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**Dvirka and Bartilucci**
CONSULTING ENGINEERS

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October 2, 2002



Mr. John Swartwout
Bureau of Hazardous Site Control
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233

RECEIVED
OCT - 7 2002
Bureau Of Hazardous Site Control
DER

RECEIVED
OCT 11 2002
Hazardous Waste Remediation
NYSDEC Region 1

Re: Final Preliminary Site Assessment Report
Richard Manno and Company Site
Work Assignment #D003600-20
D&B No. 1830

Dear Mr. Swartwout:

Enclosed please find the final Preliminary Site Assessment (PSA) Report for the Richard Manno and Company Site, located in West Babylon, New York. The comments on the draft report included in your letter dated August 30, 2002, have been incorporated into the final report. The PSA was conducted under Work Assignment D003600-20. One unbound and five bound copies of the report have been provided. In addition, an electronic copy of the text, figures and tables is enclosed.

The PSA was conducted to evaluate whether historic site operations had resulted in groundwater contamination by volatile organic compounds (VOCs), based on the 1997 remediation of VOC-contaminated material from the on-site sanitary system. Analytical results from nine groundwater samples showed that Class GA groundwater standards for three chlorinated VOCs were exceeded at one location along the upgradient western property boundary. No exceedances of Recommended Soil Cleanup Objectives were detected in any of the six storm water dry well sediment samples collected at the site. Based on these results, it is concluded that the site is not currently a source of groundwater contamination and that the detected VOCs are migrating on-site from an upgradient source.

If you have any questions or comments on this report, please do not hesitate to call me at (516) 364-9890.

Very truly yours,

Kenneth P. Wenz, Jr., CPG
Associate

KPW/jmy
Enclosures
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# PRELIMINARY SITE ASSESSMENT REPORT

## RICHARD MANNO AND COMPANY SITE
## PINELAWN INDUSTRIAL AREA
## WEST BABYLON, SUFFOLK COUNTY, NEW YORK
## NYSDEC SITE REGISTRY NO. 1-52-171



## WORK ASSIGNMENT NO. D003600-20

*Prepared for*

**NEW YORK STATE DEPARTMENT OF**
**ENVIRONMENTAL CONSERVATION**

*By*

**DVIRKA BARTILUCCI CONSULTING ENGINEERS**
**WOODBURY, NEW YORK**

**OCTOBER 2002**

**PRELIMINARY SITE ASSESSMENT REPORT**
**RICHARD MANNO AND COMPANY SITE**
**PINELAWN INDUSTRIAL AREA**
**WEST BABYLON, SUFFOLK COUNTY, NEW YORK**
**SITE REGISTRY NO. 1-52-171**

TABLE OF CONTENTS

# 1.0 NYSDEC SITE INVESTIGATION INFORMATION FORM

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION

# SITE INVESTIGATION INFORMATION

| 1. SITE NAME | 2. SITE NUMBER | 3. TOWN/CITY/VILLAGE | 4. COUNTY |
|---|---|---|---|
| Richard Manno and Company | 1-52-171 | West Babylon | Suffolk |

| 5. REGION | 6. CLASSIFICATION | | | |
|---|---|---|---|---|
| 1 | POTENTIAL X | CURRENT | PROPOSED | MODIFY |

**7. LOCATION OF SITE (Attach U.S.G.S. Topographic Map showing site location)**

a. Quadrangle Amityville

b. Site Latitude 40°44'11" Site Longitude 73°22'41"

c. Tax Map Numbers Section 75, Block 2, Lot 24

d. Site Street Address 42 Lamar Street, West Babylon, NY 11704

**8. BRIEFLY DESCRIBE THE SITE (Attach site plan showing disposal/sampling locations)**

The Richard Manno and Company Site is located in West Babylon, Suffolk County (Figure 1). The site is located on the west side of Lamar Street between Edison Avenue and Patton Avenue. Richard Manno and Company manufactures industrial fasteners and machined parts, and has occupied the site since November 1994. Previous site occupants include Scheiner Manufacturing Company, a sheet metal fabricator that operated at the site in the early 1980s.

The site is 0.9 acre in size and is comprised of a one-story masonry building that occupies the northern portion of the property with a parking lot to the south (see Figure 2). The parking lot contains six storm water dry wells. The sanitary system for the building is located in the northeastern portion of the property in the front of the building. No floor drains were observed inside the building.

Outdoor storage of drums containing cutting oil, waste oil, compressor blow down wastes and synthetic cleaner was noted during a site inspection conducted by the Suffolk County Department of Health Services (SCDHS) in October 1996. The drums were stored near a dumpster located on a concrete pad along the western property boundary (see Figure 2), and surface staining was noted in this area. A sediment sample collected from the nearest storm water dry well (DW-4 on Figure 2) contained cis-1,2-dichloroethene, toluene, ethyl benzene and xylenes, although all concentrations were below Suffolk County action levels.

In 1996, the SCDHS also collected sediment samples from the on-site sanitary system. Sample results showed elevated concentrations of tetrachloroethene (PCE) up to 120,000 micrograms per kilogram (ug/kg), trichloroethene (TCE) up to 1,200,000 ug/kg and 1,2-dichloroethene (1,2-DEC) up to 1,403,300 ug/kg. Based on these results, the SCDHS required that the sanitary system be cleaned out. Removal of the contaminated sediment was conducted in January, March, April and August, 1997. Analytical results from post-excavation samples collected in August 1997 showed no detections of the previously detected chlorinated volatile organic compounds.

Concentrations of up to 460 micrograms per liter (ug/l) chloroethane, 1,1,1-trichloroethane and 1,1-dichloroethane were detected in groundwater samples collected from upgradient wells during a Remedial Investigation at the Nassau Tool Works New York State Superfund Site, located immediately south of the Richard Manno and Company Site. The September 1998 Record of Decision for the Nassau Tools Works Site identified the Richard Manno and Company Site as a potential source of volatile organic compound (VOC) contamination in groundwater.

The current Preliminary Site Assessment (PSA) was conducted to evaluate whether the Richard Manno and Company Site is a source of VOC contamination in groundwater. The PSA commenced in December 2000, with a review of New York State Department of Environmental Conservation (NYSDEC) and SCDHS files. An access agreement between the property owner (United Equities Corporation) and the NYSDEC was executed in August 2001. A site inspection was then conducted by representatives of the NYSDEC and Dvirka and Bartilucci Consulting Engineers (D&B) to finalize the scope of work for the sampling program. No floor drains or other potential contaminant sources were identified within the building. Pipes observed along the southern wall of the building (see Figure 2) were identified by a facility representative as vent pipes for an underground storage tank used to hold fuel oil for the building's heating system.

The sampling program included collection of sediment samples from each of the six storm water dry wells in the southern parking lot and collection of nine shallow/water table groundwater samples at two upgradient off-site locations, six on-site locations and one downgradient off-site location.

a. Area 0.9 Acres b. EPA ID Number None Identified

c. Completed ( ) Phase I ( ) Phase II (X) PSA ( ) RI/FS ( ) PA/SI ( ) Other

**9. HAZARDOUS WASTE DISPOSED (Include EPA Hazardous Waste Code Number)**

Previously detected in sediments in the on-site sanitary system:

Tetrachloroethene (F001)
Trichloroethene (F001)
1,2-Dichloroethene (F001)

**10. ANALYTICAL DATA AVAILABLE**

a. ( ) Air (X) Groundwater ( ) Surface Water (X) Sediment ( ) Soil ( ) Waste ( ) Leachate ( ) EPTox ( ) TCLP

b. Contravention of Standards or Guidance Values

Chlorinated volatile organic compounds were detected in exceedance of Class GA standards in groundwater along the western upgradient property boundary (see Table 1):

| | |
|---|---|
| 1,1-Dichloroethene (1,1-DCE) | 10 ug/l |
| 1,1-Dichloroethane (1,1-DCA) | 40 ug/l |
| 1,1,1-Trichloroethane (TCA) | 60 ug/l |

No other exceedances of Class GA groundwater standards or guidance values were detected.

No VOCs were detected in storm water dry well sediment at concentrations exceeding NYSDEC Recommended Soil Cleanup Objectives (see Table 2).

**11. CONCLUSIONS**

1. The facility's sanitary system, which was cleaned out in 1997 due to elevated levels of chlorinated solvents (PCE, TCE and 1,2-DCE), is currently not a source of groundwater contamination.
2. Since elevated concentrations of 1,1-DCE, 1,1-DCA and TCA were detected in groundwater along the western (upgradient) property boundary and these compounds were not detected in the on-site sanitary system prior to remediation or in the storm water dry well sediment sample collected by the SCDHS in 1996, an off-site upgradient contaminant source is indicated.

**12. SITE DATA**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| a. Nearest Surface Water: | Distance | 9,000 ft | Direction | SE | Classification | C | |
| b. Nearest Groundwater: | Depth | 20 ft | Flow Direction | S-SE | (X) Sole Source | ( ) Primary | ( ) Principal |
| c. Nearest Water Supply: | Distance | 4,000 ft. | Direction | S-SE | Active | (X) Yes | ( ) No |
| d. Nearest Building: | Distance | 0 ft. | Direction | — | Use | Manufacturing | |

| | | | | | |
|---|---|---|---|---|---|
| e. In State Economic Development Zone? | ( ) Y | (X) N | i. Controlled Site Access? | (X) Y | ( ) N |
| f. Crops or livestock on site? | ( ) Y | (X) N | j. Exposed hazardous waste? | ( ) Y | (X) N |
| g. Documented fish or wildlife mortality? | ( ) Y | (X) N | k. HRS Score | | |
| h. Impact on special status fish or wildlife resource? | ( ) Y | (X) N | l. For Class 2: Priority Category | | |

| 13. SITE OWNER'S NAME | 14. ADDRESS | 15. TELEPHONE NUMBER |
|---|---|---|
| United Equities Corporation | 100 Field Street, West Babylon, NY 11704 | (631) 293 - 1998 |

| 16. PREPARER | 17. APPROVED |
|---|---|
| Signature Date | Signature Date |
| Name, Title, Organization | Name, Title, Organization |

## 2.0 USEPA SITE INVESTIGATION QUESTIONNAIRE

# USEPA SITE INSPECTION QUESTIONNAIRE

## RICHARD MANNO AND COMPANY SITE
## WEST BABYLON, SUFFOLK COUNTY, NEW YORK

**OCTOBER 2002**

**SUBMITTED BY:**

_____

**xxxxxxxxxxxxxxxxxxxxxx**
**SITE MANAGER**

_____

**xxxxxxxxxxxxxxxxxxxxx**
**TASK LEADER**

## SITE SUMMARY

Provide a brief description of the site and its operational history. State the site name, owner, operator, type of facility and operations, size of property, active or inactive status and years of waste generation. Summarize waste treatment, storage or disposal activities that have or may have occurred at the site; note whether these activities are documented or alleged. Identify all source types and prior spills, floods or fires. Summarize highlights of the preliminary site assessment (PSA) and other investigations if available. Include the following:

### Site Conditions And Background

1. Physical Location (address, latitude, longitude, map reference)

   *The Richard Manno and Company Site is located at latitude 40°44'11" and longitude 73°22'41", on the USGS Amityville, New York quadrangle (Figure 1). The property address is 42 Lamar Street, West Babylon, New York. The site is located on the west side of Lamar Street between Edison Avenue and Patton Avenue.*

2. Site Characteristics

   *The site is approximately 0.9 acre in area. A one-story masonry building occupies the northern portion of the property with a parking lot to the south (see Figure 2). The parking lot contains six storm water dry wells. The sanitary system for the building is located in the northeastern portion of the property in the front of the building.*

3. Release Or Threatened Release Into the Environment of a Hazardous Substance or Pollutant or Contaminant

   *Based on analytical results from sediment and groundwater samples collected during this PSA, the site is currently not releasing hazardous substances to the environment. Chlorinated volatile organic compounds were detected at concentrations above Class GA groundwater standards in a groundwater sample collected along the western (upgradient) property boundary.*

4. Site Assessment Activities and Observations

   *The current PSA commenced in December 2000, with a review of NYSDEC and Suffolk County Department of Health Services (SCDHS) files. An access agreement between the property owner (United Equities Corporation) and the NYSDEC was executed in August 2001. A site inspection was then conducted by representatives of*

*the NYSDEC and Dvirka and Bartilucci Consulting Engineers (D&B) to finalize the scope of work for the sampling program.*

*The sampling program included collection of one sediment sample from each of the six storm water dry wells in the parking lot south of the building and collection of nine shallow/water table groundwater samples at two upgradient off-site locations, six on-site locations and one downgradient off-site location.*

*The PSA sampling program was conducted on November 12 and 13, 2001. The sediment samples were collected from the upper 1 to 3 feet of material at the base of each storm water dry well using the direct-push sampling method. The samples were screened for volatile organic compounds (VOCs) using an organic vapor analyzer equipped with a photoionization detector (PID). The groundwater samples were collected from the upper 5 feet of the saturated zone using the direct-push sampling method.*

*The sediment and groundwater samples were analyzed for VOCs. The sampling results are discussed in Part III.*

5. CERCLA Status

*Not listed as a CERCLIS site.*

6. Other Actions to Date

*Sediment samples collected from the on-site sanitary system by the SCDHS in November 1996, contained tetrachloroethene (PCE) at 120,000 micrograms per kilogram (ug/kg), trichloroethene (TCE) at 1,200,000 ug/kg and 1,2- dichloroethene (1,2-DCE) at 1,402,300 ug/kg. Based on these results, the sanitary leaching pools were cleaned-out in January 1997. Due to post-excavation samples with elevated levels of PCE, TCE and 1,2-DCE, additional excavation below the sanitary leaching pools was performed in January, March, April and August 1997. A total of 26 cubic yards of material was removed from the pools and disposed off-site. No VOCs were detected in post-excavation samples collected in August 1997.*

7. State and Local Authorities Role

*The SCDHS has conducted inspections of the site since at least 1982, including both the current and the previous occupants. The clean-out of the sanitary system in 1997 was conducted with SCDHS oversight.*

**Possible Threat to Public Health or Welfare or the Environment, and Statutory and Regulatory Authorities**

1. Possible Threats to Public Health or Welfare

   *VOCs were not detected at concentrations above NYSDEC Recommended Soil Cleanup Objectives (RSCOs) in any of the storm water dry well sediment samples. VOCs were detected at concentrations above NYSDEC Class GA groundwater standards in one sample at the upgradient property boundary indicating an upgradient contaminant source. Based on these results, the site does not currently represent a threat to public health or welfare.*

2. Possible Threats to the Environment

   *VOCs were detected at concentrations above NYSDEC Class GA groundwater standards in only one sample collected at the upgradient property boundary. As a result, the groundwater resource has been degraded by an off-site source.*

3. Permits - Local, State, Federal

| ***Permit*** | ***Permit Number*** | ***Date Issued*** | ***Regarding*** |
|---|---|---|---|
| *Certificate of Occupancy* | --- | *10/27/64* | *Original construction* |
| *Certificate of Occupancy* | --- | *9/22/82* | *Addition to west and north areas of building* |

**Expected Change in the Environmental Conditions: Should Action be Delayed or Not Taken as Consistent with Report Information and Recommendation**

*Based on analysis of groundwater samples collected upgradient of the site, on-site and downgradient of the site, no impacts to groundwater due to site operations were identified. In addition, no VOCs were detected at levels exceeding NYSDEC RSCOs in any of the sediment samples collected from on-site storm water dry wells. Therefore, based on the results of this PSA and previous remediation of the on-site sanitary system, no additional investigation or remedial actions are recommended for the site. Investigation of upgradient properties should be conducted to identify the source and extent of the detected groundwater contamination.*

Enforcement History of the Site

*Based on analytical results of sediment samples collected from the sanitary system in 1996, the SCDHS required that contaminated sediment/soil be removed from the sanitary system for off-site disposal. This work was conducted with SCDHS oversight in January, March, April and August, 1997.*

## LOCATION MAP

Provide a location map. Indicate site location, site address, latitude, longitude, USGS map reference (quadrangle name) and north arrow.

*See Figure 1.*

## SITE SKETCH

Provide a sketch of the site drawn to scale. Indicate all pertinent features of the site and nearby environments including: delineation of site boundary, land cover/trees and other vegetation, utilities (water, electrical, gas, sewage, storm drains), sources of wastes, areas of visible and buried wastes, buildings, residences, access roads, parking areas, fences or other barriers restricting access to the site, fields, drainage channel or pathways, water bodies, wells, sensitive environments and other features such as hills and valleys. Indicate a north arrow.

*See Figure 2.*

**SITE ASSESSMENT REPORT: SITE INSPECTION**

**PART I: SITE INFORMATION**

1a. Site Name/Alias *Richard Manno and Company*

Street *42 Lamar Street*

City *West Babylon* State *New York* Zip *11704*

2. County *Suffolk* County Code *52* Cong. Dist. *NY-2*

3. CERCLIS ID No. *Not Assigned*

4a. Tax Map No.

Section No. *75* Block No. *2* Lot No. *24*

5. Latitude *40°44'11"* Longitude *73°22'41"*

USGS Quads. *Amityville, NY*

6. Approximate size of site *0.9 acre*

7 Owner *United Equities Corporation* Telephone No. *(516) 293 - 1998*

Street *100 Field Street*

City *West Babylon* State *New York* Zip *11704*

9 Type of Ownership

*X* Private ____ Federal ____ State

____ County ____ Municipal ____ Unknown ____ Other

10 Owner/Operator Notification on File

____ RCRA 3001 ____ Date ____ CERCLA 103c ____ Date

*X* None ____ Unknown ____ Other

11a. Permit Information

| Permit | Permit No. | Date Issued | Regarding |
|---|---|---|---|
| *Certificate of Occupancy* | --- | *10/27/64* | *Original Construction* |

| | | | |
|---|---|---|---|
| *Certificate of Occupancy* | --- | *9/22/82* | *Addition to west and north areas of building* |

12. Site Status

_X_ Active _____ Inactive _____ Unknown

13a. Years of Operation *1994 to the Present*

14. Identify the types of waste sources (e.g., landfill, surface impoundment, piles, stained soil, above or below ground tanks or containers, land treatment, etc.) on-site. Initiate as many waste unit numbers as needed to identify all waste sources on site.

(a) Waste Sources

| Waste Unit No. | Waste Source Type | Facility Name for Unit |
|---|---|---|
| *None identified.* | | |

(b) Other Areas of Concern *None identified*

Identify any miscellaneous spills, dumping, etc. on-site; describe the materials and identify their locations on site.

*None identified.*

15. Describe the regulatory history of the site, including the scope and objectives of any previous response actions, investigations and litigation by State, Local and Federal agencies (indicate type, affiliation, date of investigations).

*Investigation of the sanitary system was conducted by the SCDHS in October 1996, when chlorinated solvents (PCE, TCE and 1,2-DCE) were detected at concentrations exceeding SCDHS criteria. A total of 26 cubic yards of impacted soil/sediment was excavated for off-site disposal in January, March, April and August 1997. No VOCs were detected in a post-excavation sample collected in August 1997, indicating that no further removal was required.*

*The NYSDEC prepared a Site Investigation Information Form for the site in July 1999. This document summarized the information provided by the SCDHS regarding the clean-out of the sanitary system and recommended that groundwater beneath the site be targeted for further investigation.*

a) Is the site or any waste source subject to Petroleum Exclusion? Identify petroleum products and by products that justify this decision.

