.000E+00	SHORT HLIF
PM-144	1.923E-02	4.173E-02	8.390E-02	NOT IDENT.
PR-144	1.482E+00	3.152E+00	6.343E+00	NOT IDENT.
PM-146	2.279E-02	5.457E-02	1.041E-01	NOT IDENT.
ND-147	1.377E+00	1.838E+00	3.752E+00	NOT IDENT.
PM-147	1.079E+03	1.020E+03	2.036E+03	NOT IDENT.
PM-149	0.000E+00	1.175E+04	0.000E+00	SHORT HLIF
EU-150	6.353E-03	3.492E-02	5.913E-02	FAIL ABUN
EU-152	-2.008E-02	1.397E-01	2.240E-01	FAIL ABUN
GD-153	7.207E-02	1.610E-01	2.601E-01	NOT IDENT.
EU-154	3.432E-03	1.186E-01	2.447E-01	NOT IDENT.
EU-155	4.549E-02	1.711E-01	3.036E-01	FAIL ABUN
TB-160	7.017E-02	1.736E-01	3.556E-01	FAIL ABUN

HO-166M	2.398E-02	8.097E-02	1.568E-01	FAIL ABUN
TM-171	2.166E+00	4.717E+01	8.239E+01	NOT IDENT.
HF-172	-2.317E-01	2.938E-01	4.497E-01	FAIL ABUN
LU-172	5.501E-02	8.172E-02	1.760E-01	FAIL ABUN
LU-176	-6.450E-03	3.559E-02	6.275E-02	NOT IDENT.
HF-181	-4.390E-02	7.069E-02	1.218E-01	FAIL ABUN
TA-182	1.194E-01	2.205E-01	4.745E-01	FAIL ABUN
RE-183	4.093E-02	5.198E-01	8.828E-01	FAIL ABUN
RE-184	9.553E-02	2.014E-01	4.113E-01	NOT IDENT.
W-188	-4.438E+00	1.253E+01	1.953E+01	FAIL ABUN
IR-192	1.606E-02	5.202E-02	9.936E-02	FAIL ABUN
HG-203	4.404E-02	5.685E-02	1.132E-01	NOT IDENT.
TL-204	6.883E+00	9.871E+00	1.641E+01	NOT IDENT.
BI-207	5.662E-02	5.692E-02	1.318E-01	FAIL ABUN
BI-210	-5.347E+00	1.024E+01	1.587E+01	NOT IDENT.
PB-210	-5.347E+00	1.024E+01	1.587E+01	NOT IDENT.
PB-211	-1.561E+00	1.086E+00	1.344E+00	NOT IDENT.
BI-212	6.150E-01	7.402E-01	1.502E+00	NOT IDENT.
BI-213	-1.009E-01	1.395E-01	2.378E-01	NOT IDENT.
RN-219	5.083E-01	5.178E-01	1.062E+00	NOT IDENT.
RA-223	-1.725E-01	9.732E-01	1.548E+00	FAIL ABUN
AC-225	-9.512E-01	1.940E+00	3.471E+00	NOT IDENT.
AC-227	-2.511E-01	2.970E-01	5.115E-01	FAIL ABUN
TH-227	-2.511E-01	2.970E-01	5.115E-01	FAIL ABUN
TH-229	7.337E-01	6.790E-01	1.349E+00	FAIL ABUN
TH-231	-1.725E-01	9.732E-01	1.548E+00	FAIL ABUN
PA-233	-2.836E-02	8.496E-02	1.529E-01	FAIL ABUN
PA-234	8.401E-02	4.015E-01	7.753E-01	FAIL ABUN
PA-234M	-3.395E+00	5.799E+00	1.064E+01	NOT IDENT.
NP-237	-2.836E-02	8.496E-02	1.529E-01	FAIL ABUN
NP-238	0.000E+00	2.861E+03	0.000E+00	SHORT HLIF
NP-239	-3.874E-01	3.586E-01	6.242E-01	NOT IDENT.
PU-239	4.582E+02	6.560E+02	8.648E+02	FAIL ABUN
AM-241	-6.835E-02	3.538E-01	5.471E-01	NOT IDENT.
CM-243	1.798E-02	1.704E-01	2.995E-01	NOT IDENT.
BK-247	1.527E-01	1.554E-01	1.968E-01	FAIL ABUN
CM-247	3.761E-02	4.571E-02	9.302E-02	NOT IDENT.
CF-249	-3.287E-03	4.983E-02	9.244E-02	NOT IDENT.
CF-251	-2.346E-01	1.686E-01	2.821E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:23:10.19

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	192	10.66*	1.082E+00	1.091E+01	1.091E+01	16.34
CD-109	88.03	42	3.70*	4.284E+00	1.722E+00	1.800E+00	122.99
TE-123M	159.00	37	84.00*	5.686E+00	5.032E-02	5.981E-02	104.31
SN-126	64.28	12	9.60	1.976E+00	4.087E-01	4.087E-01	414.00
	86.94	42	8.90	4.284E+00	7.158E-01	7.158E-01	122.99
	87.57	42	37.00*	4.284E+00	1.722E-01	1.722E-01	122.99
CE-144	80.12	------	1.36	3.736E+00	------ Line Not Found		------
	133.52	33	11.09*	5.825E+00	3.367E-01	3.619E-01	67.67
TL-208	277.37	------	6.60	4.130E+00	------ Line Not Found		------
	583.19	79	85.00*	2.288E+00	2.684E-01	2.684E-01	29.45
	860.56	------	12.50	1.669E+00	------ Line Not Found		------
BI-211	72.87	------	1.23	3.022E+00	------ Line Not Found		------
	351.06	221	12.92*	3.434E+00	3.269E+00	3.269E+00	18.56
PB-212	74.82	107	10.28	3.253E+00	2.099E+00	2.099E+00	61.83
	77.11	121	17.10	3.494E+00	1.327E+00	1.327E+00	47.80
	238.63	498	43.60*	4.605E+00	1.631E+00	1.631E+00	10.62
	300.09	23	3.30	3.886E+00	1.192E+00	1.192E+00	116.71
BI-214	609.32	167	45.49*	2.208E+00	1.092E+00	1.092E+00	21.18
	1120.29	10	14.92	1.342E+00	3.269E-01	3.269E-01	207.98
	1764.49	18	15.30	9.359E-01	8.179E-01	8.179E-01	68.48
PB-214	74.82	107	5.80	3.253E+00	3.720E+00	3.720E+00	61.83
	77.11	121	9.70	3.494E+00	2.339E+00	2.339E+00	47.80
	87.09	42	3.41	4.284E+00	1.868E+00	1.868E+00	122.99
	242.00	81	7.25	4.567E+00	1.605E+00	1.606E+00	68.03
	295.22	136	18.42	3.941E+00	1.227E+00	1.227E+00	29.07
	351.93	221	35.60*	3.434E+00	1.186E+00	1.186E+00	18.56
RN-222	609.32	167	45.49*	2.208E+00	1.092E+00	1.092E+00	21.18
	1120.29	10	14.92	1.342E+00	3.269E-01	3.269E-01	207.98
	1764.49	18	15.30	9.359E-01	8.179E-01	8.179E-01	68.48
RA-224	240.99	81	4.10*	4.567E+00	2.839E+00	2.839E+00	68.03
RA-226	74.82	107	5.80	3.253E+00	3.720E+00	3.720E+00	61.83
	77.11	121	9.70	3.494E+00	2.339E+00	2.339E+00	47.80
	87.09	42	3.41	4.284E+00	1.868E+00	1.868E+00	122.99
	242.00	81	7.25	4.567E+00	1.605E+00	1.606E+00	68.03
	295.22	136	18.42	3.941E+00	1.227E+00	1.227E+00	29.07
	351.93	221	35.60*	3.434E+00	1.186E+00	1.186E+00	18.56
AC-228	105.21	------	1.10	5.335E+00	------ Line Not Found		------
	338.32	45	11.27	3.541E+00	7.415E-01	7.415E-01	62.23
	835.71	------	1.61	1.709E+00	------ Line Not Found		------
	911.20	62	25.80*	1.592E+00	9.914E-01	9.914E-01	33.13
	968.97	48	15.80	1.514E+00	1.319E+00	1.319E+00	33.17
RA-228	105.21	------	1.10	5.335E+00	------ Line Not Found		------
	338.32	45	11.27	3.541E+00	7.415E-01	7.415E-01	62.23
	835.71	------	1.61	1.709E+00	------ Line Not Found		------
	911.20	62	25.80*	1.592E+00	9.914E-01	9.914E-01	33.13
	968.97	48	15.80	1.514E+00	1.319E+00	1.319E+00	33.17
TH-228	74.82	107	10.28	3.253E+00	2.099E+00	2.099E+00	61.83

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	121	17.10	3.494E+00	1.327E+00	1.327E+00	47.80
	238.63	498	43.60*	4.605E+00	1.631E+00	1.631E+00	10.62
	300.09	23	3.30	3.886E+00	1.192E+00	1.192E+00	116.71
TH-230	74.82	107	5.80	3.253E+00	3.720E+00	3.720E+00	61.83
	77.11	121	9.70	3.494E+00	2.339E+00	2.339E+00	47.80
	87.09	42	3.41	4.284E+00	1.868E+00	1.868E+00	122.99
	242.00	81	7.25	4.567E+00	1.605E+00	1.605E+00	68.03
	295.22	136	18.42	3.941E+00	1.227E+00	1.227E+00	29.07
	351.93	221	35.60*	3.434E+00	1.186E+00	1.186E+00	18.56
PA-231	283.69	------	1.70	4.060E+00	------ Line Not Found		------
	301.36	23	5.35*	3.886E+00	7.351E-01	7.351E-01	116.71
TH-232	105.21	------	1.10	5.335E+00	------ Line Not Found		------
	338.32	45	11.27	3.541E+00	7.415E-01	7.415E-01	62.23
	835.71	------	1.61	1.709E+00	------ Line Not Found		------
	911.20	62	25.80*	1.592E+00	9.914E-01	9.914E-01	33.13
	968.97	48	15.80	1.514E+00	1.319E+00	1.319E+00	33.17
TH-234	63.29	12	3.70*	1.976E+00	1.060E+00	1.060E+00	414.00
	92.59	32	4.23	4.749E+00	1.058E+00	1.058E+00	187.62
U-234	74.82	107	5.80	3.253E+00	3.720E+00	3.720E+00	61.83
	77.11	121	9.70	3.494E+00	2.339E+00	2.339E+00	47.80
	87.09	42	3.41	4.284E+00	1.868E+00	1.868E+00	122.99
	242.00	81	7.25	4.567E+00	1.605E+00	1.605E+00	68.03
	295.22	136	18.42	3.941E+00	1.227E+00	1.227E+00	29.07
	351.93	221	35.60*	3.434E+00	1.186E+00	1.186E+00	18.56
U-235	89.96	------	3.47	4.529E+00	------ Line Not Found		------
	93.35	32	5.60	4.749E+00	7.994E-01	7.994E-01	187.62
	143.76	------	10.96*	5.814E+00	------ Line Not Found		------
	163.33	35	5.08	5.653E+00	7.918E-01	7.918E-01	93.86
	185.72	71	57.20	5.351E+00	1.524E-01	1.524E-01	71.39
	205.31	------	5.01	5.073E+00	------ Line Not Found		------
U-238	63.29	12	3.70*	1.976E+00	1.060E+00	1.060E+00	414.00
	92.59	32	4.23	4.749E+00	1.058E+00	1.058E+00	187.62
AM-243	43.53	39	5.90	2.691E-01	1.607E+01	1.607E+01	84.11
	74.66	107	67.20*	3.253E+00	3.211E-01	3.211E-01	61.83
ANH-511	511.00	29	100.00*	2.543E+00	7.506E-02	7.506E-02	118.24

Flag: "*" = Keyline

Sample ID : G669289012 Acquisition date : 20-JUN-2024 05:22:11

Total number of lines in spectrum 40
Number of unidentified lines 9
Number of lines tentatively identified by NID 31 77.50%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	1.091E+01	1.091E+01	0.178E+01	16.34	
CD-109	461.40D	1.05	1.722E+00	1.800E+00	2.214E+00	122.99	
TE-123M	119.20D	1.19	5.032E-02	5.981E-02	6.238E-02	104.31	
SN-126	2.30E+05Y	1.00	1.722E-01	1.722E-01	2.118E-01	122.99	
CE-144	284.91D	1.07	3.367E-01	3.619E-01	2.449E-01	67.67	
TL-208	1.41E+10Y	1.00	2.684E-01	2.684E-01	0.791E-01	29.45	
BI-211	7.04E+08Y	1.00	3.269E+00	3.269E+00	0.607E+00	18.56	
PB-212	1.41E+10Y	1.00	1.631E+00	1.631E+00	0.173E+00	10.62	
BI-214	1600.00Y	1.00	1.092E+00	1.092E+00	0.231E+00	21.18	
PB-214	1600.00Y	1.00	1.186E+00	1.186E+00	0.220E+00	18.56	
RN-222	1600.00Y	1.00	1.092E+00	1.092E+00	0.231E+00	21.18	
RA-224	1.41E+10Y	1.00	2.839E+00	2.839E+00	1.931E+00	68.03	
RA-226	1600.00Y	1.00	1.186E+00	1.186E+00	0.220E+00	18.56	
AC-228	1.41E+10Y	1.00	9.914E-01	9.914E-01	3.285E-01	33.13	
RA-228	1.41E+10Y	1.00	9.914E-01	9.914E-01	3.285E-01	33.13	
TH-228	1.41E+10Y	1.00	1.631E+00	1.631E+00	0.173E+00	10.62	
TH-230	7.54E+04Y	1.00	1.186E+00	1.186E+00	0.220E+00	18.56	
PA-231	7.04E+08Y	1.00	7.351E-01	7.351E-01	8.579E-01	116.71	
TH-232	1.41E+10Y	1.00	9.914E-01	9.914E-01	3.285E-01	33.13	
TH-234	4.47E+09Y	1.00	1.060E+00	1.060E+00	4.390E+00	414.00	
U-234	2.45E+05Y	1.00	1.186E+00	1.186E+00	0.220E+00	18.56	
U-235	7.04E+08Y	1.00	1.524E-01	1.524E-01	1.088E-01	71.39	K
U-238	4.47E+09Y	1.00	1.060E+00	1.060E+00	4.390E+00	414.00	
AM-243	7370.00Y	1.00	3.211E-01	3.211E-01	1.985E-01	61.83	
ANH-511	1.00E+09Y	1.00	7.506E-02	7.506E-02	8.875E-02	118.24	
	Total Activity :		3.614E+01	3.625E+01			

Grand Total Activity : 3.614E+01 3.625E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G669289012 Acquisition date : 20-JUN-2024 05:22:11

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	37.06	40	35	2.18	74.08	67	24	1.01E-02	****	7.65E-02	
3	40.16	61	65	2.19	80.28	67	24	1.55E-02	70.5	1.54E-01	
0	129.64	26	93	0.83	259.10	253	9	6.82E-03	****	5.81E+00	T
0	265.10	30	51	3.22	529.85	524	12	8.17E-03	****	4.27E+00	T
0	329.33	17	45	1.64	658.24	650	10	4.58E-03	****	3.62E+00	T
0	395.91	7	26	0.74	791.33	786	8	2.08E-03	****	3.12E+00	
0	410.61	11	36	1.13	820.73	813	9	3.06E-03	****	3.03E+00	T
0	461.70	40	25	0.65	922.86	915	17	1.12E-02	65.2	2.76E+00	
0	516.56	13	11	1.86	1032.54	1028	7	3.78E-03	****	2.52E+00	
0	568.21	40	39	3.05	1135.81	1126	16	1.13E-02	78.8	2.34E+00	T
0	786.43	12	24	0.83	1572.20	1562	15	3.36E-03	****	1.80E+00	
0	795.31	16	14	1.16	1589.96	1583	12	4.50E-03	****	1.78E+00	T
0	964.16	23	7	2.62	1927.67	1922	10	6.79E-03	58.3	1.52E+00	T
0	1067.40	15	16	0.47	2134.20	2120	23	4.38E-03	****	1.40E+00	
0	1133.09	15	0	0.83	2265.63	2258	13	4.44E-03	50.0	1.33E+00	
0	1377.55	17	7	0.65	2754.78	2745	14	5.00E-03	78.2	1.13E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:23:21.57

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289012.CNF;1   *
* Acquisition date : 20-JUN-2024 05:22:11 Sensitivity     : 3.000           *
* Detector ID      : GAM12                Energy tolerance: 1.500           *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 01:00:00.48     Half life ratio : *****           *
* Sample date      : 21-MAY-2024 13:00:00 Nuclide Library : SOLID           *
* Sample ID        : G669289012           Analyst initials: MXR1            *
* Batch Number     : 2618905              Sample Quantity : 1.1425E+02 GRAM *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000      *
*                                         Dry Weight      :    0.00000      *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   : 11-OCT-2023 07:18:34 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM12_CAN.CNF;20            *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	3.679E-01
CD-109	1.203E+00
TE-123M	3.294E-02
SN-126	1.159E-01
CE-144	2.022E-01
TL-208	3.780E-02
BI-211	1.940E-01
PB-212	5.628E-02
BI-214	6.819E-02
PB-214	7.054E-02
RN-222	6.819E-02
RA-224	6.029E-01
RA-226	7.054E-02
AC-228	1.362E-01
RA-228	1.362E-01
TH-228	5.628E-02
TH-230	7.054E-02
PA-231	5.378E-01
TH-232	1.362E-01
TH-234	1.988E+00
U-234	7.054E-02
U-235	2.344E-01
U-238	1.988E+00
AM-243	7.577E-02
ANH-511	3.187E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	4.813E-01	NOT IDENT.
NA-22	3.555E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	3.313E-02	NOT IDENT.
SC-46	2.960E-02	FAIL ABUN
V-48	1.297E-01	NOT IDENT.

CR-51	5.930E-01	NOT IDENT.
MN-52	1.739E+00	NOT IDENT.
MN-54	3.661E-02	NOT IDENT.
CO-56	3.862E-02	NOT IDENT.
MN-56	0.000E+00	SHORT HLIF
CO-57	3.361E-02	NOT IDENT.
CO-58	4.037E-02	NOT IDENT.
FE-59	1.180E-01	NOT IDENT.
CO-60	4.014E-02	NOT IDENT.
ZN-65	9.504E-02	NOT IDENT.
GE-68	1.330E+00	NOT IDENT.
AS-73	1.992E+00	NOT IDENT.
AS-74	1.778E-01	NOT IDENT.
SE-75	5.671E-02	FAIL ABUN
BR-77	0.000E+00	SHORT HLIF
SR-82	4.061E-01	NOT IDENT.
RB-83	8.405E-02	NOT IDENT.
RB-84	9.075E-02	NOT IDENT.
KR-85	9.456E+00	NOT IDENT.
SR-85	5.837E-02	NOT IDENT.
RB-86	1.524E+00	NOT IDENT.
Y-88	4.099E-02	NOT IDENT.
Y-91	2.685E+01	NOT IDENT.
NB-94	4.108E-02	NOT IDENT.
NB-95	4.793E-02	NOT IDENT.
NB-95M	1.691E-01	NOT IDENT.
ZR-95	9.322E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	3.783E-02	NOT IDENT.
RH-102	6.229E-02	NOT IDENT.
RU-103	6.021E-02	FAIL ABUN
RH-106	2.936E-01	NOT IDENT.
RU-106	2.936E-01	NOT IDENT.
AG-108M	3.127E-02	NOT IDENT.
AG-110	8.215E-01	NOT IDENT.
AG-110M	5.713E-02	NOT IDENT.
SN-113	4.637E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	1.234E-01	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
SB-124	9.977E-02	NOT IDENT.
SB-125	1.023E-01	NOT IDENT.
TE-125M	1.495E+01	NOT IDENT.
I-126	4.855E-01	NOT IDENT.
SB-126	3.240E-01	NOT IDENT.
SB-127	2.073E+01	NOT IDENT.
I-131	4.595E-01	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	1.942E+01	NOT IDENT.
BA-133	4.268E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	5.306E-02	FAIL ABUN
I-135	0.000E+00	SHORT HLIF
CS-136	2.240E-01	NOT IDENT.
BA-137M	3.163E-02	NOT IDENT.
CS-137	3.342E-02	NOT IDENT.
LA-138	7.451E-02	NOT IDENT.
CE-139	3.107E-02	NOT IDENT.
BA-140	5.188E-01	FAIL ABUN
LA-140	2.078E-01	FAIL ABUN
CE-141	9.808E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
PM-144	3.718E-02	NOT IDENT.
PR-144	2.812E+00	NOT IDENT.
PM-146	4.712E-02	NOT IDENT.
ND-147	1.696E+00	NOT IDENT.
PM-147	9.619E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	2.696E-02	FAIL ABUN
EU-152	1.023E-01	FAIL ABUN
GD-153	1.233E-01	NOT IDENT.
EU-154	1.013E-01	NOT IDENT.
EU-155	1.437E-01	FAIL ABUN
TB-160	1.539E-01	FAIL ABUN
HO-166M	6.999E-02	FAIL ABUN

TM-171	3.895E+01	NOT IDENT.
HF-172	2.107E-01	FAIL ABUN
LU-172	7.745E-02	FAIL ABUN
LU-176	2.888E-02	NOT IDENT.
HF-181	5.416E-02	FAIL ABUN
TA-182	2.059E-01	FAIL ABUN
RE-183	4.164E-01	FAIL ABUN
RE-184	1.797E-01	NOT IDENT.
W-188	9.016E+00	FAIL ABUN
IR-192	4.586E-02	FAIL ABUN
HG-203	5.243E-02	NOT IDENT.
TL-204	7.793E+00	NOT IDENT.
BI-207	5.741E-02	FAIL ABUN
BI-210	7.457E+00	NOT IDENT.
PB-210	7.457E+00	NOT IDENT.
PB-211	5.951E-01	NOT IDENT.
BI-212	6.815E-01	NOT IDENT.
BI-213	1.069E-01	NOT IDENT.
RN-219	4.873E-01	NOT IDENT.
RA-223	7.130E-01	FAIL ABUN
AC-225	1.609E+00	NOT IDENT.
AC-227	2.342E-01	FAIL ABUN
TH-227	2.342E-01	FAIL ABUN
TH-229	6.359E-01	FAIL ABUN
TH-231	7.130E-01	FAIL ABUN
PA-233	7.029E-02	FAIL ABUN
PA-234	3.398E-01	FAIL ABUN
PA-234M	4.606E+00	NOT IDENT.
NP-237	7.029E-02	FAIL ABUN
NP-238	0.000E+00	SHORT HLIF
NP-239	2.921E-01	NOT IDENT.
PU-239	4.079E+02	FAIL ABUN
AM-241	2.576E-01	NOT IDENT.
CM-243	1.416E-01	NOT IDENT.
BK-247	9.143E-02	FAIL ABUN
CM-247	4.249E-02	NOT IDENT.
CF-249	4.196E-02	NOT IDENT.
CF-251	1.316E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:23:26.01

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289012.CNF;1		
Acquisition date	: 20-JUN-2024 05:22:11	Sensitivity	: 3.000
Detector ID	: GAM12	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.48	Half life ratio	: *****
Sample date	: 21-MAY-2024 13:00:00	Nuclide Library	: SOLID
Sample ID	: G669289012	Analyst initials	: MXR1
Batch Number	: 2618905	Sample Quantity	: 1.1425E+02 GRAM
		Quantity Err(%)	: 1.7505E-03 %
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 11-OCT-2023 07:18:34	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM12_CAN.CNF;20		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	1.091E+01	1.974E+00	1.974E+00
CD-109	1.800E+00	2.177E+00	2.177E+00
TE-123M	5.981E-02	6.129E-02	6.129E-02
SN-126	1.722E-01	2.080E-01	2.080E-01
CE-144	3.619E-01	2.417E-01	2.417E-01
TL-208	2.684E-01	8.246E-02	8.246E-02
BI-211	3.269E+00	6.556E-01	6.556E-01
PB-212	1.631E+00	2.134E-01	2.134E-01
BI-214	1.092E+00	2.552E-01	2.552E-01
PB-214	1.186E+00	2.372E-01	2.372E-01
RN-222	1.092E+00	2.552E-01	2.552E-01
RA-224	2.839E+00	1.906E+00	1.906E+00
RA-226	1.186E+00	2.372E-01	2.372E-01
AC-228	9.914E-01	3.325E-01	3.325E-01
RA-228	9.914E-01	3.325E-01	3.325E-01
TH-228	1.631E+00	2.134E-01	2.134E-01
TH-230	1.186E+00	2.372E-01	2.372E-01
PA-231	7.351E-01	8.566E-01	8.566E-01
TH-232	9.914E-01	3.325E-01	3.325E-01
TH-234	1.060E+00	4.309E+00	4.309E+00
U-234	1.186E+00	2.372E-01	2.372E-01
U-235	3.169E-02	2.662E-01	2.662E-01
U-238	1.060E+00	4.309E+00	4.309E+00
AM-243	3.211E-01	1.962E-01	1.962E-01
ANH-511	7.506E-02	8.729E-02	8.729E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	4.914E-01	5.131E-01	5.588E-01	NOT IDENT.
NA-22	1.062E-04	4.189E-02	4.189E-02	NOT IDENT.
NA-24	3.153E+12	8.075E+12	8.199E+12	SHORT HLIF
AL-26	-4.003E-04	4.000E-02	4.000E-02	NOT IDENT.
SC-46	-6.647E-02	5.299E-02	6.088E-02	FAIL ABUN

V-48	-6.783E-03	1.522E-01	1.522E-01	NOT IDENT.
CR-51	1.262E-01	6.807E-01	6.831E-01	NOT IDENT.
MN-52	5.235E-01	1.949E+00	1.963E+00	NOT IDENT.
MN-54	-2.106E-02	4.861E-02	4.953E-02	NOT IDENT.
CO-56	-3.536E-02	5.470E-02	5.698E-02	NOT IDENT.
MN-56	-1.000E+41	1.557E+41	0.000E+00	SHORT HLIF
CO-57	3.919E-02	3.563E-02	3.977E-02	NOT IDENT.
CO-58	-2.326E-02	5.400E-02	5.501E-02	NOT IDENT.
FE-59	9.081E-02	1.216E-01	1.283E-01	NOT IDENT.
CO-60	-5.208E-03	4.827E-02	4.832E-02	NOT IDENT.
ZN-65	-1.785E-02	1.321E-01	1.324E-01	NOT IDENT.
GE-68	4.622E-01	1.469E+00	1.484E+00	NOT IDENT.
AS-73	-3.921E-01	2.454E+00	2.460E+00	NOT IDENT.
AS-74	-1.981E-01	2.347E-01	2.511E-01	NOT IDENT.
SE-75	9.236E-02	9.423E-02	1.030E-01	FAIL ABUN
BR-77	1.781E+04	1.544E+04	1.740E+04	SHORT HLIF
SR-82	-3.212E-01	5.631E-01	5.814E-01	NOT IDENT.
RB-83	4.114E-02	1.060E-01	1.076E-01	NOT IDENT.
RB-84	-4.247E-02	1.196E-01	1.212E-01	NOT IDENT.
KR-85	2.719E+01	8.367E+00	1.484E+01	NOT IDENT.
SR-85	1.677E-01	5.164E-02	9.155E-02	NOT IDENT.
RB-86	1.084E+00	1.596E+00	1.669E+00	NOT IDENT.
Y-88	-9.356E-03	5.253E-02	5.270E-02	NOT IDENT.
Y-91	1.253E+01	2.948E+01	3.001E+01	NOT IDENT.
NB-94	4.258E-02	4.362E-02	4.766E-02	NOT IDENT.
NB-95	-3.802E-02	6.470E-02	6.693E-02	NOT IDENT.
NB-95M	2.359E-01	1.793E-01	2.085E-01	NOT IDENT.
ZR-95	1.222E-02	1.111E-01	1.112E-01	NOT IDENT.
NB-97	1.000E+41	2.905E+41	0.000E+00	SHORT HLIF
ZR-97	3.904E+12	4.162E+12	4.518E+12	SHORT HLIF
MO-99	8.242E+01	6.370E+02	6.381E+02	SHORT HLIF
TC-99M	-5.676E+33	1.379E+34	0.000E+00	SHORT HLIF
RH-101	1.132E-02	4.759E-02	4.786E-02	NOT IDENT.
RH-102	2.290E-02	7.148E-02	7.222E-02	NOT IDENT.
RU-103	4.563E-02	6.572E-02	6.887E-02	FAIL ABUN
RH-106	-2.878E-01	4.040E-01	4.243E-01	NOT IDENT.
RU-106	-2.878E-01	4.040E-01	4.243E-01	NOT IDENT.
AG-108M	-2.901E-02	4.069E-02	4.274E-02	NOT IDENT.
AG-110	4.890E-01	9.118E-01	9.381E-01	NOT IDENT.
AG-110M	1.327E-02	6.742E-02	6.769E-02	NOT IDENT.
SN-113	-2.570E-02	6.695E-02	6.794E-02	NOT IDENT.
CD-115	1.157E+02	1.452E+03	1.453E+03	SHORT HLIF
SN-117M	7.916E-03	1.405E-01	1.405E-01	NOT IDENT.
SB-122	1.719E+01	1.321E+02	1.324E+02	SHORT HLIF
SB-124	-8.292E-03	1.222E-01	1.223E-01	NOT IDENT.
SB-125	-4.083E-03	1.215E-01	1.215E-01	NOT IDENT.
TE-125M	-6.192E+00	1.882E+01	1.903E+01	NOT IDENT.
I-126	-5.862E-02	5.954E-01	5.959E-01	NOT IDENT.
SB-126	1.424E-01	3.668E-01	3.723E-01	NOT IDENT.
SB-127	1.035E+01	2.348E+01	2.393E+01	NOT IDENT.
I-131	8.525E-02	5.307E-01	5.321E-01	NOT IDENT.
I-132	1.000E+41	3.302E+42	0.000E+00	SHORT HLIF
TE-132	8.301E+00	2.181E+01	2.213E+01	NOT IDENT.
BA-133	2.730E-02	5.241E-02	5.384E-02	NOT IDENT.
I-133	7.190E+08	9.180E+08	9.736E+08	SHORT HLIF
CS-134	6.957E-02	7.371E-02	8.011E-02	FAIL ABUN
I-135	-2.990E+31	8.155E+31	0.000E+00	SHORT HLIF
CS-136	-4.347E-02	2.694E-01	2.701E-01	NOT IDENT.
BA-137M	-4.772E-02	4.653E-02	5.127E-02	NOT IDENT.
CS-137	-5.041E-02	4.916E-02	5.416E-02	NOT IDENT.
LA-138	1.569E-02	8.538E-02	8.567E-02	NOT IDENT.
CE-139	-1.096E-02	4.162E-02	4.192E-02	NOT IDENT.
BA-140	1.464E-01	5.933E-01	5.970E-01	FAIL ABUN
LA-140	-1.043E-01	2.742E-01	2.782E-01	FAIL ABUN
CE-141	1.838E-02	1.105E-01	1.108E-01	NOT IDENT.
CE-143	8.624E+05	3.389E+05	5.157E+05	SHORT HLIF
PM-144	1.923E-02	4.178E-02	4.267E-02	NOT IDENT.
PR-144	1.482E+00	3.156E+00	3.226E+00	NOT IDENT.
PM-146	2.279E-02	5.463E-02	5.558E-02	NOT IDENT.
ND-147	1.377E+00	1.843E+00	1.945E+00	NOT IDENT.
PM-147	1.079E+03	1.023E+03	1.132E+03	NOT IDENT.
PM-149	-5.771E+02	1.175E+04	1.175E+04	SHORT HLIF
EU-150	6.353E-03	3.492E-02	3.504E-02	FAIL ABUN
EU-152	-2.008E-02	1.397E-01	1.400E-01	FAIL ABUN
GD-153	7.207E-02	1.611E-01	1.643E-01	NOT IDENT.
EU-154	3.432E-03	1.186E-01	1.186E-01	NOT IDENT.
EU-155	4.549E-02	1.711E-01	1.723E-01	FAIL ABUN
TB-160	7.017E-02	1.737E-01	1.766E-01	FAIL ABUN

HO-166M	2.398E-02	8.101E-02	8.173E-02	FAIL ABUN
TM-171	2.166E+00	4.717E+01	4.718E+01	NOT IDENT.
HF-172	-2.317E-01	2.965E-01	3.143E-01	FAIL ABUN
LU-172	5.501E-02	8.199E-02	8.566E-02	FAIL ABUN
LU-176	-6.450E-03	3.559E-02	3.571E-02	NOT IDENT.
HF-181	-4.390E-02	7.082E-02	7.353E-02	FAIL ABUN
TA-182	1.194E-01	2.207E-01	2.272E-01	FAIL ABUN
RE-183	4.093E-02	5.199E-01	5.202E-01	FAIL ABUN
RE-184	9.553E-02	2.016E-01	2.062E-01	NOT IDENT.
W-188	-4.438E+00	1.255E+01	1.271E+01	FAIL ABUN
IR-192	1.606E-02	5.204E-02	5.254E-02	FAIL ABUN
HG-203	4.404E-02	5.695E-02	6.031E-02	NOT IDENT.
TL-204	6.883E+00	9.894E+00	1.037E+01	NOT IDENT.
BI-207	5.662E-02	5.710E-02	6.254E-02	FAIL ABUN
BI-210	-5.347E+00	1.026E+01	1.053E+01	NOT IDENT.
PB-210	-5.347E+00	1.026E+01	1.053E+01	NOT IDENT.
PB-211	-1.561E+00	1.096E+00	1.302E+00	NOT IDENT.
BI-212	6.150E-01	7.432E-01	7.932E-01	NOT IDENT.
BI-213	-1.009E-01	1.398E-01	1.470E-01	NOT IDENT.
RN-219	5.083E-01	5.231E-01	5.711E-01	NOT IDENT.
RA-223	-1.725E-01	9.734E-01	9.765E-01	FAIL ABUN
AC-225	-9.512E-01	1.942E+00	1.989E+00	NOT IDENT.
AC-227	-2.511E-01	2.992E-01	3.199E-01	FAIL ABUN
TH-227	-2.511E-01	2.992E-01	3.199E-01	FAIL ABUN
TH-229	7.337E-01	6.812E-01	7.572E-01	FAIL ABUN
TH-231	-1.725E-01	9.734E-01	9.765E-01	FAIL ABUN
PA-233	-2.836E-02	8.499E-02	8.594E-02	FAIL ABUN
PA-234	8.401E-02	4.129E-01	4.146E-01	FAIL ABUN
PA-234M	-3.395E+00	5.806E+00	6.004E+00	NOT IDENT.
NP-237	-2.836E-02	8.499E-02	8.594E-02	FAIL ABUN
NP-238	-1.043E+03	2.862E+03	2.901E+03	SHORT HLIF
NP-239	-3.874E-01	3.606E-01	4.006E-01	NOT IDENT.
PU-239	4.582E+02	6.568E+02	6.885E+02	FAIL ABUN
AM-241	-6.835E-02	3.539E-01	3.552E-01	NOT IDENT.
CM-243	1.798E-02	1.704E-01	1.706E-01	NOT IDENT.
BK-247	1.527E-01	1.586E-01	1.729E-01	FAIL ABUN
CM-247	3.761E-02	4.623E-02	4.925E-02	NOT IDENT.
CF-249	-3.287E-03	4.983E-02	4.985E-02	NOT IDENT.
CF-251	-2.346E-01	1.712E-01	2.012E-01	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	49.5734	85.43	91.0230	131.20	53.1519
45.60	71.2189	86.55	137.5116	133.02	68.1094
46.54	81.2398	86.79	137.5372	133.52	61.0330
49.72	89.8336	86.94	137.5531	136.00	52.5940
51.35	89.9856	87.09	143.0717	136.47	61.1401
51.87	93.3682	87.57	143.1238	140.51	0.0000
52.39	92.3057	88.03	143.1739	143.76	82.9977
52.97	93.4727	88.34	168.6827	144.24	81.2350
53.44	95.7437	88.47	168.6992	145.44	83.9705
54.07	85.7781	89.96	168.8891	152.43	83.4043
57.36	0.0000	1093.63	168.9751	153.25	65.7965
57.53	95.0128	91.11	169.0341	323.87	76.1254
57.98	89.9096	92.59	128.4693	156.02	74.7633
59.27	83.9745	93.35	128.5414	158.56	72.8871
59.32	83.9785	94.56	128.6555	159.00	72.9044
59.54	92.3956	94.65	103.7613	162.33	73.0348
60.96	87.4727	94.67	103.7627	162.66	73.0478
61.17	82.4423	94.87	103.7778	163.33	73.0738
62.93	86.5089	97.43	95.3059	165.86	66.4872
63.29	86.5375	98.43	81.5016	176.31	85.3768
63.58	86.5605	98.44	81.5024	176.60	93.5654
64.28	86.0532	99.53	108.2912	177.52	98.1527
66.73	96.3888	100.11	99.5390	181.07	0.0000
67.24	116.7344	102.03	108.9457	181.52	68.4816
125.81	125.2420	103.18	96.2735	184.41	75.6937
67.75	125.2499	103.37	96.2866	143.76	75.7424
68.89	99.9613	105.21	97.5706	193.51	64.1222
69.67	89.8568	105.31	97.5770	197.03	79.8294
70.82	95.0370	106.12	106.9295	198.01	82.6206
70.83	95.0379	106.47	106.9552	201.83	66.2162
72.81	120.6982	109.28	107.1588	203.43	73.6285
72.87	120.7047	111.00	93.2890	205.31	86.5896
74.66	108.9678	111.76	99.7530	210.85	74.8054
74.82	108.9824	114.06	67.4793	215.65	58.3093
74.97	108.9961	116.30	93.0294	218.12	64.8602
77.11	109.1890	116.74	97.4455	222.11	60.3345
78.74	109.3340	119.76	74.7654	227.09	56.7463
79.69	109.4180	121.12	71.3088	227.38	54.8925
80.03	109.4473	121.22	71.3131	228.16	62.3570
80.12	106.0351	121.78	69.5770	228.18	62.3576
80.19	106.0412	122.06	69.5894	116.74	62.3576
80.57	106.0734	122.92	89.6464	235.69	53.2231
81.00	119.8014	123.07	89.6550	235.96	53.2292
81.07	119.8083	265.00	107.2238	238.63	53.2896
81.75	126.7229	125.81	96.0645	238.98	0.0000
82.47	134.7918	127.23	82.0091	240.99	53.3431
83.79	96.0526	127.91	69.3127	242.00	53.3657
84.00	96.0684	129.30	74.3267	244.70	58.4881

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.40	47.0154	344.28	40.4796	563.25	19.9037
252.80	47.0230	345.93	37.3869	564.24	0.0000
254.15	0.0000	351.06	31.2095	569.33	24.9177
256.23	55.5648	351.93	31.2188	946.00	21.5960
260.90	0.0000	355.39	0.0000	569.70	21.5973
264.66	57.6445	356.01	25.0090	583.19	22.9191
264.80	57.6473	364.49	36.2474	584.27	15.0056
265.00	57.6520	366.42	0.0000	595.83	30.3045
269.46	45.4460	372.51	39.2889	427.87	21.9696
270.03	34.8498	375.05	38.3383	602.52	0.0000
271.23	50.5306	377.52	34.4334	604.72	23.4575
273.65	67.3328	356.01	31.5459	607.14	23.4705
276.40	43.6711	388.16	33.5632	609.32	19.9185
277.37	40.8381	388.63	28.6318	610.33	19.9231
277.60	42.7416	391.69	33.2052	614.28	10.0758
278.00	45.5984	264.66	30.5798	618.01	14.7071
279.20	38.9668	401.81	25.7755	620.36	17.8685
279.54	51.3287	402.40	24.7887	621.93	24.1834
279.70	51.3320	404.85	47.6301	630.19	0.0000
280.46	55.1503	410.95	42.9475	631.29	18.9679
283.69	41.8898	413.71	41.3918	633.25	25.3015
284.31	50.4703	414.70	30.7117	634.78	16.8740
285.41	47.6334	423.72	40.9174	635.95	12.6588
285.90	0.0000	427.09	31.9678	636.99	18.9926
287.50	50.5318	427.87	32.9743	657.50	14.8412
290.67	56.5108	433.94	40.0409	657.76	14.8421
293.27	0.0000	439.40	36.0945	657.90	0.0000
351.93	38.2483	440.45	38.1113	661.66	21.2219
295.96	38.2587	453.88	24.1641	664.57	0.0000
879.38	22.9775	463.37	20.1910	666.33	20.1817
299.98	53.6425	468.07	24.2615	666.50	22.3074
300.09	53.6450	473.00	27.3316	667.71	0.0000
300.13	53.6459	475.06	34.4373	677.62	24.4922
301.36	52.1364	476.78	26.3471	685.70	17.0684
302.85	46.0283	477.60	21.2852	692.65	0.0000
256.23	52.1970	482.18	30.4459	695.00	25.6553
304.85	50.6682	487.02	20.3244	696.49	14.9703
306.78	48.2892	492.35	0.0000	696.51	14.9703
308.46	46.1228	497.08	20.3799	697.00	16.0414
311.90	50.0283	505.52	37.5844	697.30	18.1813
316.51	42.4021	507.63	0.0000	697.49	22.4605
319.41	46.3044	511.00	27.8205	702.65	14.9904
320.08	41.4909	514.00	0.0000	706.68	19.2898
321.04	41.9190	514.00	0.0000	711.68	19.3107
323.87	49.4695	520.40	18.0463	720.70	12.8987
325.23	52.5871	520.69	0.0000	721.93	0.0000
328.76	46.4575	522.65	0.0000	722.78	29.0352
333.37	25.8512	527.90	0.0000	722.91	29.0352
333.97	32.5797	528.26	19.5219	723.31	31.1886
334.37	37.2387	529.59	17.4726	724.19	20.4380
338.28	40.7849	529.87	0.0000	727.33	18.2991
338.32	40.7856	531.02	19.5358	733.00	18.3209
311.90	41.9818	537.26	13.3880	735.93	21.5671
340.48	41.9818	546.56	0.0000	333.97	17.2593
340.55	37.3184	552.55	19.6436	739.50	0.0000

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
744.23	10.8023	949.00	21.3472	1384.29	5.3429
747.24	17.2944	667.71	0.0000	1408.01	5.7888
748.06	20.5406	962.31	10.5108	1434.09	7.7457
752.31	19.4766	964.08	18.0244	1435.80	10.6530
753.82	18.4002	966.17	4.5077	1457.56	0.0000
756.73	18.4117	911.20	9.0198	1460.82	7.7734
756.80	18.4117	983.53	12.6598	1489.16	7.8023
884.68	21.6925	984.45	0.0000	1505.03	7.8184
765.81	24.9562	1274.44	10.8750	1584.12	7.8977
766.42	20.6183	1001.03	16.3261	1596.21	9.8867
766.84	17.3643	1002.74	14.5164	1620.50	8.9249
772.60	0.0000	1004.73	19.0589	1621.92	5.9511
776.52	16.3115	507.63	0.0000	1678.03	0.0000
739.50	0.0000	1025.87	0.0000	1690.97	5.0007
778.90	5.2222	1028.54	0.0000	1750.46	0.0000
783.70	19.6018	1037.84	12.7771	1764.49	5.0442
788.74	8.7207	1038.76	0.0000	1063.66	5.0476
792.07	14.5443	631.29	14.6242	1771.35	0.0000
795.86	13.9730	1048.07	13.7131	1791.20	0.0000
810.06	15.3262	1049.04	10.0579	1808.65	4.0559
810.29	15.3270	1050.41	9.1460	1810.72	0.0000
344.28	16.4223	1063.66	6.4162	1836.06	5.0857
810.76	16.4232	1077.00	9.1860		
815.77	18.6311	1077.34	10.1052		
1048.07	19.7380	1085.87	14.7188		
832.01	16.4914	1093.63	11.0525		
834.85	19.8007	1099.45	7.3754		
835.71	17.6035	1112.07	12.0091		
836.80	0.0000	1112.84	18.4785		
846.75	0.0000	1115.54	16.9458		
846.77	17.6411	1120.29	12.9500		
856.80	19.8842	1120.55	12.9507		
860.56	11.0547	1221.41	13.8772		
871.09	15.5073	1129.67	9.2637		
873.19	15.5133	1131.51	0.0000		
875.33	0.0000	1147.95	0.0000		
879.38	9.9844	1173.23	15.8553		
880.51	17.7539	1177.95	9.3335		
881.60	16.6475	1189.05	10.2846		
883.24	18.8729	1204.77	12.1831		
884.68	14.4362	1221.41	9.3950		
889.28	18.8941	1231.02	12.2313		
894.76	7.7878	1235.36	18.8291		
898.04	13.3586	1238.28	16.9541		
900.72	17.8203	1260.41	0.0000		
903.28	11.1429	1271.87	8.5188		
911.20	13.3909	1274.44	7.5750		
912.08	13.3931	1274.54	7.5754		
923.98	0.0000	1291.59	10.4419		
926.50	8.9521	1298.22	0.0000		
929.11	15.6735	1312.11	8.5685		
935.54	12.3290	1332.49	8.5931		
937.49	17.9395	1362.66	0.0000		
944.13	12.3481	1365.19	7.6734		
946.00	14.5980	1368.63	0.0000		

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:23:52.73

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289013.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM22.CNF;672
                                    Background date  : 16-JUN-2024 11:36:48
Sample date      : 21-MAY-2024 13:00:00 Acquisition date : 20-JUN-2024 05:22:39
Sample ID        : G669289013           Sample quantity  : 1.55860E+02 GRAM
Detector name    : GAM22                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:04.24  0.1%
Energy tolerance : 1.50000 keV          Analyst Initials : MXR1
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 2618905              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
*************************************************************************
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	1	74.89	228	478	1.61	150.29	141	19	6.32E-02	19.8	1.92E+00
2	1	77.10	346	429	1.54	154.71	141	19	9.60E-02	12.4	
3	1	83.84	106	430	1.63	168.19	161	31	2.96E-02	34.8	3.93E+00
4	1	87.24	183	385	1.63	175.00	161	31	5.07E-02	21.4	
5	1	89.60	114	351	1.64	179.70	161	31	3.17E-02	34.2	
6	1	92.68*	170	309	1.60	185.87	161	31	4.71E-02	23.6	
7	0	128.95	90	185	2.28	258.41	255	7	2.51E-02	27.1	
8	0	186.24*	168	365	1.29	372.97	368	12	4.67E-02	24.7	
9	0	209.73	154	356	3.00	419.94	413	14	4.29E-02	27.2	
10	3	238.63*	1152	210	1.58	477.72	469	22	3.20E-01	3.8	1.31E+00
11	3	241.81	308	246	2.03	484.08	469	22	8.55E-02	14.7	
12	0	270.36	98	249	1.76	541.17	536	13	2.72E-02	34.7	
13	2	295.22*	429	165	1.60	590.90	584	23	1.19E-01	7.4	1.36E+00
14	2	300.28	102	155	2.12	601.02	584	23	2.83E-02	26.2	
15	0	338.23*	200	147	1.28	676.91	672	10	5.56E-02	13.5	
16	0	351.91*	754	206	1.61	704.27	696	17	2.09E-01	5.7	
17	0	401.46	38	97	1.67	803.36	796	11	1.05E-02	53.4	
18	0	409.87	54	90	1.29	820.18	816	11	1.49E-02	37.4	
19	0	463.34	69	101	1.70	927.11	921	11	1.92E-02	30.7	
20	0	484.05	24	87	1.37	968.53	961	13	6.67E-03	84.0	
21	0	511.10*	159	91	1.93	1022.62	1015	18	4.42E-02	18.2	
22	0	583.30*	388	125	1.81	1167.02	1160	13	1.08E-01	7.9	
23	0	609.28*	553	136	1.88	1218.98	1210	17	1.54E-01	6.5	
24	0	680.77	19	61	3.36	1361.95	1354	14	5.33E-03	90.4	
25	0	726.86	121	76	1.53	1454.13	1446	16	3.36E-02	18.5	
26	0	767.67*	53	80	2.05	1535.75	1526	16	1.46E-02	40.8	
27	0	787.46	30	63	3.63	1575.34	1566	14	8.31E-03	60.3	
28	0	794.78	67	60	1.14	1589.98	1581	16	1.86E-02	28.5	
29	0	862.86	54	74	9.28	1726.14	1716	24	1.49E-02	47.0	
30	0	910.90*	283	48	2.25	1822.23	1814	16	7.86E-02	8.2	
31	0	934.74	38	44	1.33	1869.91	1863	11	1.06E-02	37.2	
32	1	964.50*	26	48	2.44	1929.44	1923	38	7.30E-03	58.3	2.28E+00
33	1	968.57*	173	45	2.44	1937.58	1923	38	4.81E-02	11.8	
34	0	1028.93	13	30	1.40	2058.31	2051	12	3.61E-03	88.7	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
35	0	1120.36*	123	60	2.40	2241.20	2233	14	3.41E-02	16.2	
36	0	1216.17	27	10	3.69	2432.85	2426	13	7.60E-03	30.3	
37	0	1222.74	37	3	6.03	2445.99	2439	15	1.02E-02	20.1	
38	0	1237.90*	44	38	1.65	2476.31	2470	11	1.23E-02	29.0	
39	0	1299.66	13	16	1.36	2599.85	2591	16	3.61E-03	74.2	
40	0	1309.69	6	14	0.51	2619.93	2615	9	1.67E-03	118.3	
41	0	1316.41	10	19	3.11	2633.37	2626	16	2.78E-03	104.4	
42	0	1378.68	17	39	2.42	2757.93	2748	18	4.82E-03	85.1	
43	0	1385.71	10	9	0.71	2771.99	2768	9	2.71E-03	68.2	
44	0	1460.40*	422	20	2.25	2921.41	2913	16	1.17E-01	5.5	
45	0	1493.75	21	16	5.42	2988.12	2975	21	5.89E-03	51.6	
46	0	1508.94	18	10	1.96	3018.51	3013	10	4.97E-03	40.7	
47	0	1588.94	41	15	3.57	3178.56	3169	20	1.13E-02	28.1	
48	0	1700.35	7	5	1.67	3401.43	3394	10	1.94E-03	70.7	
49	0	1729.81*	31	20	1.81	3460.38	3451	16	8.52E-03	37.9	
50	0	1764.22*	118	12	2.90	3529.21	3520	15	3.27E-02	11.6	
51	0	1773.07	14	0	3.44	3546.93	3541	11	3.89E-03	26.7	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JUN-2024 06:23:54

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289013.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: MXR1		
Sample date	: 21-MAY-2024 13:00:00	Acquisition date	: 20-JUN-2024 05:22:39
Sample ID	: G669289013	Sample quantity	: 155.86 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA22	Detector geometry	: CAN
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:04.24 0.1%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	409	10.66*	1.821E+00	1.014E+01	1.014E+01	11.00
CD-109	88.03	236	3.70*	5.961E+00	5.156E+00	5.391E+00	42.82
SN-126	64.28	------	9.60	2.644E+00	------ Line Not Found		------
	86.94	236	8.90	5.961E+00	2.143E+00	2.143E+00	42.82
	87.57	236	37.00*	5.961E+00	5.156E-01	5.156E-01	42.82
TL-208	277.37	------	6.60	5.729E+00	------ Line Not Found		------
	583.19	417	85.00*	3.730E+00	6.332E-01	6.332E-01	15.84
	860.56	------	12.50	2.805E+00	------ Line Not Found		------
BI-211	72.87	------	1.23	4.039E+00	------ Line Not Found		------
	351.06	854	12.92*	5.021E+00	6.340E+00	6.340E+00	11.44
BI-212	727.33	127	6.67*	3.199E+00	2.866E+00	2.866E+00	36.97
	1620.50	------	1.47	1.707E+00	------ Line Not Found		------
PB-212	74.82	298	10.28	4.350E+00	3.214E+00	3.214E+00	39.68
	77.11	452	17.10	4.677E+00	2.722E+00	2.722E+00	24.89
	238.63	1356	43.60*	6.225E+00	2.406E+00	2.406E+00	7.60
	300.09	117	3.30	5.482E+00	3.124E+00	3.124E+00	52.44
BI-214	609.32	591	45.49*	3.624E+00	1.727E+00	1.727E+00	12.98
	1120.29	123	14.92	2.248E+00	1.763E+00	1.763E+00	32.50
	1764.49	112	15.30	1.642E+00	2.139E+00	2.139E+00	23.14
PB-214	74.82	298	5.80	4.350E+00	5.696E+00	5.696E+00	39.68
	77.11	452	9.70	4.677E+00	4.798E+00	4.798E+00	24.89
	87.09	236	3.41	5.961E+00	5.594E+00	5.594E+00	42.82
	242.00	362	7.25	6.180E+00	3.892E+00	3.892E+00	29.31
	295.22	495	18.42	5.534E+00	2.338E+00	2.338E+00	14.76
	351.93	854	35.60*	5.021E+00	2.301E+00	2.301E+00	11.44
RN-219	271.23	114	10.80	5.811E+00	8.725E-01	8.725E-01	69.36
	401.81	42	6.60*	4.665E+00	6.610E-01	6.610E-01	106.71
RN-222	609.32	591	45.49*	3.624E+00	1.727E+00	1.727E+00	12.98
	1120.29	123	14.92	2.248E+00	1.763E+00	1.763E+00	32.50
	1764.49	112	15.30	1.642E+00	2.139E+00	2.139E+00	23.14
RA-224	240.99	362	4.10*	6.180E+00	6.882E+00	6.882E+00	29.31
RA-226	74.82	298	5.80	4.350E+00	5.696E+00	5.696E+00	39.68
	77.11	452	9.70	4.677E+00	4.798E+00	4.798E+00	24.89
	87.09	236	3.41	5.961E+00	5.594E+00	5.594E+00	42.82
	242.00	362	7.25	6.180E+00	3.892E+00	3.892E+00	29.31
	295.22	495	18.42	5.534E+00	2.338E+00	2.338E+00	14.76
	351.93	854	35.60*	5.021E+00	2.301E+00	2.301E+00	11.44
AC-228	105.21	------	1.10	7.303E+00	------ Line Not Found		------
	338.32	228	11.27	5.133E+00	1.897E+00	1.897E+00	27.05
	835.71	------	1.61	2.872E+00	------ Line Not Found		------
	911.20	289	25.80*	2.678E+00	2.017E+00	2.017E+00	16.44
	968.97	176	15.80	2.544E+00	2.107E+00	2.107E+00	23.51
RA-228	105.21	------	1.10	7.303E+00	------ Line Not Found		------
	338.32	228	11.27	5.133E+00	1.897E+00	1.897E+00	27.05
	835.71	------	1.61	2.872E+00	------ Line Not Found		------
	911.20	289	25.80*	2.678E+00	2.017E+00	2.017E+00	16.44
	968.97	176	15.80	2.544E+00	2.107E+00	2.107E+00	23.51
TH-228	74.82	298	10.28	4.350E+00	3.214E+00	3.214E+00	39.68
	77.11	452	17.10	4.677E+00	2.722E+00	2.722E+00	24.89

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	238.63	1356	43.60*	6.225E+00	2.406E+00	2.406E+00	7.60
	300.09	117	3.30	5.482E+00	3.124E+00	3.124E+00	52.44
TH-230	74.82	298	5.80	4.350E+00	5.696E+00	5.696E+00	39.68
	77.11	452	9.70	4.677E+00	4.798E+00	4.798E+00	24.89
	87.09	236	3.41	5.961E+00	5.594E+00	5.594E+00	42.82
	242.00	362	7.25	6.180E+00	3.892E+00	3.892E+00	29.31
	295.22	495	18.42	5.534E+00	2.338E+00	2.338E+00	14.76
	351.93	854	35.60*	5.021E+00	2.301E+00	2.301E+00	11.44
PA-231	283.69	------	1.70	5.658E+00	------ Line Not Found		------
	301.36	117	5.35*	5.482E+00	1.927E+00	1.927E+00	52.44
TH-232	105.21	------	1.10	7.303E+00	------ Line Not Found		------
	338.32	228	11.27	5.133E+00	1.897E+00	1.897E+00	27.05
	835.71	------	1.61	2.872E+00	------ Line Not Found		------
	911.20	289	25.80*	2.678E+00	2.017E+00	2.017E+00	16.44
	968.97	176	15.80	2.544E+00	2.107E+00	2.107E+00	23.51
U-234	74.82	298	5.80	4.350E+00	5.696E+00	5.696E+00	39.68
	77.11	452	9.70	4.677E+00	4.798E+00	4.798E+00	24.89
	87.09	236	3.41	5.961E+00	5.594E+00	5.594E+00	42.82
	242.00	362	7.25	6.180E+00	3.892E+00	3.892E+00	29.31
	295.22	495	18.42	5.534E+00	2.338E+00	2.338E+00	14.76
	351.93	854	35.60*	5.021E+00	2.301E+00	2.301E+00	11.44
U-235	89.96	147	3.47	6.202E+00	3.297E+00	3.297E+00	68.47
	93.35	218	5.60	6.486E+00	2.893E+00	2.893E+00	47.20
	143.76	------	10.96*	7.733E+00	------ Line Not Found		------
	163.33	------	5.08	7.469E+00	------ Line Not Found		------
	185.72	203	57.20	7.074E+00	2.414E-01	2.414E-01	49.38
	205.31	------	5.01	6.744E+00	------ Line Not Found		------
AM-243	43.53	------	5.90	2.160E-01	------ Line Not Found		------
	74.66	298	67.20*	4.350E+00	4.916E-01	4.916E-01	39.68
CM-247	278.00	------	3.40	5.722E+00	------ Line Not Found		------
	287.50	------	2.00	5.616E+00	------ Line Not Found		------
	402.40	42	72.00*	4.665E+00	6.059E-02	6.059E-02	106.71
ANH-511	511.00	173	100.00*	4.054E+00	2.058E-01	2.058E-01	36.33

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:23:55.01

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**********************************************************************
*                          GEL Laboratories LLC                      *
*                            2040 Savage Road                        *
*                          Charleston, SC 29407                      *
**********************************************************************
*                                                                    *
*                        DETECTOR AND SAMPLE DATA                    *
*                                                                    *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289013.CNF;1    *
* Acquisition date : 20-JUN-2024 05:22:39 Sensitivity     : 3.000            *
* Detector ID      : GAM22                Energy tolerance: 1.500            *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000           *
* Elapsed real time:    0 01:00:04.24     Half life ratio : *****            *
* Sample date      : 21-MAY-2024 13:00:00 Analyst initials: MXR1             *
* Sample ID        : G669289013           Sample Quantity : 1.5586E+02 GRAM  *
* Batch Number     : 2618905              Wet Weight      :    0.00000       *
* Wet wt corr      :    1.00000           Dry Weight      :    0.00000       *
* Nuclide Library  : SOLID.NLB;17                                           *
**********************************************************************
*                                                                    *
*                        CALIBRATION INFORMATION                     *
*                                                                    *
* Eff. Cal. date   : 25-JAN-2024 07:21:39 Eff. Geometry   : CAN              *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM22_CAN.CNF;26             *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	1.014E+01	1.093E+00	5.969E-01
CD-109	5.391E+00	2.262E+00	1.702E+00
SN-126	5.156E-01	2.163E-01	1.641E-01
TL-208	6.332E-01	9.827E-02	6.561E-02
BI-211	6.340E+00	7.110E-01	3.626E-01
BI-212	2.866E+00	1.038E+00	8.180E-01
PB-212	2.406E+00	1.792E-01	1.210E-01
BI-214	1.727E+00	2.196E-01	1.170E-01
PB-214	2.301E+00	2.580E-01	1.318E-01
RN-219	6.610E-01	6.912E-01	7.603E-01
RN-222	1.727E+00	2.196E-01	1.170E-01
RA-224	6.882E+00	1.976E+00	1.295E+00
RA-226	2.301E+00	2.580E-01	1.318E-01
AC-228	2.017E+00	3.250E-01	2.274E-01
RA-228	2.017E+00	3.250E-01	2.274E-01
TH-228	2.406E+00	1.792E-01	1.210E-01
TH-230	2.301E+00	2.580E-01	1.318E-01
PA-231	1.927E+00	9.904E-01	8.684E-01
TH-232	2.017E+00	3.250E-01	2.274E-01
U-234	2.301E+00	2.580E-01	1.318E-01
U-235	-8.730E-02	2.359E-01	4.275E-01
AM-243	4.916E-01	1.912E-01	1.475E-01
CM-247	6.059E-02	6.336E-02	7.085E-02
ANH-511	2.058E-01	7.330E-02	4.592E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	2.589E-02	4.218E-01	7.049E-01	NOT IDENT.
NA-22	1.090E-02	3.589E-02	7.072E-02	NOT IDENT.
NA-24	0.000E+00	6.432E+12	0.000E+00	SHORT HLIF
AL-26	-1.299E-02	2.235E-02	3.898E-02	NOT IDENT.
SC-46	1.337E-02	3.372E-02	6.593E-02	FAIL ABUN
V-48	-4.754E-02	1.054E-01	1.667E-01	NOT IDENT.

CR-51	1.573E-01	5.559E-01	1.081E+00	NOT IDENT.
MN-52	-1.776E-01	1.026E+00	1.972E+00	FAIL ABUN
MN-54	-2.180E-03	3.408E-02	6.212E-02	NOT IDENT.
CO-56	2.468E-02	3.668E-02	7.299E-02	FAIL ABUN
MN-56	0.000E+00	1.491E+41	0.000E+00	SHORT HLIF
CO-57	-2.458E-02	3.150E-02	5.661E-02	NOT IDENT.
CO-58	-9.666E-03	3.677E-02	6.631E-02	NOT IDENT.
FE-59	-3.878E-02	8.467E-02	1.553E-01	NOT IDENT.
CO-60	-3.399E-03	3.100E-02	5.910E-02	NOT IDENT.
ZN-65	1.945E-02	7.536E-02	1.320E-01	NOT IDENT.
GE-68	3.612E-01	1.032E+00	2.066E+00	NOT IDENT.
AS-73	9.547E-02	2.618E+00	5.077E+00	NOT IDENT.
AS-74	4.046E-02	1.448E-01	2.777E-01	NOT IDENT.
SE-75	4.454E-02	5.496E-02	9.970E-02	FAIL ABUN
BR-77	0.000E+00	1.956E+03	0.000E+00	SHORT HLIF
SR-82	-2.526E-01	4.374E-01	7.603E-01	NOT IDENT.
RB-83	5.143E-02	7.514E-02	1.487E-01	NOT IDENT.
RB-84	3.562E-02	7.062E-02	1.400E-01	NOT IDENT.
KR-85	9.376E+00	6.461E+00	1.336E+01	NOT IDENT.
SR-85	5.772E-02	3.990E-02	8.250E-02	NOT IDENT.
RB-86	-2.998E-02	1.088E+00	2.092E+00	NOT IDENT.
Y-88	1.602E-02	3.466E-02	7.284E-02	NOT IDENT.
Y-91	1.466E+00	1.963E+01	3.766E+01	NOT IDENT.
NB-94	-6.304E-03	3.068E-02	5.563E-02	NOT IDENT.
NB-95	4.061E-02	4.806E-02	9.395E-02	NOT IDENT.
NB-95M	1.904E-01	2.002E-01	3.388E-01	NOT IDENT.
ZR-95	3.676E-02	7.185E-02	1.400E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.822E+12	0.000E+00	SHORT HLIF
MO-99	0.000E+00	3.844E+02	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	1.259E+34	0.000E+00	SHORT HLIF
RH-101	-1.389E-02	4.252E-02	6.924E-02	NOT IDENT.
RH-102	1.336E-02	5.495E-02	1.039E-01	FAIL ABUN
RU-103	1.135E-02	4.698E-02	9.050E-02	FAIL ABUN
RH-106	6.747E-02	3.050E-01	5.784E-01	NOT IDENT.
RU-106	6.747E-02	3.050E-01	5.784E-01	NOT IDENT.
AG-108M	-2.088E-02	2.695E-02	4.824E-02	NOT IDENT.
AG-110	-1.381E-01	6.711E-01	1.227E+00	NOT IDENT.
AG-110M	-3.534E-02	3.553E-02	5.698E-02	FAIL ABUN
SN-113	2.393E-02	4.813E-02	9.441E-02	NOT IDENT.
CD-115	0.000E+00	9.104E+02	0.000E+00	SHORT HLIF
SN-117M	4.886E-02	1.364E-01	2.552E-01	NOT IDENT.
SB-122	0.000E+00	7.566E+01	0.000E+00	SHORT HLIF
TE-123M	8.113E-03	3.658E-02	6.802E-02	NOT IDENT.
SB-124	3.364E-02	8.300E-02	1.732E-01	NOT IDENT.
SB-125	-5.254E-02	9.266E-02	1.685E-01	FAIL ABUN
TE-125M	-6.937E+00	1.389E+01	2.548E+01	NOT IDENT.
I-126	-4.905E-02	4.362E-01	8.016E-01	NOT IDENT.
SB-126	2.354E-01	3.358E-01	5.906E-01	NOT IDENT.
SB-127	3.562E+00	1.682E+01	2.840E+01	NOT IDENT.
I-131	1.629E-01	3.876E-01	7.622E-01	NOT IDENT.
I-132	0.000E+00	1.224E+41	0.000E+00	SHORT HLIF
TE-132	7.069E+00	1.940E+01	3.578E+01	NOT IDENT.
BA-133	5.206E-03	4.350E-02	7.445E-02	NOT IDENT.
I-133	0.000E+00	6.065E+08	0.000E+00	SHORT HLIF
CS-134	0.000E+00	7.555E-02	9.231E-02	FAIL ABUN
I-135	0.000E+00	4.012E+31	0.000E+00	SHORT HLIF
CS-136	2.237E-02	1.791E-01	3.513E-01	NOT IDENT.
BA-137M	7.118E-03	3.244E-02	6.139E-02	NOT IDENT.
CS-137	7.520E-03	3.427E-02	6.485E-02	NOT IDENT.
LA-138	2.433E-04	4.079E-02	8.040E-02	FAIL ABUN
CE-139	1.769E-02	4.031E-02	7.529E-02	NOT IDENT.
BA-140	-3.072E-02	5.472E-01	1.024E+00	NOT IDENT.
LA-140	-4.111E-02	1.877E-01	2.983E-01	NOT IDENT.
CE-141	2.597E-03	9.963E-02	1.840E-01	NOT IDENT.
CE-143	0.000E+00	2.853E+05	0.000E+00	SHORT HLIF
CE-144	-2.969E-02	2.587E-01	4.548E-01	NOT IDENT.
PM-144	-2.517E-02	3.088E-02	5.279E-02	NOT IDENT.
PR-144	-1.879E+00	2.330E+00	3.988E+00	NOT IDENT.
PM-146	-1.896E-02	4.063E-02	7.424E-02	NOT IDENT.
ND-147	2.561E-01	1.308E+00	2.500E+00	NOT IDENT.
PM-147	-4.118E+01	8.947E+02	1.668E+03	NOT IDENT.
PM-149	0.000E+00	9.796E+03	0.000E+00	SHORT HLIF
EU-150	1.257E-02	3.230E-02	5.603E-02	FAIL ABUN
EU-152	-4.692E-02	1.168E-01	1.900E-01	FAIL ABUN
GD-153	1.208E-02	1.189E-01	2.022E-01	NOT IDENT.
EU-154	2.654E-02	1.004E-01	1.971E-01	NOT IDENT.
EU-155	2.301E-02	1.312E-01	2.486E-01	FAIL ABUN

TB-160	6.464E-02	1.198E-01	2.368E-01	FAIL ABUN
HO-166M	-1.059E-02	5.296E-02	9.639E-02	FAIL ABUN
TM-171	-2.721E+01	5.400E+01	1.026E+02	NOT IDENT.
HF-172	1.851E-01	2.400E-01	4.207E-01	FAIL ABUN
LU-172	1.835E-02	5.421E-02	1.075E-01	FAIL ABUN
LU-176	-5.193E-05	2.774E-02	5.161E-02	FAIL ABUN
HF-181	1.579E-03	5.423E-02	1.024E-01	NOT IDENT.
TA-182	0.000E+00	1.457E-01	2.808E-01	FAIL ABUN
RE-183	-1.715E-01	5.008E-01	9.539E-01	NOT IDENT.
RE-184	7.652E-02	1.602E-01	2.880E-01	NOT IDENT.
W-188	-9.967E+00	1.132E+01	1.657E+01	NOT IDENT.
IR-192	-1.905E-02	4.142E-02	7.731E-02	FAIL ABUN
HG-203	1.322E-02	5.728E-02	1.037E-01	NOT IDENT.
TL-204	8.314E-01	8.680E+00	1.492E+01	FAIL ABUN
BI-207	4.410E-02	3.569E-02	7.961E-02	FAIL ABUN
BI-210	8.952E+00	1.753E+01	3.335E+01	NOT IDENT.
PB-210	8.952E+00	1.753E+01	3.335E+01	NOT IDENT.
PB-211	2.445E-01	1.040E+00	1.318E+00	NOT IDENT.
BI-213	6.033E-02	9.343E-02	1.863E-01	NOT IDENT.
RA-223	-7.020E-01	6.719E-01	1.208E+00	FAIL ABUN
AC-225	2.028E+00	1.956E+00	3.725E+00	NOT IDENT.
AC-227	2.047E-02	2.817E-01	5.096E-01	FAIL ABUN
TH-227	2.047E-02	2.817E-01	5.096E-01	FAIL ABUN
TH-229	-1.507E-01	6.472E-01	1.162E+00	FAIL ABUN
TH-231	-7.020E-01	6.719E-01	1.208E+00	FAIL ABUN
PA-233	-1.227E-02	6.528E-02	1.240E-01	FAIL ABUN
PA-234	4.478E-02	2.499E-01	4.699E-01	NOT IDENT.
PA-234M	-4.516E-01	3.913E+00	7.083E+00	FAIL ABUN
TH-234	-2.468E-01	2.438E+00	4.629E+00	FAIL ABUN
NP-237	-1.227E-02	6.528E-02	1.240E-01	FAIL ABUN
NP-238	0.000E+00	1.687E+03	0.000E+00	SHORT HLIF
U-238	-2.468E-01	2.438E+00	4.629E+00	FAIL ABUN
NP-239	2.097E-01	3.206E-01	6.181E-01	NOT IDENT.
PU-239	0.000E+00	5.864E+02	7.987E+02	FAIL ABUN
AM-241	5.413E-02	3.110E-01	6.042E-01	NOT IDENT.
CM-243	4.107E-02	1.314E-01	2.508E-01	NOT IDENT.
BK-247	5.442E-02	9.844E-02	1.649E-01	FAIL ABUN
CF-249	-1.129E-02	3.947E-02	7.369E-02	NOT IDENT.
CF-251	1.308E-01	1.548E-01	2.946E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:23:53.54

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	409	10.66*	1.821E+00	1.014E+01	1.014E+01	11.00
CD-109	88.03	236	3.70*	5.961E+00	5.156E+00	5.391E+00	42.82
SN-126	64.28	------	9.60	2.644E+00	------ Line Not Found		------
	86.94	236	8.90	5.961E+00	2.143E+00	2.143E+00	42.82
	87.57	236	37.00*	5.961E+00	5.156E-01	5.156E-01	42.82
TL-208	277.37	------	6.60	5.729E+00	------ Line Not Found		------
	583.19	417	85.00*	3.730E+00	6.332E-01	6.332E-01	15.84
	860.56	------	12.50	2.805E+00	------ Line Not Found		------
BI-211	72.87	------	1.23	4.039E+00	------ Line Not Found		------
	351.06	854	12.92*	5.021E+00	6.340E+00	6.340E+00	11.44
BI-212	727.33	127	6.67*	3.199E+00	2.866E+00	2.866E+00	36.97
	1620.50	------	1.47	1.707E+00	------ Line Not Found		------
PB-212	74.82	298	10.28	4.350E+00	3.214E+00	3.214E+00	39.68
	77.11	452	17.10	4.677E+00	2.722E+00	2.722E+00	24.89
	238.63	1356	43.60*	6.225E+00	2.406E+00	2.406E+00	7.60
	300.09	117	3.30	5.482E+00	3.124E+00	3.124E+00	52.44
BI-214	609.32	591	45.49*	3.624E+00	1.727E+00	1.727E+00	12.98
	1120.29	123	14.92	2.248E+00	1.763E+00	1.763E+00	32.50
	1764.49	112	15.30	1.642E+00	2.139E+00	2.139E+00	23.14
PB-214	74.82	298	5.80	4.350E+00	5.696E+00	5.696E+00	39.68
	77.11	452	9.70	4.677E+00	4.798E+00	4.798E+00	24.89
	87.09	236	3.41	5.961E+00	5.594E+00	5.594E+00	42.82
	242.00	362	7.25	6.180E+00	3.892E+00	3.892E+00	29.31
	295.22	495	18.42	5.534E+00	2.338E+00	2.338E+00	14.76
	351.93	854	35.60*	5.021E+00	2.301E+00	2.301E+00	11.44
RN-219	271.23	114	10.80	5.811E+00	8.725E-01	8.725E-01	69.36
	401.81	42	6.60*	4.665E+00	6.610E-01	6.610E-01	106.71
RN-222	609.32	591	45.49*	3.624E+00	1.727E+00	1.727E+00	12.98
	1120.29	123	14.92	2.248E+00	1.763E+00	1.763E+00	32.50
	1764.49	112	15.30	1.642E+00	2.139E+00	2.139E+00	23.14
RA-224	240.99	362	4.10*	6.180E+00	6.882E+00	6.882E+00	29.31
RA-226	74.82	298	5.80	4.350E+00	5.696E+00	5.696E+00	39.68
	77.11	452	9.70	4.677E+00	4.798E+00	4.798E+00	24.89
	87.09	236	3.41	5.961E+00	5.594E+00	5.594E+00	42.82
	242.00	362	7.25	6.180E+00	3.892E+00	3.892E+00	29.31
	295.22	495	18.42	5.534E+00	2.338E+00	2.338E+00	14.76
	351.93	854	35.60*	5.021E+00	2.301E+00	2.301E+00	11.44
AC-228	105.21	------	1.10	7.303E+00	------ Line Not Found		------
	338.32	228	11.27	5.133E+00	1.897E+00	1.897E+00	27.05
	835.71	------	1.61	2.872E+00	------ Line Not Found		------
	911.20	289	25.80*	2.678E+00	2.017E+00	2.017E+00	16.44
	968.97	176	15.80	2.544E+00	2.107E+00	2.107E+00	23.51
RA-228	105.21	------	1.10	7.303E+00	------ Line Not Found		------
	338.32	228	11.27	5.133E+00	1.897E+00	1.897E+00	27.05
	835.71	------	1.61	2.872E+00	------ Line Not Found		------
	911.20	289	25.80*	2.678E+00	2.017E+00	2.017E+00	16.44
	968.97	176	15.80	2.544E+00	2.107E+00	2.107E+00	23.51

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-228	74.82	298	10.28	4.350E+00	3.214E+00	3.214E+00	39.68
	77.11	452	17.10	4.677E+00	2.722E+00	2.722E+00	24.89
	238.63	1356	43.60*	6.225E+00	2.406E+00	2.406E+00	7.60
	300.09	117	3.30	5.482E+00	3.124E+00	3.124E+00	52.44
TH-230	74.82	298	5.80	4.350E+00	5.696E+00	5.696E+00	39.68
	77.11	452	9.70	4.677E+00	4.798E+00	4.798E+00	24.89
	87.09	236	3.41	5.961E+00	5.594E+00	5.594E+00	42.82
	242.00	362	7.25	6.180E+00	3.892E+00	3.892E+00	29.31
	295.22	495	18.42	5.534E+00	2.338E+00	2.338E+00	14.76
	351.93	854	35.60*	5.021E+00	2.301E+00	2.301E+00	11.44
PA-231	283.69	------	1.70	5.658E+00	------ Line Not Found		------
	301.36	117	5.35*	5.482E+00	1.927E+00	1.927E+00	52.44
TH-232	105.21	------	1.10	7.303E+00	------ Line Not Found		------
	338.32	228	11.27	5.133E+00	1.897E+00	1.897E+00	27.05
	835.71	------	1.61	2.872E+00	------ Line Not Found		------
	911.20	289	25.80*	2.678E+00	2.017E+00	2.017E+00	16.44
	968.97	176	15.80	2.544E+00	2.107E+00	2.107E+00	23.51
U-234	74.82	298	5.80	4.350E+00	5.696E+00	5.696E+00	39.68
	77.11	452	9.70	4.677E+00	4.798E+00	4.798E+00	24.89
	87.09	236	3.41	5.961E+00	5.594E+00	5.594E+00	42.82
	242.00	362	7.25	6.180E+00	3.892E+00	3.892E+00	29.31
	295.22	495	18.42	5.534E+00	2.338E+00	2.338E+00	14.76
	351.93	854	35.60*	5.021E+00	2.301E+00	2.301E+00	11.44
U-235	89.96	147	3.47	6.202E+00	3.297E+00	3.297E+00	68.47
	93.35	218	5.60	6.486E+00	2.893E+00	2.893E+00	47.20
	143.76	------	10.96*	7.733E+00	------ Line Not Found		------
	163.33	------	5.08	7.469E+00	------ Line Not Found		------
	185.72	203	57.20	7.074E+00	2.414E-01	2.414E-01	49.38
	205.31	------	5.01	6.744E+00	------ Line Not Found		------
AM-243	43.53	------	5.90	2.160E-01	------ Line Not Found		------
	74.66	298	67.20*	4.350E+00	4.916E-01	4.916E-01	39.68
CM-247	278.00	------	3.40	5.722E+00	------ Line Not Found		------
	287.50	------	2.00	5.616E+00	------ Line Not Found		------
	402.40	42	72.00*	4.665E+00	6.059E-02	6.059E-02	106.71
ANH-511	511.00	173	100.00*	4.054E+00	2.058E-01	2.058E-01	36.33

Flag: "*" = Keyline

Sample ID : G669289013 Acquisition date : 20-JUN-2024 05:22:39

Total number of lines in spectrum 51
Number of unidentified lines 13
Number of lines tentatively identified by NID 38 74.51%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	1.014E+01	1.014E+01	0.111E+01	11.00	
CD-109	461.40D	1.05	5.156E+00	5.391E+00	2.308E+00	42.82	
SN-126	2.30E+05Y	1.00	5.156E-01	5.156E-01	2.208E-01	42.82	
TL-208	1.41E+10Y	1.00	6.332E-01	6.332E-01	1.003E-01	15.84	
BI-211	7.04E+08Y	1.00	6.340E+00	6.340E+00	0.726E+00	11.44	
BI-212	1.41E+10Y	1.00	2.866E+00	2.866E+00	1.060E+00	36.97	
PB-212	1.41E+10Y	1.00	2.406E+00	2.406E+00	0.183E+00	7.60	
BI-214	1600.00Y	1.00	1.727E+00	1.727E+00	0.224E+00	12.98	
PB-214	1600.00Y	1.00	2.301E+00	2.301E+00	0.263E+00	11.44	
RN-219	7.04E+08Y	1.00	6.610E-01	6.610E-01	7.053E-01	106.71	
RN-222	1600.00Y	1.00	1.727E+00	1.727E+00	0.224E+00	12.98	
RA-224	1.41E+10Y	1.00	6.882E+00	6.882E+00	2.017E+00	29.31	
RA-226	1600.00Y	1.00	2.301E+00	2.301E+00	0.263E+00	11.44	
AC-228	1.41E+10Y	1.00	2.017E+00	2.017E+00	0.332E+00	16.44	
RA-228	1.41E+10Y	1.00	2.017E+00	2.017E+00	0.332E+00	16.44	
TH-228	1.41E+10Y	1.00	2.406E+00	2.406E+00	0.183E+00	7.60	
TH-230	7.54E+04Y	1.00	2.301E+00	2.301E+00	0.263E+00	11.44	
PA-231	7.04E+08Y	1.00	1.927E+00	1.927E+00	1.011E+00	52.44	
TH-232	1.41E+10Y	1.00	2.017E+00	2.017E+00	0.332E+00	16.44	
U-234	2.45E+05Y	1.00	2.301E+00	2.301E+00	0.263E+00	11.44	
U-235	7.04E+08Y	1.00	2.414E-01	2.414E-01	1.192E-01	49.38	K
AM-243	7370.00Y	1.00	4.916E-01	4.916E-01	1.951E-01	39.68	
CM-247	1.56E+07Y	1.00	6.059E-02	6.059E-02	6.465E-02	106.71	
ANH-511	1.00E+09Y	1.00	2.058E-01	2.058E-01	0.748E-01	36.33	
	Total Activity :		5.964E+01	5.987E+01			

Grand Total Activity : 5.964E+01 5.987E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G669289013 Acquisition date : 20-JUN-2024 05:22:39

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	83.84	138	557	1.63	168.19	161	31	2.96E-02	69.6	5.57E+00	T
0	128.95	113	231	2.28	258.41	255	7	2.51E-02	54.2	7.80E+00	T
0	209.73	184	424	3.00	419.94	413	14	4.29E-02	54.3	6.67E+00	T
0	409.87	60	101	1.29	820.18	816	11	1.49E-02	74.8	4.61E+00	T
0	463.34	76	111	1.70	927.11	921	11	1.92E-02	61.4	4.30E+00	T
0	484.05	26	95	1.37	968.53	961	13	6.67E-03	****	4.19E+00	
0	680.77	20	64	3.36	1361.95	1354	14	5.33E-03	****	3.36E+00	
0	767.67	55	83	2.05	1535.75	1526	16	1.46E-02	81.7	3.07E+00	T
0	787.46	31	66	3.63	1575.34	1566	14	8.31E-03	****	3.01E+00	T
0	794.78	70	62	1.14	1589.98	1581	16	1.86E-02	57.1	2.99E+00	T
0	862.86	55	77	9.28	1726.14	1716	24	1.49E-02	94.0	2.80E+00	
0	934.74	39	45	1.33	1869.91	1863	11	1.06E-02	74.4	2.62E+00	T
1	964.50	27	49	2.44	1929.44	1923	38	7.30E-03	****	2.55E+00	T
0	1028.93	13	30	1.40	2058.31	2051	12	3.61E-03	****	2.42E+00	T
0	1216.17	27	10	3.69	2432.85	2426	13	7.60E-03	60.6	2.10E+00	
0	1222.74	36	3	6.03	2445.99	2439	15	1.02E-02	40.1	2.09E+00	T
0	1237.90	44	37	1.65	2476.31	2470	11	1.23E-02	58.0	2.07E+00	T
0	1299.66	13	16	1.36	2599.85	2591	16	3.61E-03	****	1.99E+00	T
0	1309.69	6	14	0.51	2619.93	2615	9	1.67E-03	****	1.98E+00	
0	1316.41	10	19	3.11	2633.37	2626	16	2.78E-03	****	1.97E+00	
0	1378.68	17	38	2.42	2757.93	2748	18	4.82E-03	****	1.90E+00	
0	1385.71	10	9	0.71	2771.99	2768	9	2.71E-03	****	1.89E+00	T
0	1493.75	20	15	5.42	2988.12	2975	21	5.89E-03	****	1.79E+00	
0	1508.94	17	10	1.96	3018.51	3013	10	4.97E-03	81.4	1.78E+00	
0	1588.94	39	15	3.57	3178.56	3169	20	1.13E-02	56.1	1.73E+00	
0	1700.35	7	5	1.67	3401.43	3394	10	1.94E-03	****	1.67E+00	
0	1729.81	29	19	1.81	3460.38	3451	16	8.52E-03	75.8	1.65E+00	
0	1773.07	13	0	3.44	3546.93	3541	11	3.89E-03	53.5	1.64E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:24:04.98

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289013.CNF;1   *
* Acquisition date : 20-JUN-2024 05:22:39 Sensitivity     : 3.000           *
* Detector ID      : GAM22                Energy tolerance: 1.500           *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 01:00:04.24     Half life ratio : *****           *
* Sample date      : 21-MAY-2024 13:00:00 Nuclide Library : SOLID           *
* Sample ID        : G669289013           Analyst initials: MXR1            *
* Batch Number     : 2618905              Sample Quantity : 1.5586E+02 GRAM *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000      *
*                                         Dry Weight      :    0.00000      *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   : 25-JAN-2024 07:21:39 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM22_CAN.CNF;26            *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	2.647E-01
CD-109	8.183E-01
SN-126	7.888E-02
TL-208	3.069E-02
BI-211	1.709E-01
BI-212	3.778E-01
PB-212	5.801E-02
BI-214	5.446E-02
PB-214	6.211E-02
RN-219	3.582E-01
RN-222	5.446E-02
RA-224	6.205E-01
RA-226	6.211E-02
AC-228	1.041E-01
RA-228	1.041E-01
TH-228	5.801E-02
TH-230	6.211E-02
PA-231	4.110E-01
TH-232	1.041E-01
U-234	6.211E-02
U-235	2.056E-01
AM-243	7.133E-02
CM-247	3.341E-02
ANH-511	2.130E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	3.299E-01	NOT IDENT.
NA-22	3.203E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	1.547E-02	NOT IDENT.
SC-46	2.986E-02	FAIL ABUN
V-48	7.375E-02	NOT IDENT.
CR-51	5.134E-01	NOT IDENT.

