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December 16, 2011

Ms. Robin Hackett
NYSDEC, Division of Environmental Remediation
625 Broadway, 11th Floor
Albany, New York 12233-7014

Re: West Slab Area Investigation Report
Former Fairchild Semiconductor Facility
91 All Angels Hill Road
Wappingers Falls, New York
Site Code 314067

Dear Ms. Hackett:

As requested, please find enclosed the *West Slab Area Investigation Report* for the Former Fairchild Semiconductor Corporation facility located at 91 All Angels Hill Road in Wappingers Falls, New York.

If you have any comments or questions, please contact me at (281) 285-4747.

Sincerely,

V. COCIANNI

Virgilio Cocianni
Remediation Manager

Enclosure: West Slab Area Investigation Report

cc: Anthony Perretta, NYSDOH, Bureau of Environmental Exposure Investigation
Charlotte Bethany, NYSDOH, Bureau of Environmental Exposure Investigation
Frank Paulo, 1st Assistant Chief, New Hackensack Fire Department
Jacquelyn Nealon, NYSDOH, Bureau of Environmental Exposure Investigation
Janet Brown, NYSDEC Region 3
Scott Deyette, NYSDEC
Weiss Associates File Copy

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WEST SLAB AREA INVESTIGATION

for

Former Fairchild Facility
91 All Angels Hill Road
Wappingers Falls, New York
Site Code 314067

prepared for

Schlumberger Technology Corporation
300 Schlumberger Drive
Sugar Land, TX 77478

prepared by

Weiss Associates
350 East Middlefield Road
Mountain View, CA 94043

Weiss Project No. 363-1922-10-08

December 16, 2011

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ACRONYMS AND ABBREVIATIONS

cis-1,2-DCE	cis-1,2-dichloroethene
DER	Division of Environmental Remediation
Fairchild	Fairchild Semiconductor Corporation
ft	feet
ft bgs	feet below ground surface
GORE®	registered trademark of W. L. Gore & Associates, Inc, Newark DE.
HRC®	Hydrogen Release Compound; registered trademark of Regenesis, San Clemente, CA
IDW	investigation-derived waste
µg/L	micrograms per liter
µg/m^3	micrograms per cubic meter
NKFD	New Hackensack Fire Department
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PCE	tetrachloroethene
PHSP	Project Health and Safety Plan
PID	photoionization detector
PPE	personal protective equipment
ppmv	parts per million by volume
PSV	passive soil vapor
QA/QC	quality assurance/quality control
QAPP	Quality Assurance Project Plan
RPD	relative percent difference
Site	91 All Angels Hill Road in Wappingers Falls, New York
STC	Schlumberger Technology Corporation
TCE	trichloroethene
TPH	total petroleum hydrocarbons
USEPA	United States Environmental Protection Agency
VOCs	volatile organic compounds
VSP	Visual Sample Plan
Weiss	Weiss Associates
1,1,1-TCA	1,1,1-trichloroethane

SUMMARY

This West Slab Investigation Report was prepared by Weiss Associates (Weiss) for Schlumberger Technology Corporation's (STC) former Fairchild facility located at 91 All Angels Hill Road in Wappingers Falls, New York, Site Code 314067 (the Site). The purpose of the investigation was to assess if a source of volatile organic compounds (VOCs), primarily trichloroethene (TCE), may exist beneath the western portion of the former building slab. The work was conducted in accordance with the *West Slab Area Investigation Work Plan* (Weiss, 2011b), which was approved by the New York State Department of Conservation (NYSDEC) and New York State Department of Health (NYSDOH) in a letter dated June 23, 2011 (NYSDEC, 2011).

The work plan proposed a first phase of investigation, "Phase I," consisting of a screening-level passive soil vapor (PSV) survey to identify potential VOC sources beneath the western portion of the slab. The Phase I results are presented here. The work plan also proposed a subsequent "Phase II" investigation (e.g., soil and groundwater sampling) to determine potentially affected media. As presented in this report, soil and groundwater sampling conducted previous to the PSV survey provides the data necessary to conclude that residual VOC concentrations in soil vapor beneath the slab do not represent a source to groundwater.

The Phase I PSV survey was conducted between August 18 and 28, 2011. The results showed two areas of TCE in soil vapor in the investigation area with mass values higher than the surrounding areas. The two areas do not coincide with any surface features that might be related to a potential source, such as utility trenches, floor drains, or other penetrative features. Saturated soil and groundwater samples previously collected beneath and downgradient of the two areas show that soil and groundwater have not been affected by the TCE or other VOCs. Therefore, the PSV detections appear to be from surface or near-surface VOCs in the concrete slab and/or the immediately underlying unsaturated soil. This pattern is consistent with minor, localized surface or floor spills that could have occurred during manufacturing in the building prior to 1985, when operations ceased. The saturated soil and groundwater sample results indicate that groundwater is not impacted in these areas. Therefore, no Phase II investigation is necessary for the west slab area.

1. INTRODUCTION

This report was prepared by Weiss Associates (Weiss) for Schlumberger Technology Corporation's (STC) former Fairchild facility located at 91 All Angels Hill Road in Wappingers Falls, New York, Site Code 314067 (the Site, Figure 1). This report presents the results of a passive soil vapor (PSV) survey beneath the western portion of the former building slab. The investigation was conducted to identify whether potential sources of volatile organic compounds (VOCs), primarily trichloroethene (TCE), may be present. Analytical results from the PSV survey are evaluated and conclusions and recommendations presented.

1.1 Objectives

There were two primary objectives of the west slab investigation as outlined by the *West Slab Area Investigation Work Plan* (Weiss, 2011b):

1) Identify and evaluate extent of potential VOC sources beneath the western portion of the slab by performing a screening-level PSV survey; and
2) Using the PSV results, determine potentially affected media and quantify VOCs by collecting discrete samples at locations suggested by the PSV survey.

This report documents the PSV results and presents previous soil and groundwater sampling data that meets the objectives of the discrete sampling program.

1.2 Report Organization

Section 1.0 of this report presents the introduction, Section 2.0 contains a brief Site description and history, Section 3.0 presents the field procedures, Section 4.0 describes and discusses the results, and Section 5.0 contains the conclusions and recommendations. Copies of field forms are presented in Appendix A. Appendix B contains the final report from the analytical laboratory, W. L. Gore & Associates, Inc (GORE®), and Appendix C contains results of air monitoring conducted during the field investigation as required by the New York State Department of Health (NYSDOH).

2. SITE BACKGROUND

2.1 Site Description

The former Fairchild Semiconductor Corporation (Fairchild) Site occupies 10 acres within the 59.5 acres of Assessor's Parcel Number (APN) 6258-02-590720. The Site is located in a rural residential area of Dutchess County, New York, approximately 60 miles north of New York City (Figure 1). The plant buildings and equipment have been removed; generally, only the concrete floor slab of the former manufacturing facility remains (Figure 2). The Site is currently owned by the New Hackensack Fire Department (NKFD) and is used for driver training and equipment storage.

2.2 Hydrogeology and Geology

The Site is on the southern crest and eastern slope of a low hill – specifically, a drumlin – bordered on the east by a small creek (Figure 1). The drumlin is composed of a heterogeneous mixture of fine-grained, clay-rich till and lacustrine deposits left by ice sheets and melt water during past glaciation. The former building floor slab is located on the crest of the drumlin.

The generalized subsurface profile at the Site consists of two clayey silt layers above bedrock. The upper layer consists of low-permeability, stiff, brown clayey silt with traces of sand that ranges in depth from the ground surface to between 7 and 25 feet below ground surface (ft bgs). Below this layer is a very stiff to hard layer of gray clay and silt. This lower clayey silt layer is also of low permeability and extends down to bedrock. Bedrock consists primarily of black shale, and ranges in depth from near the surface close to the base of the hill, to 66 ft bgs beneath the former building slab.

The water table morphology generally mimics the Site topography. Water level data from piezometers on the building slab, and wells historically and presently located at the Site, indicate that groundwater flows radially outward (towards the northeast, east, south, and west) from the center of the floor slab/drumlin, in accord with the surface topography at the Site (Figures 3 and 4). Depths to groundwater range from approximately 3 to 5 feet (ft) in the center of the slab to approximately 12 ft or more west of the slab perimeter (Figure 5). The depth to groundwater and groundwater elevations (Figures 5 and 6), and hence groundwater flow directions, have remained fairly constant over the last 20 years.

2.3 Site History

The former Fairchild facility manufactured semiconductor components from the 1960s until 1985. During operations on Site, hazardous waste management included use of acid neutralization and equalization tanks; four vinyl lined aerobic lagoons; and underground storage and treatment tanks.

Investigation and remediation activities began in 1984, when construction excavation at the Site indicated the presence of solvents and hydrocarbons in soils and groundwater. Underground storage tanks (USTs) containing fuel oil and solvents, located adjacent to the east side of the facility, were identified as the likely sources (Canonie, 1985; Canonie, 1986; and Locus, 2002). The conceptual Site model is that releases of hydrocarbons and VOCs from these USTs entered soil and groundwater and were transported laterally in shallow groundwater (Figure 2). TCE and its breakdown product cis-1,2-dichloroethene (cis-1,2-DCE) are the predominant residual VOCs in groundwater at the Site.

Remediation and investigation have included removal of the USTs and adjacent impacted soils (1985, 1986 and 1990), installation of monitoring wells and piezometers, groundwater extraction and treatment (1986-2002), a soil vapor survey followed by groundwater and soil sampling in the vicinity of wells W-19 and W-20 (2002), enhanced bioremediation using Hydrogen Release Compound (HRC®) (2002-2007), and a soil vapor survey followed by groundwater and soil sampling in the vicinity of well W-18A (2007 and 2008) (Weiss, 2009). The groundwater extraction system and HRC injection utilized two trenches: a lower, downgradient trench located approximately 200 ft from the former facility and running from northeast to south; and a shorter, T-shaped upper trench just east of the area formerly occupied by the USTs (Figure 2).

STC sold the Site to the NKFD in 1996, which currently uses it for as-needed driver training and for the periodic storage of mobile homes that are used for offsite fire training. STC is currently monitoring the Site to assess natural attenuation trends. The New York State Department of Environmental Conservation (NYSDEC) stated in 2007 that VOCs in groundwater near most wells at the Site were sufficiently attenuating, with the exception of wells W-18A and W-27 (NYSDEC, 2007). The area near well W-18A was further investigated in 2007 and 2008 (Weiss, 2009). The investigation at W-18A identified an isolated area of VOCs near well W-18A that may be responsible for the residual VOC concentrations in groundwater in that well.

The W-18A investigation also identified VOCs in soil vapor sample V-5, collected beneath the western-central part of the former building slab (Table 1). The investigation did not detect VOCs in soil or groundwater samples from the soil boring for piezometer P-3, about 15 ft northeast, and upgradient, of V-5 (Weiss, 2009). These results, along with sampling results for piezometer P-3 from October 2010, showed less than 1 microgram per liter (µg/L) of VOCs in groundwater in this area beneath the former building slab (Weiss, 2011a). These data suggested that the VOCs detected in soil vapor at V-5 are not from a soil or groundwater source. However, to establish the nature of the source of VOCs at V-5 and their potential extent, NYSDEC requested further investigation of the V-5 area, leading to this PSV investigation of the west slab area.

3. FIELD ACTIVITIES

Field procedures were outlined in the work plan (Weiss, 2011b), and were implemented at the Site from August 18 through 29, 2011. These activities are described in the following subsections.

3.1 Health and Safety

A project health and safety plan (PHSP) was prepared for this work in accordance with requirements specified in:

- 29 Code of Federal Regulations (CFR) 1910 - Occupational Safety and Health Standards;
- 29 CFR 1926 - Safety and Health Regulations for Construction;
- 29 CFR 1910.120 - Hazardous Waste Operations and Emergency Response; and
- NYSDEC Division of Environmental Remediation (DER) DER-10 guidance, Section 1.9.

The PHSP was reviewed prior to field mobilization and signed by the project manager and field staff. Daily safety tailgate meetings were held to discuss relevant safety issues and review field processes.

3.2 Line Locating

The PSV survey locations were marked, and Dig|Safely New York was contacted several days before field activities to identify potential underground utility locations. The only known utility of concern was the municipal water main serving the fire hydrants around the building slab, located well beyond the approximately 150 x 200 foot investigation area. None of the sample locations were moved as a result of subsurface utilities.

3.3 Passive Soil Vapor Survey

For the PSV survey, Weiss deployed passive diffusion samplers, referred to as GORE® modules, provided by W. L. Gore & Associates, Inc. The GORE® modules consisted of an engineered adsorbent, each encased in a hydrophobic membrane (Gore, 2011). The modules were deployed August 18 and 19, 2011, and removed August 29, 2011.

3.3.1 Investigation Approach

A total of 49 GORE® modules were used to identify the extent of VOCs. The PSV samples were collected on a modified 25- by 25-foot grid system as shown in Figure 7. The grid was planned and designed such that nodes were located next to surface features identified by NYSDEC (NYSDEC, 2010), including floor drains and the piping that connects them, a former utility trench, and a "possible pit" that may be a concrete footing that previously supported heavy machinery. Grid alignment also attempted to place nodes near the V-3 and V-4 sampling locations from the 2007 W-18A investigation (Weiss, 2009) to correlate results from both investigations. The Visual Sample Plan (VSP) software developed by Pacific Northwest National Laboratory (http://vsp.pnl.gov/) was used to optimize the sampling design.

Forty of the PSV locations were at nodes located on a 25-foot spacing grid. The grid node locations coincided with, or were near, many of the former utility trenches and intersections of slab joints in the former building slab. Four additional samples were located around the V-5 sample location to form a higher sampling density, with 17.7-foot grid spacing. Three samples were located further to the northwest (presumed upgradient) of the V-5 sample location to form a wider, 50-foot spacing. Two additional discrete, or non-grid samples were located at selected surface features: one near the area described as a "possible pit" and the second within a former utility trench.

The grid locations were measured and marked in the field using a steel tape and chalk. The 49 samples were collected from modules set 1.5 to 3 ft bgs except where the water table was shallower than this depth; in the latter case the modules were set six inches above the water table. The two-digit location numbers shown on Figure 7 correspond to the last two digits of the GORE® serial number for the module or modules deployed at the respective location.

The PSV samples, including quality assurance/quality control (QA/QC) samples, were analyzed for the target Site constituents (chlorinated VOCs and hydrocarbons) using modified United States Environmental Protection Agency (USEPA) Method 8260/8270. A letter-report that presents the PSV survey results as submitted by the subcontractor, W.L. Gore and Associates, Inc., is included as Appendix B.

3.3.2 Soil Vapor Sampling Procedures

The GORE® modules were installed at nodes on the rectangular grid with spacings of 17.7-, 25- and 50- ft as described above. Each module was installed as close to the targeted grid node as possible, using the procedures recommended by the manufacturer of the GORE® modules. The borehole for each module was 0.75 inch in diameter and advanced to the target depth using a hand-held rotary drill. Borehole collapse did not occur, and the 49 holes remained open long enough to insert the module without needing to add deionized water to hold them open. Each GORE® module was set between 1.5 and 3 ft bgs, or 6 inches above the water table if the water table was shallower than 2 ft.

Field staff recorded sample identifications, serial numbers, locations, depths, technician initials, and installation dates and times on a sampler installation log (included with the GORE® report, Appendix B). Before opening and deploying each module, and during module recovery, the technicians donned a new pair of disposable plastic gloves. A GORE® -provided cork was used to seal the hole from air infiltration. The surface around the cork was further sealed with granular bentonite and plastic sheeting to minimize rainfall and runoff from entering the borehole. After the GORE® module had remained in the ground for 10 or 11 days, the samples were retrieved in

accordance with the manufacturer's instructions, and shipped under chain of custody to the offsite GORE® analytical laboratory.

Following sample retrieval, each location was backfilled with granular bentonite and water. The surface around each borehole was restored to the extent practicable by replacing the surface slab or sod to match surrounding conditions.

3.3.3 Deviations from the Work Plan

There were two instances where field conditions necessitated that work should not be conducted as per the work plan (Weiss, 2011b):

- The discrete sample location that was intended to investigate a "possible pit" contained standing water which was underlain by a layer of concrete at approximately 18 inches below ground surface. This location was therefore moved 2 ft to the north, and the sample was successfully collected; and
- The discrete sample location that was intended to investigate the former utility trench was also under water and underlain by a concrete slab. The location was moved 4 ft to the west, and the sample was successfully collected.

3.4 Field Quality Assurance/Quality Control Sampling

QA/QC samples included field duplicates and trip blanks; no field blanks were collected as there was no sampling equipment to decontaminate. Three trip blanks were analyzed. The blank packaged on September 17, 2011 contained total petroleum hydrocarbons (TPH) at 0.05 µg. Thus, this value of TPH is considered to be equivalent to background for this investigation. No other VOCs were detected in this trip blank, and no VOCs were detected in either of the other two trip blanks.

Five field duplicate samples, equivalent to approximately 10 percent of the sample locations, were collected from the same hole and similar depth as the original sample and analyzed. Locations with duplicates include 09, 18, 27, 36, and 45 (Figure 7). Analytical results of duplicate samples are compared with the respective regular samples in Table 2. Weiss verified the laboratory QA/QC documentation and concluded that the data are within acceptable criteria. The data are therefore considered valid and usable for this project.

3.5 Investigation-Derived Wastes

Investigation-derived wastes (IDW) consisted of less than 5 gallons of soil cuttings from the 0.75-inch-diameter PSV holes, decontamination water, and used personal protective equipment (PPE), such as gloves. The PPE was disposed of as municipal trash. Soil removed from the holes was screened using a photoionization detector (PID) with a 10.6-eV lamp. During field sampling, PID readings on the soil cuttings did not show VOCs exceeding 5 parts per million by volume (ppmv), and thus, no segregation of IDW was conducted and wastes were not containerized. Instead, due to the low VOC readings, soil cuttings and decontamination water IDW were distributed onsite near the boreholes, consistent with the NYSDEC-approved work plan (Weiss, 2011b).

3.6 Air Monitoring

Ambient air was monitored for particulates and VOCs during investigation activities, as required by NYSDEC for any investigations that disturb the ground. Particulate monitoring both upwind and downwind of the sampling activity showed concentrations in the 10 to 40 micrograms per cubic meter ($\mu g/m^3$) range, well below the action level of 150 $\mu g/m^3$ above background for a 15 minute-average. The one exception from the 10 to 40 $\mu g/m^3$ range was a brief excursion to approximately 110 $\mu g/m^3$ on the morning of August 18, 2011 which appears to reflect dust from offsite, since the upwind monitor recorded higher values than downwind. VOC monitoring showed 0.0 ppmv background (more than 1 foot from any borehole) readings, with the exception of the morning of August 18, 2011 when a rain storm drove humidity levels above 80% and the PID meter yielded high background readings, interpreted as false positive readings. Complete air monitoring procedures and data are provided in Appendix C.

3.7 Field Equipment, Containers, and Supplies

Field equipment, containers, and supplies used for the GORE® PSV included:

- An electric hammer drill, bit, generator and power cord;
- The GORE® modules and glass jars, for shipping and storage;
- Decontamination supplies for drilling equipment, consisting of clean buckets, laboratory grade detergent, distilled water, brush and gloves;
- Field monitoring equipment (e.g., PID) and a real-time particulate monitor as specified by the air monitoring plan, presented in Appendix C of the work plan (Weiss, 2011b); and,
- Appropriate safety equipment as specified by the PHSP.

The generator was placed on a dolly for easy mobility, and kept at least 50 ft downwind of any active work zone.

3.8 Field Analytical Procedures

The operation, calibration, and preventative maintenance for field sampling equipment were conducted in accordance with vendor-supplied operation manuals and manufacturer's instructions. Further details regarding equipment calibration are presented in the quality assurance project plan (QAPP), included as Appendix A of the work plan (Weiss, 2011b). Field sampling equipment utilized during the investigation included a PID for measuring VOCs, and an ambient dust monitor for collecting airborne particulate measurements, as discussed in Appendix C. Field measurements and analytical data were either recorded in the field log, or using the data logging capability incorporated into the instruments.

4. RESULTS AND DISCUSSION

Results for select VOCs from this survey are presented in Table 2. Appendix B contains the complete data set and PSV report prepared by GORE® Surveys, Inc. Results for TCE are shown on Figures 8 and 9, with colorimetric shading to represent the range of mass values. Four other VOCs with frequent detections but at mass values more than two orders of magnitude lower than TCE include Freon 113, toluene, tetrachloroethene (PCE), and 1,1,1-trichloroethane (1,1,1-TCA). Colorimetric shading maps for these VOCs are shown in Appendix B.

As shown on Figures 8 and 9, the pattern of occurrence for the TCE mass values does not indicate that known floor drains, utility trenches, pits, slab joints and other surface penetrations are source areas. The TCE distribution also does not show a consistent pattern or correlation with the other VOCs (Appendix B). The highest mass values of TCE were detected at GORE® module sample locations 23 and 01. As discussed below, previous sampling results indicate that these areas are not sources of TCE to groundwater.

Location 23 is adjacent to soil vapor sample V-5, which contained the highest TCE concentration of the samples collected during the W-18A investigation (Figure 8). This location is beneath the former clean room, an area of the facility where VOCs were used. No TCE was detected above detection limits in these previously collected soil and groundwater samples at this location:

- Soil samples collected in 2008 from both 10 and 20 ft bgs from the boring for piezometer P-3 (Weiss, 2009) as shown in Table 3 and Figure 10;
- A grab groundwater sample collected from 19.5 to 26 ft bgs from the same boring during the W-18A investigation (Table 4, Figure 10); and
- A groundwater sample collected from this depth interval in piezometer P-3 in October 2010 (Weiss, 2011a).

Location 01 (Figures 7, 8 and 9) is beneath an area formerly used for deionized water storage, mechanical equipment serving the building systems, and a workshop for machining and welding poly vinyl chloride components (Whitten, 2010-2011, personal communications). These activities are not typically associated with TCE use, and no documentation could be found of solvent storage or use in the area.

TCE was not present above detection limits in saturated soil and groundwater samples collected from locations potentially downgradient from location 01 (Figure 9). Because location 01 is at the center of the radial groundwater flow pattern at the crest of the hill, the downgradient direction could be to the east, south, or west and could change over time. However, soil and groundwater samples have been collected in previous investigations in all three directions. These samples with no detection of TCE include:

- A saturated soil sample collected from 10 ft bgs in 2008 from the boring for piezometer P-1, located about 35 ft west of location 01, during the W-18A investigation (Weiss, 2009) (Table 3);

- A grab groundwater sample collected from 11 to 20 ft bgs from the boring for piezometer P-1 (Table 4), and a groundwater sample collected from piezometer P-1 in October 2010 (Weiss, 2011a) (Table 4);
- Saturated soil and groundwater samples from the boring for piezometer P-3, located about 100 ft south of location 01 (Tables 3 and 4); and
- Groundwater samples from monitoring wells W-29 through W-35, located south, west, and northwest of the west slab investigation area (Figure 9), that were sampled between 1986 and 1989 (Table 4) and decommissioned with NYSDEC approval in 1998. One-time detections of TCE in wells W-29, W-32, and W-35 in July 1986 (Table 4) were not confirmed by later sampling and were attributed to cross-contamination of the sampling equipment (Canonie, 1987).

As mentioned previously, these results are evidence that the TCE at location 01 has not impacted soil or groundwater to the extent that any migration has or is likely to occur. The previous results also show no evidence of other VOCs sources. No other VOCs were detected in the previous soil and groundwater sampling in the west slab area, except sporadic 1,1,1-TCA in samples from well W-30, at concentrations just above detection limits (Table 4).

5. CONCLUSIONS AND RECOMMENDATIONS

The PSV survey indicates that no VOC source impacting groundwater is present beneath the west slab. Previous soil and groundwater sampling near and around the locations with the two highest TCE mass values did not detect VOCs. This previous soil and groundwater sampling meets the objectives of the Phase II sampling proposed in the work plan. Therefore, no further investigation of the west slab is warranted.

The two locations with the highest TCE include: (1) PSV sample location 23, near previous soil vapor point V-5, and (2) location 01 (Figures 8 and 9). Data for previously collected soil and groundwater samples at and downgradient of these locations show no detection of TCE (other than three detections attributed to cross-contamination), indicating that the TCE detections in the PSV survey do not represent a source that is impacting groundwater. Other VOCs were detected in the PSV survey, but at mass values more than two orders of magnitude lower than TCE. These other VOCs were not detected in the previous soil and groundwater sampling except for 1,1,1-TCA just above detection limits in some of the samples from well W-30 (Table 4).

Previous soil and groundwater samples collected from piezometer P-3 at location 23 show no detection of VOCs, indicating that TCE has not impacted soil and groundwater in this area. Consequently, the TCE detected during the PSV survey at this location is likely limited to the concrete slab itself and/or the unsaturated soil immediately beneath it, and does not represent a release into deeper soil or groundwater. This pattern is consistent with potential minor, localized surface or floor spills during manufacturing in the building prior to 1985, when operations ceased.

Location 01 is at the center of a radial groundwater flow pattern at the crest of the hill, so the downgradient direction could be to the east, south, or west and may change over time. This radial pattern is depicted by the 1998 groundwater elevation contours that are shown on Figures 4 and 9. Previous soil and groundwater samples collected at locations in these potentially downgradient directions did not contain detectable TCE, except for three detections attributed to cross-contamination. Three rounds of follow up sampling showed no detection of TCE at these locations.

Saturated soil sample and groundwater samples collected at piezometers P-1 and P-3 contained no detectable VOCs and indicate that groundwater is not impacted to the south and west of location 01. There were no detections of TCE or other VOCs in groundwater samples collected from monitoring wells W-34 and W-35 from 1986 to 1989 other than the cross-contamination mentioned earlier, indicating that groundwater northwest of location 01 was not impacted a minimum of four years after the facility closed. These results are consistent with the conclusion that TCE detected at location 01, in a manner similar to the TCE detected at location 23, represents a concentration within the concrete slab itself and/or the unsaturated soil immediately beneath it, and not a release to groundwater.

Therefore, no Phase II sampling is recommended as a follow up to the Phase I PSV survey. The previous soil and groundwater sampling performed near and downgradient of the two PSV locations with the highest TCE satisfies the objectives of the Phase II sampling that was proposed in the work plan.

6. CERTIFICATION AND DISCLAIMER

Weiss Associates' work for Schlumberger Technology Corporation at the former Fairchild Semiconductor Facility located at 91 All Angels Hill Road in Wappingers Falls, New York, was conducted under our supervision. To the best of our knowledge, the data contained herein are true and accurate, are based on what can be reasonably understood as a result of this project, and satisfy the scope of work prescribed by the client for this project. The data, findings, recommendations, specifications, or professional opinions were prepared solely for the use of Schlumberger Technology Corporation in accordance with generally accepted hydrogeologic practice. We make no other warranty, either expressed or implied, and are not responsible for the interpretation by others of the contents herein.

December 16, 2011
Thomas Fojut Date
Principal Engineer

December 16, 2011
Bill McIlvride Date
Senior Project Hydrogeologist

7. REFERENCES

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Whitten, 2010-2011, *Personal communications from Larry Whitten of Weiss Associates to Bill McIlvride of Weiss Associates.* Larry was a wastewater treatment plant operator at the former Fairchild facility in 1985, the final year of operation, and witnessed operations inside the building.