*No.*

b) Are pesticides produced and stored on site? Does the facility apply pesticides (FIFRA or Federal Insecticide, Fungicide, and Rodenticide Act) to any part of the property?

*No.*

c) Is the site or any waste source subject to RCRA Subtitle C (briefly explain)?

*No.*

d) Is the site or any waste source maintained under the authority of the Nuclear Regulatory Commission (NRC)?

*No.*

16. Information available from:

Contact *Hayden Brewster* Agency *NYSDEC* Telephone No. *518-402-4562*

Preparer *Albert Jaroszewski* Company D&B Date *7/18/02*

## PART II: WASTE SOURCE INFORMATION

For each of the waste units identified in Part I, complete the following items.

Waste Unit *None identified* - _____

**Source Type:**

| | | | |
|---|---|---|---|
| _____ | Landfill | _____ | Contaminated Soil |
| _____ | Surface Impoundment | _____ | Pile |
| _____ | Drums | _____ | Land Treatment |
| _____ | Tanks/Containers | _____ | Other (Sediment) |

**Description:**

1. Describe the types of containers, impoundments or other storage systems (i.e. concrete lined surface impoundment) and any labels that may be present.

   *NA*

2. Describe the physical condition of the containers or storage systems (i.e. rusted and/or bulging metal drums).

   *NA*

3. Describe any secondary containment that may be present (e.g. drums on concrete pad in building or above ground tank surrounded by berm).

   *NA*

**Hazardous Waste Quantity**

*NA*

**Hazardous Substances/Physical State**

*NA*

## PART III: SAMPLING RESULTS

### Existing Analytical Data

Review and summarize any previously existing groundwater, soil, sediment, surface water, air, or waste sample analyses. Discuss the precision, accuracy, representativeness and completeness of previous sampling efforts. Describe the concentrations of chemicals of concern based on available data and media impacted. These parameters should be evaluated by examining the results of routine quality control procedures. Any suspected problems with this data should be identified. This is especially if the data cannot be used for HRS purposes. Any problems should receive the immediate attention of the work assignment manager. Identify data gaps.

*Sediment samples collected from the site's sanitary system by the SCDHS in November 1996 contained PCE, TCE and 1,2-DCE at concentrations between 120 and 1,403 mg/kg. The validity of these data cannot be assessed since QA/QC data and/or data validation/usability summaries were not available.*

### Site Inspection Sampling Results

As appropriate to the particular site collect samples from air, drainage ditches, soil (surface and subsurface), standing pools of liquids, storage containers, stream and pond surface water, sediments (up gradient, at suspected source and down gradient) and ground water (up gradient, beneath site and down gradient). Samples are to be used for NPL listing purposes or to support an EE/CA (Engineering Evaluation/Cost Analysis) (as opposed to sampling used to determine immediate fire, explosion or direct contact hazards), and should go through CLP for full TAL and TCL analysis. Background samples are always necessary to document an observed release. Those samples that are considered background samples should be clearly identified.

*Nine groundwater samples and six storm water dry well sediment samples were collected during the field program for the PSA at the Richard Manno and Company Site. The samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) by NYSDEC ASP Method 95-1. Sample analysis was performed by Mitkem Corporation, a subcontractor to Dvirka and Bartilucci Consulting Engineers (D&B).*

*The data package was validated in accordance with NYSDEC ASP requirements by Nancy Potak, a subcontractor to D&B.*

*Results for all environmental and QA/QC samples (calibrations, blanks, spikes and spike duplicates) have been reviewed for calculation and transcription errors as well as for completeness and compliance with NYSDEC ASP requirements to yield a 100% validation. The validation report submitted by Nancy Potak is included in Appendix A. The findings of the data validation report are summarized below.*

*All samples were analyzed within NYSDEC ASP specified holding times and all calibrations met contract requirements.*

*The spike recoveries for the soil samples (MN DW3SD10115MS and MN DW3SD10115MSD) were slightly below QC limit, and therefore, all the soil samples results have been qualified as estimated possibly biased low.*

*The methylene chloride result for samples MN DW3SD105115 and MN DW6SD105115 has been qualified as non-detect due to laboratory contamination. The method blank associated with these samples also contained methylene chloride at a concentration greater than that detected in either sample.*

*No other problem qualifications were found with the sample results. All data are deemed valid and usable for environmental assessment purposes as qualified above.*

*No VOCs were detected at concentrations above NYSDEC Recommended Soil Cleanup Objectives in any of the site's storm water dry wells. Only one shallow groundwater sample (GP-4), collected along the western upgradient property boundary, contained VOCs at concentrations exceeding Class GA groundwater standards. At this location, chlorinated VOCs were detected as follows:*

| *Constituent* | *Concentration (ug/l)* |
|---|---|
| *1,1-DCE* | *10* |
| *1,1-DCA* | *40* |
| *TCA* | *60* |

## PART IV: HAZARD ASSESSMENT

### Groundwater Route

1. Describe the likelihood of a release of contaminant(s) to the groundwater as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release, define the supporting analytical evidence and relationship to background.

*There has not been an observed release to groundwater from the site. Groundwater impacted by VOCs was detected at the upgradient property boundary, indicating an off-site upgradient source.*

2. Describe the aquifer of concern; include information such as depth, thickness, geologic composition, areas of karst terrain, permeability, overlying strata, confining layers, interconnections, discontinuities, depth to water table, groundwater flow direction.

   *The study area is underlain by glacial deposits, consisting of fine to medium grained sand and gravel, which comprise the Upper Glacial aquifer. At the site, the Upper Glacial aquifer extends to a depth of approximately 90 feet below ground surface, with its lower boundary defined by the Gardiners Clay. Regional groundwater flow is toward the southeast to south-southeast.*

   *Ref. No. 1, 3*

   *During the field investigation, the minimum depth to groundwater was approximately 20 feet below ground surface. This results in a maximum saturated thickness of 70 feet for the Upper Glacial aquifer in the site vicinity.*

3. What is the depth from the lowest point of waste disposal/storage to the highest seasonal level of the saturated zone of the aquifer of concern?

   *The deepest storm water dry well sediment samples were collected to a depth of 12 feet below ground surface (DW-1 and DW-4). With a depth to groundwater at the site of approximately 20 feet below ground surface, the minimum distance between the sampled sediments and the water table is approximately 8 feet.*

4. What is the permeability value of the least permeable continuous intervening stratum between the ground surface and the top of the aquifer of concern?

   *No evaluation of stratigraphy was made during the PSA.*

5. What is the net precipitation at the site (inches)?

   *Between 1949 and 2001, the average yearly precipitation for Long Island was 48.5 inches.*

   *Ref. No. 9*

6. What is the distance to and depth of the nearest well that is currently used for drinking purposes?

   *The nearest well field utilized for public water supply is located on Gordon Avenue, approximately 4,000 feet from the site and owned and operated by the Suffolk County Water Authority (SCWA). According to the SCWA, the wells in this field (S-51298 and*

*S-65505) are screened in the Magothy aquifer at depths of 652 feet and 660 feet below ground surface, respectively.*

*Ref. No. 11*

7. If a release to groundwater is observed or suspected, determine the number of people that obtain drinking water from wells that are documented or suspected to be actually contaminated by hazardous substance(s) attributed to an observed release from the site.

*No release to groundwater from the site was observed.*

8. Identify the population served by wells located within 4 miles of the site that draw from the aquifer of concern.

*The area surrounding the site is served by the Suffolk County Water Authority, whose wells are screened in the Magothy aquifer. Therefore, the population served by the shallowest aquifer of concern (Upper Glacial aquifer) is likely very limited or none at all. The estimated population served by wells completed in the Magothy aquifer (determined by population served, site knowledge and water district boundaries) is summarized below:*

| **Distance** | **Population** |
|---|---|
| | **Aquifer** |
| 0 - ¼ mile | *0* |
| >¼ - ½ mile | *0* |
| >½ - 1 mile | *8,652* |
| >1 – 2 miles | *38,828* |
| >2 – 3 miles | *56,969* |
| >3 – 4 miles | *96,209* |

*Ref. Nos. 11, 12*

Is a designated well head protection area within 4 miles of the site?

*Yes, a wellhead protection area has been designated for the public water supply well field on Gordon Avenue approximately 4,000 feet southeast of the site.*

Does a waste source overlie a designated or proposed wellhead protection area? If a release to groundwater is observed or suspected, does a designated or proposed wellhead protection area lie within the contaminant boundary of the release?

*No, the site does not overlie a designated wellhead protection area.*

9. Identify one of the following resource uses of groundwater within 4 miles of the site (i.e., commercial livestock watering, ingredient in commercial food preparation, supply for commercial aquaculture, supply for major, or designated water recreation area, excluding

drinking water use, irrigation (5-acre minimum) of commercial food or commercial forage crops, unusable).

*None of these groundwater uses were identified at the site location or at nearby facilities. Based on the absence of identified groundwater impacts due to site operations, a more in-depth analysis was not performed with NYSDEC concurrence.*

**Surface Water Route**

10. Describe the likelihood of a release of contaminant(s) to surface water as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release, define the supporting analytical evidence and relationship to background.

*Release to surface water would be via groundwater to Santapogue Creek, which is located approximately 9,000 feet southeast of the site. However, since there was no indication of a release to groundwater from the site, no release to surface water is likely.*

11. Identify the nearest down slope surface water. If possible, include a description of possible surface drainage patterns from the site.

*The nearest down slope surface water body is Santapogue Creek. The site is not located close enough to the creek to drain directly to the surface water.*

12. What is the distance in feet to the nearest down slope surface water? Measure the distance along a course that runoff can be expected to follow.

*The distance to Santapogue Creek from the site is approximately 9,000 feet. However, runoff to the creek is not likely due to the recharge of storm water to on-site dry wells.*

13. Identify all surface water body types within 15 downstream miles.

| Name | Water Body Type | Flow (cfs) | Saline/Fresh/Brackish |
|---|---|---|---|
| *Santapogue Creek* | *Creek/river* | *< 20* | *Fresh* |
| *Neguntatogue Creek* | *Creek/river* | *< 20* | *Fresh* |
| *Strong Creek* | *Creek/river* | *Not available* | *Fresh* |
| *Belmont Lake* | *Lake* | *Not available* | *Fresh* |
| *Carlls River* | *River* | *Not available* | *Fresh* |
| *Southards Pond* | *Pond* | *Not available* | *Fresh* |
| *Great South Bay* | *Bay* | *Not available* | *Saline* |
| *Atlantic Ocean* | *Ocean* | *Not available* | *Saline* |

*Ref. No. 8*

14. Determine the 2-year, 24-hour rainfall (inches) for the site.

*Based on weather data generated by Brookhaven National Laboratory, the maximum 24-hour rainfall over a 2 year period (2000-2001) was 3.5 inches.*

*Ref. No. 9*

15. Determine size of the drainage area (acres) for sources at the site.

*Since storm water drainage is discharged to on-site dry wells, the drainage area is limited to the 0.9 acre of the property.*

16. Describe the predominant soil group in the drainage area.

*According to the Soil Survey of Suffolk County, the area is classified as Riverhead Sandy Loam, which consists of deep, well drained, moderately coarse textured soils.*

*Ref. No. 4*

17. Determine the type of floodplain that the site is located within.

*The site location does not fall within a designated flood plain according to the National Flood Insurance Program flood insurance rate map.*

*Ref. No. 14*

18. Identify drinking water intakes in surface waters within 15 miles downstream of the point of surface water entry. For each intake identify: the name of the surface water body in which the intake is located, the distance in miles from the point of surface water entry, population served, and stream flow at the intake location.

*All drinking water is supplied by public water which is obtained from wells.*

*Ref. No. 11*

19. Identify fisheries that exist within 15 miles downstream of the point of surface water entry. For each fishery specify the following information:

*No designated fisheries were identified. Based on classification for non-contact recreation, the following surface water bodies are potential fisheries:*

| Name | Water Body Type | Flow (cfs) | Saline/Fresh/Brackish |
|---|---|---|---|
| *Santapogue Creek* | *Creek/river* | *< 20* | *Fresh* |
| *Neguntatogue Creek* | *Creek/river* | *< 20* | *Fresh* |
| *Strong Creek* | *Creek/river* | *Not available* | *Fresh* |
| *Belmont Lake* | *Lake* | *Not available* | *Fresh* |

| Name | Water Body Type | Flow (cfs) | Saline/Fresh/Brackish |
|---|---|---|---|
| *Southards Pond* | *Pond* | *Not available* | *Fresh* |
| *Carlls River* | *River* | *Not available* | *Fresh* |
| *Great South Bay* | *Bay* | *Not available* | *Saline* |
| *Atlantic Ocean* | *Ocean* | *Not available* | *Saline* |

*According to the year 2001 Fish Stocking List for DEC Region 1, brown trout and rainbow trout were stocked in Belmont Lake, Southards Pond and the Carlls River. These water bodies are located fifteen miles downstream of the site, and are the nearest water bodies where fish stocking was reported.*

*Ref. No. 10, 15*

20. Identify surface water sensitive environments that exist within 15 miles of the point of surface water entry.

*No surface water sensitive environments were identified in the site vicinity.*

21. If a release to surface water is observed or suspected, identify any intakes, fisheries, and sensitive environments from question Nos. 18-20 that are or may be actually contaminated by hazardous substance(s) attributed to an observed release of from the site.

*There has been no observed or suspected release to surface water from the site.*

22. Identify whether the surface water is used for any of the following purposes, such as: irrigation (5 acre minimum) of commercial food or commercial forage crops, watering of commercial livestock, commercial food preparation, recreation, potential drinking water supply.

*The surface water body in the area, Santapogue Creek, is utilized for non-contact recreational purposes (i.e., boating, fishing).*

*Ref. 15*

**Soil Exposure Pathway**

23. Determine the number of people that occupy residences or attend school or day care on or within 200 feet of observed contamination.

*The area surrounding the site is industrial/commercial. No residences, schools or day care centers are located within 200 feet of the facility.*

24. Determine the number of people that regularly work on or within 200 feet of observed contamination.

*The Richard Manno and Company facility employs approximately 50 people.*

25. Identify terrestrial sensitive environments on or within 200 feet of observed contamination.

*The area is almost completely paved. No terrestrial sensitive environments were identified.*

26. Identify whether there are any of the following resource uses, such as commercial agriculture, silviculture, livestock production or grazing within an observed or suspected soil contamination.

*Not applicable.*

**Air Route**

27. Describe the likelihood of release of hazardous substances to air as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them the site. For observed release, define the supporting analytical evidence and relationship to background.

*The low levels of VOCs detected in the groundwater are not a likely volatilization concern for ambient air quality and inhalation.*

*No VOCs were detected in the dry well sediments at concentrations above RSCOs. Additionally, no PID readings significantly above background levels were detected during sediment sampling of the dry wells. As a result, a release to air is considered unlikely.*

28. Determine populations that reside within 4 miles of the site.

| Distance | Population |
|---|---|
| >¼ - ½ mile | *0* |
| >½ - 1 mile | *8,652* |
| >1 - 2 miles | *38,828* |
| >2 - 3 miles | *56,969* |
| >3 - 4 miles | *96,209* |

*Ref. No. 5*

29. Identify sensitive environments, including wetlands and associated wetland acreage, within 4 miles of the site.

*A review of potentially sensitive environments, including wetlands, in the vicinity of the Richard Manno and Company site was conducted. The following environmental parameters were considered in the review:*

- *Regulated Wetlands*
- *Endangered, Rare, Threatened, or Protected Plant & Animal Species*
- *Designated Significant Fish and Wildlife Habitats*
- *Coastal Zone Management (CZM) Areas*
- *Designated Wild, Scenic, and Recreational Rivers*
- *Special Groundwater Protection Areas*
- *Parks and Recreation Areas*

***Regulated Wetlands***

*A review of Federal and State Wetlands Maps was conducted to identify regulated wetlands in, adjacent, or within four miles of the Richard Manno and Company Site. Regulated wetlands in New York State are delineated on official NYSDEC Freshwater and Tidal Wetlands maps. Wetlands regulated by the federal government are delineated on official United States Fish and Wildlife Service National Wetlands Inventory (NWI) maps. The following is a summary of the wetlands within various search radii.*

*In, adjacent, or within 100 feet: Based on the review of the above referenced maps, there are no Federal or State regulated wetlands in, adjacent, or within 100 feet of the project site.*

*Within a 1-mile radius: There are five NWI wetlands ranging in size from less than one acre to five acres. Two of these wetlands are upgradient of the site, one is lateral to the east, one is to the southeast and one is to the southwest. All of the NWI wetlands in this radius are classified as Palustrine, flat or open water systems of a temporary nature, resulting from excavations. There are no NYSDEC wetlands within one mile of the site.*

*1 to 2 miles: There are approximately 17 NWI wetlands ranging in size from less than one acre to five acres, and one large wetland system. The small NWI wetlands are classified as Palustrine, flat or open water of a temporary nature, resulting from excavations. The large NWI system is approximately 25 acres. This is a Palustrine forested system associated with the Belmont Lake State Park. This system is also classified as a NYSDEC freshwater wetland. Two other NYSDEC freshwater wetlands are delineated north of the Manno site.*

*2 to 3: There are approximately 30 regulated NWI wetlands lateral or downgradient, ranging is size from less than one acre to five acres. These are also temporary, flat or open water Palustrine wetlands resulting from excavations. There is a 40-acre NWI wetland system, associated with Santapogue Creek, to the southeast. This system is also classified as a NYSDEC freshwater wetland.*

*3 to 4 miles: There are approximately 42 NWI Wetlands lateral or downgradient ranging in size from less than one acre to five acres. Most of these are temporary, flat or open water Palustrine wetlands resulting from excavations. There are also three NWI wetland systems. One wetland is associated with Belmont Lake State Park to the east and another is associated with Santapogue Creek to the south. A third NWI wetland system,*

*associated with Sampawams Creek, occurs due east of the site. All are classified as forested Palustrine systems. These three wetland areas are also regulated as NYSDEC freshwater wetlands.*

***Endangered, Rare, Threatened, Protected Species***

*The NYSDEC Natural Heritage Program maintains files and databases on recorded occurrences of Endangered, Rare, Threatened, and Protected species. In order to safeguard the species, the records do not reveal the exact locations of the occurrences. The records may indicate a "precision value." Records with a precision value of "M" indicate the species may possibly occur within the project area in appropriate habitats. Records with a precision value of "S" or with a blank precision value indicate the species are known to be in a location that may be impacted by the proposed action.*

*For the Richard Manno and Company Site, the Natural Heritage report indicates recorded occurrences of both Endangered and Threatened vascular plants with a precision value of M, indicating that the species may occur in the vicinity of the project area in appropriate habitat. The Endangered species are the SOAPWORT GENTIAN (Gentiano saponaria) and the COASTAL GOLDENROD (Solidago elliottii). The Threatened species is the SOUTHERN YELLOW FLAX (Linum medium var texanum). However, the indicated location of three of the occurrences is listed as Wyandanch, which is northeast of the project site. The other occurrence of the SOUTHERN YELLOW FLAX is listed as Pinelawn-south of the Railroad. This is not likely in or located adjacent to the site, which is developed and is not an appropriate habitat.*

***Designated Significant Fish and Wildlife Habitats***

*The NYSDEC Natural Heritage Program reports (referenced above) also indicate whether or not the subject sites are within, adjacent to, or in the vicinity of designated fish and wildlife habitats. Based on the report referenced above, there are no such habitats in the vicinity of the Richard Manno and Company Site.*

***Coastal Zone Management Areas***

*The New York State Department of State (NYSDOS) administers the New York State Coastal Management Program (CMP). Any project undertaken on a site that is within the designated Coastal Area, as mapped by the NYSDOS, must demonstrate consistency with the policies of the CMP.*

*The Richard Manno and Company Site is not within a mapped Coastal Zone.*

***Designated Wild, Scenic, and Recreational Rivers***

*Pursuant to the New York State Wild, Scenic and Recreational River System Act (ECL Article 15, Title 27), several rivers in New York State which possess outstanding natural, scenic, historic, ecological, and recreational value shall be preserved and protected.*

*Based on a review of Appendices A and B of Section 15-1713 of the above referenced statute, there are no designated wild, scenic or recreational rivers in the vicinity of the site.*

***Special Groundwater Protection Areas***

*Special Groundwater Protection Areas (SGPA) were identified in the Groundwater Management Program for Long Island (NYSDEC, 1983) and in the 208 Nonpoint Source Management Handbook (Long Island Regional Planning Board, 1984). These areas are defined as significant, largely undeveloped or sparsely developed geographic areas of Long Island that provide recharge to portions of the deep flow aquifer system.*

*The Richard Manno and Company Site is not located in an SGPA. The nearest SGPA is the Woodbury/Melville SGPA, which is more than a mile north (upgradient) of the site. The easternmost fringe of the Oak Brush Plains SGPA is approximately four miles east-northeast of the site.*

***Parks and Recreation Areas***

*The nearest state parks to the site are Belmont Lake State Park and Bethpage State Park. Belmont Lake State Park is approximately 1.6 miles east (lateral to) the site and Bethpage State Park is approximately 3.5 miles northwest (upgradient) of the site.*

30. If a release to air is observed or suspected, determine the number of people that reside or are suspected to reside within the area of air contamination from the release.

