

November 19, 2007

Mr. Tim Dieffenbach
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203

RE: Results of Soil Vapor Intrusion Assessment
Former Carborundum Facility, Site No. 932102, Town of Wheatfield, New York

Dear Mr. Dieffenbach:

In a July 6, 2006 letter, the New York State Department of Environmental Conservation (NYSDEC) requested that a work plan be developed to investigate the soil vapor-to-indoor air intrusion pathway at the Former Carborundum Facility (Site) in the Village of Sanborn, Town of Wheatfield, New York (see Figure 1). On August 28, 2006, Parsons, on behalf of the Atlantic Richfield Company, issued the work plan to evaluate the potential for soil vapor intrusion (SVI) into residences to the west of the Site. The work plan was approved on November 6, 2006.

Field work commenced on December 11, 2006 with piezometer installation, but the soil vapor sampling work was postponed due to high water levels observed in the two new piezometers. The work was postponed, with NYSDEC approval, until an appreciable drop in the groundwater level was observed. In the interim, water levels were monitored and the historical data review was completed. Water levels and the results of the historical data review were provided in a letter report dated April 3, 2007 (see Attachment A). Water levels were monitored until July 2007 when it was observed that the water table had dropped below the recommended 5-foot minimum depth for sampling soil vapor (New York State Department of Health Soil Vapor Intrusion Guidance 2006). The drop in water levels allowed installation and sampling of the vapor monitoring points described in the approved work plan. This letter summarizes the installation and sampling of the vapor monitoring points, and the results of the assessment.

OBJECTIVE

The objective of this investigation was to evaluate the potential for soil vapor intrusion into the residential area west of the former Carborundum facility. A historical data review and an SVI field investigation were conducted to accomplish this objective. The approach incorporated discussion and input from NYSDEC to evaluate the need for sample collection in the residential areas west of the facility. A summary of the historical data review is attached (see Attachment A). The results of the field investigation, conclusions, and path forward are presented herein, with supporting information included in Attachments B through E.

As stated in the work plan, soil vapor near the Site boundary was sampled and analyzed for specific Site-related chemicals of potential concern (COPCs). These are listed below:

- trichloroethene (TCE)

- cis- and trans-1,2-dichloroethene (DCE)
- vinyl chloride (VC)
- 1,1-dichloroethane (DCA)

HISTORICAL DATA REVIEW

Prior to sampling, historical information relevant to the SVI investigation was obtained and reviewed. This information, along with water level monitoring data, was provided to NYSDEC on April 3, 2007 (see Attachment A). Previous correspondence from NYSDEC and other parties, air photos, and technical and historical documents, such as the groundwater monitoring reports, the record-of-decision (ROD), and the June 1990 Remedial Investigation (RI) report were reviewed.

The document review provided information pertaining to the soil gas survey performed in April and May of 1990 for the DoD housing facility and a discussion of the Risk Assessment (June 1990 RI report) as it relates to the exposure and inhalation of chlorinated organic vapor by the residents of the DoD housing facility. The following items summarize the SVI related aspects of the June 1990 RI report:

- Sampling was attempted at 47 sample locations at the DoD facility, with air flow sufficient to allow sampling at only 25 locations.
- A low permeability soil and a probable high degree of saturation prevented air flow in 22 of the samples.
- The majority of the samples collected in the 1990 study were near the homes closest to the facility (see figure-Attachment A).
- The single location where COPCs were detected in the 1990 study (see table-Attachment A), was surrounded by four other samples that were below detection limits.
- The concentration of chlorinated organics present in soil gas in the area of the DoD property was negligible.
- Soil gas containing chlorinated organics does not migrate to the surface in the area of the DoD facility over most of the site.
- The estimated risks associated with the SVI pathway from COPCs were considered insignificant and acceptable. No remedial measures were proposed.
- The June 1990 RI report concluded that potential inhalation of vapors emanating from the ground at the Carborundum Facility, or in the adjacent DoD housing area, did not appear to pose any significant risks to human health.

- The Site hydrogeology consists of two water bearing zones: (1) low permeability shallow soils consisting of silt and clay with lenses of sand (approximately one to 11 feet below ground surface); and (2) fractured dolomitic bedrock (greater than 11 feet).

The relevance of this historical data to the SVI assessment is discussed in the Qualitative Risk Evaluation section.

SAMPLING AND ANALYSIS METHODS

Prior to field activities, a project information sheet describing the SVI work was prepared to inform both public and private entities about the SVI investigation. During the field work there were no visitors or questions posed to the field team from adjacent property owners or residents.

Water Level Piezometer Installation

Two temporary piezometers were installed in shallow soil. The piezometers were used to establish water levels, prior to installing soil vapor monitoring points, and aid in determining the appropriate depth of installation for the soil vapor points.

The temporary piezometers were installed using a hand auger and Geoprobe[®] sampling equipment. Due to the potential for underground utilities, a hand auger (or another soft dig technique) was used to dig to 5 feet below the ground surface. Once the desired depth was reached, the piezometer was constructed. Piezometer WP-1 was installed to a depth to 14 feet, and piezometer WP-2 was installed at a depth of 9.5 feet. Each piezometer was constructed using a five foot long, 1-inch diameter, 0.10-inch slotted PVC screen, and an appropriate length of 1-inch diameter riser extending above the ground surface. The annulus around the screen was backfilled with a coarse sand pack. Bentonite chips were placed starting at approximately one foot above the screen, and provide a minimum 3-foot seal. Natural fill materials were used to fill in the void to the ground surface. A boring log for each piezometer is provided in Attachment B.

Soil Vapor Monitoring Point Installation

Water levels were monitored periodically from December 2006 until July 2007, when it was observed that the water table had dropped below the recommended 5-foot minimum depth for sampling soil vapor (New York State Department of Health Soil Vapor Intrusion Guidance 2006). This allowed installation and sampling of the vapor monitoring points consistent with those described in the approved work plan.