FIGURES

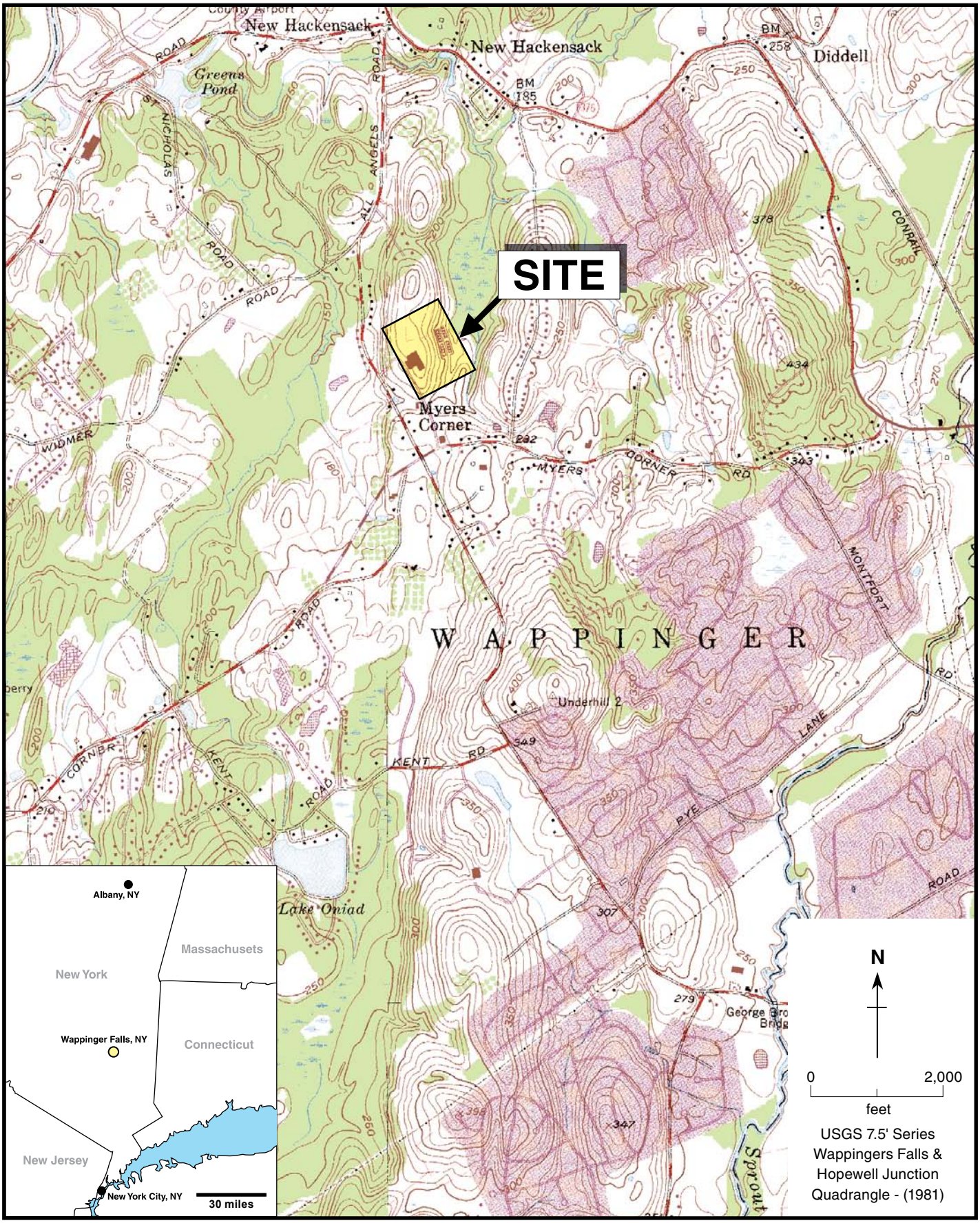


Figure 1. Site Location Map, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York

WOODED AREA
WOODED AREA
WOODED AREA
DRAINAGE DITCH
EXISTING STREAM
W-10
OUTFALL 001
W-27
E 10,250
LOWER GROUND WATER EXTRACTION TRENCH
W-22
W-8
W-7
W-3
W-21
W-26D
W-26A
W-26
W-26B
W-26C
W-1
W-9
E 10,000
N 10,500
W-4
W-20
W-2
W-19
W-12
W-5
W-25
W-6
W-11
W-15
W-16
W-13
W-14
UPPER GROUND WATER EXTRACTION TRENCH
AREA OF ABANDONED OIL AND SOLVENT TANKS
W-17
W-23
PARKING AREA
W-18
W-18A
PAVEMENT
W-28
W-24
N 10,000
E 10,000
(SEE NOTE No. 1)
22°
P-1
P-2
FORMER FAIRCHILD FACILITY
W-35
P-3
V-5
W-29
PAVEMENT
GROUND WATER TREATMENT BUILDING
E 9,750
N 10,250
N 9,500
WEST SLAB INVESTIGATION AREA (FIGURE 7)
W-30
W-34
N 10,000
PAVEMENT
W-33
W-32
W-31

EXPLANATION:

- FORMER BUILDING FOUNDATION SLAB
- GROUND WATER EXTRACTION TRENCH
- FENCE
- EDGE OF WOODED AREA
- W-9 MONITORING WELL
- W-19 MONITORING WELL, FORMERLY RECOVERY WELL
- P-1 PEIZOMETER
- V-5 SUB-SLAB VAPOR SAMPLE LOCATION
- W-6 DECOMMISSIONED WELL

REFERENCE:

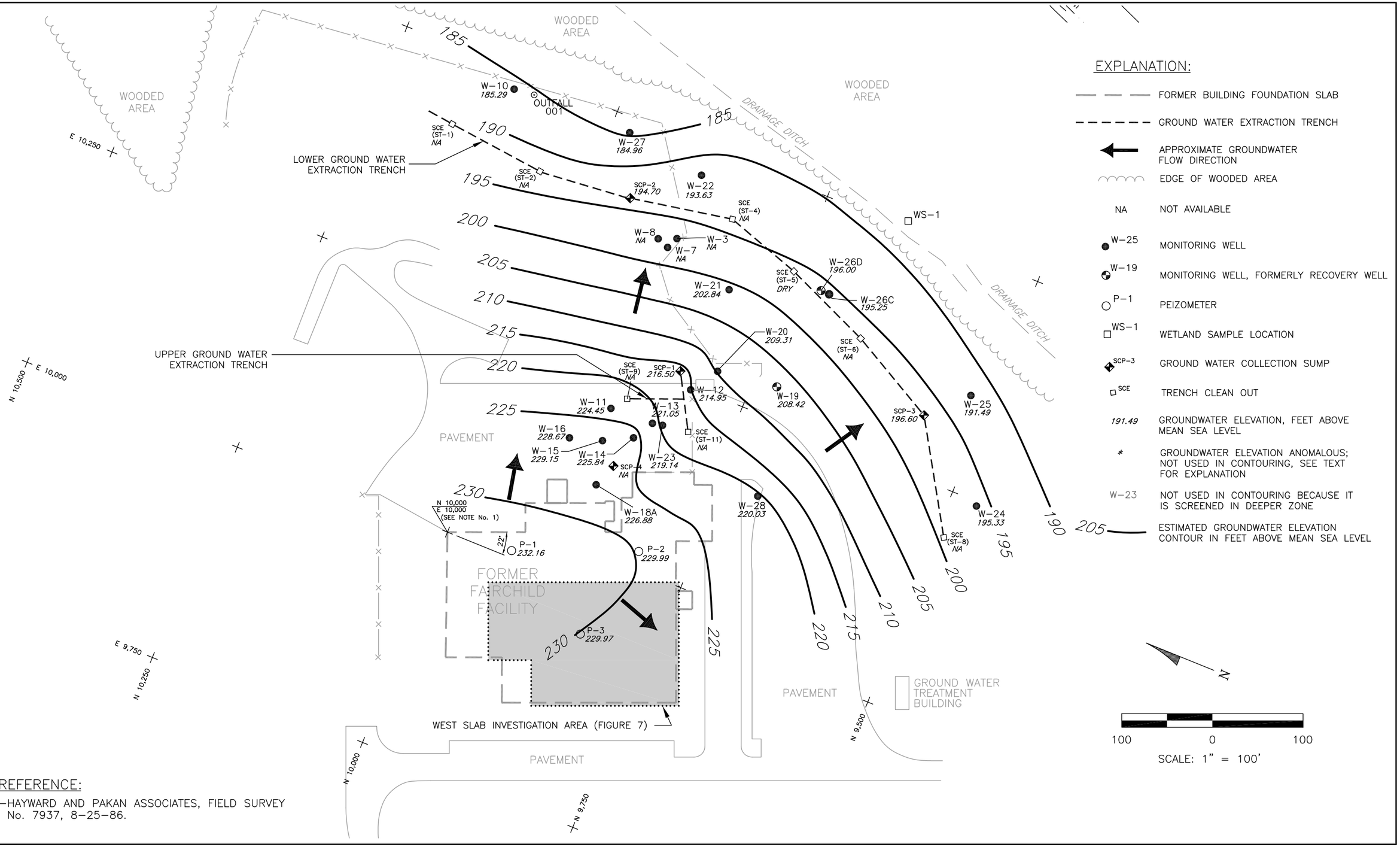
-HAYWARD AND PAKAN ASSOCIATES, FIELD SURVEY No. 7937, 8-25-86.

N

100 0 100

SCALE: 1" = 100'

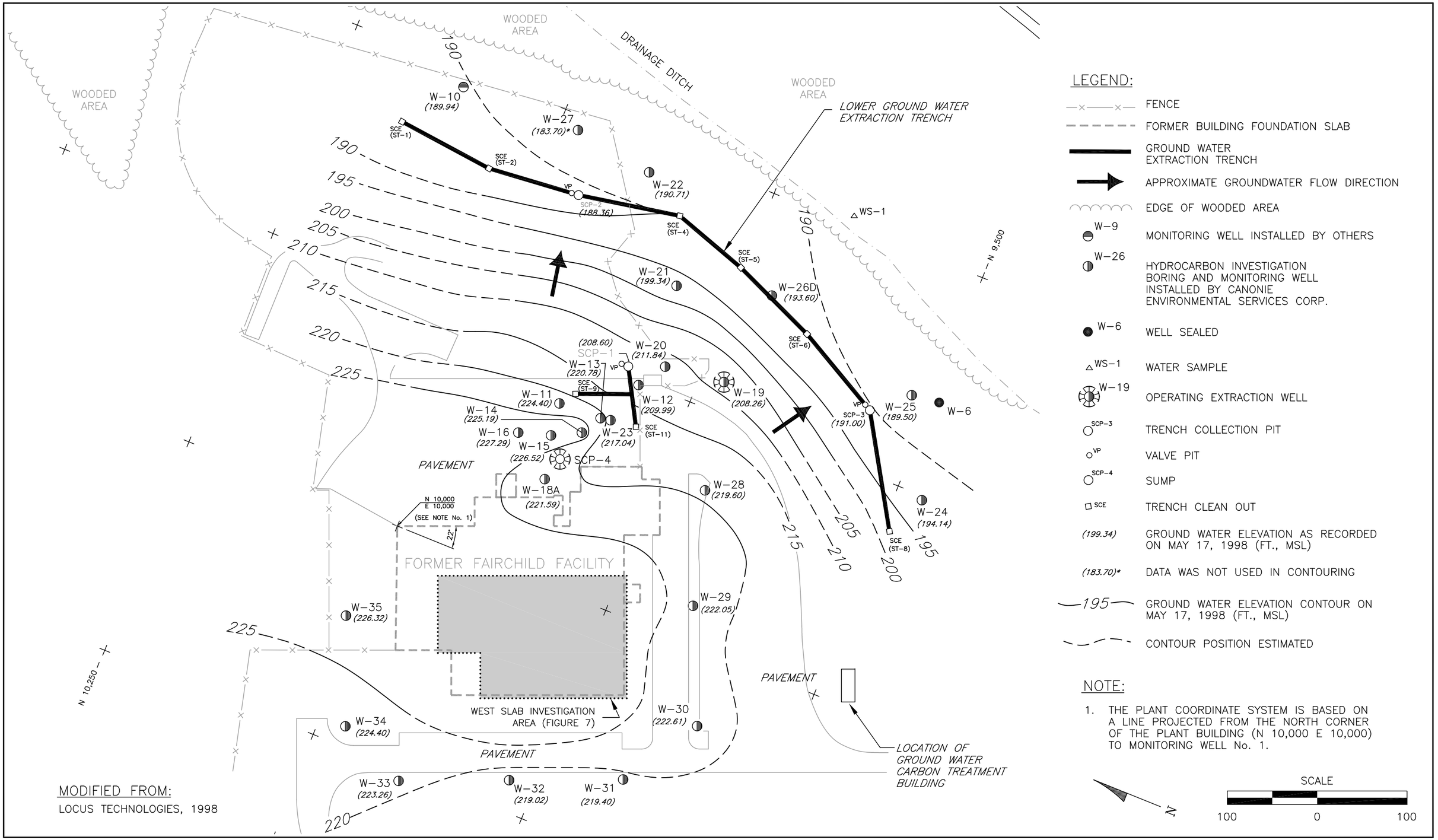
Figure 2. Site Plan and Monitoring Well Locations, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York



REFERENCE:

–HAYWARD AND PAKAN ASSOCIATES, FIELD SURVEY No. 7937, 8–25–86.

Figure 3. Groundwater Elevation Contour Map, October 1, 2011, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York



MODIFIED FROM:
LOCUS TECHNOLOGIES, 1998

LEGEND:

- FENCE
- FORMER BUILDING FOUNDATION SLAB
- GROUND WATER EXTRACTION TRENCH
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- EDGE OF WOODED AREA
- W-9 — MONITORING WELL INSTALLED BY OTHERS
- W-26 — HYDROCARBON INVESTIGATION BORING AND MONITORING WELL INSTALLED BY CANONIE ENVIRONMENTAL SERVICES CORP.
- W-6 — WELL SEALED
- WS-1 — WATER SAMPLE
- W-19 — OPERATING EXTRACTION WELL
- SCP-3 — TRENCH COLLECTION PIT
- VP — VALVE PIT
- SCP-4 — SUMP
- SCE — TRENCH CLEAN OUT
- (199.34) — GROUND WATER ELEVATION AS RECORDED ON MAY 17, 1998 (FT., MSL)
- (183.70)* — DATA WAS NOT USED IN CONTOURING
- 195 — GROUND WATER ELEVATION CONTOUR ON MAY 17, 1998 (FT., MSL)
- CONTOUR POSITION ESTIMATED

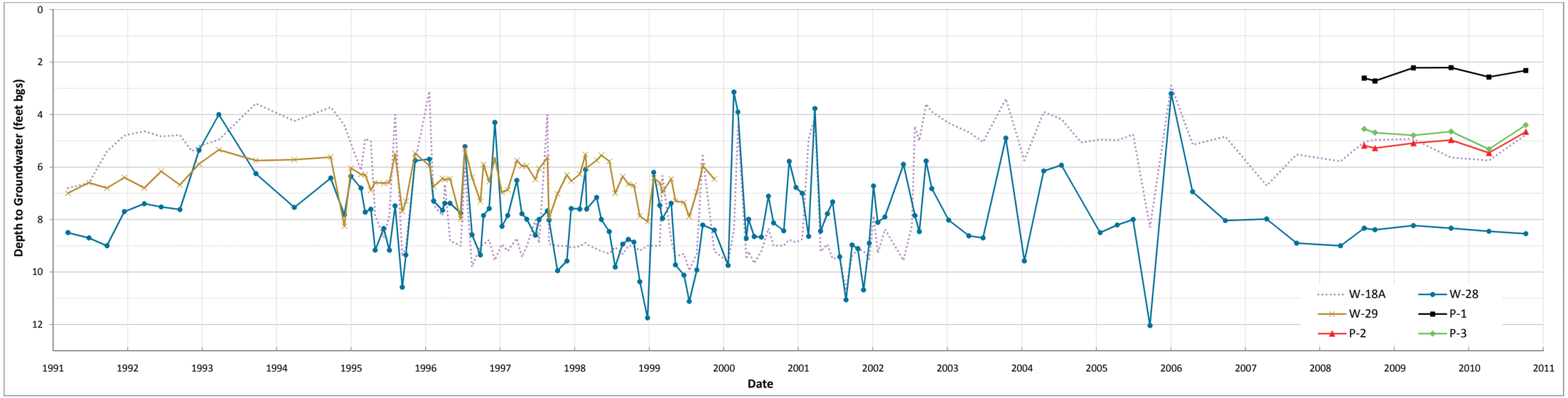
NOTE:

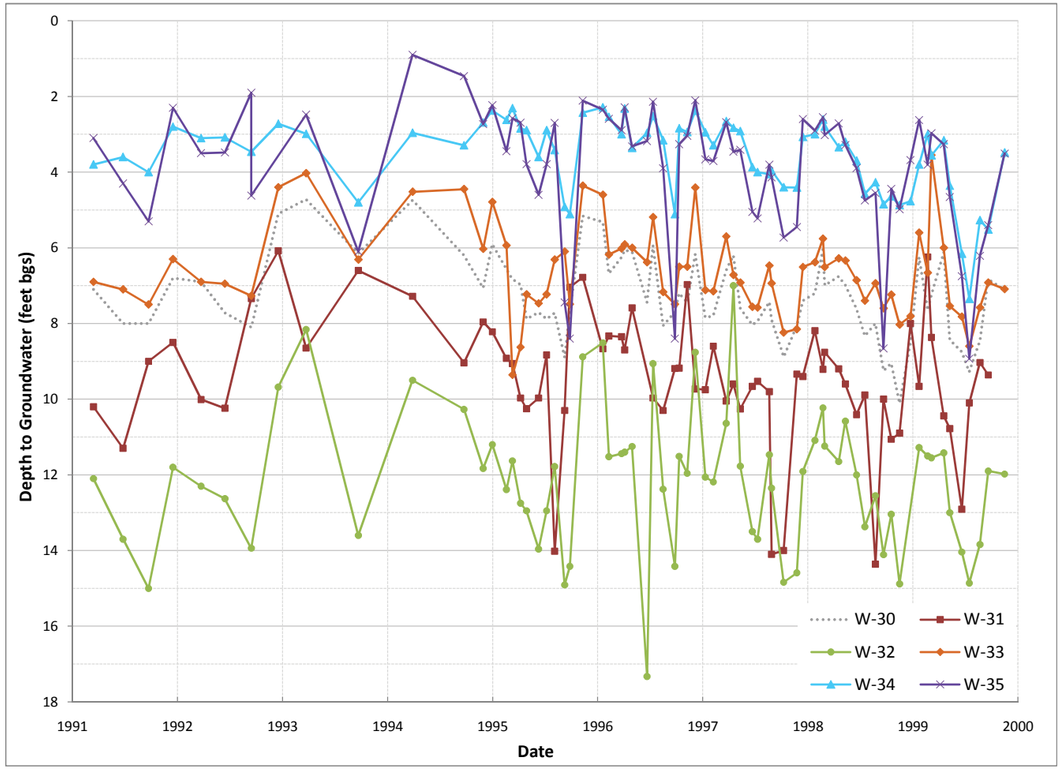
1. THE PLANT COORDINATE SYSTEM IS BASED ON A LINE PROJECTED FROM THE NORTH CORNER OF THE PLANT BUILDING (N 10,000 E 10,000) TO MONITORING WELL No. 1.

N

SCALE
100 0 100

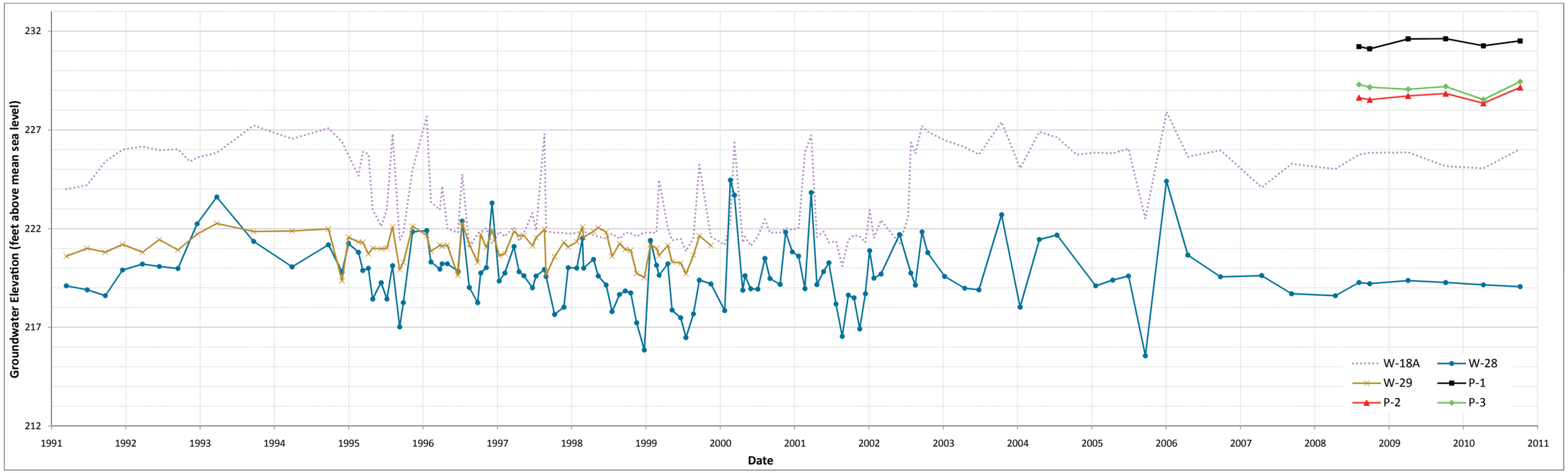
Figure 4. Historical Groundwater Elevation Contours, May 17, 1998, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York

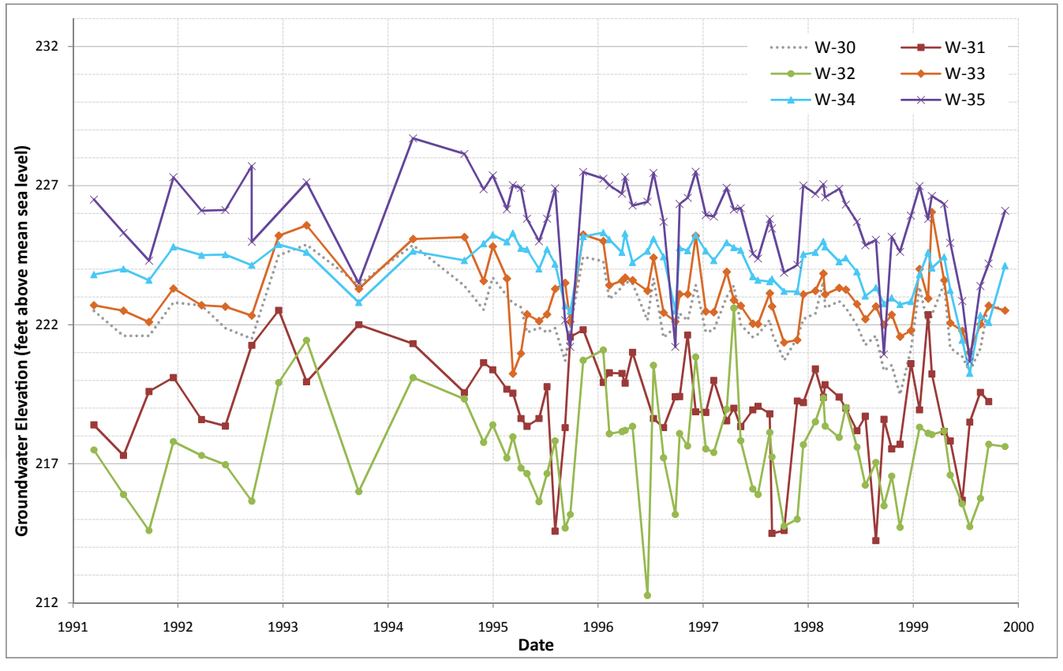




Note:
Wells W-30 through W-35 were decommissioned in 1999, with New York State Department of Environmental Conservation approval and oversight.

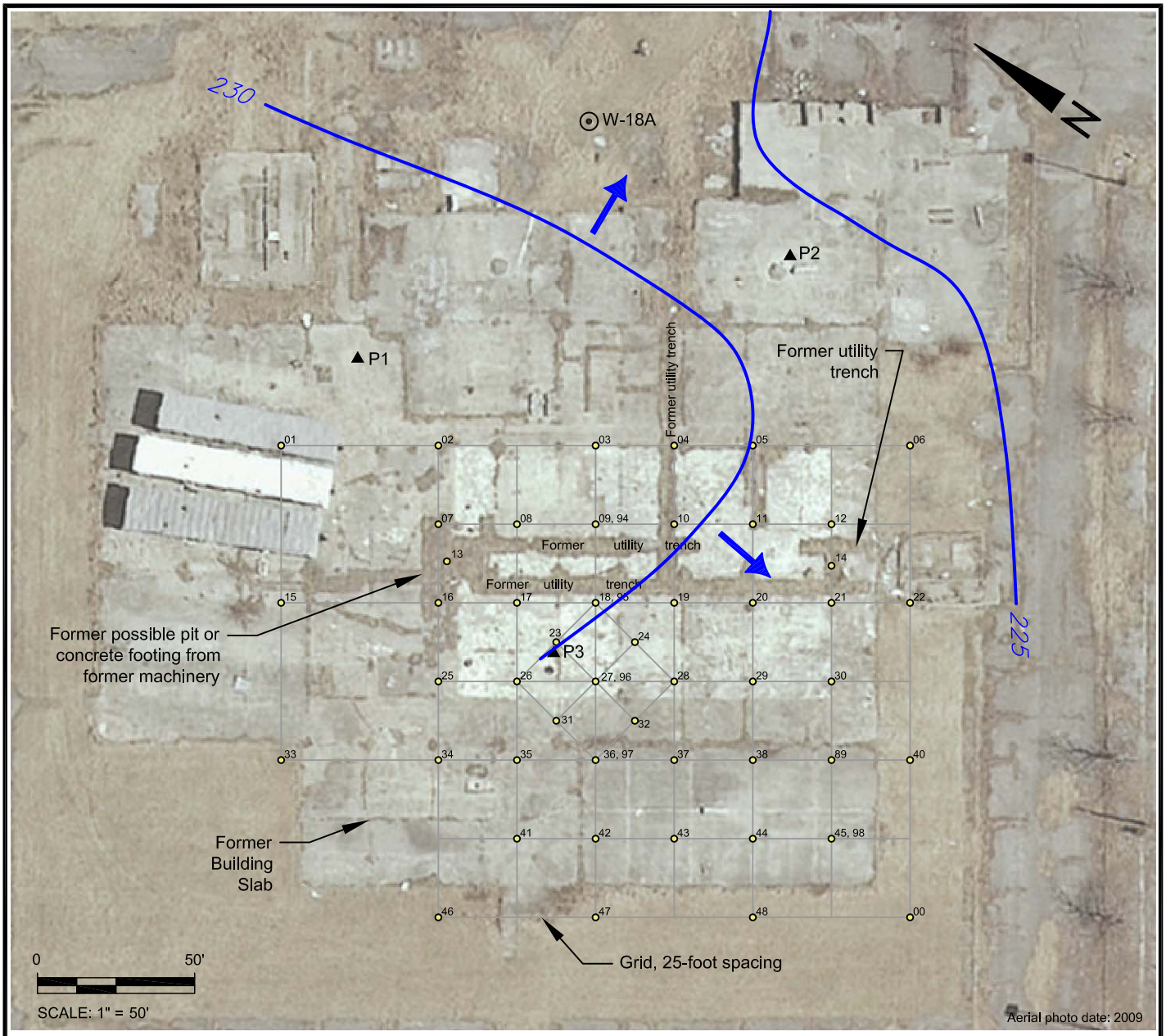
Figure 5. Depth to Groundwater in the West Slab Vicinity, 1991- Present, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York





Note:
Wells W-30 through W-35 were decommissioned in 1999, with New York State Department of Environmental Conservation approval and oversight.

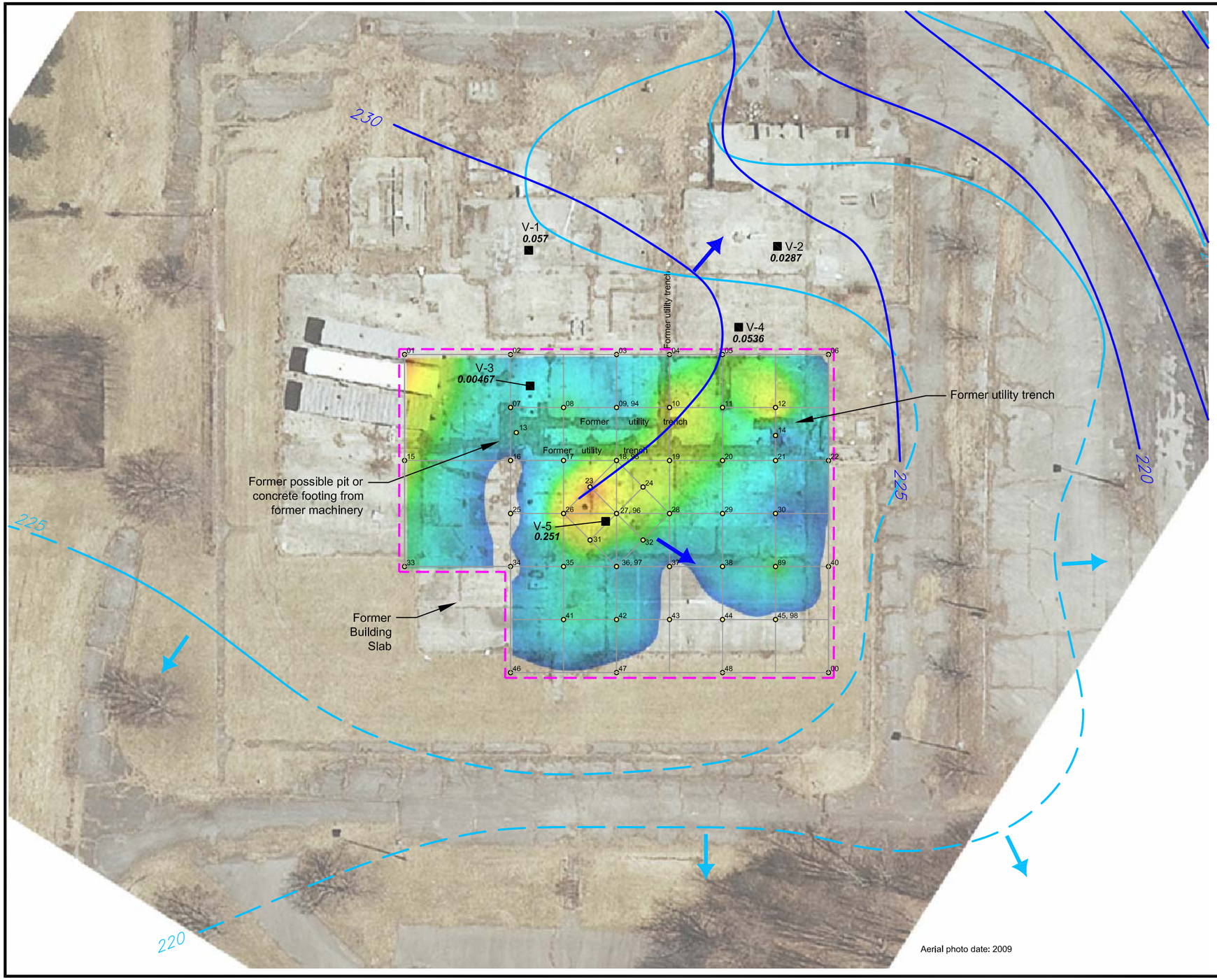
Figure 6. Groundwater Elevations in the West Slab Vicinity, 1991- Present, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York



EXPLANATION

01	Passive soil vapor sample location and sample number; sample depth 0.5 - 2.0 feet below ground surface
P-1 ▲	Piezometer
W-18A ⊙	Monitoring well
230	2011 Groundwater elevation contour (in feet above mean sea level)
→	Groundwater flow direction inferred from contours

Figure 7. Passive Soil Vapor Sampling Locations, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York



EXPLANATION

- 01 — Passive soil vapor sample location and sample number; sample depth 0.5 - 2.0 feet below ground surface
- V-4 ■ 0.0536 — Sub-slab soil vapor sample, collected October 2007 using Summa canisters from 6 inches beneath the former building slab, showing concentration of trichloroethene (TCE) in soil vapor, parts per million by volume (ppmv)
- 230 — 2011 Groundwater elevation contour (in feet above mean sea level)
- 220 — 1998 Groundwater elevation contour (in feet above mean sea level) dashed where inferred
- Groundwater flow direction inferred from 2011 elevation contours
- Groundwater flow direction inferred from 1998 elevation contours
- Limit of passive soil vapor survey

micrograms
28.445
19.786
13.763
9.573
6.659
4.632
3.222
2.241
1.559
1.084
0.754
0.525
0.365
0.254
0.177
0.123
0.085
0.059
0.041
0.029
0.020