*Not applicable, since an air release was not observed and is not suspected.*

31. If a release to air is observed or suspected, identify any sensitive environments, listed in question No. 29, that are or may be located within the area of air contamination from the release.

*Not applicable, since an air release was not observed and is not suspected.*

## REFERENCES


1. Engineering-Science, Inc. September 1992. Volatile Organic Contaminant Plume Tracking Investigation in the Vicinity of the Babylon Landfill.

2. New York State Department of Environmental Conservation. March 1994. Babylon Landfill Operable Unit Number 2, Record of Decision.

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5. Fedelen, Roy (Suffolk County Department of Planning). April 2002. Telecommunication regarding population.

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7. Long Island Regional Planning Board. 1984. 208 Non-point Source Management Handbook.

8. New York State Department of Environmental Conservation. 1998. The 1996 Priority Waterbodies List for Atlantic Ocean/Long Island Sound Basin.

9. Cassella, Victor (Brookhaven National Laboratory). May 2002 Electronic Mail Communication regarding precipitation data for Long Island.

10. New York State Department of Environmental Conservation. 2001. Fish Stocking List for DEC Region 1.

11. Colabufo, Steve (Suffolk County Water Authority). April 2002. Telecommunication regarding population served, interconnections and boundaries and wellhead protection areas.

12. 2001 Long Island Water Conference Directory.

13. Robbins, Sy (Suffolk County Department of Health Services). March 1999. Telecommunication regarding wellhead protection area definition.

14. Federal Emergency Management Agency. 1997. Flood Insurance Rate Map Index Number 36103C0835G.

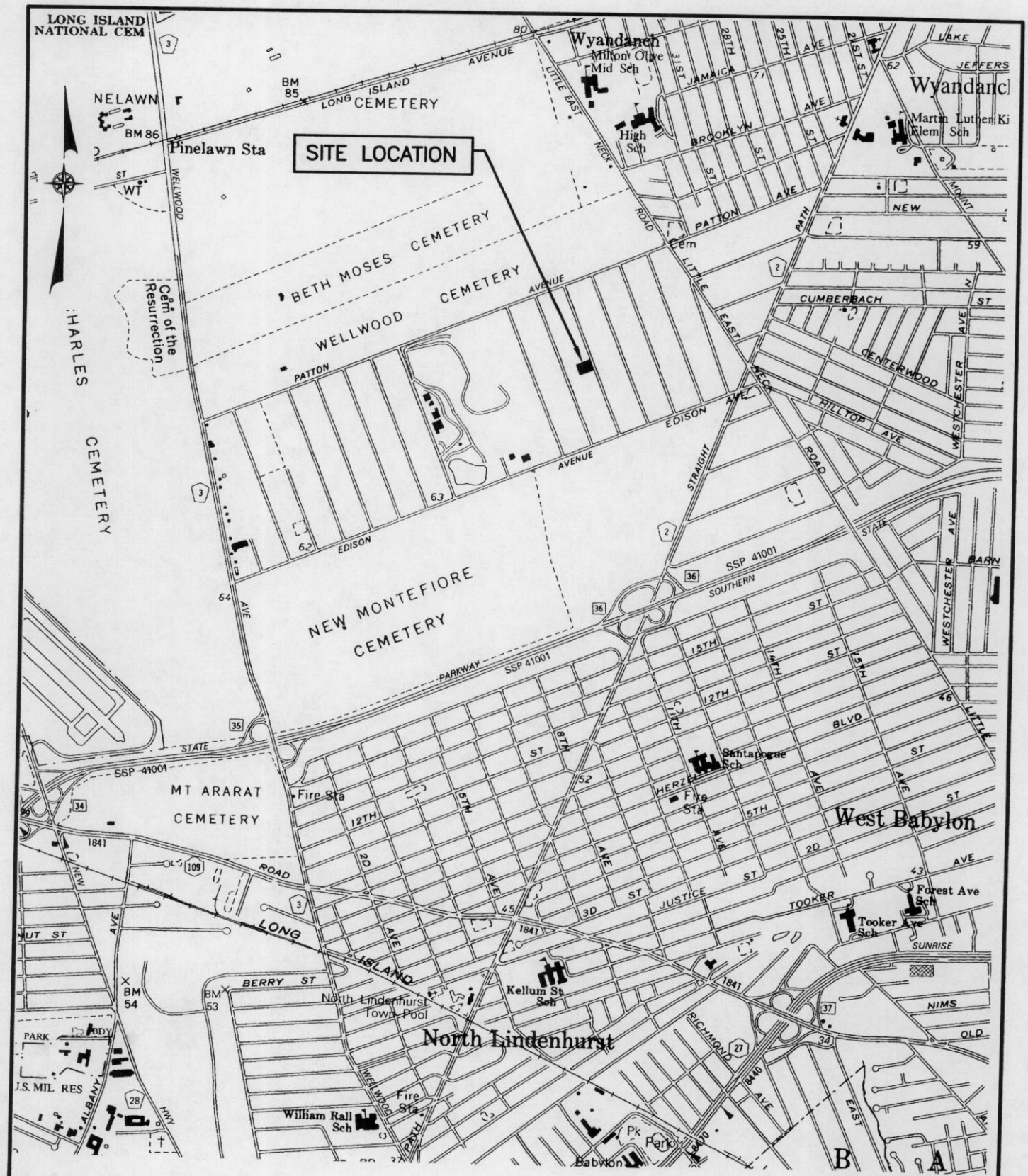
15. Surface water classification information from Article 15 Environmental Conservation Law Book, reviewed at NYSDEC offices.

16. New York State Department of Environmental Conservation. Freshwater Wetlands Maps – Bay Shore West Quadrangle (1994) and Amityville Quadrangle (1975).

17. U.S. Fish and Wildlife Service. National Wetlands Inventory Maps - Bay Shore West Quadrangle (1994) and Amityville Quadrangle (1981).

18. New York State Department of Environmental Conservation Division of Fish, Wildlife and Marine Resources. 1999. Natural Heritage Program Report.

# 3.0 FIGURES



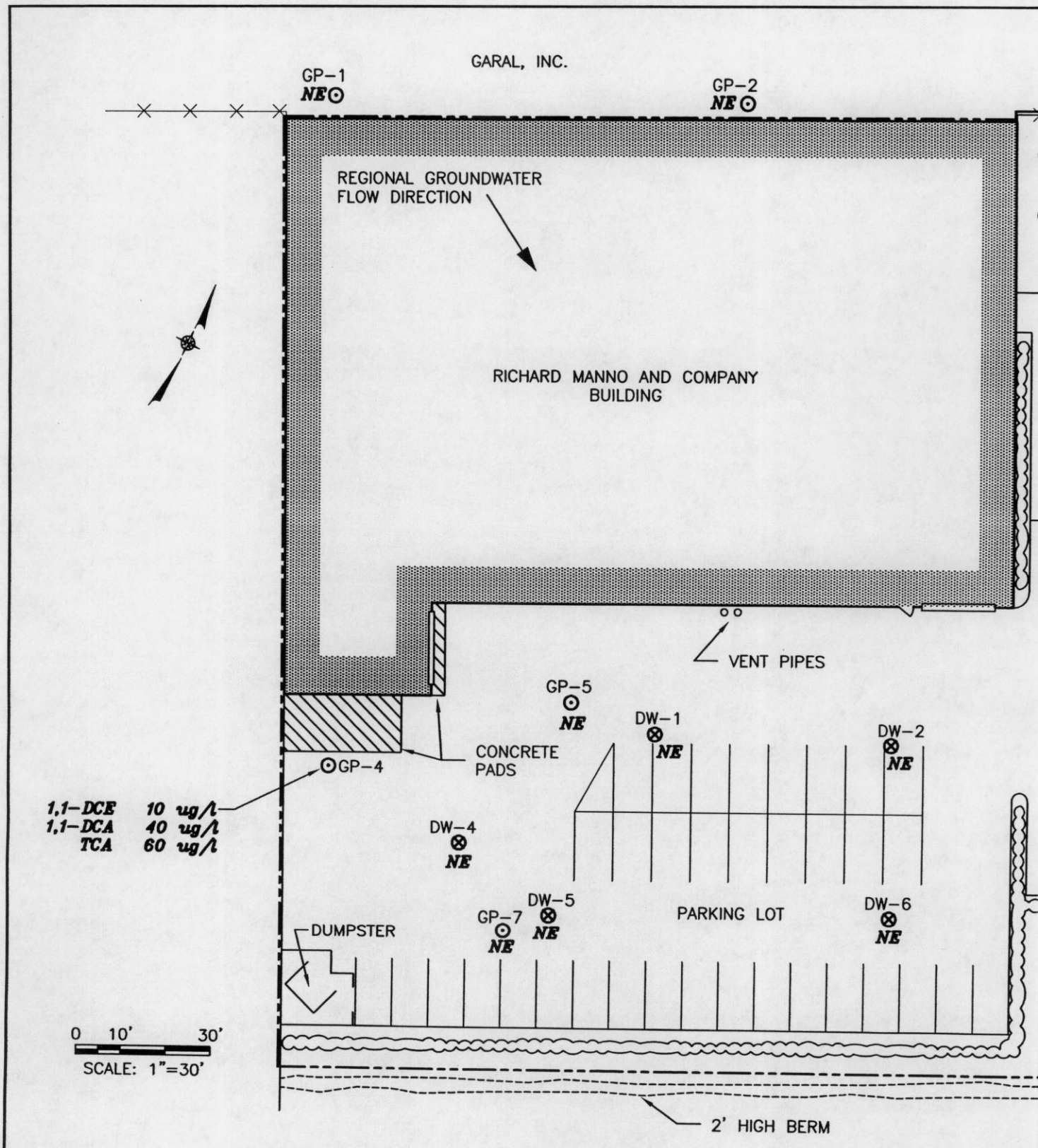

SOURCE: AMYTYVILLE QUADRANGLE NY, 1979

RICHARD MANNO AND COMPANY SITE PRELIMINARY SITE ASSESSMENT
WEST BABYLON, NEW YORK

## SITE LOCATION MAP

Dvirka and Bartilucci
Consulting Engineers
A Division of William F. Cosulich Associates, P.C.

FIGURE 1




RICHARD MANNO AND COMPANY SI
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Dvirka and Bartilucci
Consulting Engineers
A Division of William F. Cosulich Associates, P.C.

**SITE LAYOUT, GROUNDWATER
SAMPLE LOCATIONS, AND EX**

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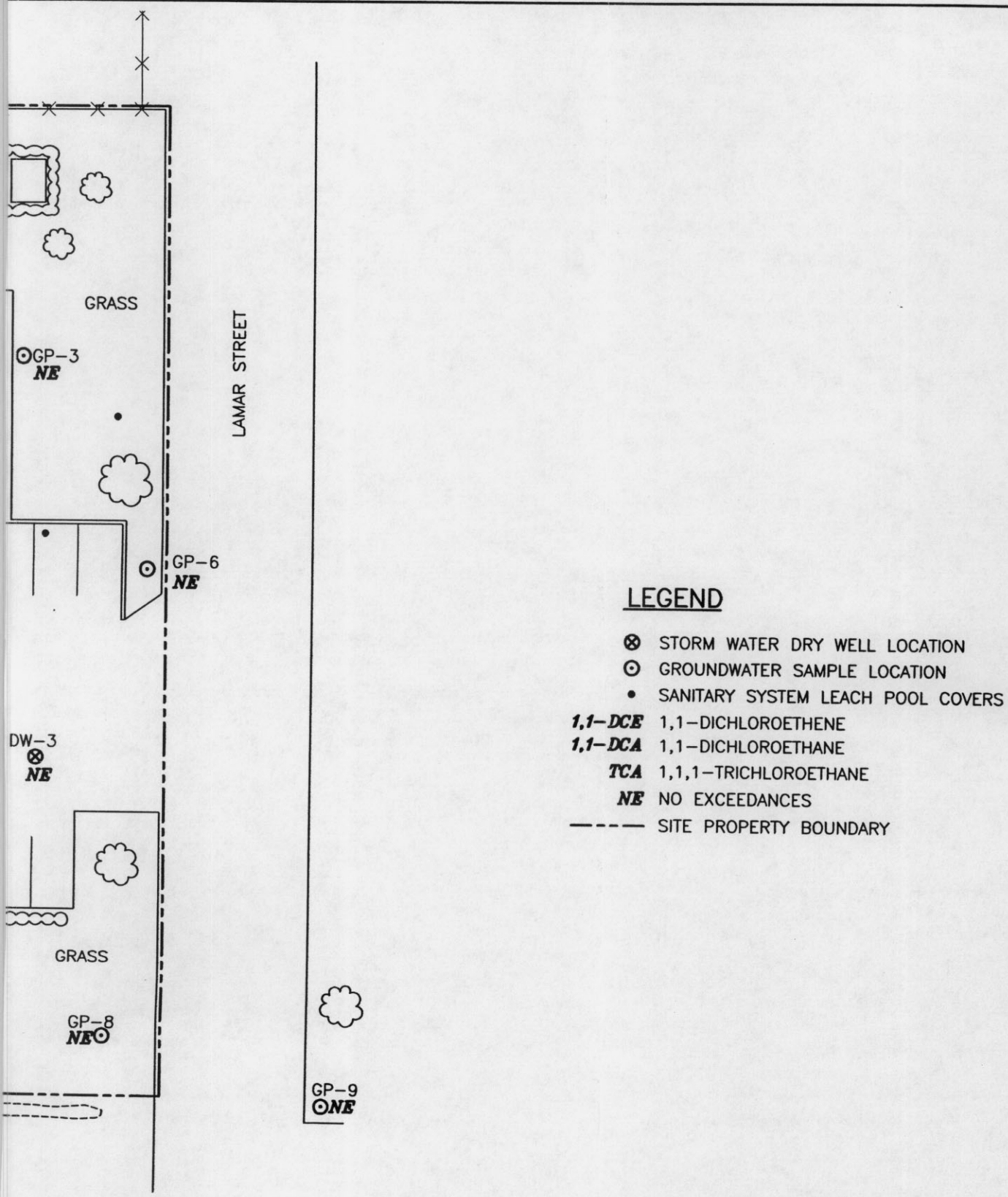


## LEGEND

- ⊗ STORM WATER DRY WELL LOCATION
- ⊙ GROUNDWATER SAMPLE LOCATION
- • SANITARY SYSTEM LEACH POOL COVERS
- ***1,1–DCE*** 1,1–DICHLOROETHENE
- ***1,1–DCA*** 1,1–DICHLOROETHANE
- ***TCA*** 1,1,1–TRICHLOROETHANE
- ***NE*** NO EXCEEDANCES
- ———— SITE PROPERTY BOUNDARY