Two types of soil vapor monitoring points (SVMPs) were installed for purposes of on-site soil vapor sampling: (1) single-point shallow - approximately 5.5 to 6 ft. below-ground-surface (BGS); and (2) nested points. In the approved work plan a nested location consists of three grouped SVMPs at incremental depths. The proposed depths of the screened intervals were 4.5-5, 6.5-7 and 9.5-10 feet BGS. However, the depth to water table established in the piezometers did not allow installation of all three sample locations within the nested locations. Therefore, based on the observed water levels, and with NYSDEC approval, nested SVMPs were installed

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at approximately 5.5 to 6 ft and 8 to 8.5 feet below ground surface. A third SVMP was not installed at these locations. The single and nested SVMPs were installed along the western property line of the Site (Figure 2).

Soils encountered at all SVMP locations were generally moist, very stiff, red-brown and brown silt, with some clay, and a trace of fine sand. This confirms previous characterization work (RI, June 1990) which indicated that the overburden soils were comprised primarily of silt and clay, and exhibited low permeability during hydrogeologic testing.

Sampling and Analysis

Vapor samples were collected via tubing directly into 1.0-liter MC1000SV Minican™ evacuated sampling canisters. Per NY SVI guidance, flow rates for both purging and collecting did not exceed 0.2 liters per minute. Each sample was collected at a flow rate of approximately 0.02 liters per minute over approximately a one-hour period. Due to tight soils, a lower volume of vapor was obtained from sample VP-4 relative to other samples. However, the volume was sufficient for detection limits to be near the proposed values.

Canisters were individually cleaned and certified by the laboratory prior to use. All samples were submitted to a NYSDOH ELAP-certified laboratory, and analyzed via EPA Method TO-15 for TCE, cis-DCE, trans-DCE, DCA and VC.

The six single SVMPs (VP-1 through VP-6) were sampled on July 24 through July 26, 2007 (see Figure 2). Prior to sampling, each vapor implant was purged and leak tested as described in Standard Operating Procedure (SOP) No. 1 of the work plan. Helium concentrations during all leak tests were used to confirm the integrity of the implant construction and subsequent sample quality. At VP-3 the SVMP sampling apparatus did not pass the first leak test, additional bentonite was applied to the top of the borehole and the SVMP leak tested again, per SOP No. 1. Purging was conducted at the rates specified in the work plan. Soils were dry to moist, and no water was visible in the syringe during purging of single SVMPs samples. One ambient air sample was collected over a one hour time period during each day of sampling at an upwind location (four total ambient samples).

Nested SVMPs were sampled on July 25, 2007. Only one nested SVMP location was not sampled on the 25th due to water in the implant. Sample location VN-2C was subsequently sampled on August 20, 2007. At this location, the water in the implant on July 25 may have been vadose zone water that had drained into the implant, or runoff that short-circuited the well. Consistent with the samples collected in July, an upwind ambient air sample was also collected on August 20, 2007.

RESULTS

Analytical data received from the laboratory were validated and reviewed for usability with respect to the requirements in the work plan and the USEPA Region II Standard Operating Procedures (SOPs). NYSDEC was notified of the preliminary results on August 21, 2007 and on September 13, 2007 for the sample that was collected in August. Insufficient sample volume for

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sample VN-2C resulted in slightly elevated detection limits of $1.28 \mu\text{g}/\text{m}^3$ for cis-1,2-DCE and trans-1,2-DCE compared to the standard of $1.00 \mu\text{g}/\text{m}^3$ for both compounds. All volatile sample results were considered usable following data validation. The data validation report is included as Attachment C.

Results from the sampling are presented in Figure 2 and Table 1. The raw data results from the laboratory are provided in Attachment D. Only 2 of the 12 samples collected had detection of COPCs above laboratory detection limits; VP-5 ($2.46 \mu\text{g}/\text{m}^3$ - TCE) and VN-2C ($2.79 \mu\text{g}/\text{m}^3$ - VC). Sample location VP-5 is a single SVMP with the implant at a depth of 5.5 to 6.0 feet. Sample location VN-2C is the deeper SVMP (8.0 to 8.5 feet) of a nested location (see Figure 2).

Soil gas-to-indoor air guidelines are not available from NYSDOH for TCE and VC. The concentration of TCE in VP-5 is below the NYSDOH (2006) indoor air concentration guideline ($5 \mu\text{g}/\text{m}^3$). The concentration of VC in VN-2C is at a depth of 8 feet below grade. A qualitative risk discussion is presented in the following section.

QUALITATIVE RISK EVALUATION

Based on the predominant absence of COPCs in the soil vapor results, a formal risk evaluation was not conducted. A qualitative evaluation, which discusses results relative to NYSDOH guidance and Site-specific hydrogeology, is presented below.

The conceptual model for the Site consists of low permeable silt and clay overlying more highly permeable bedrock. The offsite concentrations in bedrock are typically lower than the concentrations onsite and closer to the source area (see Attachment E for groundwater results plotted on site plans). In addition, the moist, low-permeability clay soil inhibits upward vapor migration, and the potential for offsite vapor intrusion. This clayey soil provides a 10 to 15 foot isolation layer between the buildings or homes and the offsite dissolved phase COPCs existing in bedrock groundwater. This conceptual model was supported by recent and historical soil borings and absent or low concentrations of COPCs in soil vapor.

The results of this SVI assessment indicate that the soil vapor from Site-related COPCs does not have the potential to significantly impact the indoor air of offsite buildings to the west of the former Carborundum facility. The following observations support this conclusion:

- COPCs were not detected in soil vapor samples, with the exception of TCE at $2.46 \mu\text{g}/\text{m}^3$ in VP-5, and VC in VN-2C at $2.79 \mu\text{g}/\text{m}^3$. The nearest offsite buildings are residential properties to the west, approximately 200 feet west of the Site boundary, or approximately 250 feet from VP-5.
- As noted in the previous section, soil gas-to-indoor air guidelines for VC and TCE are not available from NYSDOH. However, the detected soil gas concentration of

2.46 $\mu\text{g}/\text{m}^3$ TCE is below the NYSDOH (2006) indoor air concentration guideline of 5 $\mu\text{g}/\text{m}^3$.