Colormetric contouring is based only on passive soil vapor results

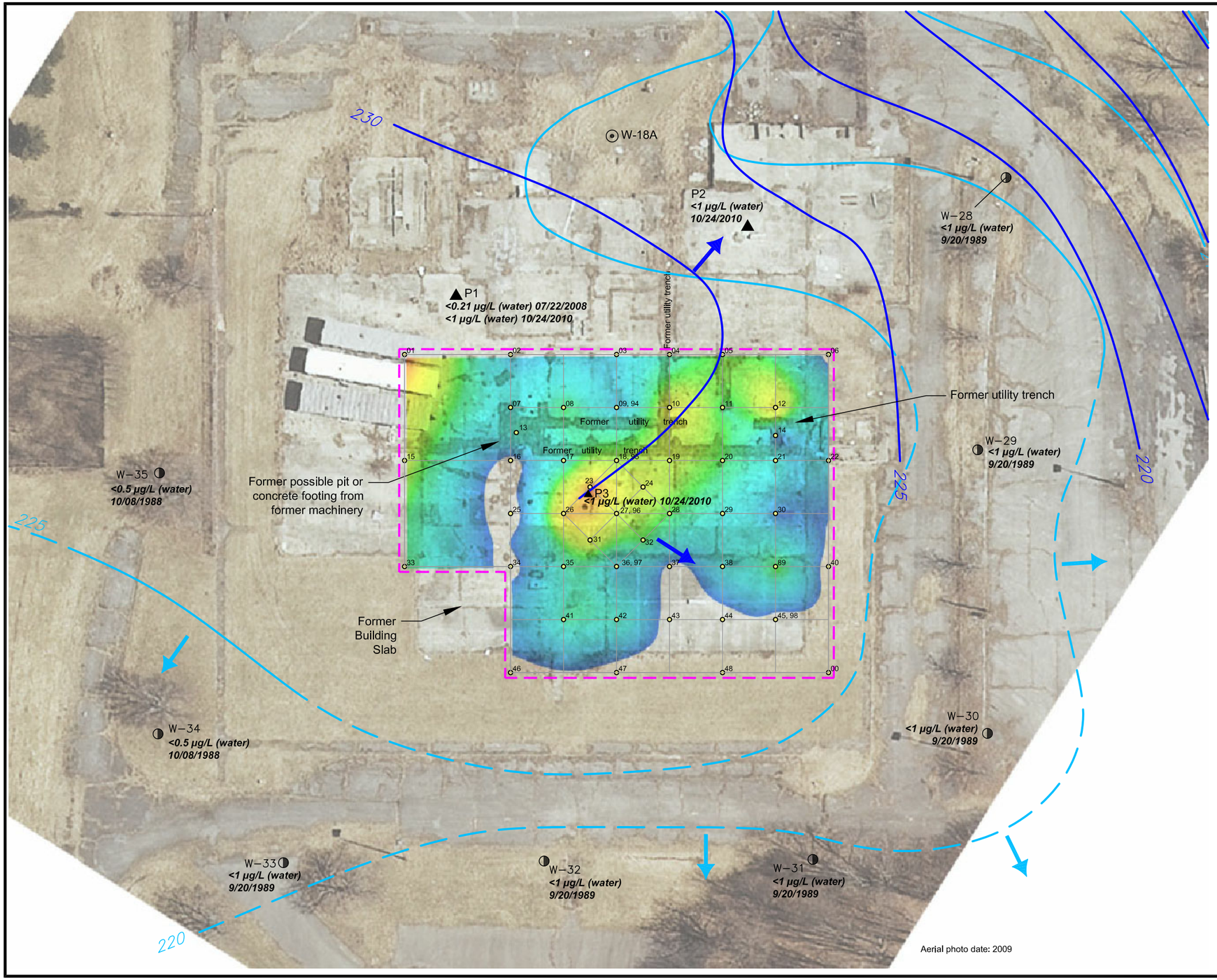
N

0 50'

SCALE: 1" = 50'

Aerial photo date: 2009

Figure 8. Passive Soil Vapor Results for TCE and Previous Summa Canister Vapor Sampling Results, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York



EXPLANATION

- Passive soil vapor sample location and sample number; sample depth 0.5 - 2.0 feet below ground surface
- P-1 ▲ Piezometer
- W-18A ⊙ Existing groundwater monitoring well
- W–35 ◑ Former groundwater monitoring well
- 230 2011 Groundwater elevation contour (in feet above mean sea level)
- 220 1998 Groundwater elevation contour (in feet above mean sea level) dashed where inferred
- Groundwater flow direction inferred from 2011 elevation contours
- Groundwater flow direction inferred from 1998 elevation contours
- Limit of passive soil vapor survey

micrograms
28.445
19.786
13.763
9.573
6.659
4.632
3.222
2.241
1.559
1.084
0.754
0.525
0.365
0.254
0.177
0.123
0.085
0.059
0.041
0.029
0.020

Colormetric contouring is based only on passive soil vapor results

N

0 50'

SCALE: 1" = 50'

Figure 9. Passive Soil Vapor Results for TCE and Previous Groundwater Monitoring Results, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York

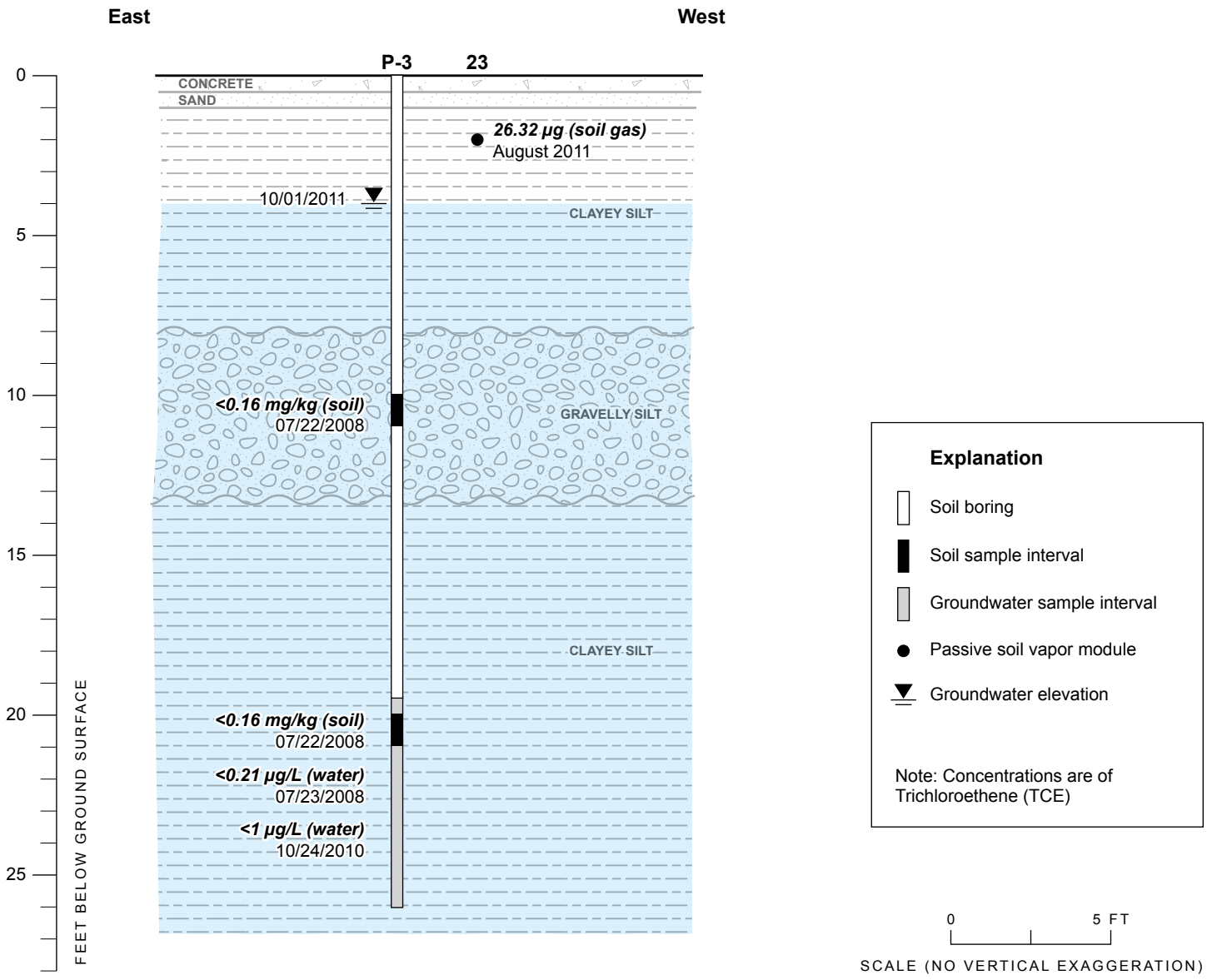


Figure 10. Profile of P-3 Location with Passive Soil Vapor, Soil, and Groundwater Analytical Results for TCE, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York

TABLES

Table 1. VOC Results for Previously-Collected West Slab and Vicinity Soil Vapor Samples October 17, 2007, 91 All Angels Hill Road, Wappingers Falls, New York

Sample ID	PCE	TCE	cis-1,2-DCE	Vinyl chloride	1,1,1-TCA	Freon-12	Freon-113	Benzene	Ethylbenzene	Toluene	p/m-Xylene	o-Xylene
	<----------ppmv---------->											
V-1	0.00367	0.0573	0.00292	<0.00250	0.0516	0.188	0.00780	<0.00250	<0.00250	0.0139	0.00641	0.00277
V-2	0.000559	0.0287	<0.000500	<0.000500	0.0245	0.174	0.0153	<0.000500	0.000941	0.00416	0.00332	0.00102
V-3	0.00111	0.00467	<0.000500	<0.000500	0.000731	<0.00100	0.00557	0.000955	0.00117	0.0124	0.00406	0.00179
V-4	<0.000500	0.0536	<0.000500	<0.000500	0.0127	1.15	0.0232	<0.000500	0.00436	0.00932	0.0091	0.00852
V-5	0.0321	0.251	<0.00250	<0.00250	0.00935	2.16	0.0785	<0.00250	<0.00250	0.00511	<0.00500	<0.00250

Notes:

Analysis by Environmental Protection Agency (EPA) Method TO-15 by Alpha Analytical, Westborough, Massachusetts.
Only analytes with the highest concentrations are shown.
Samples were collected using Summa Canisters from points located six inches below the former building slab.

Abbreviations:

< = Not detected at or above reporting limit of n ppmv
1,1,1-TCA = 1,1,1-Trichloroethane
cis-1,2-DCE = cis-1,2-Dichloroethene
Freon-12 = Dichlorodifluoromethane
Freon-113 = Trichlorotrifluoroethane
PCE = Tetrachloroethene
ppmv = parts per million by volume
TCE = Trichloroethene

Table 2. VOC Results for Passive Soil Vapor Sampling from the West Slab Investigation, August 2011, 91 All Angels Hill Road, Wappingers Falls, New York

Sample ID	PCE	TCE	cis-1,2-DCE	Vinyl Chloride	1,1,1-TCA	Freon-12	Freon-113	Benzene	Ethylbenzene	Toluene	mp-Xylene	o-Xylene	TPH
	<----------µg---------->												
00	nd	nd	nd	nd	nd	nd	nd	0.02	nd	0.02	nd	nd	0.49
01	nd	28.46	bdl	nd	nd	nd	bdl	0.02	nd	0.03	bdl	bdl	1.50
02	nd	0.05	nd	nd	nd	nd	bdl	0.01	nd	nd	nd	nd	0.36
03	1.08	0.07	nd	nd	bdl	nd	0.04	nd	nd	0.04	0.02	0.02	0.55
04	0.03	0.32	nd	nd	0.02	nd	0.05	nd	nd	nd	bdl	bdl	0.30
05	0.07	1.09	nd	nd	0.01	nd	bdl	0.02	nd	0.02	nd	nd	3.10
06	nd	nd	nd	nd	nd	nd	nd	0.01	nd	nd	nd	nd	0.49
07	0.12	0.15	nd	nd	0.03	nd	nd	nd	nd	0.03	nd	nd	0.48
08	bdl	0.75	nd	nd	nd	nd	0.02	bdl	nd	0.11	bdl	0.01	0.49
09	nd	0.04	nd	nd	nd	nd	0.05	nd	nd	nd	nd	nd	0.14
94 (duplicate of 09)	nd	0.06	nd	nd	nd	nd	0.05	nd	nd	nd	nd	nd	0.21
10	0.24	6.89	nd	nd	0.02	nd	0.09	nd	0.03	0.14	0.06	0.04	2.39
11	bdl	0.55	nd	nd	nd	nd	0.02	0.01	nd	0.03	nd	nd	0.35
12	nd	9.94	nd	nd	0.13	nd	0.06	bdl	nd	0.01	nd	nd	1.12
13	0.06	0.29	nd	nd	0.03	nd	nd	bdl	nd	0.02	nd	nd	0.84
14	nd	bdl	nd	nd	nd	nd	nd	0.01	nd	nd	nd	nd	1.23
15	nd	2.50	nd	nd	0.14	nd	nd	0.01	nd	0.01	nd	nd	0.67
16	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.18
17	bdl	0.27	nd	nd	nd	nd	0.18	nd	nd	0.02	nd	nd	0.46
18	0.04	1.56	nd	nd	0.01	nd	0.04	nd	bdl	0.25	0.06	0.03	4.67
95 (duplicate of 18)	0.02	2.40	nd	nd	nd	nd	0.02	nd	0.04	0.30	0.16	0.09	9.57
19	0.05	2.15	nd	nd	0.01	nd	0.38	0.01	nd	nd	bdl	0.02	0.72
20	0.20	0.70	nd	nd	bdl	nd	bdl	bdl	nd	nd	bdl	bdl	0.16
21	nd	0.26	nd	nd	0.47	nd	bdl	0.01	bdl	0.03	0.07	0.05	1.14
22	bdl	0.07	nd	nd	0.02	nd	bdl	bdl	nd	nd	nd	nd	0.17
23	0.37	26.32	0.02	nd	0.01	nd	0.12	0.04	bdl	0.15	0.05	0.04	1.77
24	0.26	3.82	nd	nd	0.12	nd	0.15	0.01	nd	0.02	nd	nd	0.85
25	nd	bdl	nd	nd	0.01	nd	bdl	nd	nd	nd	nd	nd	0.49
26	1.61	17.20	nd	nd	0.04	nd	0.22	nd	0.03	0.33	0.09	0.06	2.97
27	0.06	2.65	nd	nd	nd	nd	0.08	0.02	bdl	0.10	0.03	0.02	2.29
96 (duplicate of 27)	0.10	10.20	nd	bdl	0.04	nd	0.15	0.01	nd	nd	nd	nd	0.75
28	0.05	0.72	nd	nd	0.09	nd	0.11	0.01	bdl	0.10	0.05	0.02	2.31
29	0.04	0.19	nd	nd	0.10	nd	bdl	0.02	bdl	0.09	0.12	0.09	5.44
30	0.34	bdl	nd	nd	0.17	nd	bdl	nd	bdl	0.07	0.07	0.06	3.64
31	0.06	4.05	bdl	nd	0.08	bdl	0.03	0.01	nd	0.04	nd	nd	0.62

Table 2. VOC Results for Passive Soil Vapor Sampling from the West Slab Investigation, August 2011, 91 All Angels Hill Road, Wappingers Falls, New York

Sample ID	PCE	TCE	cis-1,2-DCE	Vinyl Chloride	1,1,1-TCA	Freon-12	Freon-113	Benzene	Ethylbenzene	Toluene	mp-Xylene	o-Xylene	TPH
	<----------µg---------->												
'96 (duplicate of 27)													
32	0.04	0.68	nd	nd	1.04	0.05	bdl	nd	nd	0.02	nd	nd	0.68
33	nd	0.61	bdl	nd	bdl	nd	bdl	bdl	nd	nd	nd	nd	0.58
34	nd	bdl	nd	nd	0.14	nd	bdl	0.01	nd	0.01	nd	nd	0.39
35	nd	0.34	nd	nd	0.01	nd	nd	0.02	nd	0.03	nd	nd	1.17
36	bdl	0.06	nd	nd	0.02	nd	0.02	nd	nd	nd	nd	nd	0.21
97 (duplicate of 36)	bdl	0.06	nd	nd	0.02	nd	bdl	nd	nd	nd	nd	nd	0.76
37	nd	nd	nd	nd	0.02	nd	bdl	0.01	nd	nd	nd	nd	0.35
38	nd	0.13	nd	nd	0.11	nd	0.03	nd	nd	0.02	nd	nd	0.42
40	nd	nd	nd	nd	nd	nd	nd	0.02	nd	0.01	nd	nd	1.93
41	nd	0.44	nd	nd	nd	nd	nd	nd	nd	0.02	nd	nd	0.52
42	nd	0.31	nd	nd	bdl	nd	bdl	nd	nd	bdl	nd	nd	0.61
43	nd	nd	nd	nd	nd	nd	0.02	bdl	nd	0.01	nd	nd	0.51
44	nd	nd	nd	nd	0.02	nd	0.03	0.01	nd	nd	nd	nd	0.62
45	nd	nd	nd	nd	0.01	bdl	bdl	0.01	nd	nd	nd	nd	0.49
98 (duplicate of 45)	nd	0.04	nd	nd	0.02	nd	bdl	nd	nd	bdl	nd	nd	0.43
46	nd	nd	nd	nd	nd	nd	nd	bdl	nd	bdl	nd	nd	0.45
47	nd	nd	nd	nd	nd	nd	nd	0.02	nd	nd	nd	nd	0.92
48	nd	nd	nd	nd	nd	nd	nd	0.01	nd	nd	nd	nd	0.62
89	0.08	1.00	nd	nd	0.15	nd	0.02	0.01	nd	nd	nd	nd	0.27
90 - Trip Blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.05
99 - Trip Blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
39 - Trip Blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Method Detection Limit (Reporting Limit)	0.02	0.02	0.02	0.10	0.01	0.02	0.02	0.01	0.02	0.01	0.02	0.01	0.02

Notes:

Data are reported in micrograms

Passive soil vapor samplers (Gore Modules) deployed from August 18-19 to 29, 2011 between 0.75 and 2 feet below ground surface.

Abbreviations:

1,1,1-TCA = 1,1,1-Trichloroethane
bdl = detected below reporting limit, mass not quantified
cis-1,2-DCE = cis-1,2-Dichloroethene
Freon -12 = Dichlorodifluoromethane
Freon -113 = Trichlorotrifluoroethane
µg = micrograms
nd = not detected above method detection limit
PCE = tetrachloroethene
TCE = trichloroethene
TPH = Total Petroleum Hydrocarbons

Table 3. VOC Results for Previously Collected West Slab Soil Samples, July 21-22, 2008, 91 All Angels Hill Road, Wappingers Falls, New York

Location ID	Sample Date	Sample Depth (ft bgs)	PCE	TCE	cis-1,2-DCE	Vinyl Chloride	1,1,1-TCA	Freon-12	Freon-113	Benzene	Ethyl Benzene	Toluene	p/m-Xylene	o-Xylene
			<----------µg/kg---------->											
SB-6 (co-located with P-1)[1]	07/21/08	10	<0.080	<0.14	<0.12	<0.13	<0.060	<0.16	<0.13	<0.18	<0.090	<0.080	<0.070	<0.040
SB-9 (co-located with P-3)[1]	07/22/08	10	<0.090	<0.16	<0.14	<0.15	<0.068	<0.18	<0.14	<0.20	<0.10	<0.090	<0.079	<0.045
		20	<0.093	<0.16	<0.14	<0.15	<0.070	<0.19	<0.14	<0.21	<0.10	<0.093	<0.081	<0.047

Notes:

[1] Data was collected during W-18A Investigation (Weiss, 2009).

Results less than the reporting limit but greater than or equal to the method detection limit (flagged "J" in the analytical results) were reported for 1,1-Dichloroethane, 1,1-Dichloroethene, 1,2,4-Trimethylbenzene, Isopropylbenzene, Methylene Chloride, and trans-1,2-Dichloroethene and are not included in this table. None of these results exceeded 1.1 µg/kg.

Abbreviations:

cis-1,2-DCE = cis-1,2-Dichloroethene
1,1,1-TCA = 1,1,1-Trichloroethane
cis-1,2-DCE = cis-1,2-Dichloroethene
Freon -12 = Dichlorodifluoromethane
Freon -113 = Trichlorotrifluoroethane
ft bgs = feet below ground surface
PCE = Tetrachloroethene
TCE = Trichloroethene
µg/kg = micrograms per kilogram
VOC = Volatile Organic Compound
< = Not detected at or above the method detection limit of n µg/kg

Table 4. VOC Results for Recent and Previously-Collected West Slab and Vicinity Groundwater Samples, 91 All Angels Hill Road, Wappingers Falls, New York

Location ID	Date	Sample Type[1]	Depth Interval[2] (ft bgs)	PCE	TCE	cis-1,2-DCE	Vinyl Chloride	1,1,1-TCA	Freon-12	Freon-113	Benzene	Ethyl Benzene	Toluene	p/m-Xylene	o-Xylene
				<----------µg/L---------->											
SB-6 (co-located with P-1)[3]	7/22/08	grab	11-20	<0.090	<0.21	<0.070	<0.20	<0.050	<0.28	<0.080	<0.10	<0.10	<0.090	<0.18	<0.090
P-1[2]	10/24/10	piezometer	11-22	<0.24	<0.090	<0.14	<0.15	<0.19	0.94 J	<0.19	<0.12	<0.13	0.14 J	<0.34	<0.15
SB-9 (co-located with P-3)[3]	7/23/08	grab	19.5-26	<0.090	<0.21	<0.070	<0.20	<0.050	<0.28	<0.080	<0.10	<0.10	<0.090	<0.18	<0.090
P-3[2]	10/24/10	piezometer	18-26	<0.24	<0.090	<0.14	<0.15	<0.19	<0.16	<0.19	<0.12	<0.13	0.18 J	<0.34	<0.15
W-28[2]	3/20/86	well	4-25	<0.5	<0.5	---	<0.5	0.7	<0.5	---	<10	<10	<10	---	---
	5/16/86	well	4-25	<0.5	<0.5	<0.5	<0.5	10	<0.5	---	<10	<10	<10	---	---
	7/17/86	well	4-25	<0.5	38	<0.5	<0.5	14	<0.5	---	<5	<5	---	<5	<5
	11/17/86	well	4-25	<0.5	<0.5	<0.5	<0.5	15	<0.5	---	<5	<5	<5	<5	<5
	9/19/87	well	4-25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5
	10/8/88	well	4-25	<0.5	<0.5	<0.5	<0.5	6.3	<0.5	---	<5	<5	<5	<5	<5
	9/20/89	well	4-25	<1	<1	---	<2	5.8	---	---	<1	<1	<1	---	---
W-29[2]	3/20/86	well	6-19	<0.5	<0.5	---	<0.5	<0.5	<0.5	---	<10	<10	<10	---	---
	5/16/86	well	6-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<10	<10	<10	<10	<10
	7/17/86	well	6-19	<0.5	29	<0.5	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5
	11/17/86	well	6-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5
	10/8/88	well	6-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5
	9/20/89	well	6-19	<1	<1	---	<2	<1	---	---	<1	<1	<1	<1	<1
W-30[2]	5/16/86	well	4-18	<0.5	<0.5	<0.5	<0.5	1.6	<0.5	---	<10	<10	<10	<10	<10
	7/17/86	well	4-18	<5	<5	<0.5	<0.5	1.4	<0.5	---	<5	<5	<5	<5	<5
	11/17/86	well	4-18	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5
	3/20/88	well	4-18	<0.5	<0.5	---	<0.5	<0.5	<0.5	---	<10	<10	<10	---	---
	10/8/88	well	4-18	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	---	<5	<5	<5	<5	<5
	9/20/89	well	4-18	<1	<1	---	<2	<1	---	---	<1	<1	<1	<1	<1
W-31[2]	3/20/86	well	4-20	<0.5	<0.5	---	<0.5	<0.5	<0.5	---	<10	<10	<10	---	---
	5/16/86	well	4-20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<10	<10	<10	<10	<10
	7/15/86	well	4-20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5
	11/17/86	well	4-20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5
	10/8/88	well	4-20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5
	9/20/89	well	4-20	<1	<1	---	<2	<1	---	---	<1	<1	<1	<1	<1
W-32[2]	3/20/86	well	6-25	<0.5	<0.5	---	<0.5	<0.5	<0.5	---	<10	<10	<10	---	---
	5/16/86	well	6-25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<10	<10	<10	<10	<10
	7/15/86	well	6-25	<0.5	17	9.2	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5
	11/17/86	well	6-25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5
	10/8/88	well	6-25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5
	9/20/89	well	6-25	<1	<1	---	<2	<1	---	---	<1	<1	<1	---	---

Table 4. VOC Results for Recent and Previously-Collected West Slab and Vicinity Groundwater Samples, 91 All Angels Hill Road, Wappingers Falls, New York

Location ID	Date	Sample Type[1]	Depth Interval[2] (ft bgs)	PCE	TCE	cis-1,2-DCE	Vinyl Chloride	1,1,1-TCA	Freon-12	Freon-113	Benzene	Ethyl Benzene	Toluene	p/m-Xylene	o-Xylene
				<----------µg/L---------->											
W-33[2]	3/20/86	well	6.5-16	<0.5	<0.5	---	<0.5	<0.5	<0.5	---	<10	<10	<10	---	---
	5/16/86	well	6.5-16	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<10	<10	<10	<10	<10
	7/15/86	well	6.5-16	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5
	11/17/86	well	6.5-16	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5
	10/8/88	well	6.5-16	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5
	9/20/89	well	6.5-16	<1	<1	---	<2	<1	---	---	<1	<1	<1	<1	<1
W-34[2]	3/20/86	well	5-16	<0.5	<0.5	---	<0.5	<0.5	<0.5	---	<10	<10	<10	---	---
	5/16/86	well	5-16	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<10	<10	<10	<10	<10
	7/15/86	well	5-16	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5
	11/17/86	well	5-16	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5
	10/8/88	well	5-16	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5
W-35[2]	3/20/86	well	3.5-11	<0.5	<0.5	---	<0.5	<0.5	<0.5	---	<10	<10	<10	---	---
	5/16/86	well	3.5-11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<10	<10	<10	<10	<10
	7/15/86	well	3.5-11	<0.5	1.6	<0.5	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5
	11/17/86	well	3.5-11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5
	10/8/88	well	3.5-11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<5	<5	<5	<5	<5

Notes:

[1] Sample types: grab = grab sample from open borehole; piezometer = piezometer sample; well = monitoring well sample

[2] Depth shown is top and bottom of water column in open borehole, or sand pack interval for piezometer or well (Weiss, 2011a)

[3] Data was collected during W-18A Investigation (Weiss, 2009)

Abbreviations:

1,1,1-TCA = 1,1,1-Trichloroethane
cis-1,2-DCE = cis-1,2-Dichloroethene
Freon -12 = Dichlorodifluoromethane
Freon -113 = Trichlorotrifluoroethane
ft bgs = feet below ground surface
J = Result is below the analytical laboratory reporting limit but greater than or equal to the method detection limit; therefore concentration is estimated.
NA = not applicable
PCE = Tetrachloroethene
TCE = Trichloroethene
VOC = Volatile Organic Compound
--- = not analyzed
< = Not detected at or above the method detection limit of n µg/L for P1 and P3; not detected at or above the reporting limit for W-28 though W-35.
µg/L = micrograms per liter

APPENDIX A

FIELD FORMS

Weiss Associates

SAFETY MEETING FORM

HEALTH AND SAFETY FORM

Project STC Facility Wappingers Falls

Date 8-17-2010 Time 5:00 PM Project Number 363-1922-10-07

Customer STC Address 91 All Angels Hill Rd. (Next to Meyer's Corners)

Specific Location West Side

Type of work Passive soil vapor module installation

Chemicals Used None - except gasoline to refuel generator

Safety Topics Presented

Chemical Hazards - VOCs - measure w/ PID

Physical Hazards Hand tools, electrical hazard, vehicles did not see Lyme ticks today; HEAT - 86° today, Poison Ivy

Protective Clothing/Equipment Safety Glasses, steel-toed boots, ear protection, sun protection, leather work gloves

Special Equipment Generator key GFCI

Emergency Procedures - Call 911

Hospital/Clinic Vassar Brothers Telephone 454-8500

Location Poughkeepsie, NY (45 Reade Place)

Other

Conducted by Bill McIlvride Signature Bill McIlvride

SHSO " " Project Manager " "

NAME PRINTED	SIGNATURE
William McTurnan	William A. McTurnan
HARRY WHITTEN	

SAFETY MEETING FORM

HEALTH AND SAFETY FORM

Project STC Facility Wappingers Falls

Date 8-18-2011 Time 8:00 AM Project Number 363-1922-10-07

Customer STC Address 91 All Angels Hill Rd. (next to Meyer's corner)

Specific Location West Slab

Type of work Passive soil vapor probehole installation

Chemicals Used None - except gasoline to refuel generator

Safety Topics Presented

Chemical Hazards VOCs - check w/ PID

Physical Hazards Hand tools, electrical, vehicles, hornets, heat, poison ivy, electrical storms

Protective Clothing/Equipment Safety glasses, steel-toed boots, ear protection, sunscreen, leather work glove

Special Equipment GFCI on generator

Emergency Procedures Call 911 - Exit by egress Rd. FAK in office - eyewash in office

Hospital/Clinic Vassar Brothers Telephone 845-454-8500

Location 45 Reade Place, Poughkeepsie, NY

Other

Conducted by Bill McIlvride Signature Bill McIlvride

SHSO " Project Manager "

NAME PRINTED	SIGNATURE
LARRY WHITTEN	
William McIlvride	William A. McIlvride
Robin Hackett	

SAFETY MEETING FORM

HEALTH AND SAFETY FORM

Project STC Facility Wappingers Falls

Date 8-19-2011 Time 7:15 AM Project Number 363-1922-10-07

Customer STC Address 91 All Angels Hill Rd.

Specific Location West Slab

Type of work Passive Soil Vapor module installation

Chemicals Used None other than generator fuel

Safety Topics Presented

Chemical Hazards VOCs - Check w/ PID

Physical Hazards Hand tools, electrical, vehicles, hornets, lifting, heat, poison ivy - back fatigue - dehydration - (hot today)

Protective Clothing/Equipment safety glasses, steel-toed boots, ear protection, sunscreen, leather gloves

Special Equipment GFCI on generator

Emergency Procedures call 911 - Egress by main Rd.