TE PRELIMINARY SITE ASSESSMENT
N, NEW YORK

**R AND DRY WELL SEDIMENT**
**CCEEDANCES OF STANDARDS**

FIGURE 2

# 4.0 TABLES

Table 1

**DIRECT-PUSH GROUNDWATER SAMPLE RESULTS**
**RICHARD MANNO AND COMPANY SITE PRELIMINARY SITE ASSESSMENT**
**WEST BABYLON, NEW YORK**

| Sample Identification | GP-1 | GP-2 | GP-3 | GP-4 | GP-5 | GP-6 | GP-7 | GP-8 | GP-9 | Contract Required Detection Limit | NYSDEC Class GA Groundwater Standard or Guidance Value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (ft) | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | | |
| Date of Collection | 11/12/01 | 11/12/01 | 11/12/01 | 11/13/01 | 11/13/01 | 11/12/01 | 11/12/01 | 11/12/01 | 11/12/01 | | |
| Dilution Factor | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Chloromethane | U | U | U | U | U | U | U | U | U | 10 | 5 ST |
| Bromomethane | U | U | U | U | U | U | U | U | U | 10 | 5 ST |
| Vinyl Chloride | U | U | U | U | U | U | U | U | U | 10 | 2 ST |
| Chloroethane | U | U | U | U | U | U | U | U | U | 10 | 5 ST |
| Methylene Chloride | U | U | U | U | U | U | U | U | U | 10 | 5 ST |
| Acetone | U | U | U | U | U | U | U | U | U | 10 | 50 GV |
| Carbon Disulfide | U | U | U | U | U | U | U | U | U | 10 | ---- |
| 1,1-Dichloroethene | U | U | U | 10 | U | U | U | U | U | 10 | 5 ST |
| 1,1-Dichloroethane | U | U | U | 40 | U | U | U | U | U | 10 | 5 ST |
| 1,2-Dichloroethene (total) | U | U | U | U | U | U | U | U | U | 10 | 5 ST * |
| Chloroform | U | U | U | U | U | U | U | 2 J | U | 10 | 7 ST |
| 1,2-Dichloroethane | U | U | U | U | U | U | U | U | U | 10 | 0.6 ST |
| 2-Butanone | U | 2 J | U | 60 | U | 5 J | 5 J | U | U | 10 | 50 GV |
| 1,1,1-Trichloroethane | U | U | U | U | U | U | U | U | U | 10 | 5 ST |
| Carbon Tetrachloride | U | U | U | U | U | U | U | U | U | 10 | 50 GV |
| Bromodichloromethane | U | U | U | U | U | U | U | U | U | 10 | 1 ST |
| 1,2-Dichloropropane | U | U | U | U | U | U | U | U | U | 10 | 0.4 ST ** |
| cis-1,3-Dichloropropene | U | U | U | U | U | U | U | U | U | 10 | 5 ST |
| Trichloroethene | U | U | U | U | U | U | U | U | U | 10 | 50 GV |
| Dibromochloromethane | U | U | U | U | U | U | U | U | U | 10 | 1 ST |
| 1,1,2-Trichloroethane | U | U | U | U | U | U | U | U | U | 10 | 1 ST |
| Benzene | U | U | U | U | U | U | U | U | U | 10 | 0.4 ST ** |
| Trans-1,3-Dichloropropene | U | U | U | U | U | U | U | U | U | 10 | 50 GV |
| Bromoform | U | U | U | U | U | U | U | U | U | 10 | ---- |
| 4-Methyl-2-Pentanone | U | U | U | U | U | U | U | U | U | 10 | 50 GV |
| 2-Hexanone | U | U | U | U | U | U | U | U | U | 10 | 5 ST |
| Tetrachloroethene | U | 3 J | 3 J | U | 2 J | U | U | U | U | 10 | 5 ST |
| 1,1,2,2-Tetrachloroethane | U | U | U | U | U | U | U | U | U | 10 | 5 ST |
| Toluene | U | U | U | U | U | U | U | U | U | 10 | 5 ST |
| Chlorobenzene | U | U | U | U | U | U | U | U | U | 10 | 5 ST |
| Ethylbenzene | U | U | U | U | U | U | U | U | U | 10 | 5 ST |
| Styrene | U | U | U | U | U | U | U | U | U | 10 | 5 ST |
| Total Xylenes | U | U | U | U | U | U | U | U | U | 10 | 5 ST |
| Total VOCs | U | 5 | 3 | 110 | 2 | 5 | 5 | 2 | U | | ---- |
| Total VOC TICs | U | U | U | U | U | U | U | U | U | | ---- |

Concentrations in ug/l
U: Compound analyzed for but not detected
J: Compound found at a concentration below the CRDL, value estimated
GV: Guidance Value
ST: Standard
*: Value pertains to cis and trans1,2-Dichloroethene and individually
**: Value pertains to the sum of the isomers
----: Not established
Value exceeds NYSDEC Class GA groundwater standard or guidance value

Table 2

## STORM WATER DRY WELL SEDIMENT SAMPLE RESULTS
## RICHARD MANNO AND COMPANY SITE PRELIMINARY SITE ASSESSMENT
## WEST BABYLON, NEW YORK

| Sample Identification | DW-1 | DW-2 | DW-3 | DW-4 | DW-5 | DW-6 | Contract Required Detection Limit | NYSDEC Recommended Soil Cleanup Objectives |
|---|---|---|---|---|---|---|---|---|
| Sample Depth (ft) | 9.5-12 | 6-8 | 10-11.5 | 11-12 | 10-11.5 | 10.5-11.5 | | |
| Date of Collection | 11/13/01 | 11/13/01 | 11/13/01 | 11/13/01 | 11/13/01 | 11/13/01 | | |
| Dilution Factor | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Chloromethane | U | U | U | U | U | U | 10 | -- |
| Bromomethane | U | U | U | U | U | U | 10 | -- |
| Vinyl Chloride | U | U | U | U | U | U | 10 | 200 |
| Chloroethane | U | U | U | U | U | U | 10 | 1,900 |
| Methylene Chloride | 4 J | 4 J | U | 3 J | U | U | 10 | 100 |
| Acetone | 30 J | 31 J | 4 J | 9 J | U | U | 10 | 200 |
| Carbon Disulfide | U | 2 J | U | U | U | U | 10 | 2,700 |
| 1,1-Dichloroethene | U | U | U | U | U | U | 10 | 400 |
| 1,1-Dichloroethane | U | U | U | U | U | U | 10 | 200 |
| 1,2-Dichloroethene (total) | U | 4 J | U | U | U | U | 10 | 300 |
| Chloroform | U | U | U | U | U | U | 10 | 300 |
| 1,2-Dichloroethane | U | U | U | U | U | U | 10 | 100 |
| 2-Butanone | 7 J | 9 J | U | U | U | U | 10 | 300 |
| 1,1,1-Trichloroethane | U | U | U | U | U | U | 10 | 800 |
| Carbon Tetrachloride | U | U | U | U | U | U | 10 | 600 |
| Bromodichloromethane | U | U | U | U | U | U | 10 | -- |
| 1,2-Dichloropropane | U | U | U | U | U | U | 10 | -- |
| cis-1,3-Dichloropropene | U | U | U | U | U | U | 10 | -- |
| Trichloroethene | U | 71 J | U | U | U | U | 10 | 700 |
| Dibromochloromethane | U | U | U | U | U | U | 10 | N/A |
| 1,1,2-Trichloroethane | U | U | U | U | U | U | 10 | -- |
| Benzene | U | U | U | U | U | U | 10 | 60 |
| Trans-1,3-Dichloropropene | U | U | U | U | U | U | 10 | -- |
| Bromoform | U | U | U | U | U | U | 10 | -- |
| 4-Methyl-2-Pentanone | U | U | U | U | U | U | 10 | 1,000 |
| 2-Hexanone | U | U | U | U | U | U | 10 | -- |
| Tetrachloroethene | 18 J | 72 J | 16 J | 22 J | 9 J | 13 J | 10 | 1,400 |
| 1,1,2,2-Tetrachloroethane | U | U | U | U | U | U | 10 | 600 |
| Toluene | U | 12 J | U | U | U | U | 10 | 1,500 |
| Chlorobenzene | U | U | U | U | U | U | 10 | 1,700 |
| Ethylbenzene | U | 2 J | U | U | U | U | 10 | 5,500 |
| Styrene | U | U | U | U | U | U | 10 | -- |
| Total Xylenes | U | 19 J | U | U | U | U | 10 | 1,200 |
| Total VOCs | 59 | 226 | 20 | 34 | 9 | 13 | | 10,000 |
| Total VOC TICs | U | 18,737 | U | 88 | U | U | | -- |

Concentrations in ug/kg
U: Compound analyzed for but not detected
J: Result qualified as estimated based on validation criteria
--: Not established

Value exceeds NYSDEC Recommended Soil Cleanup Objective

# APPENDIX A

# DATA VALIDATION SUMMARIES

## SUMMARY OF THE ANALYTICAL DATA VALIDATION
## For Richard Mahno

**Soil & Water TCL Volatile Organic Analyses – Method 95-1**
**Samples Collected: November 12th through 13th, 2001**
**Samples Received: November 14, 2001**
**Sample Delivery Group: 82331**
**Laboratory Reference Numbers:**

| | | | |
|---|---|---|---|
| Trip Blank | 82331-010 | Collected 11/12 | (aq) |
| MN GP-1(20) | 82331-001 | Collected 11/12 | (aq) |
| MN GP-2(20) | 82331-002 | Collected 11/12 | (aq) |
| MN GP-3(20) | 82331-003 | Collected 11/12 | (aq) |
| MN GP-3(20)MS | 82331-017 | Collected 11/12 | (aq) |
| MN GP-3(20)MSD | 82331-018 | Collected 11/12 | (aq) |
| MN GP-4(20) | 82331-004 | Collected 11/13 | (aq) |
| MN GP-5(20) | 82331-005 | Collected 11/13 | (aq) |
| MN GP-10(20) | 82331-006 | Collected 11/12 | (aq) |
| MN GP-7(20) | 82331-007 | Collected 11/12 | (aq) |
| MN GP-8(20) | 82331-008 | Collected 11/12 | (aq) |
| MN GP-9(20) | 82331-009 | Collected 11/12 | (aq) |
| MN DW1SD9512 | 82331-011 | Collected 11/13 | (sl) |
| MN DW3SD10115 | 82331-012 | Collected 11/13 | (sl) |
| MN DW5SD10115 | 82331-013 | Collected 11/13 | (sl) |
| MN DW5SD10115MS | 82331-019 | Collected 11/13 | (sl) |
| MN DW5SD10115MSD | 82331-020 | Collected 11/13 | (sl) |
| MN DW41112 | 82331-014 | Collected 11/13 | (sl) |
| MN DW2SD68 | 82331-015 | Collected 11/13 | (sl) |
| MN DW6SD105115 | 82331-016 | Collected 11/13 | (sl) |

Soil and water samples were validated for analyses of volatile organics. A complete analytical validation was performed based upon the following parameters:

* - Data Completeness
* - GC/MS Tuning
* - Holding Times
- Calibrations
- Laboratory Blanks
- Field Blank
* - Trip Blanks
* - Holding Blank
- QA Blank
* - System Monitoring Compound Recoveries
* - Internal Standard Recoveries
- Matrix Spike / Matrix Spike Duplicate
* - Blank Spike
* - Compound Identification
* - Compound Quantitation

* - Indicates that all criteria were met for this parameter.

## DATA VALIDATION SUMMARY

The laboratory's case narrative states:

"The aqueous sample' pH was measured at about 7.

"Matrix spike/matrix spike duplicate: duplicate matrix spikes were performed on 3SD105115 for the soil sample. For this sample, spike recoveries were low for both spikes. For the aqueous sample, duplicate spikes were performed on GP-3(20). Spikes recoveries and replicate precision were within the QC limits."

The solid matrix spike recoveries averaged about 50%. All of the solid samples were flagged with the "J" qualifier and the "See Text" notation. The consistently low matrix spike recovers may have resulted in the underestimation of the solid data.

No other problems were detected that would affect the end use of the data.

### Holding Times

All samples were analyzed within the required holding times.

The unpreserved water samples were analyzed within 7 days of collection and the soil samples were analyzed within 10 days of collection.

### Tunes

No problems were detected with any of the tunes associated with the samples of this delivery group.

### System Monitoring Compound Recoveries

All system monitoring compound recoveries were within the EPA Region II quality assurance limits.

### Calibrations

The %RSD of acetone (38%) was above the 30% quality assurance limit in the initial calibration associated with the aqueous samples. Acetone was not detected in any of the aqueous samples and the data were not qualified in the data validation summary table.

The percent difference carbon disulfide (32%) was greater than the 25% quality assurance limit in the 11/16 continuing calibration (V1E2841) associated with the analyses of samples VBLK1H, V1HLCS, MN GP-1(20), MN GP-2(20), GP-3(20), Trip Blank, MN GP-4(20), MN GP-5(20), MN GP-6(20), MN GP-7, MN-GP-8(20) and GP-9(20).

This compound was not detected in any of these samples and the data were not qualified.

The percent difference acetone (65%) and carbon disulfide (28%) were greater than the 25% quality assurance limit in the 11/17 continuing calibration (V1E2871) associated with the analyses of samples MN GP-3(20)MS and MN GP-3(20)MS.

The data for matrix spikes are not generally qualified for calibration problems in data validations, and the high percent differences did not affect the end use of the data.

The percent difference acetone (67%) and carbon disulfide (34%) were greater than the 25% quality assurance limit in the 11/19 continuing calibration (V1E2901) associated with the analyses of the holding blank.

Acetone was flagged with the "J' qualifier and footnoted with #43 in the data validation summary table.

Carbon disulfide was not detected in the holding blank.

Neither of these compounds was detected in the holding blank and their presence did not affect the end use of the data.

No problems were detected with the initial calibration of the solid samples.

The percent difference of the 1,2-dichloroethane-d4 system-monitoring compound (28%) was greater than the 25% quality assurance limit in the 11/17 continuing calibration (V6B8241) associated with the analyses of samples V6ELCS, 3SD105115, 3SD105115MS, 3SD105115MSD, 5SD105115 and 6SD105115.

The data were not affected by the high %D of the system-monitoring compound.

The percent difference of 2-butanone (26%), 4-methyl-2-pentanone (29%) and 2-hexanone (26%) were greater than the 25% quality assurance limit in the 11/19 continuing calibration (V6B8271) associated with the analyses of samples 1SD9512, 2SD68 and 41112.

2-Butanone was detected at concentrations of 7J and 9J ug/kg in samples MN DW1SD9512 (Lab. #: 82331-011) and MN DW2SD68 (Lab. #: 82331-015). It was flagged with the "J" qualifier and footnoted with #41 in the data validation summary table.

None of the other compounds were detected in any of the soil samples.

**Matrix Spike / Matrix Spike Duplicate**

Both solid and aqueous matrix spikes were analyzed with this sample delivery group.

Sample MN DW5SD10115 (Lab. #: 82331-013) was used for the solid matrix spike. Most of the recoveries and several of the RPDs were outside of the quality assurance limits:

| Compound | MS %Rec | MSD %Rec | QC Limits | RPD | Limits |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | | | 59-172 | | 22% |
| Trichloroethene | 49% | 56% | 62-137 | | 24% |
| Benzene | 57% | 63% | 66-142 | | 21% |
| Toluene | 34% | 44% | 59-139 | 26% | 21% |
| Chlorobenzene | 40% | 46% | 60-133 | | 21% |

All of the solid samples were flagged with the "J" qualifier and the "See Text" notation. The consistently low matrix spike recovers may have resulted in the

underestimation of the solid data. Low concentrations of volatiles may have been overlooked.

Sample MN GP-3(20) (Lab. #: 82331-003) was used for the aqueous matrix spike. All of the recoveries and RPD are within the required quality assurance limits.

**Blank Spike**

All soil and water blank spike recoveries were within the required quality assurance limits.

**Method Blank**

A low concentration of methylene chloride (7J ug/l) was detected in method blank VBLK6E, analyzed on 11/17 associated with solid samples 3SD105115, 3SD105115MS, 3SD105115MSD, 5SD105115, and 6SD105115.

No compounds were detected in the water method blanks.

**Trip Blank**

No compounds were detected in the trip blank.

**DI QA Blank**

A DI QA blank was not analyzed with this sample delivery group.

**Field Blank**

A field blank was not analyzed with this sample delivery group.

**Holding Blank**

No compounds were detected in the holding blank.

**Internal Standard Areas and Retention Times**

All internal standard recoveries and retention times were within the required quality assurance limits.

**Sample Results**

No problems were detected with any of the sample results.

**DATA VALIDATION WORKSHEETS**
**For Richard Mahno**

**Soil & Water TCL Volatile Organic Analyses – Method 95-1**
**Samples Collected: November 12th through 13th, 2001**
**Samples Received: November 14, 2001**
**Sample Delivery Group: 82331**
**Laboratory Reference Numbers:**

| | | | |
|---|---|---|---|
| Trip Blank | 82331-010 | Collected 11/12 | (aq) |
| MN GP-1(20) | 82331-001 | Collected 11/12 | (aq) |
| MN GP-2(20) | 82331-002 | Collected 11/12 | (aq) |
| MN GP-3(20) | 82331-003 | Collected 11/12 | (aq) |
| MN GP-3(20)MS | 82331-017 | Collected 11/12 | (aq) |
| MN GP-3(20)MSD | 82331-018 | Collected 11/12 | (aq) |
| MN GP-4(20) | 82331-004 | Collected 11/13 | (aq) |
| MN GP-5(20) | 82331-005 | Collected 11/13 | (aq) |
| MN GP-10(20) | 82331-006 | Collected 11/12 | (aq) |
| MN GP-7(20) | 82331-007 | Collected 11/12 | (aq) |
| MN GP-8(20) | 82331-008 | Collected 11/12 | (aq) |
| MN GP-9(20) | 82331-009 | Collected 11/12 | (aq) |
| MN DW1SD9512 | 82331-011 | Collected 11/13 | (sl) |
| MN DW3SD10115 | 82331-012 | Collected 11/13 | (sl) |
| MN DW5SD10115 | 82331-013 | Collected 11/13 | (sl) |
| MN DW5SD10115MS | 82331-019 | Collected 11/13 | (sl) |
| MN DW5SD10115MSD | 82331-020 | Collected 11/13 | (sl) |
| MN DW41112 | 82331-014 | Collected 11/13 | (sl) |
| MN DW2SD68 | 82331-015 | Collected 11/13 | (sl) |
| MN DW6SD105115 | 82331-016 | Collected 11/13 | (sl) |

## VOLATILE ORGANICS
## INITIAL CALIBRATION SUMMARY

**Instrument ID:** V1 **Level:** Low – Unheated Purge
**Tune File ID:** V1E2370 **Acceptable:** yes **Time Requirements Met:** yes
**Initial Calibration File ID:** V1E2371 **Date:** 10/24/01 **Page:** 179
**Associated Samples:** VBLK1H, V1HLCS, MN GP-1(20), MN GP-2(20), GP-3(20), Trip Blank, MN GP-4(20), MN GP-5(20), MN GP-6(20), MN GP-7, MN-GP-8(20), GP-9(20), VBLK1J, GP-3(20)MS, GP-3(20)MSD, VBLK1K, VHBLK1M

### TCL COMPOUND LIST

| | QC %RSD | STD %RSD | QC RRF | STD RRF | | QC %RSD | STD %RSD | QC RRF | STD RRF |
|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | <30 | | >0.05 | | 1,2-Dichloropropane | <30 | | >0.05 | |
| Bromomethane | <30 | | >0.05 | | cis-1,3-Dichloropropene | <30 | | >0.05 | |
| Vinyl Chloride | <30 | | >0.05 | | Trichloroethene | <30 | | >0.05 | |
| Chloroethane | <30 | | >0.05 | | Benzene | <30 | | >0.05 | |
| Methylene Chloride | <30 | | >0.05 | | Dibromochloromethane | <30 | | >0.05 | |
| Acetone | <30 | 38% | >0.05 | | trans-1,3-Dichloropropene | <30 | | >0.05 | |
| Carbon Disulfide | <30 | | >0.05 | | 1,1,2-Trichloroethane | <30 | | >0.05 | |
| 1,1-Dichloroethene | <30 | | >0.05 | | Bromoform | <30 | | >0.05 | |
| 1,1-Dichloroethane | <30 | | >0.05 | | 4-Methyl-2-Pentanone | <30 | | >0.05 | |
| 1,2-Dichloroethene (total) | <30 | | >0.05 | | 2-Hexanone | <30 | | >0.05 | |
| Chloroform | <30 | | >0.05 | | Tetrachloroethene | <30 | | >0.05 | |
| 1,2-Dichloroethane | <30 | | >0.05 | | 1,1,2,2-Tetrachloroethane | <30 | | >0.05 | |
| 2-Butanone | <30 | | >0.05 | | Toluene | <30 | | >0.05 | |
| 1,1,1-Trichloroethane | <30 | | >0.05 | | Chlorobenzene | <30 | | >0.05 | |
| Carbon Tetrachloride | <30 | | >0.05 | | Ethylbenzene | <30 | | >0.05 | |
| Bromodichloromethane | <30 | | >0.05 | | Styrene | <30 | | >0.05 | |
| | <30 | | >0.05 | | Xylene (total) | <30 | | >0.05 | |

| | QC %RSD | STD %RSD | QC RRF | STD RRF |
|---|---|---|---|---|
| Surrogates: | | | | |
| Toluene-d8 | <30 | | >0.010 | |
| Bromofluorobenzene * | <30 | | >0.200 | |
| 1,2-Dichloroethane-d4 | <30 | | >0.010 | |