- Distance (approximately 400 ft) from the source area and travel properties of diffusion, indicate that COPCs in soil vapor will decrease in a westward direction. The concentrations of COPCs will also decrease upward to the ground surface. Therefore, the concentrations of soil vapor will be less than the concentrations observed in the current sampling and are expected to remain below the indoor air guidelines.
- Vinyl chloride may readily degrade in an aerobic environment. It would therefore be expected to degrade as it migrates from the water table upward in the presence of oxygen. In groundwater, vinyl chloride can degrade aerobically by utilizing oxygen as an electron donor (Lehr, et. al. 2005). Various others have documented the direct vinyl chloride oxidation as well (Wypych, 2001). According to the New Jersey Department of Environmental Protection, with respect to aerobically degradable compounds it is "unlikely that sufficient vapor will reach the structure to result in a VI problem unless the pathway and structure are both very close to the vapor source" (NJDEP, 2005). This phenomenon is due in part because in the atmosphere vinyl chloride degrades rapidly via reactions with hydroxyl radicals (Osmond et. al.) The concentrations of dissolved oxygen and carbon dioxide in the soil gas indicate that an aerobic biological community exists, which provides the mechanism for degradation. Furthermore, vinyl chloride will also attenuate through the same diffusive mechanism as TCE.
- This condition is supported by the presence of vinyl chloride in the deeper of the nested SVMPs at VN-2C, whereas it was not detected in the shallow piezometer at the same nested SVMP location.
- A soil gas survey was performed in April and May of 1990 (E&E, 1990). Sampling was attempted at 47 sample locations, but air flow was sufficient to allow sampling at only 25 locations. Low permeability soils with a probable high degree of saturation, prevented collection of 22 samples. The majority of samples that were collected were near the homes closest to the facility (see Attachment A). In the 1990 survey, CVOCs were detected at only one location and that location was surrounded by four other samples that were below detection limits. Using the soil gas survey data from the DoD property, the RI report concluded that "...The results of the soil gas survey indicate that soil gas containing chlorinated organics does not migrate to the surface in the area of the DoD facility over most of the site." After 1990, soil vapor extraction and groundwater collection and treatment have occurred.

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CONCLUSION

The conclusion from this investigation is that exposure via soil vapor intrusion into nearby residences is not a significant pathway of concern. Support for this conclusion is based on:

- Undetectable levels of COPCs in seven of the nine soil vapor sample locations (10 of the 12 soil vapor samples),
- The only detection of TCE was below the NYSDOH air guidelines,
- The observed vertical attenuation of VC at nested SVMP location VN-2,
- The lack of detectable COPCs in soil vapor during the 1990 study, and
- The Site hydrogeology and the current distribution of COPCs in groundwater.

PATH FORWARD

The results of the SVI assessment do not indicate a significant potential for soil vapor intrusion from the Site to impact nearby residences. Therefore, there is adequate characterization information in this report to conclude that no additional sampling is required. Following concurrence from NYSDEC on the results of this assessment, the soil vapor implants will be removed and properly abandoned.

If you have any questions regarding this report, please contact Mr. William Barber at (216) 271-8038.