Hospital/Clinic Vassar Brothers Telephone 845 454-8500

Location 45 Reade Place, Poughkeepsie, NY

Other

Conducted by Bill McIlvride Signature Bill McIlvride

SHSO " Project Manager "

NAME PRINTED	SIGNATURE
William McIlroy	William A. McIlroy
LARRY WHITTEN	Larry Whitten

Weiss Associates

SAFETY MEETING FORM

HEALTH AND SAFETY FORM

Project SCHLUMBERGER/FAIRCHILD W.F. Facility FAIRCHILD W.F.

Date 8-29-11/8-31-11 Time 11:00 Project Number 363-1922-10.07

Customer SCHLUMBERGER Address

Specific Location 91 ALL ANGELS HILL RD. WAPP. FALLS N.Y. 12590

Type of work WEST SLAB VAPOR INV. DECON, CLEAN-UP, SEAL BORINGS, I.D. BORINGS, RETRIEVE MODULES

Chemicals Used

Safety Topics Presented

Chemical Hazards N/A

Physical Hazards SLIPS, TRIPS, FALL, BENDING, HEAT, CUTS

Protective Clothing/Equipment SAFETY GLASSES, STEEL TOE SHOES, GLOVES

Special Equipment N/A

Emergency Procedures 911 FOR ALL EMERGENCIES

Hospital/Clinic VASSAR Telephone 454-8500

Location POUG. N.Y.

Other —

Conducted by LARRY WHITTEN Signature Larry Whitten

SHSO BILL MCILVRIDE Project Manager BILL MCILVRIDE

NAME PRINTED	SIGNATURE
LARRY WHITTEN	Larry Whitten

GORE™ Screening Survey Chain of Custody

For W.L. Gore & Associates use only
Production Order # 21230394

W. L. Gore & Associates, Inc., Survey Products Group
100 Chesapeake Boulevard • Elkton, Maryland 21921 • Tel: (410) 392-7600 • Fax (410) 506-4780

Instructions: Customer must complete ALL shaded cells

Customer Name: WEISS ASSOCIATES	Site Name: 91 ALL ANGELS HILL ROAD
Address: WATERGATE TOWERS	Site Address: WAPPINGERS FALLS NY
2200 POWELL STREET	
EMERYVILLE CA 94608	Project Manager: LARRY WHITTEN
Phone: 845 264 5043	Customer Project No.: 363-1922-10-07
FAX:	Customer P.O. #: Quote #:

Serial # of Modules Shipped				# of Modules for Installation 54 # of Trip Blanks 3		
# 669389 - # 669390		# - #		Total Modules Shipped: 57 Pieces		
# 669394 - # 669448		# - #		Total Modules Received: 57 Pieces		
# - #		# - #		Total Modules Installed: 54 Pieces		
# - #		# - #		Serial # of Trip Blanks (*Client Decides*)		#
# - #		# - #		# 669339	#	#
# - #		# - #		# 669390	#	#
# - #		# - #		# 669399	#	#
# - #		# - #		#	#	#
# - #		# - #		#	#	#
# - #		# - #		#	#	#
Prepared By: Mary Anne Meighe				#	#	#
Verified By:				#	#	#

Installation Performed By:	Installation Method(s) (*circle those that apply*):
Name (*please print*): Larry Whitten, Bill McIlvride	Slide Hammer (Hammer Drill) Auger
Company/Affiliation: Weiss Associates	Other:
Installation Start Date and Time: 08 / 18 / 2011 11 : 08 (AM) PM	
Installation Complete Date and Time: 08 / 19 / 2011 08 : 45 (AM) PM	

Retrieval Performed By:	Total Modules Retrieved: 54 Pieces
Name (*please print*): Larry Whitten	Total Modules Lost in Field: 0 Pieces
Company/Affiliation: WEISS ASSOC.	Total Unused Modules Returned: 0 Pieces
Retrieval Start Date and Time: 08 / 29 / 11 12 : 10 AM PM	
Retrieval Complete Date and Time: 08 / 29 / 11 14 : 39 AM PM	

Relinquished By	Date	Time	Received By	Date	Time
Mary Anne Meighe	8/11/11	11:30	Larry Whitten	8-17-11	1600
Affiliation: W.L. Gore & Associates, Inc.			Affiliation: WEISS ASSOC.		
Relinquished By Larry Whitten	Date 08.29.11	Time 1530	Received By:	Date	Time
Affiliation: WEISS ASSOC.			Affiliation:		
Relinquished By	Date	Time	Received By:	Date	Time
Affiliation			Affiliation: W.L. Gore & Associates, Inc.		

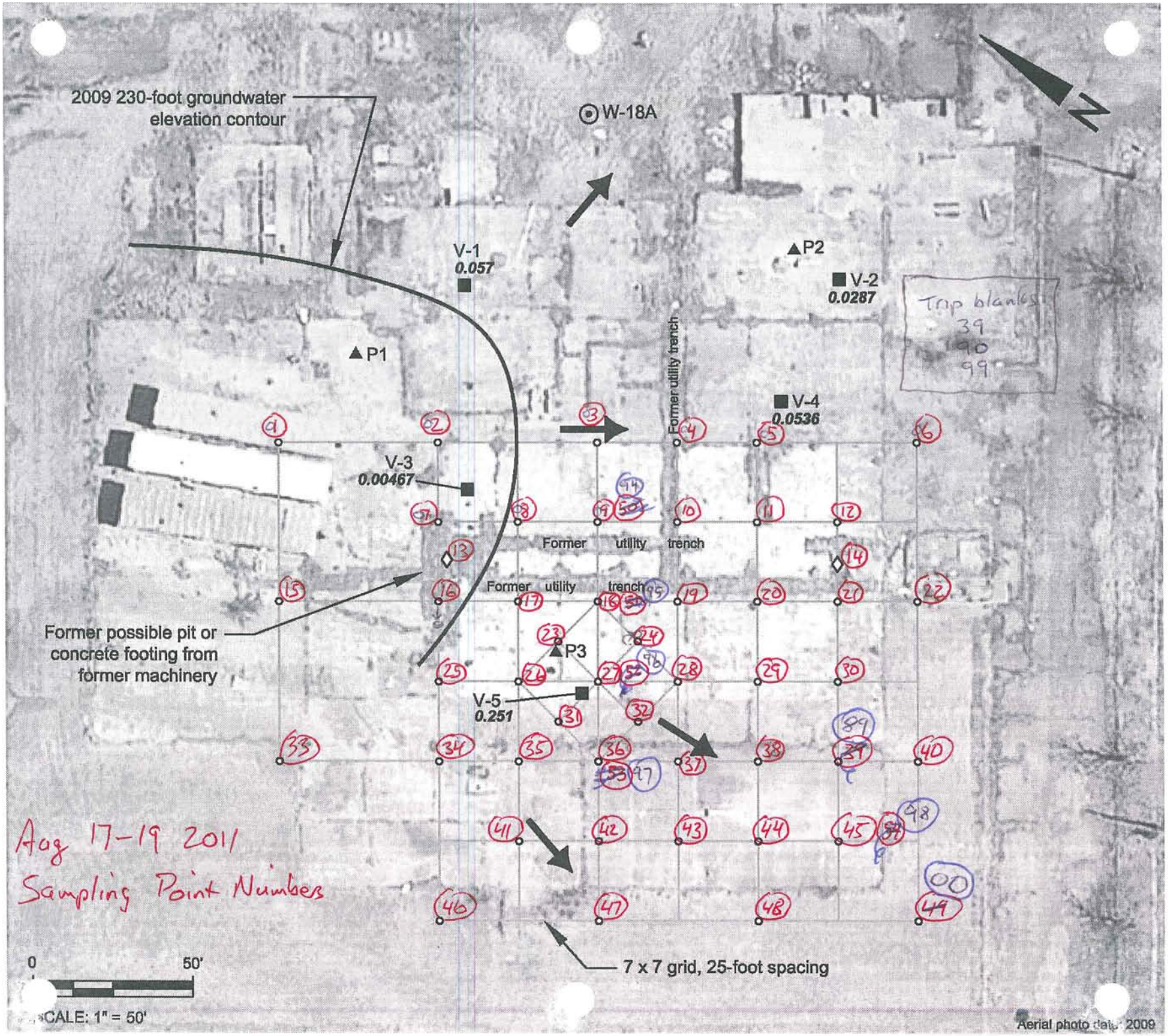
W. L. Gore & Associates, Inc.
100 Chesapeake Boulevard
Elkton, MD USA 21921
ph: 410-392-7600

GORE Project No: ENV 21230394
Site Name: 91 ALL ANGELS HILL ROAD
Site Location: WAPPINGERS FALLS NY
Company Name: WEISS ASSOCIATES - CA
Location: West Slab
Samples collected by: Larry Whitten and Bill McIlvride

GORE(R) Surveys
Installation & Retrieval Log
*** Optional or as needed**

MODULE SERIAL NO.	FIELD ID* (e.g., arbitrary, US EPA)	SAMPLE TYPE (Field Sample, Trip Blank, Field Blank, etc.)	INSTALLATION DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/27/2000 13:00	RETRIEVAL DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/30/2000 13:00	OBSERVATIONS/COMMENTS* (e.g., sample depth, location description, missing, pulled from hole, etc. - as needed)	SAMPLE ENVIRONMENT* (e.g., grass, bare soil, through slab)	YES / NO			PID Reading, PPMV Bk / hole	AT MINIMUM PROVIDE SOIL TYPE			LONGITUDE (easting) or X	LATITUDE (northing) or Y	COORDINATE SYSTEM* (e.g., UTM Zone, Stateplane, etc.)	COORDINATE DATUM* (e.g., WGS 84)
							EVIDENCE OF LIQUID PETROLEUM HYDROCARBONS ?	ODOR ?	WATER IN INSTALLATION HOLE?		SOIL TYPE AT MODULE DEPTH (clay, loamy sand etc.)	TOTAL SOIL POROSITY AT MODULE DEPTH* (total volume of pores/total volume)	WATER FILLED SOIL POROSITY AT MODULE DEPTH* (volume of water/volume of pores)				
00669389		FIELD SAMPLE	8-18-11 19:20	8-29-11 14:03	30" / 18" Hole Depth / Sample ID	SLAB	NO	NO	Dry	0.0/0.0	SILT						
00669390		~~FIELD SAMPLE~~ TRIP BLANK															
00669394		~~FIELD SAMPLE~~ BLIND DUP	8-18														
00669395		~~FIELD SAMPLE~~ BLIND DUP	8-18														
00669396		~~FIELD SAMPLE~~ BLIND DUP	8-18														
00669397		~~FIELD SAMPLE~~ BLIND DUP	8-18														
00669398		~~FIELD SAMPLE~~ BLIND DUP	8-19														
00669399		~~FIELD SAMPLE~~ TRIP BLANK															
00669400		FIELD SAMPLE	8-19 8:25	8-29 14:39	30" 18"	Soil	NO	NO	DAMP	0.0/0.0	bn sandy SILT						
00669401		FIELD SAMPLE	08/18/2011 11:08	12:10	30" 18"	Slab joint	NO	NO	wet 10'/30/6		bn. sandy SILT						
00669402		FIELD SAMPLE	13:50	12:18	30" 18"	Slab	NO	NO	wet	00/00	bn silty SAND						
00669403		FIELD SAMPLE	16:20	12:21	30" 18"	SLAB	NO	NO	MOIST	0.0/0.0	bn SILT						
00669404		FIELD SAMPLE	16:30	12:23	30" 18"	SLAB	NO	NO	DAMP	0.0/0.0	BN. SILT	1' SOUTH OF TRENCH					
00669405		FIELD SAMPLE	18.40	12:26	30" 12" (Σ=18")	SLAB Corner	NO	NO	wet @ 16"	0.0/0.0	bn silty SAND	1' North trench, at cracked + broken slab corner					
00669406		FIELD SAMPLE	8-19 8:45	12:28	30" 18"	Soil	NO	NO	DAMP	0.0/0.0	bn clayey SILT						
00669407		FIELD SAMPLE	8-18-2011 13:40	12:44	30" (9" (Σ 12")	slab	NO	NO	wet @ 28'	0.0/0.0	gy sandy clay						
00669408		FIELD SAMPLE	14:00	12:41	30" (9" (Σ 12")	slab	NO	NO	" @ 12"	00/00	bn silty SAND						
00669409		FIELD SAMPLE	16:05	12:38	30" / 18" (Σ 24")	slab	NO	NO	wet @ 24"	0.0/0.0	bn silty SAND						
00669410		FIELD SAMPLE	1641	12:36	30" 18"	SLAB	NO	NO	DAMP	0.0/0.0	BR SILT	1' SOUTH OF TRENCH					
00669411		FIELD SAMPLE	18:30	12:33	30" 18"	slab	NO	NO	MOIST	0.0/0.3	BR clayey SILT	1' N. of Trench					
00669412		FIELD SAMPLE	18:50	12:31	30" 18"	Slab	NO	NO	MOIST	0.0/0.0	DN sandy SILT	2" from 6-inch circular drain					
00669413		FIELD SAMPLE	13:28	12:46	30" ~~8~~ "12"	slab	NO	~~YES~~	wet	0.0/0.0	Σ @ 14"	Moved hole 2' north east of 1st p.t. over p.t had 18" deep front of					
00669414		FIELD SAMPLE	19:00	13:10	30" 18"	Grouted	NO	NO	~~wet~~ Dawn	0.0/0.0	Crushed stone	Room, clay hole 1' N had standing water		Concrete, 6" of standing water			
00669415		FIELD SAMPLE	11:25	12:48	30" 18"	Soiled slab	NO	NO	wet	4.7/22	bn sandy SILT	after storm - Drained to 1.8' after					
00669416		FIELD SAMPLE	13:20	12:51	30" 18"	Solid slab	NO	NO	wet → dry	0.0/0.0	" " "	Moved hole location 4' West due to 30" slab at					
00669417		FIELD SAMPLE	14:05	12:54	30" 18"	Soiled slab	NO	NO	dry	00/00	gy clayey SAND						
00669418		FIELD SAMPLE	15:55	12:56	30" 18"	Soiled slab	NO	NO	damp	0.0/0.0	bn SILT (sticky hole)						
00669419		FIELD SAMPLE	16:50	12:59	30" 18"	SOLID SLAB	NO	NO	DAMP	0.0/0.3	BN SILT						
00669420		FIELD SAMPLE	18:25	13:01	30" 18"	Solid Slab	NO	NO	Moist-wet	0.0/0.5	bn sandy SILT	- located 1 ft from floor drain					
00669421		FIELD SAMPLE	16:55	13:29	30" (Σ 12") 9"	SOLID SLAB	NO	NO	wet @ 12"	0.5/0.0	BR SILT SAND		WATER TABLE @ 1'				
00669422		FIELD SAMPLE	8-19 8:37	13:08	30" 18"	Soil	NO	NO	DAMP	0.0/0.0	gy sandy SILT	- moved 1 ft W. to avoid boundary from					
00669423		FIELD SAMPLE	8-18-2011 15:45	13:26	30" 18"	Solid slab	NO	NO	damp/dry	0.0/1.3	bn sandy SILT	- 1 Ft. From P.3					
00669421		FIELD SAMPLE	19:07	13:04	30" 18"	Solid slab	NO	NO	damp	0.0/0.0	bn. SILT	- 2 ft W. of trench					
00669425		FIELD SAMPLE	1837	13:34	30" 18"	SOLID SLAB	NO	NO	DAMP	0.0/0.0	gy clayey SAND						
00669426		FIELD SAMPLE	14:15	13:31	30" (Σ15") 10"	Solid Slab	NO	NO	wet @ 15"	0.0/0.8	gy clayey SAND						
00669427		FIELD SAMPLE	15:35	13:23	30" (18" (Σ 28"	weathered slab	NO	NO	wet @ 28"	0.0/0.0	bn SILT						
00669428		FIELD SAMPLE	17:06	13:18	30" 18"	SOLID SLAB	NO	NO	DAMP	0.0/0.0	BR SILT						
00669429		FIELD SAMPLE	18:09	13:16	30" 18"	SOLID SLAB	NO	NO	Moist	0.0/0.0	bn SILT	~2' N. of 6" Circular floor drain					
00669430		FIELD SAMPLE	19:14	13:13	30" 18"	Solid Slab	NO	NO	MOIST	0.0/3.8	bn silty Fine SAND						
00669431		FIELD SAMPLE	15:25	13:55	30" 18"	Soiled slab	NO	NO	Damp/wet	0.0/0.0	Clayey sandy SILT						
00669432		FIELD SAMPLE	17:14	13:51	38"	SOLID SLAB	NO	NO	DAMP	0.0/0.0	GRAY CLAY SILT	SPOONGY / REFUSAL @ 38"					
00669433		FIELD SAMPLE	11:50	13:36	30" 18"	Soil	NO	NO	Damp	0.4/3.3	dk bn loam						
00669434		FIELD SAMPLE	13.12	13:39	30" 18"	SLAB JOINT	NO	NO	damp	0.0/0.0	gy clayey SAND						
00669435		FIELD SAMPLE	14:30	13:41	30" 18"	Solid slab	NO	NO	damp	0.0/0.0	bn sandy SILT						
00669436		FIELD SAMPLE	15:15	13:43	30" 18"	" "	"	"	"	0.0/0.0	bn sandy SILT						
00669437		FIELD SAMPLE	15:32	13:57	30" 18"	SOLID SLAB	"	"	DAMP	00/0.6	BN SILT						
00669438		FIELD SAMPLE	17:58	13:59	30" 18"	SOLID SLAB	"	"	DAMP	0.0/0.0	BN SILT						
00669439		TRIP_BLANK															
00669440		FIELD SAMPLE	8-19 8:30	8-29 14:05	30" 18"	SOIL	NO	NO	DAMP	0.0/0.0	bn SILT						
00669441		FIELD SAMPLE	8-18-2011 14:40	14:27	30" 18"	Solid slab	NO	NO	moist	0.0/0.0	bn sandy SILT w/clay						
00669442		FIELD SAMPLE	15.05	14:25	30" 18"	Soiled slab	NO	NO	Moist	0.0/0.0	bn sandy SILT						
00669443		FIELD SAMPLE	17.24	14:22	30" 18"	SOLID SLAB	NO	NO	DAMP. WET	00/00	BN CLAY SILT						
00669444		FIELD SAMPLE	17:47	14:20	30" 18"	SOLID SLAB	NO	NO	DAMP	0.0/00	BN CLAY SILT						
00669445		FIELD SAMPLE	8-19 8:12	14:17	30" 18"	Solid SLAB	NO	NO	DAMP	0.0/0.0	bn SILT						
00669446		FIELD SAMPLE	8-18-2011 12:00	14:30	30" 18"	Soil	NO	NO	damp	0.1/16.9	dk bn loam						
00669447		FIELD SAMPLE	14:55	14:32	30" 18"	Soil	NO	NO	damp	0.3/0.0	dk bn LOAM						
00669448		FIELD SAMPLE	17:41	14:34	30" 18	SOIL	NO	NO	damp	0.0/0.0	BN SILT						

on 8-19, 4" of standing water remained in exploratory shower hole


2009 230-foot groundwater elevation contour
W-18A
N
V-1
0.057
P2
V-2
0.0287
Trip blanks
39
90
99
P1
Former utility trench
V-4
0.0536
V-3
0.00467
Former utility trench
Former utility trench
Former possible pit or concrete footing from former machinery
P3
V-5
0.251
Aug 17-19 2011
Sampling Point Numbers
0
50'
SCALE: 1" = 50'
7 x 7 grid, 25-foot spacing
Aerial photo date: 2009

Weiss Associates

APPENDIX B

PASSIVE SOIL VAPOR SURVEY FINAL REPORT,
OCTOBER 6, 2011, REVISED OCTOBER 18, 2011

GORE® Surveys

Final Report

Project:	91 All Angels Hil Rd, Wappingers Falls, NY
Gore Order Number:	21230394
Date Prepared:	October 6, 2011 Revised: October 18, 2011
Prepared for:	Weiss Associates Watergate Towers 2200 Powell Street Emeryville, CA 94608

Written/Submitted by
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Project Manager

Reviewed/Approved by
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Project Manager

Analytical Data Reviewed by
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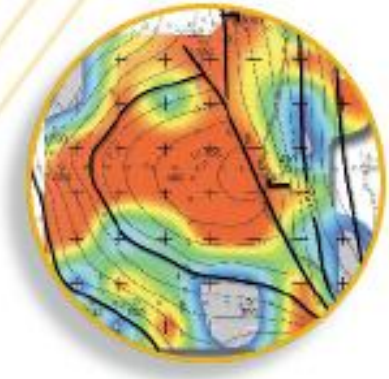
Chemist



W.L. Gore & Associates, Inc.
Survey Products Group

GORE® Surveys - Final Report

REPORT DATE: 10/06/2011 **AUTHOR:** DMC
REVISION DATE: 10/18/2011

SITE INFORMATION

Site Reference: 91 All Angels Hil Rd, Wappingers Falls, NY
Gore Production Order Number: 21230394 **Gore Site Code:** GCJ

FIELD PROCEDURES

 # Modules shipped: 57
Installation Date(s): 8/18 - 8/19/2011
 # Modules Installed: 54
Field work performed by: Weiss Associates

Retrieval date(s): 8/29/2011 **Exposure Time:** 10-11 **[days]**
 # Modules Retrieved: 54 **# Trip Blanks Returned:** 3
 # Modules Lost in Field: 0 **# Unused Modules Returned:** 0
 # Modules Not Returned: 0

Date/Time Received by Gore: 8/30/2011 3:20PM By: CW
Chain of Custody Form attached: Yes
Chain of Custody discrepancies: Yes
Chain of Custody lists module 669339 as a trip blank. Module 669339 is not in the module range for this project. Trip blank is actually 669439 per the installation/retrieval log.
Comments:
All module vials were returned with intact tamper seals.
Modules 669439 669390 669399 were identified as trip blanks.

GORE® Surveys - Final Report

QUALITY ASSURANCE STATEMENT

W.L. Gore & Associates´ Survey Products' Laboratory operates under the guidelines of ISO Standard 17025, its Quality Assurance Manual, Operating Procedures and Methods. For this project, the analytical method, reported results, and observations reported are considered screening level and do not fall within the scope of W.L. Gore's ISO 17025 accreditation.

ANALYTICAL PROCEDURES

Instrumentation consists of state of the art gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation simply involves cutting the tip off the bottom of the sample module and transferring one or more exposed sorbent containers (sorbers, each containing engineered adsorbents) to a thermal desorption tube for analysis. Sorbers remain clean and protected from dirt, soil, and ground water by the insertion/retrieval cord, and require no further sample preparation.

Analytical Method Quality Assurance:
The analytical method employed is a modified EPA method 8260/8270. Before each run sequence, two instrument blanks, a sorber containing 5µg BFB (Bromofluorobenzene), and a method blank are analyzed. The BFB mass spectra must meet the criteria set forth in the method before samples can be analyzed. A method blank and a sorber containing BFB are also analyzed after every 30 samples and/or trip blanks. Standards containing the selected target compounds at five calibration levels are analyzed at the beginning of each run. The criterion for each target compound is less than 25% RSD (relative standard deviation). If this criterion is not met for any target compound, the analyst has the option of generating second- or third-order standard curves, as appropriate. A second-source reference standard, at a level of 10µg per target compound, is analyzed after every ten samples and/or trip blanks, and at the end of the run sequence. Positive identification of target compounds is determined by 1) the presence of the target ion and at least two secondary ions; 2) retention time versus reference standard; and, 3) the analyst's judgment.

NOTE: All data have been archived. Any replicate sorbers not used in the initial analysis will be discarded fifteen (15) days from the date of analysis.

Laboratory analysis: thermal desorption, gas chromatography, mass selective detection
Instrument ID: # 14 **Chemist:** FP/JE/IM
Compounds/mixtures requested: A7
Deviations from Standard Method: Mid level calibration standard deleted for vinyl chloride due to poor linearity.
Comments: Soil vapor analytes and abbreviations are tabulated in the Data Table Key (page 6). TICs quantitated using 11DCE response.

GORE® Surveys - Final Report

DATA TABULATION

 # CONTOUR MAPS ENCLOSED: Five (5) B-sized color contour maps
LIST OF MAPS ENCLOSED:

- Trichlorotrifluoroethane (FREON113)
- Toluene (TOL)
- Tetrachloroethene (PCE)
- Trichloroethene (TCE)
- 1,1,1-trichloroethane (111TCA)

NOTE: All data values presented in Appendix A represent masses of compound(s) desorbed from the GORE® Modules received and analyzed by W.L. Gore & Associates, Inc., as identified in the Chain of Custody (Appendix A). The measurement traceability and instrument performance are reproducible and accurate for the measurement process documented. Semi-quantitation of the compound mass is based on a five-level standard calibration.

General Comments:

- This survey reports soil gas mass levels present in the vapor phase. Vapors are subject to a variety of attenuation factors during migration away from the source concentration to the module. Thus, mass levels reported from the module will often be less than concentrations reported in soil and groundwater matrix data. In most instances, the soil gas masses reported on the modules compare favorably with concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels relative to other sampled locations on the site, matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.
- Soil gas signals reported by this method cannot be identified specifically to soil adsorbed, groundwater, and/or free-product contamination. The soil gas signal reported from each module can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).
- Total petroleum hydrocarbon (TPH) values were calculated using the area under the peaks observed in m/z 55 and 57 selected ion chromatograms. Quantitation of the mass value was performed using the response factor a specific alkane (present in the calibration standards).
- TPH values include the entire chromatogram and provide estimates for aliphatic hydrocarbon ranges of C4 to C20.

- QA/QC trip blank modules were provided to document potential exposures that were not part of the soil gas signal of interest (i.e., impact during module shipment, installation and retrieval, and storage). The trip blanks are identically manufactured and packaged soil gas modules to those modules placed in the subsurface. However, the trip blanks remain unopened during all phases of the soil gas survey. Levels reported on the trip blanks may indicate potential impact to modules other than the contaminant source of interest.
- Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central gas chromatograph elution time in the total ion chromatogram. Typically, UPEs are indicative of complex fluid mixtures that are present in the subsurface. UPEs observed early in the chromatogram are considered to indicate the presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids.
- Stacked total ion chromatograms (TICs) are included in Appendix A. The six-digit serial number of each module is incorporated into the TIC identification (e.g.: 123456S.D represents module #123456).

Project Specific Comments:

- The minimum (gray) contour level, for each mapped analyte or group of analytes, was set at the maximum blank level observed or the method detection limit, whichever was greater. When target compounds are summed together, the contour minimum is arbitrarily set at 0.02 µg or the maximum blank level, whichever is greater. The maximum contour level was set at the maximum value observed.
- Background levels of TPH were detected on the trip blanks and/or the method blanks. Thus, target analyte levels reported for the field-installed modules that exceed trip and method blank levels, and the analyte method detection limit, are more likely to have originated from on-site sources.
- A minimum curvature surface was used to interpolate the data between sampling points. A minimum curvature surface is the smoothest possible surface that will fit the given data values. In cases where values trend from low to high in the direction of the edge of the survey area, the curve will continue to rise (showing warmer colors) as no additional data exists to constrain it. Where values trend from high to low the opposite is also true.
- The mapped spatial patterns indicated partially defined contaminant plumes in the survey area.