MN-52	8.445E-01	FAIL ABUN
MN-54	2.859E-02	NOT IDENT.
CO-56	3.344E-02	FAIL ABUN
MN-56	0.000E+00	SHORT HLIF
CO-57	2.718E-02	NOT IDENT.
CO-58	3.012E-02	NOT IDENT.
FE-59	6.954E-02	NOT IDENT.
CO-60	2.614E-02	NOT IDENT.
ZN-65	5.973E-02	NOT IDENT.
GE-68	9.376E-01	NOT IDENT.
AS-73	2.454E+00	NOT IDENT.
AS-74	1.290E-01	NOT IDENT.
SE-75	4.751E-02	FAIL ABUN
BR-77	0.000E+00	SHORT HLIF
SR-82	3.475E-01	NOT IDENT.
RB-83	6.964E-02	NOT IDENT.
RB-84	6.345E-02	NOT IDENT.
KR-85	6.297E+00	NOT IDENT.
SR-85	3.887E-02	NOT IDENT.
RB-86	9.470E-01	NOT IDENT.
Y-88	3.150E-02	NOT IDENT.
Y-91	1.713E+01	NOT IDENT.
NB-94	2.578E-02	NOT IDENT.
NB-95	4.399E-02	NOT IDENT.
NB-95M	1.634E-01	NOT IDENT.
ZR-95	6.457E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	3.329E-02	NOT IDENT.
RH-102	4.851E-02	FAIL ABUN
RU-103	4.222E-02	FAIL ABUN
RH-106	2.693E-01	NOT IDENT.
RU-106	2.693E-01	NOT IDENT.
AG-108M	2.245E-02	NOT IDENT.
AG-110	5.665E-01	NOT IDENT.
AG-110M	2.487E-02	FAIL ABUN
SN-113	4.457E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	1.228E-01	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	3.272E-02	NOT IDENT.
SB-124	7.505E-02	NOT IDENT.
SB-125	7.912E-02	FAIL ABUN
TE-125M	1.225E+01	NOT IDENT.
I-126	3.715E-01	NOT IDENT.
SB-126	2.749E-01	NOT IDENT.
SB-127	1.306E+01	NOT IDENT.
I-131	3.592E-01	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	1.713E+01	NOT IDENT.
BA-133	3.503E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	4.348E-02	FAIL ABUN
I-135	0.000E+00	SHORT HLIF
CS-136	1.591E-01	NOT IDENT.
BA-137M	2.852E-02	NOT IDENT.
CS-137	3.013E-02	NOT IDENT.
LA-138	3.476E-02	FAIL ABUN
CE-139	3.630E-02	NOT IDENT.
BA-140	4.768E-01	NOT IDENT.
LA-140	1.291E-01	NOT IDENT.
CE-141	8.851E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	2.188E-01	NOT IDENT.
PM-144	2.424E-02	NOT IDENT.
PR-144	1.832E+00	NOT IDENT.
PM-146	3.471E-02	NOT IDENT.
ND-147	1.166E+00	NOT IDENT.
PM-147	8.020E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	2.665E-02	FAIL ABUN
EU-152	8.998E-02	FAIL ABUN
GD-153	9.729E-02	NOT IDENT.
EU-154	8.921E-02	NOT IDENT.
EU-155	1.197E-01	FAIL ABUN
TB-160	1.078E-01	FAIL ABUN

HO-166M	4.440E-02	FAIL ABUN
TM-171	4.961E+01	NOT IDENT.
HF-172	2.022E-01	FAIL ABUN
LU-172	4.904E-02	FAIL ABUN
LU-176	2.446E-02	FAIL ABUN
HF-181	4.798E-02	NOT IDENT.
TA-182	1.264E-01	FAIL ABUN
RE-183	4.603E-01	NOT IDENT.
RE-184	1.324E-01	NOT IDENT.
W-188	7.880E+00	NOT IDENT.
IR-192	3.662E-02	FAIL ABUN
HG-203	4.955E-02	NOT IDENT.
TL-204	7.219E+00	FAIL ABUN
BI-207	3.603E-02	FAIL ABUN
BI-210	1.625E+01	NOT IDENT.
PB-210	1.625E+01	NOT IDENT.
PB-211	6.206E-01	NOT IDENT.
BI-213	8.726E-02	NOT IDENT.
RA-223	5.715E-01	FAIL ABUN
AC-225	1.791E+00	NOT IDENT.
AC-227	2.428E-01	FAIL ABUN
TH-227	2.428E-01	FAIL ABUN
TH-229	5.589E-01	FAIL ABUN
TH-231	5.715E-01	FAIL ABUN
PA-233	5.873E-02	FAIL ABUN
PA-234	2.137E-01	NOT IDENT.
PA-234M	3.223E+00	FAIL ABUN
TH-234	2.238E+00	FAIL ABUN
NP-237	5.873E-02	FAIL ABUN
NP-238	0.000E+00	SHORT HLIF
U-238	2.238E+00	FAIL ABUN
NP-239	2.977E-01	NOT IDENT.
PU-239	3.853E+02	FAIL ABUN
AM-241	2.917E-01	NOT IDENT.
CM-243	1.208E-01	NOT IDENT.
BK-247	7.857E-02	FAIL ABUN
CF-249	3.469E-02	NOT IDENT.
CF-251	1.418E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:24:08.98

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289013.CNF;1		
Acquisition date	: 20-JUN-2024 05:22:39	Sensitivity	: 3.000
Detector ID	: GAM22	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:04.24	Half life ratio	: *****
Sample date	: 21-MAY-2024 13:00:00	Nuclide Library	: SOLID
Sample ID	: G669289013	Analyst initials	: MXR1
Batch Number	: 2618905	Sample Quantity	: 1.5586E+02 GRAM
		Quantity Err(%)	: 1.2832E-03 %
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 25-JAN-2024 07:21:39	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM22_CAN.CNF;26		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	1.014E+01	1.486E+00	1.486E+00
CD-109	5.391E+00	2.381E+00	2.381E+00
SN-126	5.156E-01	2.261E-01	2.261E-01
TL-208	6.332E-01	1.164E-01	1.164E-01
BI-211	6.340E+00	9.275E-01	9.275E-01
BI-212	2.866E+00	1.086E+00	1.086E+00
PB-212	2.406E+00	3.314E-01	3.314E-01
BI-214	1.727E+00	2.802E-01	2.802E-01
PB-214	2.301E+00	3.345E-01	3.345E-01
RN-219	6.610E-01	6.978E-01	6.978E-01
RN-222	1.727E+00	2.802E-01	2.802E-01
RA-224	6.882E+00	2.131E+00	2.131E+00
RA-226	2.301E+00	3.345E-01	3.345E-01
AC-228	2.017E+00	4.044E-01	4.044E-01
RA-228	2.017E+00	4.044E-01	4.044E-01
TH-228	2.406E+00	3.314E-01	3.314E-01
TH-230	2.301E+00	3.345E-01	3.345E-01
PA-231	1.927E+00	1.087E+00	1.087E+00
TH-232	2.017E+00	4.044E-01	4.044E-01
U-234	2.301E+00	3.345E-01	3.345E-01
U-235	-8.730E-02	2.361E-01	2.361E-01
AM-243	4.916E-01	2.002E-01	2.002E-01
CM-247	6.059E-02	6.433E-02	6.433E-02
ANH-511	2.058E-01	7.573E-02	7.573E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	2.589E-02	4.218E-01	4.220E-01	NOT IDENT.
NA-22	1.090E-02	3.590E-02	3.624E-02	NOT IDENT.
NA-24	-2.850E+12	6.439E+12	6.566E+12	SHORT HLIF
AL-26	-1.299E-02	2.237E-02	2.312E-02	NOT IDENT.
SC-46	1.337E-02	3.375E-02	3.429E-02	FAIL ABUN
V-48	-4.754E-02	1.055E-01	1.077E-01	NOT IDENT.

CR-51	1.573E-01	5.561E-01	5.606E-01	NOT IDENT.
MN-52	-1.776E-01	1.026E+00	1.029E+00	FAIL ABUN
MN-54	-2.180E-03	3.409E-02	3.410E-02	NOT IDENT.
CO-56	2.468E-02	3.679E-02	3.843E-02	FAIL ABUN
MN-56	1.000E+41	1.496E+41	0.000E+00	SHORT HLIF
CO-57	-2.458E-02	3.155E-02	3.344E-02	NOT IDENT.
CO-58	-9.666E-03	3.678E-02	3.704E-02	NOT IDENT.
FE-59	-3.878E-02	8.478E-02	8.656E-02	NOT IDENT.
CO-60	-3.399E-03	3.101E-02	3.104E-02	NOT IDENT.
ZN-65	1.945E-02	7.538E-02	7.589E-02	NOT IDENT.
GE-68	3.612E-01	1.032E+00	1.045E+00	NOT IDENT.
AS-73	9.547E-02	2.618E+00	2.619E+00	NOT IDENT.
AS-74	4.046E-02	1.449E-01	1.461E-01	NOT IDENT.
SE-75	4.454E-02	5.518E-02	5.872E-02	FAIL ABUN
BR-77	2.626E+04	2.280E+04	2.569E+04	SHORT HLIF
SR-82	-2.526E-01	4.383E-01	4.528E-01	NOT IDENT.
RB-83	5.143E-02	7.559E-02	7.907E-02	NOT IDENT.
RB-84	3.562E-02	7.074E-02	7.254E-02	NOT IDENT.
KR-85	9.376E+00	6.519E+00	7.770E+00	NOT IDENT.
SR-85	5.772E-02	4.025E-02	4.793E-02	NOT IDENT.
RB-86	-2.998E-02	1.088E+00	1.088E+00	NOT IDENT.
Y-88	1.602E-02	3.468E-02	3.543E-02	NOT IDENT.
Y-91	1.466E+00	1.963E+01	1.964E+01	NOT IDENT.
NB-94	-6.304E-03	3.069E-02	3.082E-02	NOT IDENT.
NB-95	4.061E-02	4.827E-02	5.162E-02	NOT IDENT.
NB-95M	1.904E-01	2.017E-01	2.192E-01	NOT IDENT.
ZR-95	3.676E-02	7.196E-02	7.384E-02	NOT IDENT.
NB-97	-1.000E+41	4.881E+41	0.000E+00	SHORT HLIF
ZR-97	3.724E+12	2.842E+12	3.301E+12	SHORT HLIF
MO-99	2.091E+02	3.851E+02	3.965E+02	SHORT HLIF
TC-99M	1.812E+34	1.280E+34	0.000E+00	SHORT HLIF
RH-101	-1.389E-02	4.260E-02	4.306E-02	NOT IDENT.
RH-102	1.336E-02	5.498E-02	5.531E-02	FAIL ABUN
RU-103	1.135E-02	4.699E-02	4.727E-02	FAIL ABUN
RH-106	6.747E-02	3.051E-01	3.066E-01	NOT IDENT.
RU-106	6.747E-02	3.051E-01	3.066E-01	NOT IDENT.
AG-108M	-2.088E-02	2.701E-02	2.861E-02	NOT IDENT.
AG-110	-1.381E-01	6.713E-01	6.742E-01	NOT IDENT.
AG-110M	-3.534E-02	3.578E-02	3.917E-02	FAIL ABUN
SN-113	2.393E-02	4.817E-02	4.936E-02	NOT IDENT.
CD-115	5.443E+02	9.122E+02	9.446E+02	SHORT HLIF
SN-117M	4.886E-02	1.365E-01	1.382E-01	NOT IDENT.
SB-122	2.288E+01	7.569E+01	7.639E+01	SHORT HLIF
TE-123M	8.113E-03	3.659E-02	3.678E-02	NOT IDENT.
SB-124	3.364E-02	8.305E-02	8.442E-02	NOT IDENT.
SB-125	-5.254E-02	9.277E-02	9.574E-02	FAIL ABUN
TE-125M	-6.937E+00	1.391E+01	1.426E+01	NOT IDENT.
I-126	-4.905E-02	4.363E-01	4.368E-01	NOT IDENT.
SB-126	2.354E-01	3.374E-01	3.537E-01	NOT IDENT.
SB-127	3.562E+00	1.683E+01	1.691E+01	NOT IDENT.
I-131	1.629E-01	3.879E-01	3.948E-01	NOT IDENT.
I-132	1.000E+41	2.205E+41	0.000E+00	SHORT HLIF
TE-132	7.069E+00	1.942E+01	1.968E+01	NOT IDENT.
BA-133	5.206E-03	4.350E-02	4.356E-02	NOT IDENT.
I-133	-1.479E+08	6.073E+08	6.110E+08	SHORT HLIF
CS-134	1.351E-01	7.705E-02	9.821E-02	FAIL ABUN
I-135	3.026E+31	4.508E+31	0.000E+00	SHORT HLIF
CS-136	2.237E-02	1.791E-01	1.794E-01	NOT IDENT.
BA-137M	7.118E-03	3.245E-02	3.261E-02	NOT IDENT.
CS-137	7.520E-03	3.428E-02	3.445E-02	NOT IDENT.
LA-138	2.433E-04	4.079E-02	4.079E-02	FAIL ABUN
CE-139	1.769E-02	4.051E-02	4.129E-02	NOT IDENT.
BA-140	-3.072E-02	5.473E-01	5.474E-01	NOT IDENT.
LA-140	-4.111E-02	1.877E-01	1.886E-01	NOT IDENT.
CE-141	2.597E-03	9.963E-02	9.964E-02	NOT IDENT.
CE-143	8.809E+05	3.002E+05	4.978E+05	SHORT HLIF
CE-144	-2.969E-02	2.587E-01	2.591E-01	NOT IDENT.
PM-144	-2.517E-02	3.099E-02	3.300E-02	NOT IDENT.
PR-144	-1.879E+00	2.339E+00	2.488E+00	NOT IDENT.
PM-146	-1.896E-02	4.068E-02	4.157E-02	NOT IDENT.
ND-147	2.561E-01	1.308E+00	1.314E+00	NOT IDENT.
PM-147	-4.118E+01	8.947E+02	8.949E+02	NOT IDENT.
PM-149	8.784E+03	9.903E+03	1.067E+04	SHORT HLIF
EU-150	1.257E-02	3.232E-02	3.281E-02	FAIL ABUN
EU-152	-4.692E-02	1.169E-01	1.188E-01	FAIL ABUN
GD-153	1.208E-02	1.189E-01	1.190E-01	NOT IDENT.
EU-154	2.654E-02	1.004E-01	1.011E-01	NOT IDENT.
EU-155	2.301E-02	1.312E-01	1.316E-01	FAIL ABUN

TB-160	6.464E-02	1.200E-01	1.235E-01	FAIL ABUN
HO-166M	-1.059E-02	5.297E-02	5.319E-02	FAIL ABUN
TM-171	-2.721E+01	5.415E+01	5.553E+01	NOT IDENT.
HF-172	1.851E-01	2.421E-01	2.561E-01	FAIL ABUN
LU-172	1.835E-02	5.427E-02	5.489E-02	FAIL ABUN
LU-176	-5.193E-05	2.774E-02	2.774E-02	FAIL ABUN
HF-181	1.579E-03	5.423E-02	5.424E-02	NOT IDENT.
TA-182	3.705E-01	1.490E-01	2.238E-01	FAIL ABUN
RE-183	-1.715E-01	5.014E-01	5.074E-01	NOT IDENT.
RE-184	7.652E-02	1.605E-01	1.642E-01	NOT IDENT.
W-188	-9.967E+00	1.142E+01	1.227E+01	NOT IDENT.
IR-192	-1.905E-02	4.147E-02	4.235E-02	FAIL ABUN
HG-203	1.322E-02	5.730E-02	5.761E-02	NOT IDENT.
TL-204	8.314E-01	8.680E+00	8.688E+00	FAIL ABUN
BI-207	4.410E-02	3.595E-02	4.108E-02	FAIL ABUN
BI-210	8.952E+00	1.756E+01	1.801E+01	NOT IDENT.
PB-210	8.952E+00	1.756E+01	1.801E+01	NOT IDENT.
PB-211	2.445E-01	1.040E+00	1.046E+00	NOT IDENT.
BI-213	6.033E-02	9.358E-02	9.745E-02	NOT IDENT.
RA-223	-7.020E-01	6.761E-01	7.465E-01	FAIL ABUN
AC-225	2.028E+00	1.974E+00	2.176E+00	NOT IDENT.
AC-227	2.047E-02	2.817E-01	2.818E-01	FAIL ABUN
TH-227	2.047E-02	2.817E-01	2.818E-01	FAIL ABUN
TH-229	-1.507E-01	6.475E-01	6.510E-01	FAIL ABUN
TH-231	-7.020E-01	6.761E-01	7.465E-01	FAIL ABUN
PA-233	-1.227E-02	6.529E-02	6.552E-02	FAIL ABUN
PA-234	4.478E-02	2.552E-01	2.560E-01	NOT IDENT.
PA-234M	-4.516E-01	3.913E+00	3.918E+00	FAIL ABUN
TH-234	-2.468E-01	2.438E+00	2.441E+00	FAIL ABUN
NP-237	-1.227E-02	6.529E-02	6.552E-02	FAIL ABUN
NP-238	2.560E+02	1.687E+03	1.691E+03	SHORT HLIF
U-238	-2.468E-01	2.438E+00	2.441E+00	FAIL ABUN
NP-239	2.097E-01	3.214E-01	3.350E-01	NOT IDENT.
PU-239	1.103E+03	5.931E+02	7.741E+02	FAIL ABUN
AM-241	5.413E-02	3.110E-01	3.120E-01	NOT IDENT.
CM-243	4.107E-02	1.315E-01	1.328E-01	NOT IDENT.
BK-247	5.442E-02	9.920E-02	1.022E-01	FAIL ABUN
CF-249	-1.129E-02	3.949E-02	3.982E-02	NOT IDENT.
CF-251	1.308E-01	1.561E-01	1.669E-01	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	464.2054	85.43	205.9803	131.20	205.4584
45.60	413.7625	86.55	206.2634	133.02	212.0476
46.54	411.6543	86.79	206.3239	133.52	218.3868
49.72	385.7693	86.94	206.3621	136.00	222.0180
51.35	324.7115	87.09	206.3992	136.47	235.6696
51.87	310.8621	87.57	206.5201	140.51	0.0000
52.39	312.0718	88.03	206.6357	143.76	213.0938
52.97	284.0583	88.34	206.7131	144.24	218.4356
53.44	274.8321	88.47	206.7449	145.44	198.6938
54.07	274.1679	89.96	207.1150	152.43	209.4304
57.36	0.0000	1093.63	207.2826	153.25	198.9946
57.53	263.3217	91.11	207.3982	323.87	222.4628
57.98	266.3595	92.59	207.7608	156.02	237.6605
59.27	249.7327	93.35	207.9454	158.56	200.9567
59.32	249.7521	94.56	188.7626	159.00	202.0953
59.54	251.7432	94.65	188.7827	162.33	231.4543
60.96	268.5320	94.67	188.7866	162.66	235.7859
61.17	262.8815	94.87	188.8308	163.33	222.0389
62.93	268.3647	97.43	202.9130	165.86	221.4305
63.29	272.3436	98.43	193.8142	176.31	212.5028
63.58	269.5815	98.44	193.8161	176.60	213.6309
64.28	256.4131	99.53	205.9061	177.52	185.7122
66.73	276.5977	100.11	218.1015	181.07	0.0000
67.24	276.6063	102.03	220.5817	181.52	201.4527
125.81	276.4890	103.18	211.7848	184.41	227.9507
67.75	276.5166	103.37	211.8286	143.76	211.8808
68.89	284.2114	105.21	219.3300	193.51	215.3064
69.67	277.2642	105.31	219.3531	197.03	218.0571
70.82	284.9740	106.12	222.5815	198.01	217.1164
70.83	284.9785	106.47	222.6654	201.83	218.8182
72.81	285.7516	109.28	223.3346	203.43	214.6658
72.87	285.7755	111.00	207.4677	205.31	190.1511
74.66	286.4649	111.76	198.4734	210.85	185.9170
74.82	286.5247	114.06	223.4333	215.65	186.5391
74.97	286.5830	116.30	202.4734	218.12	164.6105
77.11	287.3950	116.74	198.4719	222.11	184.0170
78.74	276.2498	119.76	213.4442	227.09	175.6827
79.69	276.5883	121.12	207.5686	227.38	157.8089
80.03	276.7073	121.22	207.5892	228.16	155.6510
80.12	276.7403	121.78	220.0442	228.18	155.6539
80.19	276.7661	122.06	223.1908	116.74	155.6539
80.57	276.8995	122.92	223.3806	235.69	195.8120
81.00	279.9989	123.07	197.6748	235.96	175.5873
81.07	280.0236	265.00	200.8835	238.63	175.8904
81.75	205.0365	125.81	171.8810	238.98	0.0000
82.47	205.2231	127.23	221.7355	240.99	176.1586
83.79	205.5625	127.91	218.7785	242.00	176.2728
84.00	205.6165	129.30	209.7469	244.70	157.8996

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.40	123.9755	344.28	119.2618	563.25	65.0372
252.80	129.6949	345.93	130.8658	564.24	0.0000
254.15	0.0000	351.06	89.2112	569.33	62.2175
256.23	133.3912	351.93	89.2505	946.00	62.2213
260.90	0.0000	355.39	0.0000	569.70	64.2006
264.66	110.0137	356.01	80.9389	583.19	70.4648
264.80	116.8978	364.49	78.9181	584.27	58.7754
265.00	116.9124	366.42	0.0000	595.83	51.8350
269.46	148.2560	372.51	91.9736	427.87	66.1846
270.03	148.3059	375.05	79.3217	602.52	0.0000
271.23	148.4135	377.52	88.5427	604.72	65.5940
273.65	165.9082	356.01	84.2313	607.14	60.0439
276.40	160.9818	388.16	93.5752	609.32	60.0879
277.37	147.7969	388.63	90.8427	610.33	60.1099
277.60	147.8151	391.69	82.7023	614.28	51.3625
278.00	146.6939	264.66	81.1989	618.01	49.2168
279.20	149.1090	401.81	88.6274	620.36	45.2348
279.54	160.6989	402.40	91.6059	621.93	56.3230
279.70	160.7159	404.85	77.6567	630.19	0.0000
280.46	145.7490	410.95	81.5789	631.29	61.5436
283.69	132.1140	413.71	75.7392	633.25	60.5750
284.31	139.1162	414.70	75.7729	634.78	54.5455
285.41	135.7264	423.72	80.1775	635.95	53.5548
285.90	0.0000	427.09	90.5675	636.99	50.5417
287.50	135.8882	427.87	93.3990	657.50	52.9172
290.67	158.8223	433.94	77.7264	657.76	52.9204
293.27	0.0000	439.40	68.5233	657.90	0.0000
351.93	125.9846	440.45	59.1625	661.66	52.9871
295.96	120.7858	453.88	80.2776	664.57	0.0000
879.38	120.9627	463.37	63.5281	666.33	56.1296
299.98	121.0553	468.07	62.3218	666.50	56.1313
300.09	121.0638	473.00	68.5393	667.71	0.0000
300.13	121.0659	475.06	65.7393	677.62	63.9101
301.36	103.9415	476.78	75.0008	685.70	39.4301
302.85	106.8397	477.60	70.1938	692.65	0.0000
256.23	98.4939	482.18	72.6172	695.00	60.7573
304.85	106.9566	487.02	58.2061	696.49	58.7256
306.78	110.6925	492.35	0.0000	696.51	58.7256
308.46	111.0460	497.08	59.5923	697.00	57.7039
311.90	111.2536	505.52	57.0889	697.30	57.7090
316.51	120.3821	507.63	0.0000	697.49	55.6512
319.41	112.5900	511.00	55.0844	702.65	57.8047
320.08	109.9683	514.00	55.1474	706.68	50.6419
321.04	107.3631	514.00	55.1492	711.68	49.6846
323.87	134.1825	520.40	57.2229	720.70	44.8387
325.23	141.3934	520.69	0.0000	721.93	0.0000
328.76	98.0006	522.65	0.0000	722.78	59.8236
333.37	118.5972	527.90	0.0000	722.91	59.8254
333.97	112.9164	528.26	55.4484	723.31	61.4944
334.37	107.2211	529.59	57.4227	724.19	56.5233
338.28	142.3542	529.87	0.0000	727.33	48.8818
338.32	142.3566	531.02	59.4009	733.00	45.0062
311.90	119.0308	537.26	62.4688	735.93	40.6651
340.48	119.0308	546.56	0.0000	333.97	47.9864
340.55	119.0349	552.55	64.7855	739.50	0.0000

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
744.23	39.7209	949.00	37.5621	1384.29	33.9575
747.24	44.9868	667.71	0.0000	1408.01	18.5148
748.06	52.3239	962.31	33.6953	1434.09	13.7081
752.31	38.7671	964.08	31.0488	1435.80	13.7122
753.82	46.1229	966.17	31.0642	1457.56	0.0000
756.73	37.7688	911.20	31.0856	1460.82	20.6616
756.80	37.7699	983.53	26.7393	1489.16	14.8330
884.68	40.3711	984.45	0.0000	1505.03	16.5275
765.81	48.3879	1274.44	26.8213	1584.12	23.4552
766.42	48.3963	1001.03	33.5641	1596.21	16.7879
766.84	48.4019	1002.74	25.7430	1620.50	13.1479
772.60	0.0000	1004.73	31.3547	1621.92	13.1511
776.52	48.5367	507.63	0.0000	1678.03	0.0000
739.50	0.0000	1025.87	0.0000	1690.97	10.2305
778.90	42.2351	1028.54	0.0000	1750.46	0.0000
783.70	47.3689	1037.84	29.7935	1764.49	10.3501
788.74	50.8242	1038.76	0.0000	1063.66	5.1794
792.07	25.4363	631.29	33.4734	1771.35	10.3608
795.86	42.4390	1048.07	28.9594	1791.20	0.0000
810.06	38.3478	1049.04	31.6812	1808.65	9.3784
810.29	41.5458	1050.41	28.9750	1810.72	0.0000
344.28	37.2858	1063.66	14.5313	1836.06	9.4175
810.76	37.2890	1077.00	30.9735		
815.77	36.2744	1077.34	27.3311		
1048.07	32.0316	1085.87	27.3838		
832.01	37.5079	1093.63	31.0881		
834.85	46.1179	1099.45	31.1296		
835.71	42.9102	1112.07	33.2817		
836.80	0.0000	1112.84	27.5479		
846.75	0.0000	1115.54	26.0326		
846.77	29.0509	1120.29	33.1119		
856.80	32.7973	1120.55	33.1137		
860.56	36.7185	1221.41	38.3321		
871.09	31.1897	1129.67	23.9637		
873.19	31.7843	1131.51	0.0000		
875.33	0.0000	1147.95	0.0000		
879.38	26.0479	1173.23	24.1884		
880.51	22.7989	1177.95	17.6938		
881.60	23.8913	1189.05	26.1365		
883.24	26.0742	1204.77	32.7783		
884.68	29.3442	1221.41	15.6624		
889.28	25.0271	1231.02	15.6934		
894.76	31.6010	1235.36	39.2680		
898.04	32.7182	1238.28	39.2904		
900.72	43.6548	1260.41	0.0000		
903.28	34.9463	1271.87	31.3291		
911.20	39.3948	1274.44	26.5959		
912.08	39.4036	1274.54	26.5973		
923.98	0.0000	1291.59	19.0615		
926.50	37.3514	1298.22	0.0000		
929.11	38.6944	1312.11	23.9233		
935.54	26.4258	1332.49	21.1353		
937.49	35.2510	1362.66	0.0000		
944.13	27.5856	1365.19	13.5338		
946.00	30.9104	1368.63	0.0000		

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:24:35.64

```
*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289014.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM46.CNF;165
                                     Background date  : 16-JUN-2024 11:32:57
Sample date      : 21-MAY-2024 14:00:00 Acquisition date : 20-JUN-2024 05:23:01
Sample ID        : G669289014           Sample quantity  : 1.36120E+02 GRAM
Detector name    : GAM46                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:00.75  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : MXR1
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 2618905              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
*************************************************************************
```

BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	9.99	133	276	2.55	20.04	18	7	3.69E-02	22.6	
2	0	46.44*	95	121	1.20	92.91	88	11	2.65E-02	25.1	
3	0	53.14	42	117	0.64	106.30	102	8	1.17E-02	47.4	
4	0	63.35*	55	277	1.05	126.72	122	10	1.53E-02	58.7	
5	3	74.79*	287	197	1.40	149.59	142	24	7.96E-02	10.5	1.81E+00
6	3	77.11	472	151	1.08	154.24	142	24	1.31E-01	6.5	
7	3	79.34	36	158	1.40	158.70	142	24	9.86E-03	76.4	
8	5	84.20*	79	125	1.53	168.41	165	13	2.19E-02	27.0	9.00E-01
9	5	87.14*	149	146	1.21	174.29	165	13	4.15E-02	15.6	
10	0	90.14	59	159	1.01	180.29	177	6	1.63E-02	36.5	
11	0	93.07*	144	186	1.54	186.15	182	8	3.99E-02	19.1	
12	0	99.08	34	88	1.01	198.16	196	7	9.39E-03	49.1	
13	0	133.18	14	105	1.25	266.34	264	7	3.94E-03	122.1	
14	0	143.42*	41	111	0.99	286.82	282	9	1.13E-02	50.3	
15	0	173.45	27	84	1.31	346.87	343	8	7.63E-03	60.8	
16	0	185.90*	120	137	1.71	371.77	364	15	3.33E-02	23.7	
17	0	208.74	71	80	1.27	417.42	413	9	1.98E-02	25.6	
18	3	238.39*	499	74	1.17	476.71	472	19	1.39E-01	5.3	1.16E+00
19	3	241.55	106	66	1.68	483.03	472	19	2.93E-02	21.9	
20	0	270.14	80	95	3.08	540.20	533	17	2.23E-02	29.8	
21	0	277.23	25	69	1.62	554.38	549	10	6.93E-03	65.7	
22	3	294.96	210	39	1.27	589.82	582	40	5.82E-02	8.5	1.73E+00
23	3	299.91	56	36	1.75	599.73	582	40	1.56E-02	26.3	
24	0	329.47	30	71	3.65	658.84	653	12	8.46E-03	58.4	
25	0	337.78	103	65	1.71	675.45	668	13	2.86E-02	19.2	
26	0	351.66*	313	67	1.23	703.20	698	12	8.70E-02	7.8	
27	0	408.94	18	36	2.35	817.74	813	9	4.89E-03	66.0	
28	0	416.19	7	39	0.82	832.24	828	9	1.82E-03	175.6	
29	0	463.22	19	36	0.94	926.28	922	9	5.15E-03	64.1	
30	0	510.59*	27	60	2.09	1021.02	1013	18	7.61E-03	77.1	
31	0	582.69*	160	26	1.38	1165.20	1160	12	4.44E-02	10.5	
32	0	603.82	9	27	1.33	1207.47	1201	10	2.52E-03	113.0	
33	0	608.74*	192	20	1.43	1217.31	1213	11	5.33E-02	8.6	
34	0	726.47	41	10	1.32	1452.76	1449	8	1.13E-02	20.6	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
35	0	767.77	23	33	0.93	1535.36	1528	12	6.41E-03	54.0	
36	0	806.86	10	23	4.69	1613.52	1604	12	2.68E-03	106.3	
37	0	859.88	38	9	0.79	1719.56	1713	12	1.06E-02	22.6	
38	0	910.39*	115	26	1.90	1820.59	1812	20	3.18E-02	14.3	
39	1	963.92	13	10	1.90	1927.66	1922	26	3.49E-03	53.5	1.07E+00
40	1	968.00	61	5	1.90	1935.82	1922	26	1.68E-02	16.0	
41	0	999.99	10	17	0.68	1999.80	1991	14	2.89E-03	90.4	
42	0	1061.99	9	6	0.93	2123.82	2115	11	2.36E-03	63.5	
43	0	1073.56	20	10	5.94	2146.95	2136	19	5.42E-03	44.2	
44	0	1119.49	39	11	1.87	2238.83	2230	15	1.07E-02	24.9	
45	0	1142.30*	19	14	2.68	2284.45	2275	18	5.39E-03	51.6	
46	0	1147.32	9	1	0.82	2294.50	2292	5	2.46E-03	38.4	
47	0	1237.13	40	15	2.60	2474.15	2467	15	1.11E-02	26.4	
48	0	1282.03	8	12	2.48	2563.96	2555	10	2.10E-03	94.5	
49	0	1296.96	6	12	0.56	2593.83	2585	12	1.67E-03	122.5	
50	0	1386.29	15	0	1.50	2772.53	2766	12	4.17E-03	25.8	
51	0	1459.42*	296	4	1.85	2918.83	2910	17	8.23E-02	6.1	
52	0	1587.47	8	7	0.94	3175.01	3165	12	2.08E-03	75.4	
53	0	1728.42	10	0	1.37	3457.00	3453	8	2.78E-03	31.6	
54	0	1762.57	36	3	1.61	3525.33	3519	12	1.00E-02	19.3	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JUN-2024 06:24:37

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289014.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: MXR1		
Sample date	: 21-MAY-2024 14:00:00	Acquisition date	: 20-JUN-2024 05:23:01
Sample ID	: G669289014	Sample quantity	: 136.12 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA46	Detector geometry	: CAN
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:00.75 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	283	10.66*	1.248E+00	1.174E+01	1.174E+01	12.19
AS-73	53.44	51	10.30*	9.729E+00	2.819E-01	3.642E-01	94.77
CD-109	88.03	177	3.70*	9.405E+00	2.799E+00	2.926E+00	31.13
SN-126	64.28	67	9.60	9.842E+00	3.885E-01	3.885E-01	117.33
	86.94	177	8.90	9.405E+00	1.163E+00	1.163E+00	31.13
	87.57	177	37.00*	9.405E+00	2.799E-01	2.799E-01	31.13
CE-144	80.12	42	1.36	9.607E+00	1.783E+00	1.916E+00	152.71
	133.52	16	11.09*	8.004E+00	1.011E-01	1.087E-01	244.23
TL-208	277.37	27	6.60	5.068E+00	4.482E-01	4.482E-01	131.43
	583.19	164	85.00*	2.778E+00	3.843E-01	3.843E-01	21.03
	860.56	38	12.50	1.972E+00	8.486E-01	8.486E-01	45.29
BI-210	46.54	118	4.25*	9.440E+00	1.615E+00	1.619E+00	50.22
PB-210	46.54	118	4.25*	9.440E+00	1.615E+00	1.619E+00	50.22
BI-211	72.87	------	1.23	9.741E+00	------ Line Not Found		------
	351.06	335	12.92*	4.227E+00	3.386E+00	3.386E+00	15.56
BI-212	727.33	41	6.67*	2.290E+00	1.493E+00	1.493E+00	41.25
	1620.50	------	1.47	1.147E+00	------ Line Not Found		------
PB-212	74.82	342	10.28	9.705E+00	1.892E+00	1.892E+00	20.93
	77.11	562	17.10	9.657E+00	1.878E+00	1.878E+00	13.09
	238.63	549	43.60*	5.645E+00	1.231E+00	1.231E+00	10.65
	300.09	61	3.30	4.779E+00	2.129E+00	2.129E+00	52.54
BI-214	609.32	197	45.49*	2.674E+00	8.934E-01	8.934E-01	17.19
	1120.29	38	14.92	1.563E+00	8.904E-01	8.904E-01	49.84
	1764.49	------	15.30	1.073E+00	------ Line Not Found		------
PB-214	74.82	342	5.80	9.705E+00	3.353E+00	3.353E+00	20.93
	77.11	562	9.70	9.657E+00	3.311E+00	3.312E+00	13.09
	87.09	177	3.41	9.405E+00	3.037E+00	3.037E+00	31.13
	242.00	116	7.25	5.594E+00	1.580E+00	1.580E+00	43.83
	295.22	227	18.42	4.840E+00	1.406E+00	1.406E+00	17.01
	351.93	335	35.60*	4.227E+00	1.229E+00	1.229E+00	15.56
RN-222	609.32	197	45.49*	2.674E+00	8.934E-01	8.934E-01	17.19
	1120.29	38	14.92	1.563E+00	8.904E-01	8.904E-01	49.84
	1764.49	------	15.30	1.073E+00	------ Line Not Found		------
RA-224	240.99	116	4.10*	5.594E+00	2.794E+00	2.794E+00	43.83
RA-226	74.82	342	5.80	9.705E+00	3.353E+00	3.353E+00	20.93
	77.11	562	9.70	9.657E+00	3.311E+00	3.312E+00	13.09
	87.09	177	3.41	9.405E+00	3.037E+00	3.037E+00	31.13
	242.00	116	7.25	5.594E+00	1.580E+00	1.580E+00	43.83
	295.22	227	18.42	4.840E+00	1.406E+00	1.406E+00	17.01
	351.93	335	35.60*	4.227E+00	1.229E+00	1.229E+00	15.56
AC-228	105.21	------	1.10	8.862E+00	------ Line Not Found		------
	338.32	111	11.27	4.363E+00	1.240E+00	1.240E+00	38.34
	835.71	------	1.61	2.023E+00	------ Line Not Found		------
	911.20	114	25.80*	1.875E+00	1.298E+00	1.298E+00	28.65
	968.97	60	15.80	1.776E+00	1.178E+00	1.178E+00	32.02
RA-228	105.21	------	1.10	8.862E+00	------ Line Not Found		------
	338.32	111	11.27	4.363E+00	1.240E+00	1.240E+00	38.34
	835.71	------	1.61	2.023E+00	------ Line Not Found		------
	911.20	114	25.80*	1.875E+00	1.298E+00	1.298E+00	28.65

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	968.97	60	15.80	1.776E+00	1.178E+00	1.178E+00	32.02
TH-228	74.82	342	10.28	9.705E+00	1.892E+00	1.892E+00	20.93
	77.11	562	17.10	9.657E+00	1.878E+00	1.878E+00	13.09
	238.63	549	43.60*	5.645E+00	1.231E+00	1.231E+00	10.65
	300.09	61	3.30	4.779E+00	2.129E+00	2.129E+00	52.54
TH-229	85.43	93	14.70	9.485E+00	3.689E-01	3.689E-01	53.90
	88.47	177	24.00	9.405E+00	4.314E-01	4.314E-01	31.13
	193.51	------	4.41*	6.484E+00	------ Line Not Found		------
	210.85	------	2.80	6.135E+00	------ Line Not Found		------
TH-230	74.82	342	5.80	9.705E+00	3.353E+00	3.353E+00	20.93
	77.11	562	9.70	9.657E+00	3.311E+00	3.311E+00	13.09
	87.09	177	3.41	9.405E+00	3.037E+00	3.037E+00	31.13
	242.00	116	7.25	5.594E+00	1.580E+00	1.580E+00	43.83
	295.22	227	18.42	4.840E+00	1.406E+00	1.406E+00	17.01
	351.93	335	35.60*	4.227E+00	1.229E+00	1.229E+00	15.56
PA-231	283.69	------	1.70	4.982E+00	------ Line Not Found		------
	301.36	61	5.35*	4.779E+00	1.313E+00	1.313E+00	52.54
TH-232	105.21	------	1.10	8.862E+00	------ Line Not Found		------
	338.32	111	11.27	4.363E+00	1.240E+00	1.240E+00	38.34
	835.71	------	1.61	2.023E+00	------ Line Not Found		------
	911.20	114	25.80*	1.875E+00	1.298E+00	1.298E+00	28.65
	968.97	60	15.80	1.776E+00	1.178E+00	1.178E+00	32.02
PA-234M	766.42	23	0.32	2.181E+00	1.837E+01	1.837E+01	107.92
	1001.03	10	0.84*	1.726E+00	3.898E+00	3.898E+00	180.85
TH-234	63.29	67	3.70*	9.842E+00	1.008E+00	1.008E+00	117.33
	92.59	169	4.23	9.234E+00	2.388E+00	2.388E+00	38.29
U-234	74.82	342	5.80	9.705E+00	3.353E+00	3.353E+00	20.93
	77.11	562	9.70	9.657E+00	3.311E+00	3.311E+00	13.09
	87.09	177	3.41	9.405E+00	3.037E+00	3.037E+00	31.13
	242.00	116	7.25	5.594E+00	1.580E+00	1.580E+00	43.83
	295.22	227	18.42	4.840E+00	1.406E+00	1.406E+00	17.01
	351.93	335	35.60*	4.227E+00	1.229E+00	1.229E+00	15.56
U-235	89.96	69	3.47	9.320E+00	1.182E+00	1.182E+00	73.04
	93.35	169	5.60	9.234E+00	1.804E+00	1.804E+00	38.29
	143.76	46	10.96*	7.711E+00	3.033E-01	3.033E-01	100.66
	163.33	------	5.08	7.182E+00	------ Line Not Found		------
	185.72	134	57.20	6.649E+00	1.947E-01	1.947E-01	47.47
	205.31	------	5.01	6.243E+00	------ Line Not Found		------
U-238	63.29	67	3.70*	9.842E+00	1.008E+00	1.008E+00	117.33
	92.59	169	4.23	9.234E+00	2.388E+00	2.388E+00	38.29
AM-243	43.53	------	5.90	9.237E+00	------ Line Not Found		------
	74.66	342	67.20*	9.705E+00	2.894E-01	2.894E-01	20.93
ANH-511	511.00	28	100.00*	3.111E+00	5.050E-02	5.050E-02	154.27

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:24:38.00

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**********************************************************************
*                          GEL Laboratories LLC                      *
*                            2040 Savage Road                        *
*                          Charleston, SC 29407                      *
**********************************************************************
*                                                                    *
*                       DETECTOR AND SAMPLE DATA                     *
*                                                                    *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289014.CNF;1    *
* Acquisition date : 20-JUN-2024 05:23:01 Sensitivity     : 3.000            *
* Detector ID      : GAM46                Energy tolerance: 1.500            *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000           *
* Elapsed real time:    0 01:00:00.75     Half life ratio : *****            *
* Sample date      : 21-MAY-2024 14:00:00 Analyst initials: MXR1             *
* Sample ID        : G669289014           Sample Quantity : 1.3612E+02 GRAM  *
* Batch Number     : 2618905              Wet Weight      :    0.00000       *
* Wet wt corr      :    1.00000           Dry Weight      :    0.00000       *
* Nuclide Library  : SOLID.NLB;17                                           *
**********************************************************************
*                                                                    *
*                       CALIBRATION INFORMATION                      *
*                                                                    *
* Eff. Cal. date   : 26-SEP-2023 07:28:30 Eff. Geometry   : CAN              *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM46_CAN.CNF;5              *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	1.174E+01	1.403E+00	4.935E-01
AS-73	3.642E-01	3.383E-01	2.834E-01
CD-109	2.926E+00	8.927E-01	8.235E-01
SN-126	2.799E-01	8.538E-02	7.775E-02
CE-144	1.087E-01	2.601E-01	2.932E-01
TL-208	3.843E-01	7.919E-02	5.760E-02
BI-210	1.619E+00	7.969E-01	5.186E-01
PB-210	1.619E+00	7.969E-01	5.186E-01
BI-211	3.386E+00	5.163E-01	3.076E-01
BI-212	1.493E+00	6.036E-01	7.482E-01
PB-212	1.231E+00	1.285E-01	8.555E-02
BI-214	8.934E-01	1.505E-01	1.017E-01
PB-214	1.229E+00	1.874E-01	1.119E-01
RN-222	8.934E-01	1.505E-01	1.017E-01
RA-224	2.794E+00	1.200E+00	9.166E-01
RA-226	1.229E+00	1.874E-01	1.119E-01
AC-228	1.298E+00	3.644E-01	2.207E-01
RA-228	1.298E+00	3.644E-01	2.207E-01
TH-228	1.231E+00	1.285E-01	8.555E-02
TH-229	-4.568E-02	4.017E-01	7.132E-01
TH-230	1.229E+00	1.874E-01	1.119E-01
PA-231	1.313E+00	6.763E-01	6.366E-01
TH-232	1.298E+00	3.644E-01	2.207E-01
PA-234M	3.898E+00	6.909E+00	7.286E+00
TH-234	1.008E+00	1.159E+00	8.267E-01
U-234	1.229E+00	1.874E-01	1.119E-01
U-235	3.033E-01	2.992E-01	3.025E-01
U-238	1.008E+00	1.159E+00	8.267E-01
AM-243	2.894E-01	5.935E-02	4.686E-02
ANH-511	5.050E-02	7.635E-02	4.500E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)

BE-7	9.638E-02	2.718E-01	5.627E-01	NOT IDENT.
NA-22	-5.174E-03	3.622E-02	6.317E-02	NOT IDENT.
NA-24	0.000E+00	5.280E+12	0.000E+00	SHORT HLIF
AL-26	4.895E-03	2.331E-02	5.640E-02	NOT IDENT.
SC-46	-3.821E-02	3.971E-02	6.138E-02	FAIL ABUN
V-48	3.442E-02	1.012E-01	2.099E-01	NOT IDENT.
CR-51	-4.329E-01	3.908E-01	6.757E-01	NOT IDENT.
MN-52	5.418E-01	1.106E+00	2.595E+00	NOT IDENT.
MN-54	-1.693E-04	3.137E-02	5.990E-02	NOT IDENT.
CO-56	-2.655E-03	3.999E-02	7.520E-02	FAIL ABUN
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	-2.267E-03	2.067E-02	3.735E-02	NOT IDENT.
CO-58	-2.280E-02	4.217E-02	6.821E-02	NOT IDENT.
FE-59	-6.538E-03	6.859E-02	1.431E-01	NOT IDENT.
CO-60	-1.684E-02	3.066E-02	5.608E-02	NOT IDENT.
ZN-65	3.646E-02	6.999E-02	1.434E-01	NOT IDENT.
GE-68	6.987E-01	1.159E+00	2.364E+00	NOT IDENT.
AS-74	-6.354E-02	1.299E-01	2.316E-01	NOT IDENT.
SE-75	2.384E-03	3.920E-02	7.021E-02	NOT IDENT.
BR-77	0.000E+00	1.386E+03	0.000E+00	SHORT HLIF
SR-82	6.117E-02	4.865E-01	9.323E-01	NOT IDENT.
RB-83	-5.801E-02	6.409E-02	1.083E-01	NOT IDENT.
RB-84	5.099E-02	7.703E-02	1.654E-01	NOT IDENT.
KR-85	2.488E+00	6.114E+00	1.129E+01	NOT IDENT.
SR-85	1.529E-02	3.774E-02	6.965E-02	NOT IDENT.
RB-86	7.827E-01	1.217E+00	2.493E+00	NOT IDENT.
Y-88	-4.978E-04	2.587E-02	5.999E-02	NOT IDENT.
Y-91	1.267E+01	2.169E+01	4.649E+01	NOT IDENT.
NB-94	-6.477E-03	2.935E-02	5.400E-02	NOT IDENT.
NB-95	2.584E-02	4.732E-02	9.492E-02	NOT IDENT.
NB-95M	1.023E-01	1.134E-01	2.193E-01	NOT IDENT.
ZR-95	2.494E-02	6.892E-02	1.402E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.265E+12	0.000E+00	SHORT HLIF
MO-99	0.000E+00	3.928E+02	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	8.427E+33	0.000E+00	SHORT HLIF
RH-101	-1.617E-02	2.559E-02	4.406E-02	NOT IDENT.
RH-102	2.626E-02	4.276E-02	9.074E-02	FAIL ABUN
RU-103	7.214E-03	3.727E-02	7.529E-02	NOT IDENT.
RH-106	1.294E-02	2.553E-01	4.991E-01	NOT IDENT.
RU-106	1.294E-02	2.553E-01	4.991E-01	NOT IDENT.
AG-108M	-1.306E-04	2.487E-02	4.813E-02	NOT IDENT.
AG-110	1.476E-01	6.330E-01	1.258E+00	NOT IDENT.
AG-110M	-6.173E-03	4.377E-02	8.171E-02	NOT IDENT.
SN-113	-2.723E-02	3.884E-02	6.956E-02	NOT IDENT.
CD-115	0.000E+00	8.502E+02	0.000E+00	SHORT HLIF
SN-117M	-3.584E-02	9.479E-02	1.649E-01	NOT IDENT.
SB-122	0.000E+00	5.773E+01	0.000E+00	SHORT HLIF
TE-123M	-3.406E-03	2.566E-02	4.565E-02	NOT IDENT.
SB-124	-3.090E-02	1.086E-01	2.073E-01	NOT IDENT.
SB-125	9.995E-04	6.819E-02	1.339E-01	FAIL ABUN
TE-125M	3.772E+00	7.820E+00	1.497E+01	NOT IDENT.
I-126	-1.504E-01	3.800E-01	6.872E-01	NOT IDENT.
SB-126	-1.744E-01	2.522E-01	4.278E-01	FAIL ABUN
SB-127	1.499E+00	1.323E+01	2.636E+01	NOT IDENT.
I-131	5.435E-02	2.889E-01	5.821E-01	FAIL ABUN
I-132	0.000E+00	1.204E+41	0.000E+00	SHORT HLIF
TE-132	-1.490E-01	1.429E+01	2.533E+01	NOT IDENT.
BA-133	-2.778E-02	4.033E-02	6.367E-02	FAIL ABUN
I-133	0.000E+00	5.499E+08	0.000E+00	SHORT HLIF
CS-134	-2.692E-02	3.865E-02	6.478E-02	FAIL ABUN
I-135	0.000E+00	4.042E+31	0.000E+00	SHORT HLIF
CS-136	1.017E-01	1.743E-01	3.909E-01	NOT IDENT.
BA-137M	-1.108E-02	3.234E-02	5.852E-02	NOT IDENT.
CS-137	-1.171E-02	3.417E-02	6.182E-02	NOT IDENT.
LA-138	1.757E-02	4.170E-02	9.721E-02	NOT IDENT.
CE-139	-8.698E-03	2.623E-02	4.575E-02	NOT IDENT.
BA-140	-1.495E-01	4.695E-01	8.712E-01	NOT IDENT.
LA-140	-1.242E-01	1.290E-01	1.840E-01	FAIL ABUN
CE-141	-1.209E-02	7.360E-02	1.223E-01	NOT IDENT.
CE-143	0.000E+00	1.719E+05	0.000E+00	SHORT HLIF
PM-144	-4.304E-03	2.871E-02	5.382E-02	NOT IDENT.
PR-144	-3.320E-01	2.164E+00	4.054E+00	NOT IDENT.
PM-146	1.261E-02	3.518E-02	7.091E-02	NOT IDENT.
ND-147	6.316E-01	1.162E+00	2.405E+00	FAIL ABUN
PM-147	-4.927E+01	5.914E+02	1.071E+03	NOT IDENT.
PM-149	0.000E+00	6.713E+03	0.000E+00	SHORT HLIF
EU-150	6.625E-03	2.613E-02	3.906E-02	NOT IDENT.

EU-152	3.732E-02	7.504E-02	1.538E-01	FAIL ABUN
GD-153	3.333E-02	5.470E-02	9.980E-02	NOT IDENT.
EU-154	-1.683E-02	1.014E-01	1.757E-01	NOT IDENT.
EU-155	6.881E-02	7.346E-02	1.449E-01	FAIL ABUN
TB-160	-4.797E-02	1.341E-01	2.390E-01	FAIL ABUN
HO-166M	1.247E-02	4.797E-02	9.641E-02	FAIL ABUN
TM-171	0.000E+00	5.909E+00	6.145E+00	FAIL ABUN
HF-172	6.495E-02	1.494E-01	2.819E-01	FAIL ABUN
LU-172	7.775E-02	5.416E-02	1.313E-01	FAIL ABUN
LU-176	1.103E-03	1.884E-02	3.740E-02	FAIL ABUN
HF-181	6.566E-03	4.326E-02	8.601E-02	FAIL ABUN
TA-182	-1.384E-01	1.511E-01	2.547E-01	FAIL ABUN
RE-183	-1.037E-02	5.966E-02	1.108E-01	NOT IDENT.
RE-184	5.953E-02	1.400E-01	2.684E-01	NOT IDENT.
W-188	-1.151E+00	7.127E+00	1.232E+01	FAIL ABUN
IR-192	1.595E-02	2.792E-02	5.839E-02	FAIL ABUN
HG-203	5.555E-03	3.587E-02	6.524E-02	NOT IDENT.
TL-204	9.927E-01	2.330E+00	4.126E+00	FAIL ABUN
BI-207	-1.420E-02	3.705E-02	6.161E-02	FAIL ABUN
PB-211	1.928E-01	6.276E-01	1.144E+00	NOT IDENT.
BI-213	-2.426E-02	8.638E-02	1.619E-01	NOT IDENT.
RN-219	-1.215E-01	3.213E-01	5.983E-01	FAIL ABUN
RA-223	-2.290E-01	5.099E-01	9.042E-01	FAIL ABUN
AC-225	-5.744E-01	1.464E+00	2.491E+00	NOT IDENT.
AC-227	1.540E-01	1.900E-01	3.987E-01	FAIL ABUN
TH-227	1.540E-01	1.900E-01	3.987E-01	FAIL ABUN
TH-231	-2.290E-01	5.099E-01	9.042E-01	FAIL ABUN
PA-233	-3.985E-02	4.604E-02	7.073E-02	FAIL ABUN
PA-234	-1.661E-02	2.164E-01	4.169E-01	FAIL ABUN
NP-237	-3.985E-02	4.604E-02	7.073E-02	FAIL ABUN
NP-238	0.000E+00	1.954E+03	0.000E+00	SHORT HLIF
NP-239	-8.213E-02	2.074E-01	3.664E-01	FAIL ABUN
PU-239	2.551E+02	2.645E+02	5.181E+02	NOT IDENT.
AM-241	8.515E-03	4.829E-02	8.483E-02	NOT IDENT.
CM-243	-1.541E-02	7.584E-02	1.370E-01	FAIL ABUN
BK-247	-1.037E-02	6.339E-02	1.106E-01	FAIL ABUN
CM-247	-3.778E-03	2.998E-02	5.742E-02	FAIL ABUN
CF-249	1.711E-02	3.086E-02	6.383E-02	NOT IDENT.
CF-251	8.366E-02	1.034E-01	1.998E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:24:36.46

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	283	10.66*	1.248E+00	1.174E+01	1.174E+01	12.19
AS-73	53.44	51	10.30*	9.729E+00	2.819E-01	3.642E-01	94.77
CD-109	88.03	177	3.70*	9.405E+00	2.799E+00	2.926E+00	31.13
SN-126	64.28	67	9.60	9.842E+00	3.885E-01	3.885E-01	117.33
	86.94	177	8.90	9.405E+00	1.163E+00	1.163E+00	31.13
	87.57	177	37.00*	9.405E+00	2.799E-01	2.799E-01	31.13
CE-144	80.12	42	1.36	9.607E+00	1.783E+00	1.916E+00	152.71
	133.52	16	11.09*	8.004E+00	1.011E-01	1.087E-01	244.23
TL-208	277.37	27	6.60	5.068E+00	4.482E-01	4.482E-01	131.43
	583.19	164	85.00*	2.778E+00	3.843E-01	3.843E-01	21.03
	860.56	38	12.50	1.972E+00	8.486E-01	8.486E-01	45.29
BI-210	46.54	118	4.25*	9.440E+00	1.615E+00	1.619E+00	50.22
PB-210	46.54	118	4.25*	9.440E+00	1.615E+00	1.619E+00	50.22
BI-211	72.87	------	1.23	9.741E+00	------ Line Not Found		------
	351.06	335	12.92*	4.227E+00	3.386E+00	3.386E+00	15.56
BI-212	727.33	41	6.67*	2.290E+00	1.493E+00	1.493E+00	41.25
	1620.50	------	1.47	1.147E+00	------ Line Not Found		------
PB-212	74.82	342	10.28	9.705E+00	1.892E+00	1.892E+00	20.93
	77.11	562	17.10	9.657E+00	1.878E+00	1.878E+00	13.09
	238.63	549	43.60*	5.645E+00	1.231E+00	1.231E+00	10.65
	300.09	61	3.30	4.779E+00	2.129E+00	2.129E+00	52.54
BI-214	609.32	197	45.49*	2.674E+00	8.934E-01	8.934E-01	17.19
	1120.29	38	14.92	1.563E+00	8.904E-01	8.904E-01	49.84
	1764.49	------	15.30	1.073E+00	------ Line Not Found		------
PB-214	74.82	342	5.80	9.705E+00	3.353E+00	3.353E+00	20.93
	77.11	562	9.70	9.657E+00	3.311E+00	3.312E+00	13.09
	87.09	177	3.41	9.405E+00	3.037E+00	3.037E+00	31.13
	242.00	116	7.25	5.594E+00	1.580E+00	1.580E+00	43.83
	295.22	227	18.42	4.840E+00	1.406E+00	1.406E+00	17.01
	351.93	335	35.60*	4.227E+00	1.229E+00	1.229E+00	15.56
RN-222	609.32	197	45.49*	2.674E+00	8.934E-01	8.934E-01	17.19
	1120.29	38	14.92	1.563E+00	8.904E-01	8.904E-01	49.84
	1764.49	------	15.30	1.073E+00	------ Line Not Found		------
RA-224	240.99	116	4.10*	5.594E+00	2.794E+00	2.794E+00	43.83
RA-226	74.82	342	5.80	9.705E+00	3.353E+00	3.353E+00	20.93
	77.11	562	9.70	9.657E+00	3.311E+00	3.312E+00	13.09
	87.09	177	3.41	9.405E+00	3.037E+00	3.037E+00	31.13
	242.00	116	7.25	5.594E+00	1.580E+00	1.580E+00	43.83
	295.22	227	18.42	4.840E+00	1.406E+00	1.406E+00	17.01
	351.93	335	35.60*	4.227E+00	1.229E+00	1.229E+00	15.56
AC-228	105.21	------	1.10	8.862E+00	------ Line Not Found		------
	338.32	111	11.27	4.363E+00	1.240E+00	1.240E+00	38.34
	835.71	------	1.61	2.023E+00	------ Line Not Found		------
	911.20	114	25.80*	1.875E+00	1.298E+00	1.298E+00	28.65
	968.97	60	15.80	1.776E+00	1.178E+00	1.178E+00	32.02
RA-228	105.21	------	1.10	8.862E+00	------ Line Not Found		------
	338.32	111	11.27	4.363E+00	1.240E+00	1.240E+00	38.34

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	835.71	------	1.61	2.023E+00	------ Line Not Found		------
	911.20	114	25.80*	1.875E+00	1.298E+00	1.298E+00	28.65
	968.97	60	15.80	1.776E+00	1.178E+00	1.178E+00	32.02
TH-228	74.82	342	10.28	9.705E+00	1.892E+00	1.892E+00	20.93
	77.11	562	17.10	9.657E+00	1.878E+00	1.878E+00	13.09
	238.63	549	43.60*	5.645E+00	1.231E+00	1.231E+00	10.65
	300.09	61	3.30	4.779E+00	2.129E+00	2.129E+00	52.54
TH-229	85.43	93	14.70	9.485E+00	3.689E-01	3.689E-01	53.90
	88.47	177	24.00	9.405E+00	4.314E-01	4.314E-01	31.13
	193.51	------	4.41*	6.484E+00	------ Line Not Found		------
	210.85	------	2.80	6.135E+00	------ Line Not Found		------
TH-230	74.82	342	5.80	9.705E+00	3.353E+00	3.353E+00	20.93
	77.11	562	9.70	9.657E+00	3.311E+00	3.311E+00	13.09
	87.09	177	3.41	9.405E+00	3.037E+00	3.037E+00	31.13
	242.00	116	7.25	5.594E+00	1.580E+00	1.580E+00	43.83
	295.22	227	18.42	4.840E+00	1.406E+00	1.406E+00	17.01
	351.93	335	35.60*	4.227E+00	1.229E+00	1.229E+00	15.56
PA-231	283.69	------	1.70	4.982E+00	------ Line Not Found		------
	301.36	61	5.35*	4.779E+00	1.313E+00	1.313E+00	52.54
TH-232	105.21	------	1.10	8.862E+00	------ Line Not Found		------
	338.32	111	11.27	4.363E+00	1.240E+00	1.240E+00	38.34
	835.71	------	1.61	2.023E+00	------ Line Not Found		------
	911.20	114	25.80*	1.875E+00	1.298E+00	1.298E+00	28.65
	968.97	60	15.80	1.776E+00	1.178E+00	1.178E+00	32.02
PA-234M	766.42	23	0.32	2.181E+00	1.837E+01	1.837E+01	107.92
	1001.03	10	0.84*	1.726E+00	3.898E+00	3.898E+00	180.85
TH-234	63.29	67	3.70*	9.842E+00	1.008E+00	1.008E+00	117.33
	92.59	169	4.23	9.234E+00	2.388E+00	2.388E+00	38.29
U-234	74.82	342	5.80	9.705E+00	3.353E+00	3.353E+00	20.93
	77.11	562	9.70	9.657E+00	3.311E+00	3.311E+00	13.09
	87.09	177	3.41	9.405E+00	3.037E+00	3.037E+00	31.13
	242.00	116	7.25	5.594E+00	1.580E+00	1.580E+00	43.83
	295.22	227	18.42	4.840E+00	1.406E+00	1.406E+00	17.01
	351.93	335	35.60*	4.227E+00	1.229E+00	1.229E+00	15.56
U-235	89.96	69	3.47	9.320E+00	1.182E+00	1.182E+00	73.04
	93.35	169	5.60	9.234E+00	1.804E+00	1.804E+00	38.29
	143.76	46	10.96*	7.711E+00	3.033E-01	3.033E-01	100.66
	163.33	------	5.08	7.182E+00	------ Line Not Found		------
	185.72	134	57.20	6.649E+00	1.947E-01	1.947E-01	47.47
	205.31	------	5.01	6.243E+00	------ Line Not Found		------
U-238	63.29	67	3.70*	9.842E+00	1.008E+00	1.008E+00	117.33
	92.59	169	4.23	9.234E+00	2.388E+00	2.388E+00	38.29
AM-243	43.53	------	5.90	9.237E+00	------ Line Not Found		------
	74.66	342	67.20*	9.705E+00	2.894E-01	2.894E-01	20.93
ANH-511	511.00	28	100.00*	3.111E+00	5.050E-02	5.050E-02	154.27

Flag: "*" = Keyline

Sample ID : G669289014 Acquisition date : 20-JUN-2024 05:23:01

Total number of lines in spectrum 54
Number of unidentified lines 13
Number of lines tentatively identified by NID 41 75.93%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	1.174E+01	1.174E+01	0.143E+01	12.19	
AS-73	80.30D	1.29	2.819E-01	3.642E-01	3.452E-01	94.77	
CD-109	461.40D	1.05	2.799E+00	2.926E+00	0.911E+00	31.13	
SN-126	2.30E+05Y	1.00	2.799E-01	2.799E-01	0.871E-01	31.13	
CE-144	284.91D	1.07	1.011E-01	1.087E-01	2.654E-01	244.23	
TL-208	1.41E+10Y	1.00	3.843E-01	3.843E-01	0.808E-01	21.03	
BI-210	22.20Y	1.00	1.615E+00	1.619E+00	0.813E+00	50.22	
PB-210	22.20Y	1.00	1.615E+00	1.619E+00	0.813E+00	50.22	
BI-211	7.04E+08Y	1.00	3.386E+00	3.386E+00	0.527E+00	15.56	
BI-212	1.41E+10Y	1.00	1.493E+00	1.493E+00	0.616E+00	41.25	
PB-212	1.41E+10Y	1.00	1.231E+00	1.231E+00	0.131E+00	10.65	
BI-214	1600.00Y	1.00	8.934E-01	8.934E-01	1.536E-01	17.19	
PB-214	1600.00Y	1.00	1.229E+00	1.229E+00	0.191E+00	15.56	
RN-222	1600.00Y	1.00	8.934E-01	8.934E-01	1.536E-01	17.19	
RA-224	1.41E+10Y	1.00	2.794E+00	2.794E+00	1.224E+00	43.83	
RA-226	1600.00Y	1.00	1.229E+00	1.229E+00	0.191E+00	15.56	
AC-228	1.41E+10Y	1.00	1.298E+00	1.298E+00	0.372E+00	28.65	
RA-228	1.41E+10Y	1.00	1.298E+00	1.298E+00	0.372E+00	28.65	
TH-228	1.41E+10Y	1.00	1.231E+00	1.231E+00	0.131E+00	10.65	
TH-229	7340.00Y	1.00	4.314E-01	4.314E-01	1.343E-01	31.13	K
TH-230	7.54E+04Y	1.00	1.229E+00	1.229E+00	0.191E+00	15.56	
PA-231	7.04E+08Y	1.00	1.313E+00	1.313E+00	0.690E+00	52.54	
TH-232	1.41E+10Y	1.00	1.298E+00	1.298E+00	0.372E+00	28.65	
PA-234M	4.47E+09Y	1.00	3.898E+00	3.898E+00	7.050E+00	180.85	
TH-234	4.47E+09Y	1.00	1.008E+00	1.008E+00	1.183E+00	117.33	
U-234	2.45E+05Y	1.00	1.229E+00	1.229E+00	0.191E+00	15.56	
U-235	7.04E+08Y	1.00	3.033E-01	3.033E-01	3.053E-01	100.66	
U-238	4.47E+09Y	1.00	1.008E+00	1.008E+00	1.183E+00	117.33	
AM-243	7370.00Y	1.00	2.894E-01	2.894E-01	0.606E-01	20.93	
ANH-511	1.00E+09Y	1.00	5.050E-02	5.050E-02	7.791E-02	154.27	
	Total Activity :		4.785E+01	4.808E+01			

Grand Total Activity : 4.785E+01 4.808E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G669289014 Acquisition date : 20-JUN-2024 05:23:01

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	9.99	180	374	2.55	20.04	18	7	3.69E-02	45.2	6.40E-01	
0	99.08	40	103	1.01	198.16	196	7	9.39E-03	98.1	9.05E+00	T
0	173.45	31	94	1.31	346.87	343	8	7.63E-03	****	6.93E+00	
0	208.74	79	89	1.27	417.42	413	9	1.98E-02	51.2	6.18E+00	
0	270.14	88	103	3.08	540.20	533	17	2.23E-02	59.6	5.16E+00	T
0	329.47	33	76	3.65	658.84	653	12	8.46E-03	****	4.45E+00	T
0	408.94	19	39	2.35	817.74	813	9	4.89E-03	****	3.74E+00	
0	416.19	7	42	0.82	832.24	828	9	1.82E-03	****	3.69E+00	T
0	463.22	19	38	0.94	926.28	922	9	5.15E-03	****	3.38E+00	T
0	603.82	9	28	1.33	1207.47	1201	10	2.52E-03	****	2.69E+00	T
0	806.86	10	23	4.69	1613.52	1604	12	2.68E-03	****	2.09E+00	
1	963.92	12	9	1.90	1927.66	1922	26	3.49E-03	****	1.78E+00	T
0	1061.99	8	5	0.93	2123.82	2115	11	2.36E-03	****	1.64E+00	
0	1073.56	19	9	5.94	2146.95	2136	19	5.42E-03	88.3	1.62E+00	
0	1142.30	19	13	2.68	2284.45	2275	18	5.39E-03	****	1.54E+00	
0	1147.32	9	1	0.82	2294.50	2292	5	2.46E-03	76.8	1.53E+00	T
0	1237.13	39	15	2.60	2474.15	2467	15	1.11E-02	52.7	1.43E+00	T
0	1282.03	7	12	2.48	2563.96	2555	10	2.10E-03	****	1.39E+00	
0	1296.96	6	12	0.56	2593.83	2585	12	1.67E-03	****	1.38E+00	T
0	1386.29	14	0	1.50	2772.53	2766	12	4.17E-03	51.6	1.30E+00	
0	1587.47	7	6	0.94	3175.01	3165	12	2.08E-03	****	1.17E+00	
0	1728.42	9	0	1.37	3457.00	3453	8	2.78E-03	63.2	1.09E+00	
0	1762.57	34	3	1.61	3525.33	3519	12	1.00E-02	38.5	1.07E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:24:47.84

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
*                                                                       *
*                        DETECTOR AND SAMPLE DATA                       *
*                                                                       *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289014.CNF;1    *
* Acquisition date : 20-JUN-2024 05:23:01 Sensitivity     : 3.000       *
* Detector ID      : GAM46                Energy tolerance: 1.500       *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000      *
* Elapsed real time:    0 01:00:00.75     Half life ratio : *****       *
* Sample date      : 21-MAY-2024 14:00:00 Nuclide Library : SOLID       *
* Sample ID        : G669289014           Analyst initials: MXR1        *
* Batch Number     : 2618905              Sample Quantity : 1.3612E+02 GRAM   *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000  *
*                                         Dry Weight      :    0.00000  *
*************************************************************************
*                                                                       *
*                        CALIBRATION INFORMATION                        *
*                                                                       *
* Eff. Cal. date   : 26-SEP-2023 07:28:30 Eff. Geometry   : CAN         *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM46_CAN.CNF;5          *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	1.905E-01
AS-73	1.315E-01
CD-109	3.882E-01
SN-126	3.663E-02
CE-144	1.372E-01
TL-208	2.558E-02
BI-210	2.395E-01
PB-210	2.395E-01
BI-211	1.398E-01
BI-212	3.245E-01
PB-212	3.965E-02
BI-214	4.461E-02
PB-214	5.084E-02
RN-222	4.461E-02
RA-224	4.248E-01
RA-226	5.084E-02
AC-228	9.478E-02
RA-228	9.478E-02
TH-228	3.965E-02
TH-229	3.296E-01
TH-230	5.084E-02
PA-231	2.882E-01
TH-232	9.478E-02
PA-234M	3.124E+00
TH-234	3.918E-01
U-234	5.084E-02
U-235	1.420E-01
U-238	3.918E-01
AM-243	2.223E-02
ANH-511	2.005E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	2.487E-01	NOT IDENT.

NA-22	2.611E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	2.111E-02	NOT IDENT.
SC-46	2.565E-02	FAIL ABUN
V-48	8.939E-02	NOT IDENT.
CR-51	3.021E-01	NOT IDENT.
MN-52	1.064E+00	NOT IDENT.
MN-54	2.597E-02	NOT IDENT.
CO-56	3.268E-02	FAIL ABUN
MN-56	0.000E+00	SHORT HLIF
CO-57	1.750E-02	NOT IDENT.
CO-58	2.922E-02	NOT IDENT.
FE-59	5.824E-02	NOT IDENT.
CO-60	2.242E-02	NOT IDENT.
ZN-65	6.141E-02	NOT IDENT.
GE-68	1.026E+00	NOT IDENT.
AS-74	1.008E-01	NOT IDENT.
SE-75	3.215E-02	NOT IDENT.
BR-77	0.000E+00	SHORT HLIF
SR-82	4.140E-01	NOT IDENT.
RB-83	4.712E-02	NOT IDENT.
RB-84	7.210E-02	NOT IDENT.
KR-85	5.073E+00	NOT IDENT.
SR-85	3.131E-02	NOT IDENT.
RB-86	1.085E+00	NOT IDENT.
Y-88	2.125E-02	NOT IDENT.
Y-91	2.045E+01	NOT IDENT.
NB-94	2.379E-02	NOT IDENT.
NB-95	4.269E-02	NOT IDENT.
NB-95M	1.021E-01	NOT IDENT.
ZR-95	6.145E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	2.061E-02	NOT IDENT.
RH-102	4.006E-02	FAIL ABUN
RU-103	3.320E-02	NOT IDENT.
RH-106	2.188E-01	NOT IDENT.
RU-106	2.188E-01	NOT IDENT.
AG-108M	2.170E-02	NOT IDENT.
AG-110	5.559E-01	NOT IDENT.
AG-110M	3.500E-02	NOT IDENT.
SN-113	3.115E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	7.689E-02	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	2.132E-02	NOT IDENT.
SB-124	8.379E-02	NOT IDENT.
SB-125	5.971E-02	FAIL ABUN
TE-125M	7.015E+00	NOT IDENT.
I-126	2.979E-01	NOT IDENT.
SB-126	1.817E-01	FAIL ABUN
SB-127	1.140E+01	NOT IDENT.
I-131	2.615E-01	FAIL ABUN
I-132	0.000E+00	SHORT HLIF
TE-132	1.174E+01	NOT IDENT.
BA-133	2.887E-02	FAIL ABUN
I-133	0.000E+00	SHORT HLIF
CS-134	2.809E-02	FAIL ABUN
I-135	0.000E+00	SHORT HLIF
CS-136	1.684E-01	NOT IDENT.
BA-137M	2.586E-02	NOT IDENT.
CS-137	2.732E-02	NOT IDENT.
LA-138	3.958E-02	NOT IDENT.
CE-139	2.130E-02	NOT IDENT.
BA-140	3.831E-01	NOT IDENT.
LA-140	5.816E-02	FAIL ABUN
CE-141	5.720E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
PM-144	2.352E-02	NOT IDENT.
PR-144	1.772E+00	NOT IDENT.
PM-146	3.201E-02	NOT IDENT.
ND-147	1.077E+00	FAIL ABUN
PM-147	5.020E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	1.771E-02	NOT IDENT.
EU-152	7.018E-02	FAIL ABUN

GD-153	4.668E-02	NOT IDENT.
EU-154	7.246E-02	NOT IDENT.
EU-155	6.822E-02	FAIL ABUN
TB-160	1.023E-01	FAIL ABUN
HO-166M	4.221E-02	FAIL ABUN
TM-171	2.894E+00	FAIL ABUN
HF-172	1.323E-01	FAIL ABUN
LU-172	5.797E-02	FAIL ABUN
LU-176	1.696E-02	FAIL ABUN
HF-181	3.830E-02	FAIL ABUN
TA-182	1.044E-01	FAIL ABUN
RE-183	5.229E-02	NOT IDENT.
RE-184	1.155E-01	NOT IDENT.
W-188	5.634E+00	FAIL ABUN
IR-192	2.652E-02	FAIL ABUN
HG-203	2.971E-02	NOT IDENT.
TL-204	1.960E+00	FAIL ABUN
BI-207	2.463E-02	FAIL ABUN
PB-211	5.188E-01	NOT IDENT.
BI-213	7.259E-02	NOT IDENT.
RN-219	2.687E-01	FAIL ABUN
RA-223	4.095E-01	FAIL ABUN
AC-225	1.158E+00	NOT IDENT.
AC-227	1.843E-01	FAIL ABUN
TH-227	1.843E-01	FAIL ABUN
TH-231	4.095E-01	FAIL ABUN
PA-233	3.106E-02	FAIL ABUN
PA-234	1.738E-01	FAIL ABUN
NP-237	3.106E-02	FAIL ABUN
NP-238	0.000E+00	SHORT HLIF
NP-239	1.717E-01	FAIL ABUN
PU-239	2.439E+02	NOT IDENT.
AM-241	4.019E-02	NOT IDENT.
CM-243	6.431E-02	FAIL ABUN
BK-247	5.041E-02	FAIL ABUN
CM-247	2.591E-02	FAIL ABUN
CF-249	2.895E-02	NOT IDENT.
CF-251	9.336E-02	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:24:52.22

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G669289014.CNF;1		
Acquisition date	: 20-JUN-2024 05:23:01	Sensitivity	: 3.000
Detector ID	: GAM46	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.75	Half life ratio	: *****
Sample date	: 21-MAY-2024 14:00:00	Nuclide Library	: SOLID
Sample ID	: G669289014	Analyst initials	: MXR1
Batch Number	: 2618905	Sample Quantity	: 1.3612E+02 GRAM
		Quantity Err(%)	: 1.4693E-03 %
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 26-SEP-2023 07:28:30	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM46_CAN.CNF;5		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	1.174E+01	1.719E+00	1.719E+00
AS-73	3.642E-01	3.467E-01	3.467E-01
CD-109	2.926E+00	9.387E-01	9.387E-01
SN-126	2.799E-01	8.855E-02	8.855E-02
CE-144	1.087E-01	2.605E-01	2.605E-01
TL-208	3.843E-01	8.942E-02	8.942E-02
BI-210	1.619E+00	8.116E-01	8.116E-01
PB-210	1.619E+00	8.116E-01	8.116E-01
BI-211	3.386E+00	5.861E-01	5.861E-01
BI-212	1.493E+00	6.290E-01	6.290E-01
PB-212	1.231E+00	1.793E-01	1.793E-01
BI-214	8.934E-01	1.804E-01	1.804E-01
PB-214	1.229E+00	2.118E-01	2.118E-01
RN-222	8.934E-01	1.804E-01	1.804E-01
RA-224	2.794E+00	1.232E+00	1.232E+00
RA-226	1.229E+00	2.118E-01	2.118E-01
AC-228	1.298E+00	3.891E-01	3.891E-01
RA-228	1.298E+00	3.891E-01	3.891E-01
TH-228	1.231E+00	1.793E-01	1.793E-01
TH-229	-4.568E-02	4.017E-01	4.017E-01
TH-230	1.229E+00	2.118E-01	2.118E-01
PA-231	1.313E+00	7.367E-01	7.367E-01
TH-232	1.298E+00	3.891E-01	3.891E-01
PA-234M	3.898E+00	6.920E+00	6.920E+00
TH-234	1.008E+00	1.181E+00	1.181E+00
U-234	1.229E+00	2.118E-01	2.118E-01
U-235	3.033E-01	3.019E-01	3.019E-01
U-238	1.008E+00	1.181E+00	1.181E+00
AM-243	2.894E-01	6.381E-02	6.381E-02
ANH-511	5.050E-02	7.651E-02	7.651E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)

BE-7	9.638E-02	2.719E-01	2.754E-01	NOT IDENT.
NA-22	-5.174E-03	3.622E-02	3.630E-02	NOT IDENT.
NA-24	-1.568E+12	5.282E+12	5.329E+12	SHORT HLIF
AL-26	4.895E-03	2.332E-02	2.342E-02	NOT IDENT.
SC-46	-3.821E-02	3.990E-02	4.346E-02	FAIL ABUN
V-48	3.442E-02	1.012E-01	1.024E-01	NOT IDENT.
CR-51	-4.329E-01	3.923E-01	4.381E-01	NOT IDENT.
MN-52	5.418E-01	1.107E+00	1.133E+00	NOT IDENT.
MN-54	-1.693E-04	3.137E-02	3.137E-02	NOT IDENT.
CO-56	-2.655E-03	3.999E-02	4.001E-02	FAIL ABUN
MN-56	-1.000E+41	1.594E+42	0.000E+00	SHORT HLIF
CO-57	-2.267E-03	2.067E-02	2.070E-02	NOT IDENT.
CO-58	-2.280E-02	4.224E-02	4.348E-02	NOT IDENT.
FE-59	-6.538E-03	6.859E-02	6.865E-02	NOT IDENT.
CO-60	-1.684E-02	3.069E-02	3.162E-02	NOT IDENT.
ZN-65	3.646E-02	7.006E-02	7.196E-02	NOT IDENT.
GE-68	6.987E-01	1.161E+00	1.203E+00	NOT IDENT.
AS-74	-6.354E-02	1.301E-01	1.332E-01	NOT IDENT.
SE-75	2.384E-03	3.920E-02	3.922E-02	NOT IDENT.
BR-77	1.328E+04	1.153E+04	1.299E+04	SHORT HLIF
SR-82	6.117E-02	4.865E-01	4.873E-01	NOT IDENT.
RB-83	-5.801E-02	6.480E-02	6.988E-02	NOT IDENT.
RB-84	5.099E-02	7.721E-02	8.056E-02	NOT IDENT.
KR-85	2.488E+00	6.119E+00	6.221E+00	NOT IDENT.
SR-85	1.529E-02	3.777E-02	3.840E-02	NOT IDENT.
RB-86	7.827E-01	1.219E+00	1.269E+00	NOT IDENT.
Y-88	-4.978E-04	2.587E-02	2.587E-02	NOT IDENT.
Y-91	1.267E+01	2.171E+01	2.245E+01	NOT IDENT.
NB-94	-6.477E-03	2.936E-02	2.951E-02	NOT IDENT.
NB-95	2.584E-02	4.741E-02	4.882E-02	NOT IDENT.
NB-95M	1.023E-01	1.140E-01	1.230E-01	NOT IDENT.
ZR-95	2.494E-02	6.898E-02	6.989E-02	NOT IDENT.
NB-97	1.000E+41	4.170E+41	0.000E+00	SHORT HLIF
ZR-97	1.437E+12	2.270E+12	2.361E+12	SHORT HLIF
MO-99	-3.149E+02	3.947E+02	4.194E+02	SHORT HLIF
TC-99M	-2.350E+33	8.435E+33	0.000E+00	SHORT HLIF
RH-101	-1.617E-02	2.583E-02	2.684E-02	NOT IDENT.
RH-102	2.626E-02	4.290E-02	4.450E-02	FAIL ABUN
RU-103	7.214E-03	3.727E-02	3.741E-02	NOT IDENT.
RH-106	1.294E-02	2.553E-01	2.554E-01	NOT IDENT.
RU-106	1.294E-02	2.553E-01	2.554E-01	NOT IDENT.
AG-108M	-1.306E-04	2.487E-02	2.487E-02	NOT IDENT.
AG-110	1.476E-01	6.332E-01	6.367E-01	NOT IDENT.
AG-110M	-6.173E-03	4.378E-02	4.386E-02	NOT IDENT.
SN-113	-2.723E-02	3.890E-02	4.079E-02	NOT IDENT.
CD-115	2.553E+02	8.507E+02	8.584E+02	SHORT HLIF
SN-117M	-3.584E-02	9.490E-02	9.626E-02	NOT IDENT.
SB-122	2.845E+01	5.780E+01	5.921E+01	SHORT HLIF
TE-123M	-3.406E-03	2.566E-02	2.571E-02	NOT IDENT.
SB-124	-3.090E-02	1.087E-01	1.096E-01	NOT IDENT.
SB-125	9.995E-04	6.819E-02	6.819E-02	FAIL ABUN
TE-125M	3.772E+00	7.832E+00	8.014E+00	NOT IDENT.
I-126	-1.504E-01	3.805E-01	3.865E-01	NOT IDENT.
SB-126	-1.744E-01	2.535E-01	2.654E-01	FAIL ABUN
SB-127	1.499E+00	1.324E+01	1.325E+01	NOT IDENT.
I-131	5.435E-02	2.889E-01	2.900E-01	FAIL ABUN
I-132	-1.000E+41	2.192E+41	0.000E+00	SHORT HLIF
TE-132	-1.490E-01	1.429E+01	1.429E+01	NOT IDENT.
BA-133	-2.778E-02	4.039E-02	4.229E-02	FAIL ABUN
I-133	-2.974E+08	5.535E+08	5.695E+08	SHORT HLIF
CS-134	-2.692E-02	3.877E-02	4.063E-02	FAIL ABUN
I-135	-2.374E+31	4.350E+31	0.000E+00	SHORT HLIF
CS-136	1.017E-01	1.747E-01	1.806E-01	NOT IDENT.
BA-137M	-1.108E-02	3.237E-02	3.275E-02	NOT IDENT.
CS-137	-1.171E-02	3.420E-02	3.460E-02	NOT IDENT.
LA-138	1.757E-02	4.172E-02	4.247E-02	NOT IDENT.
CE-139	-8.698E-03	2.631E-02	2.660E-02	NOT IDENT.
BA-140	-1.495E-01	4.698E-01	4.746E-01	NOT IDENT.
LA-140	-1.242E-01	1.294E-01	1.410E-01	FAIL ABUN
CE-141	-1.209E-02	7.361E-02	7.381E-02	NOT IDENT.
CE-143	4.834E+05	1.760E+05	2.801E+05	SHORT HLIF
PM-144	-4.304E-03	2.871E-02	2.878E-02	NOT IDENT.
PR-144	-3.320E-01	2.164E+00	2.169E+00	NOT IDENT.
PM-146	1.261E-02	3.520E-02	3.566E-02	NOT IDENT.
ND-147	6.316E-01	1.163E+00	1.198E+00	FAIL ABUN
PM-147	-4.927E+01	5.914E+02	5.918E+02	NOT IDENT.
PM-149	-4.902E+03	6.752E+03	7.105E+03	SHORT HLIF
EU-150	6.625E-03	2.613E-02	2.630E-02	NOT IDENT.