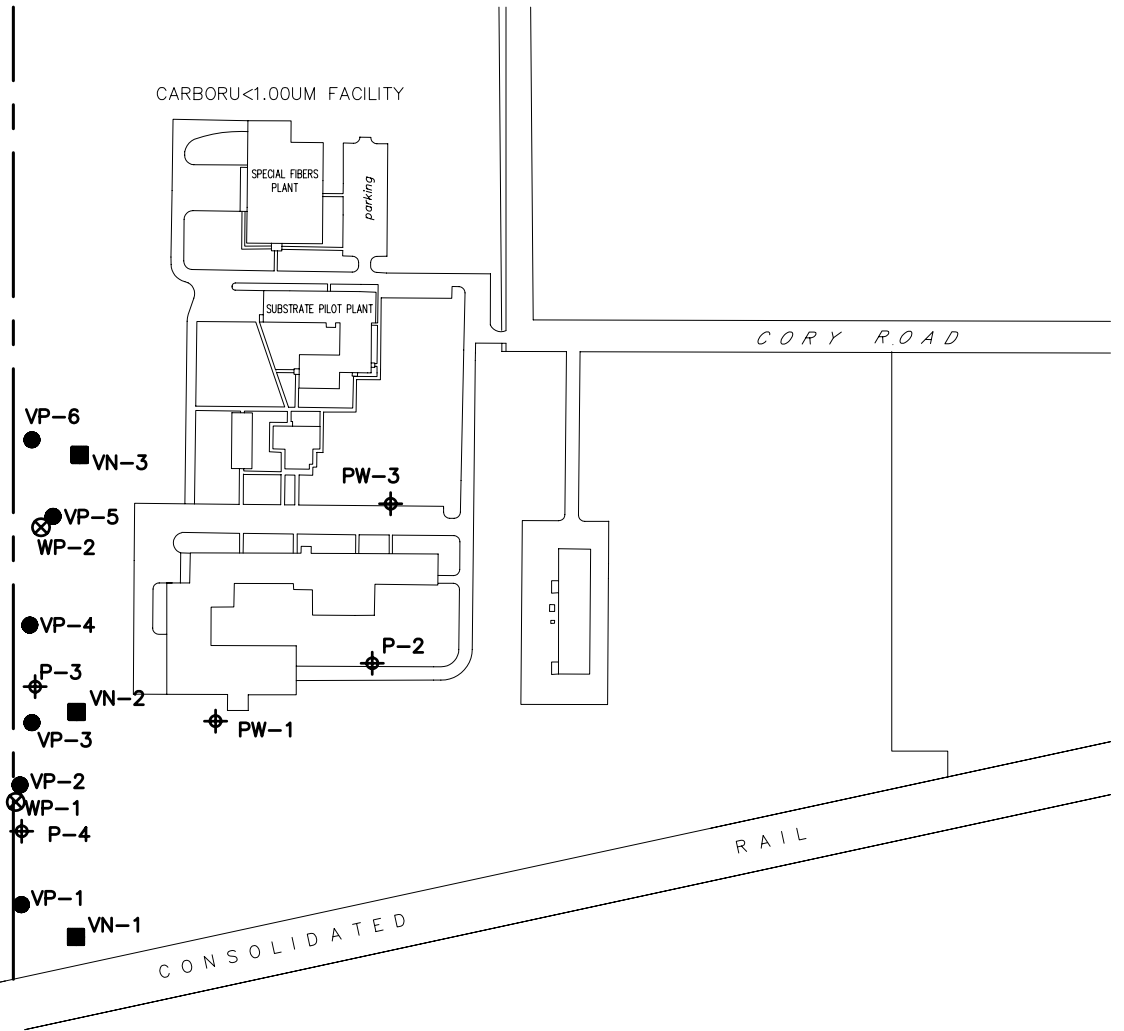
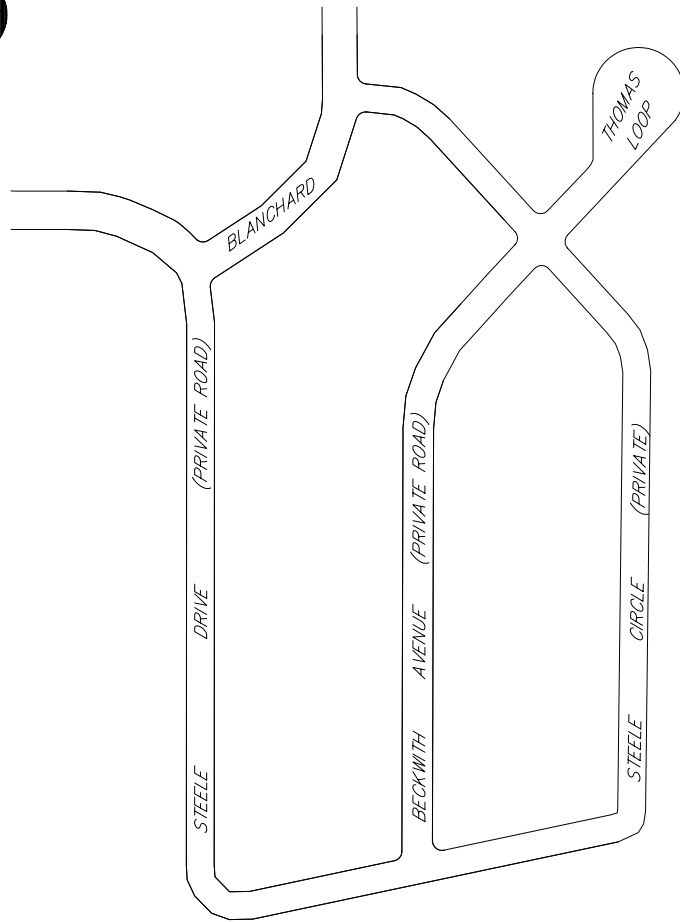
Sincerely,



Mark S. Raybuck
Project Manager

cc: M. Forcucci, NYSDOH
W. Barber, Atlantic Richfield Company
File 442156, No. 9

FIGURES



LEGEND:

- P-2 PUMPING WELL
- PW-1 PUMPING WELL
- PROPOSED NESTED SOIL VAPOR LOCATION
- PROPOSED SINGLE SOIL VAPOR LOCATION
- PROPOSED WATER TABLE PIEZOMETER



FIGURE 1
ATLANTIC RICHFIELD COMPANY
FORMER CARBORUNDUM FACILITY
SOIL VAPOR INTRUSION WORK PLAN
ON-SITE SAMPLE LOCATIONS



VP-6	5.5-6.0'
VC	<1.00
cis-DCE	<1.00
trans-DCE	<1.00
TCE	<1.00

VN-3B	5.5-6.0'
VC	<1.00
cis-DCE	<1.00
trans-DCE	<1.00
TCE	<1.00

VN-3C	8.0-8.5'
VC	<1.00
cis-DCE	<1.00
trans-DCE	<1.00
TCE	<1.00

LEGEND:

- P-2 PUMPING WELL
- PW-1 PUMPING WELL
- NESTED SOIL VAPOR LOCATION
- SINGLE SOIL VAPOR LOCATION
- ⊗ WATER TABLE PIEZOMETER
- PROPERTY LINE

CONCENTRATIONS ARE IN $\mu\text{g}/\text{m}^3$

Compound	Abbreviation
vinyl chloride	VC
cis-1,2-dichloroethene	cis-DCE
trans-1,2-dichloroethene	trans-DCE
trichloroethene	TCE