GORE® Surveys - Final Report

KEY TO DATA TABLE
91 All Angels Hill Rd, Wappingers Falls, NY

UNITS

µg	micrograms (per sorber), reported for compounds
MDL	method detection limit
bdl	below detection limit
nd	non-detect

ANALYTES

TPH	total petroleum hydrocarbons
BTEX	combined masses of benzene, toluene, ethylbenzene and total xylenes (Gasoline Range Aromatics)
BENZ	benzene
TOL	toluene
EtBENZ	ethylbenzene
mpXYL	m-, p-xylene
oXYL	o-xylene
C11,C13&C15	combined masses of undecane, tridecane, and pentadecane (C11+C13+C15) (Diesel Range Alkanes)
UNDEC	undecane
TRIDEC	tridecane
PENTADEC	pentadecane
TMBs	combined masses of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene
135TMB	1,3,5-trimethylbenzene
124TMB	1,2,4-trimethylbenzene
NAPH&2-MN	combined masses of naphthalene and 2-methyl naphthalene
NAPH	naphthalene
2MeNAPH	2-methyl naphthalene
MTBE	methyl t-butyl ether
OCT	octane

BLANKS

TBn	unexposed trip blanks, travels with the exposed modules
method blank	QA/QC module, documents analytical conditions during analysis

APPENDIX A:

1. CHAIN OF CUSTODY AND INSTALLATION/ RETRIEVAL LOG
2. DATA TABLES
3. STACKED TOTAL ION CHROMATOGRAMS
4. CONTOUR MAPS

GORE™ Screening Survey Chain of Custody

For W.L. Gore & Associates use only
Production Order # 21230394

W. L. Gore & Associates, Inc., Survey Products Group
100 Chesapeake Boulevard • Elkton, Maryland 21921 • Tel: (410) 392-7600 • Fax (410) 506-4780

Instructions: Customer must complete ALL shaded cells

Customer Name: WEISS ASSOCIATES	Site Name: 91 ALL ANGELS HILL ROAD
Address: WATERGATE TOWERS	Site Address: WAPPINGERS FALLS NY
2200 POWELL STREET	
EMERYVILLE CA 94608	Project Manager: LARRY WHITTEN
Phone: 845 264 5043	Customer Project No.: 363-1922-10-07
FAX:	Customer P.O. #: Quote #:

Serial # of Modules Shipped				# of Modules for Installation 54 # of Trip Blanks 3
# 669389	# 669390	#	#	Total Modules Shipped: 57 Pieces
# 669394	# 669448	#	#	Total Modules Received: 57 Pieces
#	#	#	#	Total Modules Installed: 54 Pieces
#	#	#	#	Serial # of Trip Blanks (*Client Decides*) #
#	#	#	#	# 669339 # #
#	#	#	#	# 669390 # #
#	#	#	#	# 669399 # #
#	#	#	#	# # #
#	#	#	#	# # #
#	#	#	#	# # #
Prepared By:				# # #
Verified By:				# # #

Installation Performed By:	Installation Method(s) (*circle those that apply*):
Name (*please print*): Larry Whitten, Bill McIlvride	Slide Hammer (Hammer Drill) Auger
Company/Affiliation: Weiss Associates	Other:
Installation Start Date and Time: 08/18/2011 11:08 (AM) ~~PM~~	
Installation Complete Date and Time: 08/19/2011 08:45 (AM) ~~PM~~	
Retrieval Performed By:	Total Modules Retrieved: 54 Pieces
Name (*please print*): Larry Whitten	Total Modules Lost in Field: 0 Pieces
Company/Affiliation:1 WEISS ASSOC.	Total Unused Modules Returned: 0 Pieces
Retrieval Start Date and Time: 08/29/11 12:10 ~~PM~~ PM	
Retrieval Complete Date and Time: 08/29/11 14:39 ~~PM~~ PM	

Relinquished By	Date	Time	Received By: Larry Whitten	Date	Time
Affiliation: W.L. Gore & Associates, Inc.	8/11/11	11:30	Affiliation: WEISS ASSOC.	8-19-11	1600
Relinquished By Larry Whitten	Date	Time	Received By:	Date	Time
Affiliation: WEISS ASSOC.	08.19.11	1530	Affiliation:		
Relinquished By	Date	Time	Received By:	Date	Time
Affiliation			Affiliation: W.L. Gore & Associates, Inc.	8/30/11	15:20

W. L. Gore & Associates, Inc.
100 Chesapeake Boulevard
Elkton, MD USA 21921
ph: 410-392-7600

GORE Project No: ENV 21230394
Site Name: 91 ALL ANGELS HILL ROAD
Site Location: WAPPINGERS FALLS NY
Company Name: WEISS ASSOCIATES - CA
Location: West Slab
Samples collected by: Larry Whitten and Bill McIlvride

GORE(R) Surveys
Installation & Retrieval Log
*** Optional or as needed**

MODULE SERIAL NO.	FIELD ID* (e.g., arbitrary, US EPA)	SAMPLE TYPE (Field Sample, Trip Blank, Field Blank, etc.)	INSTALLATION DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/27/2000 13:00	RETRIEVAL DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/30/2000 13:00	OBSERVATIONS/COMMENTS* (e.g., sample depth, location description, missing, pulled from hole, etc. - as needed)	SAMPLE ENVIRONMENT* (e.g., grass, bare soil, through slab)	YES / NO: EVIDENCE OF LIQUID PETROLEUM HYDROCARBONS ?	YES / NO: ODOR?	YES / NO: WATER IN INSTALLATION HOLE?	PID Reading, PPMV Bk / hole	AT MINIMUM PROVIDE SOIL TYPE: SOIL TYPE AT MODULE DEPTH (clay, loamy sand etc.)	TOTAL SOIL POROSITY AT MODULE DEPTH* (total volume of pores/total volume)	WATER FILLED SOIL POROSITY AT MODULE DEPTH* (volume of water/volume of pores)	LONGITUDE (easting) or X	LATITUDE (northing) or Y	COORDINATE SYSTEM* (e.g., UTM Zone, Stateplane, etc.)	COORDINATE DATUM* (e.g., WGS 84)
00669389		FIELD_SAMPLE	8-18-11 19:20	8-29-11 14:03	Hole Depth/Sample D: 30" / 18"	SLAB	NO	NO	Dry	0.0/0.0	SILT						
00669390		~~FIELD_SAMPLE~~ TRIP BLANK															
00669394		~~FIELD_SAMPLE~~ BLIND DUP	8-18														
00669395		~~FIELD_SAMPLE~~ BLIND DUP	8-18														
00669396		~~FIELD_SAMPLE~~ BLIND DUP	8-18														
00669397		~~FIELD_SAMPLE~~ BLIND DUP	8-18														
00669398		~~FIELD_SAMPLE~~ BLIND DUP	8-19														
00669399		~~FIELD_SAMPLE~~ TRIP BLANK															
00669400		FIELD_SAMPLE	8-19 8:25	8-29 14:39	30" 18"	Soil	NO	NO	DAMP	0.0/0.0	bn sandy SILT						
00669401		FIELD_SAMPLE	08/18/2011 11:08	12:10	30" 18"	Slab joint	NO	NO	wet 10"/30/6		bn. sandy silt						
00669402		FIELD_SAMPLE	13:50	12:18	30" 18"	Slab	NO	NO	wet	00/00	bn silty SAND						
00669403		FIELD_SAMPLE	16:20	12:21	30" 18"	SLAB	NO	NO	MOIST	0.0/0.0	bn SILT						
00669404		FIELD_SAMPLE	16:30	12:23	30" 18"	SLAB	NO	NO	DAMP	0.0/0.0	BN. SILT	1' SOUTH OF TRENCH					
00669405		FIELD_SAMPLE	18.40	12:26	30" 12" (Σ=18")	SLAB Corner	NO	NO	wet @ 16"	0.0/0.0	bn silty SAND	1' North trench, at cracked + broken slab corner					
00669406		FIELD_SAMPLE	8-19 8:45	12:28	30" 18"	Soil	NO	NO	DAMP	0.0/0.0	bn clayey SILT						
00669407		FIELD_SAMPLE	8-18-2011 13:40	12:44	30" 9" (Σ 12")	slab	NO	NO	wet @ 28"	0.0/0.0	gy sandy clay						
00669408		FIELD_SAMPLE	14:00	12:41	30" 9" (Σ 12")	slab	NO	NO	" @ 12"	00/00	bn silty SAND						
00669409		FIELD_SAMPLE	16:09	12:38	30" 18" (Σ 24")	slab	NO	NO	wet @ 24"	0.0/0.0	bn silty SAND						
00669410		FIELD_SAMPLE	1641	12:36	30" 18"	SLAB	NO	NO	DAMP	0.0/0.0	BR SILT	1' SOUTH OF TRENCH					
00669411		FIELD_SAMPLE	18:30	12:33	30" 18"	Slab	NO	NO	MOIST	0.0/0.3	BR clayey SILT	1' N. of Trench					
00669412		FIELD_SAMPLE	18:50	12:31	30" 18"	Slab	NO	NO	MOIST	0.0/0.0	bn sandy SILT	2" from 6-inch circular drain					
00669413		FIELD_SAMPLE	13:28	12:46	30" ~~8~~ 12"	slab	NO	~~NSO~~	wet	0.0/0.0	Σ @ 14"	Moved hole 2' north east of "pit" area; pit had 18" deep floor of					
00669414		FIELD_SAMPLE	19:00	13:10	30" 18"	Gravel	NO	NO	~~wet~~ Damp	0.0/0.0	Crushed stone	Concrete, 6" of standing water					
00669415		FIELD_SAMPLE	11:25	12:48	30" 18"	Solid slab	NO	NO	wet	4.7/22	bn sandy SILT	after storm - Drained to this hole					
00669416		FIELD_SAMPLE	13:20	12:51	30" 18"	Solid slab	NO	NO	wet + dry	0.0/0.0	" " "	Moved hole location 4' West due to 30" slab at Drain Loc					
00669417		FIELD_SAMPLE	14:05	12:54	30" 18"	Solid slab	NO	NO	dry	00/0.0	gy clayey SAND						
00669418		FIELD_SAMPLE	15:55	12:56	30" 18"	Solid slab	NO	NO	damp	0.0/0.0	bn SILT, (Sticky hole)						
00669419		FIELD_SAMPLE	16:50	12:59	30" 18"	SOLID SLAB	NO	NO	DAMP	0.0/0.3	BN. SILT						
00669420		FIELD_SAMPLE	18:25	13:01	30" 18"	Solid slab	NO	NO	Moist-wet	0.0/2.5	bn Sandy SILT	- located 1 ft from floor drain					
00669424		FIELD_SAMPLE	16:55	13:29	30" (Σ 12") 9"	SOLID SLAB	NO	NO	wet @ 12"	0.0/0.0	BR. SILT SAND	WATER TABLE @ 1'					
00669422		FIELD_SAMPLE	8-19 9:37	13:08	30" 18"	Soil	NO	NO	DAMP	0.0/0.0	gy sandy SILT	- moved 1 ft W. to avoid trench from					
00669423		FIELD_SAMPLE	8-18-2011 15:45	13:26	30" 18"	Solid slab	NO	NO	damp/dry	0.0/1.3	bn sandy SILT	- 1 Ft. from P-3					
00669421		FIELD_SAMPLE	19:07	13:04	30" 18"	Solid slab	NO	NO	damp	0.0/0.0	bn. SILT	- 2 ft W. of trench					
00669425		FIELD_SAMPLE	1837	13:34	30" 18"	SOLID SLAB	NO	NO	DAMP	0.0/0.0	gy clayey SAND						
00669426		FIELD_SAMPLE	14:15	13:31	30" (Σ 15") 10"	Solid Slab	NO	NO	wet @ 15"	0.0/0.8	gy clayey SAND						
00669427		FIELD_SAMPLE	15:35	13:23	30" / 18" (Σ 28"	weathered slab	NO	NO	wet @ 28"	0.0/0.0	bn SILT						
00669428		FIELD_SAMPLE	17:06	13:18	30" 18"	SOLID SLAB	NO	NO	DAMP	0.0/0.0	BR SILT						
00669429		FIELD_SAMPLE	18:09	13:16	30" 18"	SOLID SLAB	NO	NO	MOIST	0.0/0.0	bn SILT	~2' N. of 6" Circular floor drain					
00669430		FIELD_SAMPLE	19:14	13:13	30" 18"	Solid Slab	NO	NO	MOIST	0.0/3.8	bn silty Fine SAND						
00669431		FIELD_SAMPLE	15:25	13:55	30" 18"	Solid slab	NO	NO	Damp/wet	0.0/0.0	~~Clay~~ clayey sandy SILT						
00669432		FIELD_SAMPLE	17:14	13:51	38"	SOLID SLAB	NO	NO	DAMP	0.0/0.0	GRAY CLAY, SILT	SPOONGY/ REFUSAL @ 38"					
00669433		FIELD_SAMPLE	11:50	13:36	30" 18"	Soil	NO	NO	damp	0.4/3.3	dk bn loam						
00669434		FIELD_SAMPLE	13.12	13:39	30" 18"	SLAB JOINT	NO	NO	damp	0.0/0.0	gy clayey SAND						
00669435		FIELD_SAMPLE	14:30	13:41	30" 18"	Solid slab	NO	NO	damp	0.0/0.0	bn sandy SILT						
00669436		FIELD_SAMPLE	15:15	13:43	30" 18"	" "	"	"	"	0.0/0.0	bn sandy SILT						
00669437		FIELD_SAMPLE	15:37	13:57	30" 18"	SOLID SLAB	"	"	DAMP	0.0/0.0	BN SILT						
00669438		FIELD_SAMPLE	17:58	13:59	30" 18"	SOLID SLAB	"	"	DAMP	0.0/0.0	BN SILT						
00669439		TRIP_BLANK															
00669440		FIELD_SAMPLE	8-19 8:30	8-29 14:05	30" 18"	SOIL	NO	NO	DAMP	0.0/0.0	bn SILT						
00669441		FIELD_SAMPLE	8-18-2011 14:40	14:27	30" 18"	Solid slab	NO	NO	moist	0.0/0.0	bn sandy SILT w/clay						
00669442		FIELD_SAMPLE	15.05	14:25	30" 18"	Solid slab	NO	NO	Moist	0.0/0.0	bn sandy SILT						
00669443		FIELD_SAMPLE	17.24	14:22	30" 18"	SOLID SLAB	NO	NO	DAMP-WET	0.0/0.0	BN CLAY SILT						
00669444		FIELD_SAMPLE	17:47	14:20	30" 18"	SOLID SLAB	NO	NO	DAMP	0.0/0.0	BN CLAY SILT						
00669445		FIELD_SAMPLE	8-19 8:12	14:17	30" 18"	Solid SLAB	NO	NO	DAMP	0.0/0.0	bn SILT						
00669446		FIELD_SAMPLE	8-18-2011 12:00	14:30	30" 18"	Soil	NO	NO	damp	0.1/16.9	dk bn loam						
00669447		FIELD_SAMPLE	14:55	14:32	30" 18"	Soil	NO	NO	damp	0.0/0.0	dk bn LOAM						
00669448		FIELD_SAMPLE	17:41	14:34	30" 18	SOIL	NO	NO	damp	0.0/0.0	BN SILT						

On 8-19, 4" of standing water remained in exploratory shower hole

GORE(TM) SURVEYS ANALYTICAL RESULTS
WEISS ASSOCIATES, EMERYVILLE, CA
GORE CHLORINATED TARGET COMPOUNDS PLUS VINYL CHLORIDE, BTEX AND FREONS (A7)
91 ALL ANGELS HILL RD, WAPPINGERS FALLS, NY
SITE GCJ - PRODUCTION ORDER #21230394

DATE ANALYZED	SAMPLE NAME	TPH, ug	BTEX, ug	VC, ug	Dichlorodifluoromethane (TIC), ug	Trichlorotrifluoroethane (TIC), ug	BENZ, ug	TOL, ug
	MDL=	0.02		0.10	0.02	0.02	0.01	0.01
9/16/2011	669389	0.27	0.01	nd	nd	0.02	0.01	nd
9/16/2011	669394	0.21	nd	nd	nd	0.05	nd	nd
9/16/2011	669395	9.57	0.58	nd	nd	0.02	nd	0.30
9/16/2011	669396	0.75	0.01	bdl	nd	0.15	0.01	nd
9/15/2011	669397	0.76	nd	nd	nd	0.01	nd	nd
9/16/2011	669398	0.43	bdl	nd	nd	0.00	nd	bdl
9/16/2011	669400	0.49	0.04	nd	nd	nd	0.02	0.02
9/16/2011	669401	1.50	0.05	nd	nd	0.00	0.02	0.03
9/16/2011	669402	0.36	0.01	nd	nd	0.01	0.01	nd
9/16/2011	669403	0.55	0.08	nd	nd	0.04	nd	0.04
9/17/2011	669404	0.30	bdl	nd	nd	0.05	nd	nd
9/16/2011	669405	3.10	0.03	nd	nd	0.00	0.02	0.02
9/15/2011	669406	0.49	0.01	nd	nd	nd	0.01	nd
9/16/2011	669407	0.48	0.03	nd	nd	nd	nd	0.03
9/16/2011	669408	0.49	0.12	nd	nd	0.02	bdl	0.11
9/17/2011	669409	0.14	nd	nd	nd	0.05	nd	nd
9/17/2011	669410	2.39	0.26	nd	nd	0.09	nd	0.14
9/16/2011	669411	0.35	0.04	nd	nd	0.02	0.01	0.03
9/15/2011	669412	1.12	0.01	nd	nd	0.06	bdl	0.01
9/16/2011	669413	0.84	0.02	nd	nd	nd	bdl	0.02
9/16/2011	669414	1.23	0.01	nd	nd	nd	0.01	nd
9/16/2011	669415	0.67	0.02	nd	nd	nd	0.01	0.01
9/16/2011	669416	0.18	nd	nd	nd	nd	nd	nd
9/17/2011	669417	0.46	0.02	nd	nd	0.18	nd	0.02
9/16/2011	669418	4.67	0.34	nd	nd	0.04	nd	0.25
9/16/2011	669419	0.72	0.03	nd	nd	0.38	0.01	nd
9/16/2011	669420	0.16	bdl	nd	nd	0.01	bdl	nd
9/16/2011	669421	1.14	0.16	nd	nd	0.01	0.01	0.03
9/16/2011	669422	0.17	bdl	nd	nd	0.00	bdl	nd
9/16/2011	669423	1.77	0.27	nd	nd	0.12	0.04	0.15
9/16/2011	669424	0.85	0.03	nd	nd	0.15	0.01	0.02

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
WEISS ASSOCIATES, EMERYVILLE, CA
GORE CHLORINATED TARGET COMPOUNDS PLUS VINYL CHLORIDE, BTEX AND FREONS (A7)
91 ALL ANGELS HILL RD, WAPPINGERS FALLS, NY
SITE GCJ - PRODUCTION ORDER #21230394

DATE ANALYZED	SAMPLE NAME	TPH, ug	BTEX, ug	VC, ug	Dichlorodifluoromethane (TIC), ug	Trichlorotrifluoroethane (TIC), ug	BENZ, ug	TOL, ug
	MDL=	0.02		0.10	0.02	0.02	0.01	0.01
9/17/2011	669425	0.49	nd	nd	nd	0.01	nd	nd
9/16/2011	669426	2.97	0.51	nd	nd	0.22	nd	0.33
9/17/2011	669427	2.29	0.16	nd	nd	0.08	0.02	0.10
9/15/2011	669428	2.31	0.18	nd	nd	0.11	0.01	0.10
9/16/2011	669429	5.44	0.33	nd	nd	0.00	0.02	0.09
9/16/2011	669430	3.64	0.21	nd	nd	0.01	nd	0.07
9/15/2011	669431	0.62	0.05	nd	0.01	0.03	0.01	0.04
9/17/2011	669432	0.68	0.02	nd	0.05	0.01	nd	0.02
9/17/2011	669433	0.58	bdl	nd	nd	0.00	bdl	nd
9/17/2011	669434	0.39	0.03	nd	nd	0.00	0.01	0.01
9/17/2011	669435	1.17	0.05	nd	nd	nd	0.02	0.03
9/16/2011	669436	0.21	nd	nd	nd	0.02	nd	nd
9/15/2011	669437	0.35	0.01	nd	nd	0.01	0.01	nd
9/15/2011	669438	0.42	0.02	nd	nd	0.03	nd	0.02
9/17/2011	669440	1.93	0.03	nd	nd	nd	0.02	0.01
9/17/2011	669441	0.52	0.02	nd	nd	nd	nd	0.02
9/17/2011	669442	0.61	bdl	nd	nd	0.00	nd	bdl
9/17/2011	669443	0.51	0.01	nd	nd	0.02	bdl	0.01
9/16/2011	669444	0.62	0.01	nd	nd	0.03	0.01	nd
9/16/2011	669445	0.49	0.01	nd	0.01	0.01	0.01	nd
9/17/2011	669446	0.45	bdl	nd	nd	nd	bdl	bdl
9/17/2011	669447	0.92	0.02	nd	nd	nd	0.02	nd
9/17/2011	669448	0.62	0.01	nd	nd	nd	0.01	nd
9/17/2011	669390	0.05	nd	nd	nd	nd	nd	nd
9/17/2011	669399	nd	nd	nd	nd	nd	nd	nd
9/16/2011	669439	nd	nd	nd	nd	nd	nd	nd
9/15/2011	method blank	nd	nd	nd	nd	nd	nd	nd
9/16/2011	method blank	nd	nd	nd	nd	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
WEISS ASSOCIATES, EMERYVILLE, CA
GORE CHLORINATED TARGET COMPOUNDS PLUS VINYL CHLORIDE, BTEX AND FREONS (A7)
91 ALL ANGELS HILL RD, WAPPINGERS FALLS, NY
SITE GCJ - PRODUCTION ORDER #21230394

DATE ANALYZED	SAMPLE NAME	TPH, ug	BTEX, ug	VC, ug	Dichlorodifluoromethane (TIC), ug	Trichlorotrifluoroethane (TIC), ug	BENZ, ug	TOL, ug
	MDL=	0.02		0.10	0.02	0.02	0.01	0.01
	Maximum	9.57	0.58	0.00	0.05	0.38	0.04	0.33
	Standard Dev.	1.62	0.13	0.00	0.01	0.07	0.01	0.07
	Mean	1.20	0.07	0.00	0.00	0.04	0.01	0.04

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
WEISS ASSOCIATES, EMERYVILLE, CA
GORE CHLORINATED TARGET COMPOUNDS PLUS VINYL CHLORIDE, BTEX AND FREONS (A7)
91 ALL ANGELS HILL RD, WAPPINGERS FALLS, NY
SITE GCJ - PRODUCTION ORDER #21230394

SAMPLE NAME	EtBENZ, ug	mpXYL, ug	oXYL, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug	11DCA, ug	111TCA, ug	12DCA, ug	TCE, ug	PCE, ug
MDL=	0.02	0.02	0.01		0.05	0.02	0.02	0.01	0.01	0.02	0.02
669389	nd	nd	nd	nd	nd	nd	nd	0.15	nd	1.00	0.08
669394	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	nd
669395	0.04	0.16	0.09	nd	nd	nd	nd	nd	nd	2.40	0.02
669396	nd	nd	nd	nd	nd	nd	nd	0.04	nd	10.20	0.10
669397	nd	nd	nd	nd	nd	nd	nd	0.02	nd	0.06	bdl
669398	nd	nd	nd	nd	nd	nd	nd	0.02	nd	0.04	nd
669400	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669401	nd	bdl	bdl	bdl	bdl	bdl	nd	nd	nd	28.46	nd
669402	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.05	nd
669403	nd	0.02	0.02	nd	nd	nd	nd	bdl	nd	0.07	1.08
669404	nd	bdl	bdl	nd	nd	nd	nd	0.02	nd	0.32	0.03
669405	nd	nd	nd	nd	nd	nd	nd	0.01	nd	1.09	0.07
669406	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669407	nd	nd	nd	nd	nd	nd	nd	0.03	nd	0.15	0.12
669408	nd	bdl	0.01	nd	nd	nd	nd	nd	nd	0.75	bdl
669409	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.04	nd
669410	0.03	0.06	0.04	nd	nd	nd	nd	0.02	nd	6.89	0.24
669411	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.55	bdl
669412	nd	nd	nd	nd	nd	nd	nd	0.13	nd	9.94	nd
669413	nd	nd	nd	nd	nd	nd	nd	0.03	nd	0.29	0.06
669414	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd
669415	nd	nd	nd	nd	nd	nd	nd	0.14	nd	2.50	nd
669416	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669417	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.27	bdl
669418	bdl	0.06	0.03	nd	nd	nd	nd	0.01	nd	1.56	0.04
669419	nd	bdl	0.02	nd	nd	nd	nd	0.01	nd	2.15	0.05
669420	nd	bdl	bdl	nd	nd	nd	nd	bdl	nd	0.70	0.20
669421	bdl	0.07	0.05	nd	nd	nd	nd	0.47	nd	0.26	nd
669422	nd	nd	nd	nd	nd	nd	nd	0.02	nd	0.07	bdl
669423	bdl	0.05	0.04	0.02	bdl	0.02	nd	0.01	nd	26.32	0.37
669424	nd	nd	nd	nd	nd	nd	nd	0.12	nd	3.82	0.26

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
WEISS ASSOCIATES, EMERYVILLE, CA
GORE CHLORINATED TARGET COMPOUNDS PLUS VINYL CHLORIDE, BTEX AND FREONS (A7)
91 ALL ANGELS HILL RD, WAPPINGERS FALLS, NY
SITE GCJ - PRODUCTION ORDER #21230394

SAMPLE NAME	EtBENZ, ug	mpXYL, ug	oXYL, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug	11DCA, ug	111TCA, ug	12DCA, ug	TCE, ug	PCE, ug
MDL=	0.02	0.02	0.01		0.05	0.02	0.02	0.01	0.01	0.02	0.02
669425	nd	nd	nd	nd	nd	nd	nd	0.01	nd	bdl	nd
669426	0.03	0.09	0.06	nd	nd	nd	nd	0.04	nd	17.20	1.61
669427	bdl	0.03	0.02	nd	nd	nd	nd	nd	nd	2.65	0.06
669428	bdl	0.05	0.02	nd	nd	nd	nd	0.09	nd	0.72	0.05
669429	bdl	0.12	0.09	nd	nd	nd	nd	0.10	nd	0.19	0.04
669430	bdl	0.07	0.06	nd	nd	nd	nd	0.17	nd	bdl	0.34
669431	nd	nd	nd	bdl	nd	bdl	nd	0.08	nd	4.05	0.06
669432	nd	nd	nd	nd	nd	nd	nd	1.04	nd	0.68	0.04
669433	nd	nd	nd	bdl	nd	bdl	nd	bdl	nd	0.61	nd
669434	nd	nd	nd	nd	nd	nd	nd	0.14	nd	bdl	nd
669435	nd	nd	nd	nd	nd	nd	nd	0.01	nd	0.34	nd
669436	nd	nd	nd	nd	nd	nd	nd	0.02	nd	0.06	bdl
669437	nd	nd	nd	nd	nd	nd	nd	0.02	nd	nd	nd
669438	nd	nd	nd	nd	nd	nd	nd	0.11	nd	0.13	nd
669440	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669441	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.44	nd
669442	nd	nd	nd	nd	nd	nd	nd	bdl	nd	0.31	nd
669443	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669444	nd	nd	nd	nd	nd	nd	nd	0.02	nd	nd	nd
669445	nd	nd	nd	nd	nd	nd	nd	0.01	nd	nd	nd
669446	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669447	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669448	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669390	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669399	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669439	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
WEISS ASSOCIATES, EMERYVILLE, CA
GORE CHLORINATED TARGET COMPOUNDS PLUS VINYL CHLORIDE, BTEX AND FREONS (A7)
91 ALL ANGELS HILL RD, WAPPINGERS FALLS, NY
SITE GCJ - PRODUCTION ORDER #21230394

SAMPLE NAME	EtBENZ, ug	mpXYL, ug	oXYL, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug	11DCA, ug	111TCA, ug	12DCA, ug	TCE, ug	PCE, ug
MDL=	0.02	0.02	0.01		0.05	0.02	0.02	0.01	0.01	0.02	0.02
Maximum	0.04	0.16	0.09	0.02	0.01	0.02	0.00	1.04	0.00	28.46	1.61
Standard Dev.	0.01	0.03	0.02	0.00	0.00	0.00	0.00	0.16	0.00	5.85	0.27
Mean	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.06	0.00	2.36	0.09

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
WEISS ASSOCIATES, EMERYVILLE, CA
GORE CHLORINATED TARGET COMPOUNDS PLUS VINYL CHLORIDE, BTEX AND FREONS (A7)
91 ALL ANGELS HILL RD, WAPPINGERS FALLS, NY
SITE GCJ - PRODUCTION ORDER #21230394

SAMPLE NAME	14DCB, ug	11DCE, ug	CHCl3, ug	CCl4, ug	112TCA, ug	ClBENZ, ug	1112TetCA, ug	1122TetCA, ug	13DCB, ug	12DCB, ug
MDL=	0.01	0.01	0.01	0.03	0.02	0.03	0.02	0.01	0.01	0.01
669389	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669394	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669395	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669396	nd	nd	0.02	nd	nd	nd	nd	nd	nd	nd
669397	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669398	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669400	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669401	nd	nd	0.03	nd	nd	nd	nd	nd	nd	nd
669402	nd	nd	nd	nd	bdl	nd	nd	nd	nd	nd
669403	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669404	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669405	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669406	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669407	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669408	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669409	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669410	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669411	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669412	nd	nd	0.07	nd	nd	nd	nd	nd	nd	nd
669413	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669414	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669415	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd
669416	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669417	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669418	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669419	nd	nd	0.02	nd	nd	nd	nd	nd	nd	nd
669420	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669421	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669422	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669423	nd	0.02	0.05	nd	nd	nd	nd	nd	nd	nd
669424	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
WEISS ASSOCIATES, EMERYVILLE, CA
GORE CHLORINATED TARGET COMPOUNDS PLUS VINYL CHLORIDE, BTEX AND FREONS (A7)
91 ALL ANGELS HILL RD, WAPPINGERS FALLS, NY
SITE GCJ - PRODUCTION ORDER #21230394

SAMPLE NAME	14DCB, ug	11DCE, ug	CHCl3, ug	CCl4, ug	112TCA, ug	ClBENZ, ug	1112TetCA, ug	1122TetCA, ug	13DCB, ug	12DCB, ug
MDL=	0.01	0.01	0.01	0.03	0.02	0.03	0.02	0.01	0.01	0.01
669425	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669426	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669427	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669428	nd	nd	0.02	nd	nd	nd	nd	nd	nd	bdl
669429	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669430	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669431	nd	0.01	0.02	nd	nd	nd	nd	nd	nd	nd
669432	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd
669433	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669434	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669435	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669436	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669437	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669438	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669440	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669441	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669442	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669443	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669444	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669445	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669446	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669447	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669448	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669390	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669399	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
669439	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

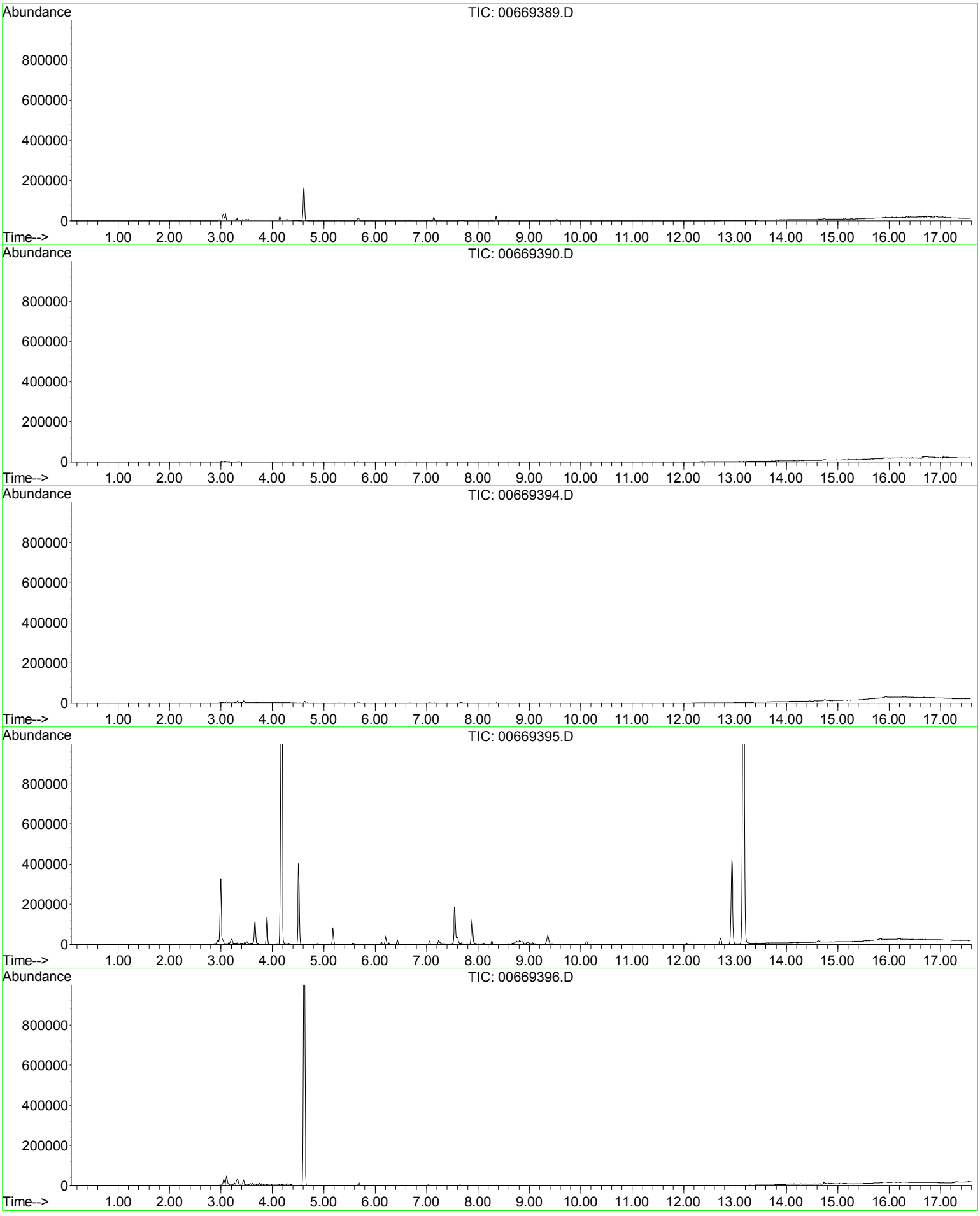
No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
WEISS ASSOCIATES, EMERYVILLE, CA
GORE CHLORINATED TARGET COMPOUNDS PLUS VINYL CHLORIDE, BTEX AND FREONS (A7)
91 ALL ANGELS HILL RD, WAPPINGERS FALLS, NY
SITE GCJ - PRODUCTION ORDER #21230394