EU-152	3.732E-02	7.511E-02	7.697E-02	FAIL ABUN
GD-153	3.333E-02	5.479E-02	5.681E-02	NOT IDENT.
EU-154	-1.683E-02	1.014E-01	1.017E-01	NOT IDENT.
EU-155	6.881E-02	7.389E-02	8.014E-02	FAIL ABUN
TB-160	-4.797E-02	1.342E-01	1.359E-01	FAIL ABUN
HO-166M	1.247E-02	4.799E-02	4.832E-02	FAIL ABUN
TM-171	6.363E+00	5.940E+00	6.596E+00	FAIL ABUN
HF-172	6.495E-02	1.500E-01	1.528E-01	FAIL ABUN
LU-172	7.775E-02	5.508E-02	6.528E-02	FAIL ABUN
LU-176	1.103E-03	1.884E-02	1.885E-02	FAIL ABUN
HF-181	6.566E-03	4.326E-02	4.336E-02	FAIL ABUN
TA-182	-1.384E-01	1.515E-01	1.639E-01	FAIL ABUN
RE-183	-1.037E-02	5.967E-02	5.985E-02	NOT IDENT.
RE-184	5.953E-02	1.402E-01	1.427E-01	NOT IDENT.
W-188	-1.151E+00	7.128E+00	7.147E+00	FAIL ABUN
IR-192	1.595E-02	2.795E-02	2.886E-02	FAIL ABUN
HG-203	5.555E-03	3.587E-02	3.596E-02	NOT IDENT.
TL-204	9.927E-01	2.332E+00	2.374E+00	FAIL ABUN
BI-207	-1.420E-02	3.707E-02	3.762E-02	FAIL ABUN
PB-211	1.928E-01	6.278E-01	6.338E-01	NOT IDENT.
BI-213	-2.426E-02	8.640E-02	8.709E-02	NOT IDENT.
RN-219	-1.215E-01	3.217E-01	3.264E-01	FAIL ABUN
RA-223	-2.290E-01	5.103E-01	5.206E-01	FAIL ABUN
AC-225	-5.744E-01	1.466E+00	1.488E+00	NOT IDENT.
AC-227	1.540E-01	1.914E-01	2.036E-01	FAIL ABUN
TH-227	1.540E-01	1.914E-01	2.036E-01	FAIL ABUN
TH-231	-2.290E-01	5.103E-01	5.206E-01	FAIL ABUN
PA-233	-3.985E-02	4.615E-02	4.952E-02	FAIL ABUN
PA-234	-1.661E-02	2.172E-01	2.174E-01	FAIL ABUN
NP-237	-3.985E-02	4.615E-02	4.952E-02	FAIL ABUN
NP-238	-7.070E+02	1.956E+03	1.981E+03	SHORT HLIF
NP-239	-8.213E-02	2.078E-01	2.110E-01	FAIL ABUN
PU-239	2.551E+02	2.666E+02	2.903E+02	NOT IDENT.
AM-241	8.515E-03	4.829E-02	4.844E-02	NOT IDENT.
CM-243	-1.541E-02	7.586E-02	7.618E-02	FAIL ABUN
BK-247	-1.037E-02	6.343E-02	6.361E-02	FAIL ABUN
CM-247	-3.778E-03	2.999E-02	3.004E-02	FAIL ABUN
CF-249	1.711E-02	3.092E-02	3.186E-02	NOT IDENT.
CF-251	8.366E-02	1.042E-01	1.108E-01	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	55.6238	85.43	87.9327	131.20	75.8972
45.60	48.8979	86.55	88.0809	133.02	70.7310
46.54	48.9993	86.79	88.1122	133.52	70.7708
49.72	52.3555	86.94	88.1322	136.00	57.9965
51.35	57.9219	87.09	88.1516	136.47	59.5537
51.87	55.6241	87.57	88.2148	140.51	0.0000
52.39	55.6833	88.03	90.4279	143.76	79.6581
52.97	55.7490	88.34	90.4696	144.24	72.3847
53.44	55.8019	88.47	90.4869	145.44	66.3092
54.07	52.8250	89.96	153.3007	152.43	72.2372
57.36	0.0000	1093.63	69.1616	153.25	59.4715
57.53	76.7095	91.11	69.2090	323.87	60.6979
57.98	97.2490	92.59	105.4796	156.02	63.1502
59.27	102.6192	93.35	105.5947	158.56	72.6931
59.32	102.6291	94.56	72.4492	159.00	70.3793
59.54	102.6714	94.65	72.4584	162.33	70.6146
60.96	100.1998	94.67	81.1557	162.66	72.9930
61.17	100.2387	94.87	81.1790	163.33	67.1509
62.93	109.5183	97.43	55.2833	165.86	68.4998
63.29	109.5899	98.43	71.3851	176.31	60.4442
63.58	109.6479	98.44	71.3861	176.60	54.0962
64.28	109.7864	99.53	62.3742	177.52	50.1621
66.73	112.3465	100.11	62.4233	181.07	0.0000
67.24	97.1764	102.03	81.9845	181.52	73.5268
125.81	104.1977	103.18	96.7737	184.41	50.4838
67.75	112.5475	103.37	83.5987	143.76	50.5441
68.89	114.1622	105.21	63.9552	193.51	52.1110
69.67	104.5570	105.31	63.9636	197.03	52.2731
70.82	106.1583	106.12	76.1757	198.01	55.9677
70.83	106.1606	106.47	77.3150	201.83	56.1537
72.81	113.5215	109.28	62.0789	203.43	68.4551
72.87	113.5330	111.00	72.2150	205.31	60.4028
74.66	113.8700	111.76	67.8366	210.85	44.2842
74.82	113.8997	114.06	62.4574	215.65	44.4611
74.97	113.9277	116.30	88.3561	218.12	66.8268
77.11	114.3240	116.74	83.9275	222.11	63.3197
78.74	114.6215	119.76	84.2394	227.09	49.8608
79.69	114.7937	121.12	76.5026	227.38	49.8724
80.03	114.8546	121.22	77.6371	228.16	53.6463
80.12	114.8719	121.78	68.6822	228.18	53.6470
80.19	114.8843	122.06	76.5892	116.74	53.6470
80.57	114.9527	122.92	71.0312	235.69	42.6691
81.00	115.0302	123.07	71.0437	235.96	42.6779
81.07	115.0425	265.00	82.3806	238.63	53.6673
81.75	68.2456	125.81	67.8809	238.98	0.0000
82.47	68.3218	127.23	86.1254	240.99	53.7643
83.79	98.4112	127.91	75.9874	242.00	53.8060
84.00	87.7425	129.30	62.4776	244.70	39.1738

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.40	42.3655	344.28	28.8151	563.25	20.0732
252.80	43.2258	345.93	36.0547	564.24	0.0000
254.15	0.0000	351.06	33.4515	569.33	19.1183
256.23	35.6877	351.93	33.4688	946.00	20.1253
260.90	0.0000	355.39	0.0000	569.70	20.1270
264.66	38.4714	356.01	44.8825	583.19	21.2512
264.80	38.4750	364.49	23.6905	584.27	21.2606
265.00	38.4805	366.42	0.0000	595.83	16.2747
269.46	30.8818	372.51	29.2910	427.87	9.1718
270.03	30.8943	375.05	24.7495	602.52	0.0000
271.23	30.9207	377.52	33.0447	604.72	21.4358
273.65	36.1356	356.01	31.3188	607.14	6.1304
276.40	36.2048	388.16	24.0068	609.32	17.1801
277.37	36.2296	388.63	24.9362	610.33	15.3455
277.60	36.2347	391.69	35.1542	614.28	23.0539
278.00	34.9505	264.66	37.1842	618.01	27.7053
279.20	32.3883	401.81	31.6260	620.36	21.5682
279.54	28.5084	402.40	30.7052	621.93	16.4434
279.70	28.5118	404.85	26.5529	630.19	0.0000
280.46	32.4165	410.95	18.6938	631.29	12.3770
283.69	40.7186	413.71	22.4653	633.25	17.5472
284.31	32.0694	414.70	14.0479	634.78	22.7215
285.41	36.4296	423.72	24.4639	635.95	17.5658
285.90	0.0000	427.09	33.9316	636.99	18.6064
287.50	36.4817	427.87	22.6304	657.50	16.6673
290.67	41.7822	433.94	28.3752	657.76	16.6693
293.27	0.0000	439.40	35.0925	657.90	0.0000
351.93	30.5588	440.45	29.4170	661.66	23.9967
295.96	30.5737	453.88	23.8820	664.57	0.0000
879.38	30.6271	463.37	28.7909	666.33	18.8123
299.98	30.6556	468.07	35.7809	666.50	22.9945
300.09	30.6578	473.00	23.1392	667.71	0.0000
300.13	30.6585	475.06	15.4411	677.62	16.7917
301.36	30.6834	476.78	21.2485	685.70	12.6309
302.85	30.7133	477.60	15.4596	692.65	0.0000
256.23	30.7461	482.18	20.3344	695.00	15.8411
304.85	30.7532	487.02	21.3510	696.49	17.9629
306.78	30.7916	492.35	0.0000	696.51	17.9629
308.46	30.8251	497.08	16.5753	697.00	17.9663
311.90	30.4514	505.52	17.6180	697.30	14.7975
316.51	24.7871	507.63	0.0000	697.49	17.9691
319.41	30.1533	511.00	22.5676	702.65	21.1792
320.08	40.8134	514.00	20.6326	706.68	25.4512
321.04	33.7355	514.00	20.6326	711.68	13.8104
323.87	38.4196	520.40	26.6034	720.70	18.1171
325.23	38.7192	520.69	0.0000	721.93	0.0000
328.76	38.3581	522.65	0.0000	722.78	7.9987
333.37	26.8372	527.90	0.0000	722.91	7.9990
333.97	26.8469	528.26	18.7858	723.31	6.4001
334.37	26.8536	529.59	27.7004	724.19	8.0026
338.28	31.4033	529.87	0.0000	727.33	14.4201
338.32	31.4040	531.02	17.8191	733.00	9.6321
311.90	47.1680	537.26	21.8380	735.93	6.4280
340.48	47.1680	546.56	0.0000	333.97	17.1504
340.55	47.1690	552.55	21.9812	739.50	0.0000

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
744.23	13.9670	949.00	16.0246	1384.29	3.0531
747.24	12.9058	667.71	0.0000	1408.01	6.7120
748.06	11.8334	962.31	6.8936	1434.09	3.8562
752.31	15.0824	964.08	8.0465	1435.80	3.8574
753.82	15.0898	966.17	8.0510	1457.56	0.0000
756.73	12.9468	911.20	8.0573	1460.82	3.8772
756.80	12.9473	983.53	8.0898	1489.16	0.0000
884.68	16.2225	984.45	0.0000	1505.03	9.7784
765.81	19.4795	1274.44	5.2187	1584.12	11.1207
766.42	19.4832	1001.03	12.1927	1596.21	5.9711
766.84	19.4861	1002.74	10.4561	1620.50	3.9988
772.60	0.0000	1004.73	10.4615	1621.92	9.9994
776.52	19.5483	507.63	0.0000	1678.03	0.0000
739.50	0.0000	1025.87	0.0000	1690.97	8.1011
778.90	20.6506	1028.54	0.0000	1750.46	0.0000
783.70	17.4173	1037.84	9.6747	1764.49	3.2828
788.74	13.0845	1038.76	0.0000	1063.66	3.0807
792.07	19.6479	631.29	13.2230	1771.35	2.0542
795.86	22.9508	1048.07	7.9371	1791.20	0.0000
810.06	13.1748	1049.04	8.8214	1808.65	2.0674
810.29	19.7637	1050.41	10.5894	1810.72	0.0000
344.28	19.7644	1063.66	8.5008	1836.06	2.0769
810.76	18.4488	1077.00	8.5301		
815.77	14.2986	1077.34	8.5307		
1048.07	11.0087	1085.87	16.0302		
832.01	14.3722	1093.63	5.3540		
834.85	14.3848	1099.45	7.1489		
835.71	9.9613	1112.07	18.6469		
836.80	0.0000	1112.84	7.1729		
846.75	0.0000	1115.54	7.1777		
846.77	15.5483	1120.29	9.8815		
856.80	16.7108	1120.55	8.6244		
860.56	13.3838	1221.41	10.0632		
871.09	13.4268	1129.67	8.1035		
873.19	16.7938	1131.51	0.0000		
875.33	0.0000	1147.95	0.0000		
879.38	15.7033	1173.23	11.8297		
880.51	13.4648	1177.95	11.8431		
881.60	8.9795	1189.05	11.8741		
883.24	16.8445	1204.77	11.9185		
884.68	13.4814	1221.41	12.8857		
889.28	19.1250	1231.02	14.7588		
894.76	21.4098	1235.36	15.6968		
898.04	12.4072	1238.28	15.7082		
900.72	18.0605	1260.41	0.0000		
903.28	8.4723	1271.87	4.6555		
911.20	12.4551	1274.44	8.9432		
912.08	12.4583	1274.54	8.9438		
923.98	0.0000	1291.59	10.4740		
926.50	14.7847	1298.22	0.0000		
929.11	9.1051	1312.11	9.3945		
935.54	15.9636	1332.49	9.4360		
937.49	4.5635	1362.66	0.0000		
944.13	11.4303	1365.19	6.6518		
946.00	9.1491	1368.63	0.0000		

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:25:45.53

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*********************************************************************************
*                              GEL Laboratories LLC                             *
*                                2040 Savage Road                               *
*                              Charleston, SC 29407                             *
*********************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1205747503.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM52.CNF;56
                                      Background date  : 17-JUN-2024 09:15:52
Sample date      : 31-MAY-2024 00:00:00 Acquisition date : 20-JUN-2024 05:23:42
Sample ID        : G1205747503          Sample quantity  : 1.55860E+02 GRAM
Detector name    : GAM52                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:00.32  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : MXR1
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 2618905              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	47.02*	6	37	0.86	94.31	91	7	1.66E-03	187.1	
2	0	74.70	27	7	1.68	149.66	147	6	7.51E-03	25.5	
3	0	93.06*	3	32	1.08	186.38	182	10	8.97E-04	387.8	
4	0	101.12	6	24	1.43	202.51	196	8	1.63E-03	150.5	
5	0	170.61	10	16	1.46	341.50	337	8	2.78E-03	76.2	
6	0	181.52	10	16	1.18	363.31	357	9	2.81E-03	77.5	
7	1	185.48*	5	16	1.22	371.22	367	15	1.53E-03	156.7	1.55E+00
8	1	189.25*	12	15	1.22	378.78	367	15	3.34E-03	64.6	
9	4	238.32*	14	7	1.71	476.92	471	16	3.93E-03	61.0	1.08E+00
10	4	241.32	10	7	1.71	482.91	471	16	2.66E-03	62.6	
11	0	290.29	7	24	1.17	580.87	575	11	1.83E-03	145.4	
12	0	294.58	15	15	2.47	589.43	585	10	4.17E-03	54.8	
13	0	411.61	7	9	0.51	823.50	817	9	1.84E-03	97.0	
14	0	449.58	6	4	0.96	899.45	896	6	1.78E-03	63.9	
15	0	510.72*	20	11	1.59	1021.74	1015	14	5.68E-03	58.9	
16	0	617.34	9	0	0.73	1235.00	1232	6	2.50E-03	33.3	
17	0	693.42	11	0	0.73	1387.18	1383	8	3.06E-03	30.2	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JUN-2024 06:25:50

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1205747503.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: MXR1		
Sample date	: 31-MAY-2024 00:00:00	Acquisition date	: 20-JUN-2024 05:23:42
Sample ID	: G1205747503	Sample quantity	: 155.86 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA52	Detector geometry	: CAN
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:00.32 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
BI-210	46.54	8	4.25*	1.789E+00	5.172E-01	5.181E-01	374.21
PB-210	46.54	8	4.25*	1.789E+00	5.172E-01	5.181E-01	374.21
RA-224	240.99	11	4.10*	5.274E+00	2.512E-01	2.512E-01	125.15
AM-243	43.53	------	5.90	1.248E+00	------	Line Not Found	------
	74.66	35	67.20*	6.069E+00	4.186E-02	4.186E-02	51.00
ANH-511	511.00	22	100.00*	2.910E+00	3.690E-02	3.690E-02	117.88

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:25:51.45

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1205747503.CNF;1		
Acquisition date	: 20-JUN-2024 05:23:42	Sensitivity	: 3.000
Detector ID	: GAM52	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.32	Half life ratio	: *****
Sample date	: 31-MAY-2024 00:00:00	Analyst initials	: MXR1
Sample ID	: G1205747503	Sample Quantity	: 1.5586E+02 GRAM
Batch Number	: 2618905	Wet Weight	: 0.00000
Wet wt corr	: 1.00000	Dry Weight	: 0.00000
Nuclide Library	: SOLID.NLB;17		

CALIBRATION INFORMATION

Eff. Cal. date	: 1-SEP-2023 08:30:22	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM52_CAN.CNF;4		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
BI-210	5.181E-01	1.900E+00	1.894E+00
PB-210	5.181E-01	1.900E+00	1.894E+00
RA-224	2.512E-01	3.081E-01	3.774E-01
AM-243	4.186E-02	2.092E-02	2.821E-02
ANH-511	3.690E-02	4.262E-02	2.652E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	3.031E-02	1.381E-01	3.136E-01	NOT IDENT.
NA-22	-3.205E-03	1.240E-02	2.886E-02	NOT IDENT.
NA-24	0.000E+00	9.662E+07	0.000E+00	SHORT HLIF
AL-26	-5.332E-03	1.752E-02	3.744E-02	NOT IDENT.
K-40	-1.022E-01	2.138E-01	5.135E-01	NOT IDENT.
SC-46	6.139E-03	1.290E-02	3.539E-02	NOT IDENT.
V-48	8.291E-03	1.514E-02	5.655E-02	NOT IDENT.
CR-51	-1.678E-01	2.141E-01	3.452E-01	NOT IDENT.
MN-52	-1.432E-01	2.606E-01	4.885E-01	NOT IDENT.
MN-54	1.517E-03	1.411E-02	3.227E-02	NOT IDENT.
CO-56	-4.282E-03	1.910E-02	3.833E-02	NOT IDENT.
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	-7.495E-04	8.673E-03	1.763E-02	NOT IDENT.
CO-58	-3.618E-03	1.389E-02	2.911E-02	NOT IDENT.
FE-59	4.115E-03	4.485E-02	9.843E-02	NOT IDENT.
CO-60	7.137E-03	1.481E-02	4.193E-02	NOT IDENT.
ZN-65	-2.691E-03	3.869E-02	8.607E-02	NOT IDENT.
GE-68	-1.565E-01	5.122E-01	1.007E+00	NOT IDENT.
AS-73	9.119E-02	2.017E-01	4.663E-01	NOT IDENT.
AS-74	-2.783E-02	4.670E-02	8.621E-02	NOT IDENT.
SE-75	-1.444E-03	2.026E-02	3.912E-02	NOT IDENT.
BR-77	2.391E+01	2.856E+01	4.197E+01	FAIL ABUN
SR-82	4.964E-02	1.917E-01	4.269E-01	NOT IDENT.
RB-83	9.616E-03	2.383E-02	5.984E-02	NOT IDENT.
RB-84	-7.055E-03	2.158E-02	4.519E-02	NOT IDENT.

KR-85	-2.075E+00	4.014E+00	6.543E+00	NOT IDENT.
SR-85	-1.165E-02	2.244E-02	3.656E-02	NOT IDENT.
RB-86	1.104E-01	3.087E-01	8.237E-01	NOT IDENT.
Y-88	2.495E-02	2.374E-02	7.239E-02	NOT IDENT.
Y-91	3.720E+00	6.767E+00	1.932E+01	NOT IDENT.
NB-94	-3.866E-03	1.646E-02	3.262E-02	NOT IDENT.
NB-95	5.514E-03	1.663E-02	3.973E-02	NOT IDENT.
NB-95M	-4.507E-03	4.213E-02	7.696E-02	NOT IDENT.
ZR-95	1.837E-02	4.221E-02	9.450E-02	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.484E+08	0.000E+00	SHORT HLIF
MO-99	9.957E+00	1.664E+01	4.291E+01	FAIL ABUN
TC-99M	0.000E+00	1.552E+22	0.000E+00	SHORT HLIF
RH-101	-5.412E-03	9.835E-03	1.844E-02	NOT IDENT.
RH-102	5.729E-03	1.924E-02	4.681E-02	NOT IDENT.
RU-103	6.909E-03	1.826E-02	4.250E-02	NOT IDENT.
RH-106	7.584E-02	1.364E-01	3.297E-01	NOT IDENT.
RU-106	7.584E-02	1.364E-01	3.297E-01	NOT IDENT.
AG-108M	3.430E-03	1.369E-02	3.032E-02	NOT IDENT.
CD-109	-1.916E-01	2.433E-01	4.484E-01	NOT IDENT.
AG-110	-1.054E-01	2.975E-01	5.895E-01	NOT IDENT.
AG-110M	3.936E-03	7.715E-03	2.964E-02	NOT IDENT.
SN-113	-9.368E-03	2.051E-02	4.038E-02	NOT IDENT.
CD-115	7.925E+00	2.412E+01	5.548E+01	NOT IDENT.
SN-117M	-4.249E-03	2.209E-02	4.391E-02	NOT IDENT.
SB-122	-2.781E-01	3.509E+00	7.291E+00	FAIL ABUN
TE-123M	1.125E-03	9.280E-03	1.948E-02	NOT IDENT.
SB-124	0.000E+00	2.514E-02	3.491E-02	NOT IDENT.
SB-125	4.336E-03	2.911E-02	6.832E-02	NOT IDENT.
TE-125M	-1.231E-02	3.703E+00	7.576E+00	NOT IDENT.
I-126	1.883E-02	1.223E-01	2.731E-01	NOT IDENT.
SB-126	-7.752E-02	1.010E-01	1.769E-01	NOT IDENT.
SN-126	8.170E-03	2.069E-02	4.584E-02	NOT IDENT.
SB-127	-1.527E-02	1.520E+00	3.233E+00	NOT IDENT.
I-131	-3.449E-02	5.596E-02	1.093E-01	NOT IDENT.
I-132	0.000E+00	1.502E+41	0.000E+00	SHORT HLIF
TE-132	-4.069E-01	8.905E-01	1.610E+00	NOT IDENT.
BA-133	-3.397E-03	1.764E-02	3.673E-02	NOT IDENT.
I-133	0.000E+00	1.384E+05	0.000E+00	SHORT HLIF
CS-134	-7.568E-03	1.849E-02	3.509E-02	NOT IDENT.
I-135	0.000E+00	2.959E+20	0.000E+00	SHORT HLIF
CS-136	3.290E-02	5.209E-02	1.410E-01	NOT IDENT.
BA-137M	-1.652E-02	1.745E-02	2.818E-02	NOT IDENT.
CS-137	-1.746E-02	1.844E-02	2.977E-02	NOT IDENT.
LA-138	-8.099E-03	2.632E-02	5.609E-02	NOT IDENT.
CE-139	-9.489E-04	9.885E-03	1.989E-02	NOT IDENT.
BA-140	-1.277E-02	1.463E-01	3.119E-01	NOT IDENT.
LA-140	-2.842E-02	5.643E-02	1.079E-01	NOT IDENT.
CE-141	-2.463E-02	2.781E-02	4.556E-02	NOT IDENT.
CE-143	0.000E+00	1.231E+03	0.000E+00	SHORT HLIF
CE-144	4.209E-02	6.840E-02	1.529E-01	NOT IDENT.
PM-144	-2.027E-03	1.903E-02	3.448E-02	FAIL ABUN
PR-144	-1.385E-01	1.431E+00	2.600E+00	NOT IDENT.
PM-146	-8.891E-03	2.139E-02	4.172E-02	NOT IDENT.
ND-147	4.155E-02	2.634E-01	6.200E-01	NOT IDENT.
PM-147	9.790E+01	2.387E+02	5.267E+02	NOT IDENT.
PM-149	4.245E+01	2.111E+02	3.988E+02	NOT IDENT.
EU-150	-8.200E-03	1.177E-02	2.240E-02	NOT IDENT.
EU-152	6.073E-03	3.477E-02	7.890E-02	NOT IDENT.
GD-153	-2.319E-02	3.019E-02	4.023E-02	NOT IDENT.
EU-154	-9.057E-03	3.505E-02	8.155E-02	NOT IDENT.
EU-155	-2.470E-02	3.912E-02	7.290E-02	NOT IDENT.
TB-160	9.909E-03	3.794E-02	1.031E-01	FAIL ABUN
HO-166M	9.054E-05	2.580E-02	5.575E-02	FAIL ABUN
TM-171	1.926E+00	3.810E+00	8.977E+00	NOT IDENT.
HF-172	-2.054E-02	6.169E-02	1.205E-01	NOT IDENT.
LU-172	1.071E-02	1.485E-02	5.058E-02	FAIL ABUN
LU-176	-3.486E-03	1.072E-02	1.968E-02	NOT IDENT.
HF-181	5.904E-03	2.038E-02	4.639E-02	NOT IDENT.
TA-182	-1.082E-02	6.339E-02	1.445E-01	FAIL ABUN
RE-183	-2.834E-02	5.689E-02	1.130E-01	NOT IDENT.
RE-184	-1.553E-02	4.923E-02	9.931E-02	NOT IDENT.
W-188	2.427E+00	6.913E+00	6.246E+00	FAIL ABUN
IR-192	-1.172E-03	1.495E-02	2.907E-02	FAIL ABUN
HG-203	3.676E-03	1.777E-02	3.611E-02	NOT IDENT.
TL-204	5.970E-01	1.388E+00	3.063E+00	NOT IDENT.
BI-207	1.343E-02	2.405E-02	5.949E-02	FAIL ABUN
TL-208	-1.341E-02	1.822E-02	3.674E-02	NOT IDENT.

BI-211	-5.436E-02	8.250E-02	1.635E-01	NOT IDENT.
PB-211	-5.049E-02	2.902E-01	6.076E-01	NOT IDENT.
BI-212	-8.849E-02	2.296E-01	4.408E-01	NOT IDENT.
PB-212	3.454E-02	4.127E-02	6.200E-02	FAIL ABUN
BI-213	1.082E-02	4.595E-02	1.024E-01	NOT IDENT.
BI-214	-8.888E-05	4.003E-02	8.803E-02	NOT IDENT.
PB-214	-2.555E-02	2.993E-02	5.707E-02	FAIL ABUN
RN-219	-5.545E-02	1.745E-01	3.534E-01	NOT IDENT.
RN-222	-8.888E-05	4.003E-02	8.803E-02	NOT IDENT.
RA-223	-6.447E-02	2.697E-01	5.017E-01	NOT IDENT.
AC-225	1.771E-01	3.404E-01	7.297E-01	NOT IDENT.
RA-226	-2.555E-02	2.993E-02	5.707E-02	FAIL ABUN
AC-227	-3.193E-02	9.389E-02	1.744E-01	NOT IDENT.
TH-227	-3.193E-02	9.389E-02	1.744E-01	NOT IDENT.
AC-228	1.602E-02	8.420E-02	1.764E-01	NOT IDENT.
RA-228	1.602E-02	8.420E-02	1.764E-01	NOT IDENT.
TH-228	3.454E-02	4.127E-02	6.200E-02	FAIL ABUN
TH-229	-1.049E-01	1.965E-01	3.553E-01	NOT IDENT.
TH-230	-2.555E-02	2.993E-02	5.707E-02	FAIL ABUN
PA-231	-1.784E-01	2.342E-01	3.832E-01	NOT IDENT.
TH-231	-6.447E-02	2.697E-01	5.017E-01	NOT IDENT.
TH-232	1.602E-02	8.420E-02	1.764E-01	NOT IDENT.
PA-233	-4.590E-03	2.890E-02	5.457E-02	NOT IDENT.
PA-234	-1.332E-02	1.573E-01	3.214E-01	NOT IDENT.
PA-234M	1.698E+00	2.449E+00	5.878E+00	NOT IDENT.
TH-234	-2.165E-01	3.924E-01	8.176E-01	FAIL ABUN
U-234	-2.555E-02	2.993E-02	5.707E-02	FAIL ABUN
U-235	5.450E-02	8.000E-02	1.682E-01	FAIL ABUN
NP-237	-4.590E-03	2.890E-02	5.457E-02	NOT IDENT.
NP-238	-3.114E+01	4.295E+01	6.684E+01	NOT IDENT.
U-238	-2.165E-01	3.924E-01	8.176E-01	FAIL ABUN
NP-239	2.127E-02	7.814E-02	1.715E-01	NOT IDENT.
PU-239	4.993E+01	1.056E+02	2.352E+02	NOT IDENT.
AM-241	1.170E-02	4.206E-02	9.222E-02	NOT IDENT.
CM-243	-6.903E-03	4.087E-02	7.547E-02	NOT IDENT.
BK-247	5.265E-03	3.374E-02	6.839E-02	FAIL ABUN
CM-247	-7.744E-03	1.541E-02	3.016E-02	NOT IDENT.
CF-249	2.475E-03	1.641E-02	3.636E-02	NOT IDENT.
CF-251	2.080E-02	4.018E-02	8.663E-02	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:25:50.16

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
BI-210	46.54	8	4.25*	1.789E+00	5.172E-01	5.181E-01	374.21
PB-210	46.54	8	4.25*	1.789E+00	5.172E-01	5.181E-01	374.21
RA-224	240.99	11	4.10*	5.274E+00	2.512E-01	2.512E-01	125.15
AM-243	43.53	------	5.90	1.248E+00	------ Line Not Found		------
	74.66	35	67.20*	6.069E+00	4.186E-02	4.186E-02	51.00
ANH-511	511.00	22	100.00*	2.910E+00	3.690E-02	3.690E-02	117.88

Flag: "*" = Keyline

Sample ID : G1205747503 Acquisition date : 20-JUN-2024 05:23:42

Total number of lines in spectrum 17
Number of unidentified lines 3
Number of lines tentatively identified by NID 14 82.35%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
BI-210	22.20Y	1.00	5.172E-01	5.181E-01	19.39E-01	374.21	
PB-210	22.20Y	1.00	5.172E-01	5.181E-01	19.39E-01	374.21	
RA-224	1.41E+10Y	1.00	2.512E-01	2.512E-01	3.144E-01	125.15	
AM-243	7370.00Y	1.00	4.186E-02	4.186E-02	2.135E-02	51.00	
ANH-511	1.00E+09Y	1.00	3.690E-02	3.690E-02	4.349E-02	117.88	
	Total Activity :		1.364E+00	1.366E+00			

Grand Total Activity : 1.364E+00 1.366E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G1205747503 Acquisition date : 20-JUN-2024 05:23:42

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	93.06	4	42	1.08	186.38	182	10	8.97E-04	****	7.34E+00	T
0	101.12	7	31	1.43	202.51	196	8	1.63E-03	****	7.56E+00	T
0	170.61	12	19	1.46	341.50	337	8	2.78E-03	****	6.65E+00	
0	181.52	12	19	1.18	363.31	357	9	2.81E-03	****	6.41E+00	T
1	185.48	7	20	1.22	371.22	367	15	1.53E-03	****	6.32E+00	T
1	189.25	14	18	1.22	378.78	367	15	3.34E-03	****	6.24E+00	
4	238.32	17	8	1.71	476.92	471	16	3.93E-03	****	5.32E+00	T
0	290.29	8	28	1.17	580.87	575	11	1.83E-03	****	4.59E+00	T
0	294.58	17	17	2.47	589.43	585	10	4.17E-03	****	4.54E+00	T
0	411.61	7	10	0.51	823.50	817	9	1.84E-03	****	3.48E+00	T
0	449.58	7	4	0.96	899.45	896	6	1.78E-03	****	3.24E+00	
0	617.34	10	0	0.73	1235.00	1232	6	2.50E-03	66.7	2.47E+00	T
0	693.42	12	0	0.73	1387.18	1383	8	3.06E-03	60.3	2.23E+00	T

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:26:21.92

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
*                                                                       *
*                        DETECTOR AND SAMPLE DATA                       *
*                                                                       *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1205747503.CNF;1  *
* Acquisition date : 20-JUN-2024 05:23:42 Sensitivity     : 3.000       *
* Detector ID      : GAM52                Energy tolerance: 1.500       *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000      *
* Elapsed real time:    0 01:00:00.32     Half life ratio : *****       *
* Sample date      : 31-MAY-2024 00:00:00 Nuclide Library : SOLID       *
* Sample ID        : G1205747503          Analyst initials: MXR1        *
* Batch Number     : 2618905              Sample Quantity : 1.5586E+02 GRAM  *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000  *
*                                         Dry Weight      :    0.00000  *
*************************************************************************
*                                                                       *
*                        CALIBRATION INFORMATION                        *
*                                                                       *
* Eff. Cal. date   :  1-SEP-2023 08:30:22 Eff. Geometry   : CAN         *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM52_CAN.CNF;4         *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
BI-210	8.481E-01
PB-210	8.481E-01
RA-224	1.569E-01
AM-243	1.236E-02
ANH-511	1.093E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	1.294E-01	NOT IDENT.
NA-22	9.121E-03	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	1.184E-02	NOT IDENT.
K-40	2.017E-01	NOT IDENT.
SC-46	1.325E-02	NOT IDENT.
V-48	1.833E-02	NOT IDENT.
CR-51	1.456E-01	NOT IDENT.
MN-52	1.731E-01	NOT IDENT.
MN-54	1.242E-02	NOT IDENT.
CO-56	1.485E-02	NOT IDENT.
MN-56	0.000E+00	SHORT HLIF
CO-57	7.680E-03	NOT IDENT.
CO-58	1.031E-02	NOT IDENT.
FE-59	3.813E-02	NOT IDENT.
CO-60	1.549E-02	NOT IDENT.
ZN-65	3.334E-02	NOT IDENT.
GE-68	3.568E-01	NOT IDENT.
AS-73	2.046E-01	NOT IDENT.
AS-74	3.324E-02	NOT IDENT.
SE-75	1.690E-02	NOT IDENT.
BR-77	1.893E+01	FAIL ABUN
SR-82	1.751E-01	NOT IDENT.
RB-83	2.375E-02	NOT IDENT.
RB-84	1.428E-02	NOT IDENT.
KR-85	2.732E+00	NOT IDENT.

SR-85	1.526E-02	NOT IDENT.
RB-86	3.017E-01	NOT IDENT.
Y-88	2.823E-02	NOT IDENT.
Y-91	7.232E+00	NOT IDENT.
NB-94	1.326E-02	NOT IDENT.
NB-95	1.577E-02	NOT IDENT.
NB-95M	3.203E-02	NOT IDENT.
ZR-95	3.982E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	1.712E+01	FAIL ABUN
TC-99M	0.000E+00	SHORT HLIF
RH-101	7.835E-03	NOT IDENT.
RH-102	1.840E-02	NOT IDENT.
RU-103	1.768E-02	NOT IDENT.
RH-106	1.362E-01	NOT IDENT.
RU-106	1.362E-01	NOT IDENT.
AG-108M	1.291E-02	NOT IDENT.
CD-109	1.965E-01	NOT IDENT.
AG-110	2.272E-01	NOT IDENT.
AG-110M	9.368E-03	NOT IDENT.
SN-113	1.692E-02	NOT IDENT.
CD-115	2.302E+01	NOT IDENT.
SN-117M	1.868E-02	NOT IDENT.
SB-122	3.025E+00	FAIL ABUN
TE-123M	8.392E-03	NOT IDENT.
SB-124	0.000E+00	NOT IDENT.
SB-125	2.730E-02	NOT IDENT.
TE-125M	3.354E+00	NOT IDENT.
I-126	1.104E-01	NOT IDENT.
SB-126	7.042E-02	NOT IDENT.
SN-126	2.023E-02	NOT IDENT.
SB-127	1.307E+00	NOT IDENT.
I-131	4.209E-02	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	6.906E-01	NOT IDENT.
BA-133	1.554E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	1.349E-02	NOT IDENT.
I-135	0.000E+00	SHORT HLIF
CS-136	5.462E-02	NOT IDENT.
BA-137M	1.087E-02	NOT IDENT.
CS-137	1.149E-02	NOT IDENT.
LA-138	1.921E-02	NOT IDENT.
CE-139	8.518E-03	NOT IDENT.
BA-140	1.261E-01	NOT IDENT.
LA-140	3.412E-02	NOT IDENT.
CE-141	1.969E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	6.753E-02	NOT IDENT.
PM-144	1.408E-02	FAIL ABUN
PR-144	1.063E+00	NOT IDENT.
PM-146	1.759E-02	NOT IDENT.
ND-147	2.442E-01	NOT IDENT.
PM-147	2.305E+02	NOT IDENT.
PM-149	1.723E+02	NOT IDENT.
EU-150	9.470E-03	NOT IDENT.
EU-152	3.304E-02	NOT IDENT.
GD-153	1.667E-02	NOT IDENT.
EU-154	2.578E-02	NOT IDENT.
EU-155	3.204E-02	NOT IDENT.
TB-160	3.653E-02	FAIL ABUN
HO-166M	2.218E-02	FAIL ABUN
TM-171	3.916E+00	NOT IDENT.
HF-172	5.185E-02	NOT IDENT.
LU-172	1.792E-02	FAIL ABUN
LU-176	8.174E-03	NOT IDENT.
HF-181	1.936E-02	NOT IDENT.
TA-182	5.120E-02	FAIL ABUN
RE-183	4.965E-02	NOT IDENT.
RE-184	3.476E-02	NOT IDENT.
W-188	2.668E+00	FAIL ABUN
IR-192	1.220E-02	FAIL ABUN
HG-203	1.565E-02	NOT IDENT.
TL-204	1.370E+00	NOT IDENT.
BI-207	2.380E-02	FAIL ABUN
TL-208	1.532E-02	NOT IDENT.
BI-211	6.840E-02	NOT IDENT.

PB-211	2.528E-01	NOT IDENT.
BI-212	1.733E-01	NOT IDENT.
PB-212	2.803E-02	FAIL ABUN
BI-213	4.328E-02	NOT IDENT.
BI-214	3.810E-02	NOT IDENT.
PB-214	2.367E-02	FAIL ABUN
RN-219	1.477E-01	NOT IDENT.
RN-222	3.810E-02	NOT IDENT.
RA-223	2.102E-01	NOT IDENT.
AC-225	3.215E-01	NOT IDENT.
RA-226	2.367E-02	FAIL ABUN
AC-227	7.282E-02	NOT IDENT.
TH-227	7.282E-02	NOT IDENT.
AC-228	7.329E-02	NOT IDENT.
RA-228	7.329E-02	NOT IDENT.
TH-228	2.803E-02	FAIL ABUN
TH-229	1.521E-01	NOT IDENT.
TH-230	2.367E-02	FAIL ABUN
PA-231	1.629E-01	NOT IDENT.
TH-231	2.102E-01	NOT IDENT.
TH-232	7.329E-02	NOT IDENT.
PA-233	2.319E-02	NOT IDENT.
PA-234	1.276E-01	NOT IDENT.
PA-234M	2.440E+00	NOT IDENT.
TH-234	3.668E-01	FAIL ABUN
U-234	2.367E-02	FAIL ABUN
U-235	7.533E-02	FAIL ABUN
NP-237	2.319E-02	NOT IDENT.
NP-238	2.113E+01	NOT IDENT.
U-238	3.668E-01	FAIL ABUN
NP-239	7.420E-02	NOT IDENT.
PU-239	1.028E+02	NOT IDENT.
AM-241	4.110E-02	NOT IDENT.
CM-243	3.330E-02	NOT IDENT.
BK-247	2.954E-02	FAIL ABUN
CM-247	1.242E-02	NOT IDENT.
CF-249	1.535E-02	NOT IDENT.
CF-251	3.714E-02	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 06:26:44.92

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1205747503.CNF;1  *
* Acquisition date : 20-JUN-2024 05:23:42 Sensitivity     : 3.000           *
* Detector ID      : GAM52                Energy tolerance: 1.500           *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 01:00:00.32     Half life ratio : *****           *
* Sample date      : 31-MAY-2024 00:00:00 Nuclide Library : SOLID           *
* Sample ID        : G1205747503          Analyst initials: MXR1            *
* Batch Number     : 2618905              Sample Quantity : 1.5586E+02 GRAM *
*                                         Quantity Err(%) : 1.2832E-03 %    *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000      *
*                                         Dry Weight      :    0.00000      *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   :  1-SEP-2023 08:30:22 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM52_CAN.CNF;4             *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
BI-210	5.181E-01	1.900E+00	1.900E+00
PB-210	5.181E-01	1.900E+00	1.900E+00
RA-224	2.512E-01	3.087E-01	3.087E-01
AM-243	4.186E-02	2.121E-02	2.121E-02
ANH-511	3.690E-02	4.276E-02	4.276E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	3.031E-02	1.381E-01	1.388E-01	NOT IDENT.
NA-22	-3.205E-03	1.240E-02	1.249E-02	NOT IDENT.
NA-24	-1.846E+07	9.663E+07	9.699E+07	SHORT HLIF
AL-26	-5.332E-03	1.752E-02	1.769E-02	NOT IDENT.
K-40	-1.022E-01	2.140E-01	2.189E-01	NOT IDENT.
SC-46	6.139E-03	1.291E-02	1.320E-02	NOT IDENT.
V-48	8.291E-03	1.516E-02	1.561E-02	NOT IDENT.
CR-51	-1.678E-01	2.145E-01	2.274E-01	NOT IDENT.
MN-52	-1.432E-01	2.609E-01	2.687E-01	NOT IDENT.
MN-54	1.517E-03	1.411E-02	1.413E-02	NOT IDENT.
CO-56	-4.282E-03	1.910E-02	1.920E-02	NOT IDENT.
MN-56	-1.000E+41	4.461E+41	0.000E+00	SHORT HLIF
CO-57	-7.495E-04	8.674E-03	8.680E-03	NOT IDENT.
CO-58	-3.618E-03	1.390E-02	1.399E-02	NOT IDENT.
FE-59	4.115E-03	4.485E-02	4.489E-02	NOT IDENT.
CO-60	7.137E-03	1.482E-02	1.517E-02	NOT IDENT.
ZN-65	-2.691E-03	3.870E-02	3.871E-02	NOT IDENT.
GE-68	-1.565E-01	5.123E-01	5.172E-01	NOT IDENT.
AS-73	9.119E-02	2.026E-01	2.067E-01	NOT IDENT.
AS-74	-2.783E-02	4.681E-02	4.846E-02	NOT IDENT.
SE-75	-1.444E-03	2.026E-02	2.027E-02	NOT IDENT.
BR-77	2.391E+01	3.185E+01	3.362E+01	FAIL ABUN
SR-82	4.964E-02	1.918E-01	1.931E-01	NOT IDENT.
RB-83	9.616E-03	2.388E-02	2.427E-02	NOT IDENT.
RB-84	-7.055E-03	2.159E-02	2.183E-02	NOT IDENT.

KR-85	-2.075E+00	4.018E+00	4.126E+00	NOT IDENT.
SR-85	-1.165E-02	2.247E-02	2.307E-02	NOT IDENT.
RB-86	1.104E-01	3.088E-01	3.128E-01	NOT IDENT.
Y-88	2.495E-02	2.381E-02	2.633E-02	NOT IDENT.
Y-91	3.720E+00	6.773E+00	6.978E+00	NOT IDENT.
NB-94	-3.866E-03	1.646E-02	1.655E-02	NOT IDENT.
NB-95	5.514E-03	1.664E-02	1.682E-02	NOT IDENT.
NB-95M	-4.507E-03	4.213E-02	4.218E-02	NOT IDENT.
ZR-95	1.837E-02	4.225E-02	4.305E-02	NOT IDENT.
NB-97	-1.000E+41	1.628E+42	0.000E+00	SHORT HLIF
ZR-97	3.189E+07	1.484E+08	1.491E+08	SHORT HLIF
MO-99	9.957E+00	1.667E+01	1.726E+01	FAIL ABUN
TC-99M	4.857E+21	1.553E+22	0.000E+00	SHORT HLIF
RH-101	-5.412E-03	9.890E-03	1.019E-02	NOT IDENT.
RH-102	5.729E-03	1.925E-02	1.943E-02	NOT IDENT.
RU-103	6.909E-03	1.827E-02	1.854E-02	NOT IDENT.
RH-106	7.584E-02	1.367E-01	1.409E-01	NOT IDENT.
RU-106	7.584E-02	1.367E-01	1.409E-01	NOT IDENT.
AG-108M	3.430E-03	1.369E-02	1.378E-02	NOT IDENT.
CD-109	-1.916E-01	2.442E-01	2.590E-01	NOT IDENT.
AG-110	-1.054E-01	2.977E-01	3.014E-01	NOT IDENT.
AG-110M	3.936E-03	7.724E-03	7.925E-03	NOT IDENT.
SN-113	-9.368E-03	2.052E-02	2.095E-02	NOT IDENT.
CD-115	7.925E+00	2.413E+01	2.439E+01	NOT IDENT.
SN-117M	-4.249E-03	2.209E-02	2.217E-02	NOT IDENT.
SB-122	-2.781E-01	3.509E+00	3.511E+00	FAIL ABUN
TE-123M	1.125E-03	9.281E-03	9.295E-03	NOT IDENT.
SB-124	0.000E+00	0.000E+00	0.000E+00	NOT IDENT.
SB-125	4.336E-03	2.911E-02	2.918E-02	NOT IDENT.
TE-125M	-1.231E-02	3.703E+00	3.703E+00	NOT IDENT.
I-126	1.883E-02	1.223E-01	1.226E-01	NOT IDENT.
SB-126	-7.752E-02	1.015E-01	1.074E-01	NOT IDENT.
SN-126	8.170E-03	2.071E-02	2.103E-02	NOT IDENT.
SB-127	-1.527E-02	1.520E+00	1.520E+00	NOT IDENT.
I-131	-3.449E-02	5.604E-02	5.815E-02	NOT IDENT.
I-132	-1.000E+41	1.955E+41	0.000E+00	SHORT HLIF
TE-132	-4.069E-01	8.915E-01	9.102E-01	NOT IDENT.
BA-133	-3.397E-03	1.764E-02	1.771E-02	NOT IDENT.
I-133	-3.511E+04	1.385E+05	1.394E+05	SHORT HLIF
CS-134	-7.568E-03	1.851E-02	1.882E-02	NOT IDENT.
I-135	1.022E+20	2.997E+20	0.000E+00	SHORT HLIF
CS-136	3.290E-02	5.222E-02	5.429E-02	NOT IDENT.
BA-137M	-1.652E-02	1.753E-02	1.905E-02	NOT IDENT.
CS-137	-1.746E-02	1.852E-02	2.012E-02	NOT IDENT.
LA-138	-8.099E-03	2.632E-02	2.658E-02	NOT IDENT.
CE-139	-9.489E-04	9.887E-03	9.896E-03	NOT IDENT.
BA-140	-1.277E-02	1.463E-01	1.465E-01	NOT IDENT.
LA-140	-2.842E-02	5.647E-02	5.791E-02	NOT IDENT.
CE-141	-2.463E-02	2.788E-02	3.001E-02	NOT IDENT.
CE-143	1.147E+03	1.234E+03	1.338E+03	SHORT HLIF
CE-144	4.209E-02	6.850E-02	7.108E-02	NOT IDENT.
PM-144	-2.027E-03	1.903E-02	1.905E-02	FAIL ABUN
PR-144	-1.385E-01	1.431E+00	1.432E+00	NOT IDENT.
PM-146	-8.891E-03	2.141E-02	2.178E-02	NOT IDENT.
ND-147	4.155E-02	2.634E-01	2.641E-01	NOT IDENT.
PM-147	9.790E+01	2.388E+02	2.429E+02	NOT IDENT.
PM-149	4.245E+01	2.112E+02	2.121E+02	NOT IDENT.
EU-150	-8.200E-03	1.178E-02	1.235E-02	NOT IDENT.
EU-152	6.073E-03	3.478E-02	3.488E-02	NOT IDENT.
GD-153	-2.319E-02	3.026E-02	3.202E-02	NOT IDENT.
EU-154	-9.057E-03	3.505E-02	3.529E-02	NOT IDENT.
EU-155	-2.470E-02	3.919E-02	4.074E-02	NOT IDENT.
TB-160	9.909E-03	3.795E-02	3.821E-02	FAIL ABUN
HO-166M	9.054E-05	2.580E-02	2.580E-02	FAIL ABUN
TM-171	1.926E+00	3.814E+00	3.912E+00	NOT IDENT.
HF-172	-2.054E-02	6.180E-02	6.249E-02	NOT IDENT.
LU-172	1.071E-02	1.491E-02	1.567E-02	FAIL ABUN
LU-176	-3.486E-03	1.073E-02	1.084E-02	NOT IDENT.
HF-181	5.904E-03	2.038E-02	2.056E-02	NOT IDENT.
TA-182	-1.082E-02	6.340E-02	6.358E-02	FAIL ABUN
RE-183	-2.834E-02	5.697E-02	5.839E-02	NOT IDENT.
RE-184	-1.553E-02	4.926E-02	4.975E-02	NOT IDENT.
W-188	2.427E+00	6.920E+00	7.006E+00	FAIL ABUN
IR-192	-1.172E-03	1.495E-02	1.496E-02	FAIL ABUN
HG-203	3.676E-03	1.778E-02	1.785E-02	NOT IDENT.
TL-204	5.970E-01	1.390E+00	1.415E+00	NOT IDENT.
BI-207	1.343E-02	2.408E-02	2.483E-02	FAIL ABUN
TL-208	-1.341E-02	1.826E-02	1.924E-02	NOT IDENT.

BI-211	-5.436E-02	8.262E-02	8.618E-02	NOT IDENT.
PB-211	-5.049E-02	2.903E-01	2.911E-01	NOT IDENT.
BI-212	-8.849E-02	2.298E-01	2.332E-01	NOT IDENT.
PB-212	3.454E-02	4.136E-02	4.420E-02	FAIL ABUN
BI-213	1.082E-02	4.596E-02	4.622E-02	NOT IDENT.
BI-214	-8.888E-05	4.003E-02	4.003E-02	NOT IDENT.
PB-214	-2.555E-02	3.000E-02	3.213E-02	FAIL ABUN
RN-219	-5.545E-02	1.747E-01	1.765E-01	NOT IDENT.
RN-222	-8.888E-05	4.003E-02	4.003E-02	NOT IDENT.
RA-223	-6.447E-02	2.697E-01	2.713E-01	NOT IDENT.
AC-225	1.771E-01	3.409E-01	3.501E-01	NOT IDENT.
RA-226	-2.555E-02	3.000E-02	3.213E-02	FAIL ABUN
AC-227	-3.193E-02	9.400E-02	9.510E-02	NOT IDENT.
TH-227	-3.193E-02	9.400E-02	9.510E-02	NOT IDENT.
AC-228	1.602E-02	8.421E-02	8.452E-02	NOT IDENT.
RA-228	1.602E-02	8.421E-02	8.452E-02	NOT IDENT.
TH-228	3.454E-02	4.136E-02	4.420E-02	FAIL ABUN
TH-229	-1.049E-01	1.967E-01	2.023E-01	NOT IDENT.
TH-230	-2.555E-02	3.000E-02	3.213E-02	FAIL ABUN
PA-231	-1.784E-01	2.376E-01	2.508E-01	NOT IDENT.
TH-231	-6.447E-02	2.697E-01	2.713E-01	NOT IDENT.
TH-232	1.602E-02	8.421E-02	8.452E-02	NOT IDENT.
PA-233	-4.590E-03	2.890E-02	2.897E-02	NOT IDENT.
PA-234	-1.332E-02	1.581E-01	1.582E-01	NOT IDENT.
PA-234M	1.698E+00	2.453E+00	2.570E+00	NOT IDENT.
TH-234	-2.165E-01	3.955E-01	4.073E-01	FAIL ABUN
U-234	-2.555E-02	3.000E-02	3.213E-02	FAIL ABUN
U-235	5.450E-02	8.013E-02	8.382E-02	FAIL ABUN
NP-237	-4.590E-03	2.890E-02	2.897E-02	NOT IDENT.
NP-238	-3.114E+01	4.304E+01	4.527E+01	NOT IDENT.
U-238	-2.165E-01	3.955E-01	4.073E-01	FAIL ABUN
NP-239	2.127E-02	7.818E-02	7.876E-02	NOT IDENT.
PU-239	4.993E+01	1.057E+02	1.081E+02	NOT IDENT.
AM-241	1.170E-02	4.207E-02	4.240E-02	NOT IDENT.
CM-243	-6.903E-03	4.087E-02	4.099E-02	NOT IDENT.
BK-247	5.265E-03	3.376E-02	3.384E-02	FAIL ABUN
CM-247	-7.744E-03	1.548E-02	1.586E-02	NOT IDENT.
CF-249	2.475E-03	1.642E-02	1.645E-02	NOT IDENT.
CF-251	2.080E-02	4.027E-02	4.135E-02	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	17.5508	85.43	19.2781	131.20	18.6501
45.60	27.0665	86.55	23.1812	133.02	12.4644
46.54	24.7761	86.79	14.4944	133.52	12.4730
49.72	13.0877	86.94	14.4984	136.00	16.6863
51.35	19.7140	87.09	9.6683	136.47	16.6968
51.87	15.2537	87.57	14.5150	140.51	12.5899
52.39	10.7814	88.03	27.1171	143.76	11.5896
52.97	9.8973	88.34	26.1630	144.24	14.7596
53.44	12.6113	88.47	26.1692	145.44	21.1179
54.07	19.8485	89.96	15.5488	152.43	11.7177
57.36	0.0000	90.64	18.1622	153.25	14.9285
57.53	21.8346	91.11	25.9674	154.21	11.7434
57.98	23.6791	92.59	19.5260	156.02	14.9795
59.27	17.3562	93.35	19.5517	158.56	12.8793
59.32	17.3583	94.56	19.5924	159.00	11.8122
59.54	19.1952	94.65	11.7573	162.33	14.0156
60.96	18.3409	94.67	11.7577	162.66	15.0997
61.17	20.1847	94.87	11.7617	163.33	17.2705
62.93	15.6593	97.43	17.7193	165.86	12.9915
63.29	20.2812	98.43	10.5179	176.31	7.3045
63.58	16.6044	98.44	10.5181	176.60	11.6909
64.28	13.8585	99.53	13.8301	177.52	7.3144
66.73	20.4345	100.11	13.8433	181.07	13.2178
67.24	17.6673	102.03	23.8063	181.52	11.0202
67.68	15.8225	103.18	21.2007	184.41	22.1103
67.75	13.9631	103.37	21.2072	185.72	22.1417
68.89	26.1274	105.21	25.9226	193.51	17.8611
69.67	25.2357	105.31	25.9268	197.03	10.0839
70.82	18.7378	106.12	16.9741	198.01	13.4590
70.83	18.7383	106.47	16.9834	201.83	13.5119
72.81	25.0861	109.28	20.0688	203.43	15.7895
72.87	25.0891	111.00	20.1224	205.31	13.5597
74.66	16.9964	111.76	13.0948	210.85	12.4987
74.82	17.0018	114.06	11.1191	215.65	15.9824
74.97	17.0068	116.30	9.1281	218.12	12.5878
77.11	10.1209	116.74	11.1639	222.11	14.9335
78.74	26.6518	119.76	12.2333	227.09	20.7749
79.69	12.3967	121.12	14.3005	227.38	18.4717
80.03	12.4046	121.22	12.2593	228.16	17.3298
80.12	9.5438	121.78	16.3590	228.18	17.3300
80.19	8.5906	122.06	16.3656	235.69	9.3071
80.57	8.5968	122.92	14.3376	235.96	6.2063
81.00	18.1636	123.07	14.3407	238.63	8.1655
81.07	18.1661	123.68	18.4543	238.98	8.1681
81.75	13.4027	125.81	16.4536	240.99	8.1829
82.47	26.8419	127.23	16.4865	242.00	9.3605
83.79	6.7270	127.91	17.5338	244.70	12.5107
84.00	6.7296	129.30	11.3672	252.40	9.4469

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.80	17.7189	351.06	10.1912	569.33	3.8433
254.15	0.0000	351.93	11.0470	569.50	3.8436
256.23	11.8478	355.39	0.0000	569.70	5.7659
260.90	17.8427	356.01	11.9298	583.19	6.7696
264.66	14.3196	364.49	7.7130	584.27	5.8054
264.80	14.3214	366.42	2.5743	595.83	7.7819
265.00	11.9363	372.51	9.4768	600.60	5.8494
269.46	14.3771	375.05	10.3557	602.52	0.0000
270.03	13.1854	377.52	13.8298	604.72	3.9067
271.23	9.5989	383.85	7.8109	607.14	15.6445
273.65	14.4269	388.16	8.7028	609.32	4.8936
276.40	12.0496	388.63	6.0938	610.33	5.8750
277.37	12.0590	391.69	13.0832	614.28	5.8855
277.60	13.2676	400.66	7.8940	618.01	1.4738
278.00	12.0651	401.81	11.4107	620.36	8.8524
279.20	12.0770	402.40	11.4149	621.93	3.9370
279.54	13.2884	404.85	9.6733	630.19	0.0000
279.70	13.2901	410.95	10.5923	631.29	2.9650
280.46	9.6714	413.71	1.3263	633.25	4.9459
283.69	16.9689	414.70	3.9811	634.78	1.9797
284.31	18.1902	423.72	4.4474	635.95	3.9614
285.41	8.0916	427.09	8.0215	636.99	3.9632
285.90	11.3326	427.87	4.4584	657.50	5.9976
287.50	12.9681	433.94	8.9486	657.76	4.9984
290.67	16.2504	439.40	7.1816	657.90	0.0000
293.27	0.0000	440.45	8.0843	661.66	11.0148
295.22	11.4160	453.88	13.5773	664.57	0.0000
295.96	11.4226	463.37	6.3700	666.33	5.0165
298.58	11.4456	468.07	5.4741	666.50	5.0169
299.98	13.5039	473.00	7.3187	667.71	0.0000
300.09	13.5053	475.06	6.4110	677.62	7.0564
300.13	13.5056	476.78	2.7501	685.70	6.0686
301.36	19.6631	477.60	3.6685	692.65	7.1000
302.85	9.8428	482.18	6.4358	695.00	4.5687
304.50	9.8550	487.02	11.0615	696.49	7.6190
304.85	13.5543	492.35	10.1686	696.51	7.6193
306.78	11.1061	497.08	5.5604	697.00	11.1772
308.46	9.8845	505.52	13.9624	697.30	9.1461
311.90	12.3877	507.63	0.0000	697.49	9.1469
316.51	9.9441	511.00	7.4678	702.65	8.1475
319.41	11.2110	514.00	14.0240	706.68	6.1204
320.08	18.6942	514.00	14.0240	711.68	5.1107
321.04	8.7301	520.40	2.8140	720.70	9.2322
323.87	11.2475	520.69	1.8762	721.93	0.0000
325.23	10.0076	522.65	0.0000	722.78	4.1064
328.76	5.8527	527.90	5.6494	722.91	4.1068
333.37	15.0992	528.26	5.6504	723.31	5.1343
333.97	16.7843	529.59	6.5964	724.19	6.1631
334.37	15.1102	529.87	0.0000	727.33	7.1994
338.28	13.4684	531.02	3.7721	733.00	8.2461
338.32	13.4688	537.26	6.6217	735.93	5.1597
340.48	10.9600	546.56	0.0000	737.46	6.1953
340.55	10.9606	552.55	8.5778	739.50	2.0667
344.28	7.6078	563.25	4.7900	744.23	2.0705
345.93	10.1553	564.24	8.6265	747.24	4.1458

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
748.06	3.1104	954.55	0.0000	1408.01	3.7747
752.31	4.1538	962.31	3.3500	1434.09	4.7464
753.82	7.2734	964.08	2.2346	1435.80	2.8491
756.73	6.2412	966.17	2.2361	1457.56	0.0000
756.80	6.2415	968.97	0.0000	1460.82	1.9100
763.94	10.4305	983.53	0.0000	1489.16	0.0000
765.81	3.1313	984.45	4.4976	1505.03	2.8932
766.42	3.1321	996.26	0.0000	1584.12	0.0000
766.84	3.1326	1001.03	3.3904	1596.21	2.9500
772.60	0.0000	1002.74	4.5228	1620.50	1.9766
776.52	5.2401	1004.73	3.3942	1621.92	1.9771
777.92	5.2427	1021.30	0.0000	1678.03	0.0000
778.90	5.2445	1025.87	6.8315	1690.97	0.0000
783.70	8.4063	1028.54	4.5579	1750.46	0.0000
788.74	7.3691	1037.84	4.5706	1764.49	0.0000
792.07	4.2161	1038.76	0.0000	1770.23	2.0359
795.86	6.3330	1046.59	2.2912	1771.35	0.0000
801.95	5.2893	1048.07	1.1462	1791.20	0.0000
810.06	2.1219	1049.04	0.0000	1808.65	2.0508
810.29	2.1221	1050.41	4.5876	1810.72	0.0000
810.45	2.1222	1063.66	2.3027	1836.06	0.0000
810.76	3.1837	1077.00	1.1558		
815.77	5.3158	1077.34	3.4678		
818.51	5.3208	1085.87	8.1108		
832.01	6.4158	1093.63	0.0000		
834.85	3.2111	1099.45	3.4895		
835.71	2.1414	1112.07	3.5020		
836.80	0.0000	1112.84	5.2540		
846.75	0.0000	1115.54	4.3817		
846.77	5.3741	1120.29	1.7550		
856.80	3.2357	1120.55	1.7551		
860.56	0.0000	1121.30	2.6332		
871.09	2.1677	1129.67	2.6393		
873.19	6.5078	1131.51	0.0000		
875.33	0.0000	1147.95	0.0000		
879.38	1.0869	1173.23	2.6708		
880.51	0.0000	1177.95	2.6741		
881.60	2.1755	1189.05	1.7881		
883.24	1.0883	1204.77	0.8977		
884.68	0.0000	1221.41	2.7048		
889.28	1.0905	1231.02	0.0000		
894.76	2.1851	1235.36	1.8097		
898.04	5.4688	1238.28	3.6223		
900.72	5.4736	1260.41	0.0000		
903.28	3.2869	1271.87	0.9133		
911.20	5.4926	1274.44	1.8278		
912.08	3.2964	1274.54	1.8278		
923.98	2.2061	1291.59	2.7534		
926.50	5.5200	1298.22	0.0000		
929.11	4.4198	1312.11	0.9224		
935.54	0.0000	1332.49	0.9270		
937.49	1.1079	1362.66	0.0000		
944.13	3.3308	1365.19	1.8685		
946.00	5.5546	1368.63	0.0000		
949.00	6.6719	1384.29	1.8770		

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 07:30:51.28

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1205747504.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM05.CNF;908
                                     Background date  : 16-JUN-2024 11:28:11
Sample date      : 23-MAY-2024 16:00:00 Acquisition date : 20-JUN-2024 06:30:26
Sample ID        : G1205747504          Sample quantity  : 1.11230E+02 GRAM
Detector name    : GAM05                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:00.63  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : MXR1
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 2618905              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
*************************************************************************
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.54*	72	134	0.84	92.69	89	7	2.00E-02	30.7	
2	0	63.50*	38	185	0.71	126.55	123	8	1.05E-02	67.1	
3	1	74.79*	190	96	0.81	149.10	143	18	5.27E-02	10.7	1.39E+00
4	1	77.16*	295	92	0.83	153.83	143	18	8.18E-02	7.7	
5	1	79.33	28	106	0.95	158.17	143	18	7.73E-03	66.2	
6	0	84.35*	47	131	0.88	168.19	165	7	1.30E-02	43.7	
7	0	87.05	65	170	1.00	173.58	172	7	1.81E-02	35.1	
8	1	90.22	50	74	0.93	179.91	178	13	1.40E-02	27.1	3.70E+00
9	1	92.86*	112	94	0.98	185.18	178	13	3.11E-02	18.5	
10	0	186.11*	86	78	1.49	371.41	367	8	2.39E-02	21.9	
11	0	209.90	50	87	0.97	418.93	414	10	1.38E-02	37.9	
12	3	238.76*	325	60	0.93	476.58	469	27	9.04E-02	6.8	1.10E+00
13	3	241.98	97	70	1.34	483.01	469	27	2.69E-02	18.4	
14	0	270.26	65	91	3.55	539.49	533	18	1.80E-02	36.6	
15	0	278.30	15	39	0.84	555.55	551	7	4.03E-03	75.7	
16	0	295.57*	128	87	0.94	590.04	584	12	3.57E-02	17.1	
17	0	338.93*	55	46	1.04	676.65	674	10	1.52E-02	28.3	
18	0	352.15*	230	62	1.09	703.06	697	12	6.40E-02	9.6	
19	0	409.28	17	22	0.89	817.19	814	7	4.85E-03	49.8	
20	0	463.10	32	30	3.56	924.71	919	11	8.81E-03	38.0	
21	0	470.46	15	30	1.49	939.40	933	9	4.28E-03	69.8	
22	0	510.82*	37	40	1.82	1020.02	1014	15	1.02E-02	48.6	
23	0	537.91	12	21	0.97	1074.15	1070	9	3.26E-03	78.0	
24	0	583.44*	93	8	1.01	1165.11	1161	10	2.59E-02	12.2	
25	0	609.63*	170	29	1.18	1217.44	1212	12	4.72E-02	10.2	
26	0	662.15	68	17	1.62	1322.37	1317	11	1.87E-02	16.9	
27	0	728.17	43	21	1.98	1454.28	1445	18	1.19E-02	30.0	
28	0	768.77	26	21	1.01	1535.41	1529	11	7.22E-03	39.9	
29	0	838.91	10	13	0.59	1675.57	1672	8	2.64E-03	71.4	
30	0	854.87	10	9	0.57	1707.46	1701	10	2.88E-03	64.0	
31	0	861.29	14	18	1.63	1720.29	1713	12	3.89E-03	66.2	
32	0	911.54*	55	18	1.44	1820.70	1814	12	1.53E-02	20.9	
33	0	927.98	17	15	0.72	1853.57	1847	12	4.80E-03	50.8	
34	0	963.53	32	9	4.33	1924.61	1914	18	8.89E-03	28.2	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
35	0	969.26	37	21	1.81	1936.07	1932	14	1.03E-02	29.3	
36	0	1006.52	7	14	0.57	2010.54	2006	9	1.81E-03	109.2	
37	0	1024.96	8	4	1.48	2047.38	2043	8	2.22E-03	55.9	
38	0	1120.96*	47	13	1.49	2239.25	2232	13	1.31E-02	21.6	
39	0	1139.11	17	2	2.58	2275.54	2272	8	4.81E-03	27.7	
40	0	1152.43	8	8	1.90	2302.17	2294	10	2.34E-03	70.1	
41	0	1158.20	5	16	1.45	2313.70	2306	11	1.52E-03	148.8	
42	4	1235.44	11	9	2.24	2468.10	2465	20	3.11E-03	43.2	3.12E+00
43	4	1238.90*	18	17	2.02	2475.00	2465	20	4.86E-03	53.7	
44	0	1268.92	28	5	7.69	2535.02	2527	19	7.69E-03	26.9	
45	0	1461.18*	340	0	1.83	2919.37	2913	14	9.44E-02	5.5	
46	0	1765.15*	12	10	2.36	3527.20	3520	10	3.36E-03	61.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JUN-2024 07:30:52

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1205747504.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,INTERF V2.4
Sample title : MXR1
Sample date : 23-MAY-2024 16:00:00 Acquisition date : 20-JUN-2024 06:30:26
Sample ID : G1205747504 Sample quantity : 111.23 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA5 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:00.63 0.0%
Energy tolerance : 1.50 keV Half life ratio : 10.00
Errors propagated: No Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
TL-208	277.37	HG-203	279.20

Nuclide Type:

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
K-40	1460.82	10.66*	1.248E+00	1.623E+01	1.623E+01	10.95	OK
CD-109	88.03	3.70*	9.323E+00	1.328E+00	1.384E+00	70.16	OK
SN-126	64.28	9.60	9.699E+00	2.878E-01	2.878E-01	134.29	OK
	86.94	8.90	9.323E+00	5.520E-01	5.520E-01	70.16	OK
	87.57	37.00*	9.323E+00	1.328E-01	1.328E-01	70.16	OK
BA-137M	661.66	89.90*	2.449E+00	2.005E-01	2.009E-01	33.70	OK
CS-137	661.66	85.10*	2.449E+00	2.119E-01	2.122E-01	33.70	OK
HG-203	70.83	3.69	9.650E+00	----- Line Not Found		-----	Absent
	72.87	6.19	9.622E+00	----- Line Not Found		-----	Absent
	279.20	81.56*	4.982E+00	2.525E-03	3.808E-03	1457.83	OK
TL-208	277.37	6.60	4.995E+00	----- Line Not Found		-----	<<INT Reject
	583.19	85.00*	2.729E+00	2.645E-01	2.645E-01	24.43	OK
	860.56	12.50	1.954E+00	3.713E-01	3.713E-01	132.48	OK
BI-210	46.54	4.25*	9.297E+00	1.309E+00	1.312E+00	61.49	OK
PB-210	46.54	4.25*	9.297E+00	1.309E+00	1.312E+00	61.49	OK
BI-211	72.87	1.23	9.622E+00	----- Line Not Found		-----	Absent
	351.06	12.92*	4.150E+00	2.874E+00	2.874E+00	19.27	OK
BI-212	727.33	6.67*	2.257E+00	1.857E+00	1.857E+00	59.95	OK
	1620.50	1.47	1.146E+00	----- Line Not Found		-----	Absent
PB-212	74.82	10.28	9.592E+00	1.359E+00	1.359E+00	21.35	OK
	77.11	17.10	9.549E+00	1.273E+00	1.273E+00	15.40	OK
	238.63	43.60*	5.574E+00	9.083E-01	9.083E-01	13.58	OK
	300.09	3.30	4.705E+00	----- Line Not Found		-----	Absent
BI-214	609.32	45.49*	2.628E+00	9.324E-01	9.324E-01	20.34	OK
	1120.29	14.92	1.560E+00	1.303E+00	1.303E+00	43.20	OK
	1764.49	15.30	1.069E+00	4.668E-01	4.668E-01	123.61	OK
PB-214	74.82	5.80	9.592E+00	2.409E+00	2.409E+00	21.35	OK
	77.11	9.70	9.549E+00	2.244E+00	2.244E+00	15.40	OK
	87.09	3.41	9.323E+00	1.441E+00	1.441E+00	70.16	OK
	242.00	7.25	5.521E+00	1.641E+00	1.641E+00	36.81	OK
	295.22	18.42	4.760E+00	9.867E-01	9.867E-01	34.29	OK
	351.93	35.60*	4.150E+00	1.043E+00	1.043E+00	19.27	OK
RN-222	609.32	45.49*	2.628E+00	9.324E-01	9.324E-01	20.34	OK
	1120.29	14.92	1.560E+00	1.303E+00	1.303E+00	43.20	OK
	1764.49	15.30	1.069E+00	4.668E-01	4.668E-01	123.61	OK
RA-224	240.99	4.10*	5.521E+00	2.902E+00	2.902E+00	36.81	OK
RA-226	74.82	5.80	9.592E+00	2.409E+00	2.409E+00	21.35	OK
	77.11	9.70	9.549E+00	2.244E+00	2.244E+00	15.40	OK
	87.09	3.41	9.323E+00	1.441E+00	1.441E+00	70.16	OK
	242.00	7.25	5.521E+00	1.641E+00	1.641E+00	36.81	OK
	295.22	18.42	4.760E+00	9.867E-01	9.867E-01	34.29	OK
	351.93	35.60*	4.150E+00	1.043E+00	1.043E+00	19.27	OK
AC-228	105.21	1.10	8.804E+00	----- Line Not Found		-----	Absent
	338.32	11.27	4.279E+00	7.617E-01	7.617E-01	56.52	OK
	835.71	1.61	2.005E+00	----- Line Not Found		-----	Absent
	911.20	25.80*	1.861E+00	7.393E-01	7.393E-01	41.85	OK
	968.97	15.80	1.765E+00	8.604E-01	8.604E-01	58.69	OK
RA-228	105.21	1.10	8.804E+00	----- Line Not Found		-----	Absent
	338.32	11.27	4.279E+00	7.617E-01	7.617E-01	56.52	OK

Nuclide Type:

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
	835.71	1.61	2.005E+00	----- Line Not Found		-----	Absent
	911.20	25.80*	1.861E+00	7.393E-01	7.393E-01	41.85	OK
	968.97	15.80	1.765E+00	8.604E-01	8.604E-01	58.69	OK
TH-228	74.82	10.28	9.592E+00	1.359E+00	1.359E+00	21.35	OK
	77.11	17.10	9.549E+00	1.273E+00	1.273E+00	15.40	OK
	238.63	43.60*	5.574E+00	9.083E-01	9.083E-01	13.58	OK
	300.09	3.30	4.705E+00	----- Line Not Found		-----	Absent
TH-229	85.43	14.70	9.390E+00	2.389E-01	2.389E-01	87.34	OK
	88.47	24.00	9.323E+00	2.047E-01	2.047E-01	70.16	OK
	193.51	4.41*	6.430E+00	----- Line Not Found		-----	Absent
	210.85	2.80	6.095E+00	1.986E+00	1.986E+00	75.84	OK
TH-230	74.82	5.80	9.592E+00	2.409E+00	2.409E+00	21.35	OK
	77.11	9.70	9.549E+00	2.244E+00	2.244E+00	15.40	OK
	87.09	3.41	9.323E+00	1.441E+00	1.441E+00	70.16	OK
	242.00	7.25	5.521E+00	1.641E+00	1.641E+00	36.81	OK
	295.22	18.42	4.760E+00	9.867E-01	9.867E-01	34.29	OK
	351.93	35.60*	4.150E+00	1.043E+00	1.043E+00	19.27	OK
TH-232	105.21	1.10	8.804E+00	----- Line Not Found		-----	Absent
	338.32	11.27	4.279E+00	7.617E-01	7.617E-01	56.52	OK
	835.71	1.61	2.005E+00	----- Line Not Found		-----	Absent
	911.20	25.80*	1.861E+00	7.393E-01	7.393E-01	41.85	OK
	968.97	15.80	1.765E+00	8.604E-01	8.604E-01	58.69	OK
TH-234	63.29	3.70*	9.699E+00	7.467E-01	7.467E-01	134.29	OK
	92.59	4.23	9.166E+00	2.023E+00	2.023E+00	36.92	OK
U-234	74.82	5.80	9.592E+00	2.409E+00	2.409E+00	21.35	OK
	77.11	9.70	9.549E+00	2.244E+00	2.244E+00	15.40	OK
	87.09	3.41	9.323E+00	1.441E+00	1.441E+00	70.16	OK
	242.00	7.25	5.521E+00	1.641E+00	1.641E+00	36.81	OK
	295.22	18.42	4.760E+00	9.867E-01	9.867E-01	34.29	OK
	351.93	35.60*	4.150E+00	1.043E+00	1.043E+00	19.27	OK
U-235	89.96	3.47	9.239E+00	1.101E+00	1.101E+00	54.23	OK
	93.35	5.60	9.166E+00	1.528E+00	1.528E+00	36.92	OK
	143.76	10.96*	7.659E+00	----- Line Not Found		-----	Absent
	163.33	5.08	7.136E+00	----- Line Not Found		-----	Absent
	185.72	57.20	6.593E+00	1.559E-01	1.559E-01	43.80	OK
	205.31	5.01	6.186E+00	----- Line Not Found		-----	Absent
U-238	63.29	3.70*	9.699E+00	7.467E-01	7.467E-01	134.29	OK
	92.59	4.23	9.166E+00	2.023E+00	2.023E+00	36.92	OK
AM-243	43.53	5.90	9.102E+00	----- Line Not Found		-----	Absent
	74.66	67.20*	9.592E+00	2.079E-01	2.079E-01	21.35	OK
ANH-511	511.00	100.00*	3.055E+00	7.908E-02	7.908E-02	97.11	OK

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 07:30:53.76

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
*                                                                       *
*                        DETECTOR AND SAMPLE DATA                       *
*                                                                       *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1205747504.CNF;1  *
* Acquisition date : 20-JUN-2024 06:30:26 Sensitivity     : 3.000       *
* Detector ID      : GAM05                Energy tolerance: 1.500       *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000      *
* Elapsed real time:    0 01:00:00.63     Half life ratio : *****       *
* Sample date      : 23-MAY-2024 16:00:00 Analyst initials: MXR1        *
* Sample ID        : G1205747504          Sample Quantity : 1.1123E+02 GRAM  *
* Batch Number     : 2618905              Wet Weight      :    0.00000  *
* Wet wt corr      :    1.00000           Dry Weight      :    0.00000  *
* Nuclide Library  : SOLID.NLB;17                                       *
*************************************************************************
*                                                                       *
*                        CALIBRATION INFORMATION                        *
*                                                                       *
* Eff. Cal. date   : 16-AUG-2023 10:50:42 Eff. Geometry   : CAN         *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM05_CAN.CNF;28        *
*************************************************************************
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	1.623E+01	1.742E+00	5.580E-01
CD-109	1.384E+00	9.516E-01	1.009E+00
SN-126	1.328E-01	9.129E-02	9.666E-02
BA-137M	2.009E-01	6.635E-02	6.356E-02
CS-137	2.122E-01	7.009E-02	6.714E-02
HG-203	3.808E-03	5.440E-02	7.683E-02
TL-208	2.645E-01	6.334E-02	6.761E-02
BI-210	1.312E+00	7.905E-01	6.781E-01
PB-210	1.312E+00	7.905E-01	6.781E-01
BI-211	2.874E+00	5.428E-01	3.331E-01
BI-212	1.857E+00	1.091E+00	1.050E+00
PB-212	9.083E-01	1.209E-01	9.254E-02
BI-214	9.324E-01	1.859E-01	1.224E-01
PB-214	1.043E+00	1.970E-01	1.212E-01
RN-222	9.324E-01	1.859E-01	1.224E-01
RA-224	2.902E+00	1.047E+00	9.923E-01
RA-226	1.043E+00	1.970E-01	1.212E-01
AC-228	7.393E-01	3.032E-01	3.005E-01
RA-228	7.393E-01	3.032E-01	3.005E-01
TH-228	9.083E-01	1.209E-01	9.254E-02
TH-229	-5.295E-02	4.429E-01	7.913E-01
TH-230	1.043E+00	1.970E-01	1.212E-01
TH-232	7.393E-01	3.032E-01	3.005E-01
TH-234	7.467E-01	9.827E-01	8.222E-01
U-234	1.043E+00	1.970E-01	1.212E-01
U-235	8.586E-02	1.609E-01	3.061E-01
U-238	7.467E-01	9.827E-01	8.222E-01
AM-243	2.079E-01	4.351E-02	4.577E-02
ANH-511	7.908E-02	7.526E-02	4.675E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	-3.172E-01	3.435E-01	5.737E-01	NOT IDENT.