VP-5	5.5-6.0'
VC	<1.00
cis-DCE	<1.00
trans-DCE	<1.00
TCE	2.46

VP-4	5.5-6.0'
VC	<2.00
cis-DCE	<3.14
trans-DCE	<3.14
TCE	<2.00

VP-3	5.5-6.0'
VC	<1.00
cis-DCE	<1.00
trans-DCE	<1.00
TCE	<1.00

VP-2	5.5-6.0'
VC	<1.00
cis-DCE	<1.00
trans-DCE	<1.00
TCE	<1.00

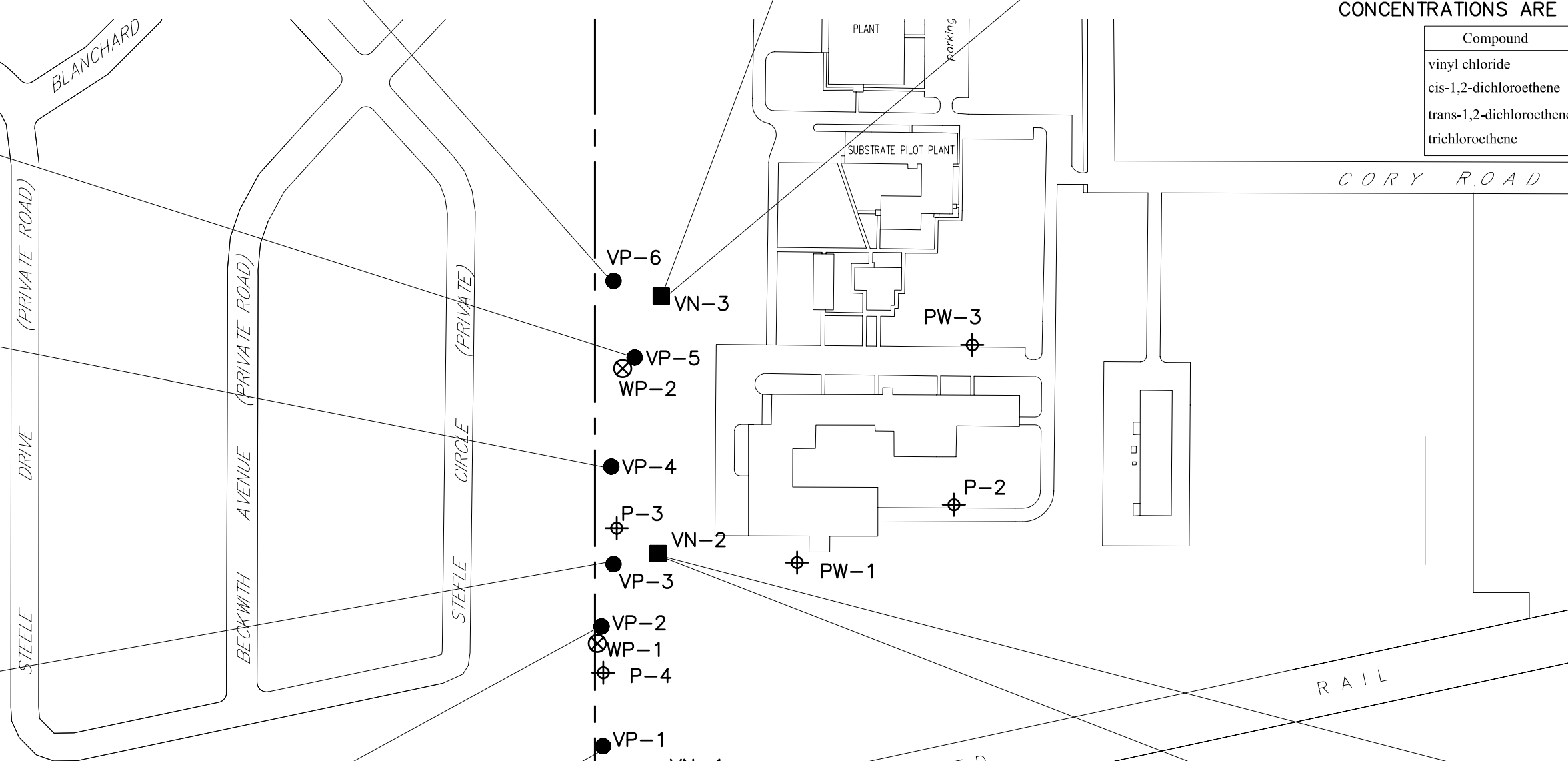
VP-1	5.5-6.0'
VC	<1.00
cis-DCE	<1.00
trans-DCE	<1.00
TCE	<1.00

VN-1B	5.5-6.0'
VC	<1.00
cis-DCE	<1.00
trans-DCE	<1.00
TCE	<1.00

VN-1C	8.0-8.5'
VC	<1.00
cis-DCE	<1.00
trans-DCE	<1.00
TCE	<1.00

VN-2B	5.5-6.0'
VC	<1.00
cis-DCE	<1.00
trans-DCE	<1.00
TCE	<1.00

VN-2C	8.0-8.5'
VC	2.79
cis-DCE	<1.28
trans-DCE	<1.28
TCE	<1.00



TABLES

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
SOIL VAPOR SAMPLING

												Dup of VP-5				
Former Carborundum Site Validated Soil Vapor Analytical Results Sanborn, NY July, 2007		Field Location ID	VP-1	VP-2	VP-3	VP-4	VP-5	VP-5	VP-51*	VP-6						
		Field Sample ID:	C-1017	C-1016	C-1009	C-1010	C-1013	C-1012	C-1000							
		Source:	Paradigm	Paradigm	Paradigm	Paradigm	Paradigm	Paradigm	Paradigm							
		Analysis	TO-15	TO-15	TO-15	TO-15	TO-15	TO-15	TO-15							
		Matrix:	Vapor	Vapor	Vapor	Vapor	Vapor	Vapor	Vapor							
		Sampled:	7/24/07	7/25/2007	7/25/2007	7/25/2007	7/25/2007	7/25/2007	7/25/2007							
		Validated:	8/30/2007	8/30/2007	8/30/2007	8/30/2007	8/30/2007	8/30/2007	8/30/2007							
CAS NO.	COMPOUND	UNITS:														
		VOLATILES														
75-01-4	vinyl chloride	ug/m ³	ND	<1.00	ND	<1.00	ND	<1.00	ND	<2.03	ND	<1.00	ND	<1.00	ND	<1.00
156-60-5	trans-1,2-dichloroethene	ug/m ³	ND	<1.00	ND	<1.00	ND	<1.00	ND	<3.14	ND	<1.00	ND	<1.00	ND	<1.00
156-59-2	cis-1,2-dichloroethene	ug/m ³	ND	<1.00	ND	<1.00	ND	<1.00	ND	<3.14	ND	<1.00	ND	<1.00	ND	<1.00
79-01-6	trichloroethene	ug/m ³	ND	<1.00	ND	<1.00	ND	<1.00	ND	<2.00	2.46		3.44		ND	<1.00