All Compounds Average RRF >QC Limit: yes
All Compounds Average RRF > 0.050: yes
If less <0.050 (R - reject undetected / J - detected)
Footnote:

All Compounds %RSD < QC Limit: no
Compounds %RSD between 20.5% and 60% (J - qualify) Footnote: 40 (Only if detected in a sample)
Compounds %RSD between 60% and 90% (J - qualify) Footnote:
Compounds %RSD > 90% (R - reject undetected / J - detected) Footnote:

CALCULATION VERIFICATION: (RRF = Ais/Ax*Cis/Cs)

| COMPOUND: PPB | Trichloroethene | Ethylbenzene |
|---|---|---|
| 10 | 108118/1848619 * 5.000 = 0.292 | 154994/1471058 * 5.000 = 0.527 |
| 20 | 205543/1702409 * 2.500 = 0.302 | 306753/1393095 * 2.500 = 0.550 |
| 50 | 564854/1755847 * 1.000 = 0.322 | 854571/1434402 * 1.000 = 0.596 |
| 100 | 1091122/1530994 * 0.500 = 0.356 | 1681581/1283136 * 0.500 = 0.655 |
| 200 | 2274535/1683970 * 0.250 = 0.338 | 3484955/1405300 * 0.250 = 0.620 |
| | AV. RRF = 0.322 %RSD =8.1 % | AV. RRF = 0.590 %RSD = 8.8% |

## VOLATILE ORGANICS
## CONTINUING CALIBRATION SUMMARY

**Instrument ID:** V1 **Level:** Low – Unheated Purge
**Tune File ID:** V1E2840 **Acceptable:** yes **Time Requirements Met:** yes
**Calibration File ID:** V1E2841 **Date:** 11/16/01 **Page:** 212
**Initial Calibration File ID:** V1E2371 **Date:** 10/24/01 **Page:** 179
**Associated Samples:** VBLK1H, V1HLCS, MN GP-1(20), MN GP-2(20), GP-3(20), Trip Blank, MN GP-4(20), MN GP-5(20), MN GP-6(20), MN GP-7, MN-GP-8(20), GP-9(20)

### TCL COMPOUND LIST

| | QC %D | STD %D | QC RRF | STD RRF | | QC %D | STD %D | QC RRF | STD RRF |
|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | <25 | | >0.050 | | 1,2-Dichloropropane | <25 | | >0.050 | |
| Bromomethane | <25 | | >0.100 | | cis-1,3-Dichloropropene | <25 | | >0.200 | |
| Vinyl Chloride | <25 | | >0.100 | | Trichloroethene | <25 | | >0.250 | |
| Chloroethane | <25 | | >0.050 | | Benzene | <25 | | >0.500 | |
| Methylene Chloride | <25 | | >0.050 | | Dibromochloromethane | <25 | | >0.100 | |
| Acetone | <25 | | >0.050 | | trans-1,3-Dichloropropene | <25 | | >0.100 | |
| Carbon Disulfide | <25 | 32% | >0.050 | | 1,1,2-Trichloroethane | <25 | | >0.100 | |
| 1,1-Dichloroethene | <25 | | >0.100 | | Bromoform | <25 | | >0.100 | |
| 1,1-Dichloroethane | <25 | | >0.200 | | 4-Methyl-2-Pentanone | <25 | | >0.050 | |
| 1,2-Dichloroethene (total) | <25 | | >0.050 | | 2-Hexanone | <25 | | >0.050 | |
| Chloroform | <25 | | >0.200 | | Tetrachloroethene | <25 | | >0.200 | |
| 1,2-Dichloroethane | <25 | | >0.100 | | 1,1,2,2-Tetrachloroethane | <25 | | >0.250 | |
| 2-Butanone | <25 | | >0.050 | | Toluene | <25 | | >0.400 | |
| 1,1,1-Trichloroethane | <25 | | >0.100 | | Chlorobenzene | <25 | | >0.500 | |
| Carbon Tetrachloride | <25 | | >0.100 | | Ethylbenzene | <25 | | >0.100 | |
| Bromodichloromethane | <25 | | >0.200 | | Styrene | <25 | | >0.250 | |
| 2,2-Dichloropropane | <25 | | >0.050 | | | <25 | | >0.250 | |

| | QC %D | STD %D | QC RRF | STD RRF |
|---|---|---|---|---|
| Surrogates: | | | | |
| Toluene-d8 | <25 | | >0.010 | |
| Bromofluorobenzene * | <25 | | >0.200 | |
| 1,2-Dichloroethane-d4 | <25 | | >0.010 | |

All Compounds Average RRF >QC Limit: yes
All Compounds Average RRF > 0.050: yes
If less <0.050 (R - reject undetected / J - detected)

Footnote:

All Compounds %D < QC Limit: no
Compounds %D between 25% and 50% (J - qualify) Footnote: 41 (Only if detected in a sample)
Compounds %D between 50% and 90% (J - qualify) Footnote: 43
Compounds %D > 90% (R - reject undetected / J - detected) Footnote:

CALCULATION VERIFICATION: (RRF = Ais/Ax*Cis/Cs)

| COMPOUND: | Chloroform | Toluene |
|---|---|---|
| PPB | | |
| 50 | 372027/124773 * 1.000 = 2.982 | 1018010/654573* 1.000 = 1.555 |
| | %D: (3.546 - 2.982) / 3.546 * 100 = 15.905245 | %D : (1.830 - 1.555) / 1.830 * 100 = 15.027322 |

**METHOD BLANK:** VBLK2D (Page 159)

| **Compound** | **ppb** | **<CRDL** |
|---|---|---|
| No compounds were detected in this method blank. | | |

## VOLATILE ORGANICS
## CONTINUING CALIBRATION SUMMARY

**Instrument ID:** V1 **Level:** Low – Unheated Purge
**Tune File ID:** V1E2870 **Acceptable:** yes **Time Requirements Met:** yes
**Calibration File ID:** V1E2871 **Date:** 10/ /01 **Page:** 213
**Initial Calibration File ID:** V1E2371 **Date:** 10/24/01 **Page:** 179
**Associated Samples:** VBLK1J, GP-3(20)MS, GP-3(20)MSD

### TCL COMPOUND LIST

| | QC %D | STD %D | QC RRF | STD RRF | | QC %D | STD %D | QC RRF | STD RRF |
|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | <25 | | >0.050 | | 1,2-Dichloropropane | <25 | | >0.050 | |
| Bromomethane | <25 | | >0.100 | | cis-1,3-Dichloropropene | <25 | | >0.200 | |
| Vinyl Chloride | <25 | | >0.100 | | Trichloroethene | <25 | | >0.250 | |
| Chloroethane | <25 | | >0.050 | | Benzene | <25 | | >0.500 | |
| Methylene Chloride | <25 | | >0.050 | | Dibromochloromethane | <25 | | >0.100 | |
| Acetone | <25 | 65% | >0.050 | | trans-1,3-Dichloropropene | <25 | | >0.100 | |
| Carbon Disulfide | <25 | 28% | >0.050 | | 1,1,2-Trichloroethane | <25 | | >0.100 | |
| 1,1-Dichloroethene | <25 | | >0.100 | | Bromoform | <25 | | >0.100 | |
| 1,1-Dichloroethane | <25 | | >0.200 | | 4-Methyl-2-Pentanone | <25 | | >0.050 | |
| 1,2-Dichloroethene (total) | <25 | | >0.050 | | 2-Hexanone | <25 | | >0.050 | |
| Chloroform | <25 | | >0.200 | | Tetrachloroethene | <25 | | >0.200 | |
| 1,2-Dichloroethane | <25 | | >0.100 | | 1,1,2,2-Tetrachloroethane | <25 | | >0.250 | |
| 2-Butanone | <25 | | >0.050 | | Toluene | <25 | | >0.400 | |
| 1,1,1-Trichloroethane | <25 | | >0.100 | | Chlorobenzene | <25 | | >0.500 | |
| Carbon Tetrachloride | <25 | | >0.100 | | Ethylbenzene | <25 | | >0.100 | |
| Bromodichloromethane | <25 | | >0.200 | | Styrene | <25 | | >0.250 | |
| 2,2-Dichloropropane | <25 | | >0.050 | | | <25 | | >0.250 | |

| | QC %D | STD %D | QC RRF | STD RRF |
|---|---|---|---|---|
| Surrogates: | | | | |
| Toluene-d8 | <25 | | >0.010 | |
| Bromofluorobenzene * | <25 | | >0.200 | |
| 1,2-Dichloroethane-d4 | <25 | | >0.010 | |

All Compounds Average RRF >QC Limit: yes
All Compounds Average RRF > 0.050: yes
If less <0.050 (R - reject undetected / J - detected)

Footnote:

All Compounds %D < QC Limit: no
Compounds %D between 25% and 50% (J - qualify) Footnote: 41 (Only if detected in a sample)
Compounds %D between 50% and 90% (J - qualify) Footnote: 43
Compounds %D > 90% (R - reject undetected / J - detected) Footnote:

CALCULATION VERIFICATION: (RRF = Ais/Ax*Cis/Cs)

| COMPOUND: | Bromomethane | Carbon Tetrachloride |
|---|---|---|
| PPB | | |
| 50 | 203747/145994 * 1.000 = 1.396 | 215312/908192 * 1.000 = 0.237 |
| | %D: (1.456 - 1.396) / 1.456 * 100 = 4.120879 | %D : (0.274 - 0.237) / 0.274 * 100 = 13.50365 |

**METHOD BLANK:** VBLK1J (Page 258)

| **Compound** | **ppb** | **<CRDL** |
|---|---|---|
| No compounds were detected in this method blank. | | |

## VOLATILE ORGANICS
## CONTINUING CALIBRATION SUMMARY

**Instrument ID:** V1
**Tune File ID:** V1E2900
**Calibration File ID:** V1E2901
**Initial Calibration File ID:** V1E2371
**Associated Samples:** VBLK1K, VHBLK1M

**Level:** Low – Unheated Purge
**Acceptable:** yes
**Date:** 11/19/01
**Page:** 214
**Date:** 10/24/01
**Page:** 179
**Time Requirements Met:** yes

### TCL COMPOUND LIST

| | QC %D | STD %D | QC RRF | STD RRF | | QC %D | STD %D | QC RRF | STD RRF |
|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | <25 | | >0.050 | | 1,2-Dichloropropane | <25 | | >0.050 | |
| Bromomethane | <25 | | >0.100 | | cis-1,3-Dichloropropene | <25 | | >0.200 | |
| Vinyl Chloride | <25 | | >0.100 | | Trichloroethene | <25 | | >0.250 | |
| Chloroethane | <25 | | >0.050 | | Benzene | <25 | | >0.500 | |
| Methylene Chloride | <25 | | >0.050 | | Dibromochloromethane | <25 | | >0.100 | |
| Acetone | <25 | 67% | >0.050 | | trans-1,3-Dichloropropene | <25 | | >0.100 | |
| Carbon Disulfide | <25 | 34% | >0.050 | | 1,1,2-Trichloroethane | <25 | | >0.100 | |
| 1,1-Dichloroethene | <25 | | >0.100 | | Bromoform | <25 | | >0.100 | |
| 1,1-Dichloroethane | <25 | | >0.200 | | 4-Methyl-2-Pentanone | <25 | | >0.050 | |
| 1,2-Dichloroethene (total) | <25 | | >0.050 | | 2-Hexanone | <25 | | >0.050 | |
| Chloroform | <25 | | >0.200 | | Tetrachloroethene | <25 | | >0.200 | |
| 1,2-Dichloroethane | <25 | | >0.100 | | 1,1,2,2-Tetrachloroethane | <25 | | >0.250 | |
| 2-Butanone | <25 | | >0.050 | | Toluene | <25 | | >0.400 | |
| 1,1,1-Trichloroethane | <25 | | >0.100 | | Chlorobenzene | <25 | | >0.500 | |
| Carbon Tetrachloride | <25 | | >0.100 | | Ethylbenzene | <25 | | >0.100 | |
| Bromodichloromethane | <25 | | >0.200 | | Styrene | <25 | | >0.250 | |
| 2,2-Dichloropropane | <25 | | >0.050 | | | <25 | | >0.250 | |

| | QC %D | STD %D | QC RRF | STD RRF |
|---|---|---|---|---|
| Surrogates: | | | | |
| Toluene-d8 | <25 | | >0.010 | |
| Bromofluorobenzene * | <25 | | >0.200 | |
| 1,2-Dichloroethane-d4 | <25 | | >0.010 | |

All Compounds Average RRF >QC Limit: yes
All Compounds Average RRF > 0.050: yes
If less <0.050 (R - reject undetected / J - detected)

Footnote:

All Compounds %D < QC Limit: ??
Compounds %D between 25% and 50% (J - qualify) — Footnote: 41 (Only if detected in a sample)
Compounds %D between 50% and 90% (J - qualify) — Footnote: 43
Compounds %D > 90% (R - reject undetected / J - detected) — Footnote:

CALCULATION VERIFICATION: (RRF = Ais/Ax*Cis/Cs)

| COMPOUND: | 1,2-Dichloroethane | Tetrachloroethene |
|---|---|---|
| PPB | | |
| 50 | 288304/151110 * 1.000 = 1.908 | 227349/812421*1.000 = 0.28 |

%D: (2.379 - 1.908) / 2.379 * 100 = 19.798235 %D : (0.325 - 0.280) / 0.325 * 100 = 13.846154

**METHOD BLANK:** VBLK1K (Page 263)

| **Compound** | **ppb** | **<CRDL** |
|---|---|---|
| No compounds were detected in this method blank. | | |

## VOLATILE ORGANICS
## INITIAL CALIBRATION SUMMARY

**Instrument ID:** V6 **Level:** Low – Heated Purge
**Tune File ID:** V6B8080 **Acceptable:** yes **Time Requirements Met:** yes
**Initial Calibration File ID:** V6B8081 **Date:** 11/14/01 **Page:** 180
**Associated Samples:** VBLK6E, V6ELCS, 3SD105115, 3SD105115MS, 3SD105115MSD, 5SD105115, 6SD105115, VBLK6G, 1SD9512, 2SD68, 41112

### TCL COMPOUND LIST

| | QC %RSD | STD %RSD | QC RRF | STD RRF | | QC %RSD | STD %RSD | QC RRF | STD RRF |
|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | <30 | | >0.05 | | 1,2-Dichloropropane | <30 | | >0.05 | |
| Bromomethane | <30 | | >0.05 | | cis-1,3-Dichloropropene | <30 | | >0.05 | |
| Vinyl Chloride | <30 | | >0.05 | | Trichloroethene | <30 | | >0.05 | |
| Chloroethane | <30 | | >0.05 | | Benzene | <30 | | >0.05 | |
| Methylene Chloride | <30 | | >0.05 | | Dibromochloromethane | <30 | | >0.05 | |
| Acetone | <30 | | >0.05 | | trans-1,3-Dichloropropene | <30 | | >0.05 | |
| Carbon Disulfide | <30 | | >0.05 | | 1,1,2-Trichloroethane | <30 | | >0.05 | |
| 1,1-Dichloroethene | <30 | | >0.05 | | Bromoform | <30 | | >0.05 | |
| 1,1-Dichloroethane | <30 | | >0.05 | | 4-Methyl-2-Pentanone | <30 | | >0.05 | |
| 1,2-Dichloroethene (total) | <30 | | >0.05 | | 2-Hexanone | <30 | | >0.05 | |
| Chloroform | <30 | | >0.05 | | Tetrachloroethene | <30 | | >0.05 | |
| 1,2-Dichloroethane | <30 | | >0.05 | | 1,1,2,2-Tetrachloroethane | <30 | | >0.05 | |
| 2-Butanone | <30 | | >0.05 | | Toluene | <30 | | >0.05 | |
| 1,1,1-Trichloroethane | <30 | | >0.05 | | Chlorobenzene | <30 | | >0.05 | |
| Carbon Tetrachloride | <30 | | >0.05 | | Ethylbenzene | <30 | | >0.05 | |
| Bromodichloromethane | <30 | | >0.05 | | Styrene | <30 | | >0.05 | |
| | <30 | | >0.05 | | Xylene (total) | <30 | | >0.05 | |

| | QC %RSD | STD %RSD | QC RRF | STD RRF |
|---|---|---|---|---|
| Surrogates: | | | | |
| Toluene-d8 | <30 | | >0.010 | |
| Bromofluorobenzene * | <30 | | >0.200 | |
| 1,2-Dichloroethane-d4 | <30 | | >0.010 | |

All Compounds Average RRF >QC Limit: yes
All Compounds Average RRF > 0.050: yes Footnote:
If less <0.050 (R - reject undetected / J - detected)

All Compounds %RSD < QC Limit: yes
Compounds %RSD between 20.5% and 60% (J - qualify) Footnote:
Compounds %RSD between 60% and 90% (J - qualify) Footnote:
Compounds %RSD > 90% (R - reject undetected / J - detected) Footnote:

CALCULATION VERIFICATION: (RRF = Ais/Ax*Cis/Cs)

| COMPOUND: PPB | Chloroform | Benzene |
|---|---|---|
| 10 | 323134/414183 * 5.000 = 3.901 | 671004/2360541 * 5.000 = 1.421 |
| 20 | 635459/396811* 2.500 = 4.004 | 1324007/2257404 * 2.500 = 1.466 |
| 50 | 1948441/484751* 1.000 = 4.019 | 4199949/2662411 * 1.000 = 1.577 |
| 100 | 3925115/460443* 0.500 = 4.262 | 7842833/2507185 * 0.500 = 1.564 |
| 200 | 9004842/513746* 0.250 = 4.382 | 15975683/2874057* 0.250 = 1.390 |
| | AV. RRF = 4.114 %RSD = 4.9% | AV. RRF = 1.484 %RSD = 5.7% |

**OVERALL ASSESSMENT AND COMMENTS:.**

## VOLATILE ORGANICS
## CONTINUING CALIBRATION SUMMARY

**Instrument ID:** V6
**Tune File ID:** V6B8240
**Calibration File ID:** V6B8241
**Initial Calibration File ID:** V6B8081
**Level:** Low – Heated Purge
**Acceptable:** yes **Time Requirements Met:** yes
**Date:** 11/17/01 **Page:** 215
**Date:** 11/14/01 **Page:** 180
**Associated Samples:** VBLK6E, V6ELCS, 3SD105115, 3SD105115MS, 3SD105115MSD, 5SD105115, 6SD105115