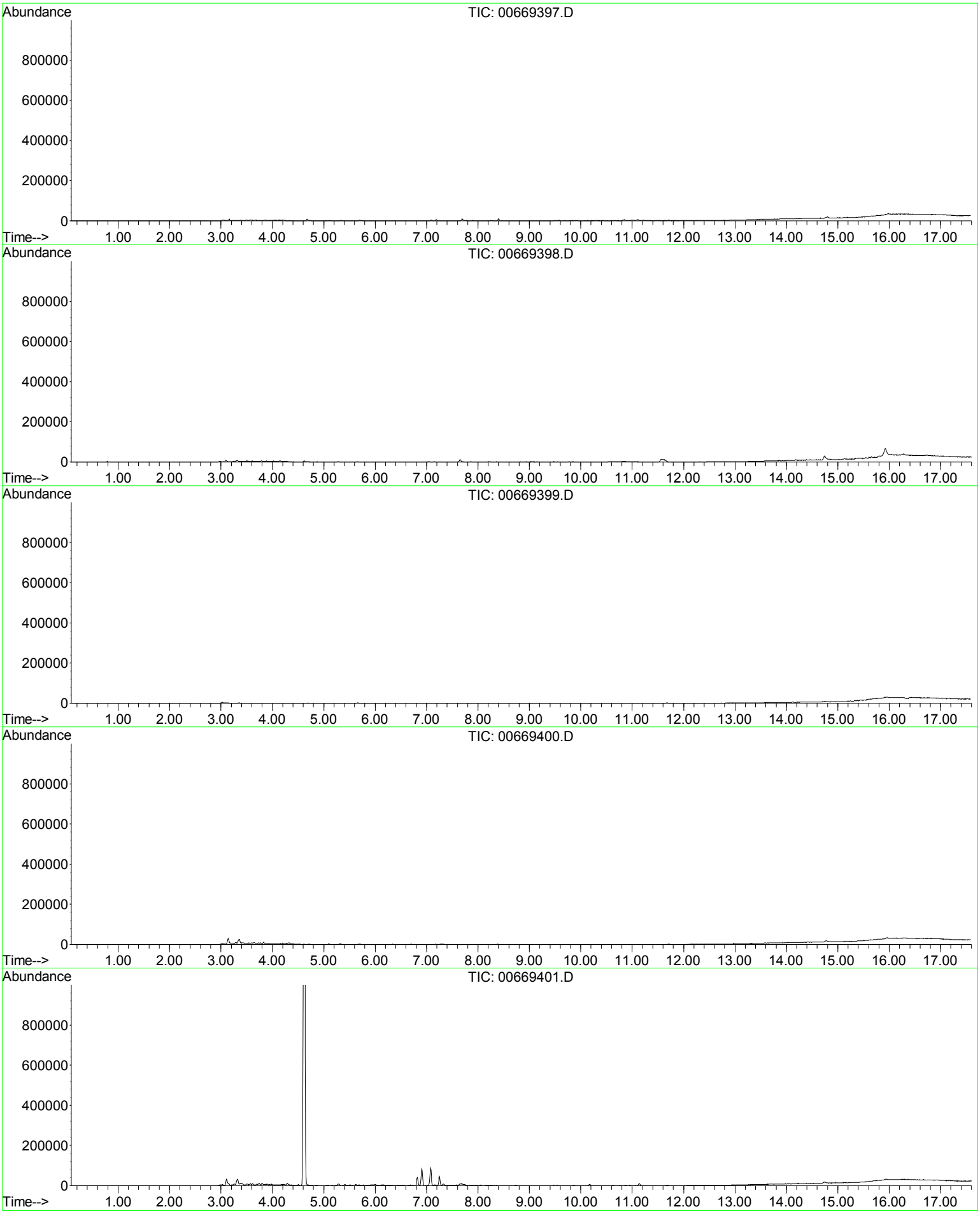
SAMPLE NAME	14DCB, ug	11DCE, ug	CHCl3, ug	CCl4, ug	112TCA, ug	ClBENZ, ug	1112TetCA, ug	1122TetCA, ug	13DCB, ug	12DCB, ug
MDL=	0.01	0.01	0.01	0.03	0.02	0.03	0.02	0.01	0.01	0.01
Maximum	0.00	0.02	0.07	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Standard Dev.	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

TICs - WEISS ASSOCIATES - 21230394GCJ
IN NUMERICAL ORDER



TICs - WEISS ASSOCIATES - 21230394GCJ
IN NUMERICAL ORDER



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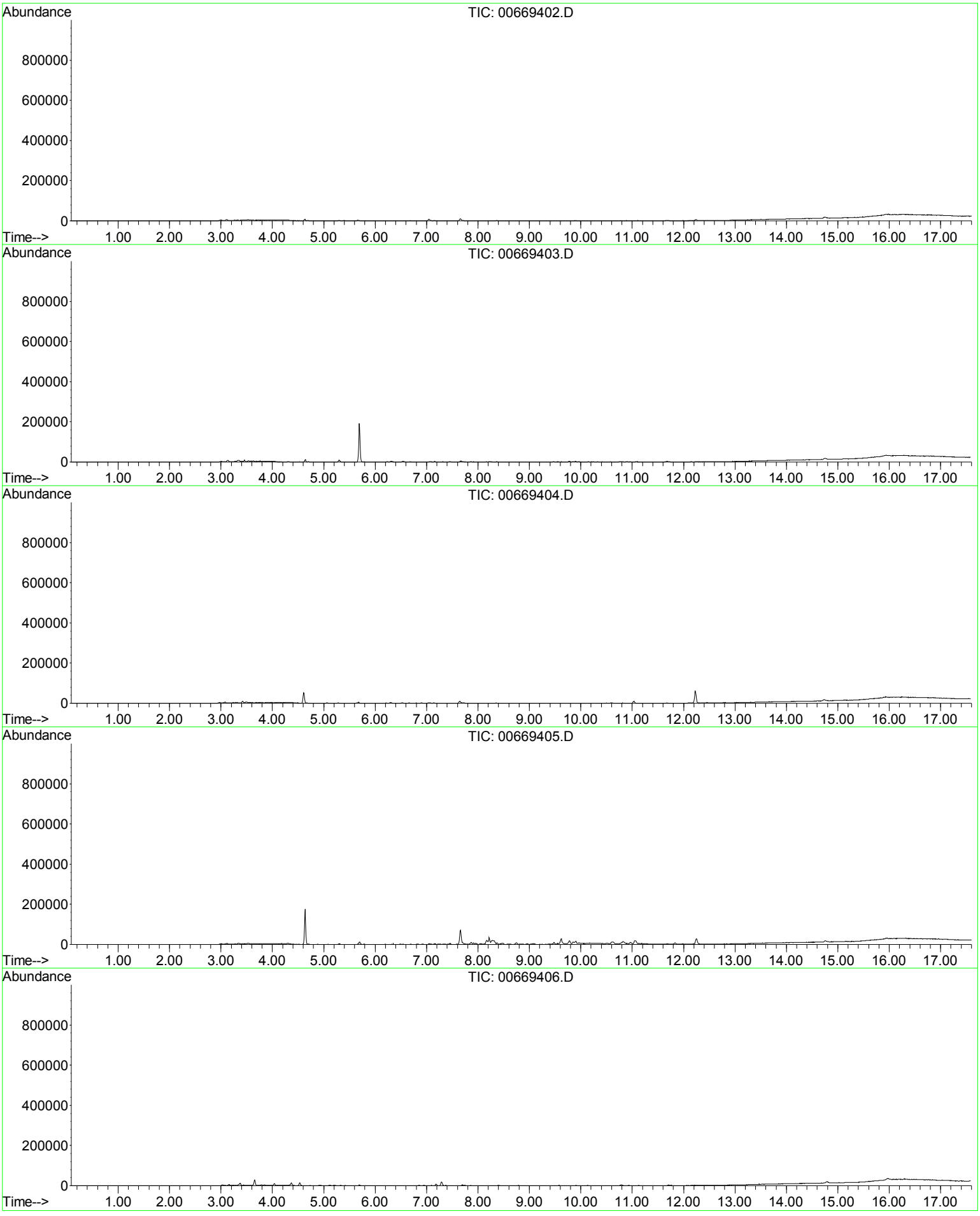
IN NUMERICAL ORDER



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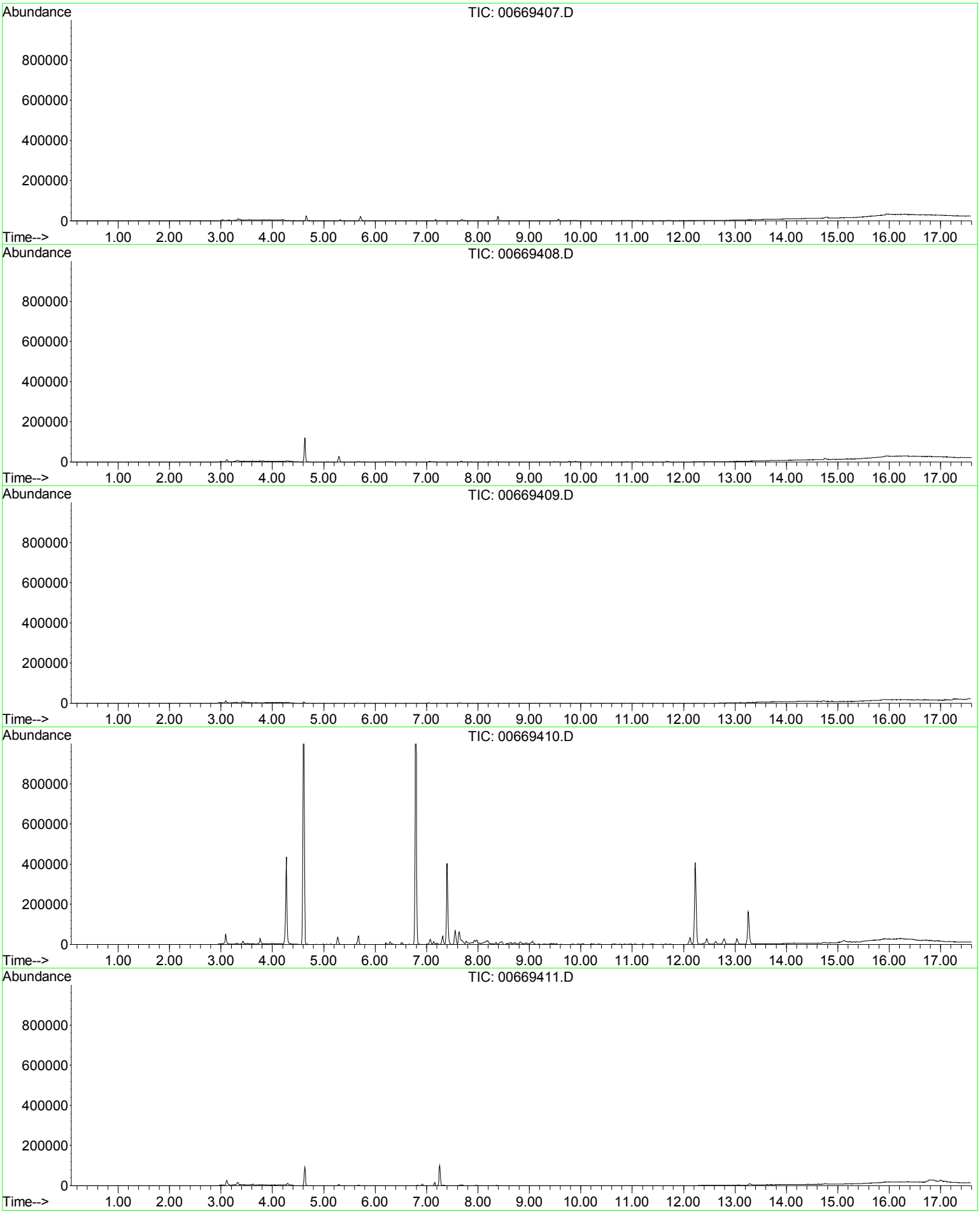
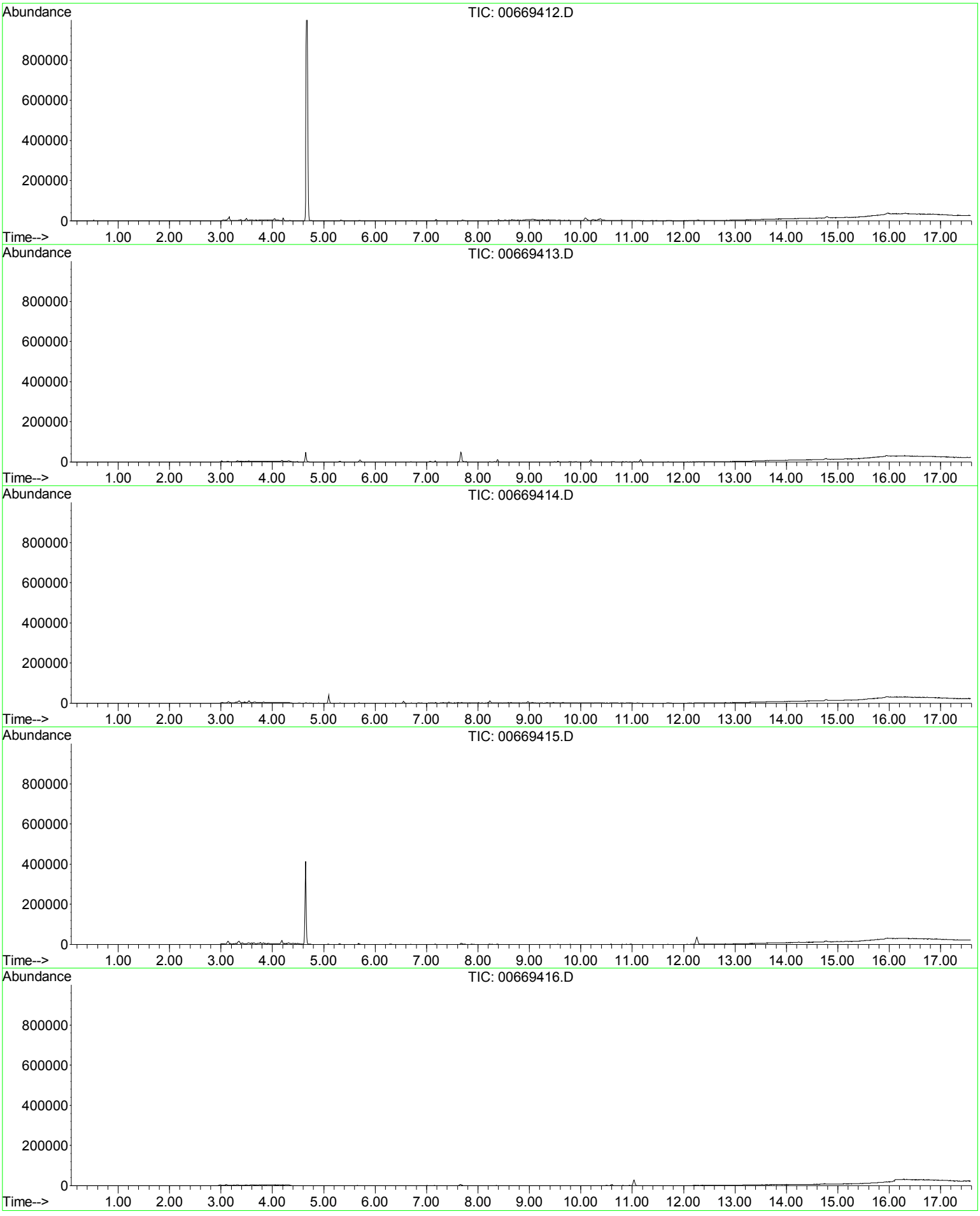
IN NUMERICAL ORDER



TICs - WEISS ASSOCIATES - 21230394GCJ
IN NUMERICAL ORDER



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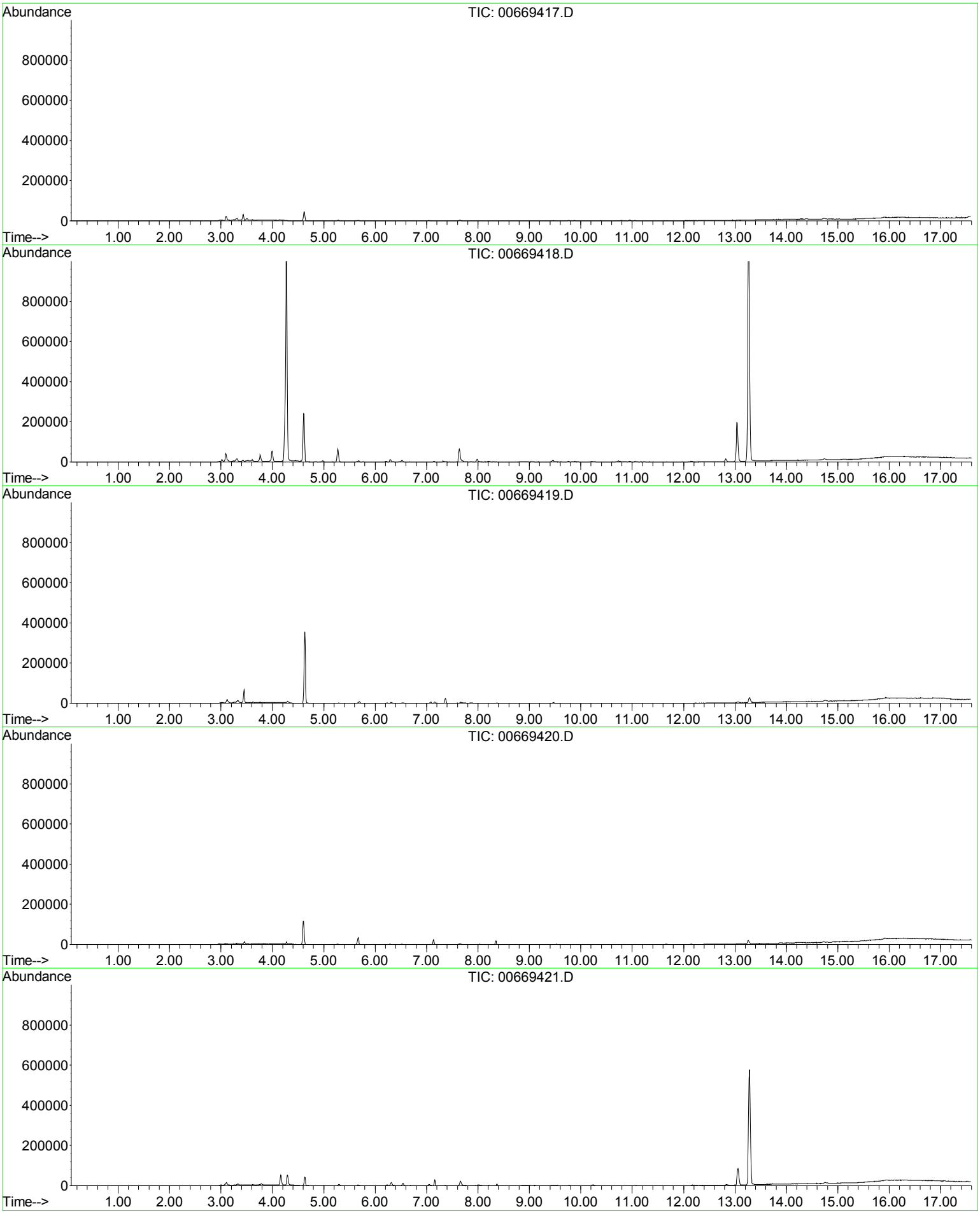
IN NUMERICAL ORDER



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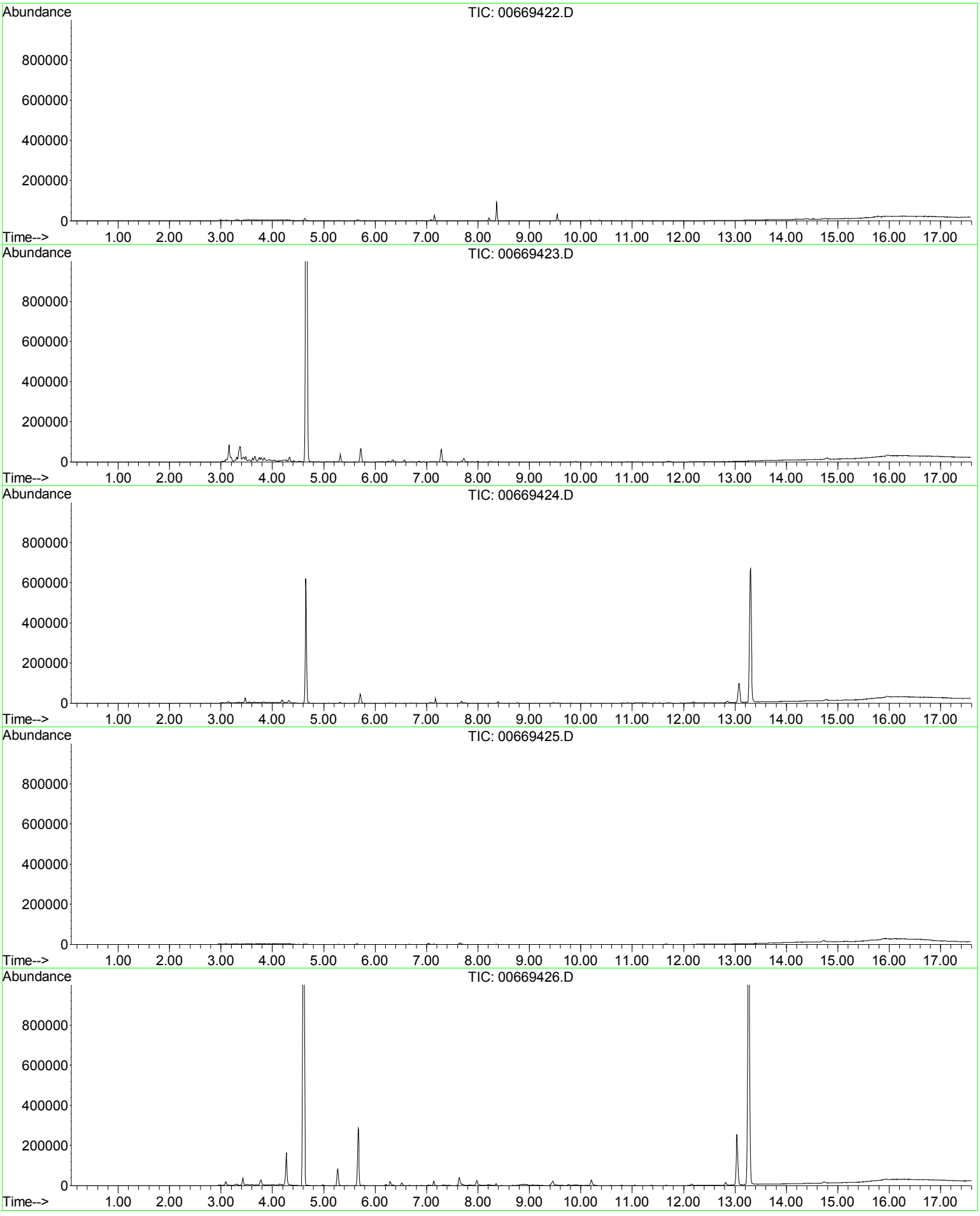

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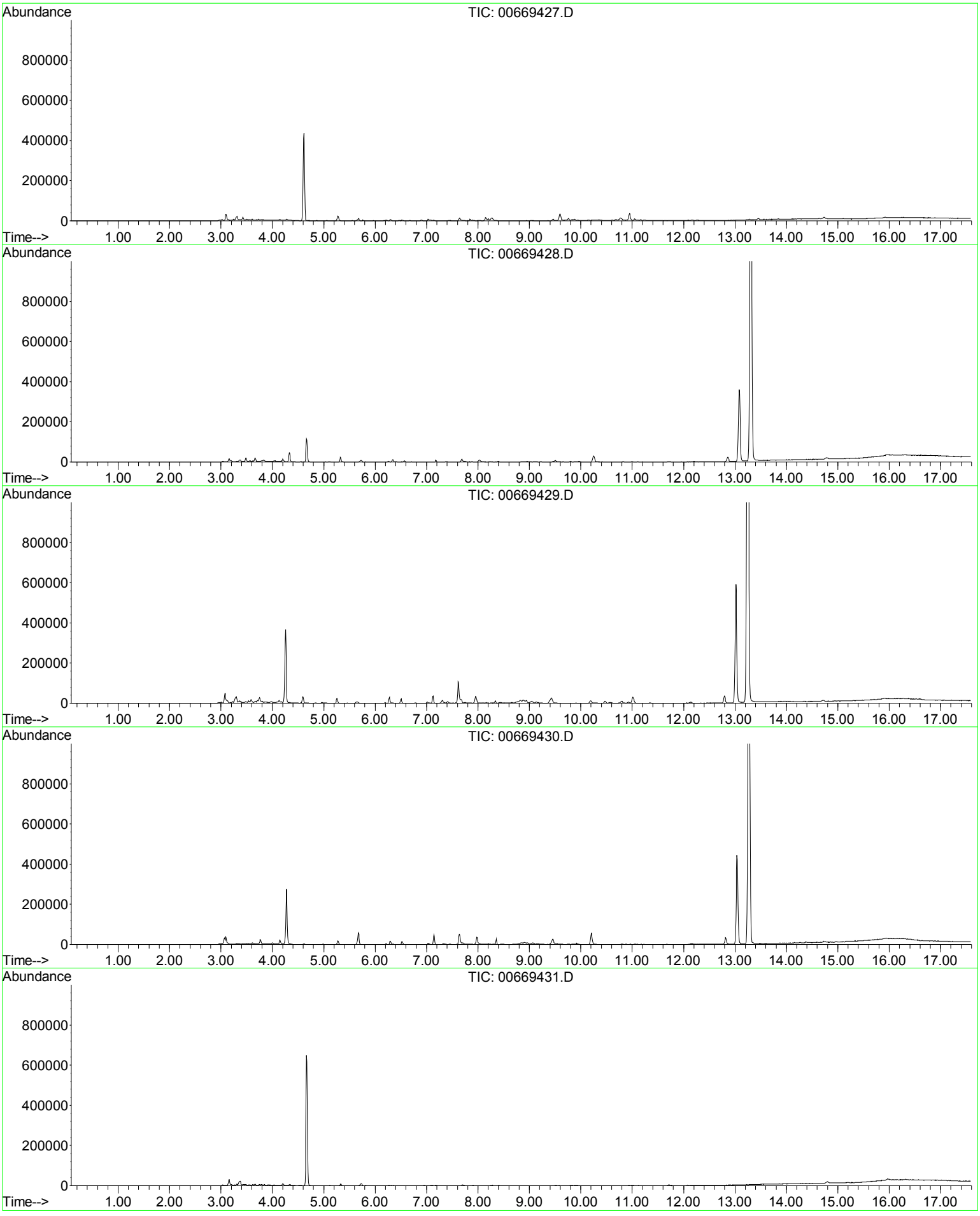