Former Carborundum Site Validated Soil Vapor Analytical Results Sanborn, NY July, 2007		Field Location ID	VN-1B	VN-1C	VN-2B	VN-2C	VN-3B	VN-3C						
		Field Sample ID:	C-1011	C-1015	C-1026	C-1010	C-1021	C-1001						
		Source:	Paradigm	Paradigm	Paradigm	Paradigm	Paradigm	Paradigm						
		Analysis	TO-15	TO-15	TO-15	TO-15	TO-15	TO-15						
		Matrix:	Vapor	Vapor	Vapor	Vapor	Vapor	Vapor						
		Sampled:	7/25/07	7/25/07	8/20/07	7/25/07	7/25/07	7/25/07						
		Validated:	8/30/2007	8/30/2007	9/19/2007	8/30/2007	8/30/2007	8/30/07						
CAS NO.	COMPOUND	UNITS:												
		VOLATILES												
75-01-4	vinyl chloride	ug/m ³	ND	<1.00	ND	<1.00	ND	<1.00	2.79		ND	<1.00	ND	<1.00
156-60-5	trans-1,2-dichloroethene	ug/m ³	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.28	ND	<1.00	ND	<1.00
156-59-2	cis-1,2-dichloroethene	ug/m ³	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.28	ND	<1.00	ND	<1.00
79-01-6	trichloroethene	ug/m ³	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00

Former Carborundum Site Validated Soil Vapor Analytical Results Sanborn, NY July, 2007		Field Location ID	A-1	A-2	A-3	VA-3				
		Field Sample ID:	C-1020	C-1008	C-1022	C-1007				
		Source:	Paradigm	Paradigm	Paradigm	Paradigm				
		Analysis	TO-15	TO-15	TO-15	TO-15				
		Matrix:	Vapor	Vapor	Vapor	Vapor				
		Sampled:	7/24/07	7/24/07	7/26/07	8/20/07				
		Validated:	8/30/2007	8/30/2007	8/30/2007	9/19/2007				
CAS NO.	COMPOUND	UNITS:								
		VOLATILES								
75-01-4	vinyl chloride	ug/m ³	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00
156-60-5	trans-1,2-dichloroethene	ug/m ³	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00
156-59-2	cis-1,2-dichloroethene	ug/m ³	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00
79-01-6	trichloroethene	ug/m ³	ND	<1.00	ND	<1.00	ND	<1.00	ND	<1.00

Approximate sampling depth for VP locations is 5.5 feet to 6.0 feet.
 Approximate sampling depth for VN-#B locations is 5.5 feet to 6.0 feet.
 Approximate sampling depth for VN-#C locations is 8.0 feet to 8.5 feet.
 * Sample VP-51 is a blind duplicate.

REFERENCES

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ATTACHMENTS

Attachment A: Water levels and historical data review

Attachment B: Boring Logs

Attachment C: Data Usability Report

Attachment D: Laboratory Analytical Data

Attachment E: Historical Groundwater Concentration Maps

ATTACHMENT A

Water levels and Historical data

April 3, 2007

Mr. Timothy Dieffenbach
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2999

RE: Former Carborundum Site, Sanborn, New York
Soil Vapor Intrusion – Water Levels and DoD Housing Soil Gas Survey

Dear Mr. Dieffenbach:

At the request of Atlantic Richfield Company, this letter is intended to provide the water level monitoring results and the results of a historical soil gas data review of The Remedial Investigation (RI), Carborundum Facility, Sanborn, N.Y. report (Ecology and Environment, June 1990). Both the water level monitoring and data review are parts of the New York State Department of Environmental Conservation (NYSDEC) – approved Soil Vapor Intrusion Assessment at Sanborn. In addition to the water levels, a summary of the 1990 soil vapor survey completed for the DoD housing facility, and a summary of the Risk Assessment (from the RI report) as it relates to the exposure and inhalation of chlorinated organic vapor by the residents of the DoD housing facility is provided.

Following the initial soil gas survey, described in the RI (1990), there was supplemental soil vapor work planned for the DoD property. However, it does not appear that this survey was performed.

Water Level Monitoring

The New York State Department of Health (NYSDOH) guidance for evaluation soil vapor intrusion suggests that soil vapor samples not be collected at depths shallower than five feet below grade as samples may be biased (negative) through the introduction of outdoor air. The NYSDOH recommends that samples from these shallow depths should only be collected, if necessary, based on site conditions.

Attached is a hydrograph created using water levels (depth to water below ground surface) measured from the two piezometers (WP-1, WP-2) installed (December 2006) as part of the soil vapor intrusion assessment. The piezometers were installed to measure the static water level and help determine the depth to which single and nested soil vapor monitoring points (SVMP) would be installed. As indicated on the hydrograph, water levels are very shallow (i.e. < 2.14 feet below grade) limiting the ability to install a SVMP at or below the NYSDOH recommended depth of five feet. Although a measurable decrease in water levels was observed during the long

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freeze that occurred between the middle of January and the middle of February, temperatures have moderated, allowing for infiltration, and resulting in an increase of water levels.

A review of historic and recent water level elevations in eight wells (B-21, 22, 4, 19, 13, 27, 9, and B-12) located in the vicinity of the piezometers, shows that water levels are generally lowest from August through October, and highest from December through April. This data is consistent with observations made in the RI report in which the groundwater elevation in the overburden was at or above the ground surface during the wet season. Thus, lower water level conditions in late summer or early fall may be the most favorable for the installation of soil vapor probes to a depth of five feet or greater.

DoD Soil Gas Survey

The RI provided information on the soil gas survey performed in April and May of 1990. Sampling was attempted at 47 sample locations, but air flow was sufficient to allow sampling at only 25 locations. According to the RI report, low permeability and a probable high degree of saturation, prevented air flow in 22 samples. The majority of the samples were collected near the homes closest to the facility (see attached figure). In particular, Samples 43, 17, 44, 26, 46, 42, 41, and 47 were obtained at or near the boundary of the facility and the DoD property. It is also noted in the RI that Sample 26, the only location where CVOCs were detected (see attached table), is surrounded by four other samples that were below detection limits. The sample results led to a conclusion in the RI report that the concentration of chlorinated organics present in soil gas in the area of the DoD property was negligible.

Using the soil gas survey data from the DoD property, the RI report concludes that “ ...The results of the soil gas survey indicate that soil gas containing chlorinated organics does not migrate to the surface in the area of the DoD facility over most of the site.”