NA-22	2.002E-02	3.433E-02	7.502E-02	NOT IDENT.
NA-24	0.000E+00	7.254E+11	0.000E+00	SHORT HLIF
AL-26	-9.703E-03	1.843E-02	3.549E-02	NOT IDENT.
SC-46	1.046E-02	4.306E-02	8.942E-02	FAIL ABUN
V-48	7.519E-02	1.177E-01	2.591E-01	NOT IDENT.
CR-51	2.829E-01	4.558E-01	9.377E-01	NOT IDENT.
MN-52	-2.649E-01	1.370E+00	2.581E+00	NOT IDENT.
MN-54	2.939E-02	3.327E-02	7.061E-02	NOT IDENT.
CO-56	3.784E-02	4.598E-02	9.786E-02	FAIL ABUN
MN-56	0.000E+00	1.215E+41	0.000E+00	SHORT HLIF
CO-57	8.459E-03	1.904E-02	3.696E-02	NOT IDENT.
CO-58	-2.879E-02	4.268E-02	6.943E-02	NOT IDENT.
FE-59	2.660E-02	1.136E-01	2.313E-01	NOT IDENT.
CO-60	-1.883E-04	4.319E-02	8.504E-02	NOT IDENT.
ZN-65	6.403E-02	9.334E-02	1.886E-01	NOT IDENT.
GE-68	1.066E-01	1.369E+00	2.726E+00	NOT IDENT.
AS-73	-1.033E-01	1.775E-01	3.308E-01	NOT IDENT.
AS-74	6.321E-03	1.597E-01	3.022E-01	NOT IDENT.
SE-75	3.990E-02	4.457E-02	8.327E-02	FAIL ABUN
BR-77	0.000E+00	7.198E+02	0.000E+00	SHORT HLIF
SR-82	-1.635E-01	5.337E-01	9.386E-01	NOT IDENT.
RB-83	3.514E-02	7.405E-02	1.512E-01	NOT IDENT.
RB-84	-3.558E-02	8.440E-02	1.593E-01	NOT IDENT.
KR-85	-2.764E+00	7.794E+00	1.240E+01	NOT IDENT.
SR-85	-1.689E-02	4.708E-02	7.485E-02	NOT IDENT.
RB-86	-2.257E-01	1.313E+00	2.512E+00	NOT IDENT.
Y-88	9.252E-03	3.979E-02	9.382E-02	NOT IDENT.
Y-91	1.857E+01	2.429E+01	5.288E+01	NOT IDENT.
NB-94	8.343E-03	3.773E-02	7.201E-02	NOT IDENT.
NB-95	1.316E-02	5.756E-02	9.915E-02	NOT IDENT.
NB-95M	-2.243E-02	1.355E-01	2.171E-01	NOT IDENT.
ZR-95	-1.408E-02	9.882E-02	1.779E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	3.437E+11	0.000E+00	SHORT HLIF
MO-99	0.000E+00	3.169E+02	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	2.915E+31	0.000E+00	SHORT HLIF
RH-101	-2.258E-02	2.470E-02	4.201E-02	NOT IDENT.
RH-102	-6.338E-03	5.907E-02	1.093E-01	NOT IDENT.
RU-103	1.184E-02	4.967E-02	9.767E-02	FAIL ABUN
RH-106	1.740E-01	2.962E-01	6.190E-01	NOT IDENT.
RU-106	1.740E-01	2.962E-01	6.190E-01	NOT IDENT.
AG-108M	6.627E-03	2.713E-02	5.397E-02	NOT IDENT.
AG-110	-2.238E-01	8.373E-01	1.330E+00	NOT IDENT.
AG-110M	8.406E-03	5.156E-02	1.056E-01	NOT IDENT.
SN-113	9.338E-03	4.325E-02	8.578E-02	NOT IDENT.
CD-115	0.000E+00	5.157E+02	0.000E+00	SHORT HLIF
SN-117M	1.910E-02	8.243E-02	1.546E-01	NOT IDENT.
SB-122	0.000E+00	4.612E+01	0.000E+00	SHORT HLIF
TE-123M	1.302E-02	2.405E-02	4.644E-02	NOT IDENT.
SB-124	-6.421E-02	6.292E-02	4.745E-02	NOT IDENT.
SB-125	-1.810E-02	8.388E-02	1.577E-01	FAIL ABUN
TE-125M	2.062E+00	8.168E+00	1.558E+01	NOT IDENT.
I-126	1.021E-01	3.830E-01	7.072E-01	NOT IDENT.
SB-126	-2.746E-01	4.065E-01	5.756E-01	NOT IDENT.
SB-127	4.020E+00	1.253E+01	2.484E+01	NOT IDENT.
I-131	8.480E-03	3.496E-01	6.717E-01	FAIL ABUN
I-132	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
TE-132	-1.610E+00	9.780E+00	1.716E+01	NOT IDENT.
BA-133	1.050E-02	3.958E-02	7.224E-02	NOT IDENT.
I-133	0.000E+00	1.294E+08	0.000E+00	SHORT HLIF
CS-134	3.865E-02	4.452E-02	9.376E-02	NOT IDENT.
I-135	0.000E+00	3.236E+29	0.000E+00	SHORT HLIF
CS-136	-4.851E-02	1.914E-01	3.661E-01	FAIL ABUN
LA-138	1.050E-02	6.525E-02	1.334E-01	NOT IDENT.
CE-139	8.842E-03	2.707E-02	5.077E-02	NOT IDENT.
BA-140	4.866E-01	7.437E-01	1.147E+00	FAIL ABUN
LA-140	-2.147E-01	1.959E-01	2.603E-01	NOT IDENT.
CE-141	-5.607E-02	6.261E-02	1.053E-01	NOT IDENT.
CE-143	0.000E+00	7.027E+04	0.000E+00	SHORT HLIF
CE-144	-1.120E-02	1.705E-01	3.122E-01	FAIL ABUN
PM-144	5.835E-03	3.350E-02	6.512E-02	NOT IDENT.
PR-144	4.396E-01	2.523E+00	4.905E+00	NOT IDENT.
PM-146	-7.006E-03	3.918E-02	7.376E-02	NOT IDENT.
ND-147	-2.018E-01	1.284E+00	2.387E+00	FAIL ABUN
PM-147	4.827E+02	5.549E+02	1.112E+03	NOT IDENT.
PM-149	0.000E+00	4.503E+03	0.000E+00	SHORT HLIF
EU-150	2.285E-03	2.426E-02	4.748E-02	FAIL ABUN
EU-152	-2.427E-03	9.686E-02	1.688E-01	FAIL ABUN

GD-153	4.137E-04	5.767E-02	1.062E-01	NOT IDENT.
EU-154	5.913E-02	9.741E-02	2.136E-01	NOT IDENT.
EU-155	3.967E-03	7.213E-02	1.361E-01	FAIL ABUN
TB-160	-2.609E-02	1.249E-01	2.484E-01	FAIL ABUN
HO-166M	4.424E-03	6.307E-02	1.194E-01	FAIL ABUN
TM-171	6.995E-01	3.100E+00	6.136E+00	NOT IDENT.
HF-172	4.887E-02	1.438E-01	2.755E-01	FAIL ABUN
LU-172	3.380E-02	5.131E-02	1.186E-01	FAIL ABUN
LU-176	-5.017E-03	2.589E-02	4.442E-02	FAIL ABUN
HF-181	1.730E-02	5.426E-02	1.075E-01	NOT IDENT.
TA-182	-2.093E-02	2.299E-01	4.328E-01	FAIL ABUN
RE-183	-1.486E-02	5.698E-02	1.081E-01	NOT IDENT.
RE-184	-3.279E-02	1.594E-01	3.082E-01	NOT IDENT.
W-188	-8.822E-01	8.207E+00	1.313E+01	FAIL ABUN
IR-192	-3.292E-02	3.495E-02	6.144E-02	FAIL ABUN
TL-204	-5.875E-01	2.356E+00	4.077E+00	FAIL ABUN
BI-207	-2.880E-02	4.743E-02	8.412E-02	FAIL ABUN
PB-211	-2.310E-01	6.482E-01	1.141E+00	NOT IDENT.
BI-213	-1.702E-02	9.815E-02	1.848E-01	NOT IDENT.
RN-219	2.323E-01	3.784E-01	7.776E-01	FAIL ABUN
RA-223	5.147E-01	5.713E-01	1.203E+00	FAIL ABUN
AC-225	-6.927E-01	1.303E+00	2.198E+00	NOT IDENT.
AC-227	-6.239E-02	2.382E-01	4.102E-01	FAIL ABUN
TH-227	-6.239E-02	2.382E-01	4.102E-01	FAIL ABUN
PA-231	9.867E-02	4.820E-01	8.647E-01	NOT IDENT.
TH-231	5.147E-01	5.713E-01	1.203E+00	FAIL ABUN
PA-233	2.993E-03	5.809E-02	1.038E-01	NOT IDENT.
PA-234	-1.879E-01	3.181E-01	5.711E-01	FAIL ABUN
PA-234M	7.148E+00	4.456E+00	1.073E+01	NOT IDENT.
NP-237	2.993E-03	5.809E-02	1.038E-01	NOT IDENT.
NP-238	0.000E+00	1.144E+03	0.000E+00	SHORT HLIF
NP-239	-6.641E-02	1.821E-01	3.302E-01	FAIL ABUN
PU-239	8.806E+01	2.698E+02	5.123E+02	NOT IDENT.
AM-241	-1.571E-02	4.210E-02	7.902E-02	NOT IDENT.
CM-243	-1.269E-02	7.355E-02	1.361E-01	FAIL ABUN
BK-247	-5.877E-03	8.563E-02	1.380E-01	FAIL ABUN
CM-247	6.749E-03	3.511E-02	6.899E-02	FAIL ABUN
CF-249	1.257E-02	3.824E-02	7.614E-02	NOT IDENT.
CF-251	-2.493E-02	1.037E-01	1.845E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 07:30:52.25

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	320	10.66*	1.248E+00	1.623E+01	1.623E+01	10.95
CD-109	88.03	68	3.70*	9.323E+00	1.328E+00	1.384E+00	70.16
SN-126	64.28	40	9.60	9.699E+00	2.878E-01	2.878E-01	134.29
	86.94	68	8.90	9.323E+00	5.520E-01	5.520E-01	70.16
	87.57	68	37.00*	9.323E+00	1.328E-01	1.328E-01	70.16
BA-137M	661.66	65	89.90*	2.449E+00	2.005E-01	2.009E-01	33.70
CS-137	661.66	65	85.10*	2.449E+00	2.119E-01	2.122E-01	33.70
HG-203	70.83	------	3.69	9.650E+00	------ Line Not Found		------
	72.87	------	6.19	9.622E+00	------ Line Not Found		------
	279.20	14	81.56*	4.982E+00	2.408E-02	3.632E-02	151.33
TL-208	277.37	14	6.60	4.982E+00	2.975E-01	2.975E-01	151.33
	583.19	91	85.00*	2.729E+00	2.645E-01	2.645E-01	24.43
	860.56	13	12.50	1.954E+00	3.713E-01	3.713E-01	132.48
BI-210	46.54	77	4.25*	9.297E+00	1.309E+00	1.312E+00	61.49
PB-210	46.54	77	4.25*	9.297E+00	1.309E+00	1.312E+00	61.49
BI-211	72.87	------	1.23	9.622E+00	------ Line Not Found		------
	351.06	228	12.92*	4.150E+00	2.874E+00	2.874E+00	19.27
BI-212	727.33	41	6.67*	2.257E+00	1.857E+00	1.857E+00	59.95
	1620.50	------	1.47	1.146E+00	------ Line Not Found		------
PB-212	74.82	199	10.28	9.592E+00	1.359E+00	1.359E+00	21.35
	77.11	308	17.10	9.549E+00	1.273E+00	1.273E+00	15.40
	238.63	327	43.60*	5.574E+00	9.083E-01	9.083E-01	13.58
	300.09	------	3.30	4.705E+00	------ Line Not Found		------
BI-214	609.32	165	45.49*	2.628E+00	9.324E-01	9.324E-01	20.34
	1120.29	45	14.92	1.560E+00	1.303E+00	1.303E+00	43.20
	1764.49	11	15.30	1.069E+00	4.668E-01	4.668E-01	123.61
PB-214	74.82	199	5.80	9.592E+00	2.409E+00	2.409E+00	21.35
	77.11	308	9.70	9.549E+00	2.244E+00	2.244E+00	15.40
	87.09	68	3.41	9.323E+00	1.441E+00	1.441E+00	70.16
	242.00	97	7.25	5.521E+00	1.641E+00	1.641E+00	36.81
	295.22	128	18.42	4.760E+00	9.867E-01	9.867E-01	34.29
	351.93	228	35.60*	4.150E+00	1.043E+00	1.043E+00	19.27
RN-222	609.32	165	45.49*	2.628E+00	9.324E-01	9.324E-01	20.34
	1120.29	45	14.92	1.560E+00	1.303E+00	1.303E+00	43.20
	1764.49	11	15.30	1.069E+00	4.668E-01	4.668E-01	123.61
RA-224	240.99	97	4.10*	5.521E+00	2.902E+00	2.902E+00	36.81
RA-226	74.82	199	5.80	9.592E+00	2.409E+00	2.409E+00	21.35
	77.11	308	9.70	9.549E+00	2.244E+00	2.244E+00	15.40
	87.09	68	3.41	9.323E+00	1.441E+00	1.441E+00	70.16
	242.00	97	7.25	5.521E+00	1.641E+00	1.641E+00	36.81
	295.22	128	18.42	4.760E+00	9.867E-01	9.867E-01	34.29
	351.93	228	35.60*	4.150E+00	1.043E+00	1.043E+00	19.27
AC-228	105.21	------	1.10	8.804E+00	------ Line Not Found		------
	338.32	54	11.27	4.279E+00	7.617E-01	7.617E-01	56.52
	835.71	------	1.61	2.005E+00	------ Line Not Found		------
	911.20	53	25.80*	1.861E+00	7.393E-01	7.393E-01	41.85
	968.97	36	15.80	1.765E+00	8.604E-01	8.604E-01	58.69

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
RA-228	105.21	------	1.10	8.804E+00	------ Line Not Found		------
	338.32	54	11.27	4.279E+00	7.617E-01	7.617E-01	56.52
	835.71	------	1.61	2.005E+00	------ Line Not Found		------
	911.20	53	25.80*	1.861E+00	7.393E-01	7.393E-01	41.85
	968.97	36	15.80	1.765E+00	8.604E-01	8.604E-01	58.69
TH-228	74.82	199	10.28	9.592E+00	1.359E+00	1.359E+00	21.35
	77.11	308	17.10	9.549E+00	1.273E+00	1.273E+00	15.40
	238.63	327	43.60*	5.574E+00	9.083E-01	9.083E-01	13.58
	300.09	------	3.30	4.705E+00	------ Line Not Found		------
TH-229	85.43	49	14.70	9.390E+00	2.389E-01	2.389E-01	87.34
	88.47	68	24.00	9.323E+00	2.047E-01	2.047E-01	70.16
	193.51	------	4.41*	6.430E+00	------ Line Not Found		------
	210.85	50	2.80	6.095E+00	1.986E+00	1.986E+00	75.84
TH-230	74.82	199	5.80	9.592E+00	2.409E+00	2.409E+00	21.35
	77.11	308	9.70	9.549E+00	2.244E+00	2.244E+00	15.40
	87.09	68	3.41	9.323E+00	1.441E+00	1.441E+00	70.16
	242.00	97	7.25	5.521E+00	1.641E+00	1.641E+00	36.81
	295.22	128	18.42	4.760E+00	9.867E-01	9.867E-01	34.29
	351.93	228	35.60*	4.150E+00	1.043E+00	1.043E+00	19.27
TH-232	105.21	------	1.10	8.804E+00	------ Line Not Found		------
	338.32	54	11.27	4.279E+00	7.617E-01	7.617E-01	56.52
	835.71	------	1.61	2.005E+00	------ Line Not Found		------
	911.20	53	25.80*	1.861E+00	7.393E-01	7.393E-01	41.85
	968.97	36	15.80	1.765E+00	8.604E-01	8.604E-01	58.69
TH-234	63.29	40	3.70*	9.699E+00	7.467E-01	7.467E-01	134.29
	92.59	116	4.23	9.166E+00	2.023E+00	2.023E+00	36.92
U-234	74.82	199	5.80	9.592E+00	2.409E+00	2.409E+00	21.35
	77.11	308	9.70	9.549E+00	2.244E+00	2.244E+00	15.40
	87.09	68	3.41	9.323E+00	1.441E+00	1.441E+00	70.16
	242.00	97	7.25	5.521E+00	1.641E+00	1.641E+00	36.81
	295.22	128	18.42	4.760E+00	9.867E-01	9.867E-01	34.29
	351.93	228	35.60*	4.150E+00	1.043E+00	1.043E+00	19.27
U-235	89.96	52	3.47	9.239E+00	1.101E+00	1.101E+00	54.23
	93.35	116	5.60	9.166E+00	1.528E+00	1.528E+00	36.92
	143.76	------	10.96*	7.659E+00	------ Line Not Found		------
	163.33	------	5.08	7.136E+00	------ Line Not Found		------
	185.72	87	57.20	6.593E+00	1.559E-01	1.559E-01	43.80
	205.31	------	5.01	6.186E+00	------ Line Not Found		------
U-238	63.29	40	3.70*	9.699E+00	7.467E-01	7.467E-01	134.29
	92.59	116	4.23	9.166E+00	2.023E+00	2.023E+00	36.92
AM-243	43.53	------	5.90	9.102E+00	------ Line Not Found		------
	74.66	199	67.20*	9.592E+00	2.079E-01	2.079E-01	21.35
ANH-511	511.00	36	100.00*	3.055E+00	7.908E-02	7.908E-02	97.11

Flag: "*" = Keyline

Sample ID : G1205747504 Acquisition date : 20-JUN-2024 06:30:26

Total number of lines in spectrum	46	
Number of unidentified lines	10	
Number of lines tentatively identified by NID	36	78.26%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	1.623E+01	1.623E+01	0.178E+01	10.95	
CD-109	461.40D	1.04	1.328E+00	1.384E+00	0.971E+00	70.16	
SN-126	2.30E+05Y	1.00	1.328E-01	1.328E-01	0.932E-01	70.16	
BA-137M	30.08Y	1.00	2.005E-01	2.009E-01	0.677E-01	33.70	
CS-137	30.08Y	1.00	2.119E-01	2.122E-01	0.715E-01	33.70	
HG-203	46.59D	1.51	2.408E-02	3.632E-02	5.496E-02	151.33	
TL-208	1.41E+10Y	1.00	2.645E-01	2.645E-01	0.646E-01	24.43	
BI-210	22.20Y	1.00	1.309E+00	1.312E+00	0.807E+00	61.49	
PB-210	22.20Y	1.00	1.309E+00	1.312E+00	0.807E+00	61.49	
BI-211	7.04E+08Y	1.00	2.874E+00	2.874E+00	0.554E+00	19.27	
BI-212	1.41E+10Y	1.00	1.857E+00	1.857E+00	1.113E+00	59.95	
PB-212	1.41E+10Y	1.00	9.083E-01	9.083E-01	1.233E-01	13.58	
BI-214	1600.00Y	1.00	9.324E-01	9.324E-01	1.897E-01	20.34	
PB-214	1600.00Y	1.00	1.043E+00	1.043E+00	0.201E+00	19.27	
RN-222	1600.00Y	1.00	9.324E-01	9.324E-01	1.897E-01	20.34	
RA-224	1.41E+10Y	1.00	2.902E+00	2.902E+00	1.068E+00	36.81	
RA-226	1600.00Y	1.00	1.043E+00	1.043E+00	0.201E+00	19.27	
AC-228	1.41E+10Y	1.00	7.393E-01	7.393E-01	3.094E-01	41.85	
RA-228	1.41E+10Y	1.00	7.393E-01	7.393E-01	3.094E-01	41.85	
TH-228	1.41E+10Y	1.00	9.083E-01	9.083E-01	1.233E-01	13.58	
TH-229	7340.00Y	1.00	2.047E-01	2.047E-01	1.436E-01	70.16	K
TH-230	7.54E+04Y	1.00	1.043E+00	1.043E+00	0.201E+00	19.27	
TH-232	1.41E+10Y	1.00	7.393E-01	7.393E-01	3.094E-01	41.85	
TH-234	4.47E+09Y	1.00	7.467E-01	7.467E-01	10.03E-01	134.29	
U-234	2.45E+05Y	1.00	1.043E+00	1.043E+00	0.201E+00	19.27	
U-235	7.04E+08Y	1.00	1.559E-01	1.559E-01	0.683E-01	43.80	K
U-238	4.47E+09Y	1.00	7.467E-01	7.467E-01	10.03E-01	134.29	
AM-243	7370.00Y	1.00	2.079E-01	2.079E-01	0.444E-01	21.35	
ANH-511	1.00E+09Y	1.00	7.908E-02	7.908E-02	7.679E-02	97.11	
Total Activity :			4.085E+01	4.093E+01			

Grand Total Activity : 4.085E+01 4.093E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	79.33	29	111	0.95	158.17	143	18	7.73E-03	****	9.50E+00	T
0	270.26	65	91	3.55	539.49	533	18	1.80E-02	73.2	5.09E+00	T
0	409.28	17	21	0.89	817.19	814	7	4.85E-03	99.6	3.67E+00	
0	463.10	31	30	3.56	924.71	919	11	8.81E-03	76.0	3.32E+00	T
0	470.46	15	29	1.49	939.40	933	9	4.28E-03	****	3.27E+00	
0	537.91	11	21	0.97	1074.15	1070	9	3.26E-03	****	2.92E+00	T
0	768.77	25	20	1.01	1535.41	1529	11	7.22E-03	79.8	2.15E+00	
0	838.91	9	12	0.59	1675.57	1672	8	2.64E-03	****	2.00E+00	
0	854.87	10	8	0.57	1707.46	1701	10	2.88E-03	****	1.97E+00	
0	927.98	17	14	0.72	1853.57	1847	12	4.80E-03	****	1.83E+00	T
0	963.53	31	9	4.33	1924.61	1914	18	8.89E-03	56.4	1.77E+00	T
0	1006.52	6	13	0.57	2010.54	2006	9	1.81E-03	****	1.71E+00	
0	1024.96	8	4	1.48	2047.38	2043	8	2.22E-03	****	1.68E+00	T
0	1139.11	16	2	2.58	2275.54	2272	8	4.81E-03	55.4	1.54E+00	
0	1152.43	8	7	1.90	2302.17	2294	10	2.34E-03	****	1.52E+00	
0	1158.20	5	15	1.45	2313.70	2306	11	1.52E-03	****	1.52E+00	
4	1235.44	11	9	2.24	2468.10	2465	20	3.11E-03	86.4	1.44E+00	T
4	1238.90	17	16	2.02	2475.00	2465	20	4.86E-03	****	1.43E+00	T
0	1268.92	26	5	7.69	2535.02	2527	19	7.69E-03	53.8	1.40E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 07:31:03.44

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
*                                                                       *
*                        DETECTOR AND SAMPLE DATA                       *
*                                                                       *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1205747504.CNF;1  *
* Acquisition date : 20-JUN-2024 06:30:26 Sensitivity     : 3.000       *
* Detector ID      : GAM05                Energy tolerance: 1.500       *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000      *
* Elapsed real time:    0 01:00:00.63     Half life ratio : *****       *
* Sample date      : 23-MAY-2024 16:00:00 Nuclide Library : SOLID       *
* Sample ID        : G1205747504          Analyst initials: MXR1        *
* Batch Number     : 2618905              Sample Quantity : 1.1123E+02 GRAM  *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000  *
*                                         Dry Weight      :    0.00000  *
*************************************************************************
*                                                                       *
*                        CALIBRATION INFORMATION                        *
*                                                                       *
* Eff. Cal. date   : 16-AUG-2023 10:50:42 Eff. Geometry   : CAN         *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM05_CAN.CNF;28        *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	2.108E-01
CD-109	4.768E-01
SN-126	4.566E-02
BA-137M	2.763E-02
CS-137	2.919E-02
HG-203	3.501E-02
TL-208	2.987E-02
BI-210	3.155E-01
PB-210	3.155E-01
BI-211	1.495E-01
BI-212	4.646E-01
PB-212	4.250E-02
BI-214	5.356E-02
PB-214	5.439E-02
RN-222	5.356E-02
RA-224	4.558E-01
RA-226	5.439E-02
AC-228	1.313E-01
RA-228	1.313E-01
TH-228	4.250E-02
TH-229	3.633E-01
TH-230	5.438E-02
TH-232	1.313E-01
TH-234	3.854E-01
U-234	5.438E-02
U-235	1.421E-01
U-238	3.854E-01
AM-243	2.145E-02
ANH-511	2.038E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	2.480E-01	NOT IDENT.
NA-22	3.088E-02	NOT IDENT.

NA-24	0.000E+00	SHORT HLIF
AL-26	9.059E-03	NOT IDENT.
SC-46	3.869E-02	FAIL ABUN
V-48	1.122E-01	NOT IDENT.
CR-51	4.276E-01	NOT IDENT.
MN-52	1.070E+00	NOT IDENT.
MN-54	3.048E-02	NOT IDENT.
CO-56	4.305E-02	FAIL ABUN
MN-56	0.000E+00	SHORT HLIF
CO-57	1.709E-02	NOT IDENT.
CO-58	2.888E-02	NOT IDENT.
FE-59	1.001E-01	NOT IDENT.
CO-60	3.572E-02	NOT IDENT.
ZN-65	8.193E-02	NOT IDENT.
GE-68	1.175E+00	NOT IDENT.
AS-73	1.535E-01	NOT IDENT.
AS-74	1.342E-01	NOT IDENT.
SE-75	3.811E-02	FAIL ABUN
BR-77	0.000E+00	SHORT HLIF
SR-82	4.091E-01	NOT IDENT.
RB-83	6.716E-02	NOT IDENT.
RB-84	6.728E-02	NOT IDENT.
KR-85	5.504E+00	NOT IDENT.
SR-85	3.322E-02	NOT IDENT.
RB-86	1.074E+00	NOT IDENT.
Y-88	3.635E-02	NOT IDENT.
Y-91	2.314E+01	NOT IDENT.
NB-94	3.208E-02	NOT IDENT.
NB-95	4.388E-02	NOT IDENT.
NB-95M	9.971E-02	NOT IDENT.
ZR-95	7.862E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	1.931E-02	NOT IDENT.
RH-102	4.817E-02	NOT IDENT.
RU-103	4.361E-02	FAIL ABUN
RH-106	2.721E-01	NOT IDENT.
RU-106	2.721E-01	NOT IDENT.
AG-108M	2.410E-02	NOT IDENT.
AG-110	5.762E-01	NOT IDENT.
AG-110M	4.572E-02	NOT IDENT.
SN-113	3.852E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	7.129E-02	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	2.145E-02	NOT IDENT.
SB-124	0.000E+00	NOT IDENT.
SB-125	7.001E-02	FAIL ABUN
TE-125M	7.240E+00	NOT IDENT.
I-126	3.036E-01	NOT IDENT.
SB-126	2.527E-01	NOT IDENT.
SB-127	1.091E+01	NOT IDENT.
I-131	3.057E-01	FAIL ABUN
I-132	0.000E+00	SHORT HLIF
TE-132	7.863E+00	NOT IDENT.
BA-133	3.252E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	4.166E-02	NOT IDENT.
I-135	0.000E+00	SHORT HLIF
CS-136	1.536E-01	FAIL ABUN
LA-138	5.575E-02	NOT IDENT.
CE-139	2.352E-02	NOT IDENT.
BA-140	5.161E-01	FAIL ABUN
LA-140	9.334E-02	NOT IDENT.
CE-141	4.813E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	1.449E-01	FAIL ABUN
PM-144	2.844E-02	NOT IDENT.
PR-144	2.142E+00	NOT IDENT.
PM-146	3.267E-02	NOT IDENT.
ND-147	1.059E+00	FAIL ABUN
PM-147	5.162E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	2.153E-02	FAIL ABUN
EU-152	7.622E-02	FAIL ABUN
GD-153	4.929E-02	NOT IDENT.

EU-154	8.813E-02	NOT IDENT.
EU-155	6.302E-02	FAIL ABUN
TB-160	1.037E-01	FAIL ABUN
HO-166M	5.239E-02	FAIL ABUN
TM-171	2.856E+00	NOT IDENT.
HF-172	1.275E-01	FAIL ABUN
LU-172	4.996E-02	FAIL ABUN
LU-176	2.010E-02	FAIL ABUN
HF-181	4.821E-02	NOT IDENT.
TA-182	1.890E-01	FAIL ABUN
RE-183	5.036E-02	NOT IDENT.
RE-184	1.322E-01	NOT IDENT.
W-188	5.942E+00	FAIL ABUN
IR-192	2.754E-02	FAIL ABUN
TL-204	1.915E+00	FAIL ABUN
BI-207	3.457E-02	FAIL ABUN
PB-211	5.052E-01	NOT IDENT.
BI-213	8.223E-02	NOT IDENT.
RN-219	3.517E-01	FAIL ABUN
RA-223	5.498E-01	FAIL ABUN
AC-225	1.007E+00	NOT IDENT.
AC-227	1.869E-01	FAIL ABUN
TH-227	1.869E-01	FAIL ABUN
PA-231	3.959E-01	NOT IDENT.
TH-231	5.498E-01	FAIL ABUN
PA-233	4.670E-02	NOT IDENT.
PA-234	2.435E-01	FAIL ABUN
PA-234M	4.734E+00	NOT IDENT.
NP-237	4.670E-02	NOT IDENT.
NP-238	0.000E+00	SHORT HLIF
NP-239	1.514E-01	FAIL ABUN
PU-239	2.381E+02	NOT IDENT.
AM-241	3.685E-02	NOT IDENT.
CM-243	6.306E-02	FAIL ABUN
BK-247	6.311E-02	FAIL ABUN
CM-247	3.109E-02	FAIL ABUN
CF-249	3.446E-02	NOT IDENT.
CF-251	8.440E-02	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 07:31:07.50

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1205747504.CNF;1  *
* Acquisition date : 20-JUN-2024 06:30:26 Sensitivity     : 3.000           *
* Detector ID      : GAM05                Energy tolerance: 1.500           *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 01:00:00.63     Half life ratio : *****           *
* Sample date      : 23-MAY-2024 16:00:00 Nuclide Library : SOLID           *
* Sample ID        : G1205747504          Analyst initials: MXR1            *
* Batch Number     : 2618905              Sample Quantity : 1.1123E+02 GRAM *
*                                         Quantity Err(%) : 1.7981E-03 %    *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000      *
*                                         Dry Weight      :    0.00000      *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   : 16-AUG-2023 10:50:42 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM05_CAN.CNF;28            *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	1.623E+01	2.229E+00	2.229E+00
CD-109	1.384E+00	9.612E-01	9.612E-01
SN-126	1.328E-01	9.194E-02	9.194E-02
BA-137M	2.009E-01	7.046E-02	7.046E-02
CS-137	2.122E-01	7.444E-02	7.444E-02
HG-203	3.765E-03	5.464E-02	5.464E-02
TL-208	2.645E-01	6.958E-02	6.958E-02
BI-210	1.312E+00	8.005E-01	8.005E-01
PB-210	1.312E+00	8.005E-01	8.005E-01
BI-211	2.874E+00	5.914E-01	5.914E-01
BI-212	1.857E+00	1.113E+00	1.113E+00
PB-212	9.083E-01	1.520E-01	1.520E-01
BI-214	9.324E-01	2.132E-01	2.132E-01
PB-214	1.043E+00	2.140E-01	2.140E-01
RN-222	9.324E-01	2.132E-01	2.132E-01
RA-224	2.902E+00	1.087E+00	1.087E+00
RA-226	1.043E+00	2.140E-01	2.140E-01
AC-228	7.393E-01	3.124E-01	3.124E-01
RA-228	7.393E-01	3.124E-01	3.124E-01
TH-228	9.083E-01	1.520E-01	1.520E-01
TH-229	-5.295E-02	4.429E-01	4.429E-01
TH-230	1.043E+00	2.139E-01	2.139E-01
TH-232	7.393E-01	3.124E-01	3.124E-01
TH-234	7.467E-01	9.973E-01	9.973E-01
U-234	1.043E+00	2.139E-01	2.139E-01
U-235	8.586E-02	1.613E-01	1.613E-01
U-238	7.467E-01	9.973E-01	9.973E-01
AM-243	2.079E-01	4.670E-02	4.670E-02
ANH-511	7.908E-02	7.566E-02	7.566E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	-3.172E-01	3.449E-01	3.733E-01	NOT IDENT.

NA-22	2.002E-02	3.437E-02	3.553E-02	NOT IDENT.
NA-24	-4.538E+11	7.265E+11	7.548E+11	SHORT HLIF
AL-26	-9.703E-03	1.844E-02	1.895E-02	NOT IDENT.
SC-46	1.046E-02	4.307E-02	4.333E-02	FAIL ABUN
V-48	7.519E-02	1.179E-01	1.227E-01	NOT IDENT.
CR-51	2.829E-01	4.563E-01	4.738E-01	NOT IDENT.
MN-52	-2.649E-01	1.370E+00	1.375E+00	NOT IDENT.
MN-54	2.939E-02	3.342E-02	3.595E-02	NOT IDENT.
CO-56	3.784E-02	4.615E-02	4.920E-02	FAIL ABUN
MN-56	1.000E+41	1.220E+41	0.000E+00	SHORT HLIF
CO-57	8.459E-03	1.907E-02	1.944E-02	NOT IDENT.
CO-58	-2.879E-02	4.279E-02	4.472E-02	NOT IDENT.
FE-59	2.660E-02	1.136E-01	1.142E-01	NOT IDENT.
CO-60	-1.883E-04	4.319E-02	4.319E-02	NOT IDENT.
ZN-65	6.403E-02	9.349E-02	9.785E-02	NOT IDENT.
GE-68	1.066E-01	1.369E+00	1.370E+00	NOT IDENT.
AS-73	-1.033E-01	1.788E-01	1.848E-01	NOT IDENT.
AS-74	6.321E-03	1.597E-01	1.598E-01	NOT IDENT.
SE-75	3.990E-02	4.470E-02	4.818E-02	FAIL ABUN
BR-77	5.409E+03	4.405E+03	5.035E+03	SHORT HLIF
SR-82	-1.635E-01	5.340E-01	5.390E-01	NOT IDENT.
RB-83	3.514E-02	7.427E-02	7.594E-02	NOT IDENT.
RB-84	-3.558E-02	8.448E-02	8.598E-02	NOT IDENT.
KR-85	-2.764E+00	7.798E+00	7.897E+00	NOT IDENT.
SR-85	-1.689E-02	4.711E-02	4.772E-02	NOT IDENT.
RB-86	-2.257E-01	1.313E+00	1.317E+00	NOT IDENT.
Y-88	9.252E-03	3.979E-02	4.001E-02	NOT IDENT.
Y-91	1.857E+01	2.434E+01	2.574E+01	NOT IDENT.
NB-94	8.343E-03	3.775E-02	3.793E-02	NOT IDENT.
NB-95	1.316E-02	5.758E-02	5.788E-02	NOT IDENT.
NB-95M	-2.243E-02	1.356E-01	1.359E-01	NOT IDENT.
ZR-95	-1.408E-02	9.883E-02	9.903E-02	NOT IDENT.
NB-97	-1.000E+41	3.579E+41	0.000E+00	SHORT HLIF
ZR-97	9.116E+10	3.438E+11	3.463E+11	SHORT HLIF
MO-99	-1.369E+02	3.173E+02	3.233E+02	SHORT HLIF
TC-99M	1.157E+31	2.921E+31	0.000E+00	SHORT HLIF
RH-101	-2.258E-02	2.518E-02	2.716E-02	NOT IDENT.
RH-102	-6.338E-03	5.908E-02	5.915E-02	NOT IDENT.
RU-103	1.184E-02	4.969E-02	4.997E-02	FAIL ABUN
RH-106	1.740E-01	2.969E-01	3.071E-01	NOT IDENT.
RU-106	1.740E-01	2.969E-01	3.071E-01	NOT IDENT.
AG-108M	6.627E-03	2.714E-02	2.730E-02	NOT IDENT.
AG-110	-2.238E-01	8.377E-01	8.437E-01	NOT IDENT.
AG-110M	8.406E-03	5.157E-02	5.171E-02	NOT IDENT.
SN-113	9.338E-03	4.326E-02	4.347E-02	NOT IDENT.
CD-115	-2.051E+02	5.162E+02	5.244E+02	SHORT HLIF
SN-117M	1.910E-02	8.247E-02	8.292E-02	NOT IDENT.
SB-122	8.744E-01	4.612E+01	4.613E+01	SHORT HLIF
TE-123M	1.302E-02	2.411E-02	2.481E-02	NOT IDENT.
SB-124	-6.421E-02	6.312E-02	6.944E-02	NOT IDENT.
SB-125	-1.810E-02	8.390E-02	8.429E-02	FAIL ABUN
TE-125M	2.062E+00	8.171E+00	8.224E+00	NOT IDENT.
I-126	1.021E-01	3.833E-01	3.860E-01	NOT IDENT.
SB-126	-2.746E-01	4.085E-01	4.268E-01	NOT IDENT.
SB-127	4.020E+00	1.255E+01	1.268E+01	NOT IDENT.
I-131	8.480E-03	3.496E-01	3.496E-01	FAIL ABUN
I-132	-1.000E+41	3.166E+41	0.000E+00	SHORT HLIF
TE-132	-1.610E+00	9.782E+00	9.809E+00	NOT IDENT.
BA-133	1.050E-02	3.959E-02	3.987E-02	NOT IDENT.
I-133	-3.508E+06	1.294E+08	1.294E+08	SHORT HLIF
CS-134	3.865E-02	4.472E-02	4.800E-02	NOT IDENT.
I-135	2.505E+29	3.603E+29	0.000E+00	SHORT HLIF
CS-136	-4.851E-02	1.914E-01	1.927E-01	FAIL ABUN
LA-138	1.050E-02	6.526E-02	6.543E-02	NOT IDENT.
CE-139	8.842E-03	2.714E-02	2.744E-02	NOT IDENT.
BA-140	4.866E-01	7.454E-01	7.770E-01	FAIL ABUN
LA-140	-2.147E-01	1.966E-01	2.191E-01	NOT IDENT.
CE-141	-5.607E-02	6.301E-02	6.790E-02	NOT IDENT.
CE-143	1.398E+04	7.028E+04	7.056E+04	SHORT HLIF
CE-144	-1.120E-02	1.705E-01	1.705E-01	FAIL ABUN
PM-144	5.835E-03	3.351E-02	3.361E-02	NOT IDENT.
PR-144	4.396E-01	2.524E+00	2.532E+00	NOT IDENT.
PM-146	-7.006E-03	3.919E-02	3.931E-02	NOT IDENT.
ND-147	-2.018E-01	1.285E+00	1.288E+00	FAIL ABUN
PM-147	4.827E+02	5.583E+02	5.992E+02	NOT IDENT.
PM-149	-2.188E+03	4.515E+03	4.621E+03	SHORT HLIF
EU-150	2.285E-03	2.426E-02	2.429E-02	FAIL ABUN
EU-152	-2.427E-03	9.686E-02	9.687E-02	FAIL ABUN

GD-153	4.137E-04	5.767E-02	5.767E-02	NOT IDENT.
EU-154	5.913E-02	9.753E-02	1.011E-01	NOT IDENT.
EU-155	3.967E-03	7.213E-02	7.215E-02	FAIL ABUN
TB-160	-2.609E-02	1.249E-01	1.254E-01	FAIL ABUN
HO-166M	4.424E-03	6.307E-02	6.310E-02	FAIL ABUN
TM-171	6.995E-01	3.101E+00	3.117E+00	NOT IDENT.
HF-172	4.887E-02	1.441E-01	1.458E-01	FAIL ABUN
LU-172	3.380E-02	5.149E-02	5.369E-02	FAIL ABUN
LU-176	-5.017E-03	2.589E-02	2.599E-02	FAIL ABUN
HF-181	1.730E-02	5.429E-02	5.484E-02	NOT IDENT.
TA-182	-2.093E-02	2.299E-01	2.301E-01	FAIL ABUN
RE-183	-1.486E-02	5.701E-02	5.740E-02	NOT IDENT.
RE-184	-3.279E-02	1.595E-01	1.602E-01	NOT IDENT.
W-188	-8.822E-01	8.208E+00	8.218E+00	FAIL ABUN
IR-192	-3.292E-02	3.505E-02	3.806E-02	FAIL ABUN
TL-204	-5.875E-01	2.357E+00	2.372E+00	FAIL ABUN
BI-207	-2.880E-02	4.750E-02	4.924E-02	FAIL ABUN
PB-211	-2.310E-01	6.486E-01	6.569E-01	NOT IDENT.
BI-213	-1.702E-02	9.817E-02	9.846E-02	NOT IDENT.
RN-219	2.323E-01	3.799E-01	3.940E-01	FAIL ABUN
RA-223	5.147E-01	5.732E-01	6.183E-01	FAIL ABUN
AC-225	-6.927E-01	1.306E+00	1.343E+00	NOT IDENT.
AC-227	-6.239E-02	2.384E-01	2.401E-01	FAIL ABUN
TH-227	-6.239E-02	2.384E-01	2.401E-01	FAIL ABUN
PA-231	9.867E-02	4.825E-01	4.845E-01	NOT IDENT.
TH-231	5.147E-01	5.732E-01	6.183E-01	FAIL ABUN
PA-233	2.993E-03	5.809E-02	5.810E-02	NOT IDENT.
PA-234	-1.879E-01	3.843E-01	3.935E-01	FAIL ABUN
PA-234M	7.148E+00	4.507E+00	5.540E+00	NOT IDENT.
NP-237	2.993E-03	5.809E-02	5.810E-02	NOT IDENT.
NP-238	1.292E+02	1.144E+03	1.146E+03	SHORT HLIF
NP-239	-6.641E-02	1.823E-01	1.848E-01	FAIL ABUN
PU-239	8.806E+01	2.700E+02	2.729E+02	NOT IDENT.
AM-241	-1.571E-02	4.212E-02	4.271E-02	NOT IDENT.
CM-243	-1.269E-02	7.357E-02	7.379E-02	FAIL ABUN
BK-247	-5.877E-03	8.564E-02	8.568E-02	FAIL ABUN
CM-247	6.749E-03	3.513E-02	3.526E-02	FAIL ABUN
CF-249	1.257E-02	3.827E-02	3.868E-02	NOT IDENT.
CF-251	-2.493E-02	1.037E-01	1.043E-01	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	57.8144	85.43	70.1532	131.20	67.2101
45.60	59.8672	86.55	70.3656	133.02	59.6299
46.54	60.1044	86.79	70.4102	133.52	57.7306
49.72	62.4512	86.94	96.8534	136.00	58.0079
51.35	56.5686	87.09	96.8929	136.47	58.0601
51.87	56.6831	87.57	97.0162	140.51	0.0000
52.39	56.0083	88.03	97.1354	143.76	41.8987
52.97	66.4107	88.34	97.2151	144.24	46.9283
53.44	67.3216	88.47	97.2487	145.44	55.0369
54.07	66.6880	89.96	71.0034	152.43	57.7549
57.36	0.0000	1093.63	53.3469	153.25	46.6766
57.53	65.1309	91.11	53.4119	323.87	41.6725
57.98	68.4575	92.59	53.6151	156.02	49.9600
59.27	67.1538	93.35	53.7190	158.56	43.0100
59.32	72.0209	94.56	53.8838	159.00	38.9428
59.54	72.0769	94.65	47.9073	162.33	46.3760
60.96	69.4502	94.67	47.9097	162.66	52.5883
61.17	69.5007	94.87	47.9338	163.33	44.3890
62.93	74.5623	97.43	52.4607	165.86	46.6486
63.29	74.6530	98.43	47.1492	176.31	43.2215
63.58	74.7257	98.44	50.7773	176.60	47.4603
64.28	74.9006	99.53	51.8211	177.52	43.3035
66.73	92.9303	100.11	55.5354	181.07	0.0000
67.24	90.8670	102.03	54.8767	181.52	48.8862
125.81	73.2409	103.18	56.8606	184.41	58.3528
67.75	73.2570	103.37	56.8862	143.76	57.7557
68.89	84.3850	105.21	51.6028	193.51	44.3608
69.67	87.1065	105.31	51.6147	197.03	54.3755
70.82	87.4183	106.12	49.8645	198.01	43.5614
70.83	70.6097	106.47	49.9048	201.83	48.1787
72.81	74.4239	109.28	53.0161	203.43	41.7028
72.87	74.4373	111.00	48.5528	205.31	44.0131
74.66	74.8401	111.76	52.3761	210.85	49.8944
74.82	74.8764	114.06	43.2419	215.65	40.1754
74.97	74.9100	116.30	51.9544	218.12	50.3854
77.11	75.3840	116.74	47.2763	222.11	54.0278
78.74	75.7411	119.76	59.9522	227.09	28.3218
79.69	69.0430	121.12	40.0825	227.38	29.4658
80.03	69.1089	121.22	40.0909	228.16	43.1083
80.12	69.1272	121.78	40.1376	228.18	43.1095
80.19	62.2271	122.06	42.0735	116.74	43.1095
80.57	62.2941	122.92	56.5175	235.69	45.8118
81.00	62.3699	123.07	57.4933	235.96	42.3900
81.07	62.3820	265.00	50.8496	238.63	42.5311
81.75	50.3482	125.81	45.2899	238.98	0.0000
82.47	66.1069	127.23	61.8486	240.99	42.6548
83.79	60.5281	127.91	58.0630	242.00	42.7079
84.00	60.5630	129.30	51.4311	244.70	42.8484

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.40	50.2581	344.28	29.5775	563.25	23.2059
252.80	44.4350	345.93	28.3345	564.24	0.0000
254.15	0.0000	351.06	25.8795	569.33	12.1523
256.23	39.9182	351.93	25.8997	946.00	12.1538
260.90	0.0000	355.39	0.0000	569.70	10.1294
264.66	23.7109	356.01	23.3954	583.19	19.4020
264.80	23.7146	364.49	34.0488	584.27	19.4144
265.00	39.5335	366.42	0.0000	595.83	20.5762
269.46	33.3756	372.51	30.7710	427.87	28.8864
270.03	33.3970	375.05	29.9568	602.52	0.0000
271.23	33.4423	377.52	30.9034	604.72	24.8184
273.65	33.5320	356.01	23.9678	607.14	17.0865
276.40	26.4271	388.16	25.8364	609.32	16.5892
277.37	28.8604	388.63	24.9552	610.33	16.5990
277.60	28.8677	391.69	23.2319	614.28	21.8348
278.00	28.8801	264.66	19.8028	618.01	19.7979
279.20	35.3445	401.81	21.6235	620.36	19.8241
279.54	35.3570	402.40	25.2394	621.93	11.4870
279.70	30.5410	404.85	24.9283	630.19	0.0000
280.46	33.7841	410.95	21.7827	631.29	19.9455
283.69	26.6373	413.71	21.8306	633.25	13.6617
284.31	36.3483	414.70	27.3096	634.78	22.0878
285.41	33.9652	423.72	22.0024	635.95	18.9441
285.90	0.0000	427.09	30.3319	636.99	26.3265
287.50	17.0202	427.87	23.9127	657.50	17.5702
290.67	32.5293	433.94	20.3278	657.76	19.1704
293.27	0.0000	439.40	20.4119	657.90	0.0000
351.93	37.9960	440.45	24.1423	661.66	14.9416
295.96	38.0253	453.88	22.5083	664.57	0.0000
879.38	50.8379	463.37	23.6084	666.33	9.6292
299.98	27.9197	468.07	22.7407	666.50	9.6299
300.09	29.5649	473.00	21.3945	667.71	0.0000
300.13	29.5664	475.06	19.9973	677.62	23.6785
301.36	35.7712	476.78	22.8813	685.70	14.0505
302.85	45.7091	477.60	24.8024	692.65	0.0000
256.23	28.4615	482.18	21.0542	695.00	16.2897
304.85	25.9956	487.02	20.1647	696.49	14.1288
306.78	33.4888	492.35	0.0000	696.51	14.1288
308.46	24.8486	497.08	20.3044	697.00	16.3068
311.90	26.1808	505.52	14.5859	697.30	16.3092
316.51	39.2422	507.63	0.0000	697.49	16.3104
319.41	22.6077	511.00	15.6152	702.65	19.6241
320.08	26.8118	514.00	26.4032	706.68	12.0169
321.04	35.2239	514.00	26.4032	711.68	16.4282
323.87	24.3879	520.40	15.7122	720.70	28.0535
325.23	34.5254	520.69	0.0000	721.93	0.0000
328.76	23.6580	522.65	0.0000	722.78	14.8672
333.37	27.1569	527.90	0.0000	722.91	14.8683
333.97	30.5684	528.26	19.7404	723.31	14.8711
334.37	31.4295	529.59	15.8060	724.19	24.7961
338.28	38.3652	529.87	0.0000	727.33	19.8677
338.32	38.3670	531.02	22.7426	733.00	14.9420
311.90	35.8810	537.26	17.8696	735.93	16.6260
340.48	35.8810	546.56	0.0000	333.97	13.3105
340.55	35.8835	552.55	20.0464	739.50	0.0000

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
744.23	21.1446	949.00	12.7691	1384.29	6.3160
747.24	13.3740	667.71	0.0000	1408.01	8.4771
748.06	21.1833	962.31	5.8676	1434.09	9.6053
752.31	13.4063	964.08	5.8717	1435.80	7.4742
753.82	22.3600	966.17	3.6727	1457.56	0.0000
756.73	21.2714	911.20	11.7652	1460.82	3.2249
756.80	21.2722	983.53	8.3186	1489.16	9.7476
884.68	13.4805	984.45	0.0000	1505.03	9.7883
765.81	16.8658	1274.44	16.7173	1584.12	3.3290
766.42	20.2441	1001.03	3.7216	1596.21	10.0168
766.84	21.9359	1002.74	7.4478	1620.50	4.4785
772.60	0.0000	1004.73	17.8881	1621.92	2.2401
776.52	19.2101	507.63	0.0000	1678.03	0.0000
739.50	0.0000	1025.87	0.0000	1690.97	3.6437
778.90	18.1003	1028.54	0.0000	1750.46	0.0000
783.70	14.7393	1037.84	10.3736	1764.49	4.6323
788.74	15.9101	1038.76	0.0000	1063.66	11.1322
792.07	17.0721	631.29	5.6763	1771.35	3.7115
795.86	11.4014	1048.07	11.3584	1791.20	0.0000
810.06	9.1797	1049.04	13.2557	1808.65	1.8713
810.29	10.3282	1050.41	15.1572	1810.72	0.0000
344.28	10.3290	1063.66	12.3732	1836.06	2.8239
810.76	14.9218	1077.00	13.3882		
815.77	12.6543	1077.34	12.4327		
1048.07	16.1248	1085.87	13.4292		
832.01	16.2217	1093.63	4.8090		
834.85	5.2205	1099.45	11.5649		
835.71	5.2225	1112.07	17.4221		
836.80	0.0000	1112.84	15.4902		
846.75	0.0000	1115.54	7.7524		
846.77	9.3291	1120.29	15.5303		
856.80	21.0813	1120.55	15.5313		
860.56	16.4228	1221.41	15.5352		
871.09	13.2559	1129.67	15.5791		
873.19	12.3829	1131.51	0.0000		
875.33	0.0000	1147.95	0.0000		
879.38	8.8678	1173.23	13.8291		
880.51	10.6465	1177.95	15.8291		
881.60	12.4265	1189.05	10.9214		
883.24	7.9939	1204.77	8.9802		
884.68	12.4427	1221.41	17.0519		
889.28	11.5757	1231.02	9.6586		
894.76	20.5265	1235.36	16.1191		
898.04	8.9368	1238.28	12.1003		
900.72	19.6824	1260.41	0.0000		
903.28	14.3291	1271.87	6.1128		
911.20	16.1724	1274.44	3.2627		
912.08	16.1785	1274.54	3.2627		
923.98	0.0000	1291.59	8.1987		
926.50	9.9442	1298.22	0.0000		
929.11	7.2397	1312.11	8.2485		
935.54	11.7943	1332.49	9.3351		
937.49	21.7910	1362.66	0.0000		
944.13	9.1034	1365.19	7.3290		
946.00	17.3092	1368.63	0.0000		

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 05:40:08.20

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1205747505.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM50.CNF;64
                                     Background date  : 17-JUN-2024 11:16:05
Sample date      : 31-MAY-2024 00:00:00 Acquisition date : 20-JUN-2024 05:24:34
Sample ID        : G1205747505          Sample quantity  : 1.15000E+02 GRAM
Detector name    : GAM50                Detector geometry: CAN
Elapsed live time: 0 00:15:00.00        Elapsed real time: 0 00:15:02.94  0.3%
Energy tolerance : 1.50000 keV          Analyst Initials : MXR1
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 2618905              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.64*	903	995	1.02	93.40	89	9	1.00E+00	7.1	
2	0	59.53	6645	1432	1.00	119.17	114	11	7.38E+00	1.7	
3	0	241.13	45	342	1.41	482.29	480	7	5.05E-02	69.0	
4	0	370.16	22	314	0.66	740.29	737	8	2.41E-02	143.5	
5	0	422.57	65	347	2.30	845.09	841	9	7.17E-02	53.7	
6	0	531.00	37	178	0.99	1061.92	1056	10	4.06E-02	71.2	
7	0	579.70	40	122	1.49	1159.32	1155	9	4.40E-02	52.7	
8	0	585.94	17	196	3.52	1171.79	1165	12	1.85E-02	170.2	
9	0	661.89	10023	272	1.67	1323.69	1315	18	1.11E+01	1.1	
10	0	697.99	24	72	1.41	1395.87	1391	8	2.69E-02	64.5	
11	0	716.62	165	185	13.12	1433.13	1418	32	1.84E-01	25.8	
12	0	832.83	27	112	0.54	1665.55	1659	12	3.01E-02	80.3	
13	0	874.57	18	110	1.02	1749.02	1744	10	1.96E-02	113.8	
14	0	1090.49	71	138	6.00	2180.88	2171	19	7.90E-02	41.3	
15	0	1173.50	2722	142	2.09	2346.89	2336	20	3.02E+00	2.2	
16	0	1248.33	7	29	1.43	2496.57	2487	13	7.89E-03	161.3	
17	0	1298.89	13	10	3.37	2597.70	2588	14	1.43E-02	60.0	
18	0	1332.70	2453	47	2.29	2665.33	2653	23	2.73E+00	2.1	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JUN-2024 05:40:09

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1205747505.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: MXR1		
Sample date	: 31-MAY-2024 00:00:00	Acquisition date	: 20-JUN-2024 05:24:34
Sample ID	: G1205747505	Sample quantity	: 115.00 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA50	Detector geometry	: CAN
Elapsed live time	: 0 00:15:00.00	Elapsed real time	: 0 00:15:02.94 0.3%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
CO-60	1173.23	2592	99.85	1.251E+00	5.418E+01	5.458E+01	4.37
	1332.49	2323	99.98*	1.100E+00	5.517E+01	5.557E+01	4.29
BA-137M	661.66	9789	89.90*	2.207E+00	1.288E+02	1.290E+02	2.14
CS-137	661.66	9789	85.10*	2.207E+00	1.361E+02	1.363E+02	2.14
PR-144	696.51	24	1.34*	2.108E+00	2.181E+01	2.291E+01	129.08
	1489.16	------	0.28	9.952E-01	------ Line Not Found		------
BI-210	46.54	983	4.25*	1.376E-01	4.388E+03	4.396E+03	14.27
PB-210	46.54	983	4.25*	1.376E-01	4.388E+03	4.396E+03	14.27
RA-224	240.99	46	4.10*	4.411E+00	6.690E+00	6.690E+00	138.02
AM-241	59.54	7166	35.90*	9.753E-01	5.344E+02	5.345E+02	3.33

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 05:40:10.12

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1205747505.CNF;1		
Acquisition date	: 20-JUN-2024 05:24:34	Sensitivity	: 3.000
Detector ID	: GAM50	Energy tolerance	: 1.500
Elapsed live time	: 0 00:15:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 00:15:02.94	Half life ratio	: *****
Sample date	: 31-MAY-2024 00:00:00	Analyst initials	: MXR1
Sample ID	: G1205747505	Sample Quantity	: 1.1500E+02 GRAM
Batch Number	: 2618905	Wet Weight	: 0.00000
Wet wt corr	: 1.00000	Dry Weight	: 0.00000
Nuclide Library	: SOLID.NLB;17		

CALIBRATION INFORMATION

Eff. Cal. date	: 24-JUL-2023 04:23:06	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM50_CAN.CNF;2		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
CO-60	5.557E+01	2.334E+00	5.446E-01
BA-137M	1.290E+02	2.709E+00	6.840E-01
CS-137	1.363E+02	2.862E+00	7.226E-01
PR-144	2.291E+01	2.898E+01	4.532E+01
BI-210	4.396E+03	6.146E+02	4.522E+02
PB-210	4.396E+03	6.146E+02	4.522E+02
RA-224	6.690E+00	9.049E+00	1.228E+01
AM-241	5.345E+02	1.743E+01	7.796E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	2.690E+00	5.612E+00	9.719E+00	NOT IDENT.
NA-22	1.509E-01	2.681E-01	5.535E-01	NOT IDENT.
NA-24	0.000E+00	7.606E+08	0.000E+00	SHORT HLIF
AL-26	6.546E-02	1.602E-01	3.862E-01	NOT IDENT.
K-40	1.079E+00	1.994E+00	4.414E+00	NOT IDENT.
SC-46	2.076E-01	5.530E-01	9.895E-01	NOT IDENT.
V-48	7.476E-01	1.260E+00	2.262E+00	NOT IDENT.
CR-51	1.025E+00	5.296E+00	9.437E+00	NOT IDENT.
MN-52	1.038E+00	2.572E+00	5.515E+00	NOT IDENT.
MN-54	1.562E-01	4.743E-01	7.575E-01	NOT IDENT.
CO-56	7.603E-02	4.805E-01	8.581E-01	NOT IDENT.
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	8.947E-02	2.844E-01	4.976E-01	NOT IDENT.
CO-58	-3.248E-01	4.590E-01	7.741E-01	NOT IDENT.
FE-59	-7.308E-01	1.281E+00	2.177E+00	NOT IDENT.
ZN-65	-1.167E-01	1.091E+00	1.965E+00	NOT IDENT.
GE-68	-2.363E+00	1.654E+01	2.980E+01	NOT IDENT.
AS-73	-7.445E+00	4.047E+01	7.322E+01	NOT IDENT.
AS-74	-7.987E-01	1.219E+00	2.134E+00	NOT IDENT.
SE-75	-2.393E-01	5.184E-01	9.155E-01	NOT IDENT.
BR-77	-1.005E+02	4.828E+02	7.801E+02	NOT IDENT.
SR-82	2.520E+00	4.072E+00	7.581E+00	NOT IDENT.

RB-83	7.058E-01	9.677E-01	1.710E+00	FAIL ABUN
RB-84	-3.837E-01	1.013E+00	1.729E+00	NOT IDENT.
KR-85	-2.966E+01	8.985E+01	1.498E+02	NOT IDENT.
SR-85	-1.654E-01	5.025E-01	8.380E-01	NOT IDENT.
RB-86	1.791E+00	1.226E+01	2.251E+01	NOT IDENT.
Y-88	-9.862E-02	1.400E-01	2.385E-01	NOT IDENT.
Y-91	-9.044E+01	1.636E+02	2.873E+02	NOT IDENT.
NB-94	7.245E-02	3.456E-01	5.882E-01	NOT IDENT.
NB-95	-1.876E-01	4.289E-01	7.438E-01	NOT IDENT.
NB-95M	1.099E-01	1.378E+00	2.503E+00	NOT IDENT.
ZR-95	-2.730E-01	7.343E-01	1.284E+00	NOT IDENT.
NB-97	0.000E+00	2.233E+40	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	3.336E+09	0.000E+00	SHORT HLIF
MO-99	1.480E+02	4.286E+02	7.915E+02	NOT IDENT.
TC-99M	0.000E+00	4.652E+23	0.000E+00	SHORT HLIF
RH-101	-2.594E-01	3.198E-01	5.323E-01	NOT IDENT.
RH-102	2.983E-01	5.983E-01	1.114E+00	FAIL ABUN
RU-103	2.878E-01	6.065E-01	1.057E+00	NOT IDENT.
RH-106	-2.108E+00	3.394E+00	5.928E+00	NOT IDENT.
RU-106	-2.108E+00	3.394E+00	5.928E+00	NOT IDENT.
AG-108M	3.468E-01	4.673E-01	8.248E-01	NOT IDENT.
CD-109	8.557E+00	8.180E+00	1.511E+01	NOT IDENT.
AG-110	0.000E+00	1.183E+01	2.127E+01	NOT IDENT.
AG-110M	2.137E-01	6.827E-01	1.217E+00	NOT IDENT.
SN-113	-6.362E-02	6.384E-01	1.103E+00	NOT IDENT.
CD-115	-5.252E+02	8.133E+02	1.164E+03	NOT IDENT.
SN-117M	-1.155E-01	7.237E-01	1.218E+00	NOT IDENT.
SB-122	3.419E+01	8.015E+01	1.492E+02	NOT IDENT.
TE-123M	-1.480E-01	2.950E-01	4.883E-01	NOT IDENT.
SB-124	-1.003E-01	6.211E-01	1.193E+00	NOT IDENT.
SB-125	5.283E-02	1.415E+00	2.320E+00	NOT IDENT.
TE-125M	-1.657E+01	1.088E+02	1.887E+02	NOT IDENT.
I-126	2.133E+00	3.064E+00	5.208E+00	NOT IDENT.
SB-126	2.031E+00	1.749E+00	3.424E+00	FAIL ABUN
SN-126	6.679E-01	8.064E-01	1.477E+00	NOT IDENT.
SB-127	1.533E+01	2.824E+01	5.362E+01	NOT IDENT.
I-131	2.379E-01	2.383E+00	4.183E+00	NOT IDENT.
I-132	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
TE-132	-4.821E+00	2.336E+01	4.216E+01	NOT IDENT.
BA-133	-5.500E-01	5.513E-01	9.242E-01	NOT IDENT.
I-133	0.000E+00	6.114E+06	0.000E+00	SHORT HLIF
CS-134	2.116E-01	3.982E-01	7.412E-01	NOT IDENT.
I-135	0.000E+00	1.338E+22	0.000E+00	SHORT HLIF
CS-136	-4.166E-01	1.877E+00	3.185E+00	NOT IDENT.
LA-138	1.121E-01	3.343E-01	7.020E-01	NOT IDENT.
CE-139	-1.019E-01	3.195E-01	5.313E-01	NOT IDENT.
BA-140	3.419E+00	4.545E+00	8.037E+00	FAIL ABUN
LA-140	-5.544E-01	6.723E-01	1.065E+00	NOT IDENT.
CE-141	5.348E-01	7.012E-01	1.236E+00	NOT IDENT.
CE-143	0.000E+00	1.823E+04	0.000E+00	SHORT HLIF
CE-144	1.645E-01	2.017E+00	3.482E+00	NOT IDENT.
PM-144	3.053E-01	3.862E-01	6.184E-01	FAIL ABUN
PM-146	2.667E-01	7.018E-01	1.214E+00	NOT IDENT.
ND-147	9.807E+00	1.369E+01	1.646E+01	FAIL ABUN
PM-147	1.319E+02	8.226E+03	1.423E+04	NOT IDENT.
PM-149	-1.208E+03	5.382E+03	9.524E+03	NOT IDENT.
EU-150	-4.422E-02	3.384E-01	5.929E-01	NOT IDENT.
EU-152	-8.761E-01	1.219E+00	2.076E+00	NOT IDENT.
GD-153	2.363E-01	8.918E-01	1.590E+00	NOT IDENT.
EU-154	4.525E-01	7.621E-01	1.577E+00	FAIL ABUN
EU-155	4.795E-02	1.099E+00	1.930E+00	NOT IDENT.
TB-160	8.951E-01	2.055E+00	3.275E+00	FAIL ABUN
HO-166M	6.572E-01	5.524E-01	1.084E+00	NOT IDENT.
TM-171	9.297E+02	8.250E+02	1.553E+03	NOT IDENT.
HF-172	4.444E-01	1.975E+00	3.443E+00	NOT IDENT.
LU-172	7.283E-01	9.640E-01	1.624E+00	FAIL ABUN
LU-176	1.872E-01	3.135E-01	5.712E-01	NOT IDENT.
HF-181	4.550E-02	7.125E-01	1.216E+00	NOT IDENT.
TA-182	8.613E-01	1.442E+00	2.853E+00	NOT IDENT.
RE-183	0.000E+00	9.019E+00	1.941E+01	FAIL ABUN
RE-184	-1.415E+00	1.949E+00	3.237E+00	NOT IDENT.
W-188	-3.186E+01	8.603E+01	1.513E+02	NOT IDENT.
IR-192	-3.901E-02	4.693E-01	8.272E-01	NOT IDENT.
HG-203	6.942E-02	4.858E-01	8.735E-01	NOT IDENT.
TL-204	3.594E+01	6.632E+01	1.221E+02	NOT IDENT.
BI-207	1.747E-01	6.859E-01	1.269E+00	NOT IDENT.
TL-208	-9.374E-02	6.139E-01	7.039E-01	NOT IDENT.
BI-211	-1.358E+00	2.603E+00	4.471E+00	NOT IDENT.

PB-211	-9.327E-01	1.011E+01	1.740E+01	FAIL ABUN
BI-212	-2.679E+00	5.876E+00	8.858E+00	NOT IDENT.
PB-212	-1.701E-01	6.989E-01	1.127E+00	NOT IDENT.
BI-213	6.075E-01	1.653E+00	2.870E+00	NOT IDENT.
BI-214	3.236E-01	7.276E-01	1.355E+00	NOT IDENT.
PB-214	5.877E-01	9.234E-01	1.666E+00	FAIL ABUN
RN-219	1.732E+00	5.725E+00	1.003E+01	NOT IDENT.
RN-222	3.236E-01	7.276E-01	1.355E+00	NOT IDENT.
RA-223	3.332E+00	8.029E+00	1.441E+01	NOT IDENT.
AC-225	5.370E+00	9.408E+00	1.747E+01	NOT IDENT.
RA-226	5.877E-01	9.234E-01	1.666E+00	FAIL ABUN
AC-227	4.440E-01	2.869E+00	5.202E+00	NOT IDENT.
TH-227	4.440E-01	2.869E+00	5.202E+00	NOT IDENT.
AC-228	-1.234E+00	2.019E+00	3.375E+00	NOT IDENT.
RA-228	-1.234E+00	2.019E+00	3.375E+00	NOT IDENT.
TH-228	-1.701E-01	6.989E-01	1.127E+00	NOT IDENT.
TH-229	1.152E+00	6.365E+00	1.064E+01	NOT IDENT.
TH-230	5.877E-01	9.234E-01	1.666E+00	FAIL ABUN
PA-231	1.057E+00	5.554E+00	9.956E+00	NOT IDENT.
TH-231	3.332E+00	8.029E+00	1.441E+01	NOT IDENT.
TH-232	-1.234E+00	2.019E+00	3.375E+00	NOT IDENT.
PA-233	-2.765E-01	7.888E-01	1.379E+00	NOT IDENT.
PA-234	-4.101E+00	4.824E+00	7.904E+00	NOT IDENT.
PA-234M	-2.469E+01	6.364E+01	1.071E+02	NOT IDENT.
TH-234	-2.842E+00	2.305E+01	3.877E+01	NOT IDENT.
U-234	5.877E-01	9.234E-01	1.666E+00	FAIL ABUN
U-235	-8.874E-01	1.999E+00	3.347E+00	NOT IDENT.
NP-237	-2.765E-01	7.888E-01	1.379E+00	NOT IDENT.
NP-238	1.122E+03	1.535E+03	2.781E+03	NOT IDENT.
U-238	-2.842E+00	2.305E+01	3.877E+01	NOT IDENT.
NP-239	-5.314E-01	2.829E+00	4.873E+00	NOT IDENT.
PU-239	3.229E+03	3.344E+03	6.008E+03	NOT IDENT.
AM-243	-2.424E-01	6.454E-01	1.143E+00	NOT IDENT.
CM-243	7.427E-01	1.128E+00	2.032E+00	NOT IDENT.
BK-247	-3.840E-01	8.997E-01	1.591E+00	NOT IDENT.
CM-247	2.207E-01	5.256E-01	9.250E-01	NOT IDENT.
CF-249	7.589E-02	5.418E-01	9.470E-01	NOT IDENT.
CF-251	-8.496E-02	1.374E+00	2.299E+00	NOT IDENT.
ANH-511	2.199E-01	3.872E-01	6.904E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 05:40:08.91

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
CO-60	1173.23	2592	99.85	1.251E+00	5.418E+01	5.458E+01	4.37
	1332.49	2323	99.98*	1.100E+00	5.517E+01	5.557E+01	4.29
BA-137M	661.66	9789	89.90*	2.207E+00	1.288E+02	1.290E+02	2.14
CS-137	661.66	9789	85.10*	2.207E+00	1.361E+02	1.363E+02	2.14
PR-144	696.51	24	1.34*	2.108E+00	2.181E+01	2.291E+01	129.08
	1489.16	------	0.28	9.952E-01	------ Line Not Found		------
BI-210	46.54	983	4.25*	1.376E-01	4.388E+03	4.396E+03	14.27
PB-210	46.54	983	4.25*	1.376E-01	4.388E+03	4.396E+03	14.27
RA-224	240.99	46	4.10*	4.411E+00	6.690E+00	6.690E+00	138.02
AM-241	59.54	7166	35.90*	9.753E-01	5.344E+02	5.345E+02	3.33

Flag: "*" = Keyline

Sample ID : G1205747505 Acquisition date : 20-JUN-2024 05:24:34

Total number of lines in spectrum	18	
Number of unidentified lines	6	
Number of lines tentatively identified by NID	12	66.67%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.01	5.517E+01	5.557E+01	0.238E+01	4.29	
BA-137M	30.08Y	1.00	1.288E+02	1.290E+02	0.028E+02	2.14	
CS-137	30.08Y	1.00	1.361E+02	1.363E+02	0.029E+02	2.14	
PR-144	284.91D	1.05	2.181E+01	2.291E+01	2.957E+01	129.08	
BI-210	22.20Y	1.00	4.388E+03	4.396E+03	0.627E+03	14.27	
PB-210	22.20Y	1.00	4.388E+03	4.396E+03	0.627E+03	14.27	
RA-224	1.41E+10Y	1.00	6.690E+00	6.690E+00	9.233E+00	138.02	
AM-241	432.60Y	1.00	5.344E+02	5.345E+02	0.178E+02	3.33	
			---------	---------			
	Total Activity :		9.660E+03	9.677E+03			
	Grand Total Activity :		9.660E+03	9.677E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	370.16	22	315	0.66	740.29	737	8	2.41E-02	****	3.36E+00	
0	422.57	64	346	2.30	845.09	841	9	7.17E-02	****	3.08E+00	T
0	531.00	36	176	0.99	1061.92	1056	10	4.06E-02	****	2.63E+00	T
0	579.70	39	120	1.49	1159.32	1155	9	4.40E-02	****	2.46E+00	
0	585.94	16	193	3.52	1171.79	1165	12	1.85E-02	****	2.44E+00	
0	716.62	161	180	13.12	1433.13	1418	32	1.84E-01	51.6	2.06E+00	
0	832.83	26	108	0.54	1665.55	1659	12	3.01E-02	****	1.79E+00	T
0	874.57	17	106	1.02	1749.02	1744	10	1.96E-02	****	1.70E+00	T
0	1090.49	68	132	6.00	2180.88	2171	19	7.90E-02	82.7	1.35E+00	
0	1248.33	7	27	1.43	2496.57	2487	13	7.89E-03	****	1.17E+00	
0	1298.89	12	10	3.37	2597.70	2588	14	1.43E-02	****	1.13E+00	T

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 05:40:19.30

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1205747505.CNF;1		
Acquisition date	: 20-JUN-2024 05:24:34	Sensitivity	: 3.000
Detector ID	: GAM50	Energy tolerance	: 1.500
Elapsed live time	: 0 00:15:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 00:15:02.94	Half life ratio	: *****
Sample date	: 31-MAY-2024 00:00:00	Nuclide Library	: SOLID
Sample ID	: G1205747505	Analyst initials	: MXR1
Batch Number	: 2618905	Sample Quantity	: 1.1500E+02 GRAM
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 24-JUL-2023 04:23:06	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM50_CAN.CNF;2		

Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
CO-60	2.401E-01
BA-137M	3.243E-01
CS-137	3.426E-01
PR-144	2.135E+01
BI-210	2.199E+02
PB-210	2.199E+02
RA-224	5.943E+00
AM-241	3.797E+00

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	4.706E+00	NOT IDENT.
NA-22	2.457E-01	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	1.533E-01	NOT IDENT.
K-40	1.881E+00	NOT IDENT.
SC-46	4.700E-01	NOT IDENT.
V-48	1.075E+00	NOT IDENT.
CR-51	4.559E+00	NOT IDENT.
MN-52	2.338E+00	NOT IDENT.
MN-54	3.582E-01	NOT IDENT.
CO-56	4.051E-01	NOT IDENT.
MN-56	0.000E+00	SHORT HLIF
CO-57	2.412E-01	NOT IDENT.
CO-58	3.636E-01	NOT IDENT.
FE-59	1.025E+00	NOT IDENT.
ZN-65	9.269E-01	NOT IDENT.
GE-68	1.406E+01	NOT IDENT.
AS-73	3.573E+01	NOT IDENT.
AS-74	1.012E+00	NOT IDENT.
SE-75	4.416E-01	NOT IDENT.
BR-77	3.775E+02	NOT IDENT.
SR-82	3.579E+00	NOT IDENT.
RB-83	8.207E-01	FAIL ABUN

RB-84	8.184E-01	NOT IDENT.
KR-85	7.190E+01	NOT IDENT.
SR-85	4.021E-01	NOT IDENT.
RB-86	1.063E+01	NOT IDENT.
Y-88	7.326E-02	NOT IDENT.
Y-91	1.296E+02	NOT IDENT.
NB-94	2.773E-01	NOT IDENT.
NB-95	3.493E-01	NOT IDENT.
NB-95M	1.212E+00	NOT IDENT.
ZR-95	6.008E-01	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	3.719E+02	NOT IDENT.
TC-99M	0.000E+00	SHORT HLIF
RH-101	2.570E-01	NOT IDENT.
RH-102	5.292E-01	FAIL ABUN
RU-103	5.086E-01	NOT IDENT.
RH-106	2.806E+00	NOT IDENT.
RU-106	2.806E+00	NOT IDENT.
AG-108M	3.996E-01	NOT IDENT.
CD-109	7.316E+00	NOT IDENT.
AG-110	1.027E+01	NOT IDENT.
AG-110M	5.781E-01	NOT IDENT.
SN-113	5.325E-01	NOT IDENT.
CD-115	5.559E+02	NOT IDENT.
SN-117M	5.881E-01	NOT IDENT.
SB-122	7.118E+01	NOT IDENT.
TE-123M	2.356E-01	NOT IDENT.
SB-124	4.940E-01	NOT IDENT.
SB-125	1.121E+00	NOT IDENT.
TE-125M	9.127E+01	NOT IDENT.
I-126	2.460E+00	NOT IDENT.
SB-126	1.613E+00	FAIL ABUN
SN-126	7.153E-01	NOT IDENT.
SB-127	2.511E+01	NOT IDENT.
I-131	2.019E+00	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	2.038E+01	NOT IDENT.
BA-133	4.455E-01	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	3.482E-01	NOT IDENT.
I-135	0.000E+00	SHORT HLIF
CS-136	1.502E+00	NOT IDENT.
LA-138	2.988E-01	NOT IDENT.
CE-139	2.566E-01	NOT IDENT.
BA-140	3.852E+00	FAIL ABUN
LA-140	4.155E-01	NOT IDENT.
CE-141	5.984E-01	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	1.683E+00	NOT IDENT.
PM-144	2.918E-01	FAIL ABUN
PM-146	5.885E-01	NOT IDENT.
ND-147	7.863E+00	FAIL ABUN
PM-147	6.895E+03	NOT IDENT.
PM-149	4.599E+03	NOT IDENT.
EU-150	2.862E-01	NOT IDENT.
EU-152	1.000E+00	NOT IDENT.
GD-153	7.684E-01	NOT IDENT.
EU-154	7.010E-01	FAIL ABUN
EU-155	9.327E-01	NOT IDENT.
TB-160	1.554E+00	FAIL ABUN
HO-166M	5.106E-01	NOT IDENT.
TM-171	7.569E+02	NOT IDENT.
HF-172	1.666E+00	NOT IDENT.
LU-172	7.699E-01	FAIL ABUN
LU-176	2.757E-01	NOT IDENT.
HF-181	5.865E-01	NOT IDENT.
TA-182	1.304E+00	NOT IDENT.
RE-183	9.557E+00	FAIL ABUN
RE-184	1.535E+00	NOT IDENT.
W-188	7.291E+01	NOT IDENT.
IR-192	3.997E-01	NOT IDENT.
HG-203	4.222E-01	NOT IDENT.
TL-204	5.905E+01	NOT IDENT.
BI-207	6.008E-01	NOT IDENT.
TL-208	3.351E-01	NOT IDENT.
BI-211	2.157E+00	NOT IDENT.
PB-211	8.408E+00	FAIL ABUN

BI-212	4.170E+00	NOT IDENT.
PB-212	5.455E-01	NOT IDENT.
BI-213	1.390E+00	NOT IDENT.
BI-214	6.446E-01	NOT IDENT.
PB-214	8.046E-01	FAIL ABUN
RN-219	4.850E+00	NOT IDENT.
RN-222	6.446E-01	NOT IDENT.
RA-223	6.966E+00	NOT IDENT.
AC-225	8.466E+00	NOT IDENT.
RA-226	8.046E-01	FAIL ABUN
AC-227	2.514E+00	NOT IDENT.
TH-227	2.514E+00	NOT IDENT.
AC-228	1.604E+00	NOT IDENT.
RA-228	1.604E+00	NOT IDENT.
TH-228	5.455E-01	NOT IDENT.
TH-229	5.160E+00	NOT IDENT.
TH-230	8.046E-01	FAIL ABUN
PA-231	4.806E+00	NOT IDENT.
TH-231	6.966E+00	NOT IDENT.
TH-232	1.604E+00	NOT IDENT.
PA-233	6.649E-01	NOT IDENT.
PA-234	3.766E+00	NOT IDENT.
PA-234M	5.072E+01	NOT IDENT.
TH-234	1.868E+01	NOT IDENT.
U-234	8.046E-01	FAIL ABUN
U-235	1.617E+00	NOT IDENT.
NP-237	6.649E-01	NOT IDENT.
NP-238	1.322E+03	NOT IDENT.
U-238	1.868E+01	NOT IDENT.
NP-239	2.357E+00	NOT IDENT.
PU-239	2.907E+03	NOT IDENT.
AM-243	5.522E-01	NOT IDENT.
CM-243	9.831E-01	NOT IDENT.
BK-247	7.674E-01	NOT IDENT.
CM-247	4.472E-01	NOT IDENT.
CF-249	4.571E-01	NOT IDENT.
CF-251	1.111E+00	NOT IDENT.
ANH-511	3.322E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JUN-2024 05:40:23.24

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1205747505.CNF;1		
Acquisition date	: 20-JUN-2024 05:24:34	Sensitivity	: 3.000
Detector ID	: GAM50	Energy tolerance	: 1.500
Elapsed live time	: 0 00:15:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 00:15:02.94	Half life ratio	: *****
Sample date	: 31-MAY-2024 00:00:00	Nuclide Library	: SOLID
Sample ID	: G1205747505	Analyst initials	: MXR1
Batch Number	: 2618905	Sample Quantity	: 1.1500E+02 GRAM
		Quantity Err(%)	: 1.7391E-03 %
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 24-JUL-2023 04:23:06	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM50_CAN.CNF;2		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
CO-60	5.557E+01	5.892E+00	5.892E+00
BA-137M	1.290E+02	1.085E+01	1.085E+01
CS-137	1.363E+02	1.146E+01	1.146E+01
PR-144	2.291E+01	2.904E+01	2.904E+01
BI-210	4.396E+03	8.963E+02	8.963E+02
PB-210	4.396E+03	8.963E+02	8.963E+02
RA-224	6.690E+00	9.070E+00	9.070E+00
AM-241	5.345E+02	7.948E+01	7.948E+01

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	2.690E+00	5.616E+00	5.746E+00	NOT IDENT.
NA-22	1.509E-01	2.685E-01	2.770E-01	NOT IDENT.
NA-24	-2.299E+08	7.610E+08	7.680E+08	SHORT HLIF
AL-26	6.546E-02	1.603E-01	1.630E-01	NOT IDENT.
K-40	1.079E+00	1.997E+00	2.056E+00	NOT IDENT.
SC-46	2.076E-01	5.534E-01	5.613E-01	NOT IDENT.
V-48	7.476E-01	1.262E+00	1.307E+00	NOT IDENT.
CR-51	1.025E+00	5.297E+00	5.317E+00	NOT IDENT.
MN-52	1.038E+00	2.574E+00	2.616E+00	NOT IDENT.
MN-54	1.562E-01	4.745E-01	4.797E-01	NOT IDENT.
CO-56	7.603E-02	4.805E-01	4.817E-01	NOT IDENT.
MN-56	1.000E+41	6.320E+41	0.000E+00	SHORT HLIF
CO-57	8.947E-02	2.845E-01	2.873E-01	NOT IDENT.
CO-58	-3.248E-01	4.600E-01	4.827E-01	NOT IDENT.
FE-59	-7.308E-01	1.284E+00	1.326E+00	NOT IDENT.
ZN-65	-1.167E-01	1.091E+00	1.093E+00	NOT IDENT.
GE-68	-2.363E+00	1.654E+01	1.657E+01	NOT IDENT.
AS-73	-7.445E+00	4.051E+01	4.065E+01	NOT IDENT.
AS-74	-7.987E-01	1.222E+00	1.274E+00	NOT IDENT.
SE-75	-2.393E-01	5.189E-01	5.300E-01	NOT IDENT.
BR-77	-1.005E+02	4.865E+02	4.886E+02	NOT IDENT.
SR-82	2.520E+00	4.078E+00	4.233E+00	NOT IDENT.

RB-83	7.058E-01	9.739E-01	1.025E+00	FAIL ABUN
RB-84	-3.837E-01	1.013E+00	1.028E+00	NOT IDENT.
KR-85	-2.966E+01	8.989E+01	9.088E+01	NOT IDENT.
SR-85	-1.654E-01	5.027E-01	5.082E-01	NOT IDENT.
RB-86	1.791E+00	1.226E+01	1.229E+01	NOT IDENT.
Y-88	-9.862E-02	1.402E-01	1.471E-01	NOT IDENT.
Y-91	-9.044E+01	1.638E+02	1.688E+02	NOT IDENT.
NB-94	7.245E-02	3.457E-01	3.472E-01	NOT IDENT.
NB-95	-1.876E-01	4.293E-01	4.375E-01	NOT IDENT.
NB-95M	1.099E-01	1.378E+00	1.379E+00	NOT IDENT.
ZR-95	-2.730E-01	7.347E-01	7.449E-01	NOT IDENT.
NB-97	1.000E+41	2.377E+40	0.000E+00	SHORT HLIF
ZR-97	-2.441E+09	3.342E+09	3.519E+09	SHORT HLIF
MO-99	1.480E+02	4.288E+02	4.339E+02	NOT IDENT.
TC-99M	2.587E+23	4.661E+23	0.000E+00	SHORT HLIF
RH-101	-2.594E-01	3.234E-01	3.439E-01	NOT IDENT.
RH-102	2.983E-01	5.991E-01	6.140E-01	FAIL ABUN
RU-103	2.878E-01	6.071E-01	6.208E-01	NOT IDENT.
RH-106	-2.108E+00	3.400E+00	3.530E+00	NOT IDENT.
RU-106	-2.108E+00	3.400E+00	3.530E+00	NOT IDENT.
AG-108M	3.468E-01	4.682E-01	4.936E-01	NOT IDENT.
CD-109	8.557E+00	8.263E+00	9.119E+00	NOT IDENT.
AG-110	2.873E+01	1.206E+01	1.770E+01	NOT IDENT.
AG-110M	2.137E-01	6.831E-01	6.898E-01	NOT IDENT.
SN-113	-6.362E-02	6.384E-01	6.391E-01	NOT IDENT.
CD-115	-5.252E+02	8.148E+02	8.485E+02	NOT IDENT.
SN-117M	-1.155E-01	7.237E-01	7.256E-01	NOT IDENT.
SB-122	3.419E+01	8.020E+01	8.167E+01	NOT IDENT.
TE-123M	-1.480E-01	2.952E-01	3.026E-01	NOT IDENT.
SB-124	-1.003E-01	6.212E-01	6.229E-01	NOT IDENT.
SB-125	5.283E-02	1.415E+00	1.416E+00	NOT IDENT.
TE-125M	-1.657E+01	1.088E+02	1.090E+02	NOT IDENT.
I-126	2.133E+00	3.070E+00	3.217E+00	NOT IDENT.
SB-126	2.031E+00	1.767E+00	1.990E+00	FAIL ABUN
SN-126	6.679E-01	8.107E-01	8.648E-01	NOT IDENT.
SB-127	1.533E+01	2.831E+01	2.914E+01	NOT IDENT.
I-131	2.379E-01	2.383E+00	2.385E+00	NOT IDENT.
I-132	1.000E+41	3.058E+41	0.000E+00	SHORT HLIF
TE-132	-4.821E+00	2.336E+01	2.346E+01	NOT IDENT.
BA-133	-5.500E-01	5.534E-01	6.064E-01	NOT IDENT.
I-133	4.381E+06	6.153E+06	6.462E+06	SHORT HLIF
CS-134	2.116E-01	3.987E-01	4.099E-01	NOT IDENT.
I-135	1.225E+22	1.457E+22	0.000E+00	SHORT HLIF
CS-136	-4.166E-01	1.878E+00	1.887E+00	NOT IDENT.
LA-138	1.121E-01	3.344E-01	3.382E-01	NOT IDENT.
CE-139	-1.019E-01	3.202E-01	3.235E-01	NOT IDENT.
BA-140	3.419E+00	4.554E+00	4.808E+00	FAIL ABUN
LA-140	-5.544E-01	6.742E-01	7.190E-01	NOT IDENT.
CE-141	5.348E-01	7.022E-01	7.424E-01	NOT IDENT.
CE-143	-9.376E+03	1.825E+04	1.874E+04	SHORT HLIF
CE-144	1.645E-01	2.017E+00	2.019E+00	NOT IDENT.
PM-144	3.053E-01	3.870E-01	4.107E-01	FAIL ABUN
PM-146	2.667E-01	7.023E-01	7.125E-01	NOT IDENT.
ND-147	9.807E+00	1.371E+01	1.441E+01	FAIL ABUN
PM-147	1.319E+02	8.226E+03	8.226E+03	NOT IDENT.
PM-149	-1.208E+03	5.385E+03	5.412E+03	NOT IDENT.
EU-150	-4.422E-02	3.384E-01	3.390E-01	NOT IDENT.
EU-152	-8.761E-01	1.222E+00	1.284E+00	NOT IDENT.
GD-153	2.363E-01	8.921E-01	8.984E-01	NOT IDENT.
EU-154	4.525E-01	7.633E-01	7.901E-01	FAIL ABUN
EU-155	4.795E-02	1.099E+00	1.099E+00	NOT IDENT.
TB-160	8.951E-01	2.057E+00	2.096E+00	FAIL ABUN
HO-166M	6.572E-01	5.556E-01	6.297E-01	NOT IDENT.
TM-171	9.297E+02	8.436E+02	9.420E+02	NOT IDENT.
HF-172	4.444E-01	1.977E+00	1.987E+00	NOT IDENT.
LU-172	7.283E-01	9.689E-01	1.023E+00	FAIL ABUN
LU-176	1.872E-01	3.140E-01	3.252E-01	NOT IDENT.
HF-181	4.550E-02	7.125E-01	7.128E-01	NOT IDENT.
TA-182	8.613E-01	1.445E+00	1.496E+00	NOT IDENT.
RE-183	9.163E+01	1.792E+01	4.503E+01	FAIL ABUN
RE-184	-1.415E+00	1.956E+00	2.057E+00	NOT IDENT.
W-188	-3.186E+01	8.615E+01	8.734E+01	NOT IDENT.
IR-192	-3.901E-02	4.693E-01	4.696E-01	NOT IDENT.
HG-203	6.942E-02	4.858E-01	4.868E-01	NOT IDENT.
TL-204	3.594E+01	6.652E+01	6.846E+01	NOT IDENT.
BI-207	1.747E-01	6.861E-01	6.906E-01	NOT IDENT.
TL-208	-9.374E-02	6.139E-01	6.154E-01	NOT IDENT.
BI-211	-1.358E+00	2.606E+00	2.677E+00	NOT IDENT.