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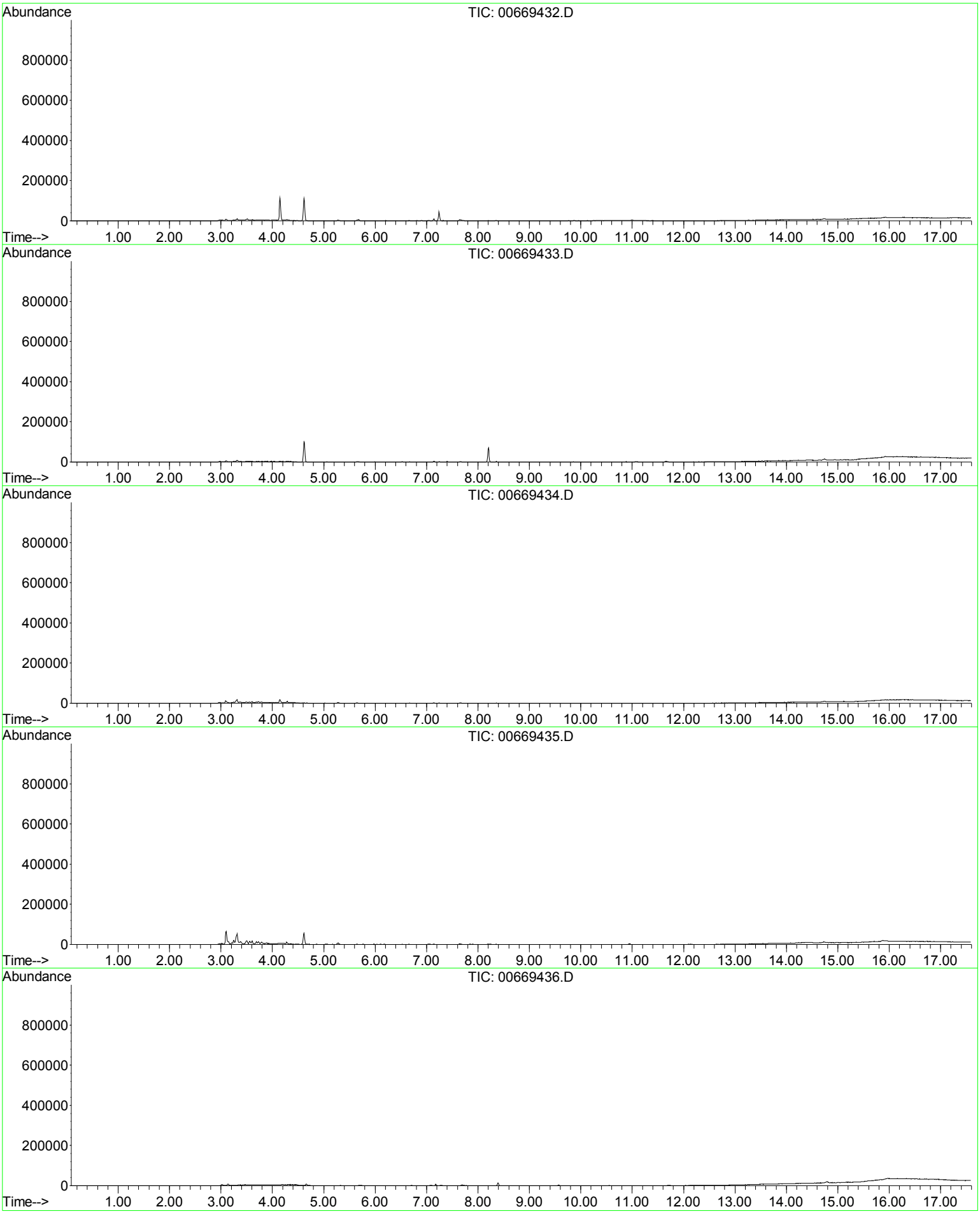

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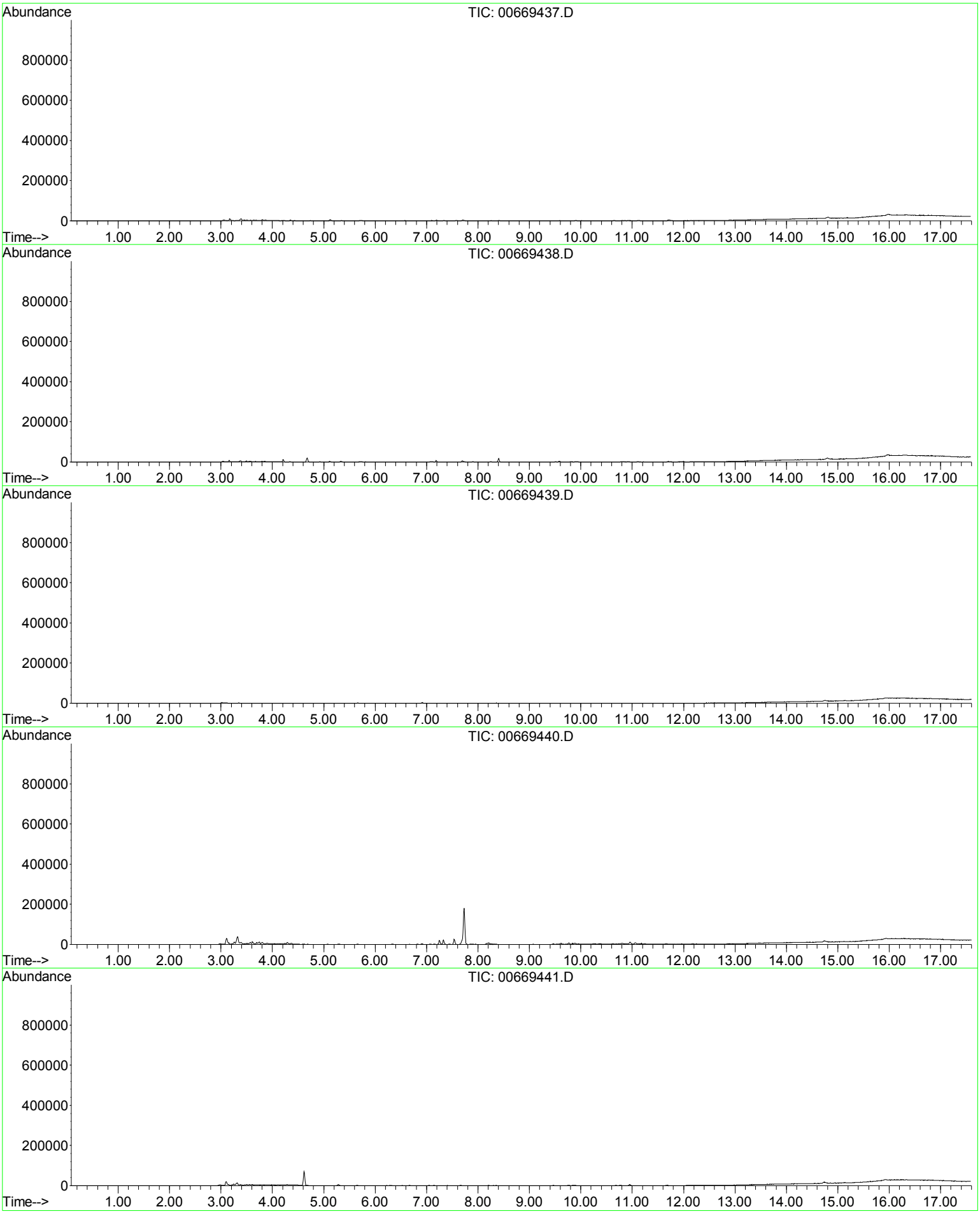

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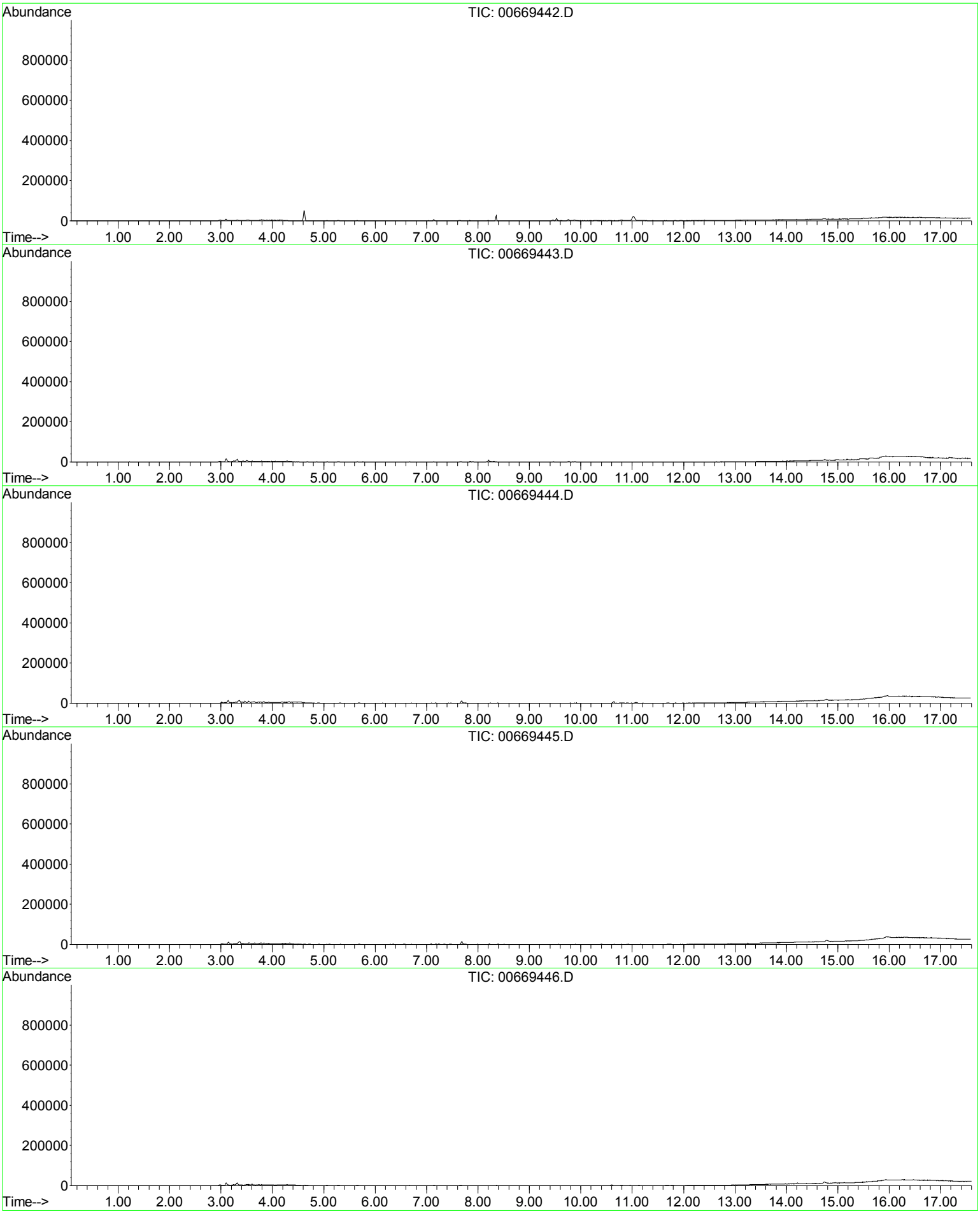

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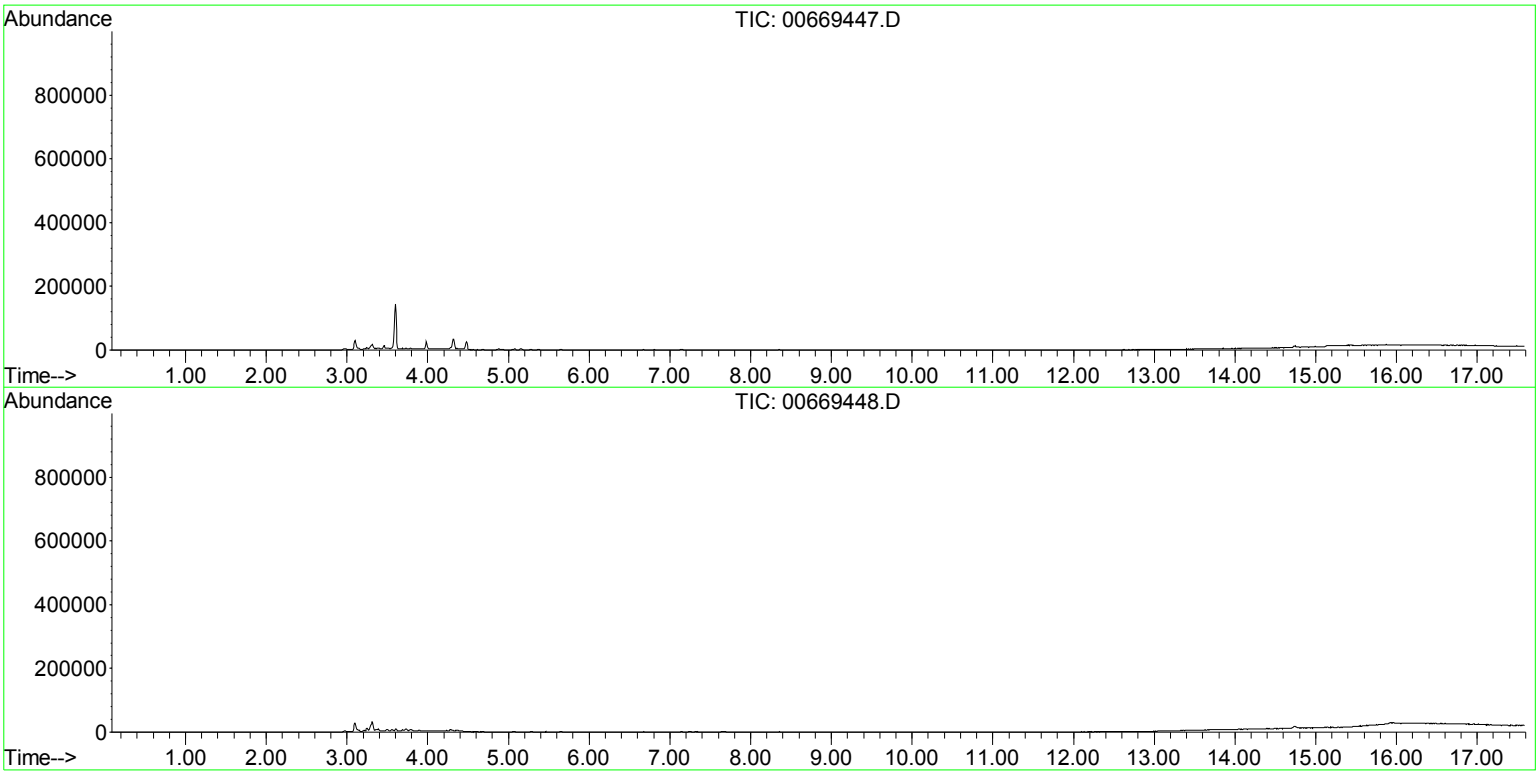

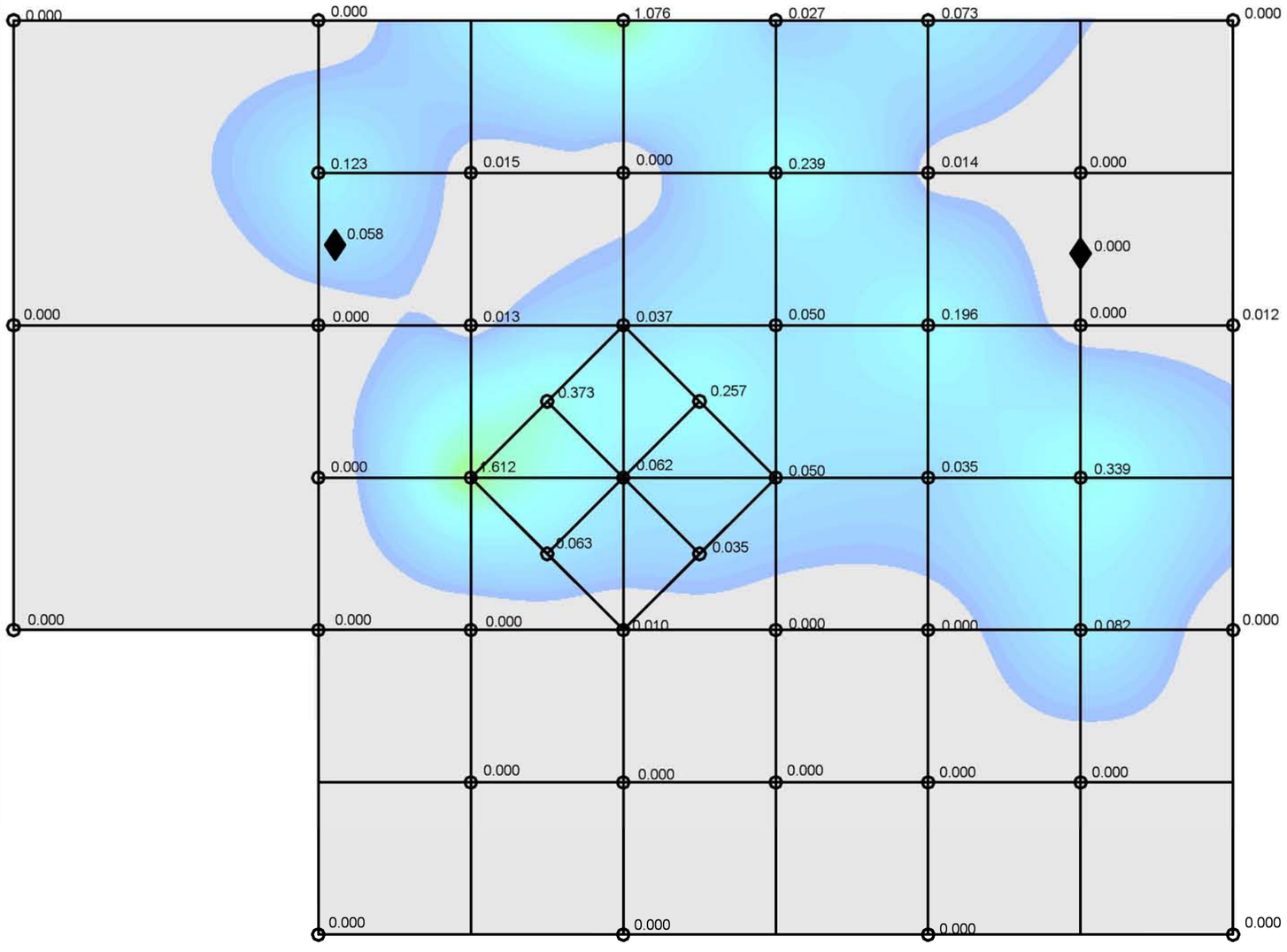

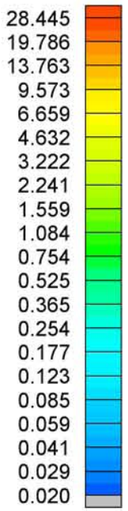

Scale 1:264

10 0 10 20 30 40 50

(feet)

GORE ™ Surveys for Environmental Site Assessment

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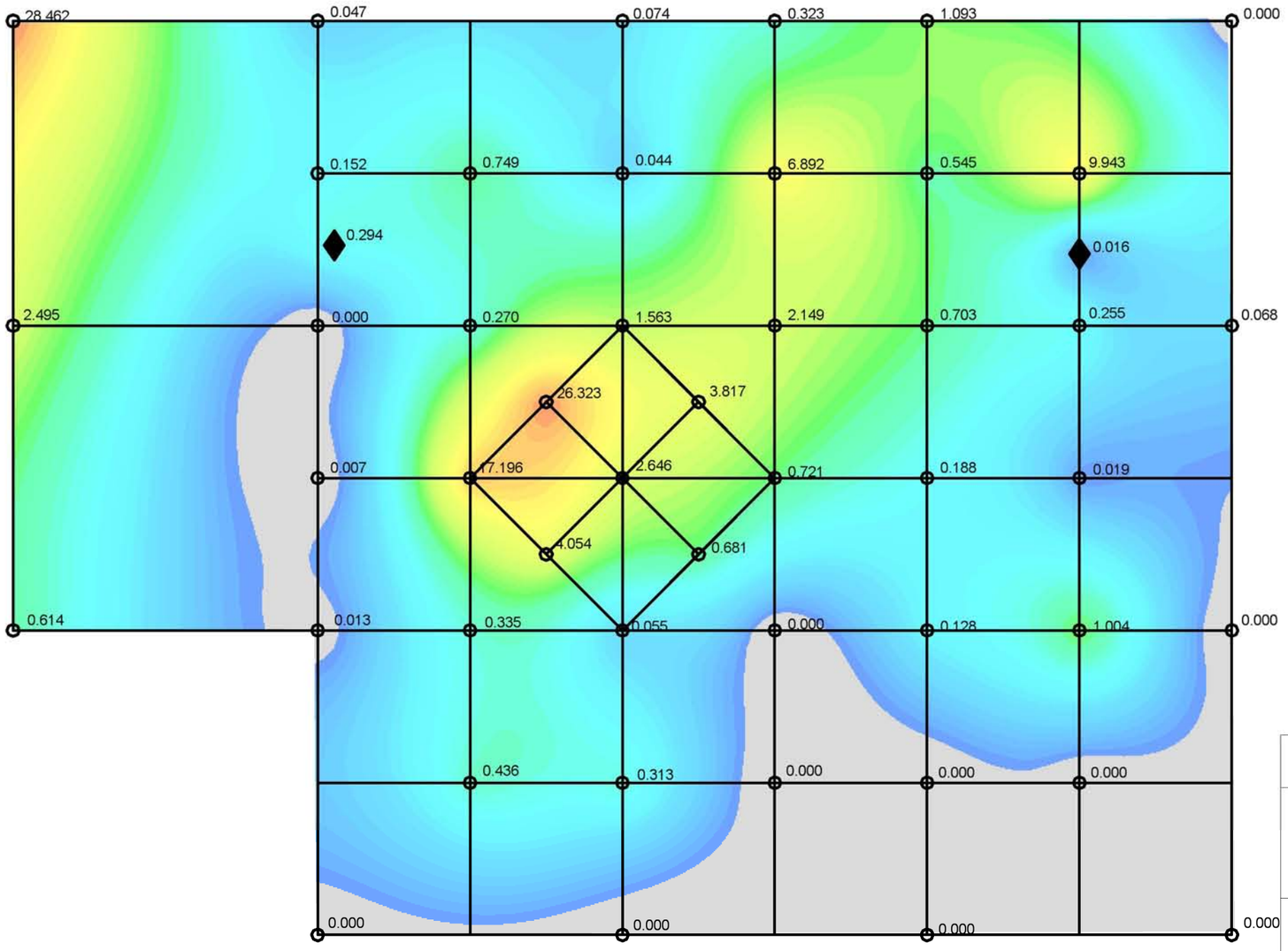
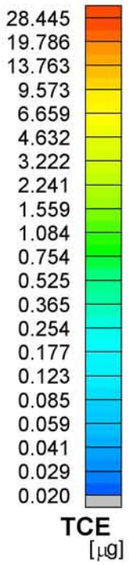
100 CHESAPEAKE BOULEVARD
ELKTON, MD, USA 21921
USA
(410) 392-7600

Weiss Associates
91 All Angels Hill Rd
Tetrachloroethene

DATE DRAWN: 30SEP2011	DRAWN BY: DMC	ORIG. CAD: Proposed....dwg	SITE CODE: GCJ
REV. DATE: 3OCT2011	REV. #: 1	PROJECT NUMBER: 21230394	





Scale 1:264

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(feet)

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USA
(410) 392-7600

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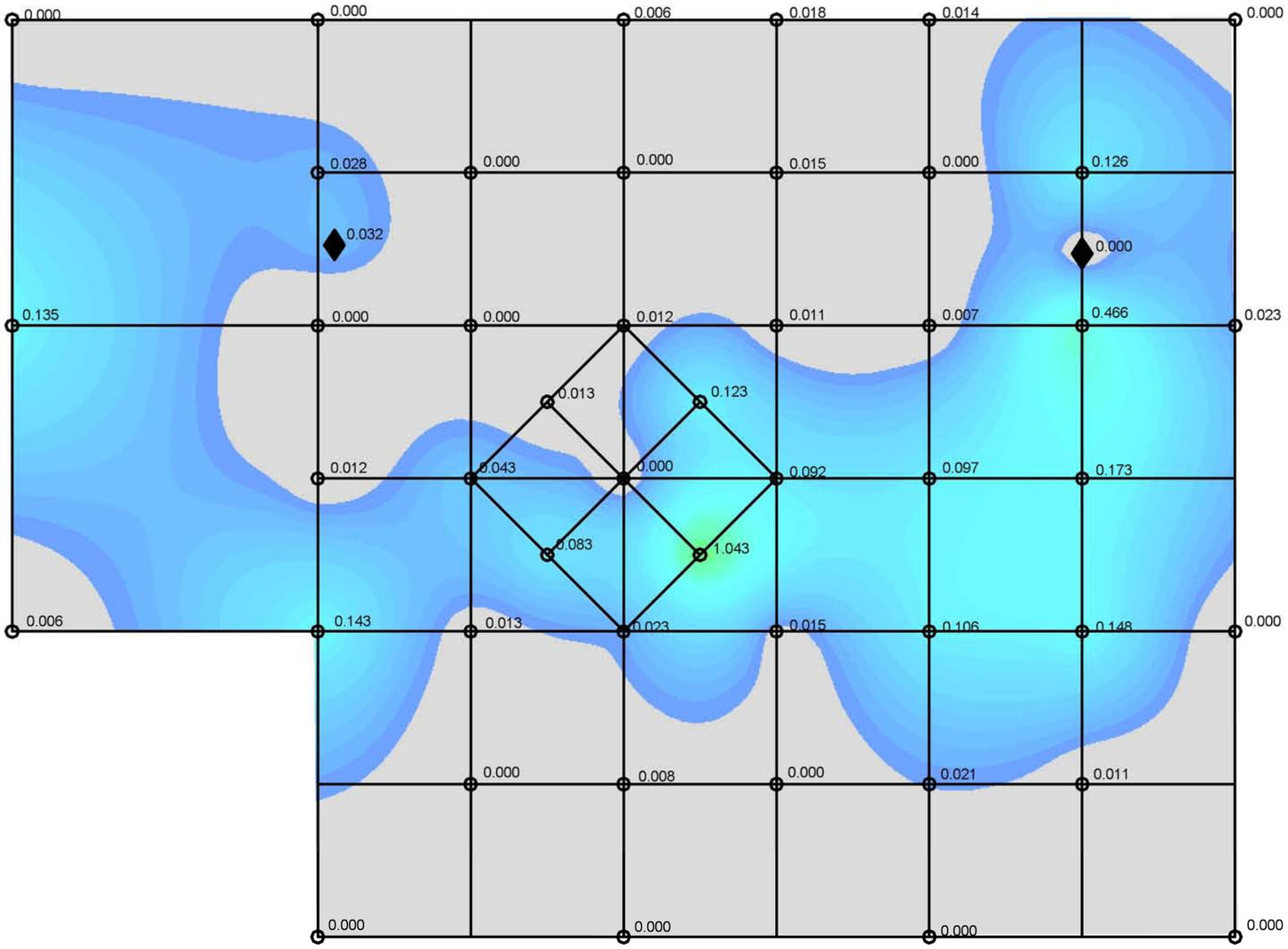
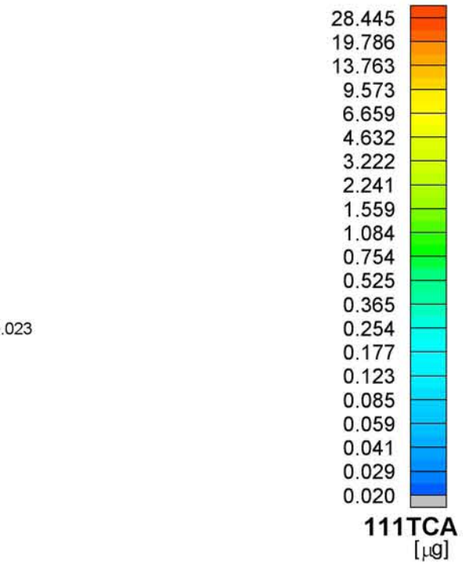
Weiss Associates
91 All Angels Hill Rd
Trichloroethene

DATE DRAWN: 30SEP2011	DRAWN BY: DMC	ORIG. CAD: Proposed....dwg	SITE CODE: GCJ
REV. DATE: 3OCT2011	REV. #: 1	PROJECT NUMBER: 21230394	





Scale 1:264

10 0 10 20 30 40 50

(feet)

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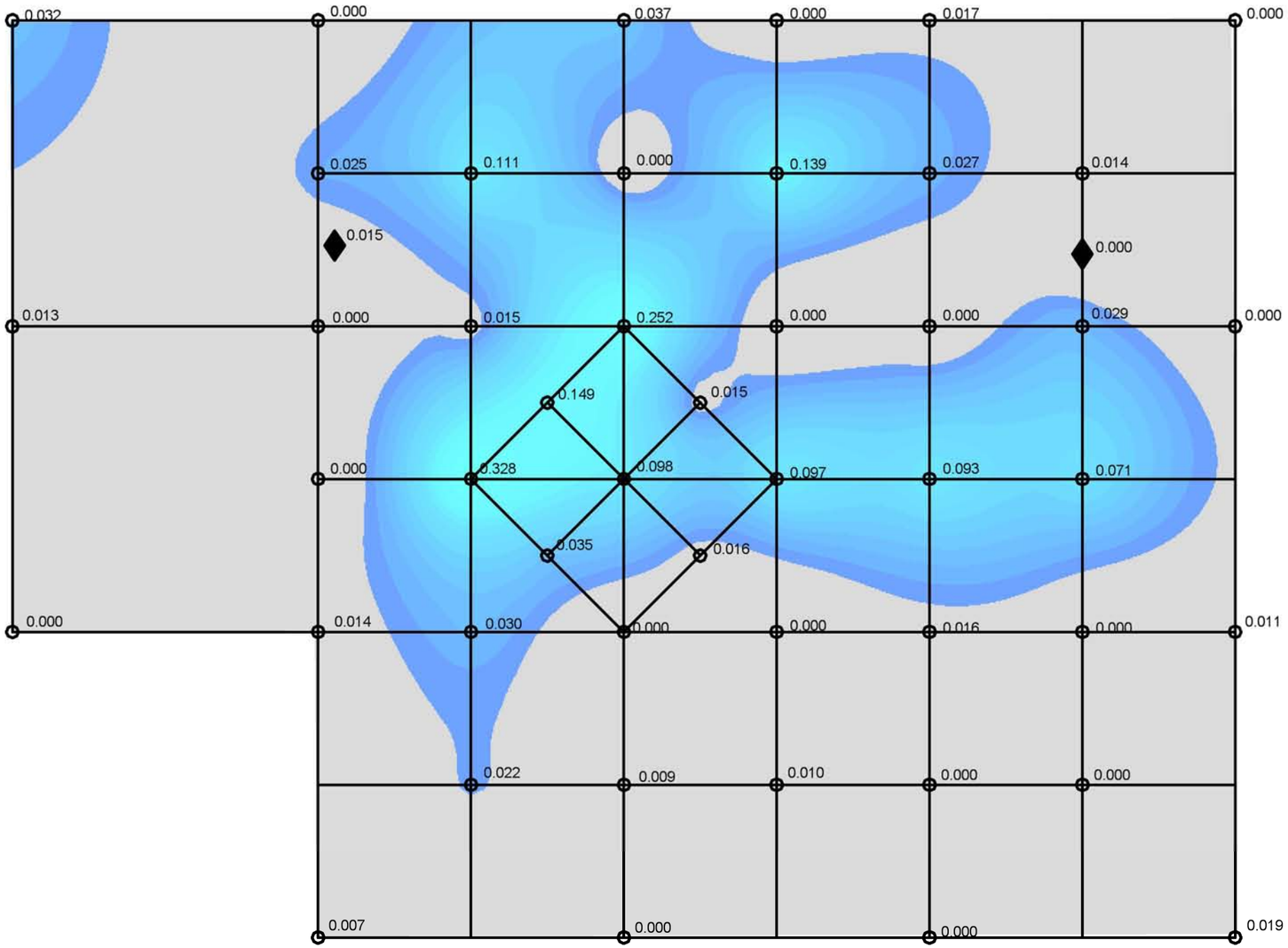
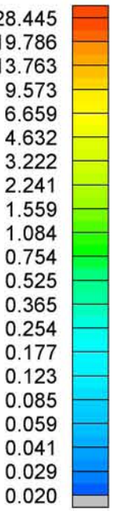
ELKTON, MD, USA 21921
USA
(410) 392-7600