### TCL COMPOUND LIST

| | QC %D | STD %D | QC RRF | STD RRF | | QC %D | STD %D | QC RRF | STD RRF |
|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | <25 | | >0.050 | | 1,2-Dichloropropane | <25 | | >0.050 | |
| Bromomethane | <25 | | >0.100 | | cis-1,3-Dichloropropene | <25 | | >0.200 | |
| Vinyl Chloride | <25 | | >0.100 | | Trichloroethene | <25 | | >0.250 | |
| Chloroethane | <25 | | >0.050 | | Benzene | <25 | | >0.500 | |
| Methylene Chloride | <25 | | >0.050 | | Dibromochloromethane | <25 | | >0.100 | |
| Acetone | <25 | | >0.050 | | trans-1,3-Dichloropropene | <25 | | >0.100 | |
| Carbon Disulfide | <25 | | >0.050 | | 1,1,2-Trichloroethane | <25 | | >0.100 | |
| 1,1-Dichloroethene | <25 | | >0.100 | | Bromoform | <25 | | >0.100 | |
| 1,1-Dichloroethane | <25 | | >0.200 | | 4-Methyl-2-Pentanone | <25 | | >0.050 | |
| 1,2-Dichloroethene (total) | <25 | | >0.050 | | 2-Hexanone | <25 | | >0.050 | |
| Chloroform | <25 | | >0.200 | | Tetrachloroethene | <25 | | >0.200 | |
| 1,2-Dichloroethane | <25 | | >0.100 | | 1,1,2,2-Tetrachloroethane | <25 | | >0.250 | |
| 2-Butanone | <25 | | >0.050 | | Toluene | <25 | | >0.400 | |
| 1,1,1-Trichloroethane | <25 | | >0.100 | | Chlorobenzene | <25 | | >0.500 | |
| Carbon Tetrachloride | <25 | | >0.100 | | Ethylbenzene | <25 | | >0.100 | |
| Bromodichloromethane | <25 | | >0.200 | | Styrene | <25 | | >0.250 | |
| 2,2-Dichloropropane | <25 | | >0.050 | | | <25 | | >0.250 | |

| | QC %D | STD %D | QC RRF | STD RRF |
|---|---|---|---|---|
| Surrogates: | | | | |
| Toluene-d8 | <25 | | >0.010 | |
| Bromofluorobenzene * | <25 | | >0.200 | |
| 1,2-Dichloroethane-d4 | <25 | | >0.010 | |

All Compounds Average RRF >QC Limit: yes
All Compounds Average RRF > 0.050: yes
If less <0.050 (R - reject undetected / J - detected)
Footnote:

All Compounds %D < QC Limit: yes
Compounds %D between 25% and 50% (J - qualify) Footnote:
Compounds %D between 50% and 90% (J - qualify) Footnote:
Compounds %D > 90% (R - reject undetected / J - detected) Footnote:

CALCULATION VERIFICATION: (RRF = Ais/Ax*Cis/Cs)

| COMPOUND: | 1,2-Dichloroethane | Tetrachloroethene |
|---|---|---|
| PPB | | |
| 50 | 1450303/511534*1.000 = 2.835 | 731228/2404299 * 1.000 = 0.304 |
| | %D: (3.213 - 2.835) / 3.213 * 100 = 11.764706 | %D : (0.295 - 0.304) / 0.295 * 100 = -3.050847 |

**METHOD BLANK:** VBLK6E (Page 268)

| **Compound** | **ppb** | **<CRDL** |
|---|---|---|
| Methylene Chloride | 7J | 10 |

## VOLATILE ORGANICS
## CONTINUING CALIBRATION SUMMARY

**Instrument ID:** V6
**Level:** Low – Heated Purge
**Tune File ID:** V6B8080
**Acceptable:** yes
**Time Requirements Met:** yes
**Calibration File ID:** V6B8081
**Date:** 11/14/01
**Page:** 216
**Initial Calibration File ID:** V6B8081
**Date:** 11/14/01
**Page:** 180
**Associated Samples:** VBLK6G, 1SD9512, 2SD68, 41112

### TCL COMPOUND LIST

| | QC %D | STD %D | QC RRF | STD RRF | | QC %D | STD %D | QC RRF | STD RRF |
|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | <25 | | >0.050 | | 1,2-Dichloropropane | <25 | | >0.050 | |
| Bromomethane | <25 | | >0.100 | | cis-1,3-Dichloropropene | <25 | | >0.200 | |
| Vinyl Chloride | <25 | | >0.100 | | Trichloroethene | <25 | | >0.250 | |
| Chloroethane | <25 | | >0.050 | | Benzene | <25 | | >0.500 | |
| Methylene Chloride | <25 | | >0.050 | | Dibromochloromethane | <25 | | >0.100 | |
| Acetone | <25 | | >0.050 | | trans-1,3-Dichloropropene | <25 | | >0.100 | |
| Carbon Disulfide | <25 | | >0.050 | | 1,1,2-Trichloroethane | <25 | | >0.100 | |
| 1,1-Dichloroethene | <25 | | >0.100 | | Bromoform | <25 | | >0.100 | |
| 1,1-Dichloroethane | <25 | | >0.200 | | 4-Methyl-2-Pentanone | <25 | 28% | >0.050 | |
| 1,2-Dichloroethene (total) | <25 | | >0.050 | | 2-Hexanone | <25 | 26% | >0.050 | |
| Chloroform | <25 | | >0.200 | | Tetrachloroethene | <25 | | >0.200 | |
| 1,2-Dichloroethane | <25 | | >0.100 | | 1,1,2,2-Tetrachloroethane | <25 | | >0.250 | |
| 2-Butanone | <25 | 26% | >0.050 | | Toluene | <25 | | >0.400 | |
| 1,1,1-Trichloroethane | <25 | | >0.100 | | Chlorobenzene | <25 | | >0.500 | |
| Carbon Tetrachloride | <25 | | >0.100 | | Ethylbenzene | <25 | | >0.100 | |
| Bromodichloromethane | <25 | | >0.200 | | Styrene | <25 | | >0.250 | |
| 2,2-Dichloropropane | <25 | | >0.050 | | | <25 | | >0.250 | |

| | QC %D | STD %D | QC RRF | STD RRF |
|---|---|---|---|---|
| Surrogates: | | | | |
| Toluene-d8 | <25 | | >0.010 | |
| Bromofluorobenzene * | <25 | | >0.200 | |
| 1,2-Dichloroethane-d4 | <25 | 32% | >0.010 | |

All Compounds Average RRF >QC Limit: yes
All Compounds Average RRF > 0.050: yes
If less <0.050 (R - reject undetected / J - detected)

Footnote:

All Compounds %D < QC Limit: no
Compounds %D between 25% and 50% (J - qualify)
Compounds %D between 50% and 90% (J - qualify)
Compounds %D > 90% (R - reject undetected / J - detected)

Footnote: 41 (Only if detected in a sample)
Footnote:
Footnote:

CALCULATION VERIFICATION: (RRF = Ais/Ax*Cis/Cs)

| COMPOUND: | Chloroform | 1,1,2,2-Tetrachloroethane |
|---|---|---|
| PPB | | |
| 50 | 2109745/662679 * 1.000 = 3.184 | 1546092/3242371 * 1.000 = 0.477 |
| | %D: (4.114 - 3.184) / 4.114 * 100 = 22.605737 | %D : (0.512 - 0.477) / 0.512 * 100 = 6.835938 |

**METHOD BLANK:** VBLK6G (Page 274)

| **Compound** | **ppb** | **<CRDL** |
|---|---|---|
| No compounds were detected in this method blank. | | |

Data Validation Summary Table
For Richard Mahno

Solid and Aqueous TCL Volatile Organic Analyses – Method 95-1
Samples Collected: November 12th through 13th, 2001
Samples Received: November 14, 2001
Sample Delivery Group: 82331

| Sample / Analyte | Method Blank Conc. (PPB) | Lab. Reported Conc. (PPB) | QA Validation Reported Conc. Decision | Qualifiers | Footnotes |
|---|---|---|---|---|---|
| **Trip Blank (Lab. #: 82331-010) Collected 11/12, Received 11/14, Analyzed 11/16** | | | | | |
| **TCL Volatile Organics** | (Undiluted) | | | | |
| Chloromethane | 10 U | 10 U | 10 U | | |
| Bromomethane | 10 U | 10 U | 10 U | | |
| Vinyl Chloride | 10 U | 10 U | 10 U | | |
| Chloroethane | 10 U | 10 U | 10 U | | |
| Methylene Chloride | 10 U | 10 U | 10 U | | |
| Acetone | 10 U | 10 U | 10 U | | |
| Carbon Disulfide | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethene | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethene (Total) | 10 U | 10 U | 10 U | | |
| Chloroform | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethane | 10 U | 10 U | 10 U | | |
| 2-Butanone | 10 U | 10 U | 10 U | | |
| 1,1,1-Trichloroethane | 10 U | 10 U | 10 U | | |
| Carbon Tetrachloride | 10 U | 10 U | 10 U | | |
| Bromodichloromethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloropropane | 10 U | 10 U | 10 U | | |
| cis-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Trichloroethene | 10 U | 10 U | 10 U | | |
| Dibromochloromethane | 10 U | 10 U | 10 U | | |
| 1,1,2-Trichloroethane | 10 U | 10 U | 10 U | | |
| Benzene | 10 U | 10 U | 10 U | | |
| trans-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Bromoform | 10 U | 10 U | 10 U | | |
| 4-Methyl-2-Pentanone | 10 U | 10 U | 10 U | | |
| 2-Hexanone | 10 U | 10 U | 10 U | | |
| Tetrachloroethene | 10 U | 10 U | 10 U | | |
| 1,1,2,2-Tetrachloroethane | 10 U | 10 U | 10 U | | |
| Toluene | 10 U | 10 U | 10 U | | |
| Chlorobenzene | 10 U | 10 U | 10 U | | |
| Ethylbenzene | 10 U | 10 U | 10 U | | |
| Styrene | 10 U | 10 U | 10 U | | |
| Xylene (total) | 10 U | 10 U | 10 U | | |
| **Non-Target Volatile Organics** | | | | | |
| None Detected | | | | | |

Data Validation Summary Table
For Richard Mahno

Solid and Aqueous TCL Volatile Organic Analyses – Method 95-1
Samples Collected: November 12th through 13th, 2001
Samples Received: November 14, 2001
Sample Delivery Group: 82331

| Sample / Analyte | Method Blank Conc. (PPB) | Lab. Reported Conc. (PPB) | QA Validation Reported Conc. Decision | Qualifiers | Footnotes |
|---|---|---|---|---|---|
| **Holding Blank Analyzed 11/19** | | | | | |
| **TCL Volatile Organics** | (Undiluted) | | | | |
| Chloromethane | 10 U | 10 U | 10 U | | |
| Bromomethane | 10 U | 10 U | 10 U | | |
| Vinyl Chloride | 10 U | 10 U | 10 U | | |
| Chloroethane | 10 U | 10 U | 10 U | | |
| Methylene Chloride | 10 U | 10 U | 10 U | | |
| Acetone | 10 U | 10 U | 10 U | | |
| Carbon Disulfide | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethene | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethene (Total) | 10 U | 10 U | 10 U | | |
| Chloroform | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethane | 10 U | 10 U | 10 U | | |
| 2-Butanone | 10 U | 10 U | 10 U | | |
| 1,1,1-Trichloroethane | 10 U | 10 U | 10 U | | |
| Carbon Tetrachloride | 10 U | 10 U | 10 U | | |
| Bromodichloromethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloropropane | 10 U | 10 U | 10 U | | |
| cis-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Trichloroethene | 10 U | 10 U | 10 U | | |
| Dibromochloromethane | 10 U | 10 U | 10 U | | |
| 1,1,2-Trichloroethane | 10 U | 10 U | 10 U | | |
| Benzene | 10 U | 10 U | 10 U | | |
| trans-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Bromoform | 10 U | 10 U | 10 U | | |
| 4-Methyl-2-Pentanone | 10 U | 10 U | 10 U | | |
| 2-Hexanone | 10 U | 10 U | 10 U | | |
| Tetrachloroethene | 10 U | 10 U | 10 U | | |
| 1,1,2,2-Tetrachloroethane | 10 U | 10 U | 10 U | | |
| Toluene | 10 U | 10 U | 10 U | | |
| Chlorobenzene | 10 U | 10 U | 10 U | | |
| Ethylbenzene | 10 U | 10 U | 10 U | | |
| Styrene | 10 U | 10 U | 10 U | | |
| Xylene (total) | 10 U | 10 U | 10 U | | |
| **Non-Target Volatile Organics** | | | | | |
| None Detected | | | | | |

Data Validation Summary Table
For Richard Mahno

Solid and Aqueous TCL Volatile Organic Analyses – Method 95-1
Samples Collected: November 12th through 13th, 2001
Samples Received: November 14, 2001
Sample Delivery Group: 82331

| Sample / Analyte | Method Blank Conc. (PPB) | Lab. Reported Conc. (PPB) | QA Validation Reported Conc. Decision | Qualifiers | Footnotes |
|---|---|---|---|---|---|
| **Aqueous Sample MN GP-1(20) (Lab. #: 82331-001) Collected 11/12, Received 11/14, Analyzed 11/16** | | | | | |
| **TCL Volatile Organics** | (Undiluted) | | | | |
| Chloromethane | 10 U | 10 U | 10 U | | |
| Bromomethane | 10 U | 10 U | 10 U | | |
| Vinyl Chloride | 10 U | 10 U | 10 U | | |
| Chloroethane | 10 U | 10 U | 10 U | | |
| Methylene Chloride | 10 U | 10 U | 10 U | | |
| Acetone | 10 U | 10 U | 10 U | | |
| Carbon Disulfide | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethene | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethene (Total) | 10 U | 10 U | 10 U | | |
| Chloroform | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethane | 10 U | 10 U | 10 U | | |
| 2-Butanone | 10 U | 10 U | 10 U | | |
| 1,1,1-Trichloroethane | 10 U | 10 U | 10 U | | |
| Carbon Tetrachloride | 10 U | 10 U | 10 U | | |
| Bromodichloromethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloropropane | 10 U | 10 U | 10 U | | |
| cis-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Trichloroethene | 10 U | 10 U | 10 U | | |
| Dibromochloromethane | 10 U | 10 U | 10 U | | |
| 1,1,2-Trichloroethane | 10 U | 10 U | 10 U | | |
| Benzene | 10 U | 10 U | 10 U | | |
| trans-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Bromoform | 10 U | 10 U | 10 U | | |
| 4-Methyl-2-Pentanone | 10 U | 10 U | 10 U | | |
| 2-Hexanone | 10 U | 10 U | 10 U | | |
| Tetrachloroethene | 10 U | 10 U | 10 U | | |
| 1,1,2,2-Tetrachloroethane | 10 U | 10 U | 10 U | | |
| Toluene | 10 U | 10 U | 10 U | | |
| Chlorobenzene | 10 U | 10 U | 10 U | | |
| Ethylbenzene | 10 U | 10 U | 10 U | | |
| Styrene | 10 U | 10 U | 10 U | | |
| Xylene (total) | 10 U | 10 U | 10 U | | |
| **Non-Target Volatile Organics** | | | | | |
| None Detected | | | | | |

Data Validation Summary Table
For Richard Mahno

Solid and Aqueous TCL Volatile Organic Analyses – Method 95-1
Samples Collected: November 12th through 13th, 2001
Samples Received: November 14, 2001
Sample Delivery Group: 82331

| Sample / Analyte | Method Blank Conc. (PPB) | Lab. Reported Conc. (PPB) | QA Validation Reported Conc. Decision | Qualifiers | Footnotes |
|---|---|---|---|---|---|
| **Aqueous Sample MN GP-2(20) (Lab. #; 82331-002) Collected 11/12, Received 11/14, Analyzed 11/16** | | | | | |
| **TCL Volatile Organics** | (Undiluted) | | | | |
| Chloromethane | 10 U | 10 U | 10 U | | |
| Bromomethane | 10 U | 10 U | 10 U | | |
| Vinyl Chloride | 10 U | 10 U | 10 U | | |
| Chloroethane | 10 U | 10 U | 10 U | | |
| Methylene Chloride | 10 U | 10 U | 10 U | | |
| Acetone | 10 U | 10 U | 10 U | | |
| Carbon Disulfide | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethene | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethene (Total) | 10 U | 10 U | 10 U | | |
| Chloroform | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethane | 10 U | 10 U | 10 U | | |
| 2-Butanone | 10 U | 10 U | 10 U | | |
| 1,1,1-Trichloroethane | 10 U | 2 J | 2 | | |
| Carbon Tetrachloride | 10 U | 10 U | 10 U | | |
| Bromodichloromethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloropropane | 10 U | 10 U | 10 U | | |
| cis-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Trichloroethene | 10 U | 10 U | 10 U | | |
| Dibromochloromethane | 10 U | 10 U | 10 U | | |
| 1,1,2-Trichloroethane | 10 U | 10 U | 10 U | | |
| Benzene | 10 U | 10 U | 10 U | | |
| trans-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Bromoform | 10 U | 10 U | 10 U | | |
| 4-Methyl-2-Pentanone | 10 U | 10 U | 10 U | | |
| 2-Hexanone | 10 U | 10 U | 10 U | | |
| Tetrachloroethene | 10 U | 3 J | 3 J | | |
| 1,1,2,2-Tetrachloroethane | 10 U | 10 U | 10 U | | |
| Toluene | 10 U | 10 U | 10 U | | |
| Chlorobenzene | 10 U | 10 U | 10 U | | |
| Ethylbenzene | 10 U | 10 U | 10 U | | |
| Styrene | 10 U | 10 U | 10 U | | |
| Xylene (total) | 10 U | 10 U | 10 U | | |
| **Non-Target Volatile Organics** | | | | | |
| None Detected | | | | | |