PB-211	-9.327E-01	1.011E+01	1.012E+01	FAIL ABUN
BI-212	-2.679E+00	5.881E+00	6.004E+00	NOT IDENT.
PB-212	-1.701E-01	6.990E-01	7.032E-01	NOT IDENT.
BI-213	6.075E-01	1.653E+00	1.676E+00	NOT IDENT.
BI-214	3.236E-01	7.281E-01	7.426E-01	NOT IDENT.
PB-214	5.877E-01	9.249E-01	9.621E-01	FAIL ABUN
RN-219	1.732E+00	5.730E+00	5.783E+00	NOT IDENT.
RN-222	3.236E-01	7.281E-01	7.426E-01	NOT IDENT.
RA-223	3.332E+00	8.036E+00	8.175E+00	NOT IDENT.
AC-225	5.370E+00	9.424E+00	9.730E+00	NOT IDENT.
RA-226	5.877E-01	9.249E-01	9.621E-01	FAIL ABUN
AC-227	4.440E-01	2.870E+00	2.877E+00	NOT IDENT.
TH-227	4.440E-01	2.870E+00	2.877E+00	NOT IDENT.
AC-228	-1.234E+00	2.023E+00	2.098E+00	NOT IDENT.
RA-228	-1.234E+00	2.023E+00	2.098E+00	NOT IDENT.
TH-228	-1.701E-01	6.990E-01	7.032E-01	NOT IDENT.
TH-229	1.152E+00	6.365E+00	6.387E+00	NOT IDENT.
TH-230	5.877E-01	9.249E-01	9.621E-01	FAIL ABUN
PA-231	1.057E+00	5.559E+00	5.580E+00	NOT IDENT.
TH-231	3.332E+00	8.036E+00	8.175E+00	NOT IDENT.
TH-232	-1.234E+00	2.023E+00	2.098E+00	NOT IDENT.
PA-233	-2.765E-01	7.892E-01	7.990E-01	NOT IDENT.
PA-234	-4.101E+00	6.739E+00	6.988E+00	NOT IDENT.
PA-234M	-2.469E+01	6.369E+01	6.465E+01	NOT IDENT.
TH-234	-2.842E+00	2.306E+01	2.310E+01	NOT IDENT.
U-234	5.877E-01	9.249E-01	9.621E-01	FAIL ABUN
U-235	-8.874E-01	2.000E+00	2.039E+00	NOT IDENT.
NP-237	-2.765E-01	7.892E-01	7.990E-01	NOT IDENT.
NP-238	1.122E+03	1.539E+03	1.620E+03	NOT IDENT.
U-238	-2.842E+00	2.306E+01	2.310E+01	NOT IDENT.
NP-239	-5.314E-01	2.829E+00	2.839E+00	NOT IDENT.
PU-239	3.229E+03	3.351E+03	3.654E+03	NOT IDENT.
AM-243	-2.424E-01	6.461E-01	6.553E-01	NOT IDENT.
CM-243	7.427E-01	1.131E+00	1.180E+00	NOT IDENT.
BK-247	-3.840E-01	9.036E-01	9.200E-01	NOT IDENT.
CM-247	2.207E-01	5.271E-01	5.364E-01	NOT IDENT.
CF-249	7.589E-02	5.418E-01	5.429E-01	NOT IDENT.
CF-251	-8.496E-02	1.374E+00	1.375E+00	NOT IDENT.
ANH-511	2.199E-01	3.877E-01	4.002E-01	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	421.7166	85.43	250.2831	131.20	272.6118
45.60	401.8304	86.55	298.9357	133.02	277.0133
46.54	403.5818	86.79	302.1354	133.52	269.4739
49.72	415.2120	86.94	302.2672	136.00	294.4702
51.35	489.8024	87.09	302.3990	136.47	290.2539
51.87	468.8180	87.57	270.8387	140.51	266.5588
52.39	430.0332	88.03	262.1919	143.76	288.8406
52.97	488.7376	88.34	294.4778	144.24	302.8277
53.44	543.9116	88.47	294.5877	145.44	262.3038
54.07	549.7863	89.96	328.0420	152.43	300.6781
57.36	0.0000	90.64	310.5237	153.25	268.5847
57.53	655.4048	91.11	267.5252	154.21	293.5283
57.98	452.5909	92.59	262.5489	156.02	273.4832
59.27	454.8683	93.35	273.2585	158.56	272.4166
59.32	454.9561	94.56	266.0120	159.00	272.6326
59.54	455.3413	94.65	266.0778	162.33	260.0919
60.96	457.8133	94.67	266.0917	162.66	273.2586
61.17	458.1757	94.87	268.2772	163.33	273.5864
62.93	221.3736	97.43	261.9162	165.86	283.1443
63.29	236.4458	98.43	266.7321	176.31	290.7074
63.58	236.6978	98.44	266.7381	176.60	276.3060
64.28	225.2522	99.53	270.6033	177.52	273.0927
66.73	259.0345	100.11	271.0150	181.07	268.5983
67.24	252.9437	102.03	282.7620	181.52	293.2324
67.68	231.7547	103.18	262.7435	184.41	314.2617
67.75	231.8103	103.37	266.0018	185.72	316.1560
68.89	294.9181	105.21	270.3871	193.51	336.2764
69.67	277.7626	105.31	275.6953	197.03	339.7836
70.82	258.9326	106.12	302.5151	198.01	366.2164
70.83	258.9430	106.47	294.3704	201.83	313.6829
72.81	253.0270	109.28	294.2997	203.43	333.8269
72.87	253.0775	111.00	287.0254	205.31	300.9508
74.66	283.3888	111.76	307.7857	210.85	323.0159
74.82	292.1876	114.06	296.6266	215.65	341.5657
74.97	292.3291	116.30	280.9645	218.12	300.5680
77.11	273.0434	116.74	298.4948	222.11	301.3954
78.74	303.6473	119.76	304.9126	227.09	291.2681
79.69	297.7143	121.12	333.0650	227.38	291.3836
80.03	276.5270	121.22	316.8115	228.16	285.5828
80.12	276.6090	121.78	303.0402	228.18	285.5894
80.19	275.6918	122.06	310.8642	235.69	304.3755
80.57	271.1207	122.92	308.1858	235.96	319.4897
81.00	285.1987	123.07	308.2869	238.63	304.2350
81.07	285.2609	123.68	318.5588	238.98	304.3748
81.75	243.6141	125.81	281.5625	240.99	305.1749
82.47	246.1166	127.23	295.6727	242.00	276.2232
83.79	266.8607	127.91	293.9015	244.70	275.8506
84.00	267.0275	129.30	246.0204	252.40	270.4559

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.80	270.5933	351.06	270.1274	569.33	119.4746
254.15	0.0000	351.93	232.1608	569.50	119.4869
256.23	264.5062	355.39	0.0000	569.70	115.9360
260.90	231.4122	356.01	283.5097	583.19	136.7109
264.66	264.5110	364.49	247.1281	584.27	119.5232
264.80	264.5521	366.42	242.9835	595.83	134.1521
265.00	260.0386	372.51	256.6412	600.60	144.5450
269.46	258.6753	375.05	273.5597	602.52	0.0000
270.03	257.0101	377.52	255.2353	604.72	123.0318
271.23	252.7610	383.85	249.4383	607.14	126.8596
273.65	253.4857	388.16	250.3896	609.32	114.2349
276.40	247.8083	388.63	252.5713	610.33	129.8489
277.37	268.5268	391.69	265.7547	614.28	124.6528
277.60	268.6033	400.66	248.9243	618.01	98.2912
278.00	267.7969	401.81	261.7813	620.36	128.7848
279.20	270.9653	402.40	259.8093	621.93	122.4592
279.54	271.0719	404.85	274.0547	630.19	0.0000
279.70	273.9143	410.95	275.4724	631.29	107.3906
280.46	282.5460	413.71	285.6647	633.25	116.7830
283.69	269.5605	414.70	283.7744	634.78	107.6101
284.31	260.3818	423.72	290.7114	635.95	132.7446
285.41	283.2172	427.09	262.5221	636.99	133.7520
285.90	272.1169	427.87	268.1656	657.50	148.8529
287.50	250.0461	433.94	282.8685	657.76	144.3656
290.67	249.0522	439.40	286.2739	657.90	0.0000
293.27	0.0000	440.45	293.0219	661.66	111.1472
295.22	244.6307	453.88	312.5595	664.57	0.0000
295.96	243.8812	463.37	336.9322	666.33	77.0603
298.58	276.9390	468.07	304.8711	666.50	69.5121
299.98	256.3961	473.00	304.8830	667.71	0.0000
300.09	256.4289	475.06	325.4108	677.62	76.0205
300.13	256.4399	476.78	291.2355	685.70	60.1295
301.36	248.1881	477.60	282.4786	692.65	78.1734
302.85	225.6433	482.18	240.8602	695.00	79.8078
304.50	265.3174	487.02	211.3585	696.49	89.0872
304.85	256.7952	492.35	187.3444	696.51	89.0872
306.78	226.6036	497.08	193.6414	697.00	79.6996
308.46	251.0596	505.52	205.0562	697.30	79.7122
311.90	258.7308	507.63	0.0000	697.49	90.2880
316.51	276.4822	511.00	176.1121	702.65	84.7559
319.41	276.3441	514.00	200.5422	706.68	86.4801
320.08	258.0343	514.00	200.5422	711.68	59.9982
321.04	278.7557	520.40	159.9948	720.70	60.2820
323.87	255.1324	520.69	140.4519	721.93	0.0000
325.23	238.8472	522.65	0.0000	722.78	60.3463
328.76	237.7412	527.90	175.2767	722.91	70.0840
333.37	255.6223	528.26	156.2256	723.31	70.0994
333.97	262.6880	529.59	148.2552	724.19	79.4808
334.37	258.8444	529.87	0.0000	727.33	99.9031
338.28	240.0109	531.02	148.4010	733.00	90.0178
338.32	240.0208	537.26	150.1851	735.93	94.0693
340.48	236.5571	546.56	0.0000	737.46	78.4521
340.55	236.5716	552.55	145.5331	739.50	72.6450
344.28	262.3793	563.25	130.5585	744.23	87.5768
345.93	242.8171	564.24	128.8663	747.24	85.7389

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
748.06	83.8042	954.55	0.0000	1408.01	5.0432
752.31	72.1245	962.31	129.1285	1434.09	7.1128
753.82	83.0566	964.08	127.0475	1435.80	8.1328
756.73	80.2040	966.17	113.0264	1457.56	0.0000
756.80	76.2480	968.97	122.9454	1460.82	6.1424
763.94	95.3965	983.53	105.0527	1489.16	4.1268
765.81	90.5112	984.45	100.7120	1505.03	6.2168
766.42	100.4883	996.26	113.2755	1584.12	4.2316
766.84	105.4857	1001.03	118.9951	1596.21	10.6118
772.60	0.0000	1002.74	110.2539	1620.50	3.2032
776.52	78.9879	1004.73	103.7190	1621.92	0.0000
777.92	89.0462	1021.30	0.0000	1678.03	0.0000
778.90	90.0906	1025.87	87.8757	1690.97	8.6914
783.70	86.2861	1028.54	87.9637	1750.46	0.0000
788.74	69.3959	1037.84	72.6291	1764.49	6.4491
792.07	79.5810	1038.76	0.0000	1770.23	2.7676
795.86	67.6134	1046.59	96.4088	1771.35	2.7683
801.95	84.0031	1048.07	98.7046	1791.20	0.0000
1093.63	97.5293	1049.04	99.8643	1808.65	2.7921
810.29	101.6052	1050.41	84.1965	1810.72	0.0000
810.45	98.5630	1063.66	96.5665	1836.06	3.7459
810.76	98.5778	1077.00	91.6003		
815.77	92.6968	1077.34	97.9594		
818.51	99.9529	1085.87	84.9160		
832.01	90.3123	1093.63	88.1942		
834.85	90.4304	1099.45	102.6000		
835.71	92.1102	1112.07	102.8562		
836.80	0.0000	1112.84	105.6394		
846.75	0.0000	1115.54	95.6262		
846.77	90.9192	1120.29	97.6308		
856.80	104.8189	1120.55	102.2468		
860.56	100.8364	1121.30	93.9814		
871.09	106.9437	1129.67	60.0647		
873.19	98.6810	1131.51	0.0000		
875.33	0.0000	1147.95	0.0000		
879.38	100.6230	1173.23	67.5316		
880.51	124.6426	1177.95	48.5359		
881.60	115.4114	1189.05	46.2031		
883.24	127.0411	1204.77	36.9643		
884.68	111.3602	1221.41	28.5894		
889.28	108.4254	1231.02	14.3394		
894.76	109.7351	1235.36	25.8464		
898.04	110.9441	1238.28	21.0805		
900.72	104.7253	1260.41	0.0000		
903.28	136.6098	1271.87	16.4638		
911.20	143.4416	1274.44	14.5386		
912.08	129.6771	1274.54	14.5386		
923.98	141.0073	1291.59	11.3682		
926.50	136.8789	1298.22	0.0000		
929.11	146.6621	1312.11	14.7078		
935.54	129.8771	1332.49	18.7449		
937.49	152.5391	1362.66	0.0000		
944.13	137.8750	1365.19	4.9812		
946.00	166.0078	1368.63	0.0000		
949.00	157.5756	1384.29	6.0108		

Continuing Calibration Data

Review of Gamma Spectrometer QA results (Daily calibration & background checks)
20-JUN-2024 08:20:32

Run Date	Detector	Parameter	Flag	Status	Comments
20-JUN-24	GAM01	All Parameters Passed			
20-JUN-24	GAM02	All Parameters Passed			
20-JUN-24	GAM04	All Parameters Passed			
20-JUN-24	GAM05	Cal Check NLACTVTY-59	Investigate		
20-JUN-24	GAM06	All Parameters Passed			
20-JUN-24	GAM07	All Parameters Passed			
20-JUN-24	GAM08	All Parameters Passed			
	GAM10	Cal Check may not have run since 20-JUN-2024			Detector locked out.
20-JUN-24	GAM10	Bkg Check BACKRATE	Action		Detector locked out.
20-JUN-24	GAM12	Cal Check NLACTVTY-59	Investigate		
20-JUN-24	GAM16	All Parameters Passed			
20-JUN-24	GAM18	All Parameters Passed			
20-JUN-24	GAM19	Cal Check NLACTVTY-59	Investigate		
20-JUN-24	GAM20	Cal Check NLACTVTY-59	Investigate		
20-JUN-24	GAM20	Cal Check NLACTVTY-1332	Action	Lockout	Detector locked out.
20-JUN-24	GAM21	Cal Check PSFWHM-662	Investigate		
20-JUN-24	GAM22	Bkg Check BACKRATE	Action	Approved	No spectral abnormalities observed, approved for use.
20-JUN-24	GAM23	Cal Check NLACTVTY-662	Investigate		
20-JUN-24	GAM24	All Parameters Passed			
20-JUN-24	GAM27	Bkg Check BACKRATE	Investigate		
20-JUN-24	GAM28	Cal Check PSFWHM-1332	Investigate		
20-JUN-24	GAM28	Cal Check NLACTVTY-1332	Investigate		
20-JUN-24	GAM29	Bkg Check BACKRATE	Investigate		
20-JUN-24	GAM30	All Parameters Passed			
23-MAY-24	GAM31	Cal Check may not have run since 20-JUN-2024			Detector locked out.
12-MAY-24	GAM31	Bkg Check may not have run since 20-JUN-2024			Detector locked out.
20-JUN-24	GAM32	All Parameters Passed			
	GAM33	Cal Check may not have run since 20-JUN-2024			Detector locked out.
03-DEC-23	GAM33	Bkg Check may not have run since 20-JUN-2024			Detector locked out.
20-JUN-24	GAM38	Cal Check NLACTVTY-662	Investigate		
20-JUN-24	GAM40	Cal Check NLACTVTY-1332	Investigate		
20-JUN-24	GAM41	All Parameters Passed			
20-JUN-24	GAM43	All Parameters Passed			
20-JUN-24	GAM46	Cal Check PSFWHM-59	Action	Approved	Low FWHM, approved for use.

20-JUN-24	GAM46	Cal Check PSFWHM-1332	Investigate		
20-JUN-24	GAM47	Cal Check PSFWHM-1332	Investigate		
20-JUN-24	GAM48	All Parameters Passed			
20-JUN-24	GAM50	All Parameters Passed			
20-JUN-24	GAM52	All Parameters Passed			
19-JUN-24	GAM53	Cal Check may not have run since 20-JUN-2024			NOT RUN
16-JUN-24	GAM53	Bkg Check may not have run since 20-JUN-2024			NOT RUN
19-JUN-24	GAM56	Cal Check may not have run since 20-JUN-2024			NOT RUN
16-JUN-24	GAM56	Bkg Check may not have run since 20-JUN-2024			NOT RUN
20-JUN-24	GAM61	Cal Check PSFWHM-662	Investigate		
20-JUN-24	GAM61	Cal Check PSFWHM-1332	Investigate		
20-JUN-24	XRAY1	Cal Check NLACTVTY-40	Investigate		
20-JUN-24	XRAY2	Cal Check PSFWHM-29	Investigate		
20-JUN-24	XRAY2	Cal Check PSFWHM-40	Investigate		
20-JUN-24	XRAY2	Bkg Check BACKRATE	Investigate		
20-JUN-24	XRAY3	All Parameters Passed			
20-JUN-24	XRAY6	All Parameters Passed			
20-JUN-24	XRAY7	Cal Check PSFWHM-29	Investigate		
20-JUN-24	XRAY7	Cal Check PSFWHM-34	Investigate		
20-JUN-24	XRAY7	Cal Check NLACTVTY-29	Investigate		
20-JUN-24	XRAY7	Bkg Check BACKRATE	Investigate		

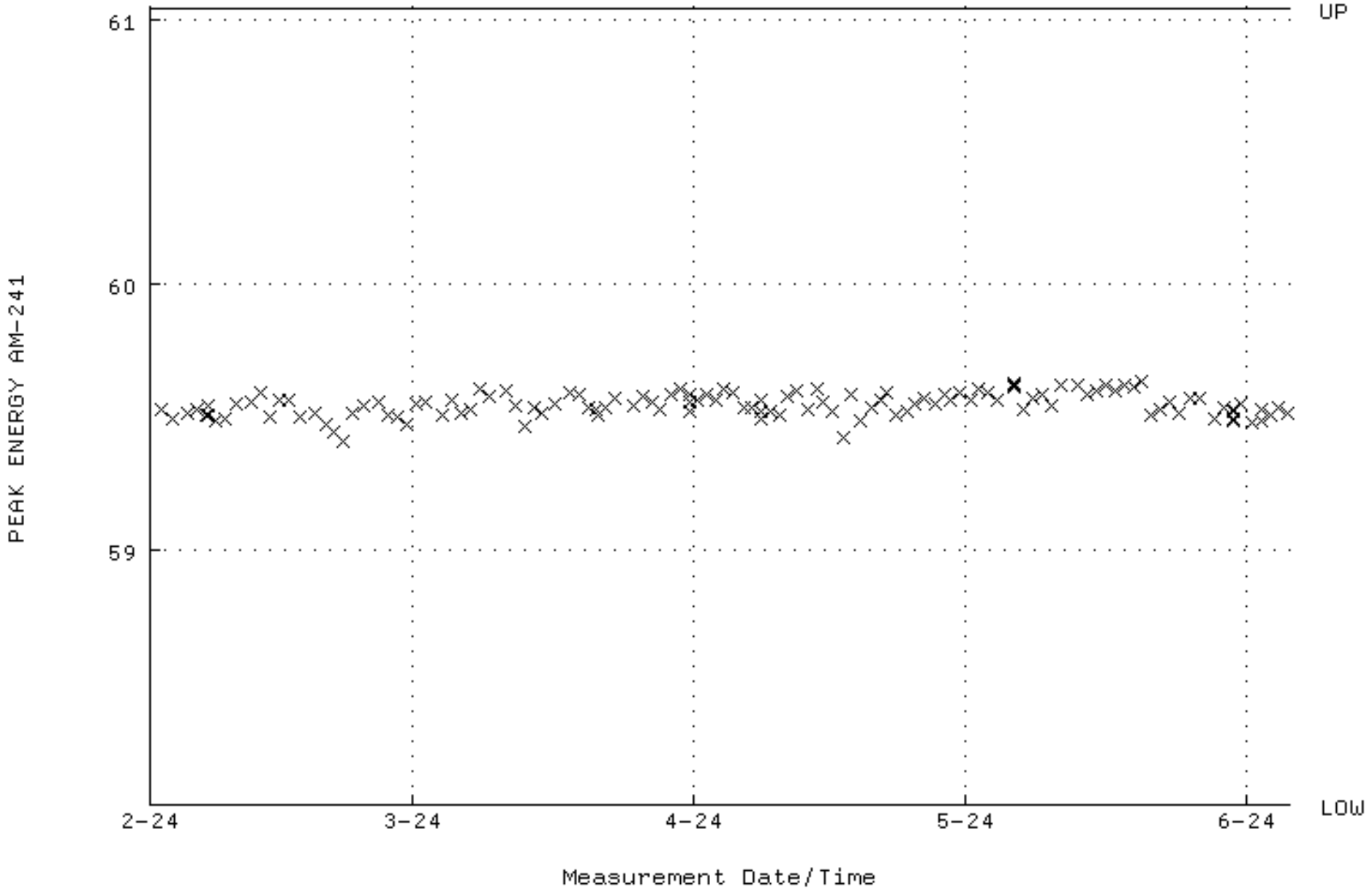
APPROVAL DATE: 20-JUN-2024 APPROVAL TIME: 08:26:01

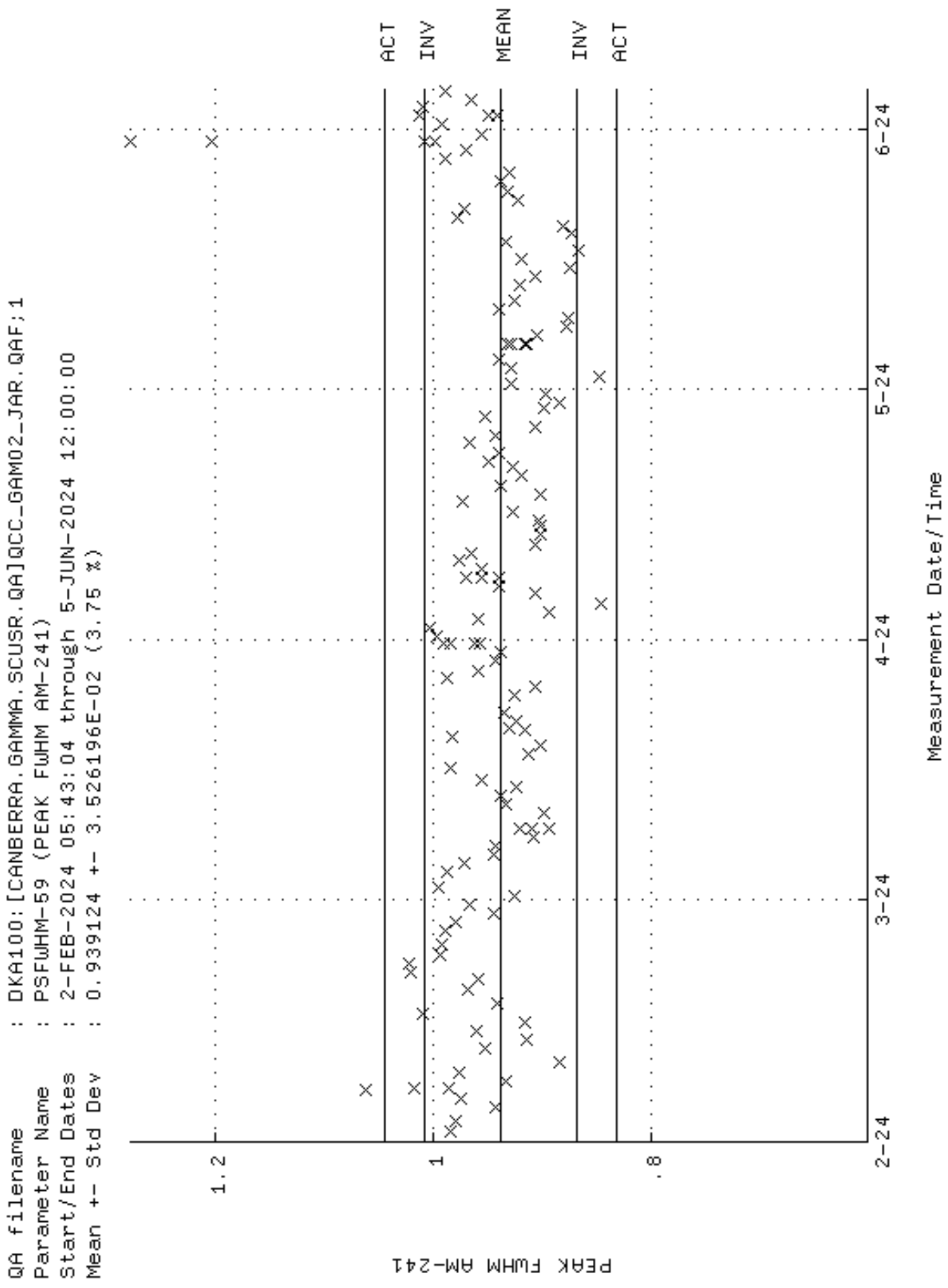
APPROVED BY: Rebekah Futch PROCEDURE # GL-RAD-I-001

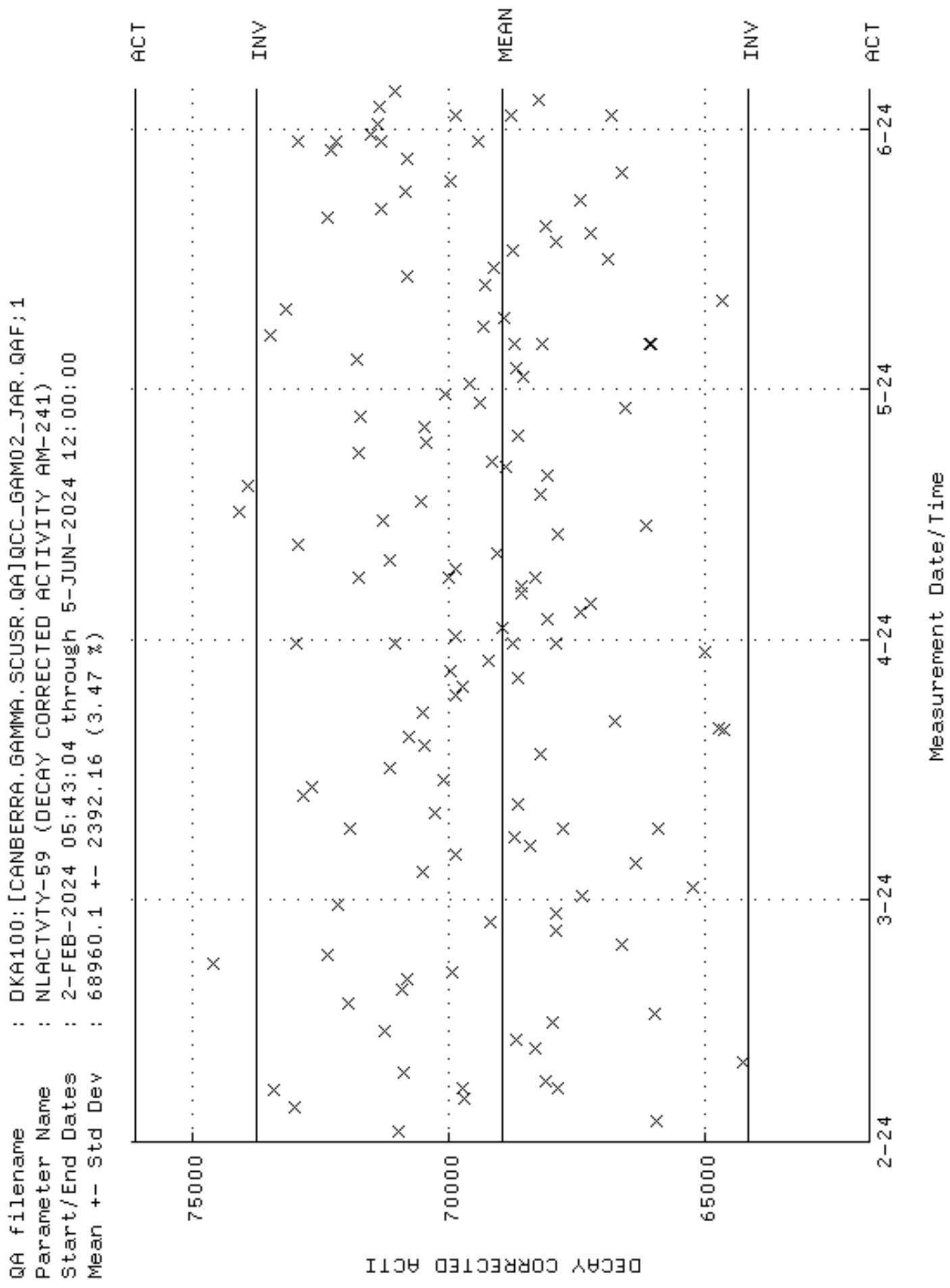
The Investigate flag does not indicate a lockout and is approved for use. Action flags that have not been approved are locked out of service.

Background and Efficiency Data

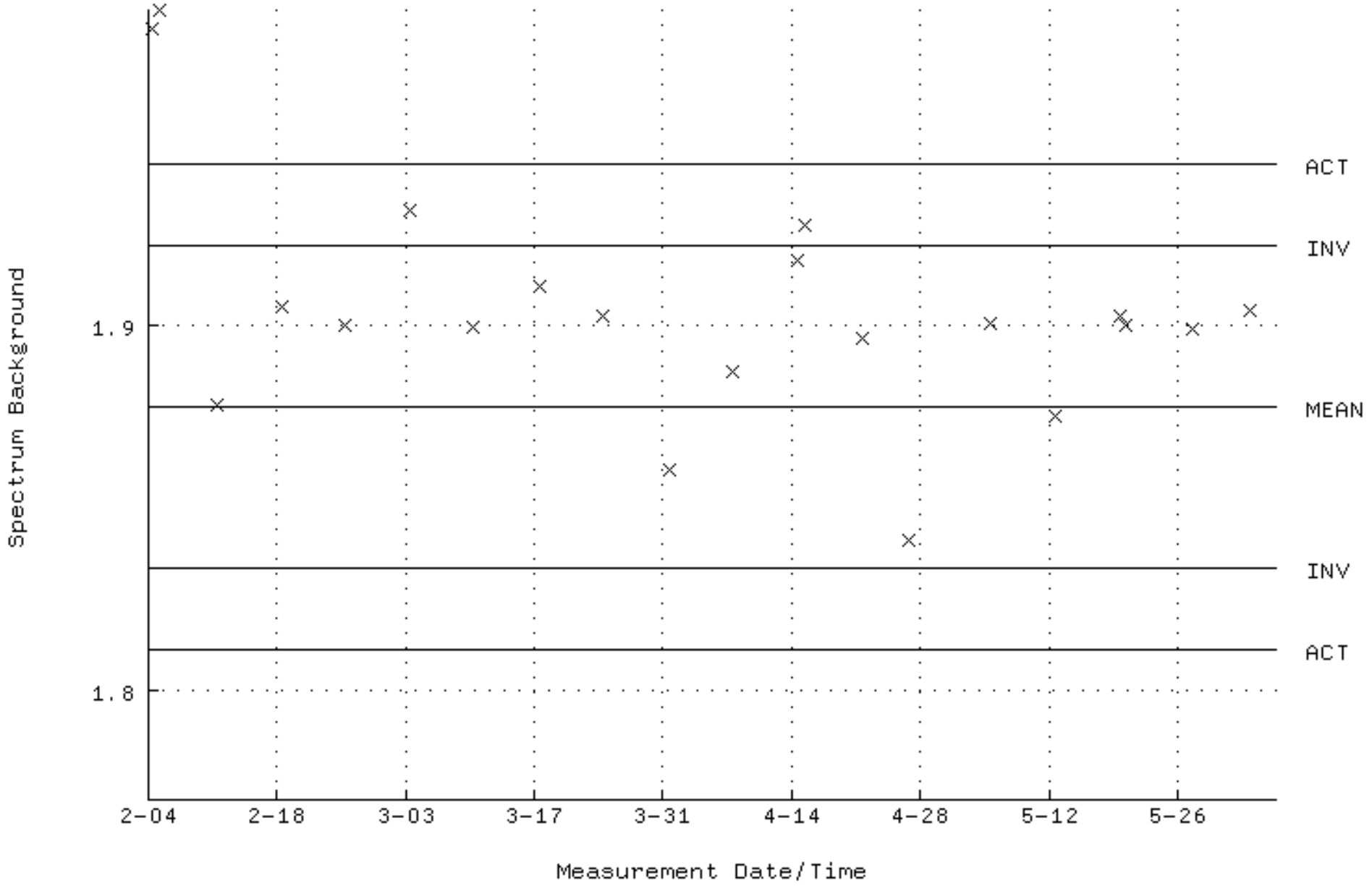
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM02_JAR.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-FEB-2024 05:43:04 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400



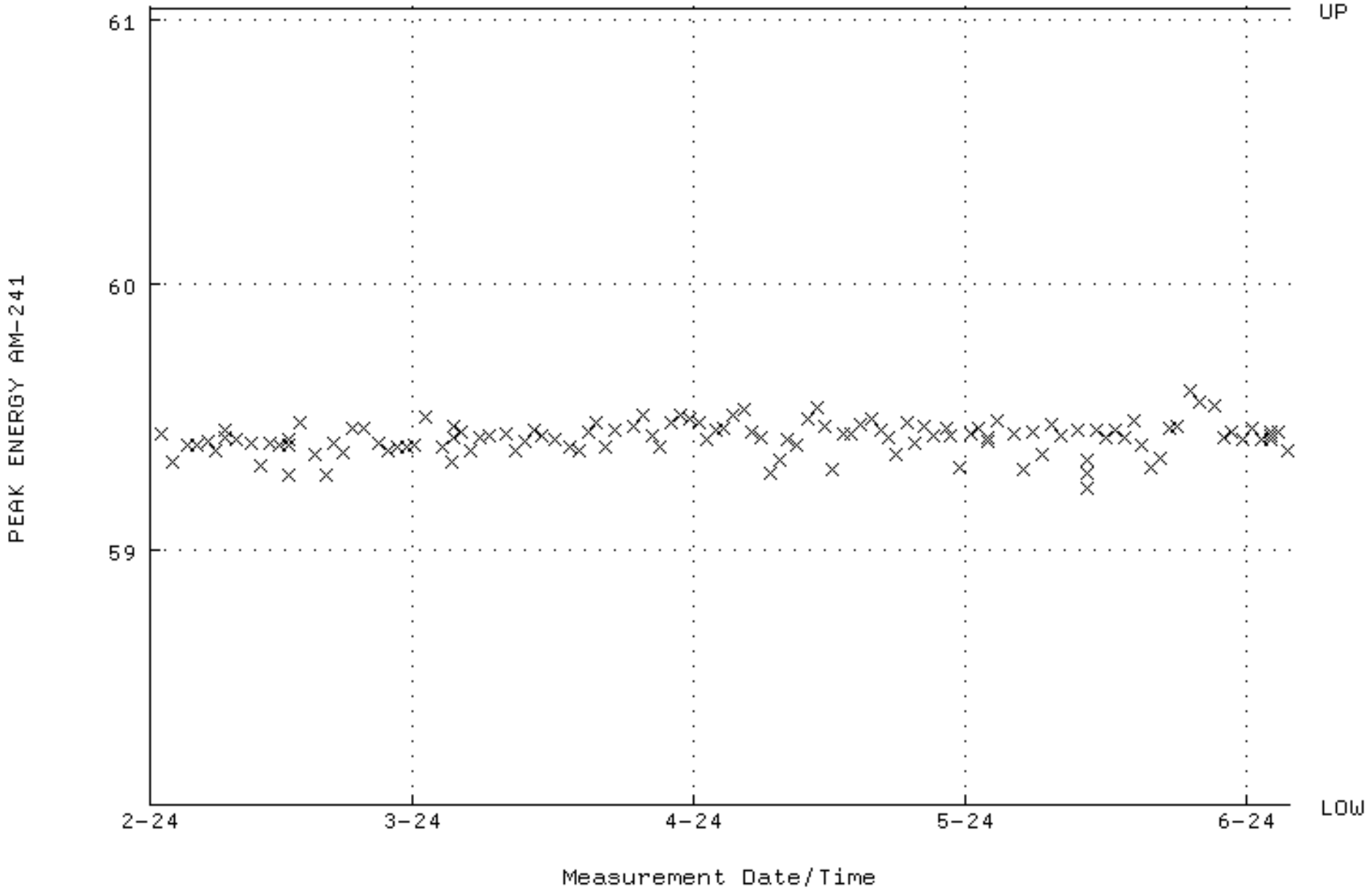

QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM02_JAR.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-FEB-2024 05:43:04 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 0.939124 +- 3.526196E-02 (3.75 %)
ACT
INV
MEAN
INV
ACT
1.2
1
.8
PEAK FWHM AM-241
2-24
3-24
4-24
5-24
6-24
Measurement Date/Time

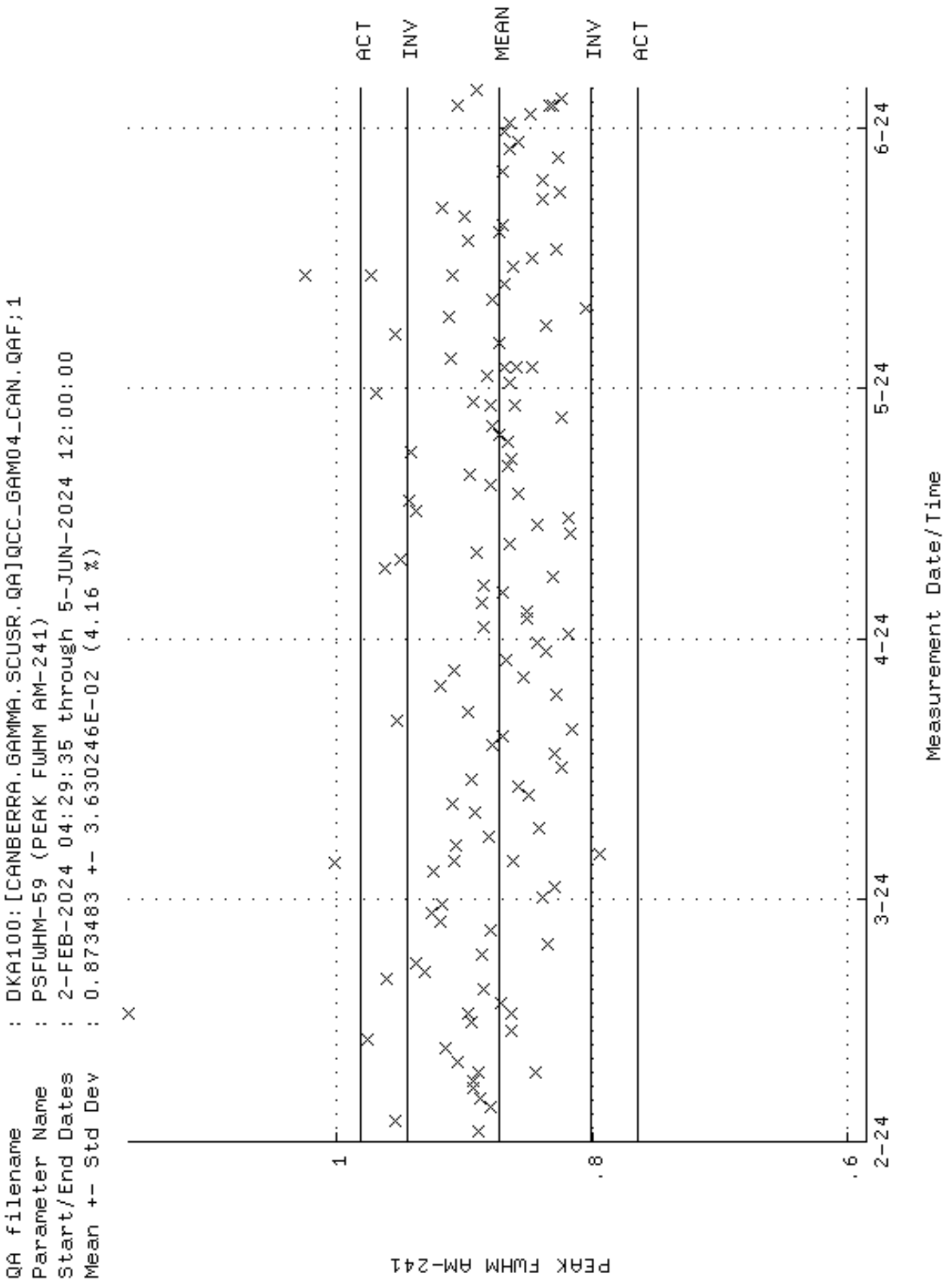

QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM02_JAR.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-FEB-2024 05:43:04 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 68960.1 +- 2392.16 (3.47 %)
ACT
INV
MEAN
INV
ACT
75000
70000
65000
DECAY CORRECTED ACTI
2-24
3-24
4-24
5-24
6-24
Measurement Date/Time

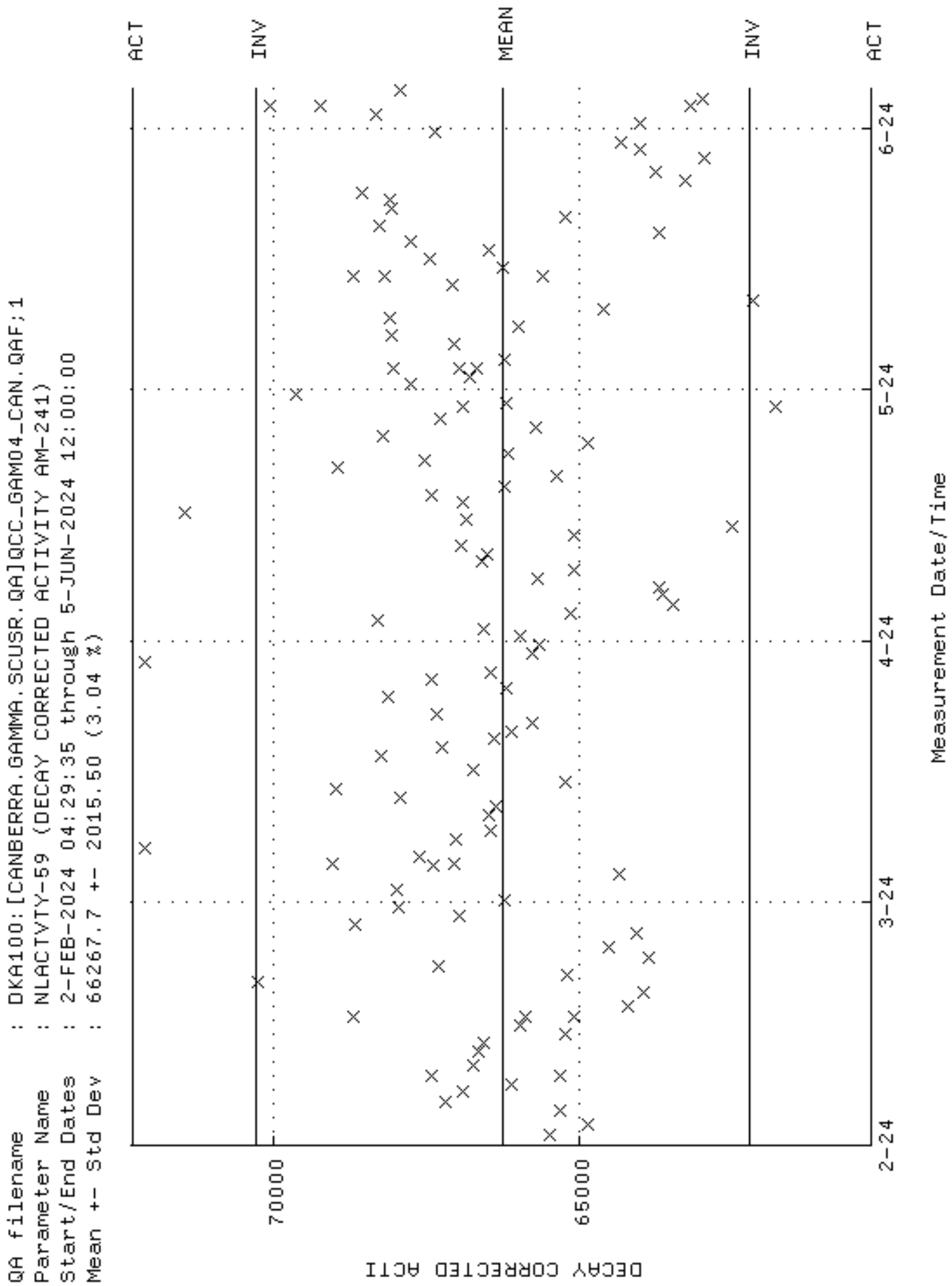
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM02.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 4-FEB-2024 09:14:23 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.87778 +- 2.208678E-02 (1.18 %)



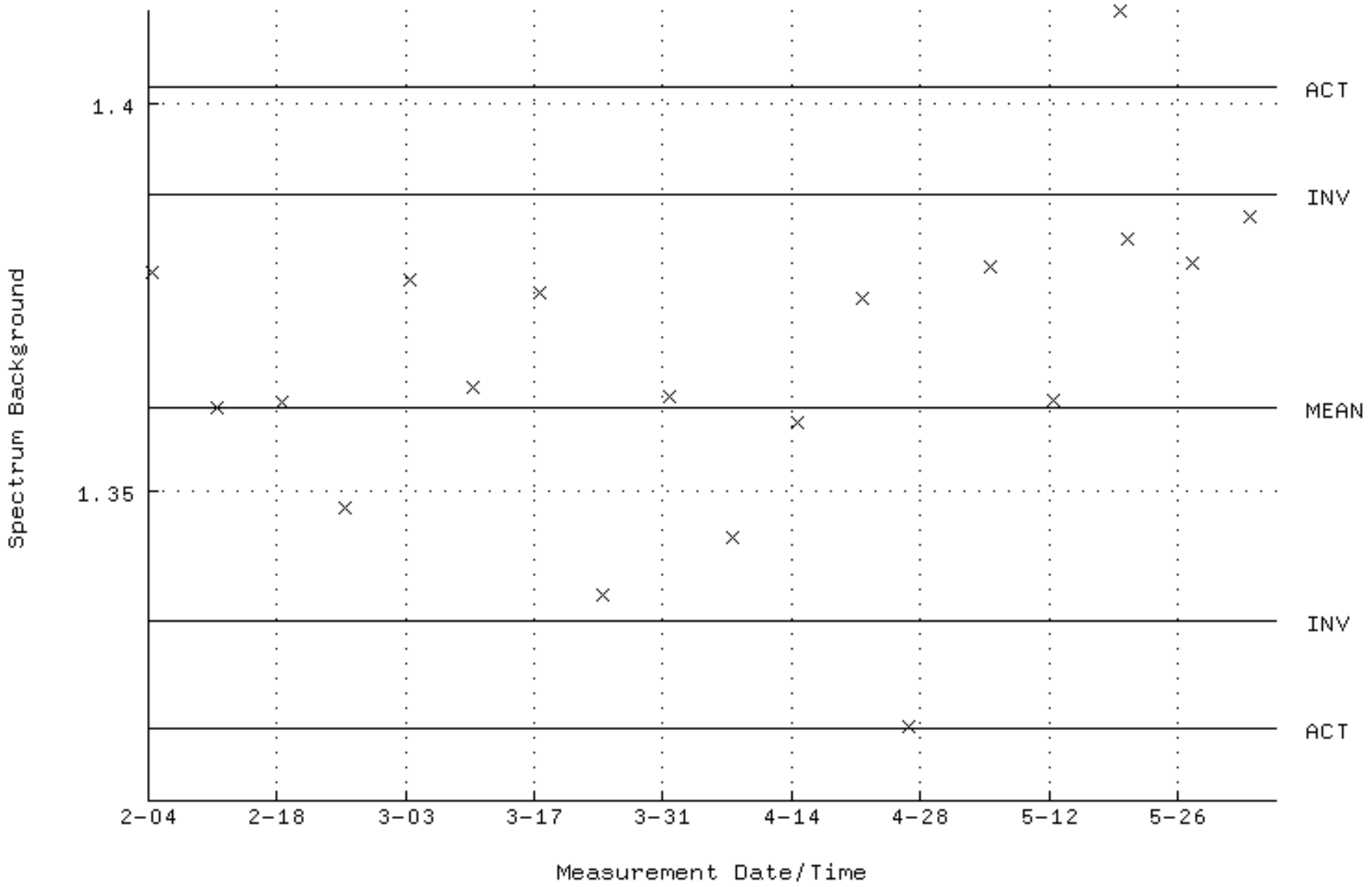
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM04_CAN.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-FEB-2024 04:29:35 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400



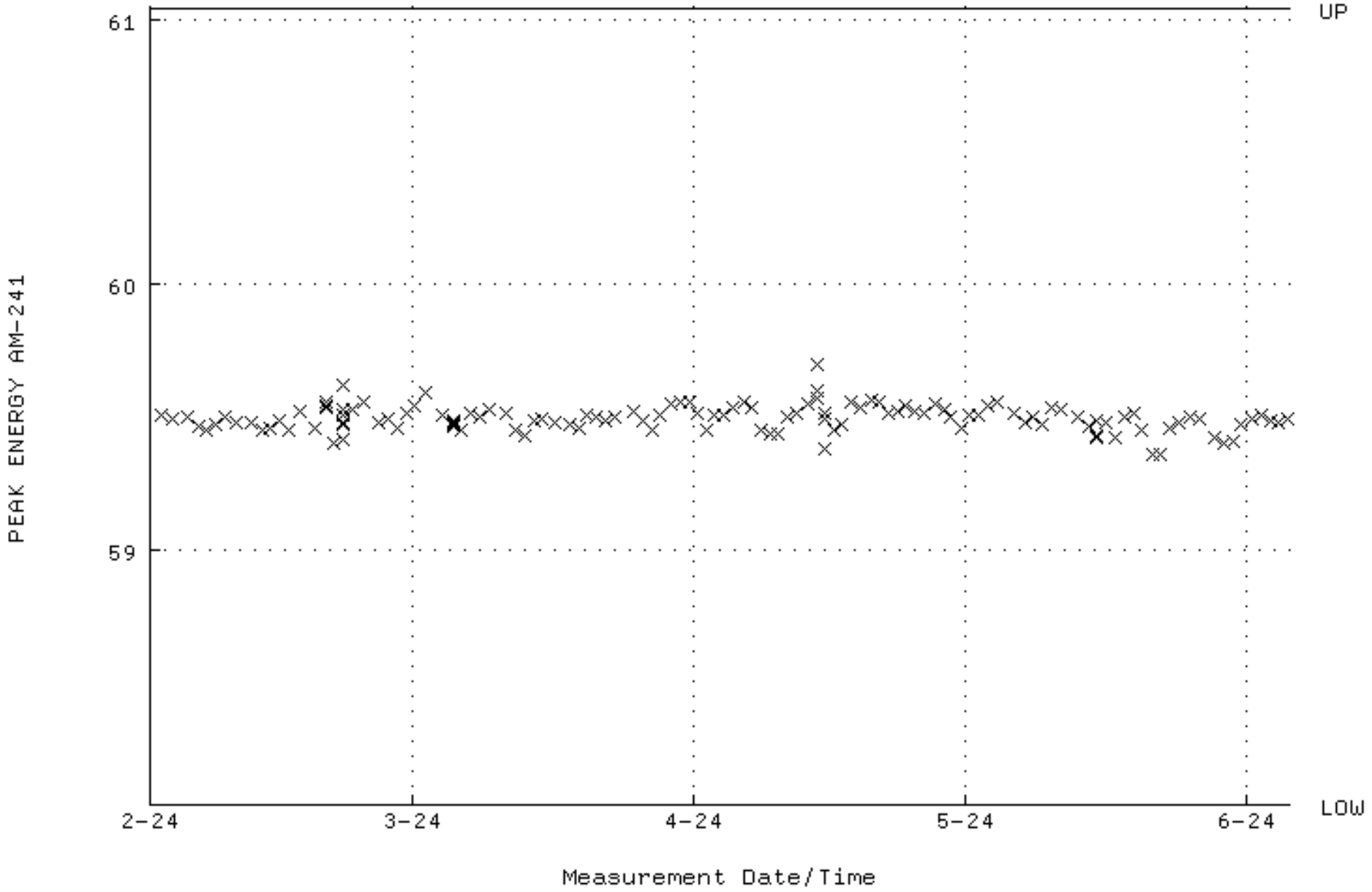

QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM04_CAN.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-FEB-2024 04:29:35 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 0.873483 +- 3.630246E-02 (4.16 %)
ACT
INV
MEAN
INV
ACT
PEAK FWHM AM-241
1
.8
.6
2-24
3-24
4-24
5-24
6-24
Measurement Date/Time

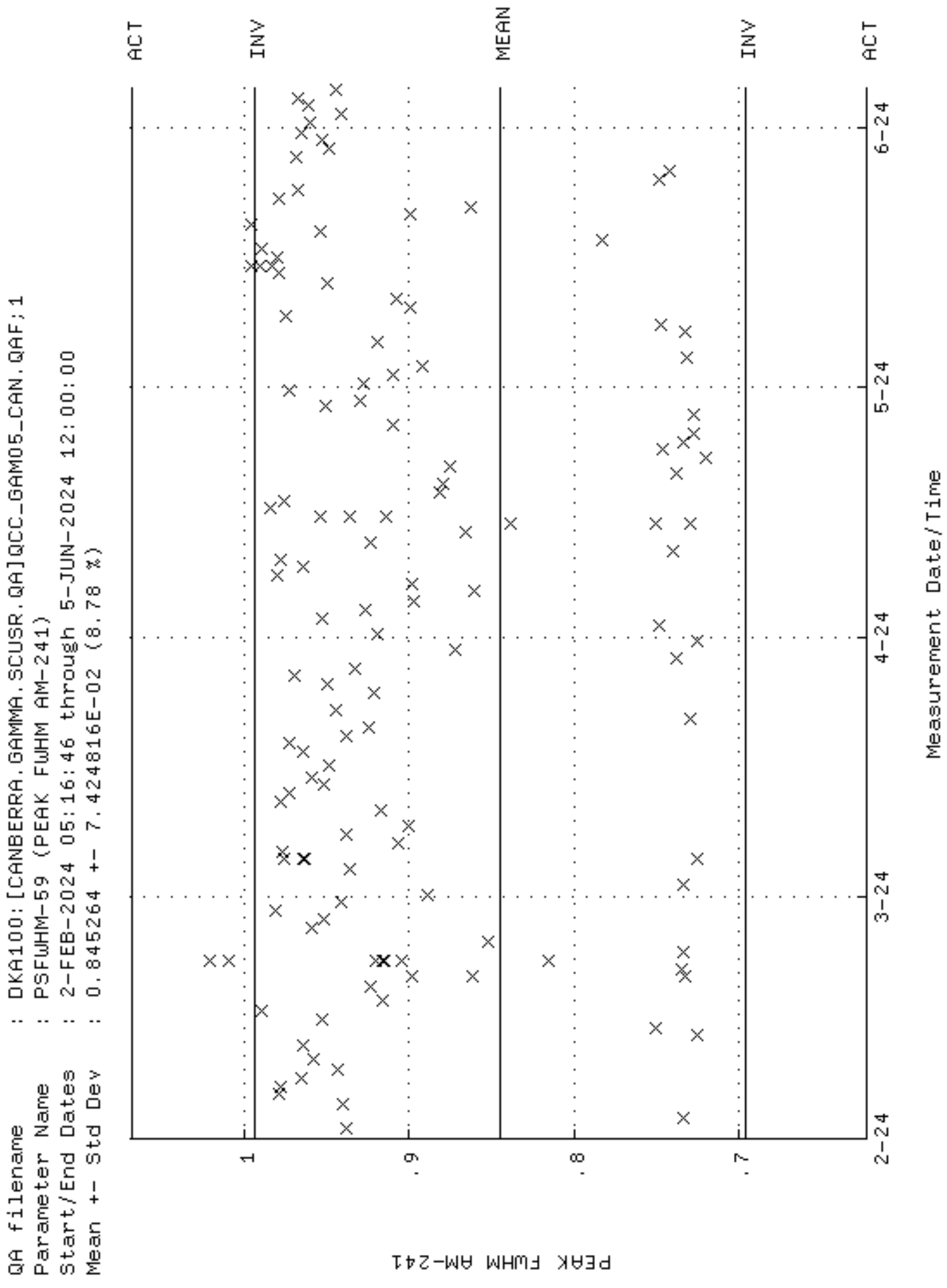

QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM04_CAN.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-FEB-2024 04:29:35 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 66267.7 +- 2015.50 (3.04 %)
ACT
INV
MEAN
INV
ACT
70000
65000
DECAY CORRECTED ACTI
2-24
3-24
4-24
5-24
6-24
Measurement Date/Time

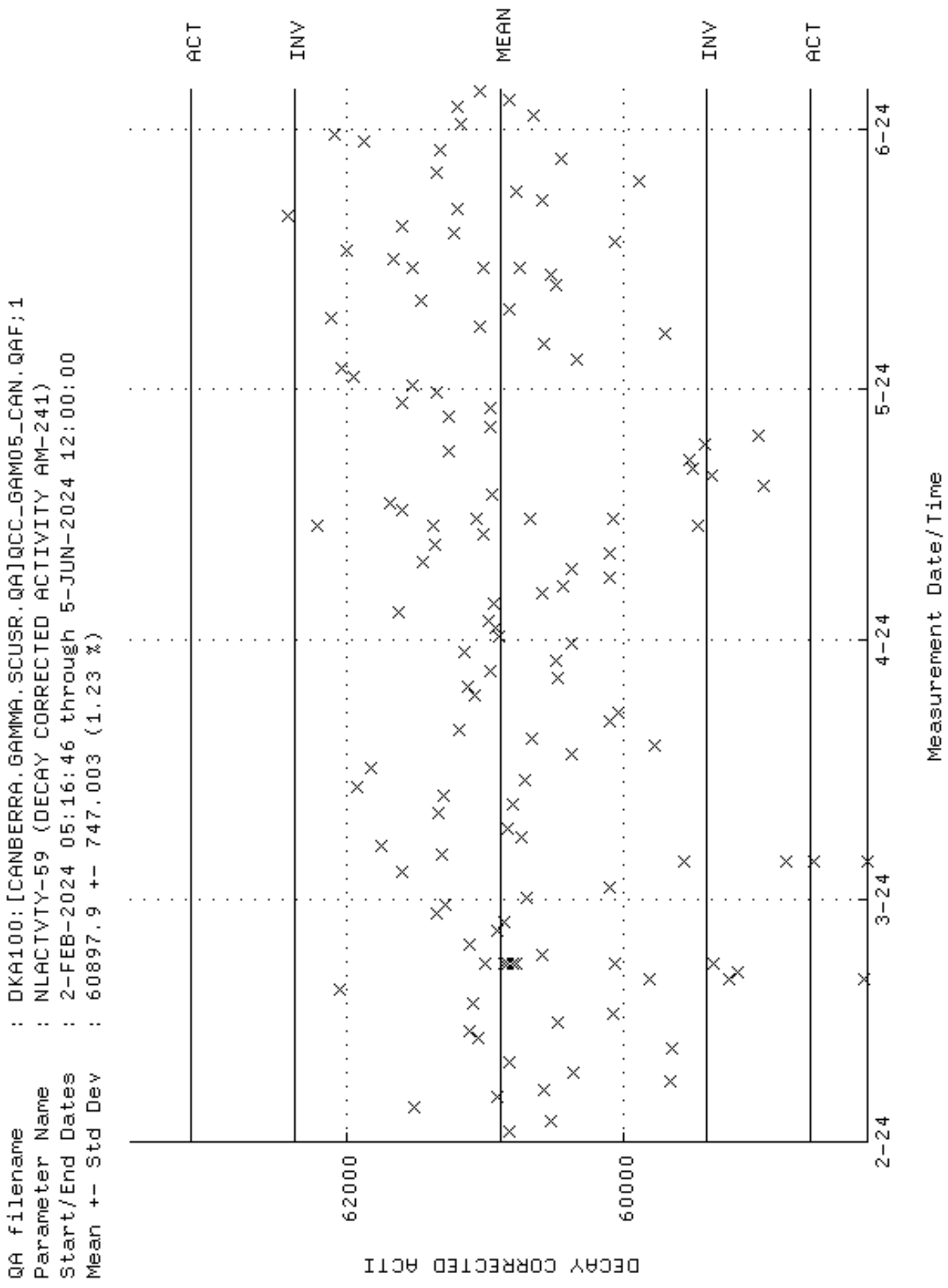
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM04.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 4-FEB-2024 09:14:28 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.36085 +- 1.380287E-02 (1.01 %)



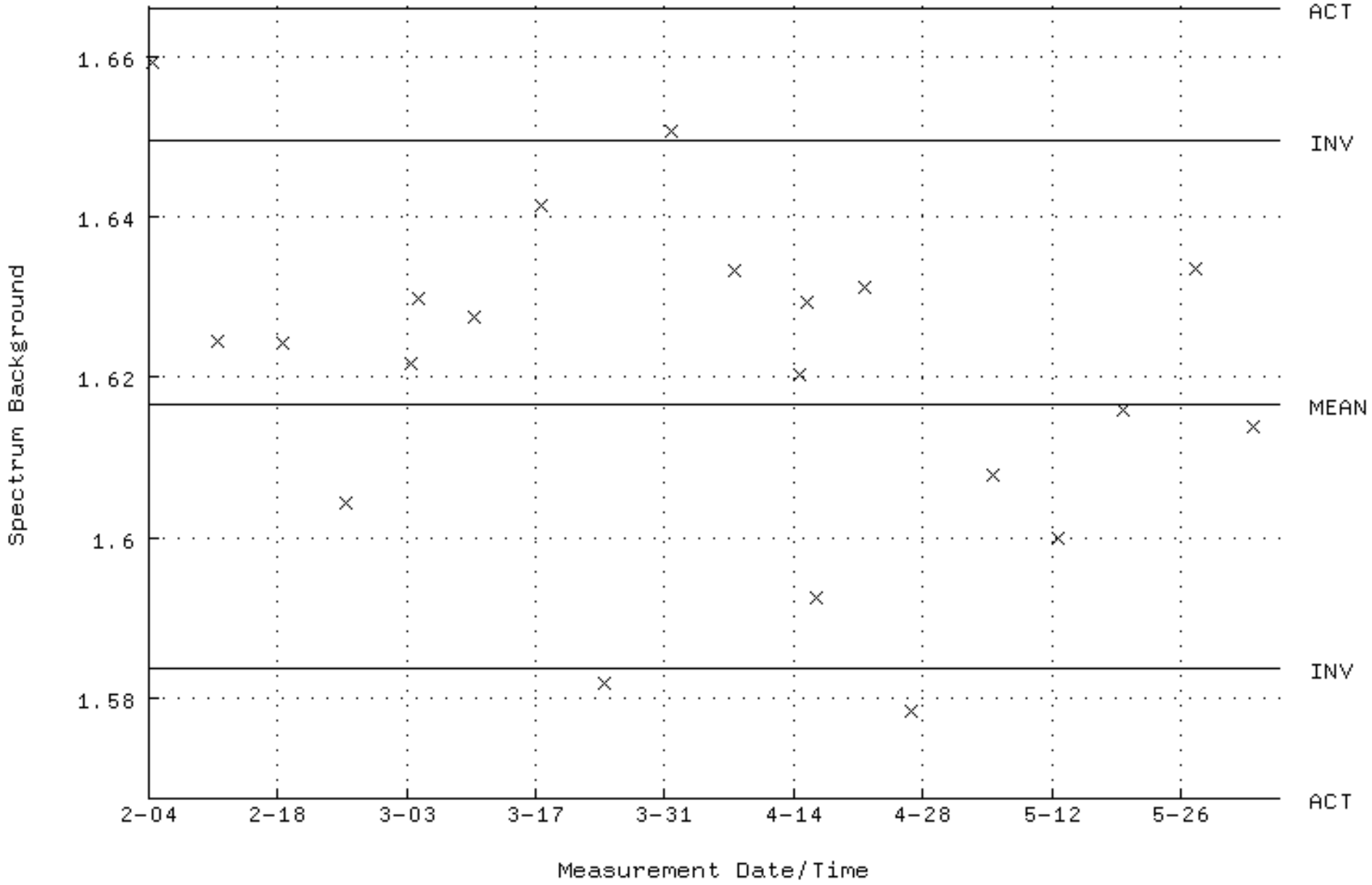
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM05_CAN.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-FEB-2024 05:16:46 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400



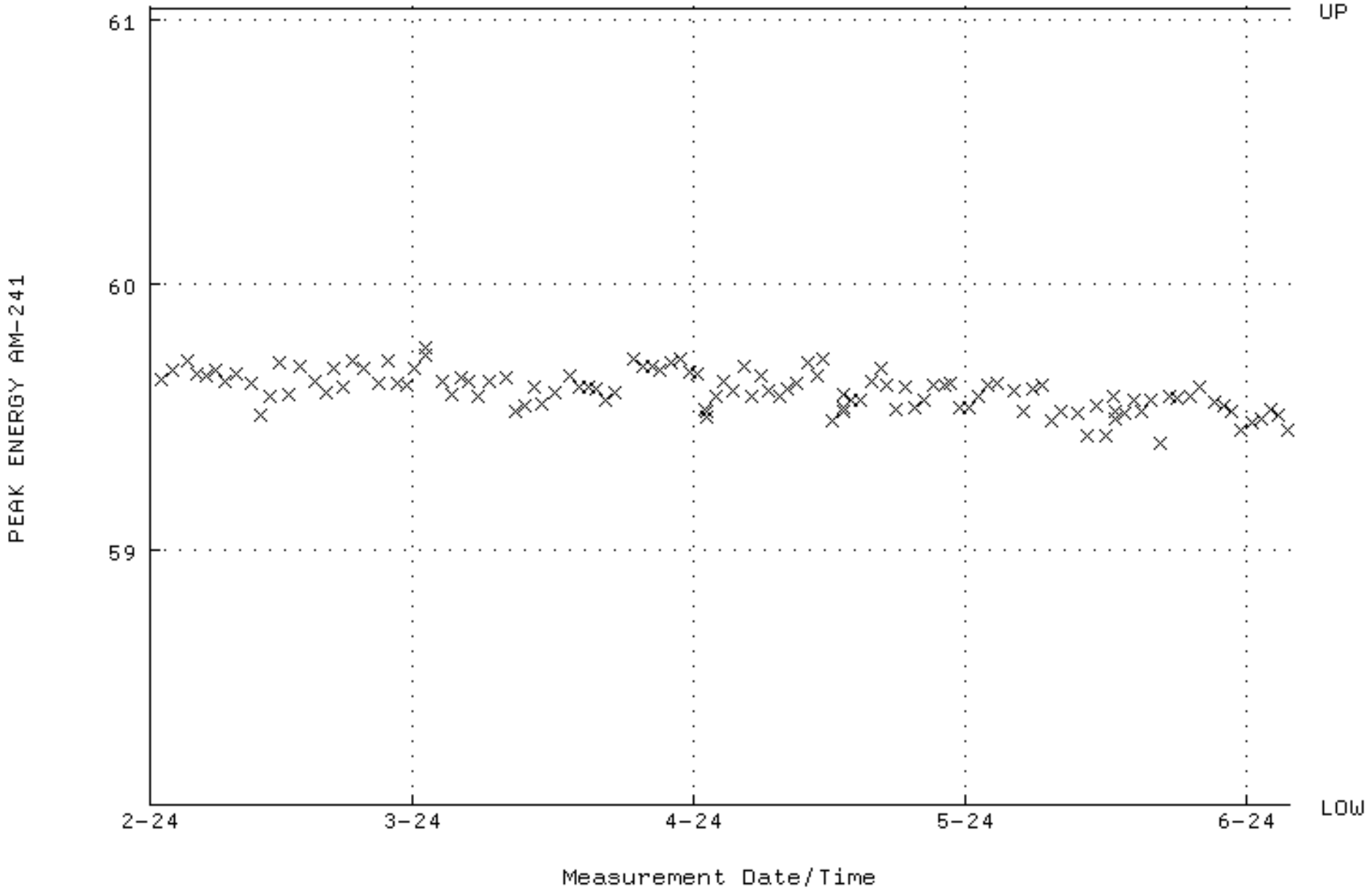

QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM05_CAN.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-FEB-2024 05:16:46 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 0.845264 +- 7.424816E-02 (8.78 %)
ACT
INV
MEAN
INV
ACT
1
.9
.8
.7
2-24
3-24
4-24
5-24
6-24
PEAK FWHM AM-241
Measurement Date/Time


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM05_CAN.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-FEB-2024 05:16:46 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 60897.9 +- 747.003 (1.23 %)
ACT
INV
MEAN
INV
ACT
62000
60000
DECAY CORRECTED ACTI
2-24
3-24
4-24
5-24
6-24
Measurement Date/Time

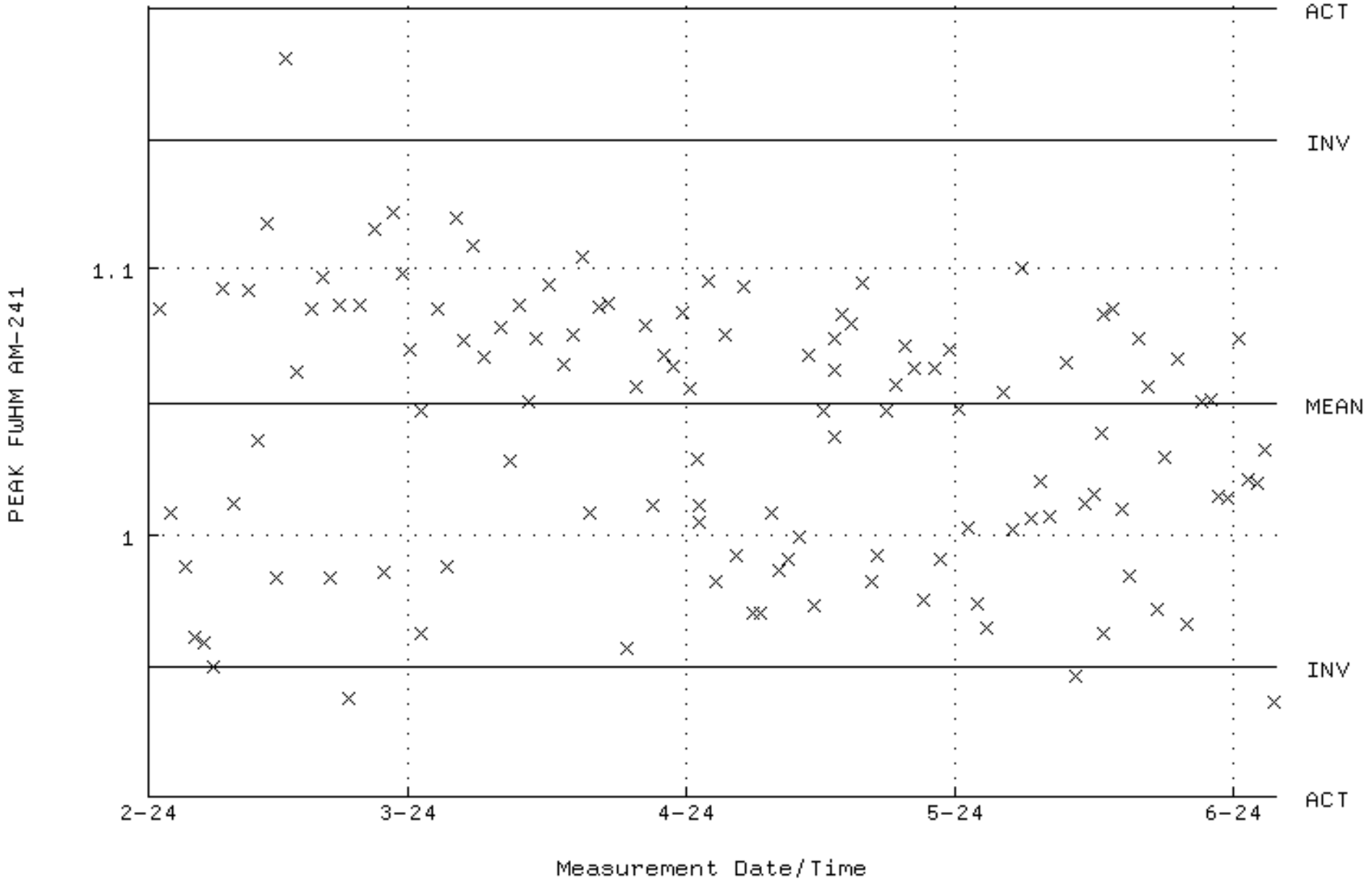
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM05.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 4-FEB-2024 10:57:36 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.61674 +- 1.640617E-02 (1.01 %)

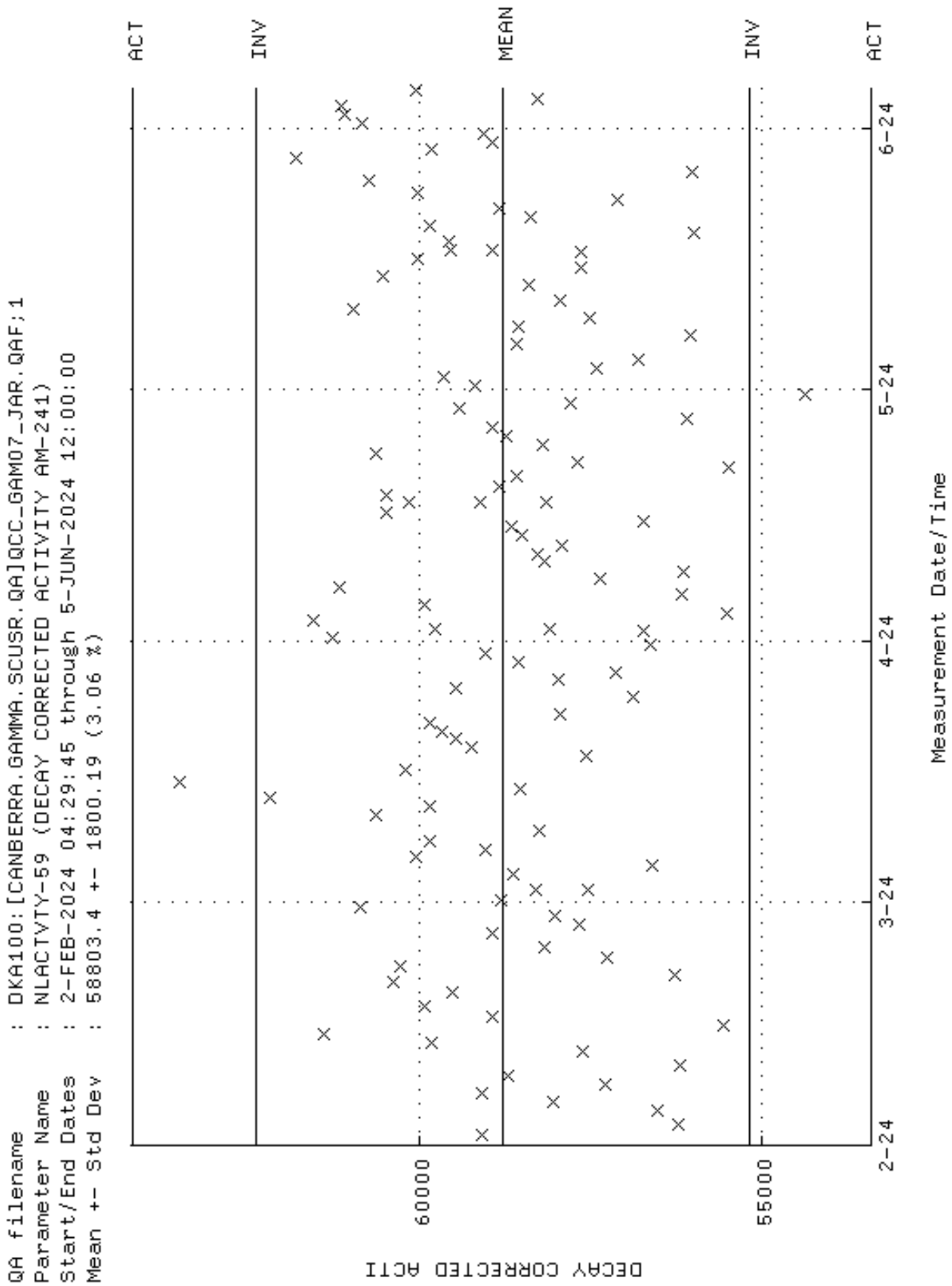


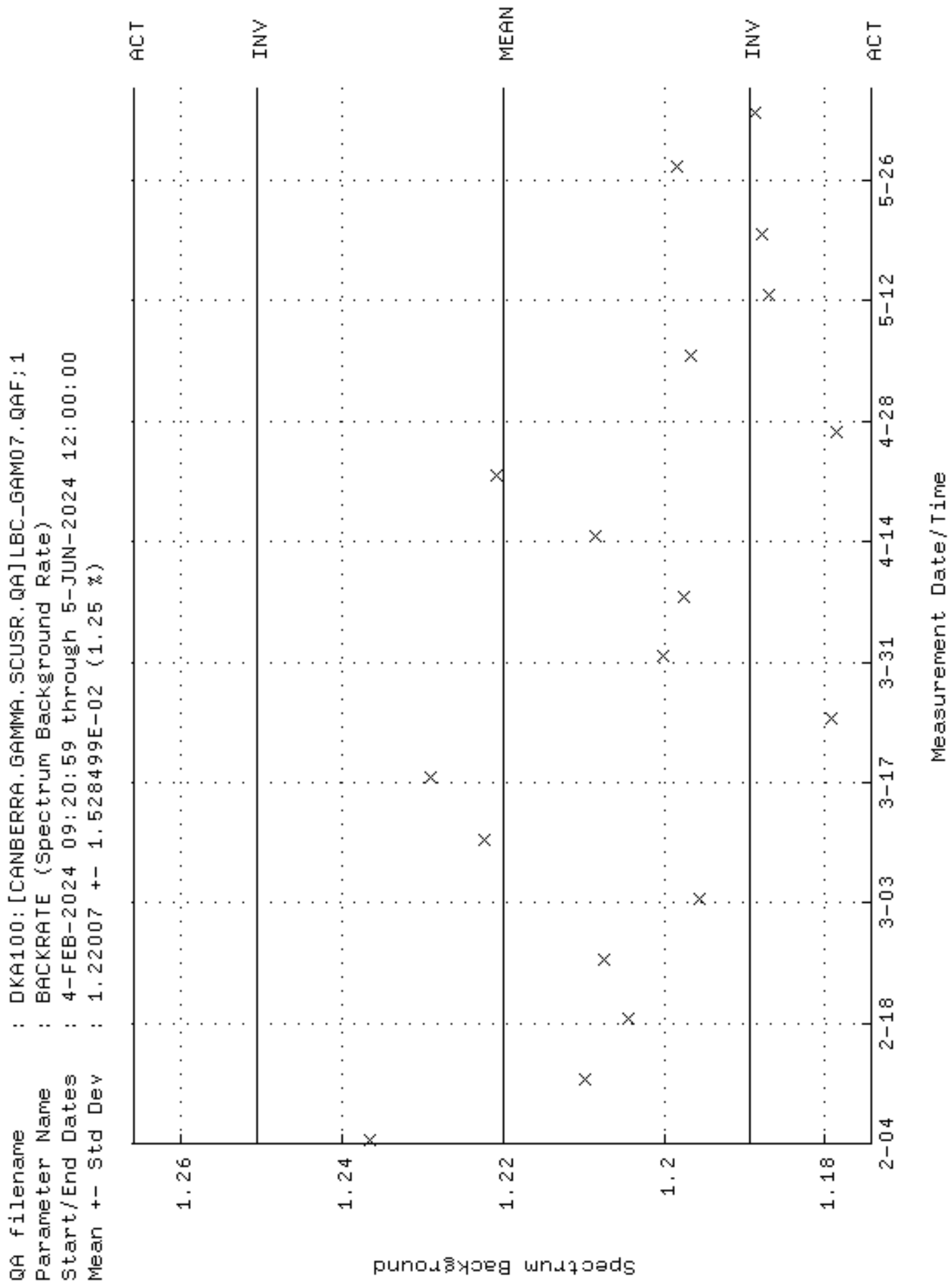
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM07_JAR.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-FEB-2024 04:29:45 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400



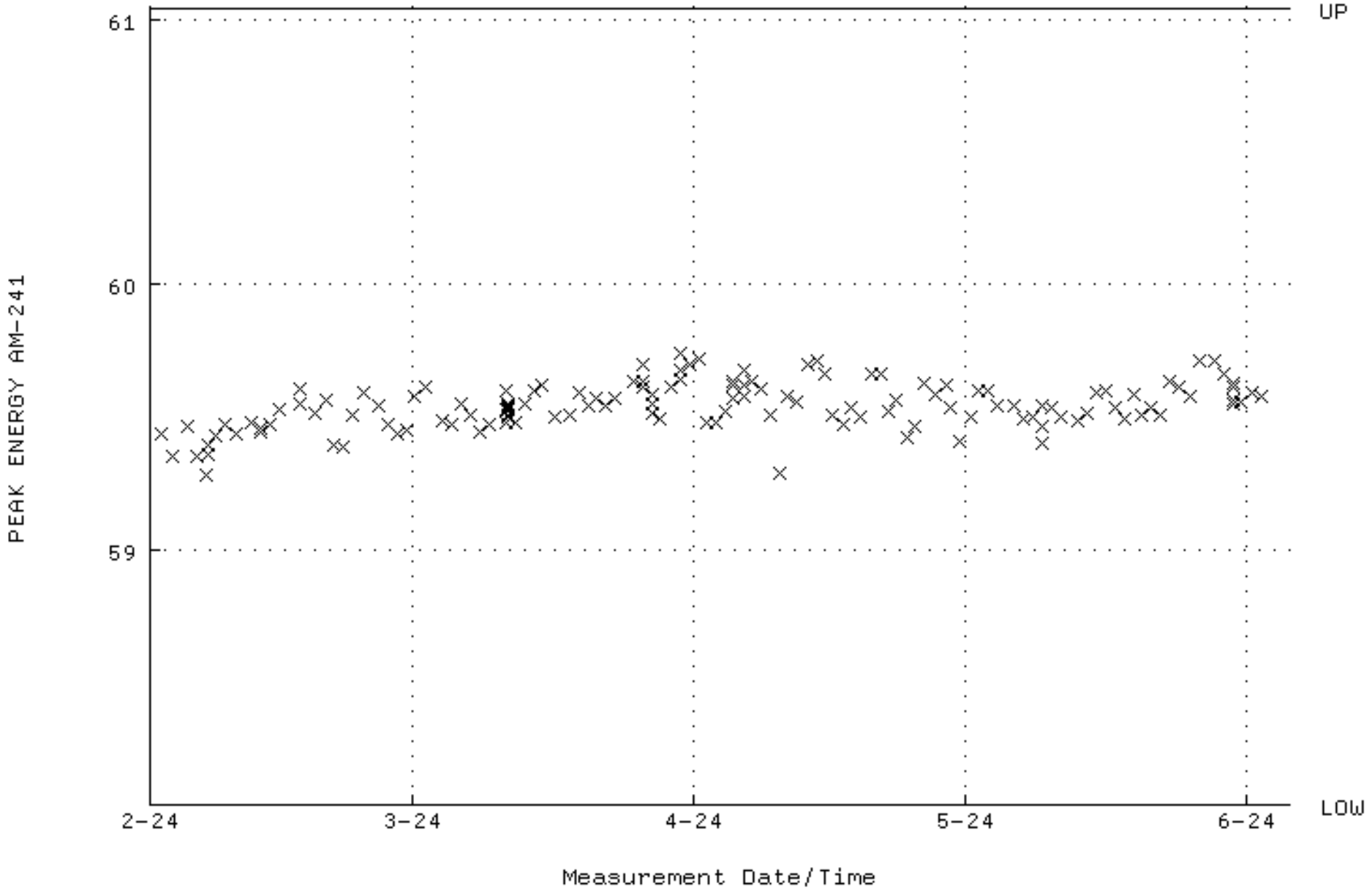
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM07_JAR.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-FEB-2024 04:29:45 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.04972 +- 4.907132E-02 (4.67 %)