Risk Assessment

In the risk assessment section (Section 5) of the June 1990 RI report, one pathway of exposure was stated as “Exposure of residents living in the DoD housing area adjacent to the Carborundum facility to volatilized chlorinated organics emanating from groundwater passing beneath some of the residences and from volatilization from chlorinated organics from the facility.” Using the soil gas data, groundwater data, and estimated ambient air concentrations from the DoD housing and the facility, the risk assessment report states that the estimated carcinogenic risks associated with this pathway were considered insignificant and acceptable. Non-carcinogenic adverse effects were unlikely. Thus, no remedial measures were proposed to reduce risks associated with this pathway.

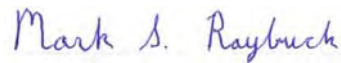
The June 1990 RI report concluded that potential inhalation of vapors emanating from the ground at the Carborundum Facility, or in the adjacent DoD housing area, does not appear to pose any significant risks to human health.

PARSONS

Mr. Tim Dieffenbach
NYSDEC
April 3, 2007
Page 3

If you would like a copy of the soil gas survey or risk assessment sections of the RI report, please let us know. If you have any questions or comments concerning the water level monitoring data or the review of historical data, please contact William B. Barber of the Atlantic Richfield Company at (216) 271-8038.

Very truly yours,

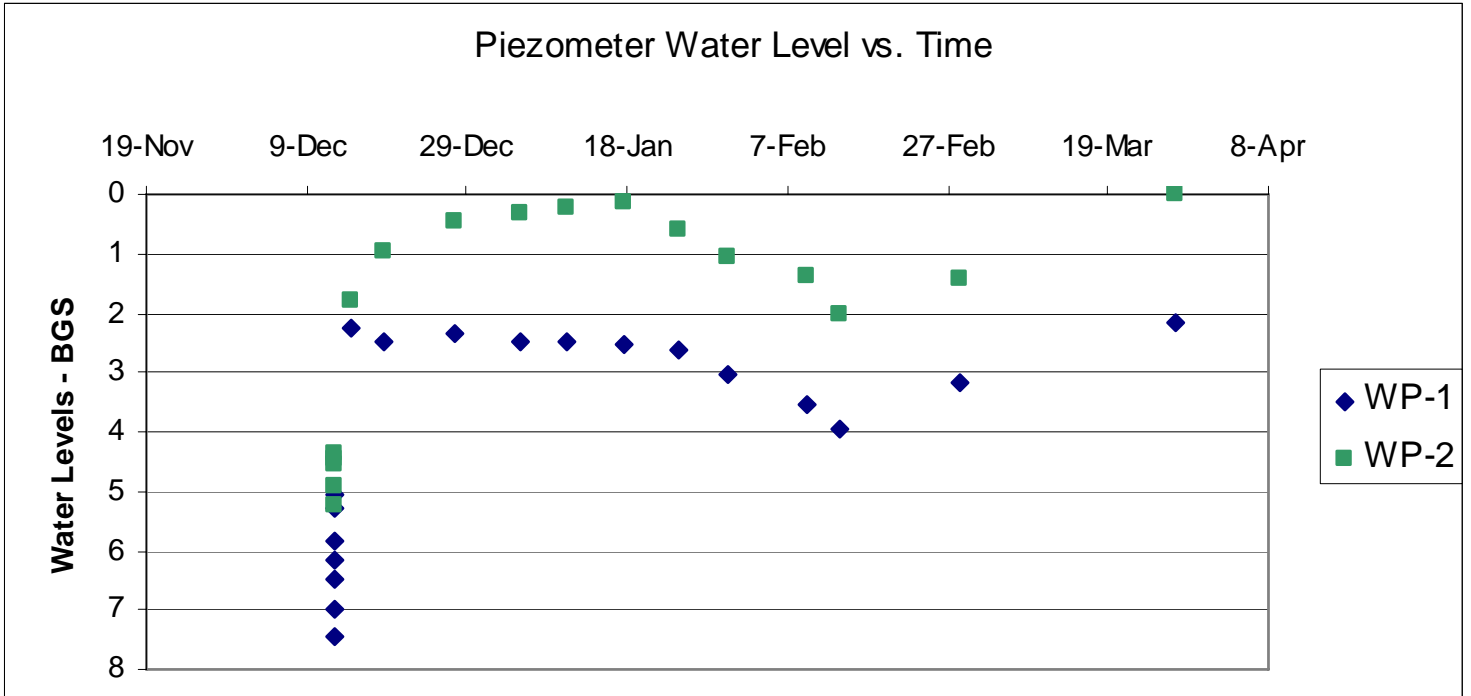


Mark S. Raybuck
Project Manager

cc: M. Forcucci, NYSDOH
W. Barber, Atlantic Richfield Company
G. Hermance, Parsons – Buffalo
File - 442951 No. 9