Data Validation Summary Table
For Richard Mahno

Solid and Aqueous TCL Volatile Organic Analyses – Method 95-1
Samples Collected: November 12th through 13th, 2001
Samples Received: November 14, 2001
Sample Delivery Group: 82331

| Sample / Analyte | Method Blank Conc. (PPB) | Lab. Reported Conc. (PPB) | QA Validation Reported Conc. Decision | Qualifiers | Footnotes |
|---|---|---|---|---|---|
| **Aqueous Sample MN GP-3(20) (Lab. #: 82331-003) Collected 11/12, Received 11/14, Analyzed 11/16** | | | | | |
| **TCL Volatile Organics** | (Undiluted) | | | | |
| Chloromethane | 10 U | 10 U | 10 U | | |
| Bromomethane | 10 U | 10 U | 10 U | | |
| Vinyl Chloride | 10 U | 10 U | 10 U | | |
| Chloroethane | 10 U | 10 U | 10 U | | |
| Methylene Chloride | 10 U | 10 U | 10 U | | |
| Acetone | 10 U | 10 U | 10 U | | |
| Carbon Disulfide | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethene | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethene (Total) | 10 U | 10 U | 10 U | | |
| Chloroform | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethane | 10 U | 10 U | 10 U | | |
| 2-Butanone | 10 U | 10 U | 10 U | | |
| 1,1,1-Trichloroethane | 10 U | 10 U | 10 U | | |
| Carbon Tetrachloride | 10 U | 10 U | 10 U | | |
| Bromodichloromethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloropropane | 10 U | 10 U | 10 U | | |
| cis-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Trichloroethene | 10 U | 10 U | 10 U | | |
| Dibromochloromethane | 10 U | 10 U | 10 U | | |
| 1,1,2-Trichloroethane | 10 U | 10 U | 10 U | | |
| Benzene | 10 U | 10 U | 10 U | | |
| trans-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Bromoform | 10 U | 10 U | 10 U | | |
| 4-Methyl-2-Pentanone | 10 U | 10 U | 10 U | | |
| 2-Hexanone | 10 U | 10 U | 10 U | | |
| Tetrachloroethene | 10 U | 3 J | 3 J | | |
| 1,1,2,2-Tetrachloroethane | 10 U | 10 U | 10 U | | |
| Toluene | 10 U | 10 U | 10 U | | |
| Chlorobenzene | 10 U | 10 U | 10 U | | |
| Ethylbenzene | 10 U | 10 U | 10 U | | |
| Styrene | 10 U | 10 U | 10 U | | |
| Xylene (total) | 10 U | 10 U | 10 U | | |
| **Non-Target Volatile Organics** | | | | | |
| None Detected | | | | | |

Data Validation Summary Table
For Richard Mahno

Solid and Aqueous TCL Volatile Organic Analyses – Method 95-1
Samples Collected: November 12th through 13th, 2001
Samples Received: November 14, 2001
Sample Delivery Group: 82331

| Sample / Analyte | Method Blank Conc. (PPB) | Lab. Reported Conc. (PPB) | QA Validation Reported Conc. Decision | Qualifiers | Footnotes |
|---|---|---|---|---|---|
| **Aqueous Sample MN GP-4(20) (Lab. #: 82331-004) Collected 11/13, Received 11/14, Analyzed 11/16** | | | | | |
| **TCL Volatile Organics** | (Undiluted) | | | | |
| Chloromethane | 10 U | 10 U | 10 U | | |
| Bromomethane | 10 U | 10 U | 10 U | | |
| Vinyl Chloride | 10 U | 10 U | 10 U | | |
| Chloroethane | 10 U | 10 U | 10 U | | |
| Methylene Chloride | 10 U | 10 U | 10 U | | |
| Acetone | 10 U | 10 U | 10 U | | |
| Carbon Disulfide | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethene | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethane | 10 U | 10 | 10 | | |
| 1,2-Dichloroethene (Total) | 10 U | 40 | 40 | | |
| Chloroform | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethane | 10 U | 10 U | 10 U | | |
| 2-Butanone | 10 U | 10 U | 10 U | | |
| 1,1,1-Trichloroethane | 10 U | 10 U | 10 U | | |
| Carbon Tetrachloride | 10 U | 60 | 60 | | |
| Bromodichloromethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloropropane | 10 U | 10 U | 10 U | | |
| cis-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Trichloroethene | 10 U | 10 U | 10 U | | |
| Dibromochloromethane | 10 U | 10 U | 10 U | | |
| 1,1,2-Trichloroethane | 10 U | 10 U | 10 U | | |
| Benzene | 10 U | 10 U | 10 U | | |
| trans-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Bromoform | 10 U | 10 U | 10 U | | |
| 4-Methyl-2-Pentanone | 10 U | 10 U | 10 U | | |
| 2-Hexanone | 10 U | 10 U | 10 U | | |
| Tetrachloroethene | 10 U | 10 U | 10 U | | |
| 1,1,2,2-Tetrachloroethane | 10 U | 10 U | 10 U | | |
| Toluene | 10 U | 10 U | 10 U | | |
| Chlorobenzene | 10 U | 10 U | 10 U | | |
| Ethylbenzene | 10 U | 10 U | 10 U | | |
| Styrene | 10 U | 10 U | 10 U | | |
| Xylene (total) | 10 U | 10 U | 10 U | | |
| **Non-Target Volatile Organics** | | | | | |
| None Detected | | | | | |

Data Validation Summary Table
For Richard Mahno

Solid and Aqueous TCL Volatile Organic Analyses – Method 95-1
Samples Collected: November 12th through 13th, 2001
Samples Received: November 14, 2001
Sample Delivery Group: 82331

| Sample / Analyte | Method Blank Conc. (PPB) | Lab. Reported Conc. (PPB) | QA Validation Reported Conc. Decision | Qualifiers | Footnotes |
|---|---|---|---|---|---|
| **Aqueous Sample MN GP-5(20) (Lab. #: 82331-005) Collected 11/13, Received 11/14, Analyzed 11/16** | | | | | |
| **TCL Volatile Organics** | (Undiluted) | | | | |
| Chloromethane | 10 U | 10 U | 10 U | | |
| Bromomethane | 10 U | 10 U | 10 U | | |
| Vinyl Chloride | 10 U | 10 U | 10 U | | |
| Chloroethane | 10 U | 10 U | 10 U | | |
| Methylene Chloride | 10 U | 10 U | 10 U | | |
| Acetone | 10 U | 10 U | 10 U | | |
| Carbon Disulfide | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethene | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethene (Total) | 10 U | 10 U | 10 U | | |
| Chloroform | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethane | 10 U | 10 U | 10 U | | |
| 2-Butanone | 10 U | 10 U | 10 U | | |
| 1,1,1-Trichloroethane | 10 U | 10 U | 10 U | | |
| Carbon Tetrachloride | 10 U | 10 U | 10 U | | |
| Bromodichloromethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloropropane | 10 U | 10 U | 10 U | | |
| cis-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Trichloroethene | 10 U | 10 U | 10 U | | |
| Dibromochloromethane | 10 U | 10 U | 10 U | | |
| 1,1,2-Trichloroethane | 10 U | 10 U | 10 U | | |
| Benzene | 10 U | 10 U | 10 U | | |
| trans-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Bromoform | 10 U | 10 U | 10 U | | |
| 4-Methyl-2-Pentanone | 10 U | 10 U | 10 U | | |
| 2-Hexanone | 10 U | 10 U | 10 U | | |
| Tetrachloroethene | 10 U | 2 J | 2 J | | |
| 1,1,2,2-Tetrachloroethane | 10 U | 10 U | 10 U | | |
| Toluene | 10 U | 10 U | 10 U | | |
| Chlorobenzene | 10 U | 10 U | 10 U | | |
| Ethylbenzene | 10 U | 10 U | 10 U | | |
| Styrene | 10 U | 10 U | 10 U | | |
| Xylene (total) | 10 U | 10 U | 10 U | | |
| **Non-Target Volatile Organics** | | | | | |
| None Detected | | | | | |

Data Validation Summary Table
For Richard Mahno

Solid and Aqueous TCL Volatile Organic Analyses – Method 95-1
Samples Collected: November 12th through 13th, 2001
Samples Received: November 14, 2001
Sample Delivery Group: 82331

| Sample / Analyte | Method Blank Conc. (PPB) | Lab. Reported Conc. (PPB) | QA Validation Reported Conc. Decision | Qualifiers | Footnotes |
|---|---|---|---|---|---|
| **Aqueous Sample MN GP-10(20) (Lab. #: 82331-006) Collected 11/12, Received 11/14, Analyzed 11/16** | | | | | |
| **TCL Volatile Organics** | (Undiluted) | | | | |
| Chloromethane | 10 U | 10 U | 10 U | | |
| Bromomethane | 10 U | 10 U | 10 U | | |
| Vinyl Chloride | 10 U | 10 U | 10 U | | |
| Chloroethane | 10 U | 10 U | 10 U | | |
| Methylene Chloride | 10 U | 10 U | 10 U | | |
| Acetone | 10 U | 10 U | 10 U | | |
| Carbon Disulfide | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethene | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethene (Total) | 10 U | 10 U | 10 U | | |
| Chloroform | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethane | 10 U | 10 U | 10 U | | |
| 2-Butanone | 10 U | 10 U | 10 U | | |
| 1,1,1-Trichloroethane | 10 U | 5 J | 5 J | | |
| Carbon Tetrachloride | 10 U | 10 U | 10 U | | |
| Bromodichloromethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloropropane | 10 U | 10 U | 10 U | | |
| cis-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Trichloroethene | 10 U | 10 U | 10 U | | |
| Dibromochloromethane | 10 U | 10 U | 10 U | | |
| 1,1,2-Trichloroethane | 10 U | 10 U | 10 U | | |
| Benzene | 10 U | 10 U | 10 U | | |
| trans-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Bromoform | 10 U | 10 U | 10 U | | |
| 4-Methyl-2-Pentanone | 10 U | 10 U | 10 U | | |
| 2-Hexanone | 10 U | 10 U | 10 U | | |
| Tetrachloroethene | 10 U | 10 U | 10 U | | |
| 1,1,2,2-Tetrachloroethane | 10 U | 10 U | 10 U | | |
| Toluene | 10 U | 10 U | 10 U | | |
| Chlorobenzene | 10 U | 10 U | 10 U | | |
| Ethylbenzene | 10 U | 10 U | 10 U | | |
| Styrene | 10 U | 10 U | 10 U | | |
| Xylene (total) | 10 U | 10 U | 10 U | | |
| **Non-Target Volatile Organics** | | | | | |
| None Detected | | | | | |

Data Validation Summary Table
For Richard Mahno

Solid and Aqueous TCL Volatile Organic Analyses – Method 95-1
Samples Collected: November 12th through 13th, 2001
Samples Received: November 14, 2001
Sample Delivery Group: 82331

| Sample / Analyte | Method Blank Conc. (PPB) | Lab. Reported Conc. (PPB) | QA Validation Reported Conc. Decision | Qualifiers | Footnotes |
|---|---|---|---|---|---|
| **Aqueous Sample MN GP-7(20) (Lab. #: 82331-007) Collected 11/12, Received 11/14, Analyzed 11/16** | | | | | |
| **TCL Volatile Organics** | (Undiluted) | | | | |
| Chloromethane | 10 U | 10 U | 10 U | | |
| Bromomethane | 10 U | 10 U | 10 U | | |
| Vinyl Chloride | 10 U | 10 U | 10 U | | |
| Chloroethane | 10 U | 10 U | 10 U | | |
| Methylene Chloride | 10 U | 10 U | 10 U | | |
| Acetone | 10 U | 10 U | 10 U | | |
| Carbon Disulfide | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethene | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethene (Total) | 10 U | 10 U | 10 U | | |
| Chloroform | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethane | 10 U | 10 U | 10 U | | |
| 2-Butanone | 10 U | 10 U | 10 U | | |
| 1,1,1-Trichloroethane | 10 U | 5 J | 5 J | | |
| Carbon Tetrachloride | 10 U | 10 U | 10 U | | |
| Bromodichloromethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloropropane | 10 U | 10 U | 10 U | | |
| cis-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Trichloroethene | 10 U | 10 U | 10 U | | |
| Dibromochloromethane | 10 U | 10 U | 10 U | | |
| 1,1,2-Trichloroethane | 10 U | 10 U | 10 U | | |
| Benzene | 10 U | 10 U | 10 U | | |
| trans-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Bromoform | 10 U | 10 U | 10 U | | |
| 4-Methyl-2-Pentanone | 10 U | 10 U | 10 U | | |
| 2-Hexanone | 10 U | 10 U | 10 U | | |
| Tetrachloroethene | 10 U | 10 U | 10 U | | |
| 1,1,2,2-Tetrachloroethane | 10 U | 10 U | 10 U | | |
| Toluene | 10 U | 10 U | 10 U | | |
| Chlorobenzene | 10 U | 10 U | 10 U | | |
| Ethylbenzene | 10 U | 10 U | 10 U | | |
| Styrene | 10 U | 10 U | 10 U | | |
| Xylene (total) | 10 U | 10 U | 10 U | | |
| **Non-Target Volatile Organics** | | | | | |
| None Detected | | | | | |

Data Validation Summary Table
For Richard Mahno

Solid and Aqueous TCL Volatile Organic Analyses – Method 95-1
Samples Collected: November 12th through 13th, 2001
Samples Received: November 14, 2001
Sample Delivery Group: 82331

| Sample / Analyte | Method Blank Conc. (PPB) | Lab. Reported Conc. (PPB) | QA Validation Reported Conc. Decision | Qualifiers | Footnotes |
|---|---|---|---|---|---|
| **Aqueous Sample MN GP-8(20) (Lab. #: 82331-008) Collected 11/12, Received 11/14, Analyzed 11/16** | | | | | |
| **TCL Volatile Organics** | (Undiluted) | | | | |
| Chloromethane | 10 U | 10 U | 10 U | | |
| Bromomethane | 10 U | 10 U | 10 U | | |
| Vinyl Chloride | 10 U | 10 U | 10 U | | |
| Chloroethane | 10 U | 10 U | 10 U | | |
| Methylene Chloride | 10 U | 10 U | 10 U | | |
| Acetone | 10 U | 10 U | 10 U | | |
| Carbon Disulfide | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethene | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethene (Total) | 10 U | 10 U | 10 U | | |
| Chloroform | 10 U | 2 J | 2 J | | |
| 1,2-Dichloroethane | 10 U | 10 U | 10 U | | |
| 2-Butanone | 10 U | 10 U | 10 U | | |
| 1,1,1-Trichloroethane | 10 U | 10 U | 10 U | | |
| Carbon Tetrachloride | 10 U | 10 U | 10 U | | |
| Bromodichloromethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloropropane | 10 U | 10 U | 10 U | | |
| cis-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Trichloroethene | 10 U | 10 U | 10 U | | |
| Dibromochloromethane | 10 U | 10 U | 10 U | | |
| 1,1,2-Trichloroethane | 10 U | 10 U | 10 U | | |
| Benzene | 10 U | 10 U | 10 U | | |
| trans-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Bromoform | 10 U | 10 U | 10 U | | |
| 4-Methyl-2-Pentanone | 10 U | 10 U | 10 U | | |
| 2-Hexanone | 10 U | 10 U | 10 U | | |
| Tetrachloroethene | 10 U | 10 U | 10 U | | |
| 1,1,2,2-Tetrachloroethane | 10 U | 10 U | 10 U | | |
| Toluene | 10 U | 10 U | 10 U | | |
| Chlorobenzene | 10 U | 10 U | 10 U | | |
| Ethylbenzene | 10 U | 10 U | 10 U | | |
| Styrene | 10 U | 10 U | 10 U | | |
| Xylene (total) | 10 U | 10 U | 10 U | | |
| **Non-Target Volatile Organics** | | | | | |
| None Detected | | | | | |

Data Validation Summary Table
For Richard Mahno

Solid and Aqueous TCL Volatile Organic Analyses – Method 95-1
Samples Collected: November 12th through 13th, 2001
Samples Received: November 14, 2001
Sample Delivery Group: 82331

| Sample / Analyte | Method Blank Conc. (PPB) | Lab. Reported Conc. (PPB) | QA Validation Reported Conc. Decision | Qualifiers | Footnotes |
|---|---|---|---|---|---|
| **Aqueous Sample MN GP-9(20) (Lab. #: 82331-009) Collected 11/12, Received 11/14, Analyzed 11/16** | | | | | |
| **TCL Volatile Organics** | (Undiluted) | | | | |
| Chloromethane | 10 U | 10 U | 10 U | | |
| Bromomethane | 10 U | 10 U | 10 U | | |
| Vinyl Chloride | 10 U | 10 U | 10 U | | |
| Chloroethane | 10 U | 10 U | 10 U | | |
| Methylene Chloride | 10 U | 10 U | 10 U | | |
| Acetone | 10 U | 10 U | 10 U | | |
| Carbon Disulfide | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethene | 10 U | 10 U | 10 U | | |
| 1,1-Dichloroethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethene (Total) | 10 U | 10 U | 10 U | | |
| Chloroform | 10 U | 10 U | 10 U | | |
| 1,2-Dichloroethane | 10 U | 10 U | 10 U | | |
| 2-Butanone | 10 U | 10 U | 10 U | | |
| 1,1,1-Trichloroethane | 10 U | 10 U | 10 U | | |
| Carbon Tetrachloride | 10 U | 10 U | 10 U | | |
| Bromodichloromethane | 10 U | 10 U | 10 U | | |
| 1,2-Dichloropropane | 10 U | 10 U | 10 U | | |
| cis-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Trichloroethene | 10 U | 10 U | 10 U | | |
| Dibromochloromethane | 10 U | 10 U | 10 U | | |
| 1,1,2-Trichloroethane | 10 U | 10 U | 10 U | | |
| Benzene | 10 U | 10 U | 10 U | | |
| trans-1,3-Dichloropropene | 10 U | 10 U | 10 U | | |
| Bromoform | 10 U | 10 U | 10 U | | |
| 4-Methyl-2-Pentanone | 10 U | 10 U | 10 U | | |
| 2-Hexanone | 10 U | 10 U | 10 U | | |
| Tetrachloroethene | 10 U | 10 U | 10 U | | |
| 1,1,2,2-Tetrachloroethane | 10 U | 10 U | 10 U | | |
| Toluene | 10 U | 10 U | 10 U | | |
| Chlorobenzene | 10 U | 10 U | 10 U | | |
| Ethylbenzene | 10 U | 10 U | 10 U | | |
| Styrene | 10 U | 10 U | 10 U | | |
| Xylene (total) | 10 U | 10 U | 10 U | | |
| **Non-Target Volatile Organics** | | | | | |
| None Detected | | | | | |