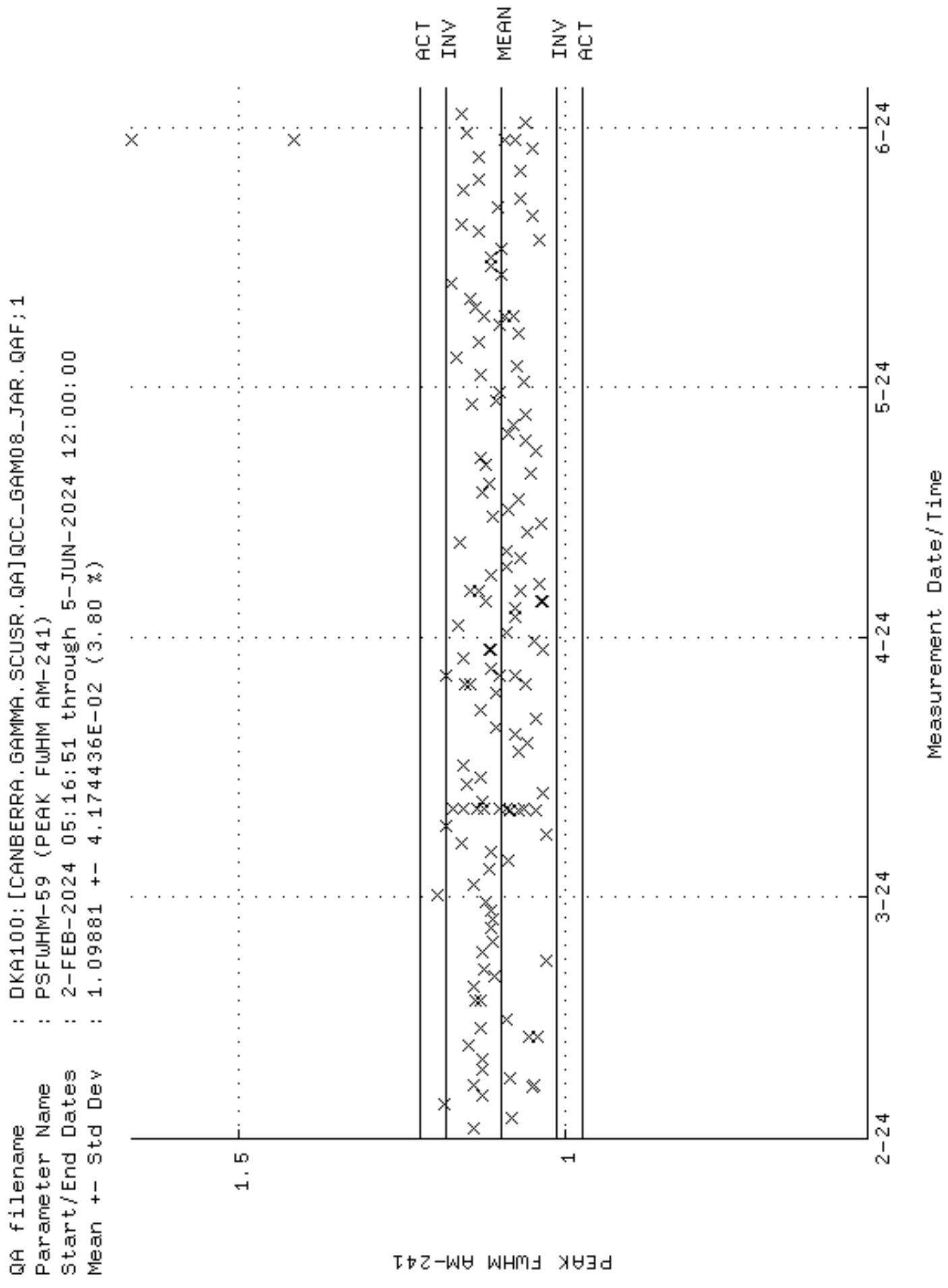


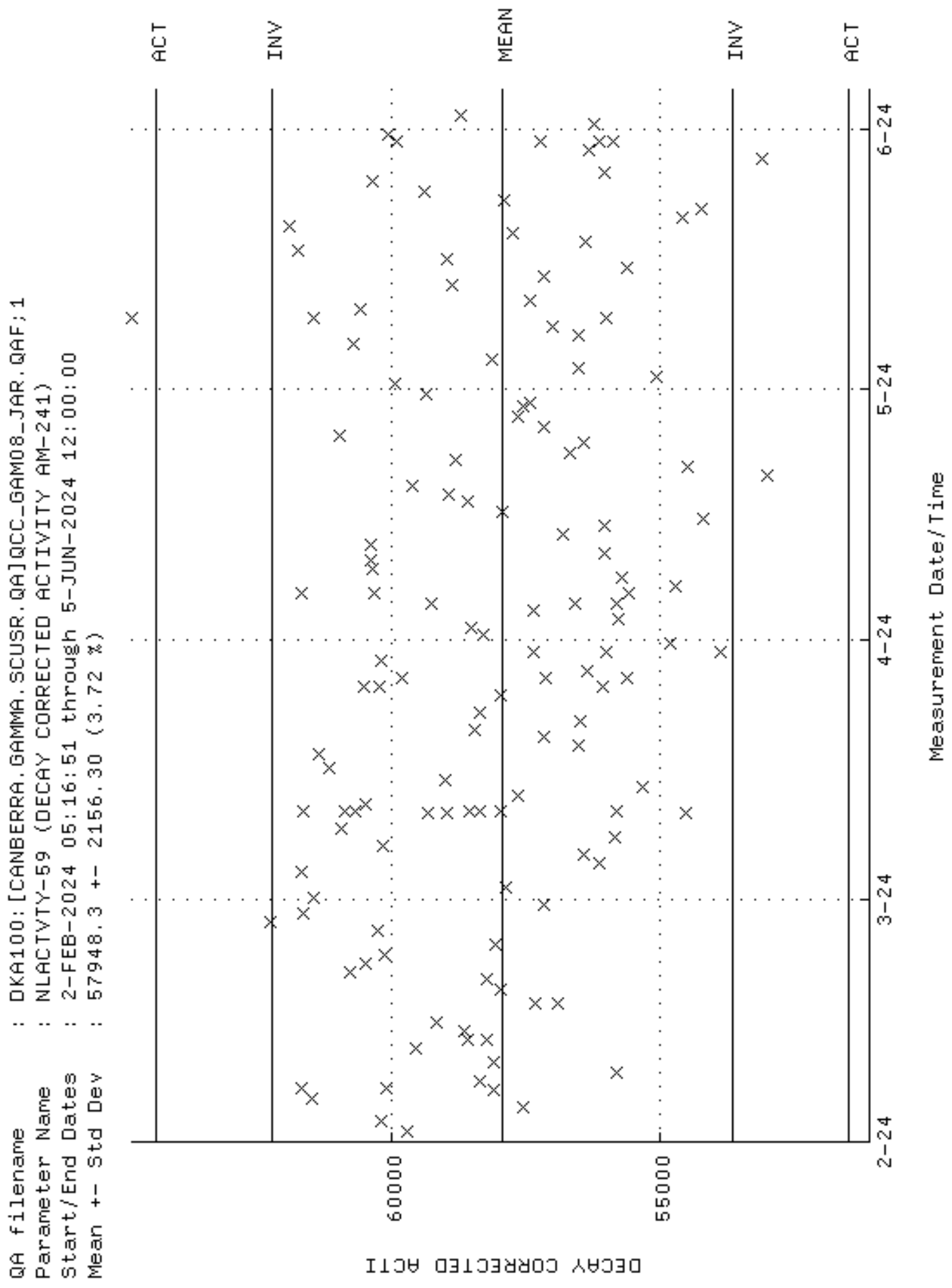

QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM07_JAR.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-FEB-2024 04:29:45 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 58803.4 +- 1800.19 (3.06 %)
ACT
INV
MEAN
INV
ACT
60000
55000
DECAY CORRECTED ACTI
2-24
3-24
4-24
5-24
6-24
Measurement Date/Time


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM07.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 4-FEB-2024 09:20:59 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.22007 +- 1.528499E-02 (1.25 %)
ACT
INV
MEAN
INV
ACT
1.26
1.24
1.22
1.2
1.18
Spectrum Background
2-04
2-18
3-03
3-17
3-31
4-14
4-28
5-12
5-26
Measurement Date/Time

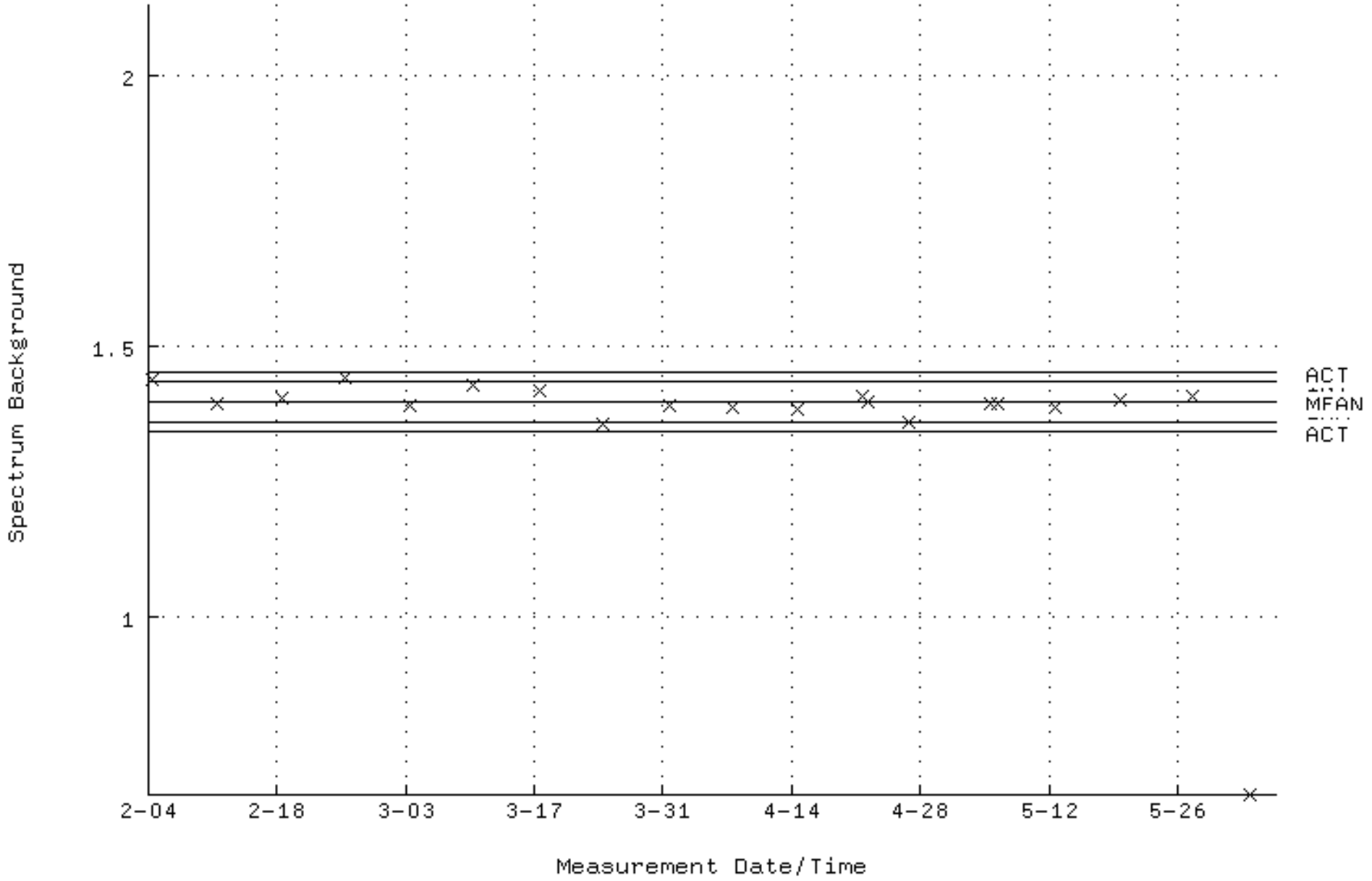
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM08_JAR.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-FEB-2024 05:16:51 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400



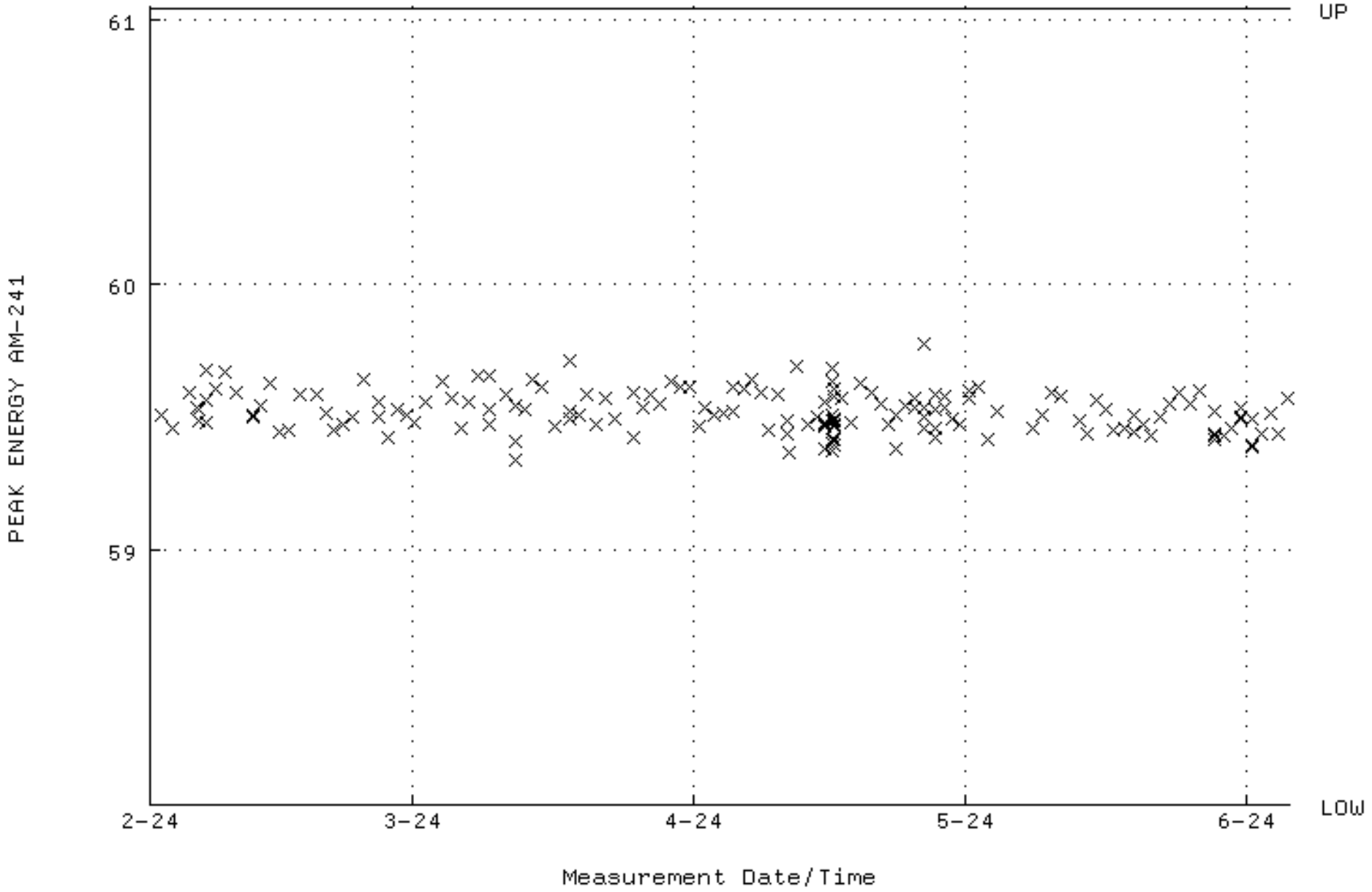

QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM08_JAR.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-FEB-2024 05:16:51 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.09881 +- 4.174436E-02 (3.80 %)
ACT
INV
MEAN
INV
ACT
PEAK FWHM AM-241
1.5
1
2-24
3-24
4-24
5-24
6-24
Measurement Date/Time

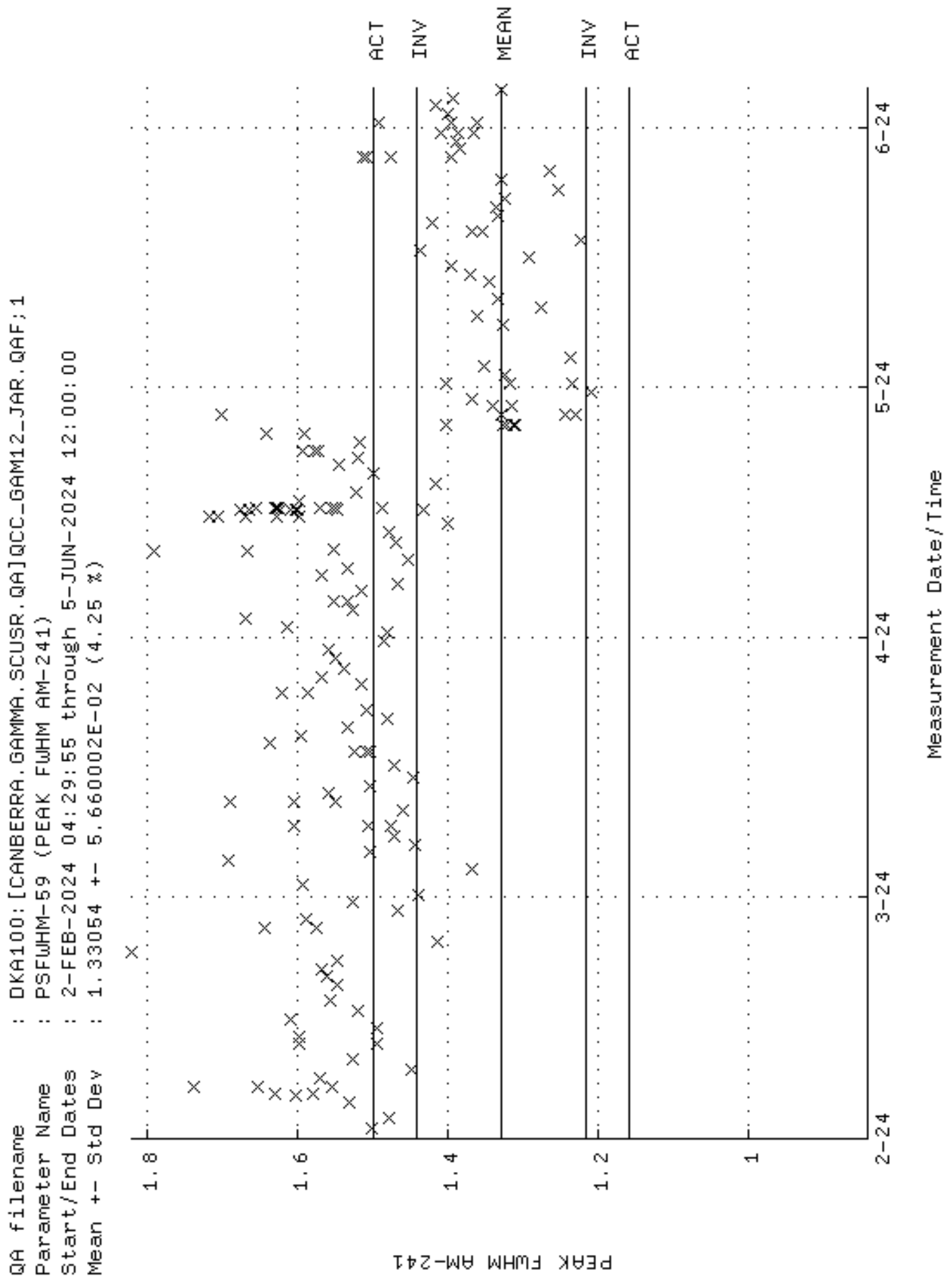

QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM08_JAR.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-FEB-2024 05:16:51 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 57948.3 +- 2156.30 (3.72 %)
ACT
INV
MEAN
INV
ACT
60000
55000
DECAY CORRECTED ACTI
2-24
3-24
4-24
5-24
6-24
Measurement Date/Time

QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM08.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 4-FEB-2024 09:21:04 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.39925 +- 1.803552E-02 (1.29 %)

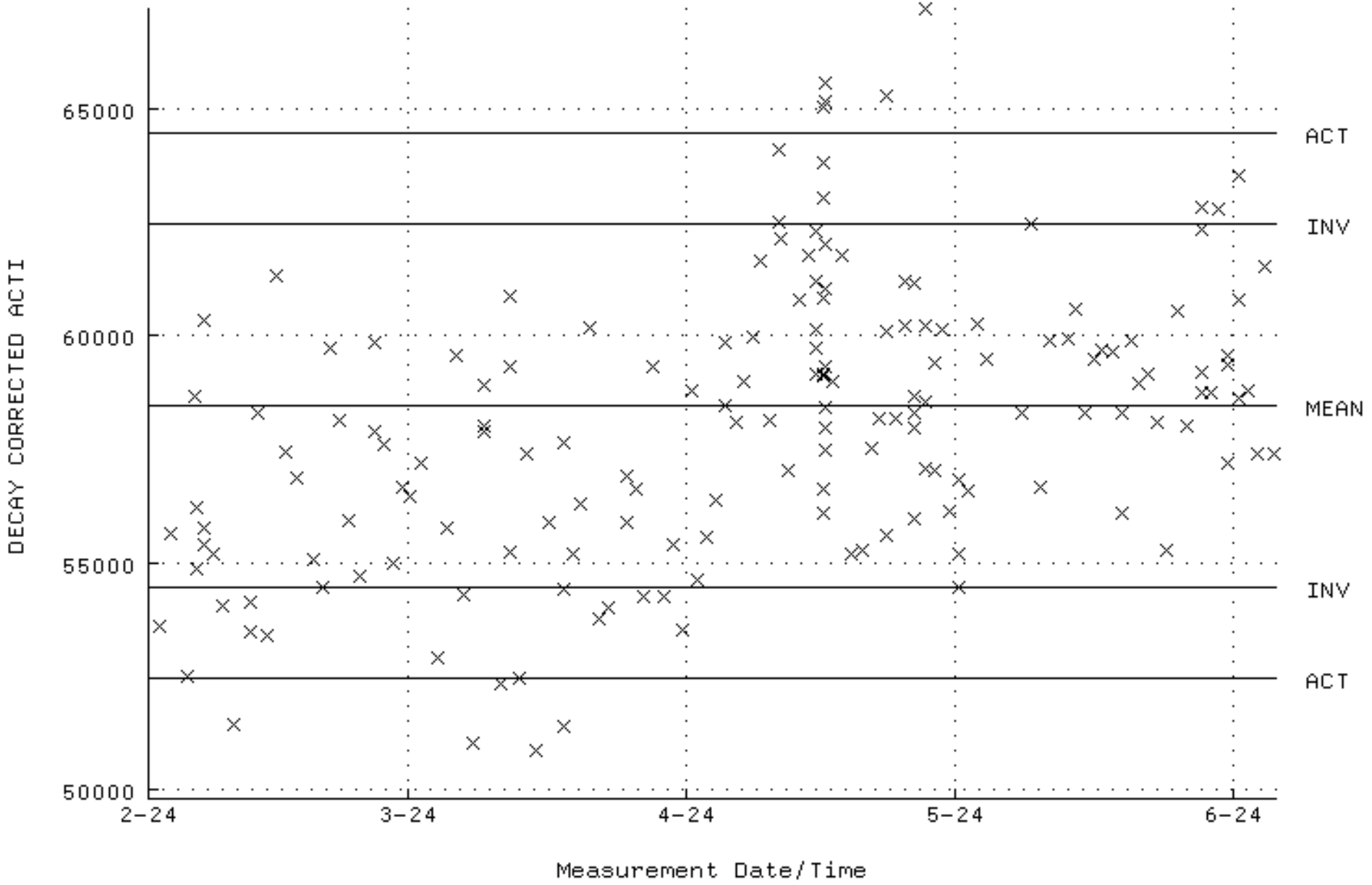


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM12_JAR.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-FEB-2024 04:29:55 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400

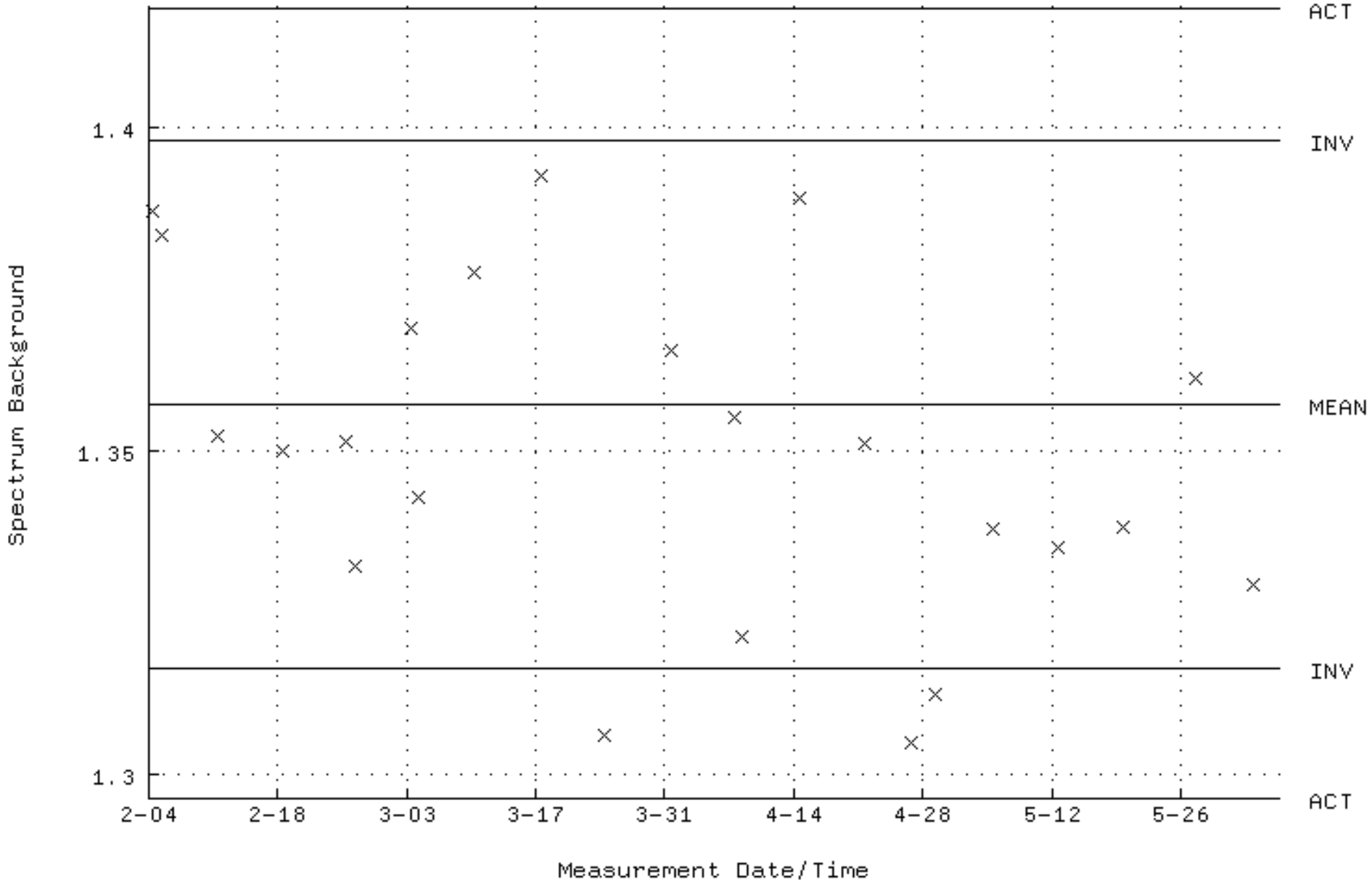



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM12_JAR.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-FEB-2024 04:29:55 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.33054 +- 5.660002E-02 (4.25 %)
ACT
INV
MEAN
INV
ACT
1.8
1.6
1.4
1.2
1
PEAK FWHM AM-241
2-24
3-24
4-24
5-24
6-24
Measurement Date/Time

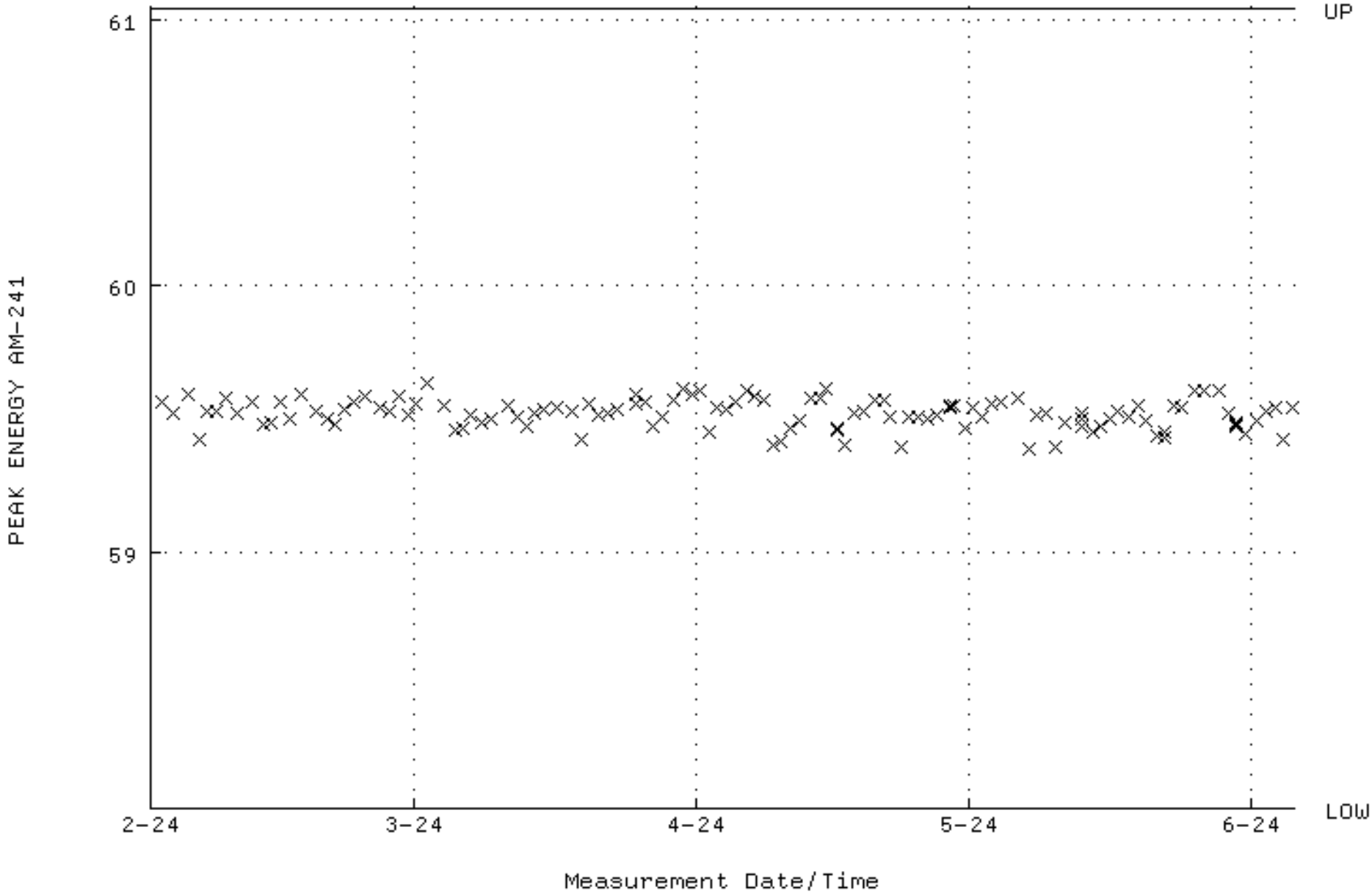
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM12_JAR.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-FEB-2024 04:29:55 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 58481.1 +- 1995.94 (3.41 %)



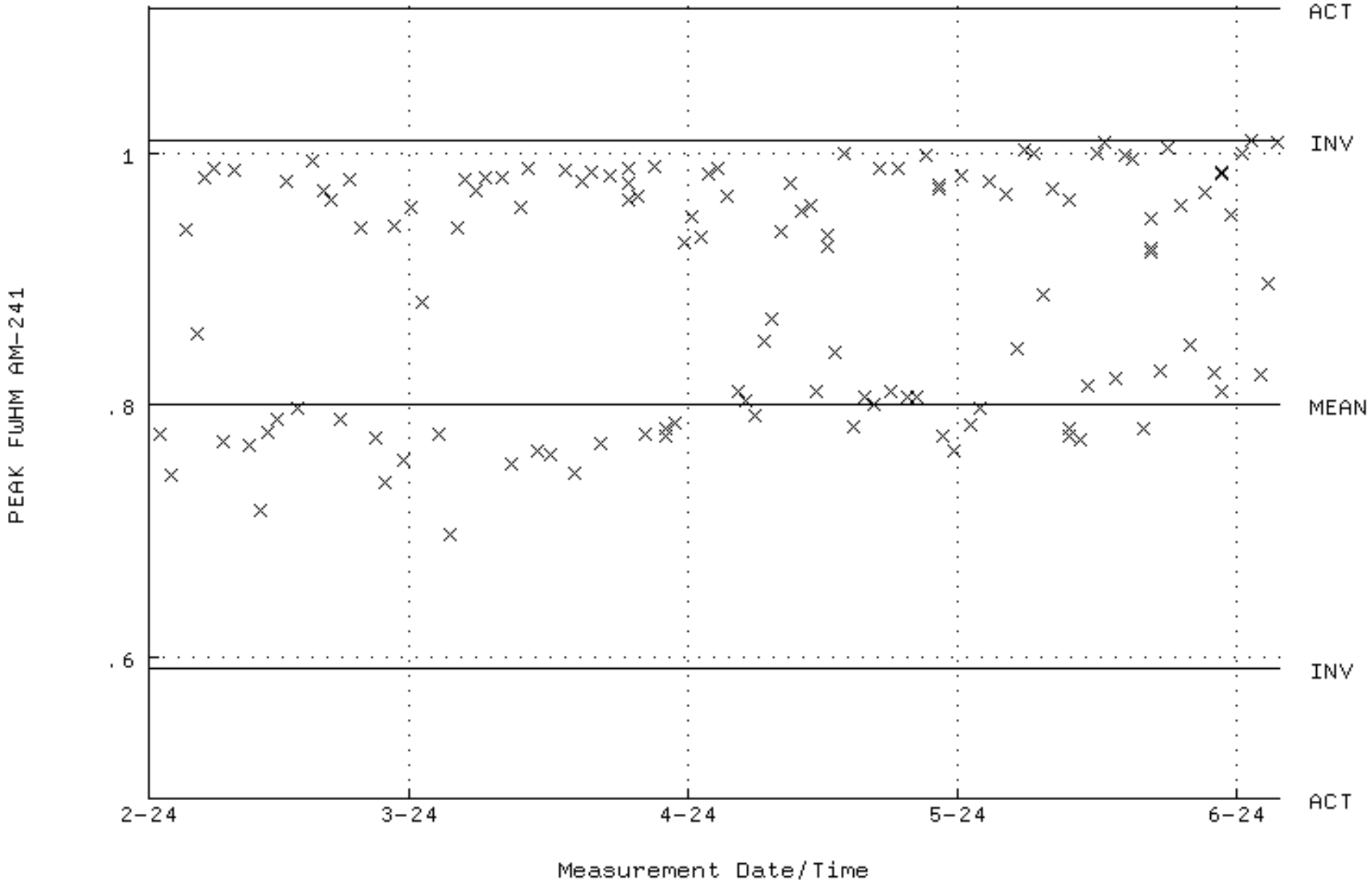
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM12.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 4-FEB-2024 09:21:14 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.35724 +- 2.036170E-02 (1.50 %)

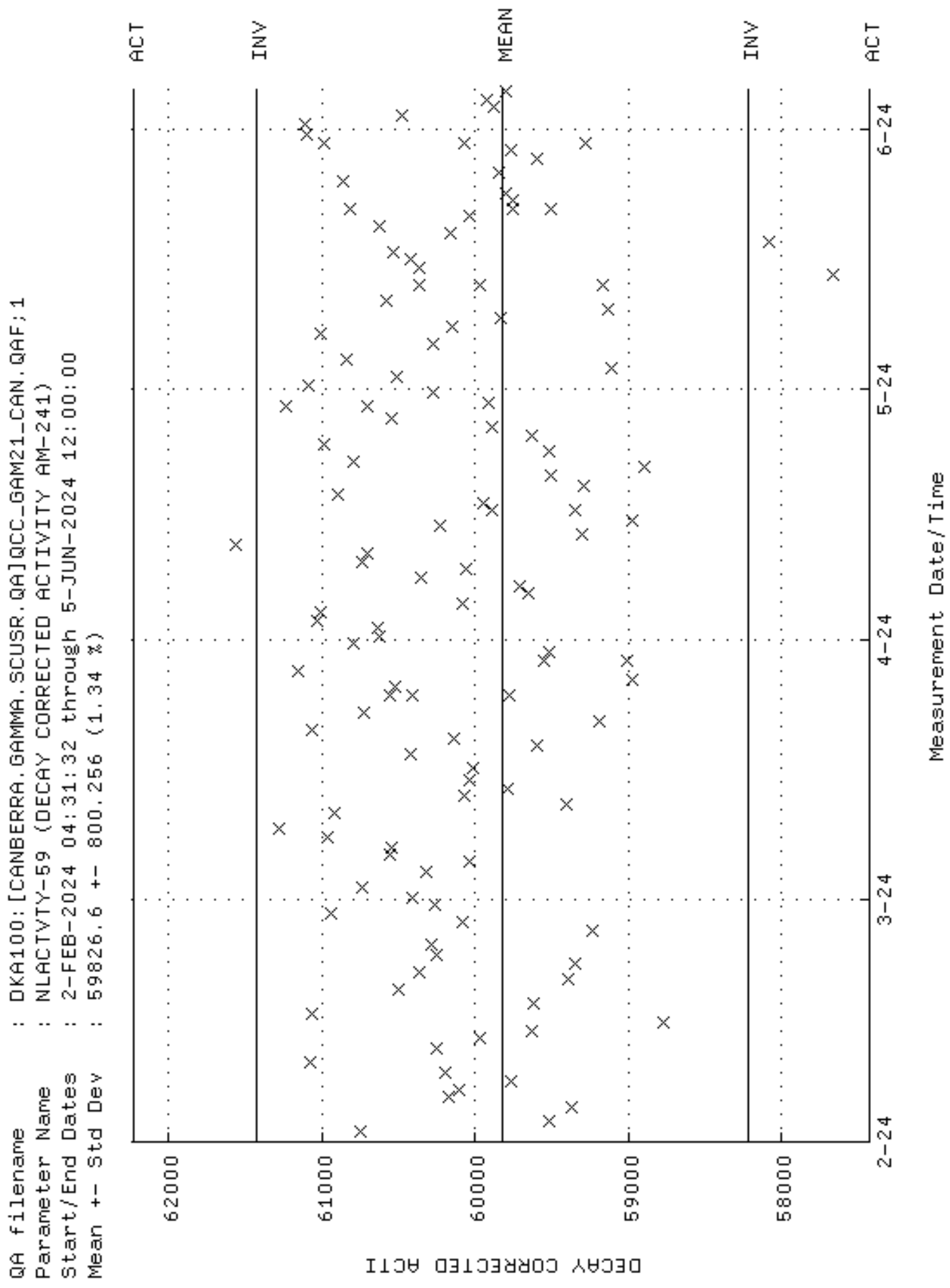


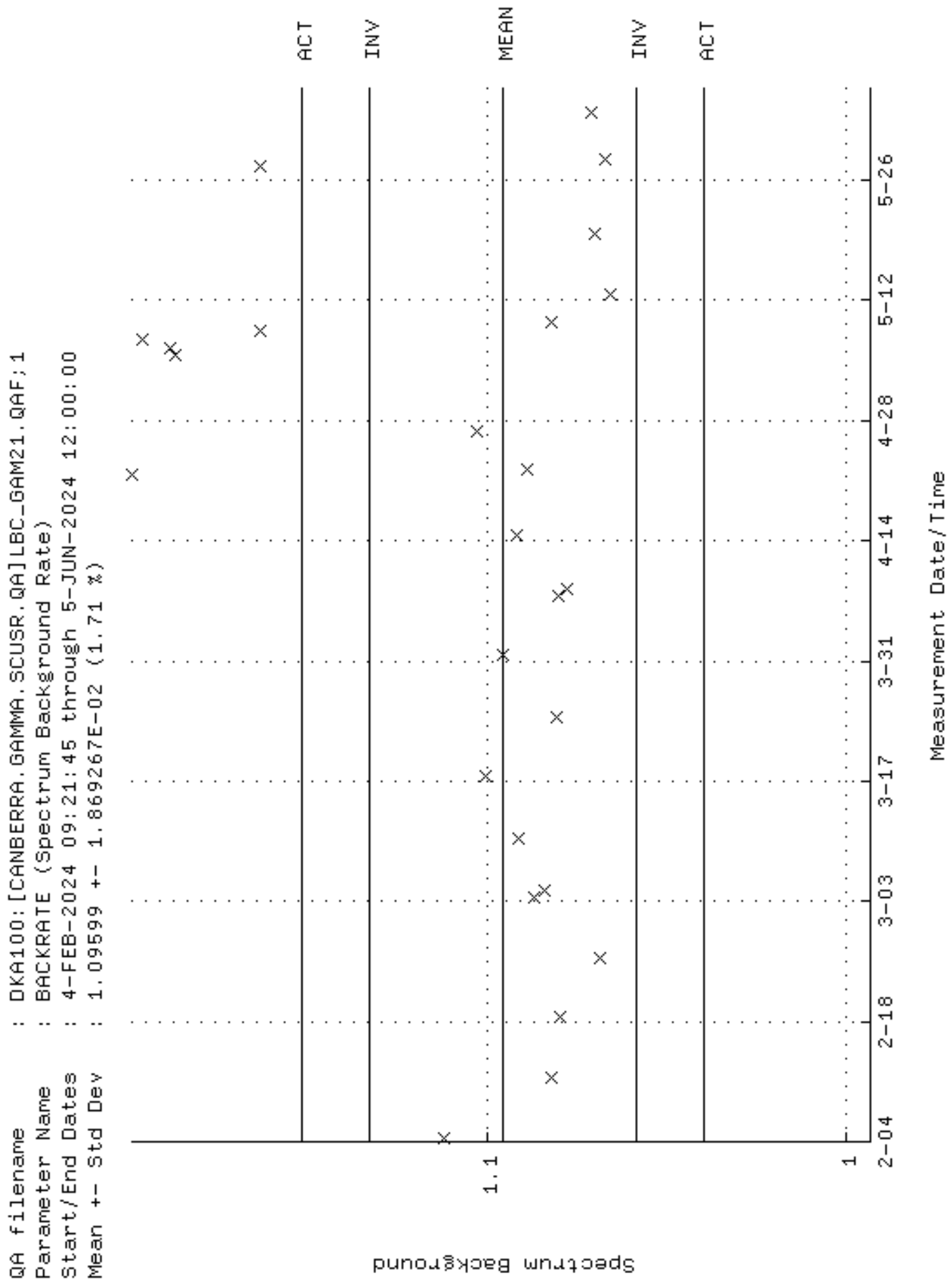
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM21_CAN.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-FEB-2024 04:31:32 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400



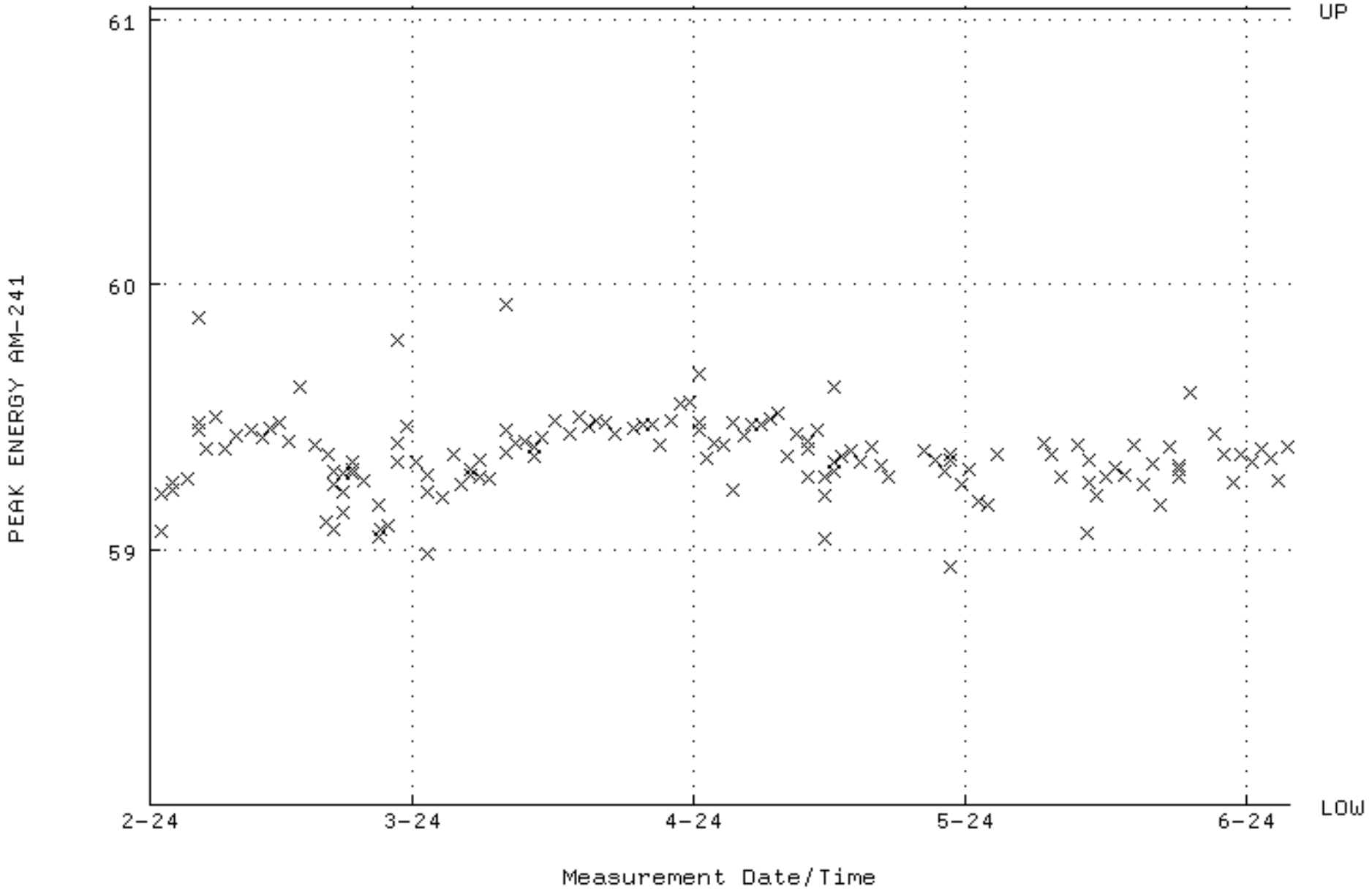
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM21_CAN.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-FEB-2024 04:31:32 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 0.801117 +- 0.104588 (13.06 %)



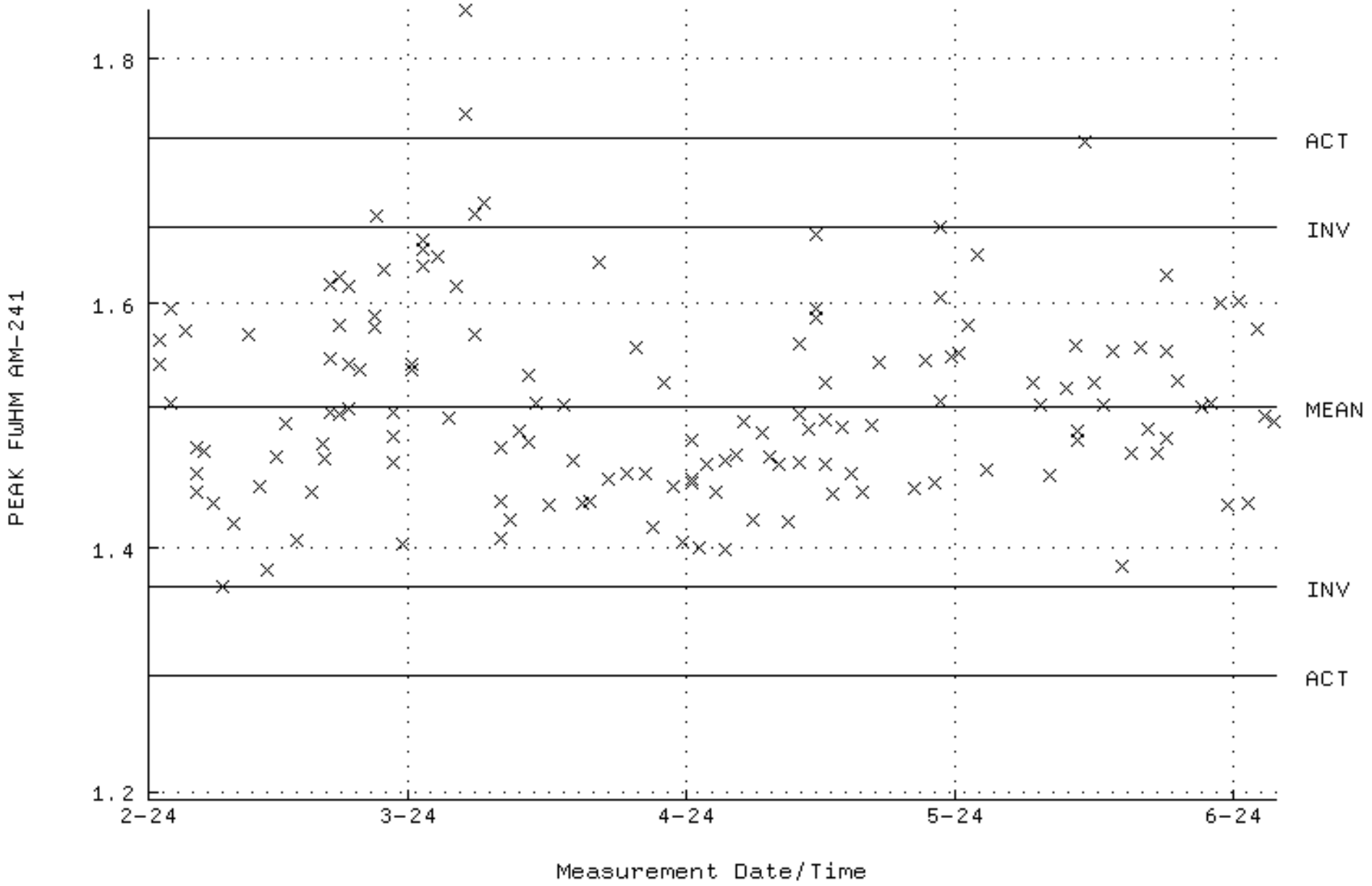

QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM21_CAN.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-FEB-2024 04:31:32 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 59826.6 +- 800.256 (1.34 %)
ACT
INV
MEAN
INV
ACT
62000
61000
60000
59000
58000
DECAY CORRECTED ACTI
2-24
3-24
4-24
5-24
6-24
Measurement Date/Time


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM21.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 4-FEB-2024 09:21:45 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.09599 +- 1.8692678-02 (1.71 %)
ACT
INV
MEAN
INV
ACT
1.1
1
Spectrum Background
2-04
2-18
3-03
3-17
3-31
4-14
4-28
5-12
5-26
Measurement Date/Time

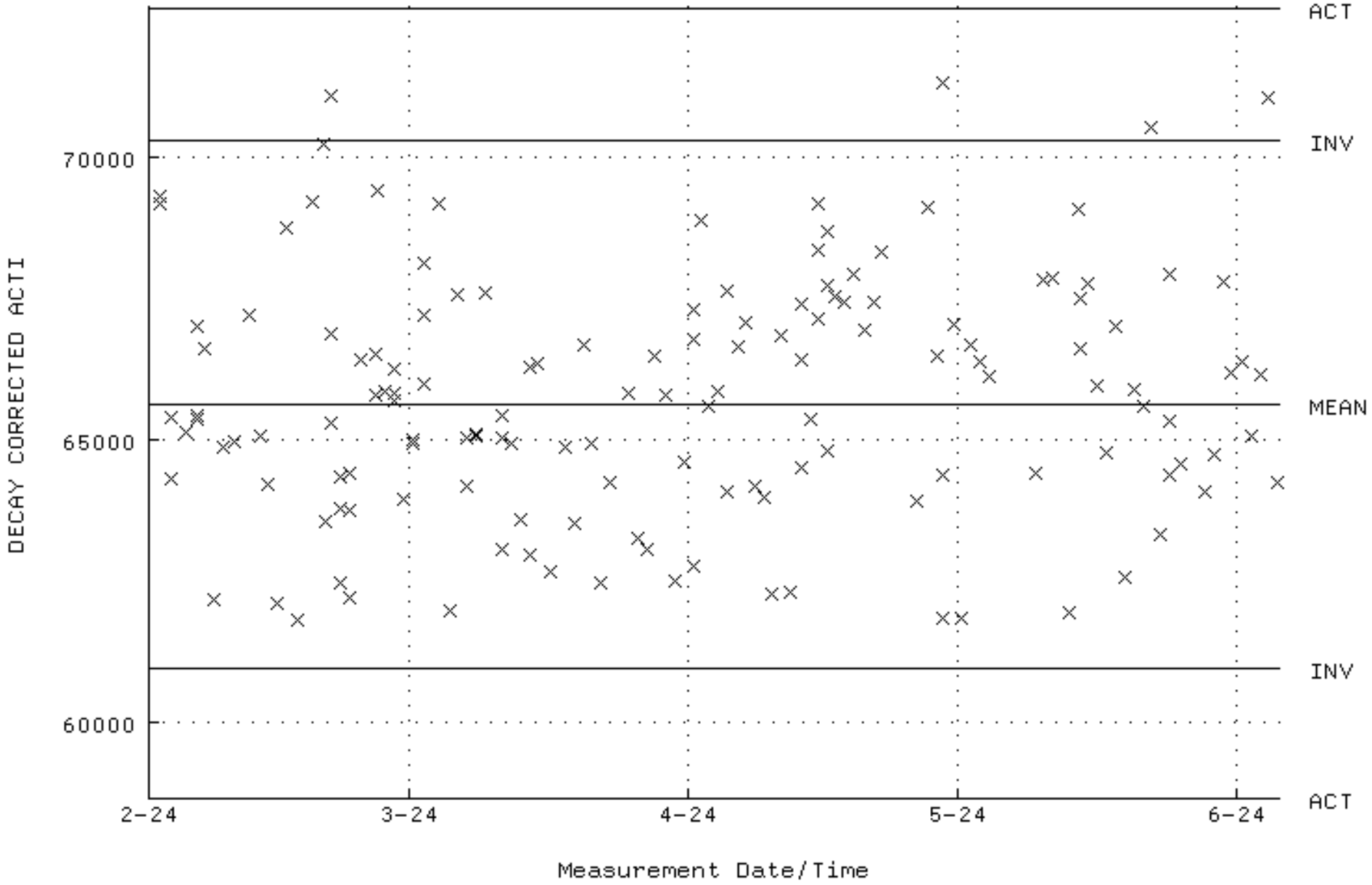
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM22_CAN.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-FEB-2024 03:59:44 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400

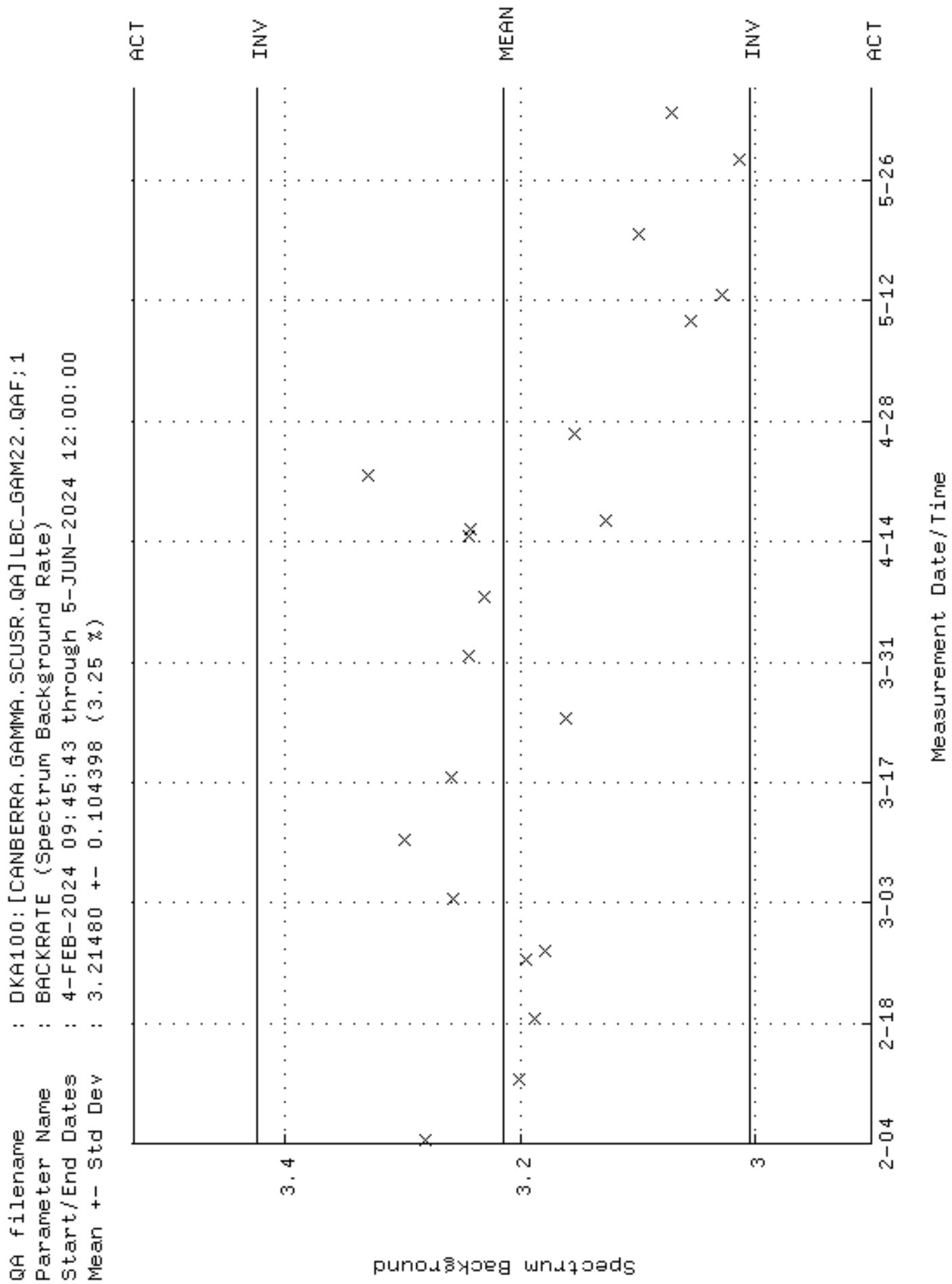


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM22_CAN.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-FEB-2024 03:59:44 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.51606 +- 7.310749E-02 (4.82 %)

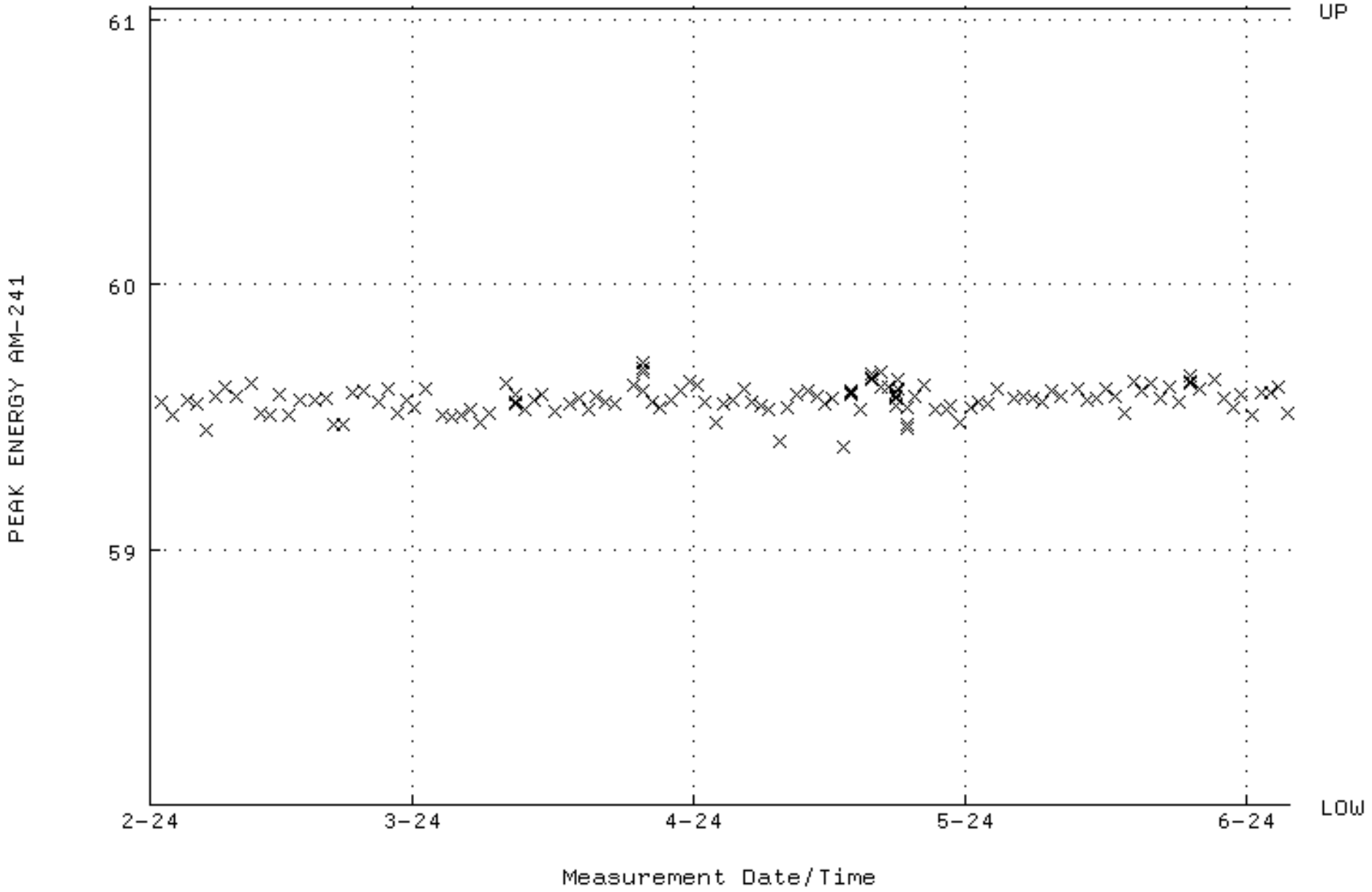


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM22_CAN.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-FEB-2024 03:59:44 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 65639.4 +- 2326.22 (3.54 %)

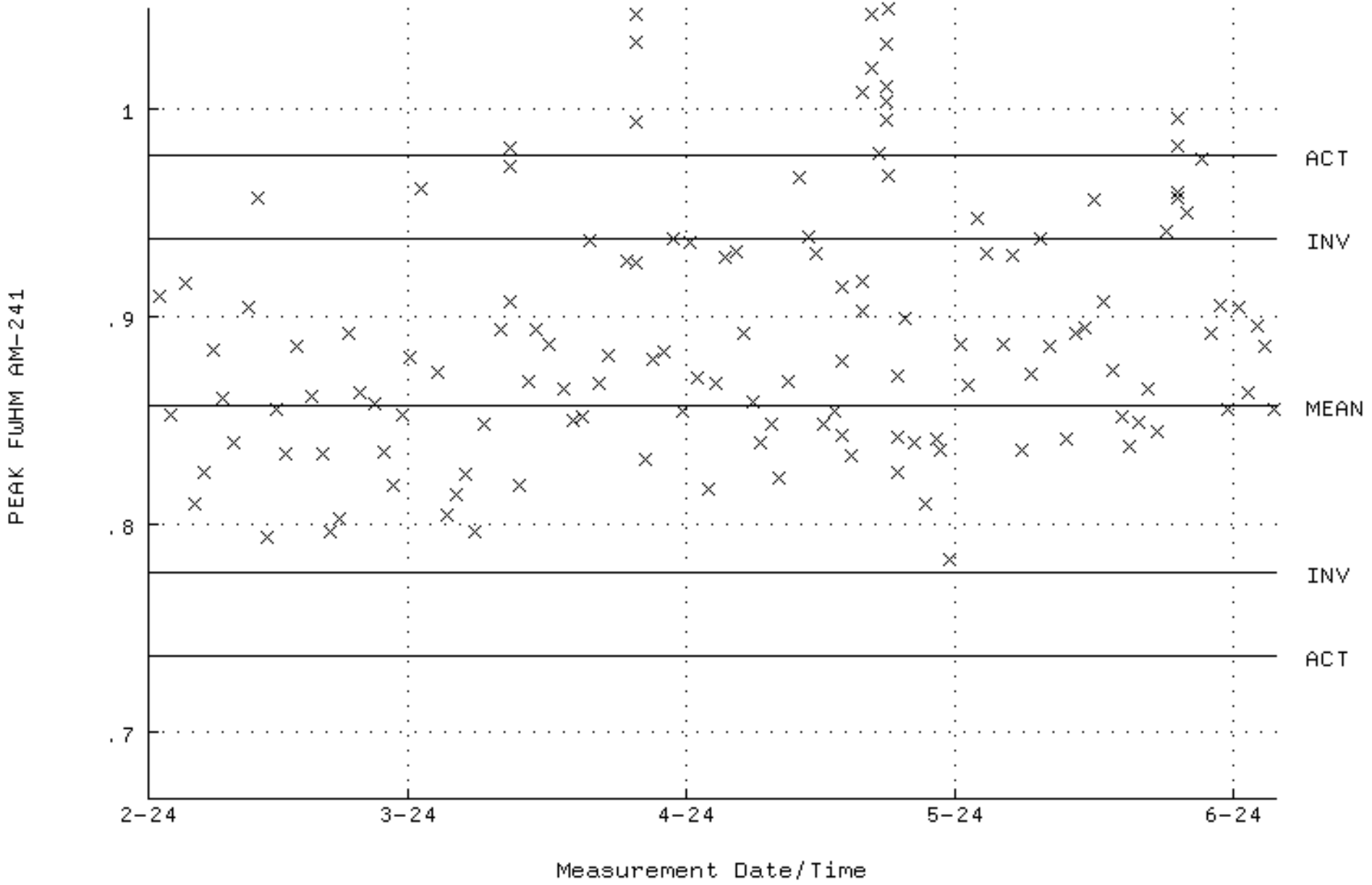



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM22.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 4-FEB-2024 09:45:43 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 3.21480 +- 0.104398 (3.25 %)
ACT
INV
MEAN
INV
ACT
3.4
3.2
3
Spectrum Background
2-04
2-18
3-03
3-17
3-31
4-14
4-28
5-12
5-26
Measurement Date/Time

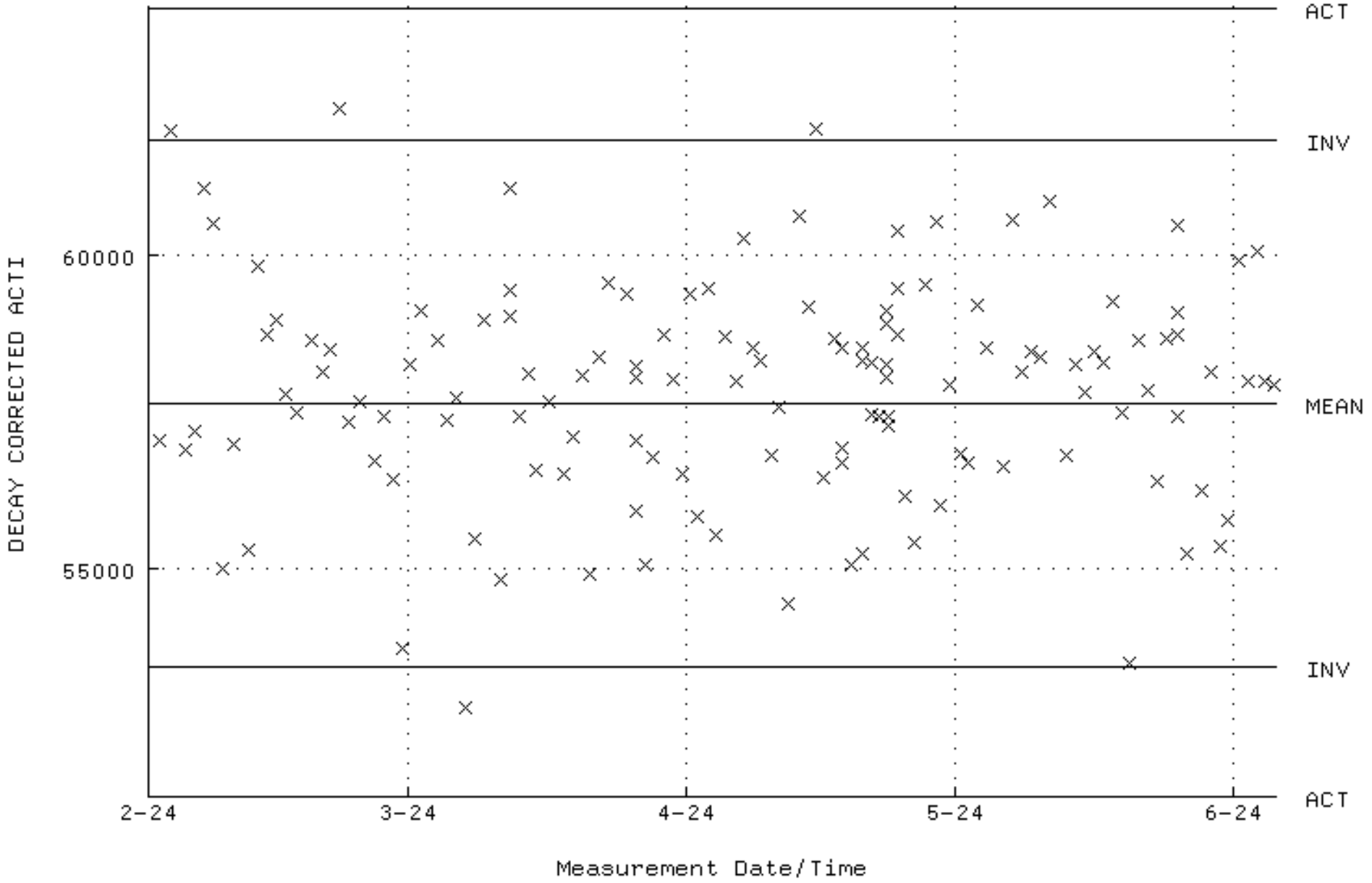
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM23_CAN.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-FEB-2024 05:17:05 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400



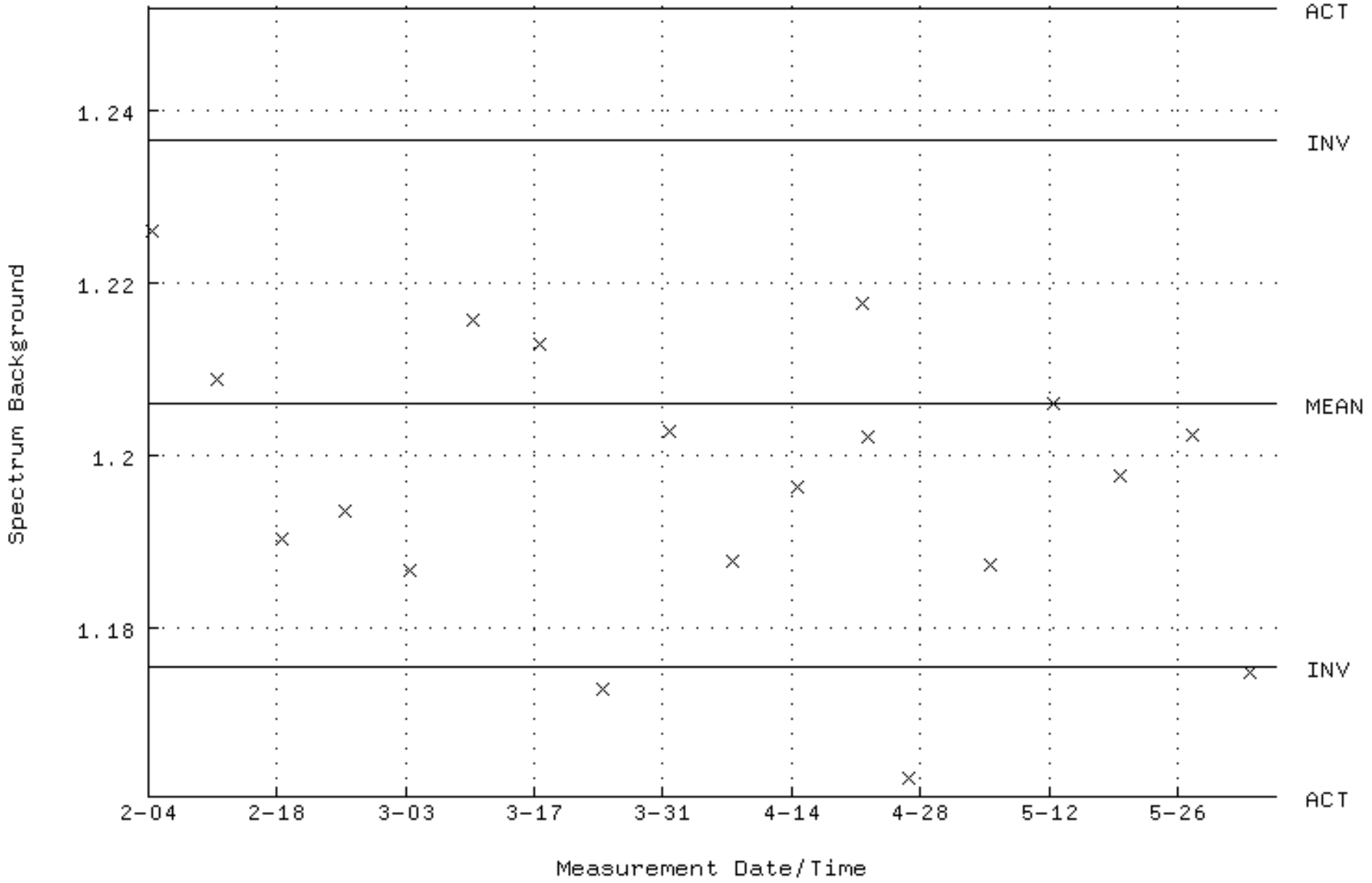
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM23_CAN.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-FEB-2024 05:17:05 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 0.857576 +- 4.018595E-02 (4.69 %)



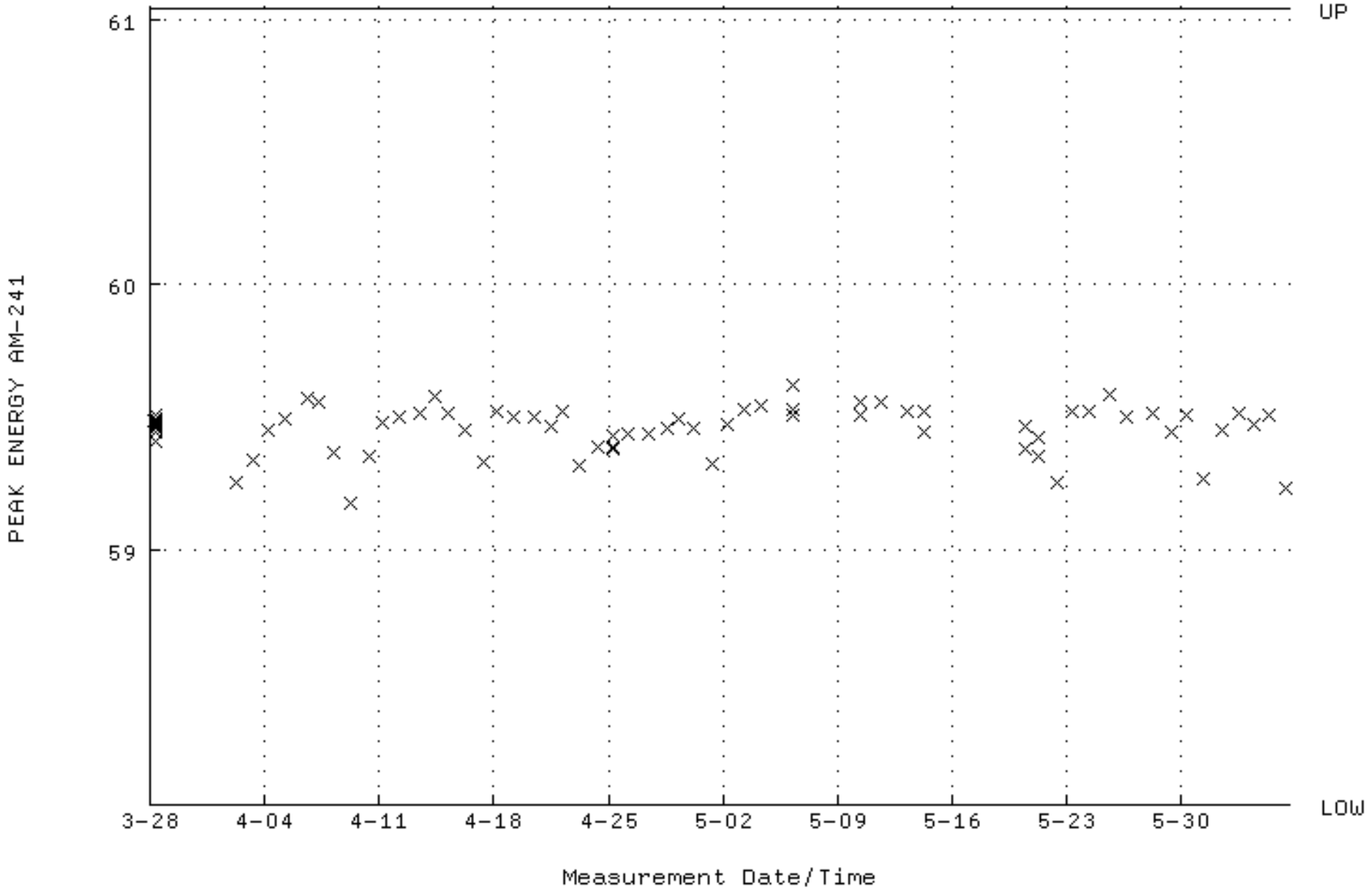
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM23_CAN.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-FEB-2024 05:17:05 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 57639.9 +- 2100.85 (3.64 %)

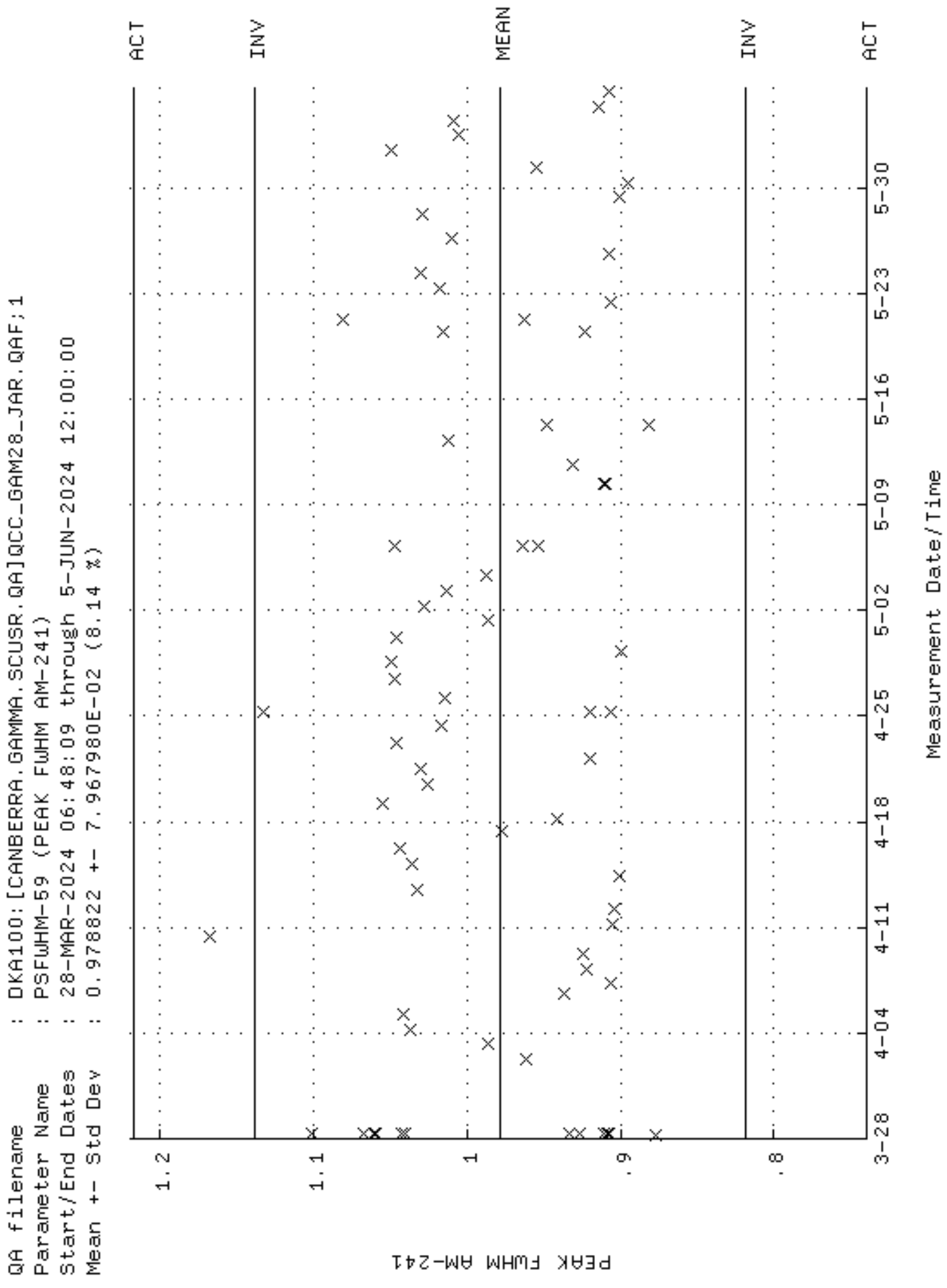


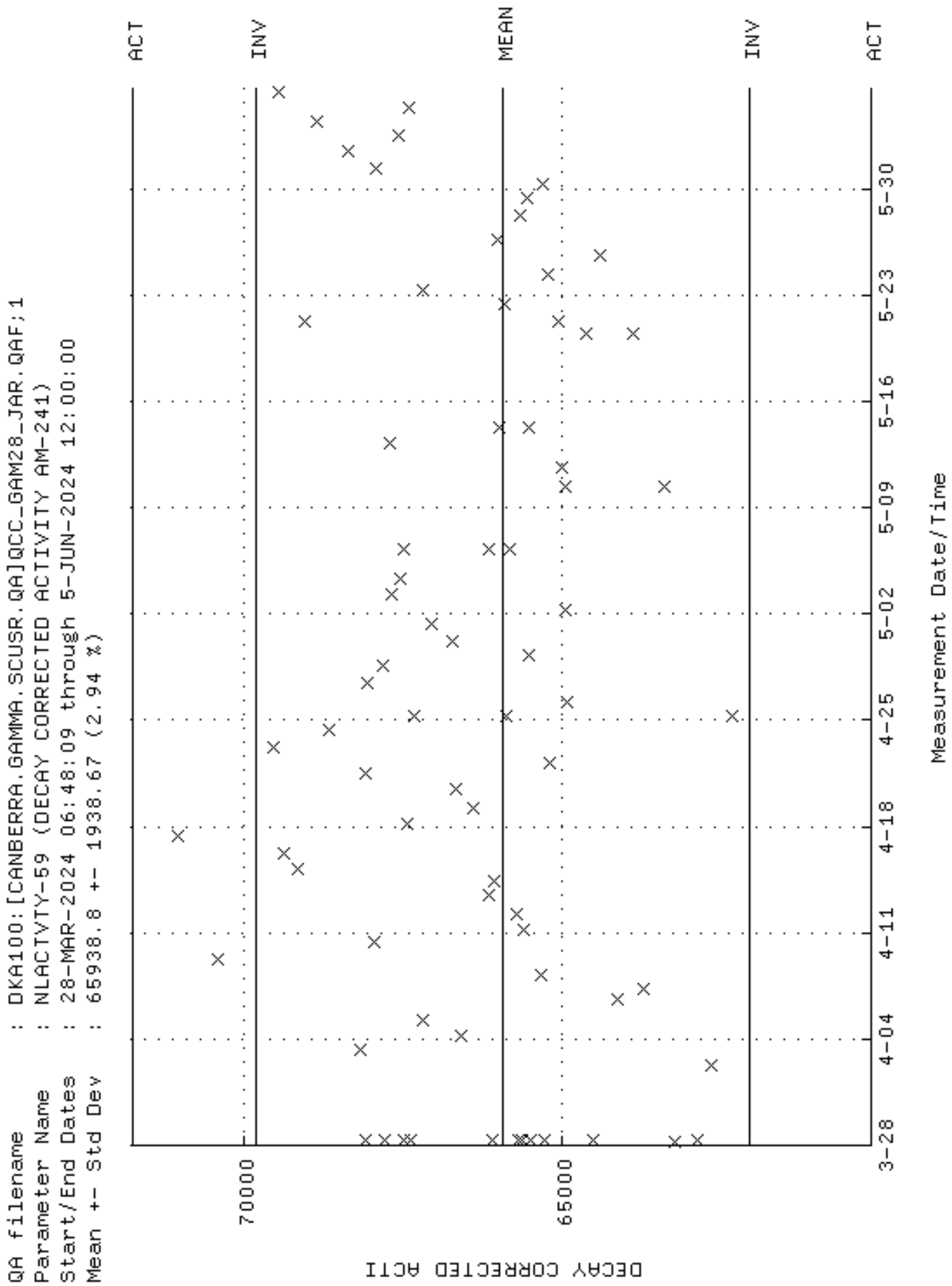
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM23.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 4-FEB-2024 09:21:50 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.20621 +- 1.524024E-02 (1.26 %)