Weiss Associates
91 All Angels Hill Rd
1,1,1-Trichloroethane

DATE DRAWN: 30SEP2011	DRAWN BY: DMC	ORIG. CAD: Proposed....dwg	SITE CODE: GCJ
REV. DATE:	REV. #:	PROJECT NUMBER: 21230394	





Scale 1:264

10 0 10 20 30 40 50

(feet)

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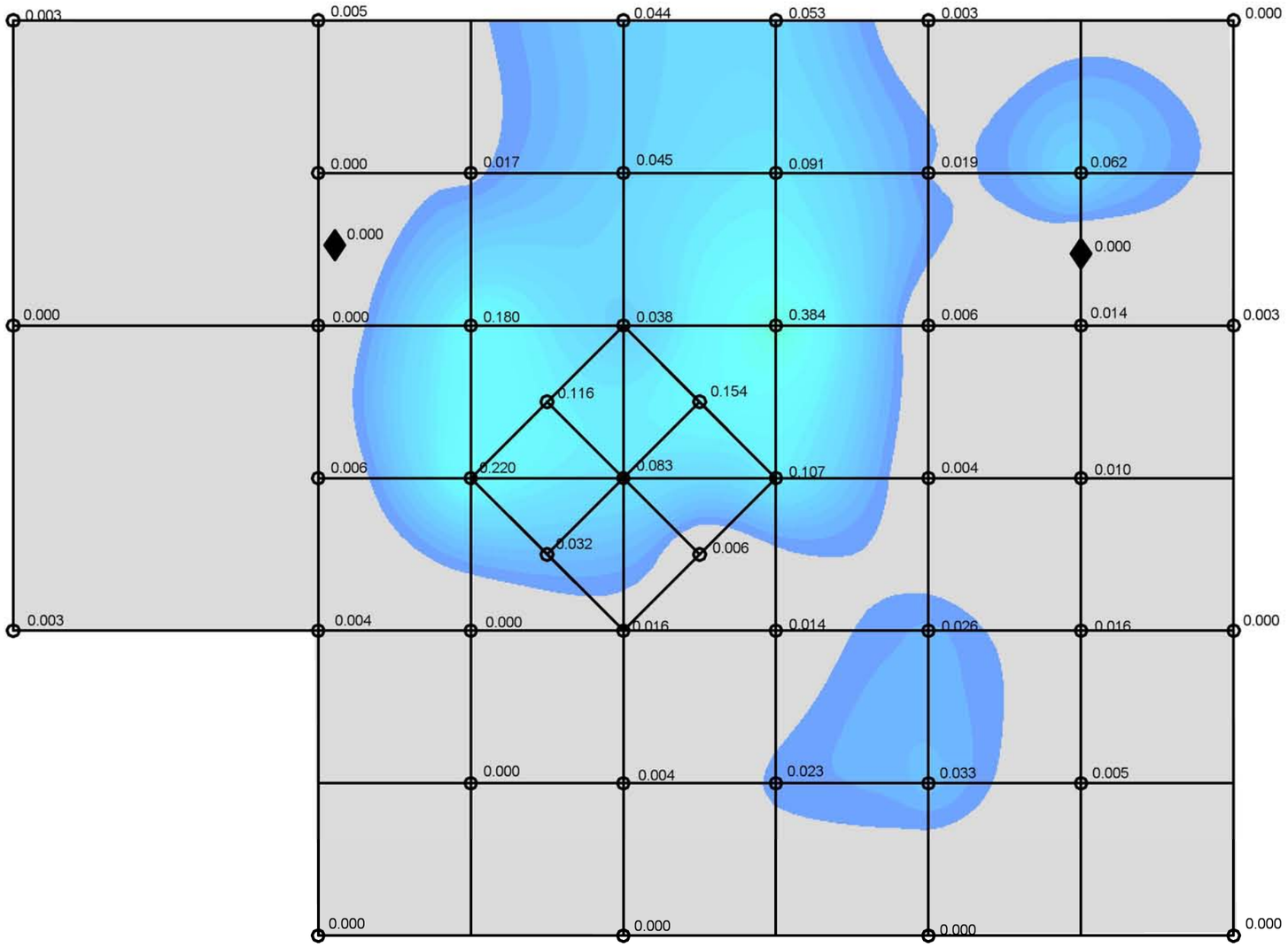
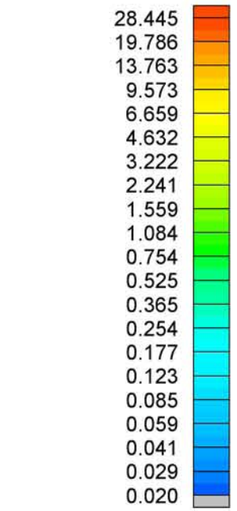
Weiss Associates
91 All Angels Hill Rd
Toluene

DATE DRAWN: 30SEP2011	DRAWN BY: DMC	ORIG. CAD: Proposed....dwg	SITE CODE: GCJ
REV. DATE:	REV. #:	PROJECT NUMBER: 21230394	





Trichlorotrifluoroethane (TIC)
[µg]

Scale 1:264

10 0 10 20 30 40 50
(feet)

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91 All Angels Hill Rd
Trichlorotrifluoroethane(TIC)

DATE DRAWN: 30SEP2011	DRAWN BY: DMC	ORIG. CAD: Proposed....dwg	SITE CODE: GCJ
REV. DATE: 3OCT2011	REV. #: 1	PROJECT NUMBER: 21230394	

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LIT 139.0 08/14/07

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APPENDIX C

AIR MONITORING RESULTS

Air Monitoring

Real-time air monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) was conducted on August 18 and 19, 2011 for ground intrusive activities during site investigation work at the former Fairchild facility, located at 91 All Angels Hill Road in Wappingers Falls, New York. Procedures and results of air monitoring are presented in this appendix.

VOC Monitoring

VOCs were monitored continuously at the downwind perimeter each drilling location. Upwind concentrations were measured at the start of each workday and periodically thereafter to establish background conditions, particularly when wind direction changed. The monitoring work was performed using a MiniRAE-2000 Photoionization Detector (PID) with 10.6 electron-volt lamp, capable of calculating and recording instantaneous and 15-minute running average concentrations. The PID was calibrated by the vendor on August 15, 2011, before shipment to the Site and a few days prior to the 24-hour GORE® module installation period. The calibration record is included in this appendix.

At the beginning of the work on August 18, 2011 a rain storm raised humidity, and during that time the ambient air concentration readings reported by the PID were in the range of 5 to 25 ppm (Figure C-1). Work activity was temporarily halted until the cause was determined to be false positive readings caused by the high humidity. As humidity levels dropped below 80 percent after the storm, the ambient air readings decreased to 0.0 and remained at that level for the remainder of the work (Figure C-1). The only detection of VOCs that occurred during the work was when monitoring within a few inches of some of the open boreholes immediately following drilling (Figure C-1).

Particulate Monitoring

Particulate concentrations were monitored continuously at the upwind and downwind perimeter of the drilling area using two Thermo-Scientific pDR-1500 real-time particulate monitors able to monitor particulate matter less than ten microns (PM10) in size, with the following minimum performance standards:

(a) Objects measured: dust, mists or aerosols;

(b) Measurement range: 0.001 to 400 micrograms per cubic meter (mg/m^3) (1 to 400,000 $\mu g/m^3$);

(c) Precision (2-sigma) at constant temperature: +/- 10 $\mu g/m^3$ for one second averaging; and +/- 1.5 $\mu g/m^3$ for sixty second averaging;

(d) Accuracy: +/- 5% of reading +/- precision (referred to gravimetric calibration with Society of Automotive Engineers (SAE) fine test dust – also known as Arizona Road Dust [mmd = 2 to 3 mm, sg = 2.5, as aerosolized]);

(e) Resolution: 0.1% of reading or 1$\mu g/m^3$, whichever is larger;

(f) Particle size range of maximum response: 0.1-10 µm;

(g) Total number of data points in memory: 15,000;

(h) Logged data: each data point with average concentration, time/date and data point number (user selectable data logging averaging periods 1 second to 4 hours);

(i) Run summary: overall average, maximum concentration, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), short-term exposure limit (STEL) concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;

(j) Alarm averaging time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms;

(k) Operating time: 48 hours (fully charged NiCd battery); continuously with charger; and

(l) Operating temperature: -10 to 50º C (14 to 122º F).

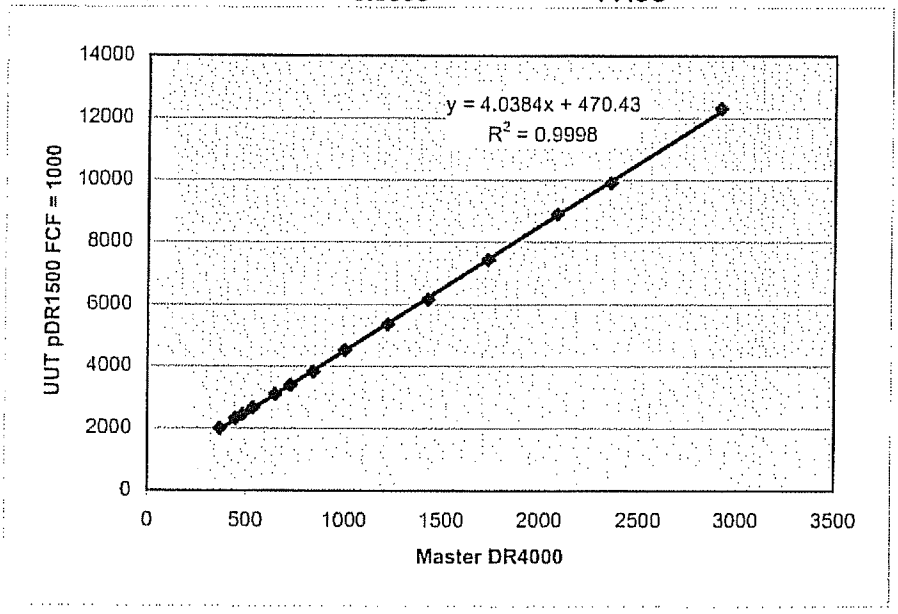
Particulate levels were monitored upwind and immediately downwind at the working site and integrated over a period of one minute. The two monitors were relocated several times during the work to accommodate changes in wind direction. All readings were recorded and were available onsite for New York State Department of Environmental Conservation (NYSDEC), New York State Department of Health (NYSDOH) and County Health personnel to review. The full record is presented in Figure C-2. To ensure the validity of the fugitive dust measurements, appropriate quality assurance/quality control (QA/QC) and calibration per manufacturer's instructions were employed, as recorded in the attached calibration record.

Particulate monitoring results from both upwind and downwind of the sampling activity showed concentrations in the 10 to 40 $\mu g/m^3$ range, which were well below the action level of 150 $\mu g/m^3$ (Figure C-2). The one exception was a brief excursion to approximately 110 $\mu g/m^3$ on the morning of August 18, which appears to reflect dust from offsite, since the upwind monitor recorded higher values than downwind. In addition, fugitive dust migration was visually assessed during all work activities. No fugitive dust was observed, and it was therefore not necessary to employ fugitive dust suppression techniques.

Thermo
SCIENTIFIC

Model pDR-1500 Calibration

Date	*7/19/2011*
S/N:	*1017442506*
Calibration Due:	*7/19/2012*
Leak Check @ 10 " w.c.	*PASS*
Ta (deg C)	*23*
RH (%)	*59*
Pa (mmHg)	*750*
Minimum Flow (L/min)	*1.0*
Max Flow (L/min)	*3.5*
Flow Cal Correlation	*0.995*
Source Level	*81*
Source Current (mA)	*60.2*
Ref Det Volts (VDC)	*0.77*
Cal Factor	248
Background (ug/m3)	*116*
Correlation	0.9999 PASS

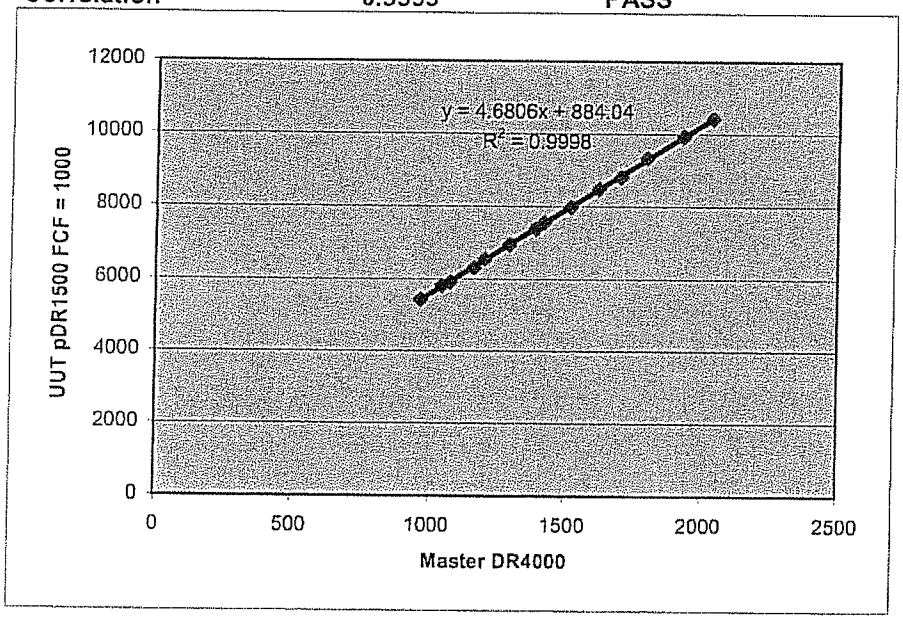


All aerosol calibrations are traceable to Arizona Road Dust

Thermo
SCIENTIFIC

Model ADR-1500 Calibration

Calibration Technician	*Charlotte Lincourt*
Date	*7/12/2011*
S/N:	*0115248001*
Calibration Due:	*7/12/2012*
Leak Check @ 10 " w.c.	*PASS*
Ta (deg C)	*23*
RH (%)	*55*
Pa (mmHg)	*748*
Minimum Flow (L/min)	*1.0*
Max Flow (L/min)	*3.5*
Flow Cal Correlation	*0.994*
Source Level	*122*
Source Current (mA)	*60.18*
Ref Det Volts (VDC)	*1.18*
Cal Factor	214
Background (ug/m3)	*189*
Correlation	0.9999 PASS



All aerosol calibrations are traceable to Arizona Road Dust

FIELD ENVIRONMENTAL INSTRUMENTS, INC.
www.fieldenvironmental.com

301 Brushton Avenue
Suite A
Pittsburgh PA 15221
800-393-4009 Toll Free
(412) 436-2600 Local
(412) 436-2616 Fax

Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	11-4159	12/2/2012

Cal Standard	Reading	Acceptable Range
100 ppm	101.0	(98 - 102)

	Pump Flow mL/min	Acceptable Range
☐ T.H.P. Sensor Check	485	(450+)

Response Factor
1.0

Model	MiniRae 2000
Lamp	10.6 eV
S/N	110-005965
Barcode	U18X
Order #	162165

Calibrated By: Dan Williams

Date of Calibration: 08/15/11

All calibrations performed by FEI conform to manufacturer's specifications. Please report any issues within 24 hours of receiving equipment.
All calibration gas used is traceable to NIST. Additional documentation is available upon request.

Instrument: MiniRAE 2000 (PGM7600) Serial Number: 005965
User ID: 00000001 Site ID: 00000445
Data Points: 560 Gas Name: Isobutylene Sample Period: 10 sec
Last Calibration Time: 07/08/2011 10:22

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
High Alarm Levels:	100.0	100.0	100.0
Low Alarm Levels:	50.0	50.0	50.0

Line#	Date	Time	Min(ppm)	Avg(ppm)	Max(ppm)
1	07/08/2011	11:16	-----	1.9	2.8
2	07/08/2011	11:16	-----	1.6	1.9
3	07/08/2011	11:16	-----	1.3	1.4
4	07/08/2011	11:16	-----	1.3	1.6
5	07/08/2011	11:16	-----	1.2	1.3
6	07/08/2011	11:16	-----	0.8	2.4
7	07/08/2011	11:17	-----	0.2	0.2
8	07/08/2011	11:17	-----	0.2	0.2
9	07/08/2011	11:17	-----	0.1	0.2
10	07/08/2011	11:17	-----	0.1	0.2
11	07/08/2011	11:17	-----	0.1	0.2
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13	07/08/2011	11:18	-----	0.1	0.2
14	07/08/2011	11:18	-----	0.1	0.2
15	07/08/2011	11:18	-----	0.1	0.2
16	07/08/2011	11:18	-----	0.2	1.2
17	07/08/2011	11:18	-----	1.3	2.1
18	07/08/2011	11:18	-----	1.3	1.8
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60	07/08/2011 11:25	-----	0.3	0.6
61	07/08/2011 11:26	-----	0.2	0.4
62	07/08/2011 11:26	-----	0.2	0.3
63	07/08/2011 11:26	-----	0.2	0.2
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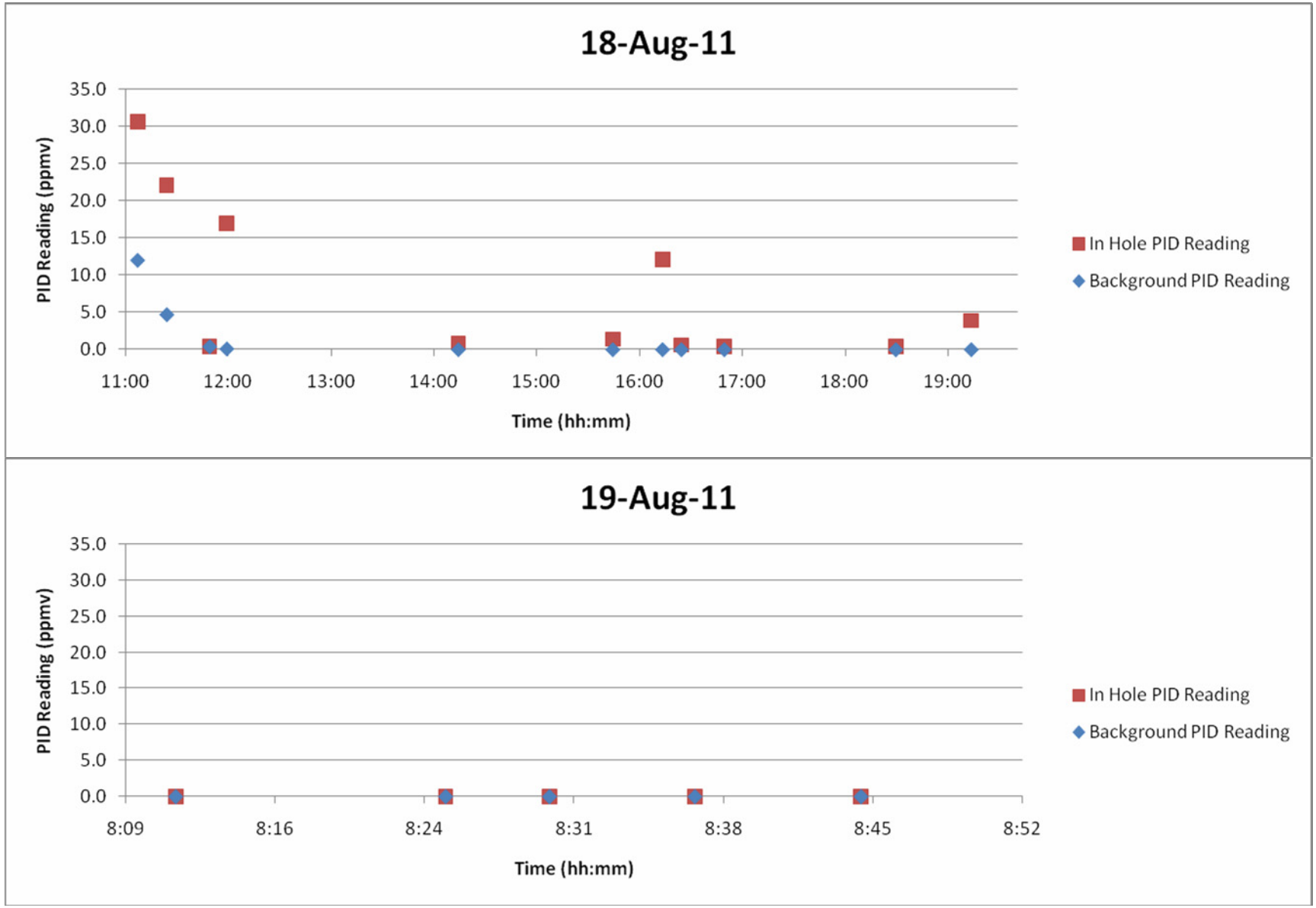
82	07/08/2011 11:29	-----	0.2	0.2
83	07/08/2011 11:29	-----	0.2	0.2
84	07/08/2011 11:29	-----	0.2	0.2
85	07/08/2011 11:30	-----	0.2	0.2
86	07/08/2011 11:30	-----	0.2	0.3
87	07/08/2011 11:30	-----	0.2	0.2
88	07/08/2011 11:30	-----	0.2	0.2
89	07/08/2011 11:30	-----	0.2	0.3
90	07/08/2011 11:30	-----	0.2	0.2
91	07/08/2011 11:31	-----	0.2	0.2
92	07/08/2011 11:31	-----	0.2	0.2
93	07/08/2011 11:31	-----	0.2	0.2
94	07/08/2011 11:31	-----	0.2	0.2
95	07/08/2011 11:31	-----	0.2	0.2
96	07/08/2011 11:31	-----	0.2	0.2
97	07/08/2011 11:32	-----	0.4	0.6
98	07/08/2011 11:32	-----	0.3	0.4
99	07/08/2011 11:32	-----	0.3	0.3
100	07/08/2011 11:32	-----	0.2	0.3
101	07/08/2011 11:32	-----	0.2	0.2
102	07/08/2011 11:32	-----	0.2	0.2
103	07/08/2011 11:33	-----	0.2	0.2
104	07/08/2011 11:33	-----	0.2	0.2
105	07/08/2011 11:33	-----	0.2	0.2
106	07/08/2011 11:33	-----	0.2	0.2
107	07/08/2011 11:33	-----	0.2	0.2
108	07/08/2011 11:33	-----	0.2	0.2
109	07/08/2011 11:34	-----	0.2	0.2
110	07/08/2011 11:34	-----	0.2	0.2
111	07/08/2011 11:34	-----	0.2	0.2
112	07/08/2011 11:34	-----	0.2	0.2
113	07/08/2011 11:34	-----	0.2	0.3
114	07/08/2011 11:34	-----	0.2	0.2
115	07/08/2011 11:35	-----	0.2	0.2
116	07/08/2011 11:35	-----	0.2	0.3
117	07/08/2011 11:35	-----	0.2	0.3
118	07/08/2011 11:35	-----	0.2	0.3
119	07/08/2011 11:35	-----	0.2	0.3
120	07/08/2011 11:35	-----	0.3	0.3
121	07/08/2011 11:36	-----	0.3	0.3
122	07/08/2011 11:36	-----	0.2	0.3
123	07/08/2011 11:36	-----	0.2	0.3
124	07/08/2011 11:36	-----	0.2	0.2
125	07/08/2011 11:36	-----	0.2	0.3
126	07/08/2011 11:36	-----	0.2	0.2
127	07/08/2011 11:37	-----	0.2	0.2

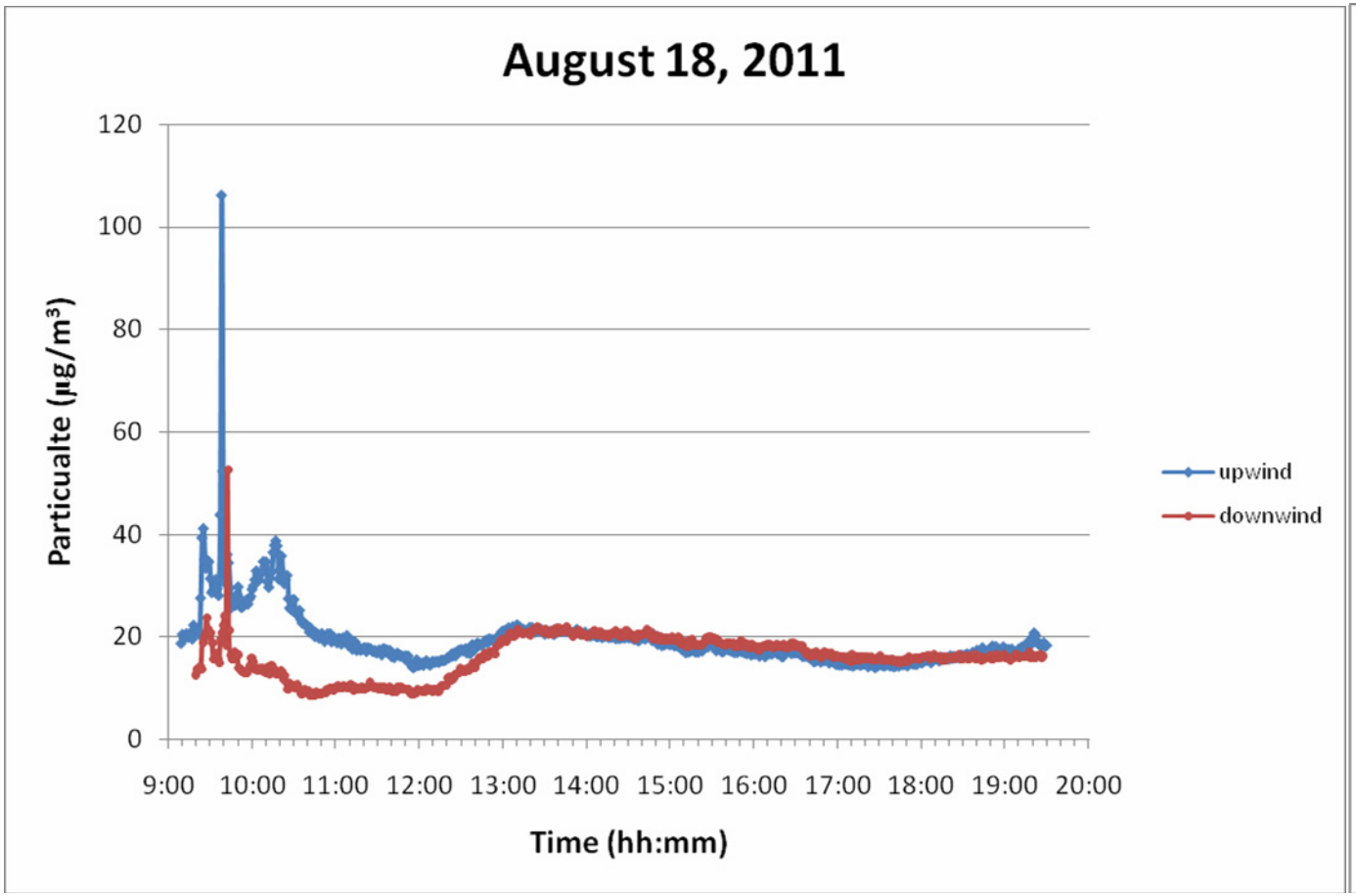
Figure C-1. Field PID Meter Readings, 91 All Angels Hill Road, Wappingers Falls, New York

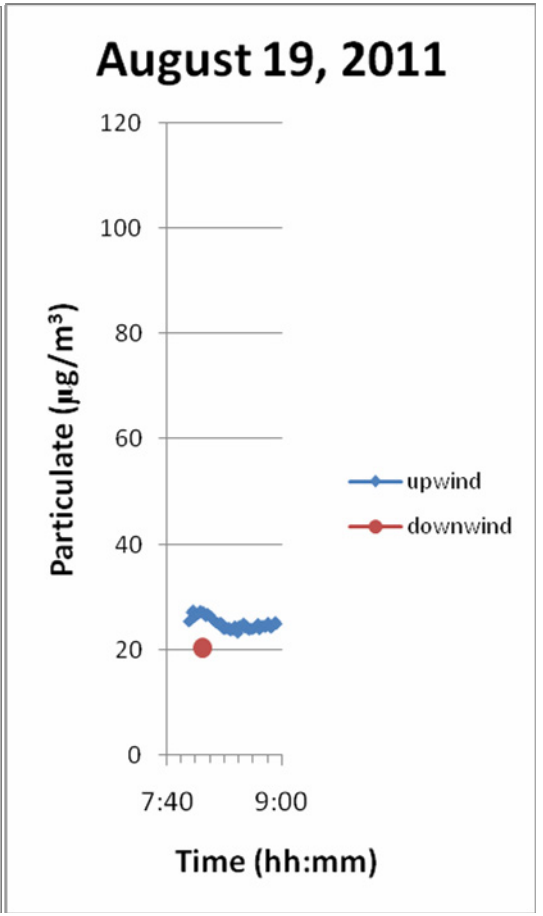


Notes:

ppmv = parts per million by volume

Figure C-2. Particulate Monitoring Results, August 18 and 19, 91 All Angels Hill Road, Wappingers Falls, New York





Notes:

µg/m^3 = micrograms per cubic meter

Measurements shown are 15 minute average concentrations