Data Validation Summary Table
For Richard Mahno

Solid and Aqueous TCL Volatile Organic Analyses – Method 95-1
Samples Collected: November 12th through 13th, 2001
Samples Received: November 14, 2001
Sample Delivery Group: 82331

| Sample / Analyte | Method Blank Conc. (PPB) | Lab. Reported Conc. (PPB) | QA Validation Reported Conc. Decision | | Qualifiers | Footnotes |
|---|---|---|---|---|---|---|
| **Solid Sample MN DW1SD9512 (Lab. #: 82331-011) Collected 11/13, Received 11/14, Analyzed 11/19** | | % Moisture = 16 | | | | |
| **TCL Volatile Organics** | (Undiluted) | | | | | |
| Chloromethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| Bromomethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| Vinyl Chloride | 10 U | 12 U | 12 U | J | qualify | See Text |
| Chloroethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| Methylene Chloride | 10 U | 4 J | 5 J | | qualify | See Text |
| Acetone | 10 U | 30 | 30 | J | qualify | See Text |
| Carbon Disulfide | 10 U | 12 U | 12 U | J | qualify | See Text |
| 1,1-Dichloroethene | 10 U | 12 U | 12 U | J | qualify | See Text |
| 1,1-Dichloroethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| 1,2-Dichloroethene (Total) | 10 U | 12 U | 12 U | J | qualify | See Text |
| Chloroform | 10 U | 12 U | 12 U | J | qualify | See Text |
| 1,2-Dichloroethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| 2-Butanone | 10 U | 7 J | 7 J | | qualify | See Text, 41 |
| 1,1,1-Trichloroethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| Carbon Tetrachloride | 10 U | 12 U | 12 U | J | qualify | See Text |
| Bromodichloromethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| 1,2-Dichloropropane | 10 U | 12 U | 12 U | J | qualify | See Text |
| cis-1,3-Dichloropropene | 10 U | 12 U | 12 U | J | qualify | See Text |
| Trichloroethene | 10 U | 12 U | 12 U | J | qualify | See Text |
| Dibromochloromethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| 1,1,2-Trichloroethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| Benzene | 10 U | 12 U | 12 U | J | qualify | See Text |
| trans-1,3-Dichloropropene | 10 U | 12 U | 12 U | J | qualify | See Text |
| Bromoform | 10 U | 12 U | 12 U | J | qualify | See Text |
| 4-Methyl-2-Pentanone | 10 U | 12 U | 12 U | J | qualify | See Text |
| 2-Hexanone | 10 U | 12 U | 12 U | J | qualify | See Text |
| Tetrachloroethene | 10 U | 18 | 19 | J | qualify | See Text |
| 1,1,2,2-Tetrachloroethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| Toluene | 10 U | 12 U | 12 U | J | qualify | See Text |
| Chlorobenzene | 10 U | 12 U | 12 U | J | qualify | See Text |
| Ethylbenzene | 10 U | 12 U | 12 U | J | qualify | See Text |
| Styrene | 10 U | 12 U | 12 U | J | qualify | See Text |
| Xylene (total) | 10 U | 12 U | 12 U | J | qualify | See Text |
| **Non-Target Volatile Organics** | | | | | | |
| None Detected | | | | | | |

Data Validation Summary Table
For Richard Mahno

Solid and Aqueous TCL Volatile Organic Analyses – Method 95-1
Samples Collected: November 12th through 13th, 2001
Samples Received: November 14, 2001
Sample Delivery Group: 82331

| Sample / Analyte | Method Blank Conc. (PPB) | Lab. Reported Conc. (PPB) | QA Validation Reported Conc. Decision | | Qualifiers | Footnotes |
|---|---|---|---|---|---|---|
| **Solid Sample MN DW3SD10115 (Lab. #: 82331-012) Collected 11/13, Received 11/14, Analyzed 11/17** | | % Moisture = 10 | | | | |
| **TCL Volatile Organics** | (Undiluted) | | | | | |
| Chloromethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| Bromomethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| Vinyl Chloride | 10 U | 11 U | 11 U | J | qualify | See Text |
| Chloroethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| Methylene Chloride | 7 J | 2 BJ | 11 U | | qualify | See Text, 32 |
| Acetone | 10 U | 4 J | ~~4 J~~ UL | | qualify | See Text |
| Carbon Disulfide | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,1-Dichloroethene | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,1-Dichloroethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,2-Dichloroethene (Total) | 10 U | 11 U | 11 U | J | qualify | See Text |
| Chloroform | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,2-Dichloroethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| 2-Butanone | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,1,1-Trichloroethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| Carbon Tetrachloride | 10 U | 11 U | 11 U | J | qualify | See Text |
| Bromodichloromethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,2-Dichloropropane | 10 U | 11 U | 11 U | J | qualify | See Text |
| cis-1,3-Dichloropropene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Trichloroethene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Dibromochloromethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,1,2-Trichloroethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| Benzene | 10 U | 11 U | 11 U | J | qualify | See Text |
| trans-1,3-Dichloropropene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Bromoform | 10 U | 11 U | 11 U | J | qualify | See Text |
| 4-Methyl-2-Pentanone | 10 U | 11 U | 11 U | J | qualify | See Text |
| 2-Hexanone | 10 U | 11 U | 11 U | J | qualify | See Text |
| Tetrachloroethene | 10 U | 16 | 16 | J | qualify | See Text |
| 1,1,2,2-Tetrachloroethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| Toluene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Chlorobenzene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Ethylbenzene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Styrene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Xylene (total) | 10 U | 11 U | 11 U | J | qualify | See Text |
| **Non-Target Volatile Organics** | | | | | | |
| None Detected | | | | | | |

Data Validation Summary Table
For Richard Mahno

Solid and Aqueous TCL Volatile Organic Analyses – Method 95-1
Samples Collected: November 12th through 13th, 2001
Samples Received: November 14, 2001
Sample Delivery Group: 82331

| Sample / Analyte | Method Blank Conc. (PPB) | Lab. Reported Conc. (PPB) | QA Validation Reported Conc. Decision | | Qualifiers | Footnotes |
|---|---|---|---|---|---|---|
| **Solid Sample MN DW5SD10115 (Lab. #: 82331-013) Collected 11/13, Received 11/14, Analyzed 11/18** | | % Moisture = 11 | | | | |
| **TCL Volatile Organics** | (Undiluted) | | | | | |
| Chloromethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| Bromomethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| Vinyl Chloride | 10 U | 11 U | 11 U | J | qualify | See Text |
| Chloroethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| Methylene Chloride | 7 J | 11 U | 11 U | J | qualify | See Text |
| Acetone | 10 U | 11 U | 11 U | J | qualify | See Text |
| Carbon Disulfide | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,1-Dichloroethene | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,1-Dichloroethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,2-Dichloroethene (Total) | 10 U | 11 U | 11 U | J | qualify | See Text |
| Chloroform | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,2-Dichloroethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| 2-Butanone | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,1,1-Trichloroethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| Carbon Tetrachloride | 10 U | 11 U | 11 U | J | qualify | See Text |
| Bromodichloromethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,2-Dichloropropane | 10 U | 11 U | 11 U | J | qualify | See Text |
| cis-1,3-Dichloropropene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Trichloroethene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Dibromochloromethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,1,2-Trichloroethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| Benzene | 10 U | 11 U | 11 U | J | qualify | See Text |
| trans-1,3-Dichloropropene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Bromoform | 10 U | 11 U | 11 U | J | qualify | See Text |
| 4-Methyl-2-Pentanone | 10 U | 11 U | 11 U | J | qualify | See Text |
| 2-Hexanone | 10 U | 11 U | 11 U | J | qualify | See Text |
| Tetrachloroethene | 10 U | 9 J | 9 J | | qualify | See Text |
| 1,1,2,2-Tetrachloroethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| Toluene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Chlorobenzene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Ethylbenzene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Styrene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Xylene (total) | 10 U | 11 U | 11 U | J | qualify | See Text |
| **Non-Target Volatile Organics** | | | | | | |
| None Detected | | | | | | |

Data Validation Summary Table
For Richard Mahno

Solid and Aqueous TCL Volatile Organic Analyses – Method 95-1
Samples Collected: November 12th through 13th, 2001
Samples Received: November 14, 2001
Sample Delivery Group: 82331

| Sample / Analyte | Method Blank Conc. (PPB) | Lab. Reported Conc. (PPB) | QA Validation Reported Conc. Decision | | Qualifiers | Footnotes |
|---|---|---|---|---|---|---|
| **Solid Sample MN DW41112 (Lab. #: 82331-014) Collected 11/13, Received 11/14, Analyzed 11/19** | | % Moisture = 19 | | | | |
| **TCL Volatile Organics** | (Undiluted) | | | | | |
| Chloromethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| Bromomethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| Vinyl Chloride | 10 U | 12 U | 12 U | J | qualify | See Text |
| Chloroethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| Methylene Chloride | 10 U | 3 J | 3 J | | qualify | See Text |
| Acetone | 10 U | 9 J | 9 J | | qualify | See Text |
| Carbon Disulfide | 10 U | 12 U | 12 U | J | qualify | See Text |
| 1,1-Dichloroethene | 10 U | 12 U | 12 U | J | qualify | See Text |
| 1,1-Dichloroethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| 1,2-Dichloroethene (Total) | 10 U | 12 U | 12 U | J | qualify | See Text |
| Chloroform | 10 U | 12 U | 12 U | J | qualify | See Text |
| 1,2-Dichloroethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| 2-Butanone | 10 U | 12 U | 12 U | J | qualify | See Text |
| 1,1,1-Trichloroethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| Carbon Tetrachloride | 10 U | 12 U | 12 U | J | qualify | See Text |
| Bromodichloromethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| 1,2-Dichloropropane | 10 U | 12 U | 12 U | J | qualify | See Text |
| cis-1,3-Dichloropropene | 10 U | 12 U | 12 U | J | qualify | See Text |
| Trichloroethene | 10 U | 12 U | 12 U | J | qualify | See Text |
| Dibromochloromethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| 1,1,2-Trichloroethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| Benzene | 10 U | 12 U | 12 U | J | qualify | See Text |
| trans-1,3-Dichloropropene | 10 U | 12 U | 12 U | J | qualify | See Text |
| Bromoform | 10 U | 12 U | 12 U | J | qualify | See Text |
| 4-Methyl-2-Pentanone | 10 U | 12 U | 12 U | J | qualify | See Text |
| 2-Hexanone | 10 U | 12 U | 12 U | J | qualify | See Text |
| Tetrachloroethene | 10 U | 22 | 22 | J | qualify | See Text |
| 1,1,2,2-Tetrachloroethane | 10 U | 12 U | 12 U | J | qualify | See Text |
| Toluene | 10 U | 12 U | 12 U | J | qualify | See Text |
| Chlorobenzene | 10 U | 12 U | 12 U | J | qualify | See Text |
| Ethylbenzene | 10 U | 12 U | 12 U | J | qualify | See Text |
| Styrene | 10 U | 12 U | 12 U | J | qualify | See Text |
| Xylene (total) | 10 U | 12 U | 12 U | J | qualify | See Text |
| **Non-Target Volatile Organics** | | | | | | |
| Unknown (14.31) | ND | 26 J | 26 J | | qualify | See Text |
| Straight-Chain Alkane (15.51) | ND | 62 J | 62 J | | qualify | See Text |

Data Validation Summary Table
For Richard Mahno

Solid and Aqueous TCL Volatile Organic Analyses – Method 95-1
Samples Collected: November 12th through 13th, 2001
Samples Received: November 14, 2001
Sample Delivery Group: 82331

| Sample / Analyte | Method Blank Conc. (PPB) | Lab. Reported Conc. (PPB) | QA Validation Reported Conc. Decision | | Qualifiers | Footnotes |
|---|---|---|---|---|---|---|
| **Solid Sample MN DW2SD68 (Lab. #; 82331-015) Collected 11/13, Received 11/14, Analyzed 11/19** | | % Moisture = 28 | | | | |
| **TCL Volatile Organics** | (Undiluted) | | | | | |
| Chloromethane | 10 U | 14 U | 14 U | J | qualify | See Text |
| Bromomethane | 10 U | 14 U | 14 U | J | qualify | See Text |
| Vinyl Chloride | 10 U | 14 U | 14 U | J | qualify | See Text |
| Chloroethane | 10 U | 14 U | 14 U | J | qualify | See Text |
| Methylene Chloride | 10 U | 4 J | 4 J | | qualify | See Text |
| Acetone | 10 U | 31 | 31 | J | qualify | See Text |
| Carbon Disulfide | 10 U | 2 J | 2 J | | qualify | See Text |
| 1,1-Dichloroethene | 10 U | 14 U | 14 U | J | qualify | See Text |
| 1,1-Dichloroethane | 10 U | 14 U | 14 U | J | qualify | See Text |
| 1,2-Dichloroethene (Total) | 10 U | 4 J | 4 J | J | qualify | See Text |
| Chloroform | 10 U | 14 U | 14 U | J | qualify | See Text |
| 1,2-Dichloroethane | 10 U | 14 U | 14 U | J | qualify | See Text |
| 2-Butanone | 10 U | 9 J | 9 J | | qualify | See Text, 41 |
| 1,1,1-Trichloroethane | 10 U | 14 U | 14 U | J | qualify | See Text |
| Carbon Tetrachloride | 10 U | 14 U | 14 U | J | qualify | See Text |
| Bromodichloromethane | 10 U | 14 U | 14 U | J | qualify | See Text |
| 1,2-Dichloropropane | 10 U | 14 U | 14 U | J | qualify | See Text |
| cis-1,3-Dichloropropene | 10 U | 14 U | 14 U | J | qualify | See Text |
| Trichloroethene | 10 U | 71 | 71 | J | qualify | See Text |
| Dibromochloromethane | 10 U | 14 U | 14 U | J | qualify | See Text |
| 1,1,2-Trichloroethane | 10 U | 14 U | 14 U | J | qualify | See Text |
| Benzene | 10 U | 14 U | 14 U | J | qualify | See Text |
| trans-1,3-Dichloropropene | 10 U | 14 U | 14 U | J | qualify | See Text |
| Bromoform | 10 U | 14 U | 14 U | J | qualify | See Text |
| 4-Methyl-2-Pentanone | 10 U | 14 U | 14 U | J | qualify | See Text |
| 2-Hexanone | 10 U | 14 U | 14 U | J | qualify | See Text |
| Tetrachloroethene | 10 U | 72 | 72 | J | qualify | See Text |
| 1,1,2,2-Tetrachloroethane | 10 U | 14 U | 14 U | J | qualify | See Text |
| Toluene | 10 U | 12 J | 12 J | | qualify | See Text |
| Chlorobenzene | 10 U | 14 U | 14 U | J | qualify | See Text |
| Ethylbenzene | 10 U | 2 J | 2 J | | qualify | See Text |
| Styrene | 10 U | 14 U | 14 U | J | qualify | See Text |
| Xylene (total) | 10 U | 19 | 19 | J | qualify | See Text |
| **Non-Target Volatile Organics** | | | | | | |
| Unknown (12.11) | ND | 11 J | 11 J | | qualify | See Text |
| Unknown (12.22) | ND | 7 J | 7 J | | qualify | See Text |
| Unknown (12.94) | ND | 140 J | 137 J | | qualify | See Text |
| Unknown (13.18) | ND | 61 J | 61 J | | qualify | See Text |
| Branched Alkane (13.29) | ND | 91 J | 91 J | | qualify | See Text |
| Benzene, 1,2,4-trimethyl- (13.38) | ND | 120 NJ | 120 NJ | | qualify | See Text |
| Unknown (13.55) | ND | 130 J | 133 J | | qualify | See Text |
| Cyclic Alkane (13.67) | ND | 310 J | 309 J | | qualify | See Text |
| Unknown (13.75) | ND | 110 J | 107 J | | qualify | See Text |
| Unknown (13.81) | ND | 92 J | 92 J | | qualify | See Text |

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Data Validation Summary Table
For Richard Mahno

Solid and Aqueous TCL Volatile Organic Analyses – Method 95-1
Samples Collected: November 12th through 13th, 2001
Samples Received: November 14, 2001
Sample Delivery Group: 82331

| Sample / Analyte | Method Blank Conc. (PPB) | Lab. Reported Conc. (PPB) | QA Validation Reported Conc. Decision | Qualifiers | Footnotes |
|---|---|---|---|---|---|
| **Solid Sample MN DW2SD68 (Lab. #; 82331-015) Collected 11/13, Received 11/14, Analyzed 11/19** | | % Moisture = 28 | | | |
| (Con't) | | | | | |
| Unknown (13.85) | ND | 200 J | 201 J | qualify | See Text |
| Branched Alkane (13.96) | ND | 490 J | 489 J | qualify | See Text |
| Cyclic Alkane (14.24) | ND | 300 J | 305 J | qualify | See Text |
| Unknown (14.31) | ND | 1,800 J | 1,769 J | qualify | See Text |
| Unknown (14.54) | ND | 900 J | 905 J | qualify | See Text |
| Unknown (14.69) | ND | 1,100 J | 1,065 J | qualify | See Text |
| Naphthalene, Decahydro-2-met (14.95) | ND | 380 NJ | 384 NJ | qualify | See Text |
| Unknown (15.00) | ND | 700 J | 699 J | qualify | See Text |
| Branched Alkane (15.06) | ND | 380 J | 378 J | qualify | See Text |
| Unknown (15.10) | ND | 600 J | 605 J | qualify | See Text |
| Unknown (15.19) | ND | 1,500 J | 1,466 J | qualify | See Text |
| Unknown (15.45) | ND | 440 J | 437 J | qualify | See Text |
| Straight-Chain Alkane (15.51) | ND | 1,800 J | 1,822 J | qualify | See Text |
| Branched Alkane (15.68) | ND | 760 J | 764 J | qualify | See Text |
| Unknown (15.78) | ND | 2,800 J | 2,808 J | qualify | See Text |
| Unknown (16.32) | ND | 3,600 J | 3,572 J | qualify | See Text |

Data Validation Summary Table
For Richard Mahno

Solid and Aqueous TCL Volatile Organic Analyses – Method 95-1
Samples Collected: November 12th through 13th, 2001
Samples Received: November 14, 2001
Sample Delivery Group: 82331

| Sample / Analyte | Method Blank Conc. (PPB) | Lab. Reported Conc. (PPB) | QA Validation Reported Conc. Decision | | Qualifiers | Footnotes |
|---|---|---|---|---|---|---|
| **Solid Sample MN DW6SD105115 (Lab. #: 82331-016) Collected 11/13, Received 11/14, Analyzed 11/18** | | % Moisture = 10 | | | | |
| **TCL Volatile Organics** | (Undiluted) | | | | | |
| Chloromethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| Bromomethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| Vinyl Chloride | 10 U | 11 U | 11 U | J | qualify | See Text |
| Chloroethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| Methylene Chloride | 7 J | 3 BJ | 11 U | J | qualify | See Text, 32 |
| Acetone | 10 U | 11 U | 11 U | J | qualify | See Text |
| Carbon Disulfide | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,1-Dichloroethene | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,1-Dichloroethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,2-Dichloroethene (Total) | 10 U | 11 U | 11 U | J | qualify | See Text |
| Chloroform | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,2-Dichloroethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| 2-Butanone | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,1,1-Trichloroethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| Carbon Tetrachloride | 10 U | 11 U | 11 U | J | qualify | See Text |
| Bromodichloromethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,2-Dichloropropane | 10 U | 11 U | 11 U | J | qualify | See Text |
| cis-1,3-Dichloropropene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Trichloroethene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Dibromochloromethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| 1,1,2-Trichloroethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| Benzene | 10 U | 11 U | 11 U | J | qualify | See Text |
| trans-1,3-Dichloropropene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Bromoform | 10 U | 11 U | 11 U | J | qualify | See Text |
| 4-Methyl-2-Pentanone | 10 U | 11 U | 11 U | J | qualify | See Text |
| 2-Hexanone | 10 U | 11 U | 11 U | J | qualify | See Text |
| Tetrachloroethene | 10 U | 13 | 13 | J | qualify | See Text |
| 1,1,2,2-Tetrachloroethane | 10 U | 11 U | 11 U | J | qualify | See Text |
| Toluene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Chlorobenzene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Ethylbenzene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Styrene | 10 U | 11 U | 11 U | J | qualify | See Text |
| Xylene (total) | 10 U | 11 U | 11 U | J | qualify | See Text |
| **Non-Target Volatile Organics** | | | | | | |
| None Detected | | | | | | |