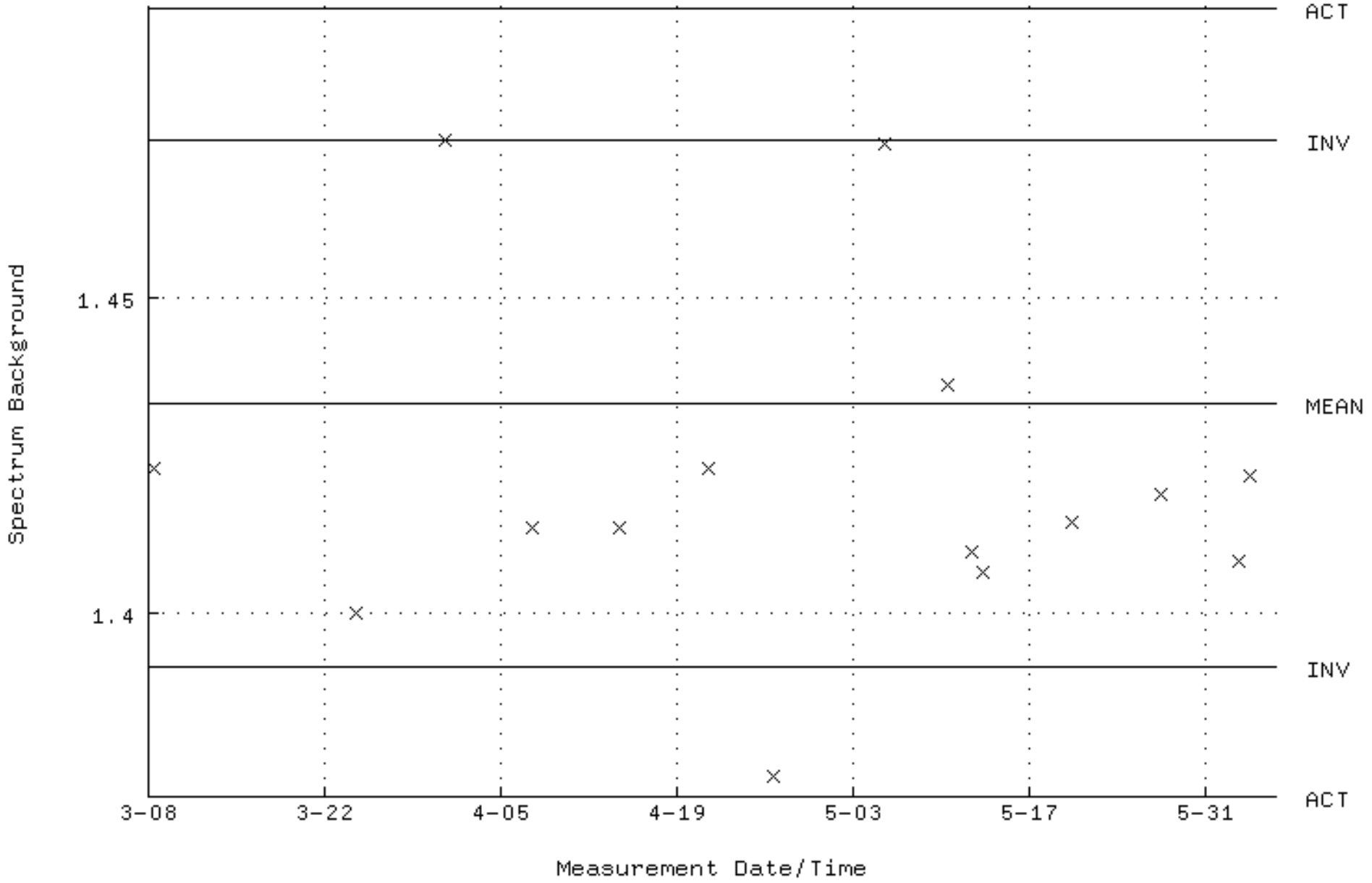
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM28_JAR.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 28-MAR-2024 06:48:09 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400



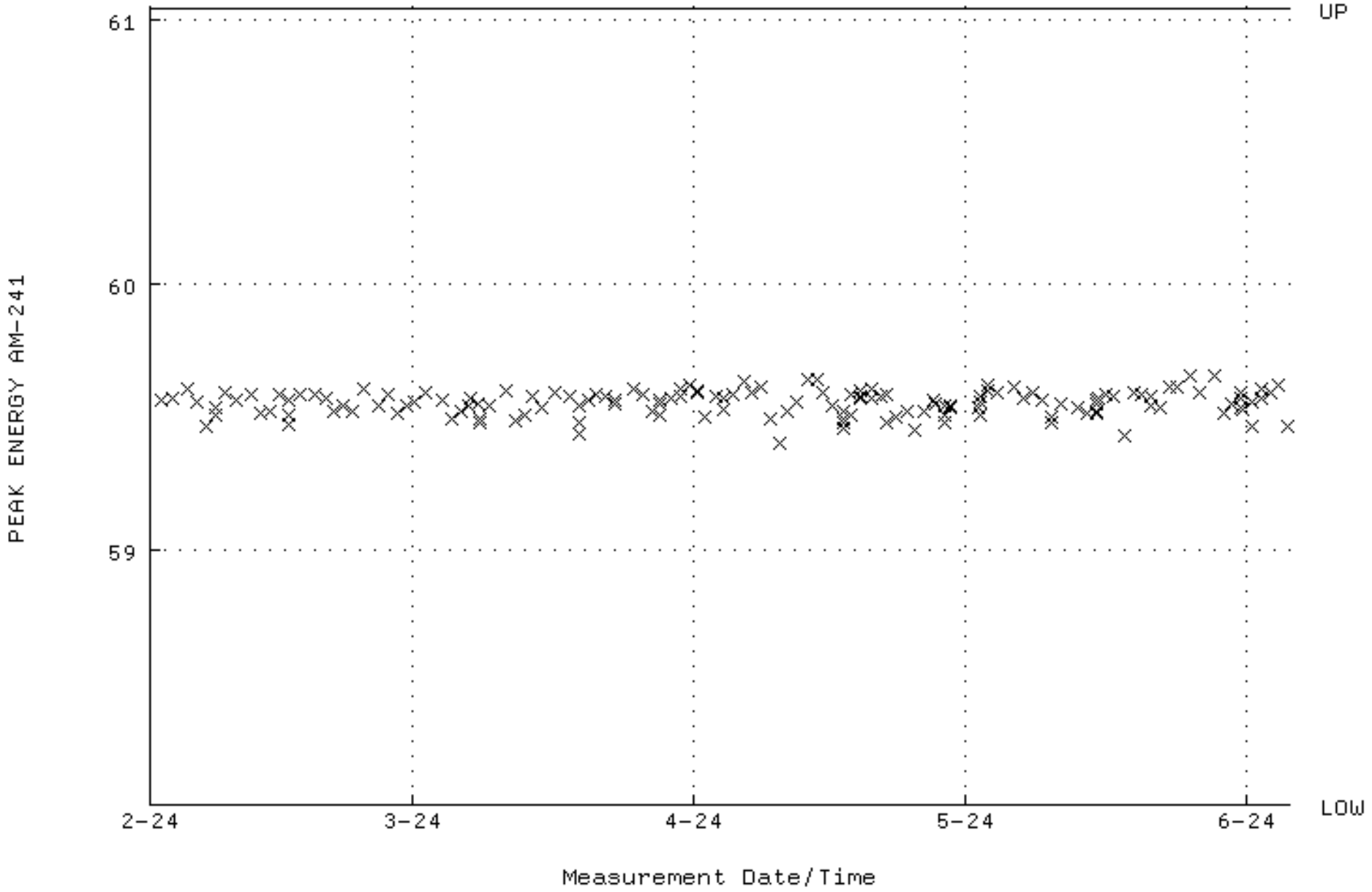

QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM28_JAR.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 28-MAR-2024 06:48:09 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 0.978822 +- 7.967980E-02 (8.14 %)
ACT
INV
MEAN
INV
ACT
1.2
1.1
1
.9
.8
PEAK FWHM AM-241
3-28
4-04
4-11
4-18
4-25
5-02
5-09
5-16
5-23
5-30
Measurement Date/Time

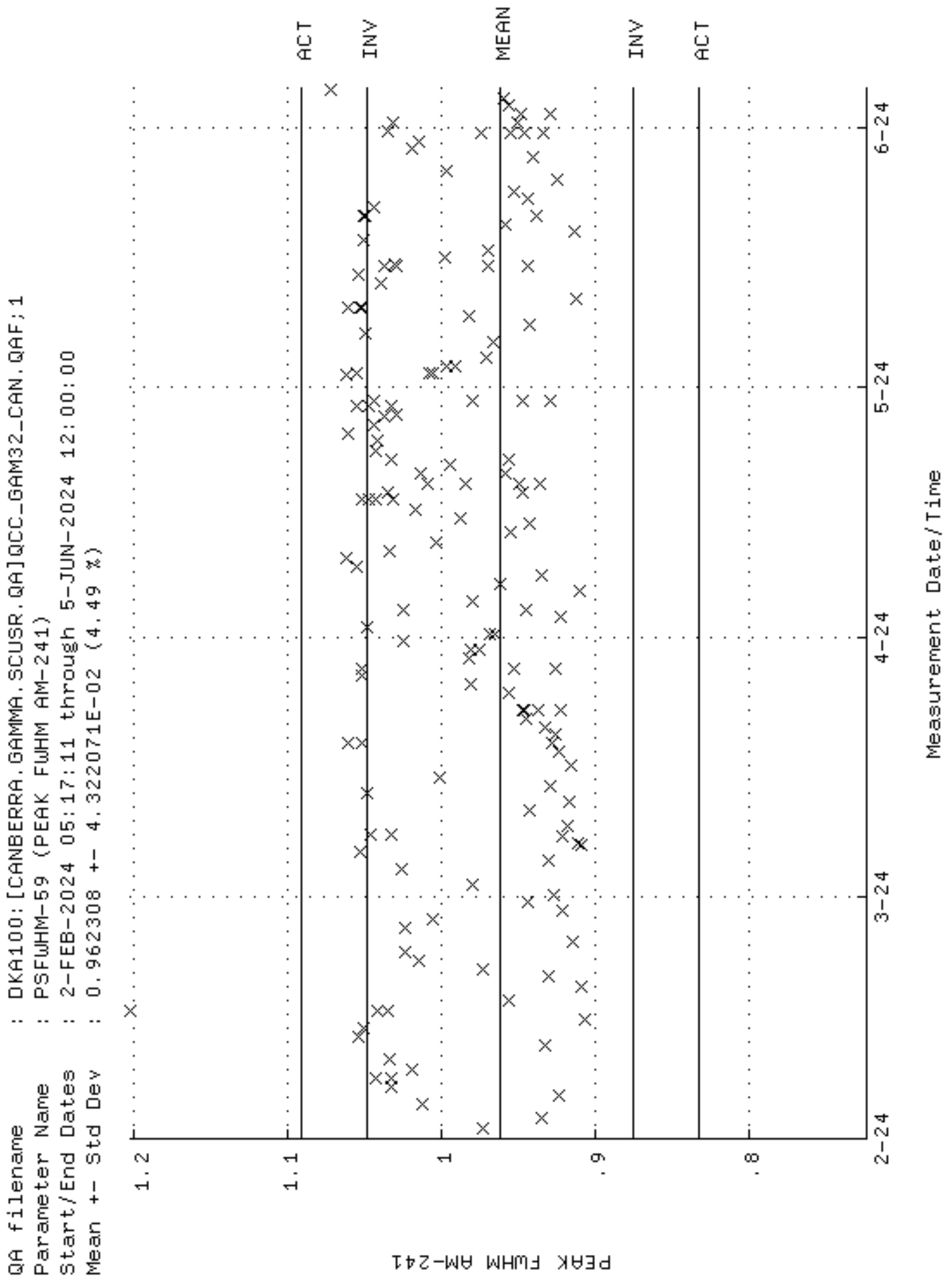

QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM28_JAR.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 28-MAR-2024 06:48:09 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 65938.8 +- 1938.67 (2.94 %)
ACT
INV
MEAN
INV
ACT
70000
65000
DECAY CORRECTED ACTI
3-28
4-04
4-11
4-18
4-25
5-02
5-09
5-16
5-23
5-30
Measurement Date/Time

QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM28.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 8-MAR-2024 09:55:39 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.43343 +- 2.079300E-02 (1.45 %)

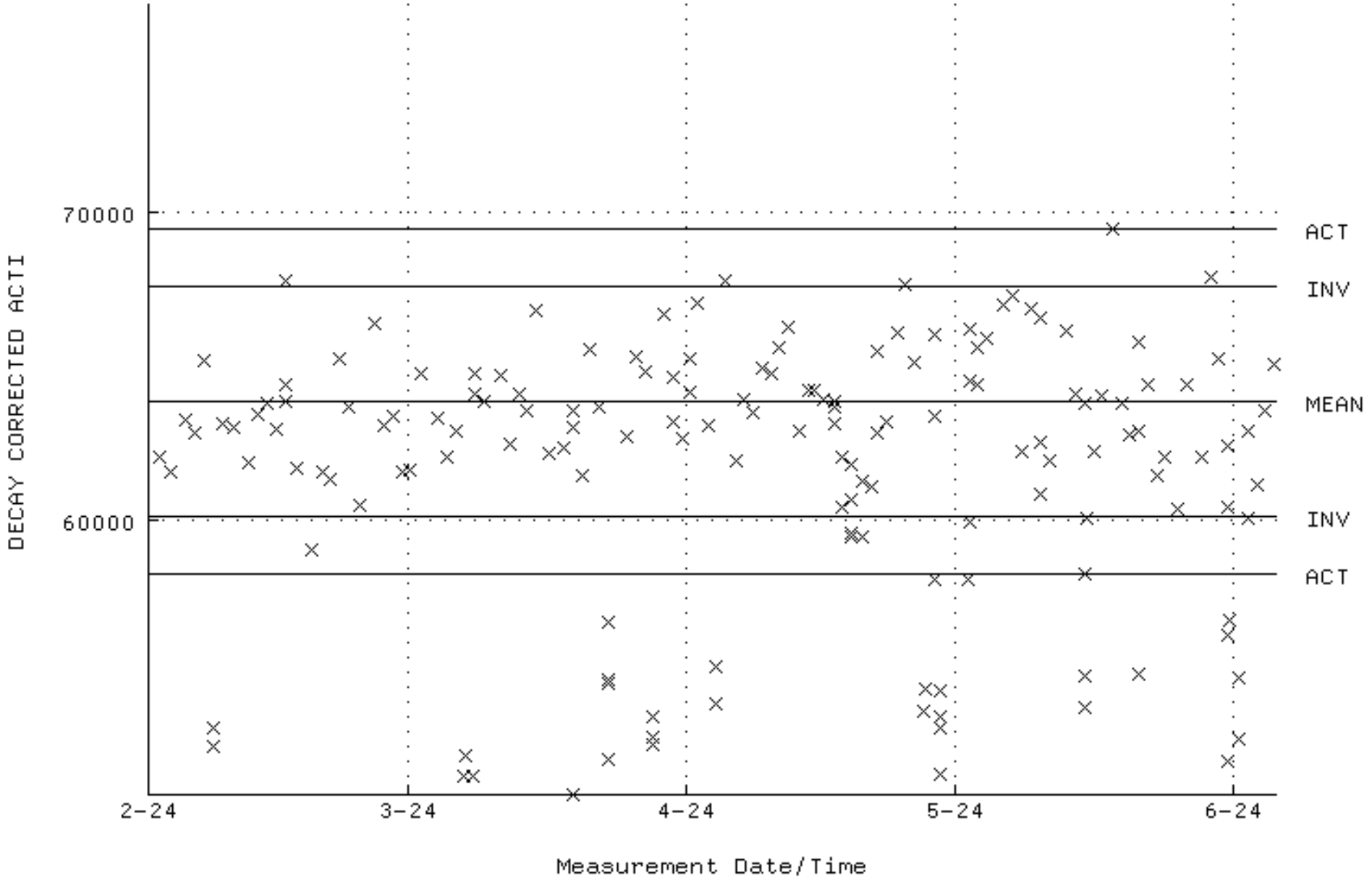


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM32_CAN.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-FEB-2024 05:17:11 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400

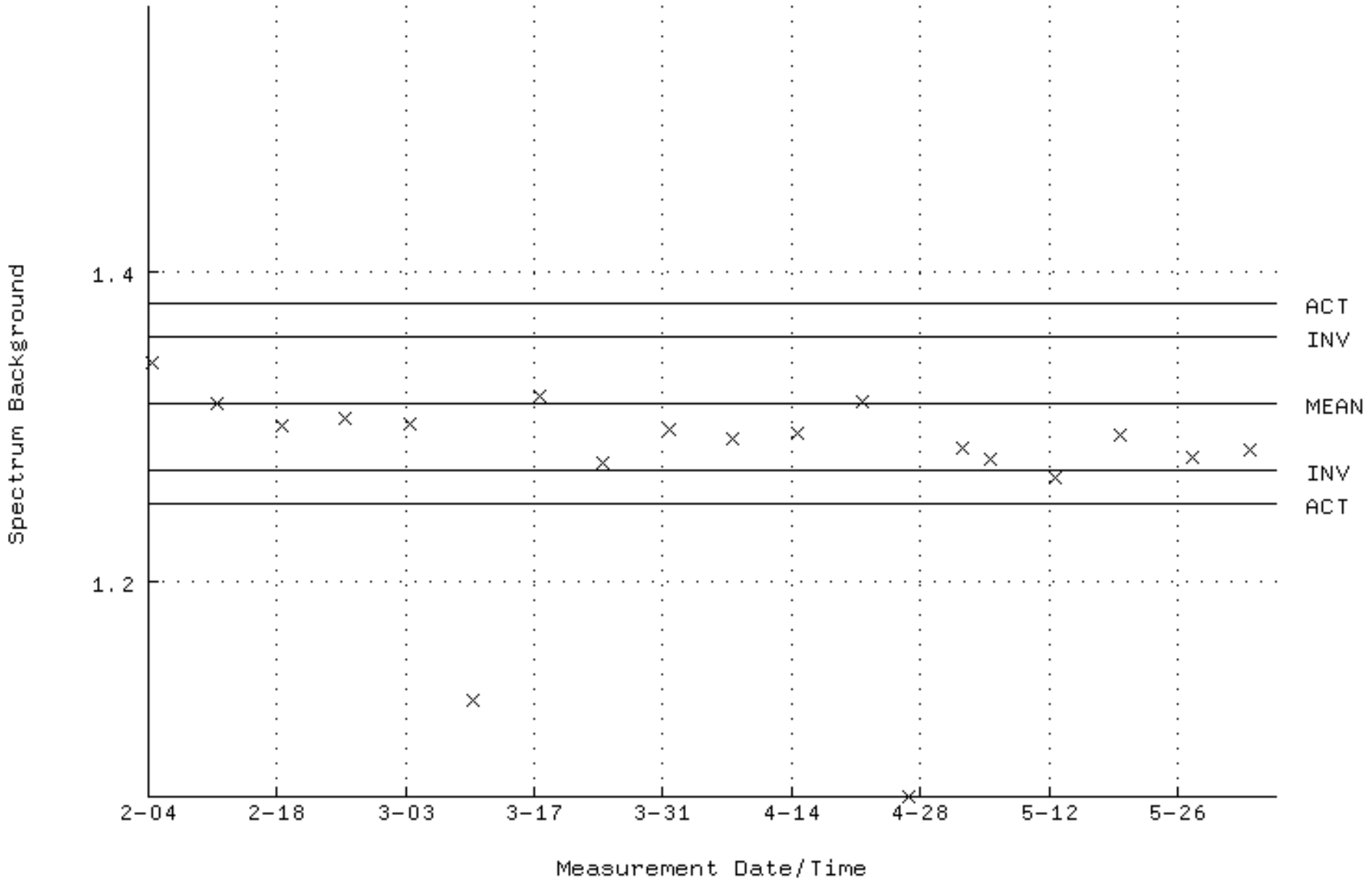



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM32_CAN.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-FEB-2024 05:17:11 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 0.962308 +- 4.322071E-02 (4.49 %)
ACT
INV
MEAN
INV
ACT
1.2
1.1
1
.9
.8
PEAK FWHM AM-241
2-24
3-24
4-24
5-24
6-24
Measurement Date/Time

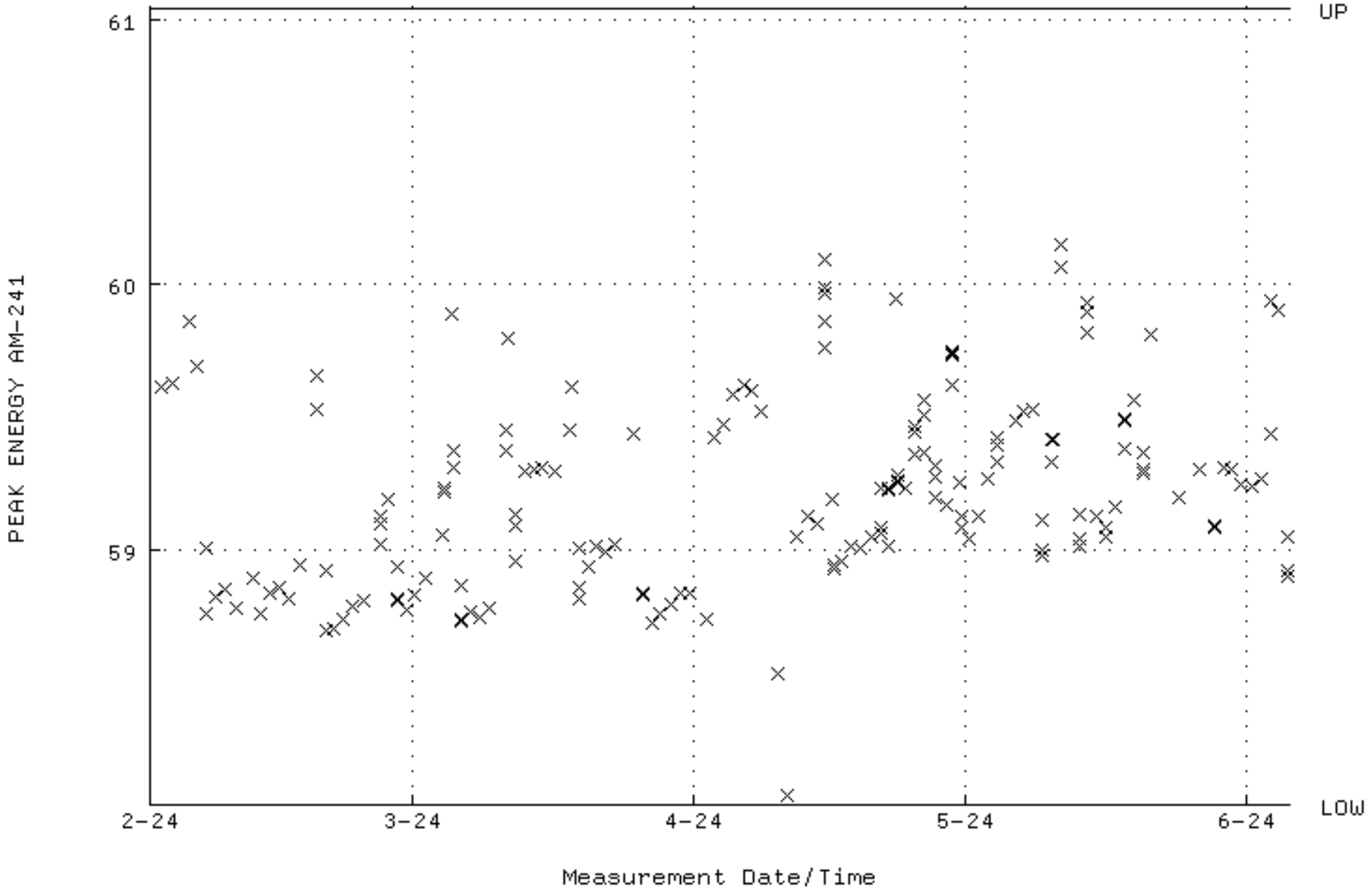
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM32_CAN.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-FEB-2024 05:17:11 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 63873.1 +- 1863.72 (2.92 %)

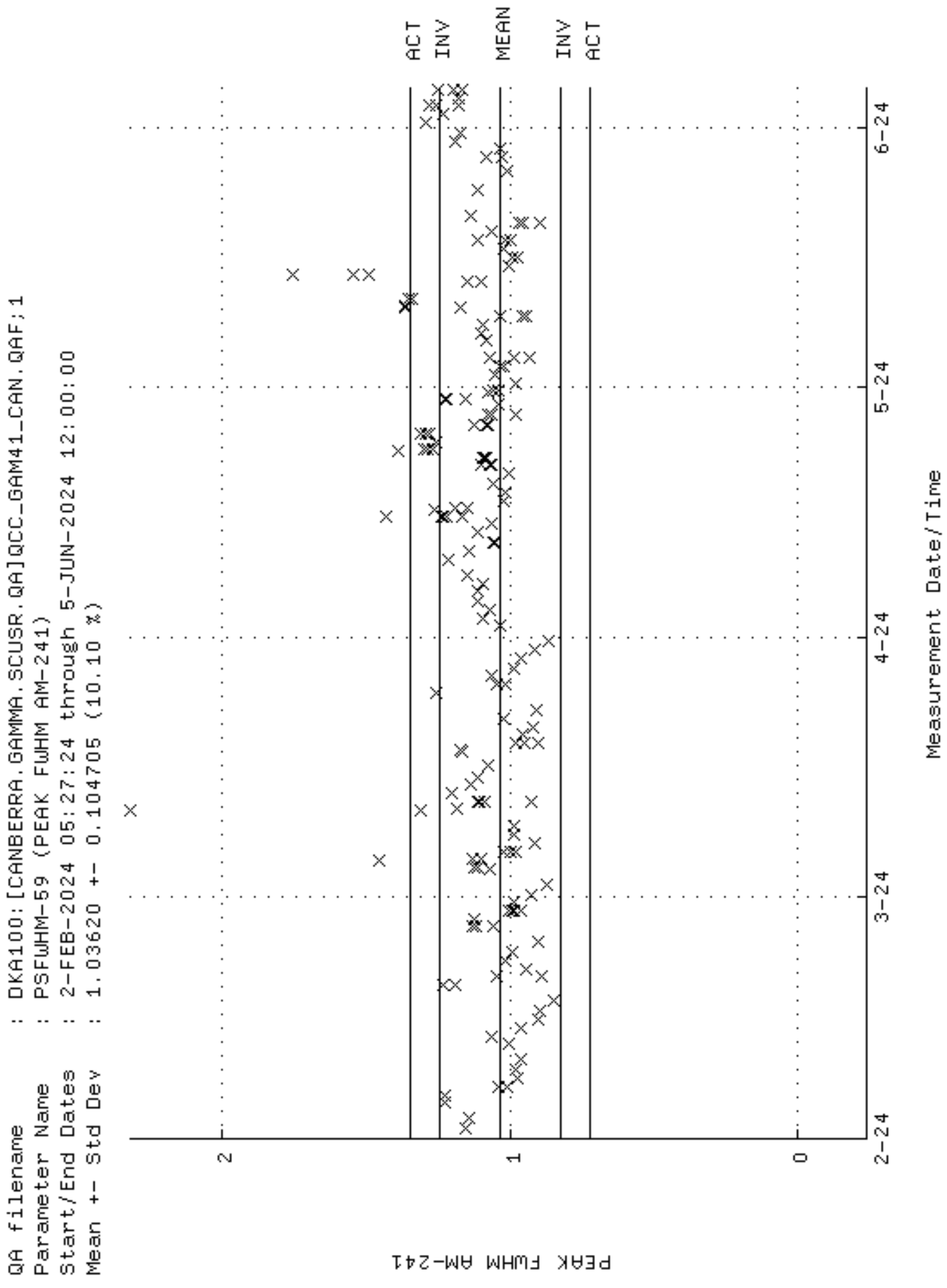


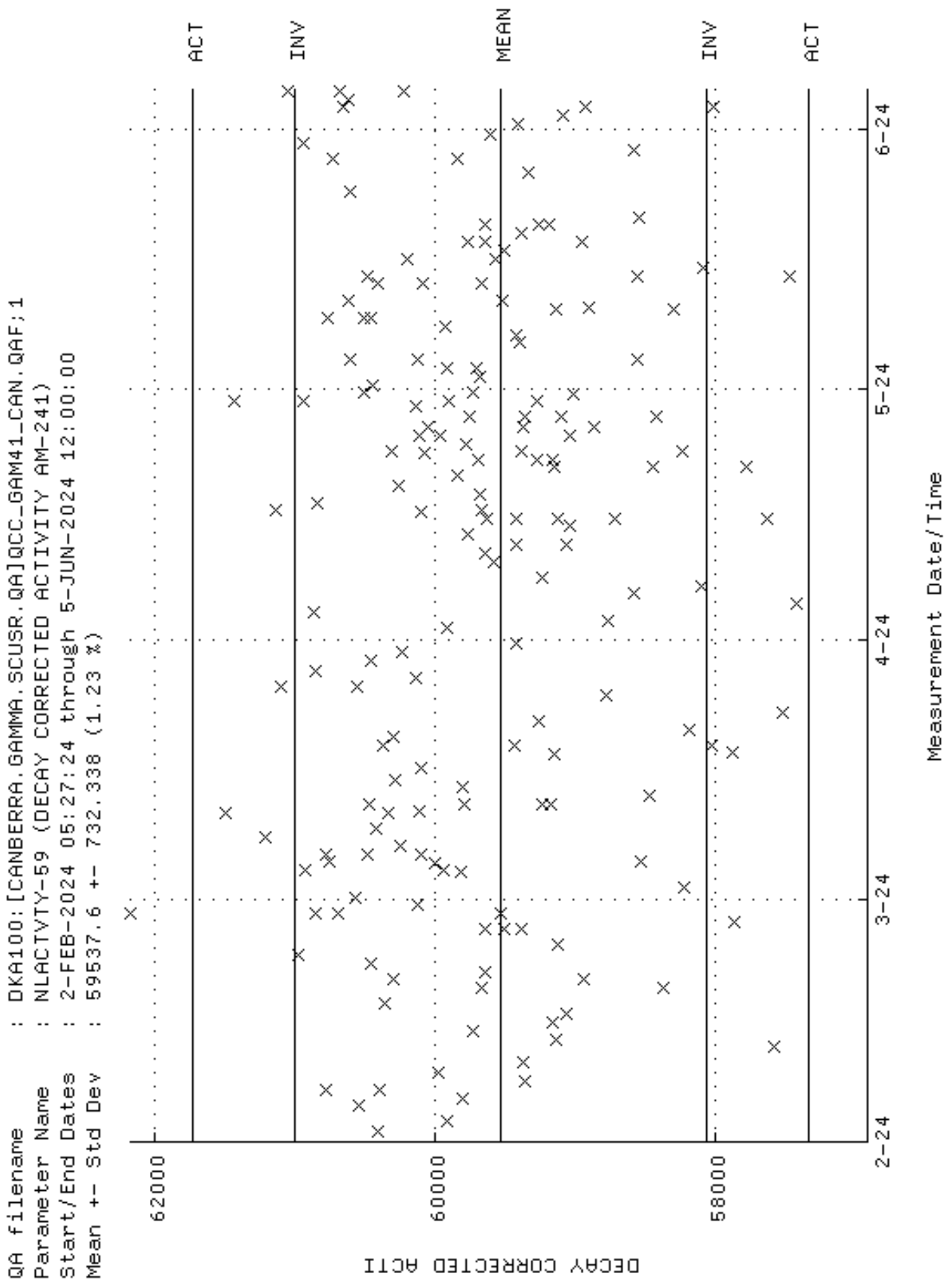
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM32.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 4-FEB-2024 09:22:15 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.31575 +- 2.165123E-02 (1.65 %)



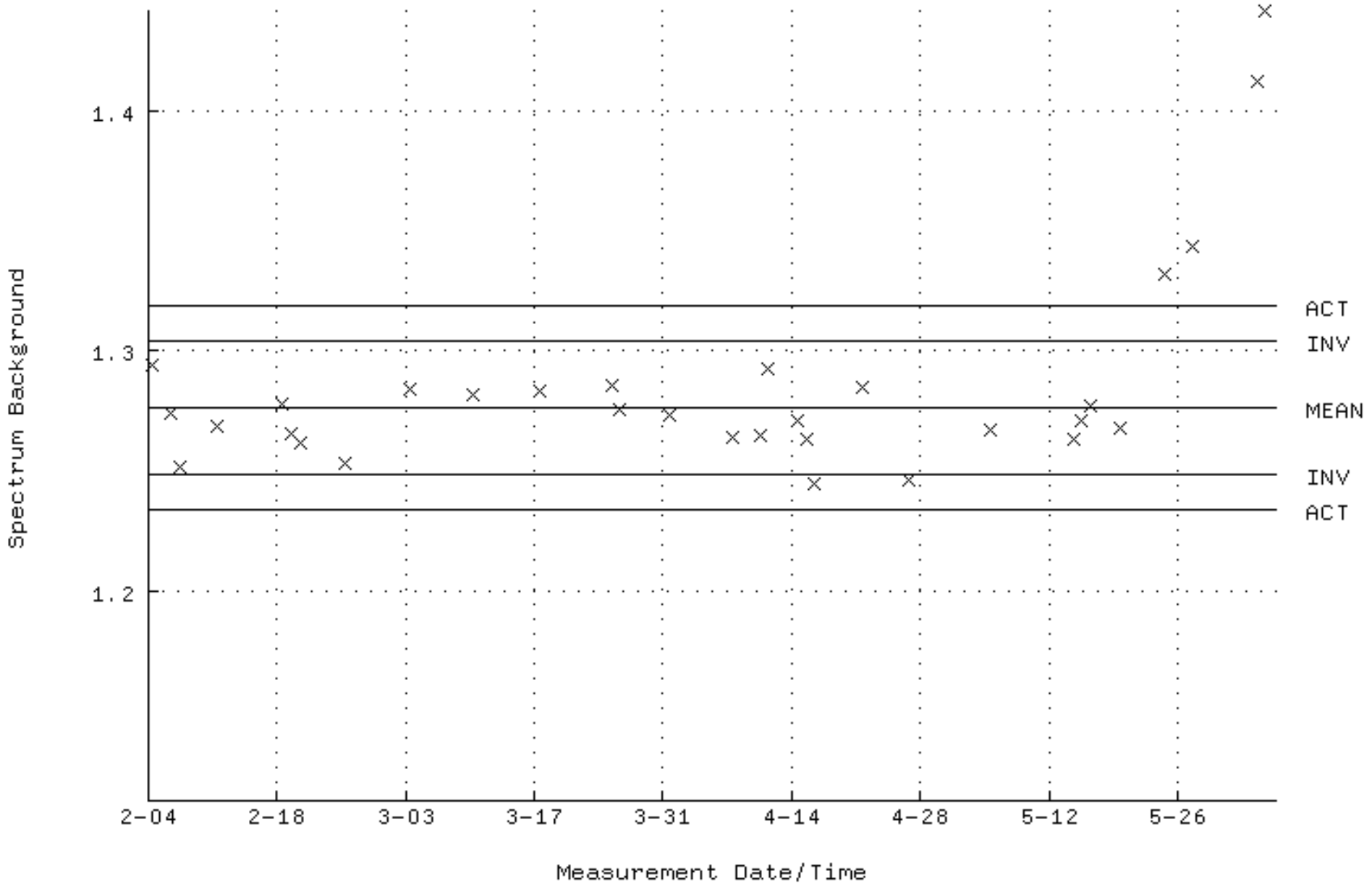
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM41_CAN.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-FEB-2024 05:27:24 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400



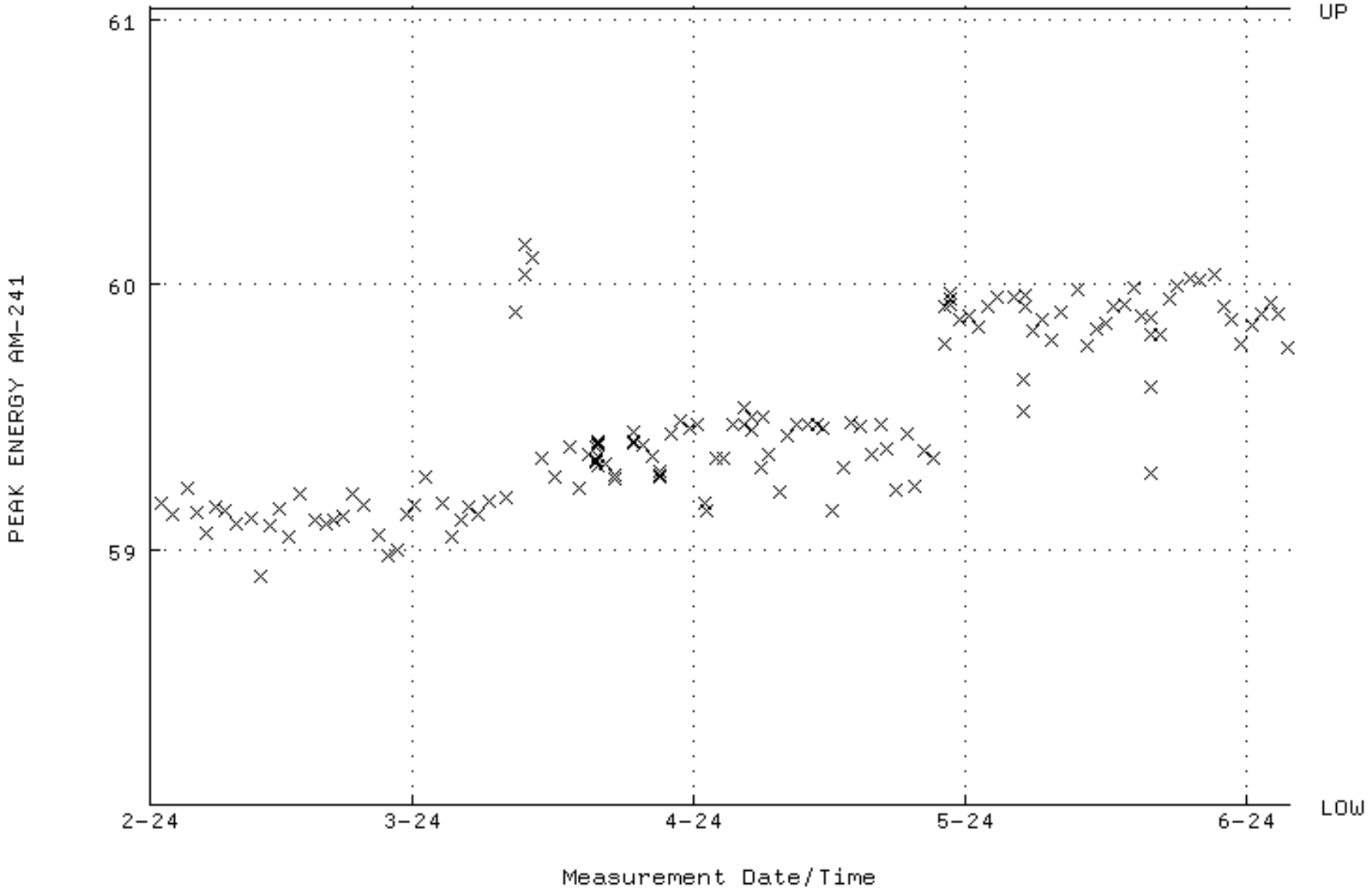

QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM41_CAN.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-FEB-2024 05:27:24 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.03620 +- 0.104705 (10.10 %)
ACT
INV
MEAN
INV
ACT
PEAK FWHM AM-241
2
1
0
2-24
3-24
4-24
5-24
6-24
Measurement Date/Time


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM41_CAN.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-FEB-2024 05:27:24 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 59537.6 +- 732.338 (1.23 %)
ACT
INV
MEAN
INV
ACT
62000
60000
58000
DECAY CORRECTED ACTI
2-24
3-24
4-24
5-24
6-24
Measurement Date/Time

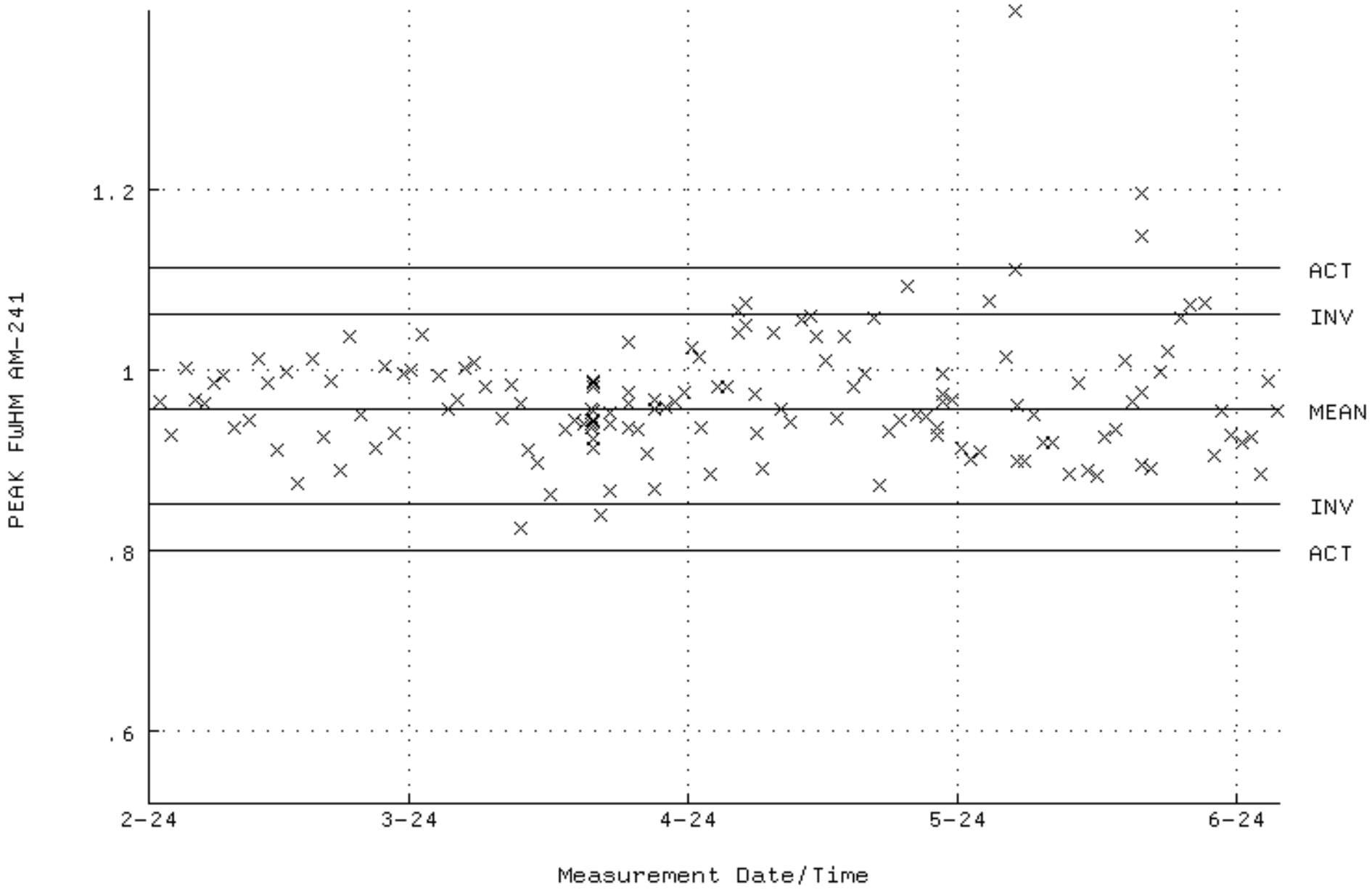
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM41.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 4-FEB-2024 09:22:30 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.27685 +- 1.402600E-02 (1.10 %)



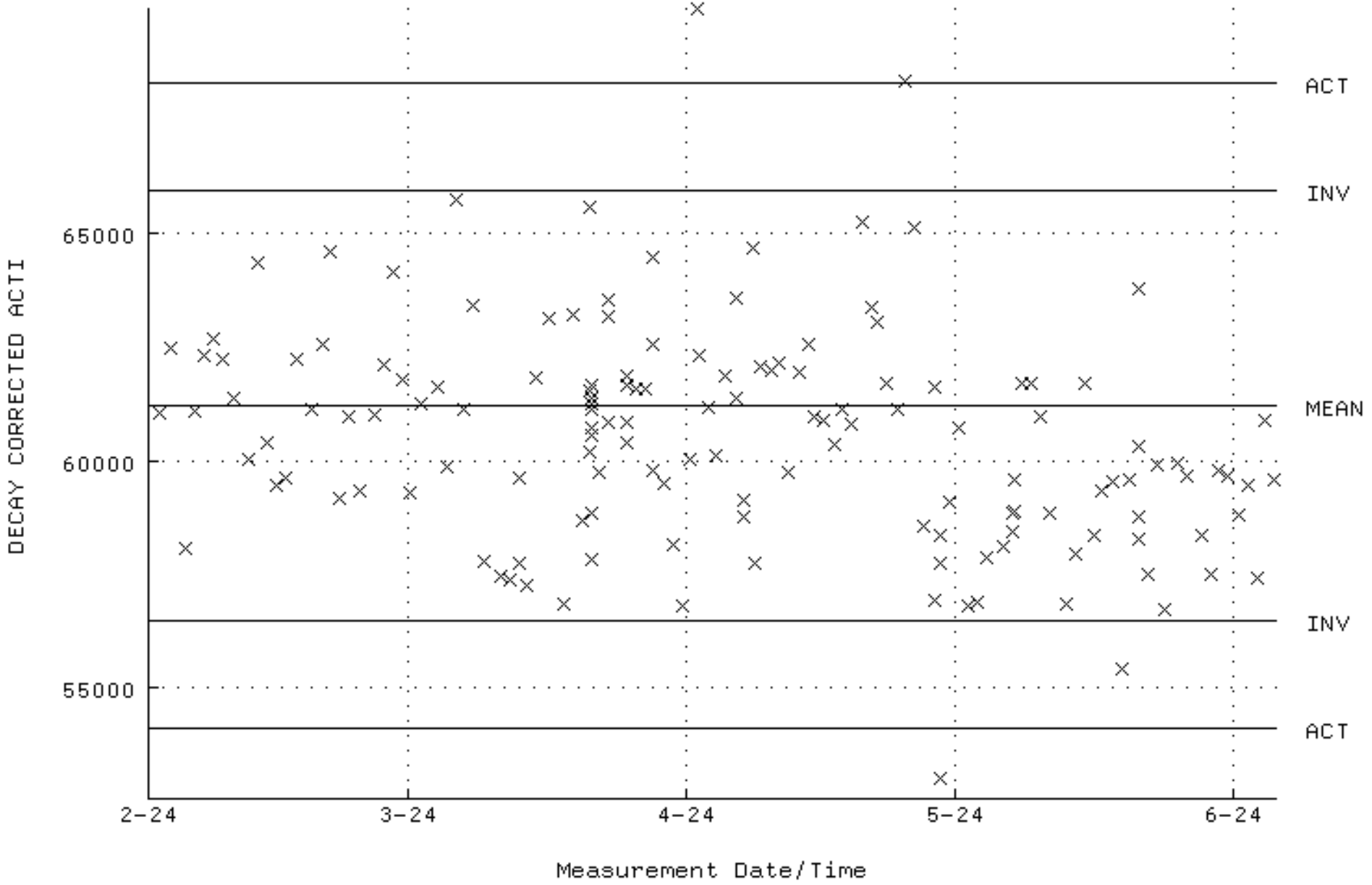
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM43_JAR.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-FEB-2024 04:30:49 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400

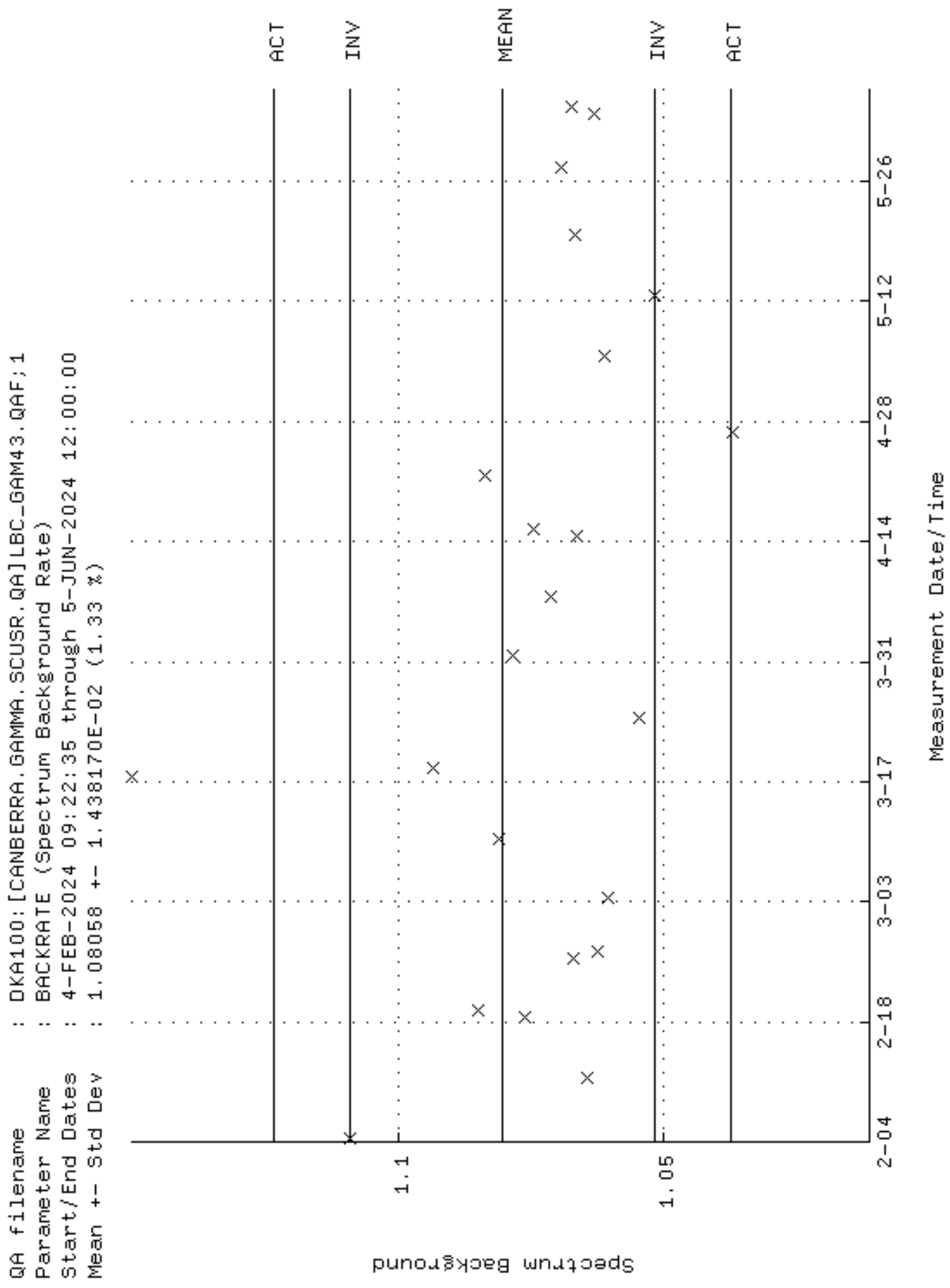


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM43_JAR.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-FEB-2024 04:30:49 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 0.957485 +- 5.238404E-02 (5.47 %)

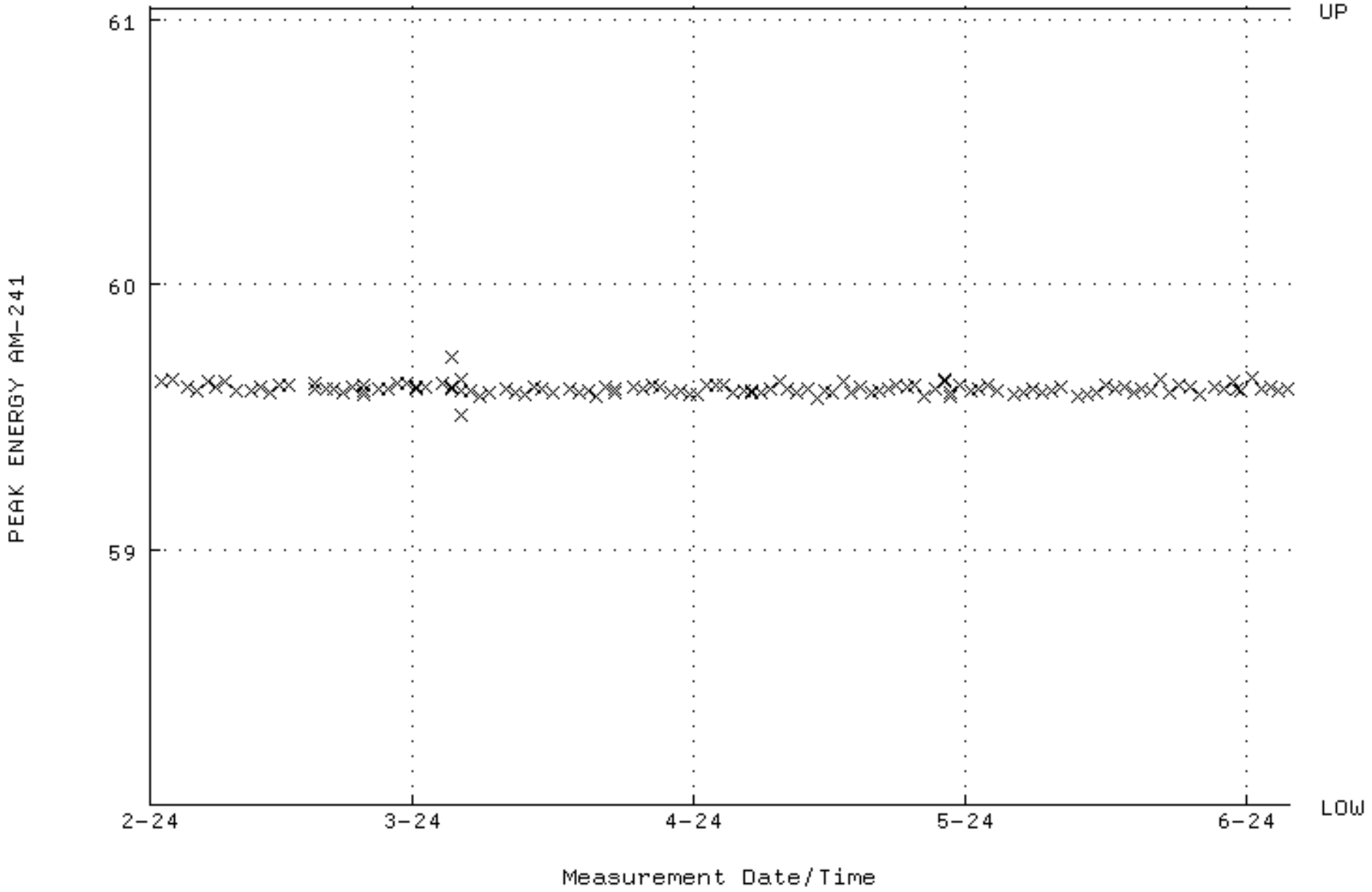


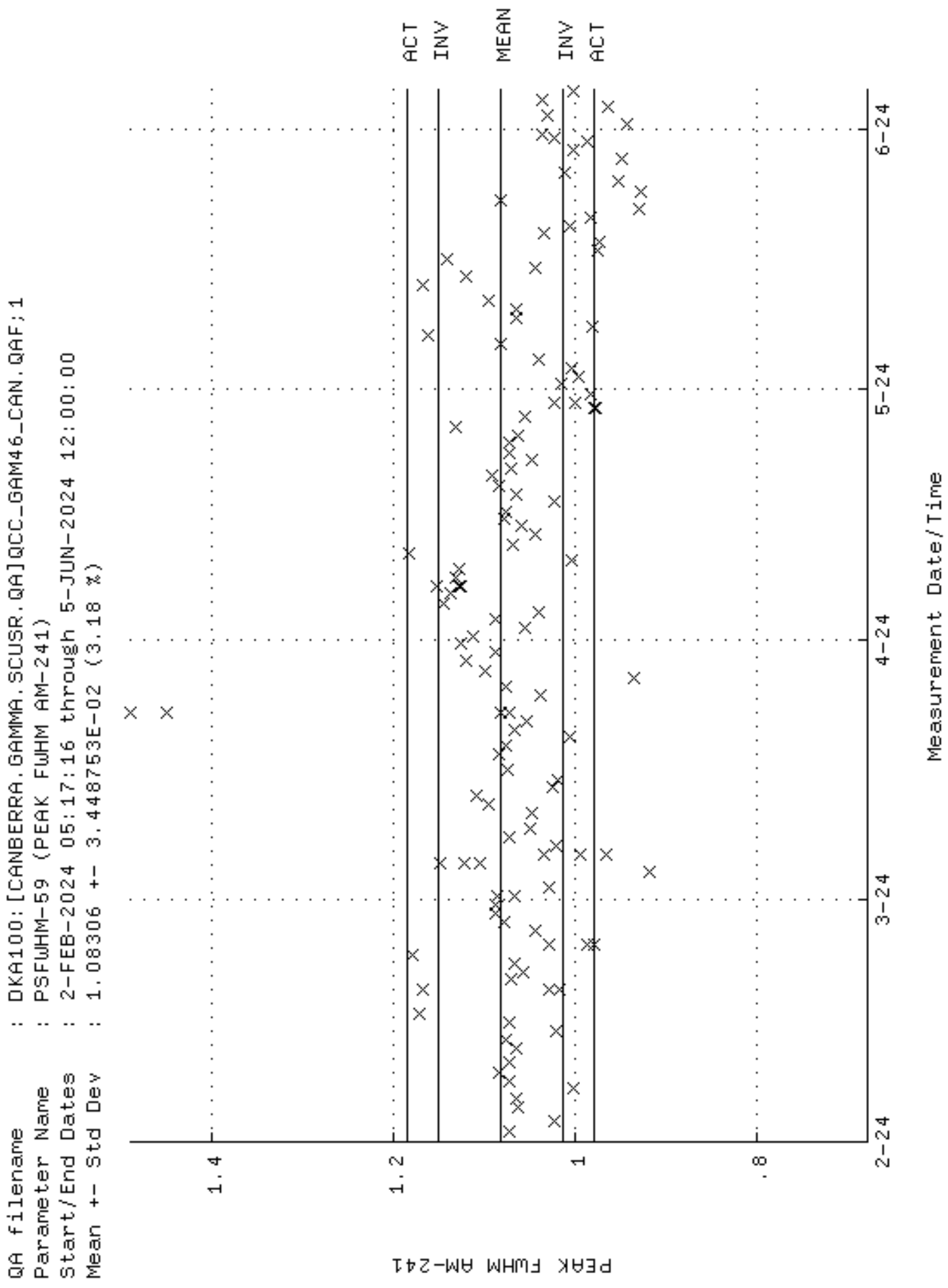
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM43_JAR.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-FEB-2024 04:30:49 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 61230.0 +- 2360.89 (3.86 %)



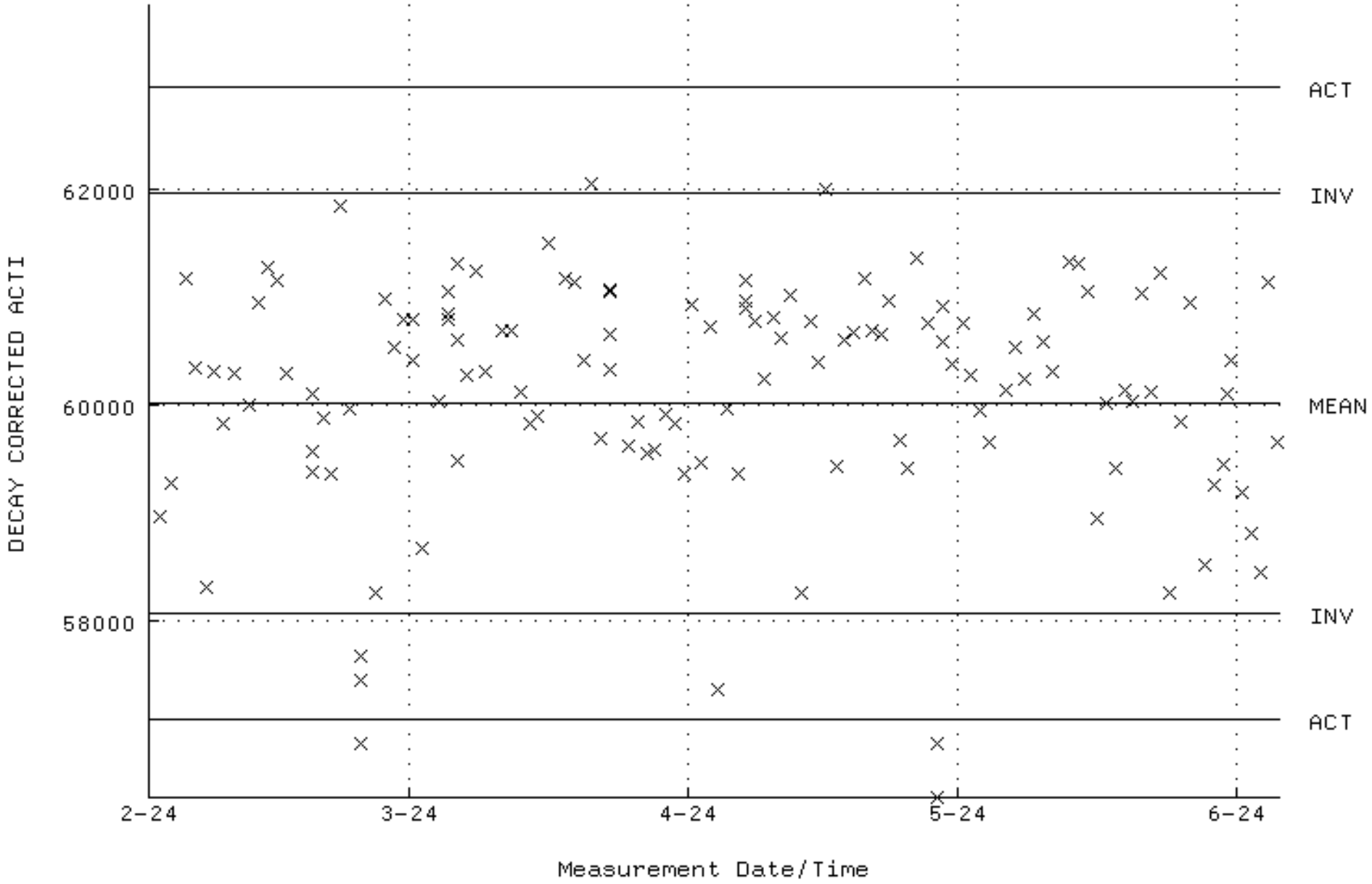

QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM43.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 4-FEB-2024 09:22:35 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.08058 +- 1.438170E-02 (1.33 %)
ACT
INV
MEAN
INV
ACT
1.1
1.05
Spectrum Background
2-04
2-18
3-03
3-17
3-31
4-14
4-28
5-12
5-26
Measurement Date/Time

QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM46_CAN.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-FEB-2024 05:17:16 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400

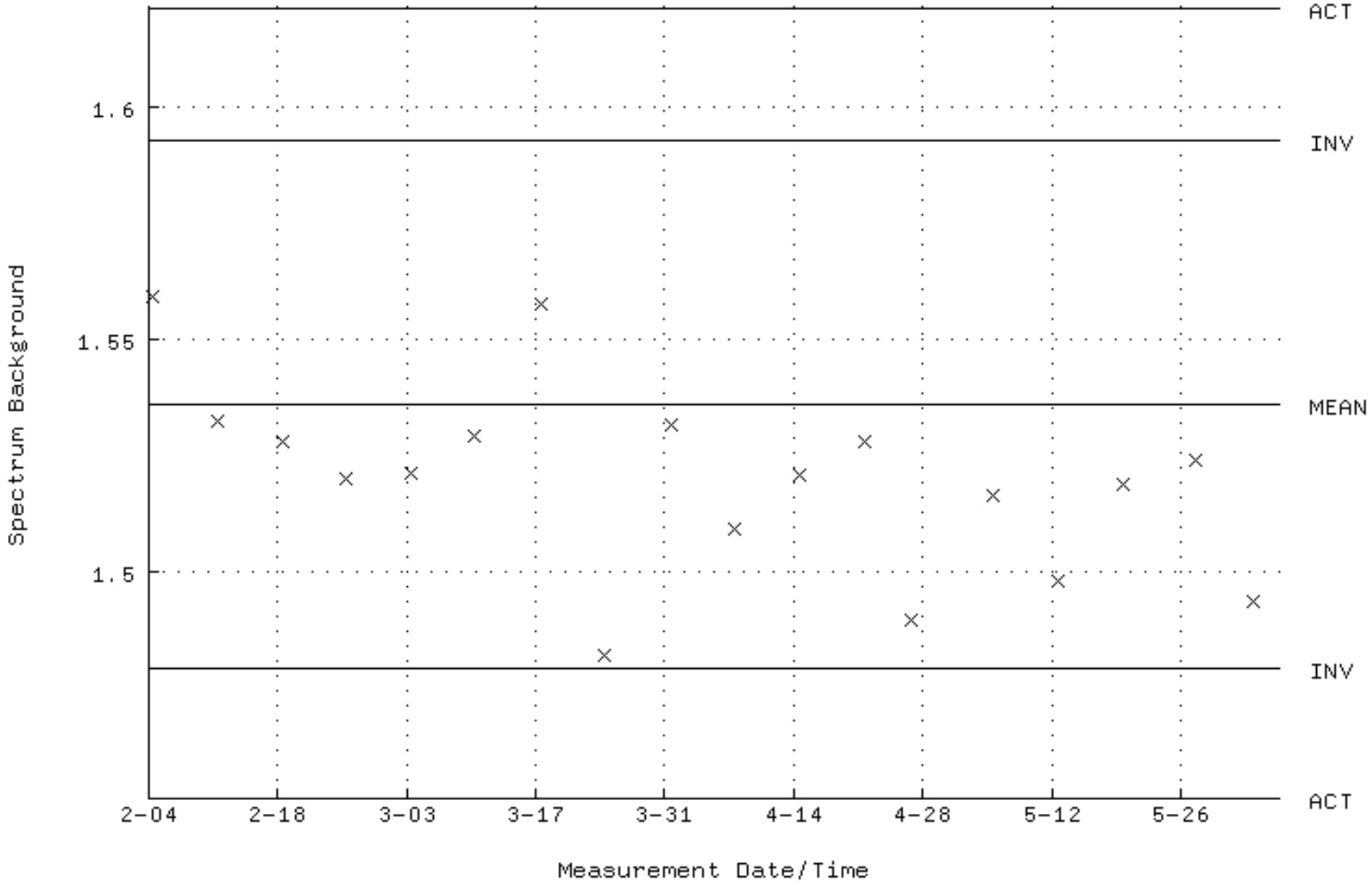



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM46_CAN.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-FEB-2024 05:17:16 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.08306 +- 3.448753E-02 (3.18 %)
ACT
INV
MEAN
INV
ACT
1.4
1.2
1
.8
PEAK FWHM AM-241
2-24
3-24
4-24
5-24
6-24
Measurement Date/Time

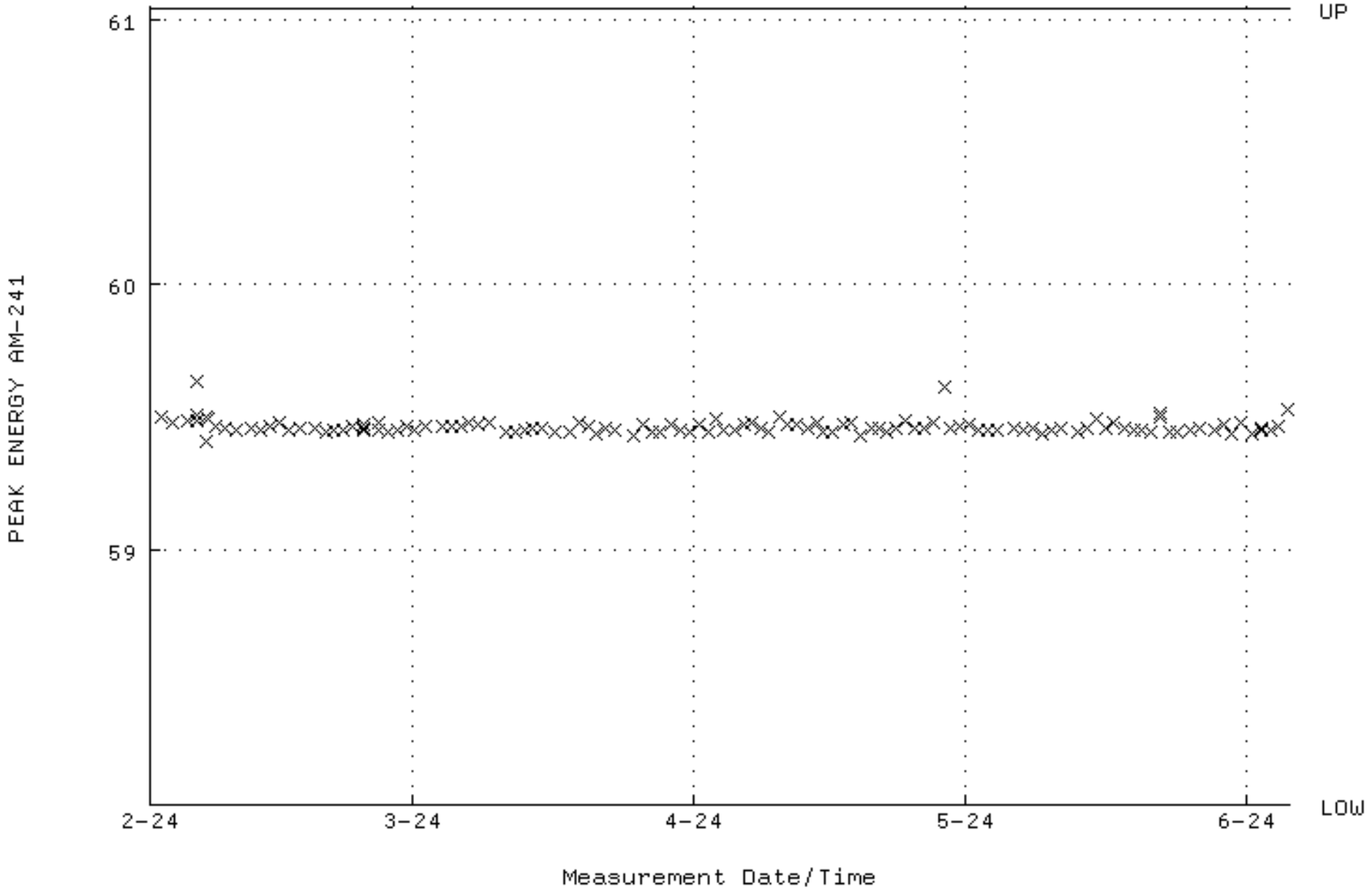
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM46_CAN.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-FEB-2024 05:17:16 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 60029.4 +- 972.942 (1.62 %)



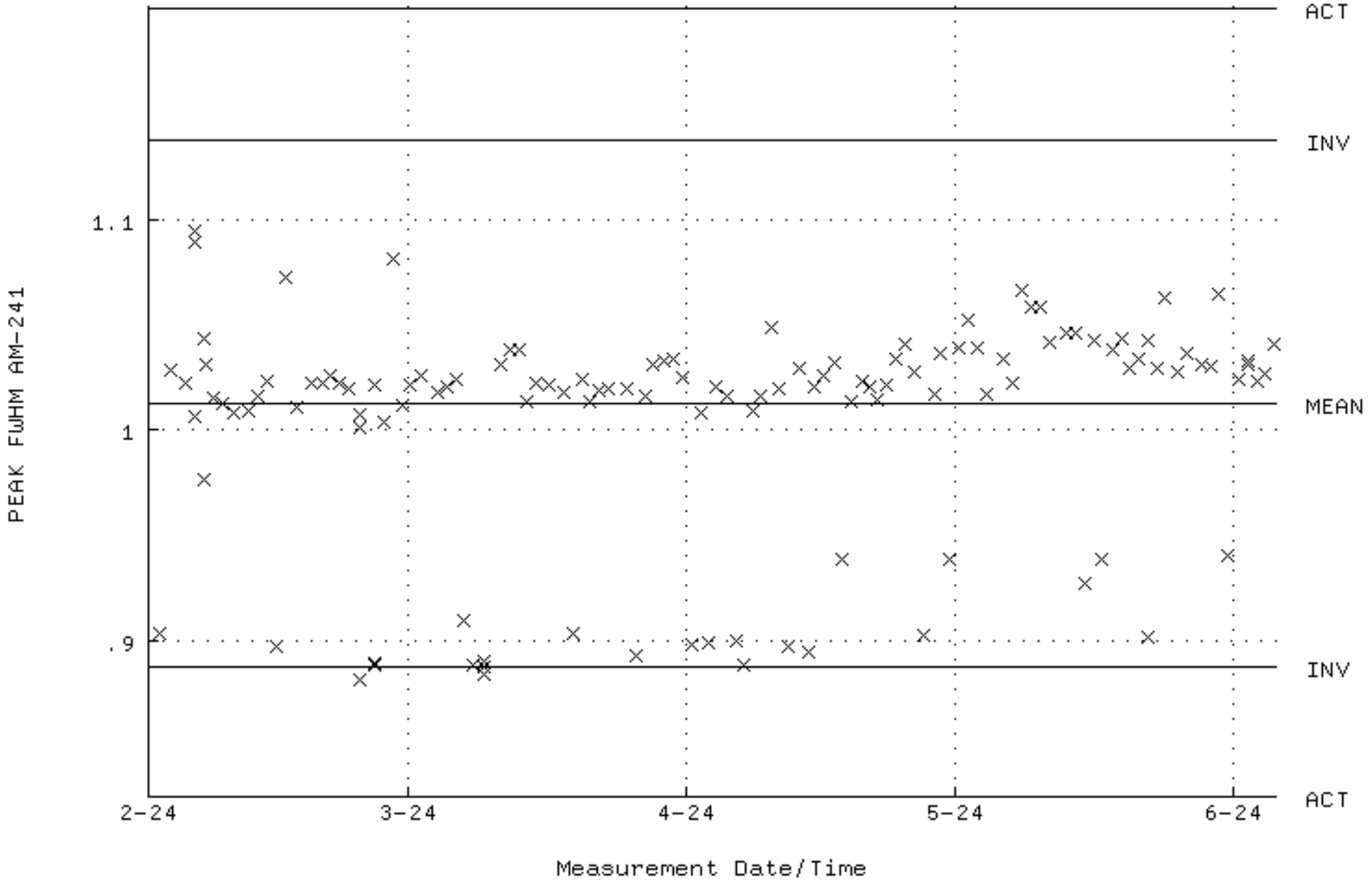
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM46.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 4-FEB-2024 09:22:40 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.53619 +- 2.830773E-02 (1.84 %)



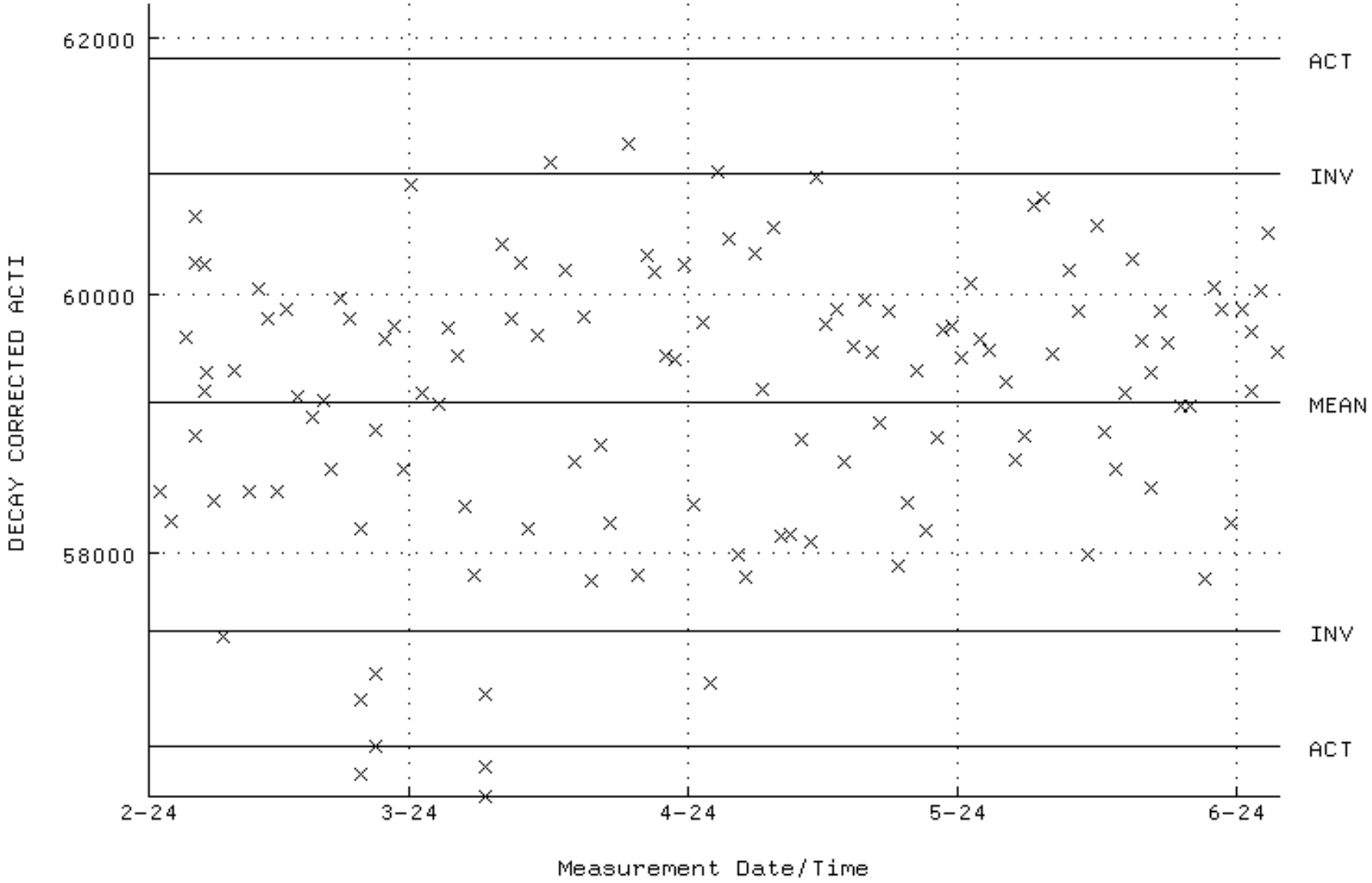
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM47_CAN.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-FEB-2024 04:30:54 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400



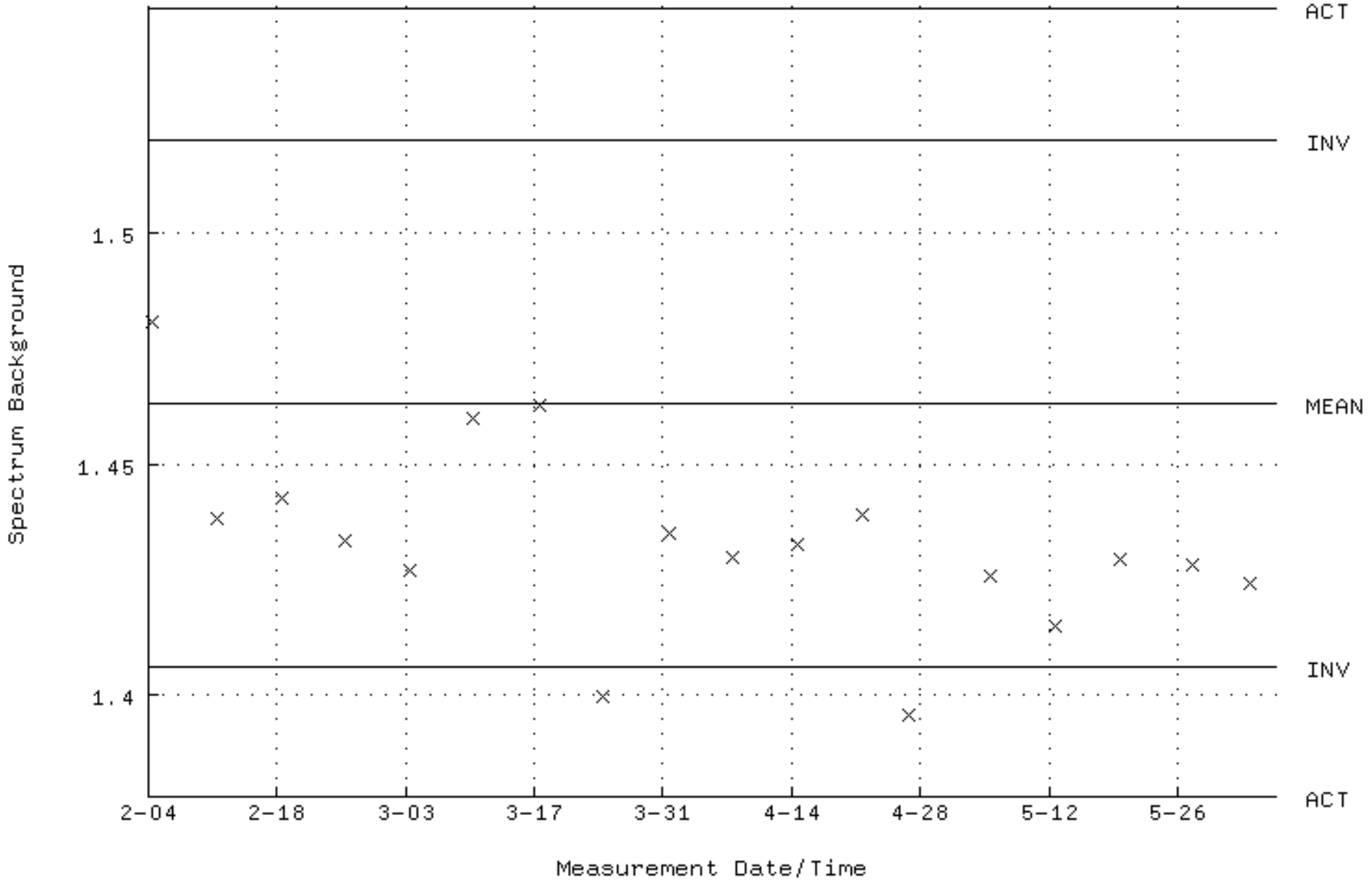
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM47_CAN.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-FEB-2024 04:30:54 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.01306 +- 6.221167E-02 (6.14 %)



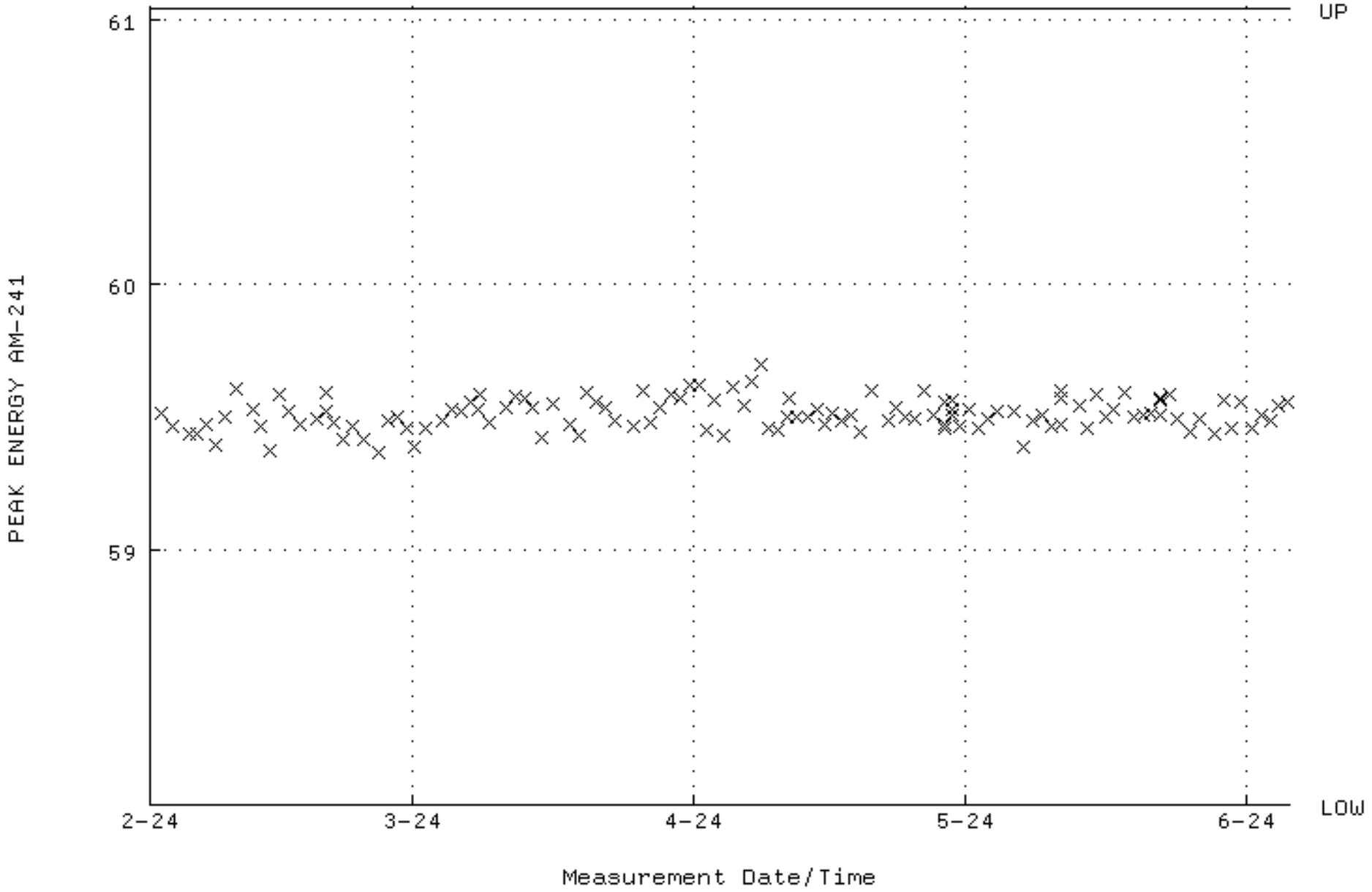
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM47_CAN.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-FEB-2024 04:30:54 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 59172.7 +- 891.048 (1.51 %)



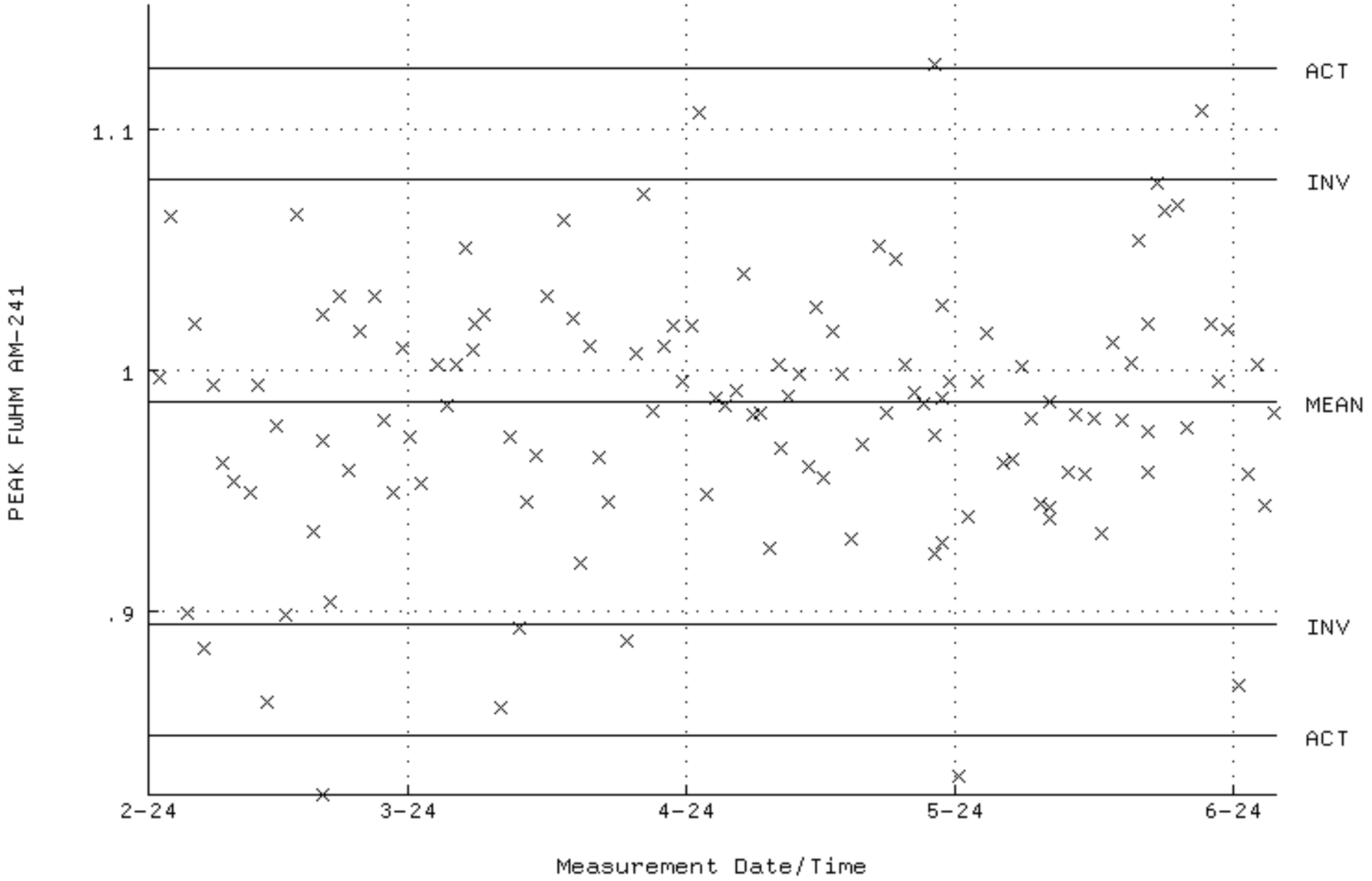
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM47.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 4-FEB-2024 09:22:45 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.46338 +- 2.847968E-02 (1.95 %)

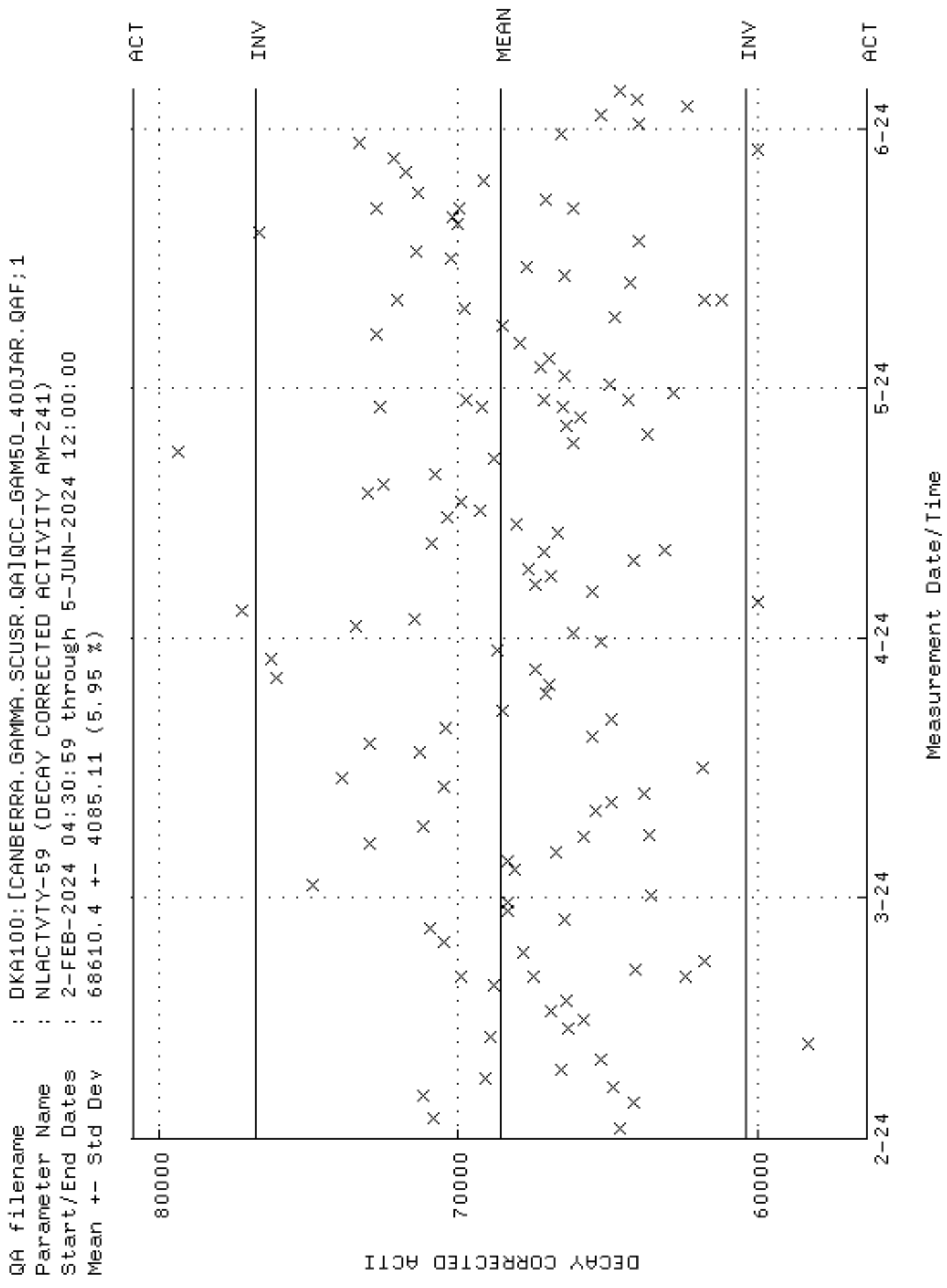


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM50_400JAR.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-FEB-2024 04:30:59 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400

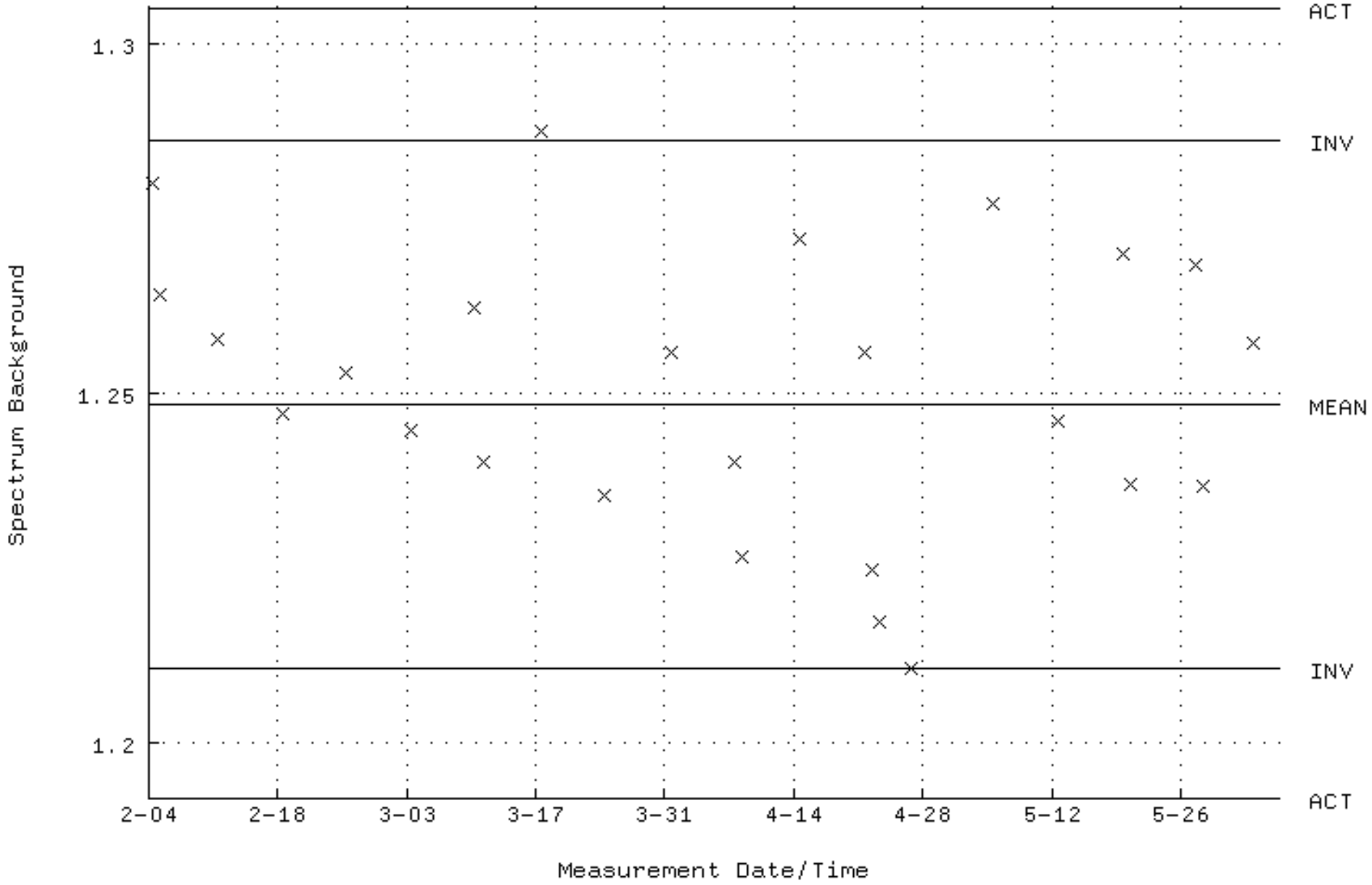


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM50_400JAR.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-FEB-2024 04:30:59 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 0.987067 +- 4.609920E-02 (4.67 %)

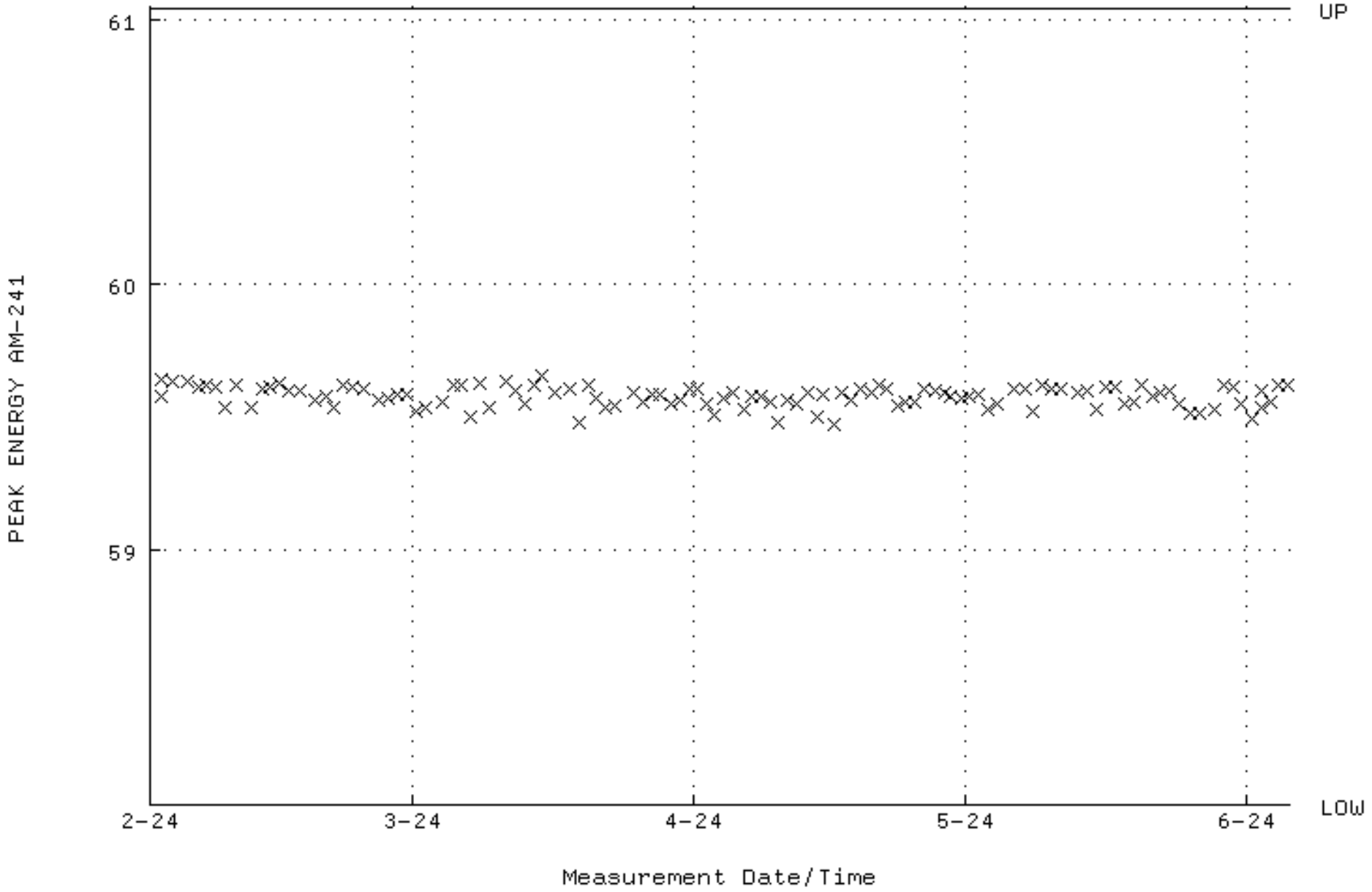



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM50_400JAR.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-FEB-2024 04:30:59 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 68610.4 +- 4085.11 (5.95 %)
ACT
INV
MEAN
INV
ACT
80000
70000
60000
DECAY CORRECTED ACTI
2-24
3-24
4-24
5-24
6-24
Measurement Date/Time

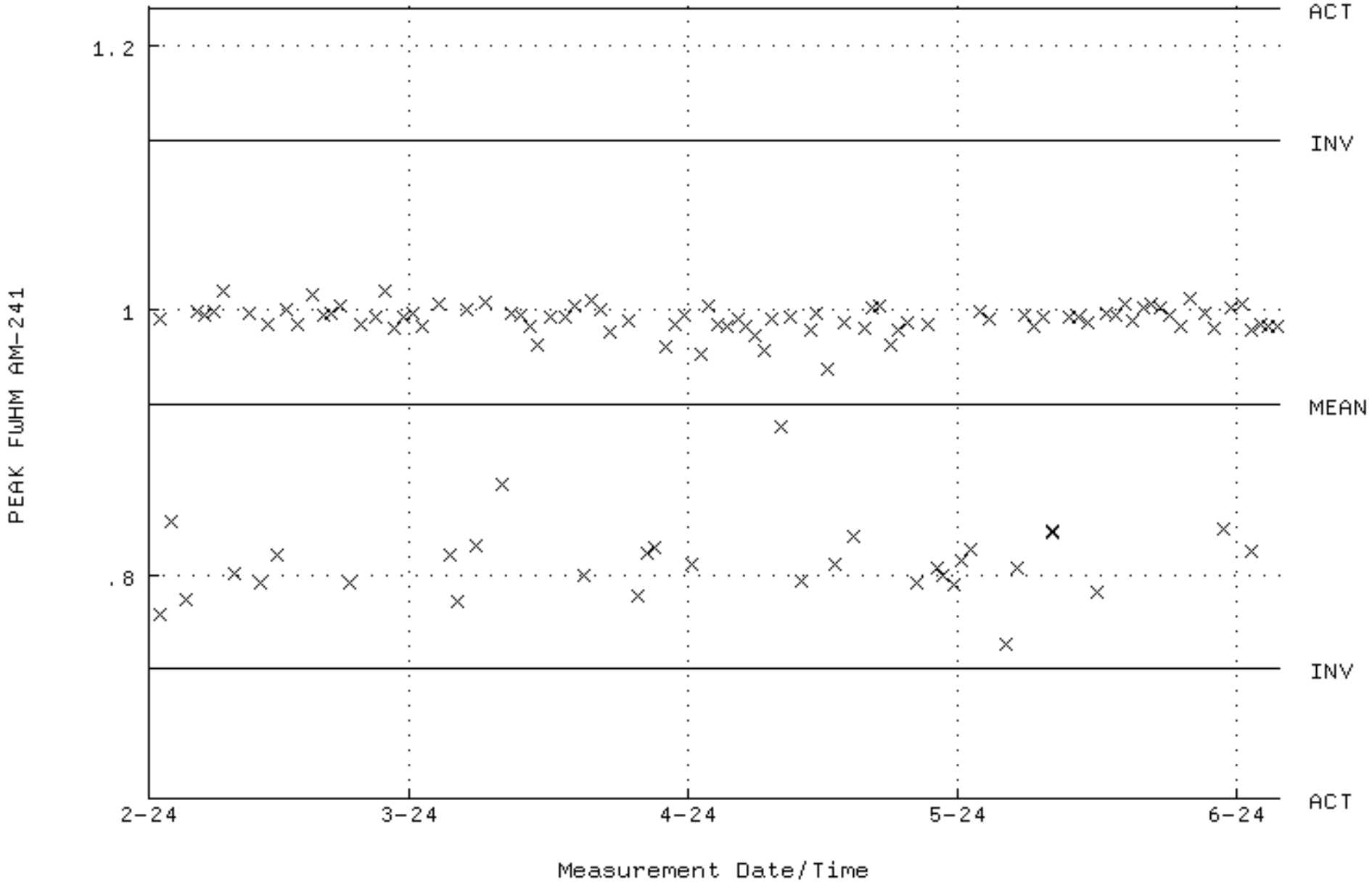
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM50.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 4-FEB-2024 09:27:07 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.24858 +- 1.883305E-02 (1.51 %)



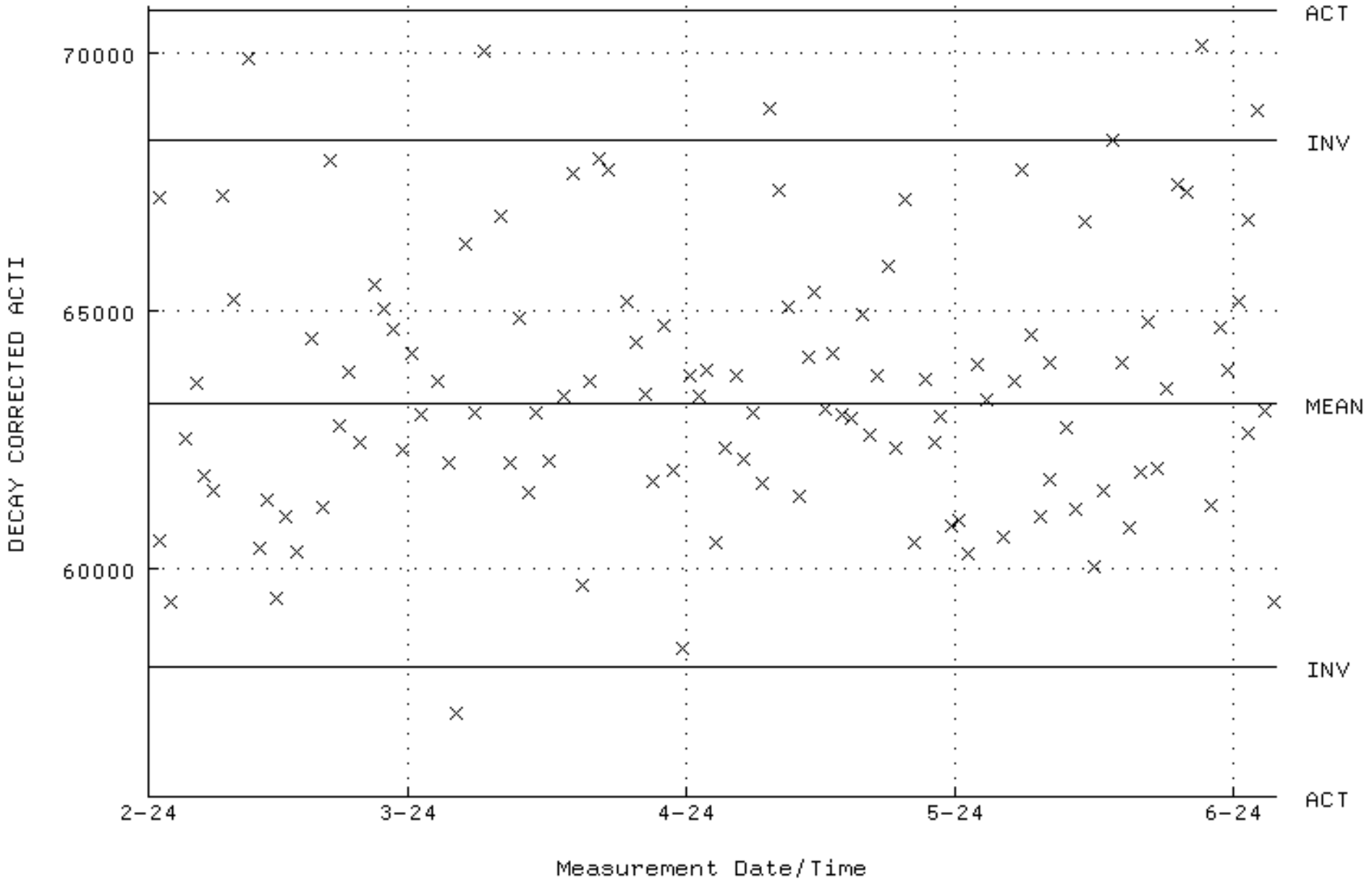
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM52_400JAR.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-FEB-2024 05:26:50 through 5-JUN-2024 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400



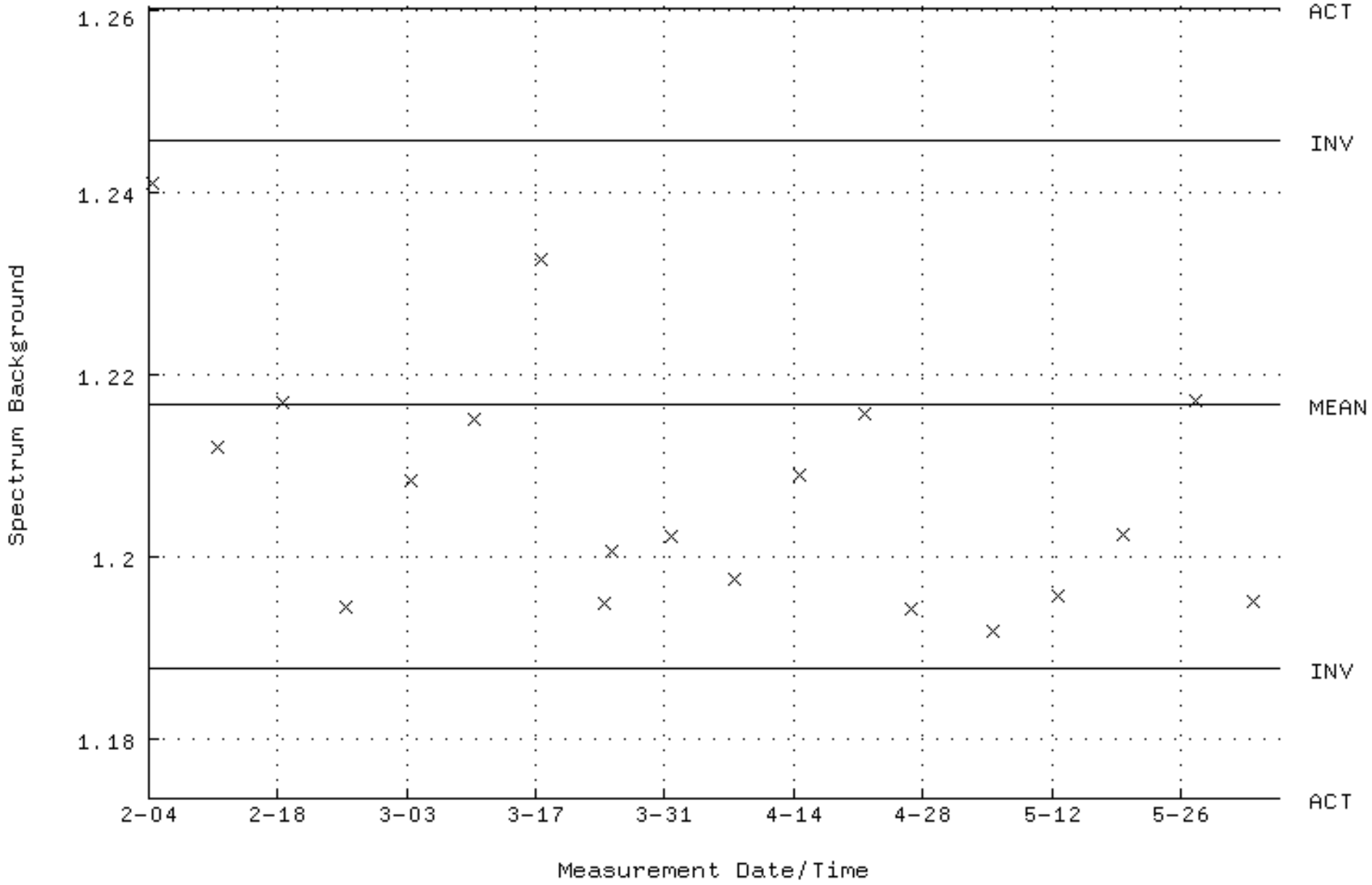
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM52_400JAR.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-FEB-2024 05:26:50 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 0.929940 +- 9.916964E-02 (10.66 %)



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM52_400JAR.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-FEB-2024 05:26:50 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 63224.7 +- 2544.67 (4.02 %)



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM52.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 4-FEB-2024 09:27:13 through 5-JUN-2024 12:00:00
Mean +- Std Dev : 1.21684 +- 1.447294E-02 (1.19 %)



RAD Standards Traceability

Eckert & Ziegler
Analytics

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404•352•8677
Fax 404•352•2837
www.analyticsinc.com

CERTIFICATE OF CALIBRATION

1556

Standard Radionuclide Source

84680-278

100 mL Solid in Aluminum Can

Customer: GEL Labs
P.O. No.: 489884RD, Item 3
Reference Date: 01-Apr-2011 12:00 PM EST **Grams of Master Source:** 0.0066498

This standard radionuclide source was prepared using aliquots measured gravimetrically from master radionuclide solutions. Calibration and purity were checked using a germanium gamma spectrometer system. At the time of calibration no interfering gamma-ray emitting impurities were detected. The gamma ray emission rates for the most intense gamma-ray lines are given. Eckert & Ziegler Analytics (EZA) maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Revision 1, February, 1979, and compliance with ANSI N42.22-1995, "Traceability of Radioactive Sources to NIST." EZA is accredited by the Health Physics Society (HPS) for the production of NIST-traceable sources, and this source was produced in accordance with the HPS accreditation requirements. Customers may report any concerns with the accreditation program to the HPS Secretariat, 1313 Dolley Madison Blvd., Ste. 402, McLean, VA 22101. Density of solid matrix 1.15 g/cc.

Nuclide	Gamma-Ray Energy (keV)	Half-Life, Days	Master Source* γps/gram	This Source γps	Uncertainty, % Type u_A	u_B	U	Calibration Method
Pb-210	46.5	8.120E+03	———	1.129E+03	0.1	2.1	4.1	4π LS
Am-241	59.5	1.580E+05	———	7.538E+02	0.1	1.7	3.5	4π LS
Cd-109	88.0	4.626E+02	1.659E+05	1.103E+03	0.6	2.3	4.8	HPGe
Co-57	122.1	2.718E+02	8.949E+04	5.951E+02	0.6	2.0	4.2	HPGe
Ce-139	165.9	1.376E+02	1.247E+05	8.292E+02	0.6	1.9	4.0	HPGe
Hg-203	279.2	4.661E+01	2.899E+05	1.928E+03	0.6	1.9	4.0	HPGe
Sn-113	391.7	1.151E+02	1.739E+05	1.156E+03	0.6	1.9	4.0	HPGe
Cs-137	661.7	1.098E+04	1.107E+05	7.361E+02	0.8	1.9	4.1	HPGe
Y-88	898.0	1.066E+02	4.246E+05	2.824E+03	0.6	1.9	4.0	HPGe
Zn-65	1115.6	2.441E+02	———	1.445E+03	0.1	1.7	3.5	IC
Co-60	1173.2	1.925E+03	2.118E+05	1.408E+03	0.7	1.9	4.0	HPGe
Co-60	1332.5	1.925E+03	2.118E+05	1.408E+03	0.7	1.9	4.0	HPGe
Y-88	1836.1	1.066E+02	4.495E+05	2.989E+03	0.7	1.9	4.0	HPGe

* Master Source refers to Analytics' 8-isotope mixture which is calibrated quarterly.

Calibration Methods: 4π LS - 4 pi Liquid Scintillation Counting, HPGe - High Purity Germanium Gamma-Ray Spectrometer, IC - Ionization Chamber. **Uncertainty:** U - Relative expanded uncertainty, k = 2. See NIST Technical Note 1297, "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results."

(Certificate continued on reverse side)

ACCREDITED SOURCE CALIBRATION LABORATORY HEALTH PHYSICS SOCIETY FOUNDED 1968

RC-S-060-101

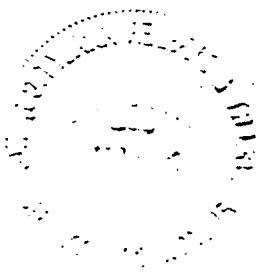
Corporate Office
6133 Avenue of Arts Valencia, California 91355
Laboratory
1380 Seaboard Industrial Blvd. Atlanta, Georgia, 30318

This standard will expire one year after the reference date.

Source Prepared by: M Williford
M. Williford, Radiochemist

QA Approved:
J. D. McCorvey, QA Manager Alternate

Date: 6/27/11



ACCREDITED SOURCE CALIBRATION LABORATORY HEALTH PHYSICS SOCIETY FOUNDED 1968

Standard Logbook

Serial ID:	1556	**Open/Reference Date:**	01-APR-11	**Aliquot :**	1 mL
Name:	Mixed Gamma LCS CAN	**Received:**	01-APR-11	**Density :**	Hand Calculated
Type:	Source Material	**Expires:**	01-APR-37	**Lot Number :**	84680-278
Employee:	Maggie Stamps	**Verified:**	14-JUL-11		
Supplier:	Eckert & Zeigler Analytics				

Description: 84680-278

Comments: None

Analyte	Concentration	Analyte	Concentration
Americium-241	125983.3 dpm/mL	Cesium-137	51898.9 dpm/mL
Cobalt-60	84496.9 dpm/mL		

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton	**Isotope**	**Result**			
7/14/2011	**Pb-210**	**pCi/L**			
	Mixed Gamma N1	722900		Isotopic Abundance:	0.0425
	Mixed Gamma N2	752300		Certificate Value (dps):	1129
	Mixed Gamma N3	692100			
Mean Value (Counting) =	722433.33	pCi/L	100.622	**Pass**	
Stdev =	30102.713	pCi/L		**Rule 3 (Pass/Fail)**	
Certificate Value =	717965.0	pCi/L			
Lower Limit =	662227.9072	pCi/L			
Upper Limit =	782638.7594	pCi/L			
Rule 1 Pass/Fail	**Pass**				
Two sigma =	60205.42611				
10 % of Mean =	72243.33333				
Rule 2 (Pass/Fail)	**Pass**				

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

mgH 7/20/11

H.Stamper 7/20/11

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton	**Isotope**	**Result**			
7/14/2011	**Am-241**	**pCi/L**			
	Mixed Gamma N1	58390		Isotopic Abundance:	0.359
	Mixed Gamma N2	60740		Certificate Value (dps):	753.8
	Mixed Gamma N3	57770			
Mean Value (Counting) =	58966.67	pCi/L	**103.9074**	**Pass**	
Stdev =	1566.727	pCi/L		**Rule 3 (Pass/Fail)**	
Certificate Value =	56749.2	pCi/L			
Lower Limit =	55833.21277	pCi/L			
Upper Limit =	62100.12057	pCi/L			
Rule 1 Pass/Fail	**Pass**				
Two sigma =	3133.453898				
10 % of Mean =	5896.666667				
Rule 2 (Pass/Fail)	**Pass**				

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

mgH 7/20/11

M. Stamps 7/20/11

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton	**Isotope**	**Result**			
7/14/2011	**Cd-109**	**pCi/L**			
	Mixed Gamma N1	818400		Isotopic Abundance:	0.037
	Mixed Gamma N2	798000		Certificate Value (dps):	1103
	Mixed Gamma N3	764700			
Mean Value (Counting) =	793700.00	pCi/L	**98.51091**	**Pass**	
Stdev =	27107.010	pCi/L		**Rule 3 (Pass/Fail)**	
Certificate Value =	805697.6	pCi/L			
Lower Limit =	739485.9797	pCi/L			
Upper Limit =	847914.0203	pCi/L			
Rule 1 Pass/Fail	**Pass**				
Two sigma =	54214.02033				
10 % of Mean =	79370				
Rule 2 (Pass/Fail)	**Pass**				

mgh 7/20/11

MStamps 7/20/11

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton	**Isotope**	**Result**			
7/14/2011	**Co-57**	**pCi/L**			
	Mixed Gamma N1	19090		Isotopic Abundance:	0.856
	Mixed Gamma N2	18820		Certificate Value (dps):	595.1
	Mixed Gamma N3	18830			
Mean Value (Counting) =	18913.33	pCi/L	**100.6592**	**Pass**	
Stdev =	153.080	pCi/L		**Rule 3 (Pass/Fail)**	
Certificate Value =	18789.5	pCi/L			
Lower Limit =	18607.17433	pCi/L			
Upper Limit =	19219.49233	pCi/L			
Rule 1 Pass/Fail	**Pass**				
Two sigma =	306.1590001				
10 % of Mean =	1891.333333				
Rule 2 (Pass/Fail)	**Pass**				

mgh 7/20/11

MStamper 7/20/11

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton	**Isotope**	**Result**			
7/14/2011	**Ce-139**	**pCi/L**			
	Mixed Gamma N1	28740		Isotopic Abundance:	0.8
	Mixed Gamma N2	29410		Certificate Value (dps):	829.2
	Mixed Gamma N3	27560			
Mean Value (Counting) =	28570.00	pCi/L	**101.9865**	**Pass**	
Stdev =	936.643	pCi/L		**Rule 3 (Pass/Fail)**	
Certificate Value =	28013.5	pCi/L			
Lower Limit =	26696.71412	pCi/L			
Upper Limit =	30443.28588	pCi/L			
Rule 1 Pass/Fail	**Pass**				
Two sigma =	1873.285883				
10 % of Mean =	2857				
Rule 2 (Pass/Fail)	**Pass**				

mgH 7/20/11

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

MStamps 7/20/11

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton
7/14/2011

Isotope	Result
Hg-203	pCi/L
Mixed Gamma N1	66300
Mixed Gamma N2	68180
Mixed Gamma N3	64480

Isotopic Abundance: 0.8156
Certificate Value (dps): 1928

Mean Value (Counting) =	66320.00	pCi/L	**103.8046**	**Pass**
Stdev =	1850.081	pCi/L		**Rule 3 (Pass/Fail)**
Certificate Value =	63889.3	pCi/L		
Lower Limit =	62619.83784	pCi/L		
Upper Limit =	70020.16216	pCi/L		
Rule 1 Pass/Fail	**Pass**			
Two sigma =	3700.162159			
10 % of Mean =	6632			
Rule 2 (Pass/Fail)	**Pass**			

mgh 7/20/11

MStamper 7/20/11

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton 7/14/2011	Isotope	Result			
	Sn-113	**pCi/L**			
	Mixed Gamma N1	49560		Isotopic Abundance:	0.6497
	Mixed Gamma N2	49620		Certificate Value (dps):	1156
	Mixed Gamma N3	48300			
Mean Value (Counting) =	49160.00	pCi/L	**102.2277**	**Pass**	
Stdev =	745.386	pCi/L		**Rule 3 (Pass/Fail)**	
Certificate Value =	48088.7	pCi/L			
Lower Limit =	47669.22839	pCi/L			
Upper Limit =	50650.77161	pCi/L			
Rule 1 Pass/Fail	**Pass**				
Two sigma =	1490.771612				
10 % of Mean =	4916				
Rule 2 (Pass/Fail)	**Pass**				

mgH 7/20/11

Hoffampl 7/20/11

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton	**Isotope**	**Result**			
7/14/2011	**Cs-137**	**pCi/L**			
	Mixed Gamma N1	23710		Isotopic Abundance:	0.851
	Mixed Gamma N2	23950		Certificate Value (dps):	736.1
	Mixed Gamma N3	24040			
Mean Value (Counting) =	23900.00	pCi/L	**102.2333**	**Pass**	
Stdev =	170.587	pCi/L		**Rule 3 (Pass/Fail)**	
Certificate Value =	23377.9	pCi/L			
Lower Limit =	23558.82556	pCi/L			
Upper Limit =	24241.17444	pCi/L			
Rule 1 Pass/Fail	**Fail**	***exception taken due to full recovery of standard**			
Two sigma =	341.1744422				
10 % of Mean =	2390				
Rule 2 (Pass/Fail)	**Pass**				

7/20/11

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

MHampton 7/20/11

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton	**Isotope**	**Result**			
7/14/2011	**Y-88 (898)**	**pCi/L**			
	Mixed Gamma N1	82690		Isotopic Abundance:	0.937
	Mixed Gamma N2	81320		Certificate Value (dps):	2824
	Mixed Gamma N3	80940			
Mean Value (Counting) =	81650.00	pCi/L	**100.2381**	**Pass**	
Stdev =	920.489	pCi/L		**Rule 3 (Pass/Fail)**	
Certificate Value =	81456.1	pCi/L			
Lower Limit =	79809.022	pCi/L			
Upper Limit =	83490.978	pCi/L			
Rule 1 Pass/Fail	**Pass**				
Two sigma =	1840.978001				
10 % of Mean =	8165				
Rule 2 (Pass/Fail)	**Pass**				

MJH 7/20/11

Mstamper 7/20/11

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton 7/14/2011	**Isotope**	**Result**			
	Co-60 (1173)	**pCi/L**			
	Mixed Gamma N1	38910		Isotopic Abundance:	0.9985
	Mixed Gamma N2	39750		Certificate Value (dps):	1408
	Mixed Gamma N3	38840			
Mean Value (Counting) =	39166.67	pCi/L	**102.7694**	**Pass**	
Stdev =	506.392	pCi/L		**Rule 3 (Pass/Fail)**	
Certificate Value =	38111.2	pCi/L			
Lower Limit =	38153.88173	pCi/L			
Upper Limit =	40179.45161	pCi/L			
Rule 1 Pass/Fail	**Fail**	***exception taken due to full recovery of standard**			
Two sigma =	1012.784939				
10 % of Mean =	3916.666667				
Rule 2 (Pass/Fail)	**Pass**				

mgd 7/20/11

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

MStamper 7/20/11

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton 7/14/2011	**Isotope**	**Result**			
	Co-60 (1332.50)	**pCi/L**			
	Mixed Gamma N1	38940		Isotopic Abundance:	0.9998
	Mixed Gamma N2	40200		Certificate Value (dps):	1408
	Mixed Gamma N3	39150			
Mean Value (Counting) =	39430.00	pCi/L	**103.595**	**Pass**	
Stdev =	675.056	pCi/L		**Rule 3 (Pass/Fail)**	
Certificate Value =	38061.7	pCi/L			
Lower Limit =	38079.88889	pCi/L			
Upper Limit =	40780.11111	pCi/L			
Rule 1 Pass/Fail	**Fail**	***exception taken due to full recovery of standard**			
Two sigma =	1350.111107				
10 % of Mean =	3943				
Rule 2 (Pass/Fail)	**Pass**				

mgw 7/20/11

MStamps 7/20/11

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton	**Isotope**	**Result**			
7/14/2011	**Y-88 (1836.1)**	**pCi/L**			
	Mixed Gamma N1	82870		Isotopic Abundance:	0.992
	Mixed Gamma N2	83080		Certificate Value (dps):	2989
	Mixed Gamma N3	84640			
Mean Value (Counting) =	83530.00	pCi/L	**102.5723**	**Pass**	
Stdev =	967.006	pCi/L		**Rule 3 (Pass/Fail)**	
Certificate Value =	81435.3	pCi/L			
Lower Limit =	81595.98862	pCi/L			
Upper Limit =	85464.01138	pCi/L			
Rule 1 Pass/Fail	**Fail**	***exception taken due to full recovery of standard**			
Two sigma =	1934.011375				
10 % of Mean =	8353				
Rule 2 (Pass/Fail)	**Pass**				

mgH 7/20/11

MStamper 7/20/11

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Standard Logbook

Serial ID:	1556	**Open/Reference Date:**	01-APR-11	**Aliquot :**	1 mL
Name:	Mixed Gamma LCS CAN	**Received:**	01-APR-11	**Density :**	Hand Calculated
Type:	Source Material	**Expires:**	01-APR-37	**Lot Number :**	84680-278
Employee:	Maggie Stamps	**Verified:**	14-JUL-11		
Supplier:	Eckert & Zeigler Analytics				

Description: 84680-278

Comments: None

Analyte	Concentration	Analyte	Concentration
Americium-241	125983.3 dpm/mL	Cesium-137	51898.9 dpm/mL
Cobalt-60	84496.9 dpm/mL		

Runlogs

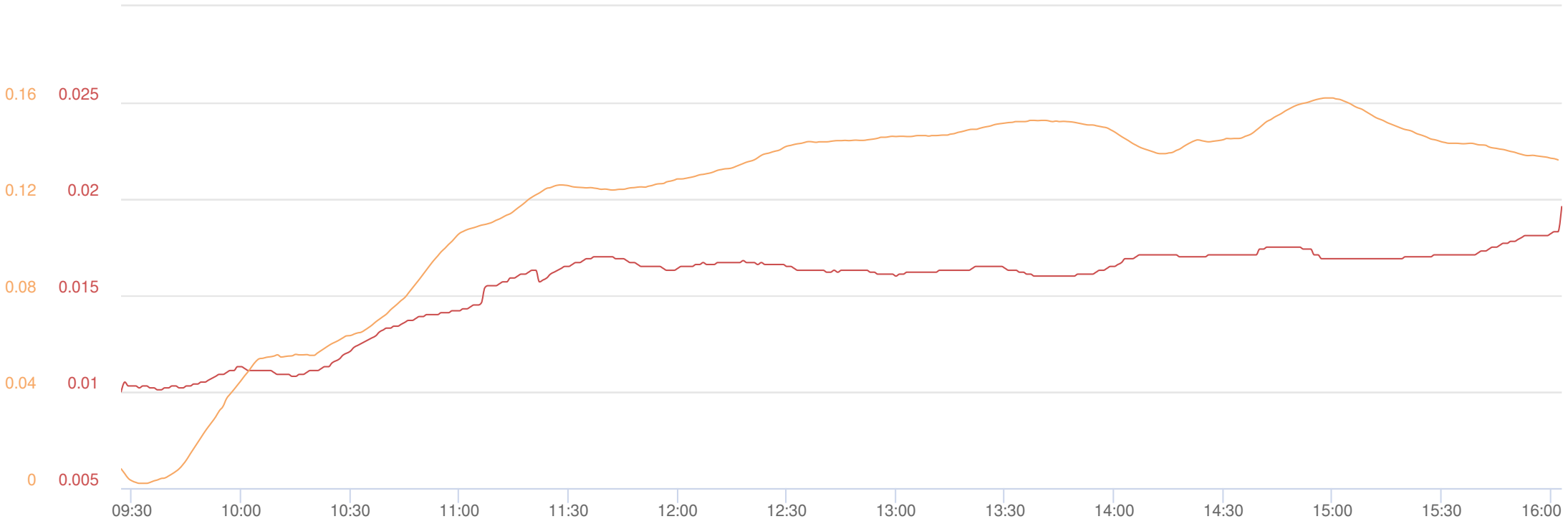
Instrument Run Log

Instrument Type: GAMMA SPECTROMETER **Batch ID: 2618905**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
669289001	SAMPLE	MXR1	GAM04	JUN-20-24 05:02:15	DONE	CAN	13-DEC-23 00:00
669289002	SAMPLE	MXR1	GAM07	JUN-20-24 05:02:44	DONE	CAN	24-JUL-23 00:00
669289003	SAMPLE	MXR1	GAM21	JUN-20-24 05:03:08	DONE	CAN	03-JUL-23 00:00
669289004	SAMPLE	MXR1	GAM23	JUN-20-24 05:03:37	DONE	CAN	06-SEP-23 00:00
669289005	SAMPLE	MXR1	GAM28	JUN-20-24 05:04:00	DONE	CAN	19-MAR-24 00:00
669289006	SAMPLE	MXR1	GAM32	JUN-20-24 05:04:28	DONE	CAN	17-JUL-23 00:00
669289007	SAMPLE	MXR1	GAM41	JUN-20-24 05:04:56	DONE	CAN	05-DEC-23 00:00
669289008	SAMPLE	MXR1	GAM43	JUN-20-24 05:05:36	DONE	CAN	13-JUL-23 00:00
669289009	SAMPLE	MXR1	GAM47	JUN-20-24 05:06:03	DONE	CAN	02-NOV-23 00:00
669289010	SAMPLE	MXR1	GAM02	JUN-20-24 05:21:10	DONE	CAN	13-SEP-23 00:00
669289011	SAMPLE	MXR1	GAM08	JUN-20-24 05:21:41	DONE	CAN	13-FEB-24 00:00
669289012	SAMPLE	MXR1	GAM12	JUN-20-24 05:22:11	DONE	CAN	11-OCT-23 00:00
669289013	SAMPLE	MXR1	GAM22	JUN-20-24 05:22:39	DONE	CAN	25-JAN-24 00:00
669289014	SAMPLE	MXR1	GAM46	JUN-20-24 05:23:01	DONE	CAN	26-SEP-23 00:00
1205747503	MB	MXR1	GAM52	JUN-20-24 05:23:42	DONE	CAN	01-SEP-23 00:00
1205747505	LCS	MXR1	GAM50	JUN-20-24 05:24:34	DONE	CAN	24-JUL-23 00:00
1205747504	DUP	MXR1	GAM05	JUN-20-24 06:30:26	DONE	CAN	16-AUG-23 00:00

Appendix G
Air Monitoring Logs

Mon, 20th of May 2024, 0:00:00 – 23:59:00
(GMT-05:00) Eastern Time (US & Canada)



Mass Conc. Total mg/m³ AVG 15m
mg/m³
DustTrak-8530
RS232(C)

MIN	AVG	MAX
0.01	0.0155	0.0183

VOC ppm AVG 15m ppm
miniRAE 3000
RS232(A)

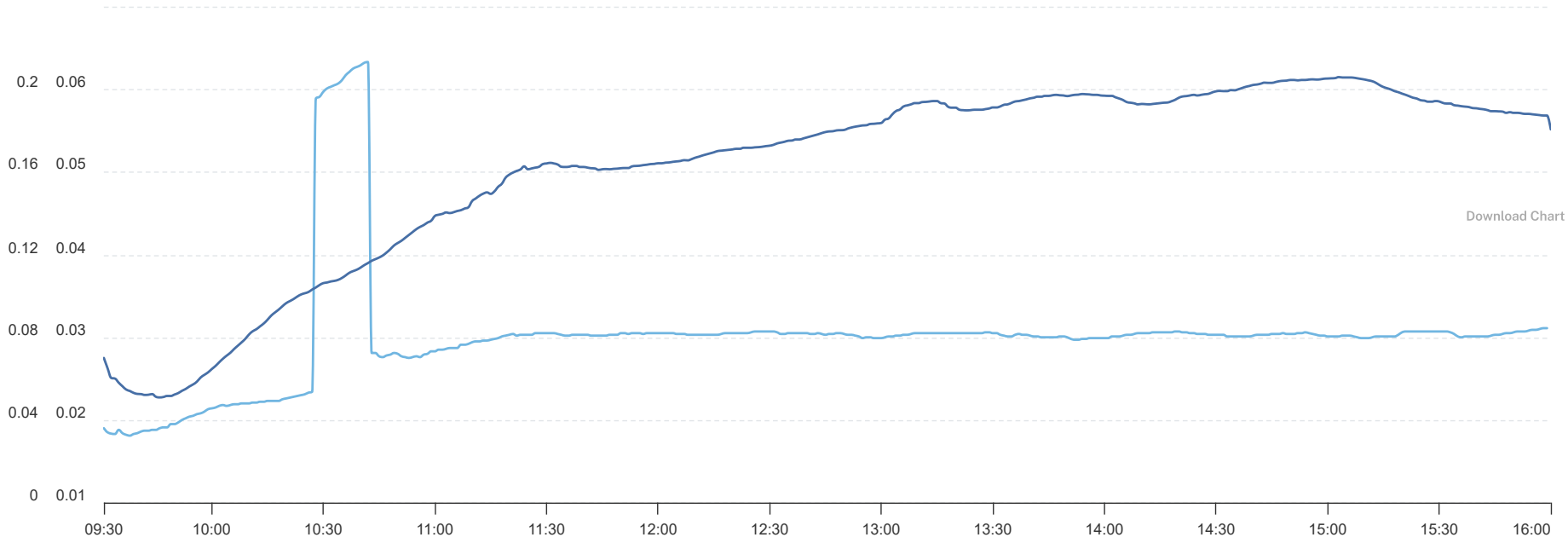
MIN	AVG	MAX
0.002	0.1192	0.1619

Name	C&S Buffalo #3
S/N	2B048844
Description	C&S OWNED
Location	141 Elm St, Buffalo, NY 14203, USA

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C&S Buffalo #4
2B052553

05/20/2024 00:00 - 05/20/2024 23:59
(GMT-05:00) Eastern Time (US & Canada)

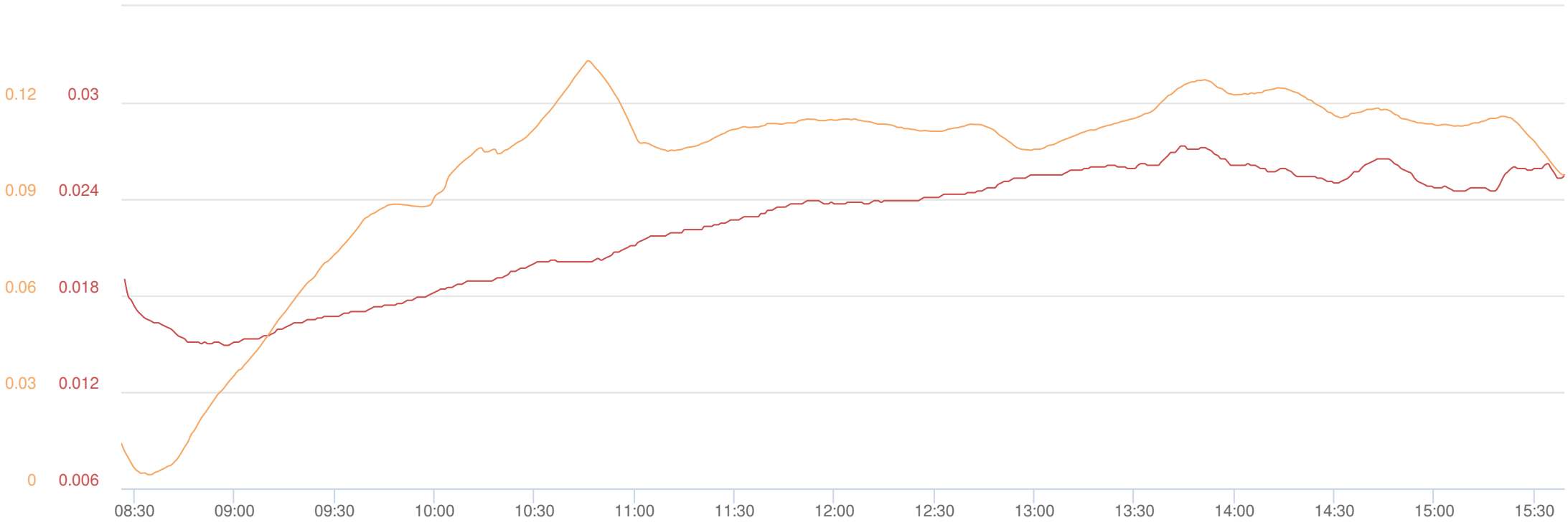


Download Chart (pdf)

Avg(Mass Conc. Total, mg/m^3, 15m)
MIN **0.018** AVG **0.03** MAX **0.063**

Avg(VOC, ppm, 15m)
MIN **0.051** AVG **0.162** MAX **0.206**

Tue, 21st of May 2024, 0:00:00 – 23:59:00
(GMT-05:00) Eastern Time (US & Canada)



Mass Conc. Total mg/m³ AVG 15m
mg/m³
DustTrak-8530
RS232(C)

MIN	AVG	MAX
0.0149	0.0223	0.0273

VOC ppm AVG 15m ppm
miniRAE 3000
RS232(A)

MIN	AVG	MAX
0.0043	0.1	0.133

Name	C&S Buffalo #3
S/N	2B048844
Description	C&S OWNED
Location	141 Elm St, Buffalo, NY 14203, USA

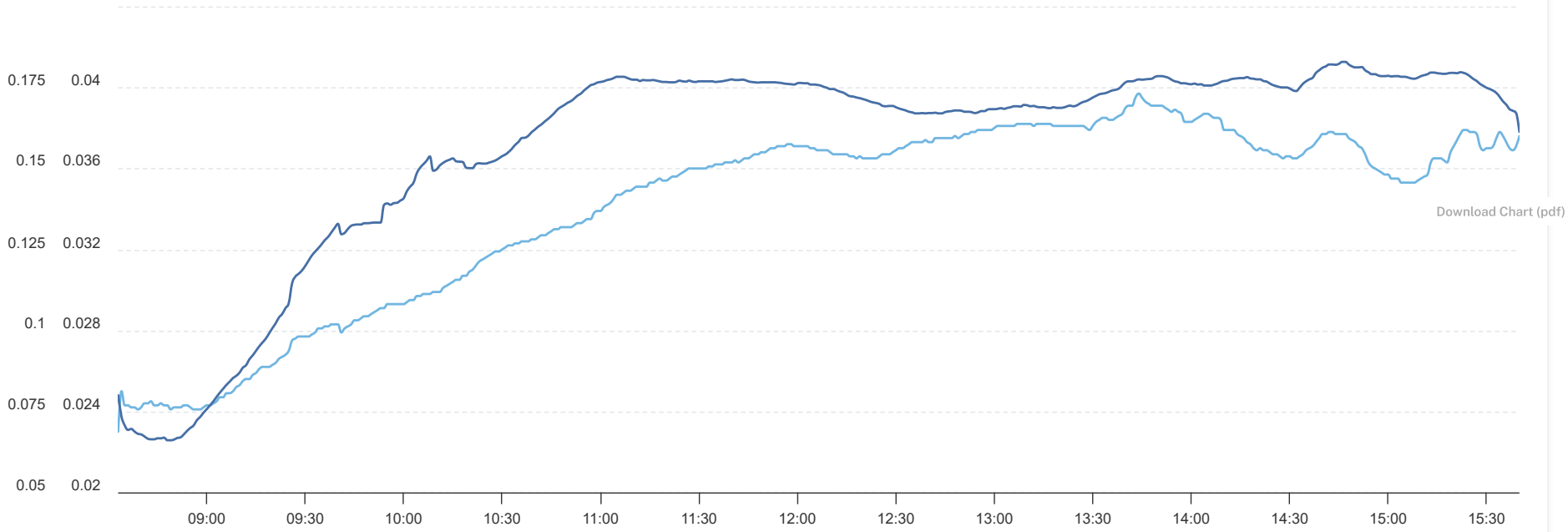
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C&S Buffalo #4

2B052553

05/21/2024 00:00 - 05/21/2024 23:59

(GMT-05:00) Eastern Time (US & Canada)



Download Chart (pdf)

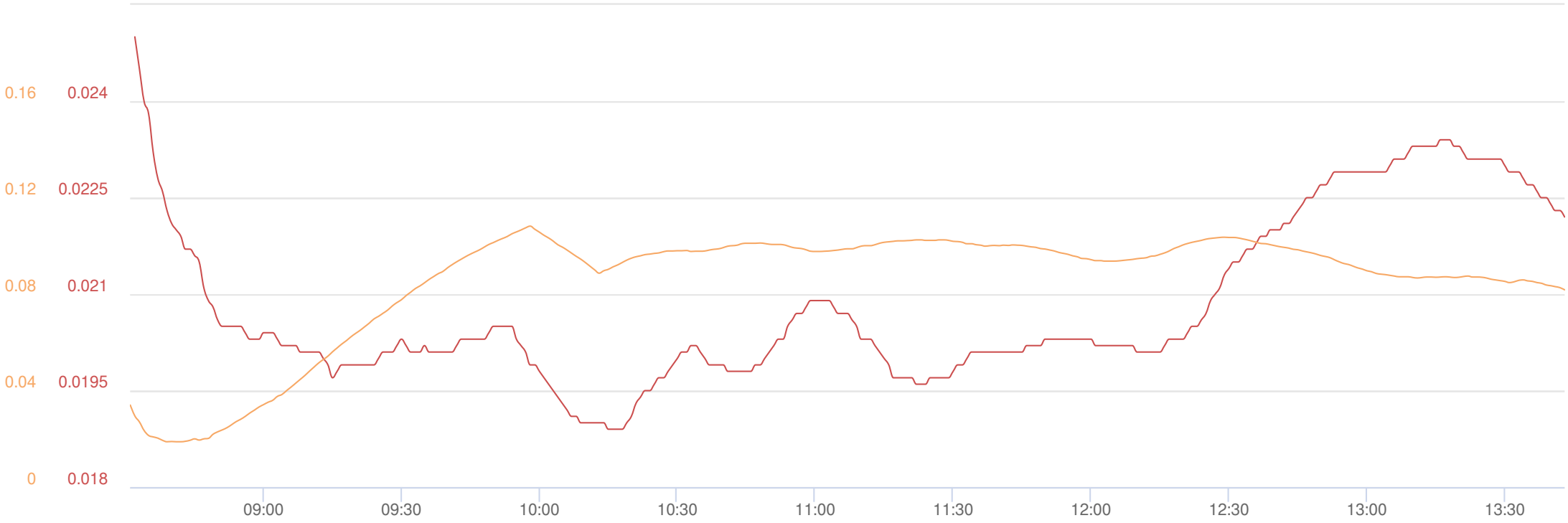
Avg(Mass Conc. Total, mg/m^3, 15m)

MIN **0.023** AVG **0.034** MAX **0.04**

Avg(VOC, ppm, 15m)

MIN **0.066** AVG **0.157** MAX **0.183**

Wed, 22nd of May 2024, 0:00:00 – 23:59:00
(GMT-05:00) Eastern Time (US & Canada)



Mass Conc. Total mg/m³ AVG 15m
mg/m³
DustTrak-8530
RS232(C)

MIN	AVG	MAX
0.0189	0.0208	0.025

VOC ppm AVG 15m ppm
miniRAE 3000
RS232(A)

MIN	AVG	MAX
0.0188	0.0854	0.1082

Name	C&S Buffalo #3
S/N	2B048844
Description	C&S OWNED
Location	141 Elm St, Buffalo, NY 14203, USA

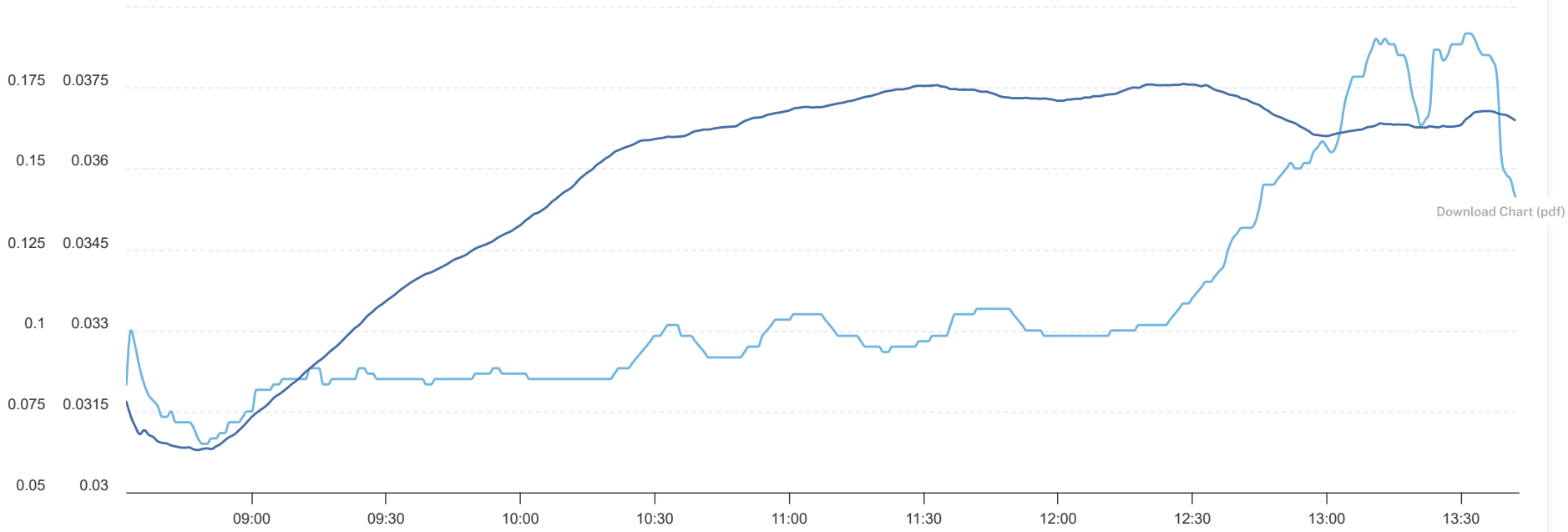
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C&S Buffalo #4

2B052553

05/22/2024 00:00 - 05/22/2024 23:59

(GMT-05:00) Eastern Time (US & Canada)



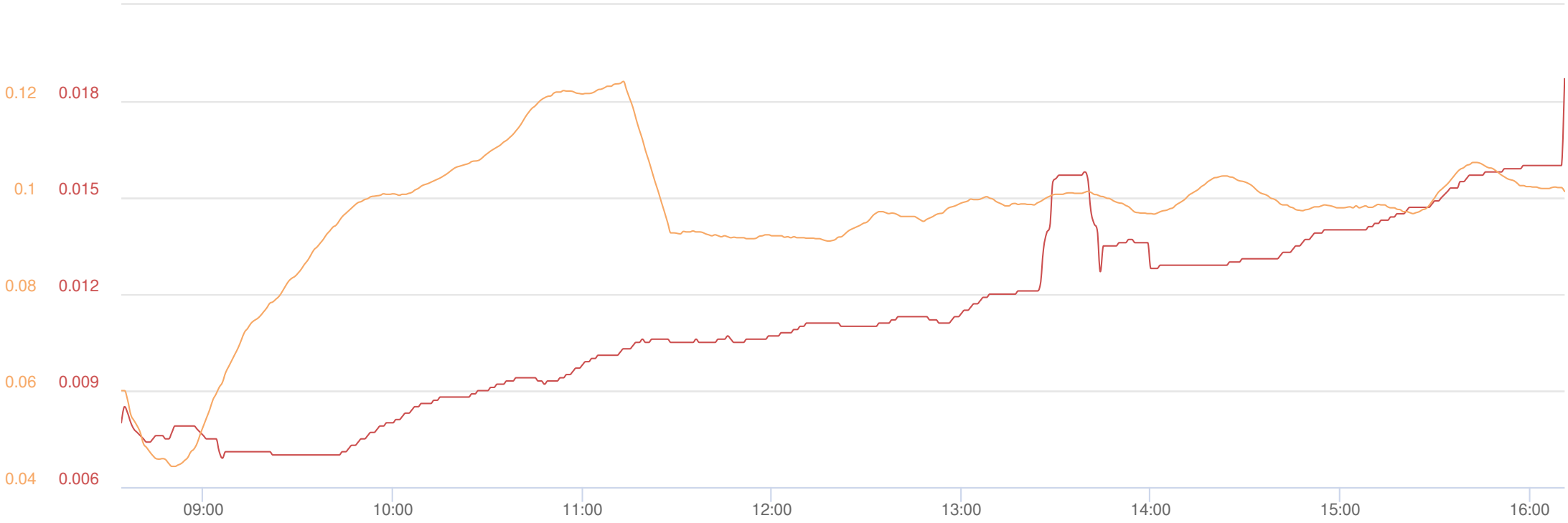
Avg(Mass Conc. Total, mg/m^3, 15m)

MIN **0.031** AVG **0.033** MAX **0.039**

Avg(VOC, ppm, 15m)

MIN **0.063** AVG **0.145** MAX **0.176**

Thu, 23rd of May 2024, 0:00:00 – 23:59:00
(GMT-05:00) Eastern Time (US & Canada)



Mass Conc. Total mg/m³ AVG 15m
mg/m³
DustTrak-8530
RS232(C)

MIN	AVG	MAX
0.0069	0.011	0.016

VOC ppm AVG 15m ppm
miniRAE 3000
RS232(A)

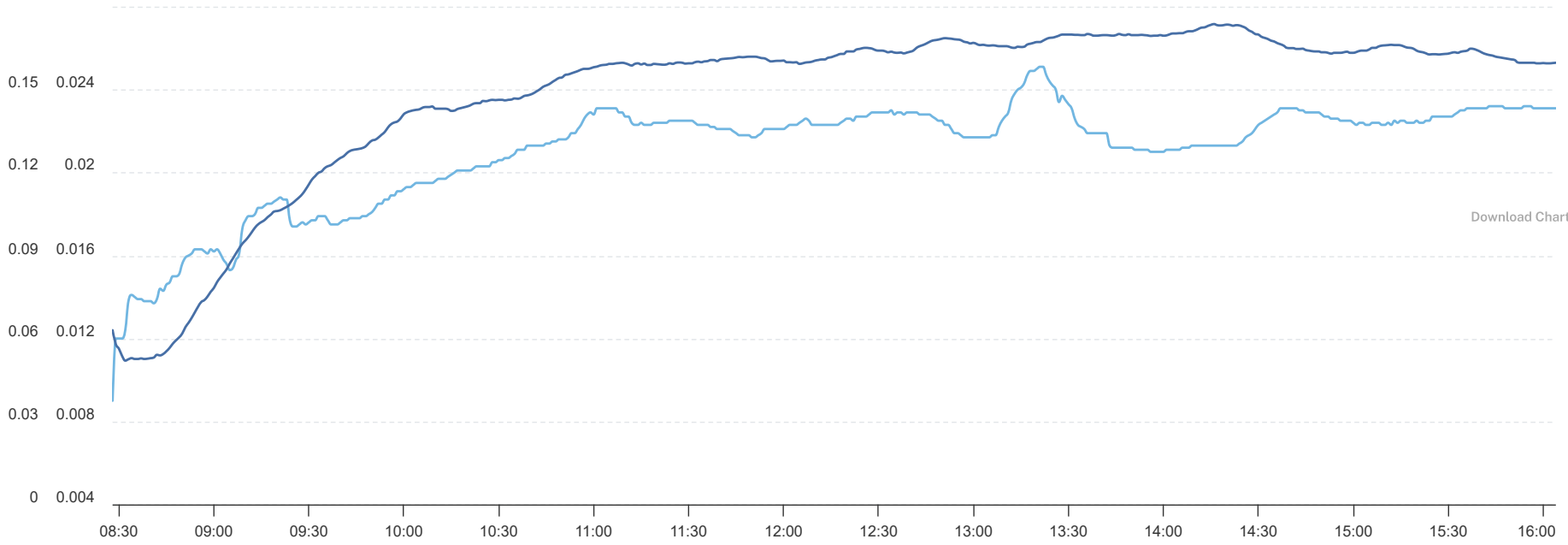
MIN	AVG	MAX
0.0443	0.0961	0.1241

Name	C&S Buffalo #3
S/N	2B048844
Description	C&S OWNED
Location	141 Elm St, Buffalo, NY 14203, USA

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C&S Buffalo #4
2B052553

05/23/2024 00:00 - 05/23/2024 23:59
(GMT-05:00) Eastern Time (US & Canada)

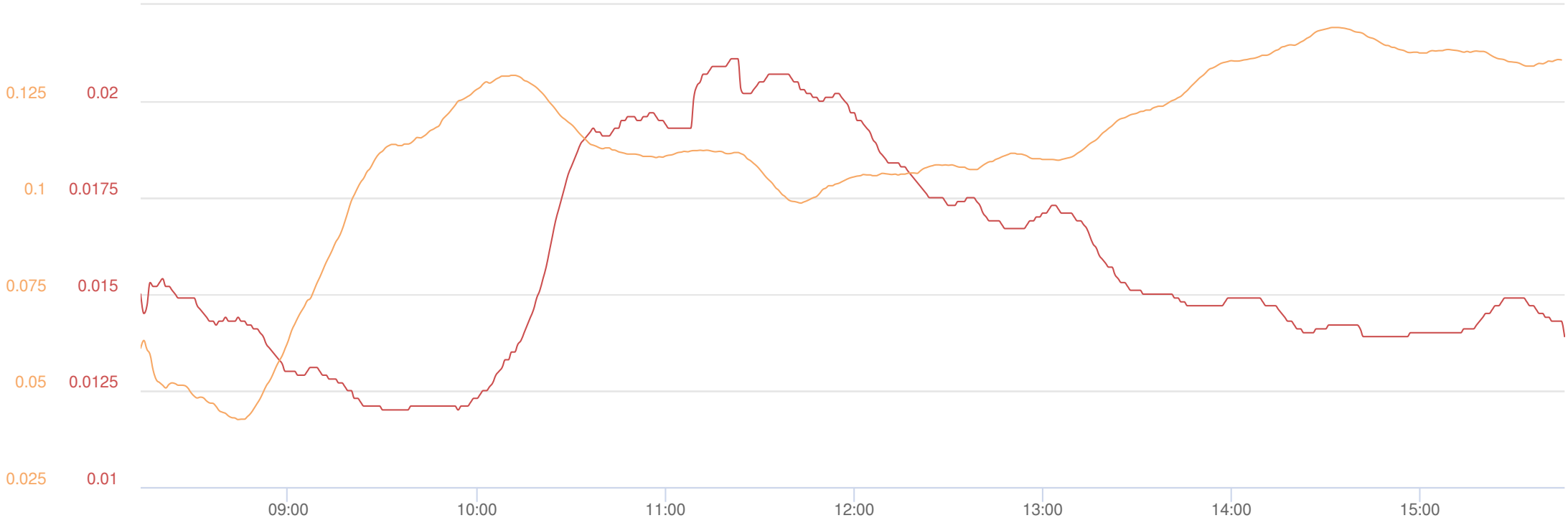


Download Chart (pdf)

Avg(Mass Conc. Total, mg/m^3, 15m)
MIN **0.009** AVG **0.021** MAX **0.025**

Avg(VOC, ppm, 15m)
MIN **0.052** AVG **0.148** MAX **0.174**

Fri, 24th of May 2024, 0:00:00 – 23:59:00
(GMT-05:00) Eastern Time (US & Canada)



Mass Conc. Total mg/m³ AVG 15m
mg/m³
DustTrak-8530
RS232(C)

MIN	AVG	MAX
0.012	0.0158	0.0211

VOC ppm AVG 15m ppm
miniRAE 3000
RS232(A)

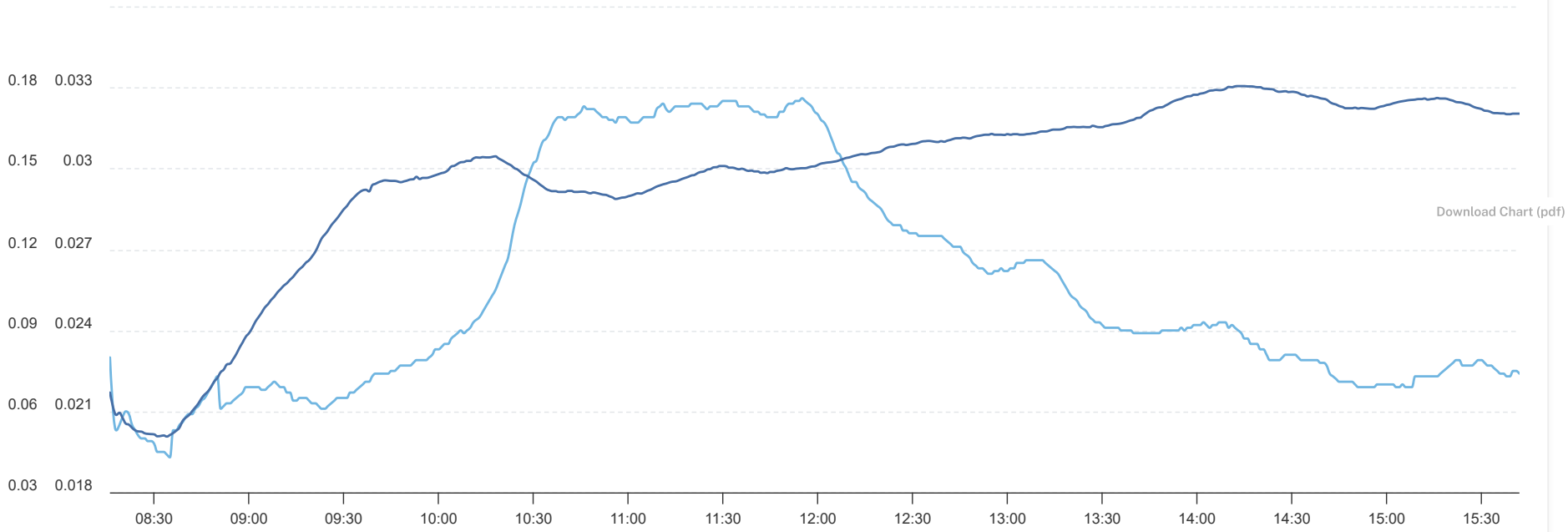
MIN	AVG	MAX
0.0425	0.1117	0.1441

Name	C&S Buffalo #3
S/N	2B048844
Description	C&S OWNED
Location	141 Elm St, Buffalo, NY 14203, USA

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● C&S Buffalo #4
2B052553

05/24/2024 00:00 - 05/24/2024 23:59
(GMT-05:00) Eastern Time (US & Canada)

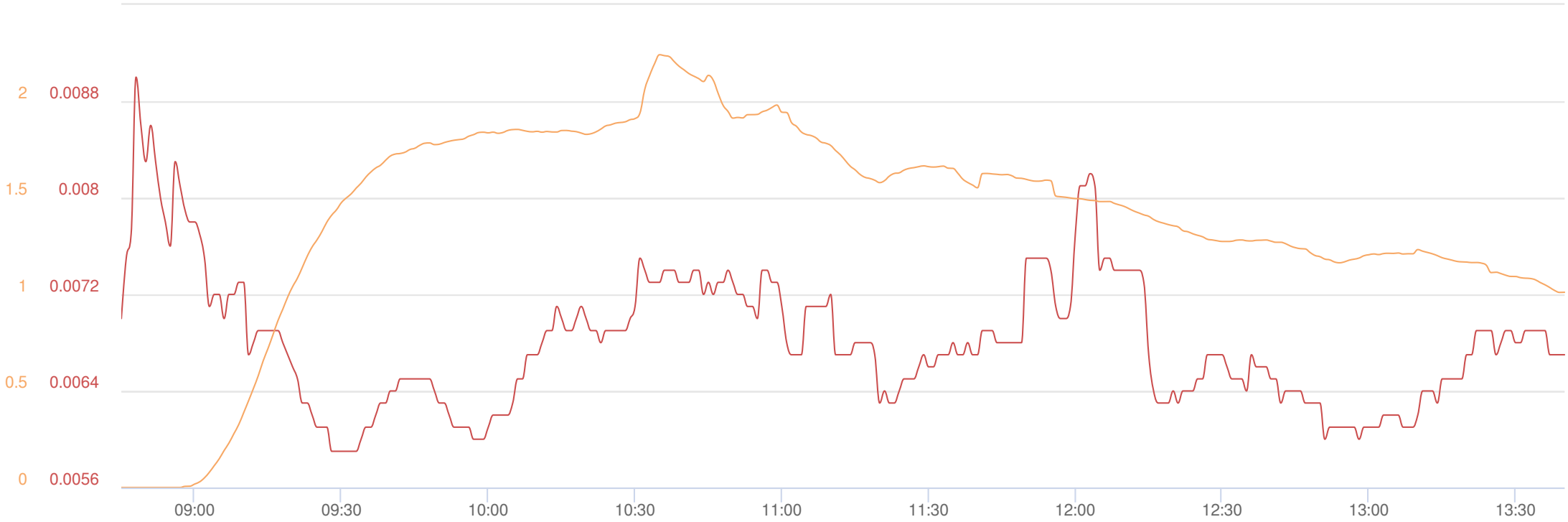


Download Chart (pdf)

Avg(Mass Conc. Total, mg/m^3, 15m)
MIN **0.019** AVG **0.026** MAX **0.033**

Avg(VOC, ppm, 15m)
MIN **0.051** AVG **0.147** MAX **0.181**

Thu, 30th of May 2024, 0:00:00 – 23:59:00
(GMT-05:00) Eastern Time (US & Canada)



Mass Conc. Total mg/m³ AVG 15m
mg/m³
DustTrak-8530
RS232(C)

MIN	AVG	MAX
0.0059	0.0068	0.009

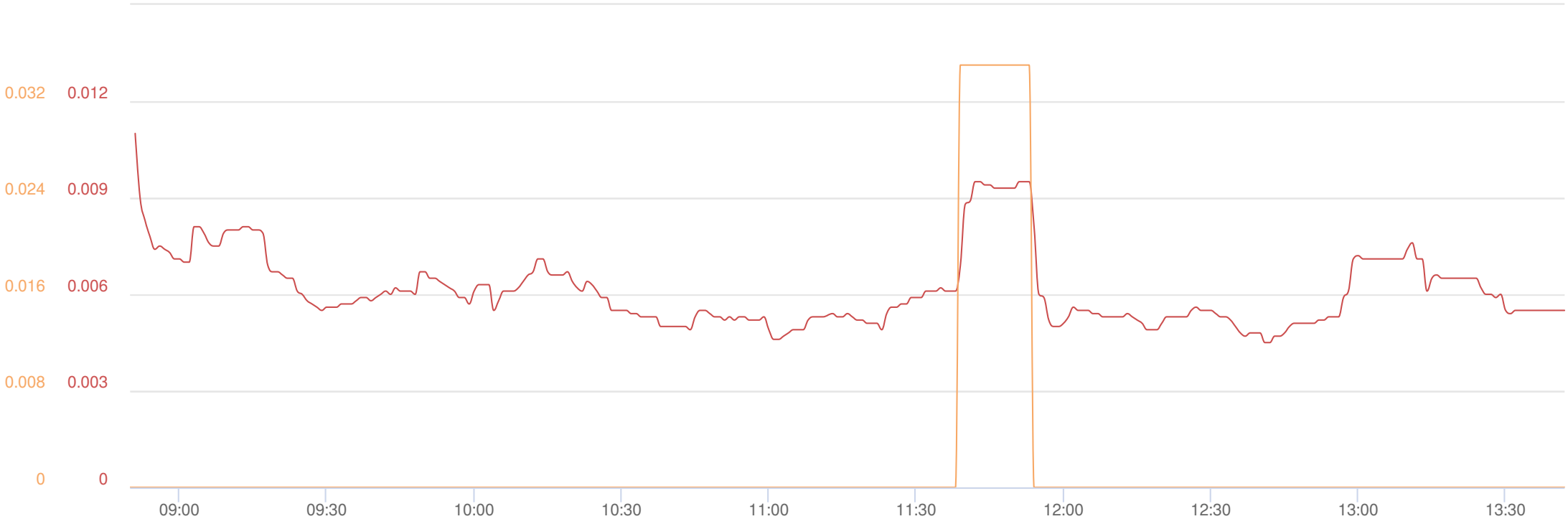
VOC ppm AVG 15m ppm
miniRAE 3000
RS232(A)

MIN	AVG	MAX
0	1.4037	2.2411

Name	C&S Buffalo #1
S/N	2B039785
Description	C&S OWNED
Location	141 Elm St, Buffalo, NY 14203, USA

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Thu, 30th of May 2024, 0:00:00 – 23:59:00
(GMT-05:00) Eastern Time (US & Canada)



Mass Conc. Total mg/m³ AVG 15m
mg/m³
DustTrak-8530
RS232(C)

MIN	AVG	MAX
0.0045	0.0061	0.011

VOC ppm AVG 15m ppm
miniRAE 3000
RS232(A)

MIN	AVG	MAX
0	0	0.035

Name	C&S Buffalo #2
S/N	2B031868
Description	C&S OWNED
Location	141 Elm St, Buffalo, NY 14203, USA

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