ATTACHMENTS

Hydrograph for Piezometers WP-1 and WP-2



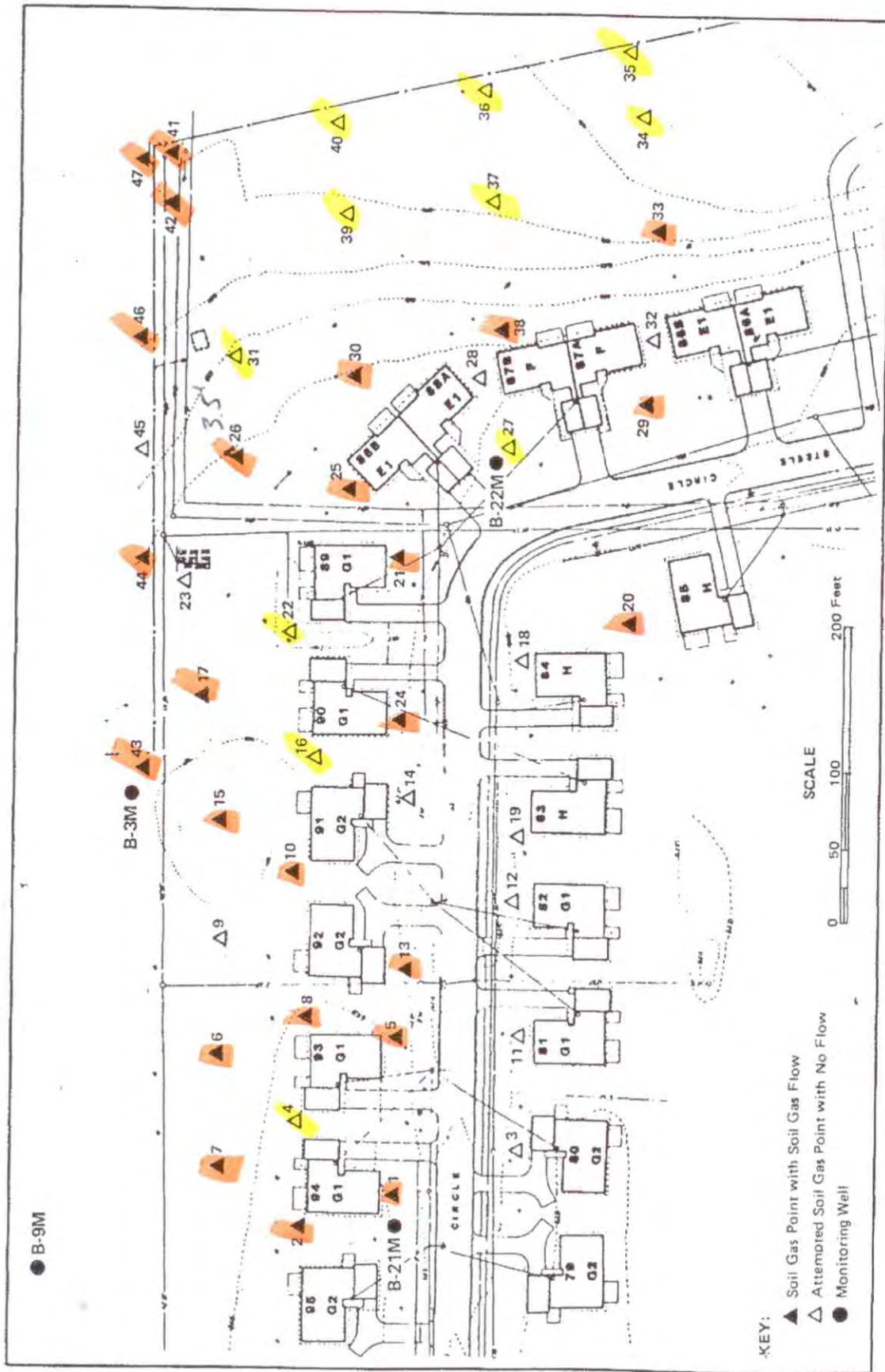


Figure 4-11 SOIL GAS SURVEY POINTS AT DoD FACILITY (4/90)

Table 4-8

ANALYTICAL RESULTS OF SOIL GAS SAMPLES AT
DoD FACILITY WITH LEVELS ABOVE DETECTION LIMITS
(results in $\mu\text{g/L}$)

Sample Number	Depth	MC	1,1-DCE	1,1-DCA	1,2-DCE	TCA	TCE	VC
26	3.5 ft	<0.002	3	0.1	2	0.3	NA	0.1
26A	3.5 ft	<0.003	4	0.2	8	0.6	2	1

[AD]CZ4140:D2467, #3399, PM-18

NA = Not analyzed.

ATTACHMENT B
Boring Logs

		PARSONS DRILLING RECORD		BORING NO. <u>WP-1</u>	
Contractor: <u>Geologic NY</u>		PROJECT NAME <u>BP/Sanborn</u>		Sheet <u>1</u> of <u>1</u>	
Driller: <u>Josh Sanberg</u>				Location: <u>North of P-4 by fence</u>	
Inspector: <u>Jim Schuetz</u>		PROJECT NUMBER <u>442156</u>		Elevation:	
Rig Type: <u>Skid steer mounted Geoprobe</u>				Weather <u>Cloudy 50 F</u>	
Method: <u>Direct push</u>		Date/Time Start <u>12/11/06 2:00 PM</u>		Date/Time Finish <u>12/11/06 3:38 PM</u>	
Top of Boring Elevation					
Sample Depth	Rec. %	FIELD IDENTIFICATION OF MATERIAL		WELL CONSTRUCTION DIAGRAM	
0		UNIFIED SOIL CLASS.		<p>Flush-mount protective casing</p> <p>Bentonite seal</p> <p>1" SCH 40 PVC well riser</p> <p># 3 Sand</p> <p>9.0-14.0' screen interval</p> <p>1" SCH 40 PVC well screen, 0.010"</p> <p>TOR @ 11.5'</p>	
1		0-1'- Wet, brown, medium stiff, Silt and Clay, organic, topsoil. OL			
2					
3		2-5': Wet-moist, red-brown, Silt, some Clay, little Sand (fine-coarse), light Gravel (fine-coarse). ML			
4					
5	100%	5-8: Moist hard, red-brown mottled, gray, stiff, SILT, some (fine-coarse) Sand, little Clay, little Gravel (fine-coarse). ML			
6					
7					
8	100%	8-10: Moist- wet, hard, mottled, red-brown, green, Silt, some Sand (fine-coarse), little Clay, little Gravel (coarse-fine), Till ML			
9					
10	100%	10-12 SAA ML			
11					
12	100%	12-13 Moist-wet, hard mottled, red-brown, gray, SILT, little Clay, little Gravel, (fine-coarse).			
13		13-14.0 Moist, wet, hard, dark Gray, Clay and Silt, little Gravel (fine-coarse), trace Sand.			
14					
15					
STANDARD PENETRATION TOR= TOP OF ROCK SUMMARY: Setting piezometer 9-14' SS = SPLIT SPOON 3' of chip ST = SHELBY TUBE Hand dug 0-5					

		PARSONS DRILLING RECORD		BORING NO. <u>WP-2</u>	
Contractor: <u>Geologic NY</u>		PROJECT NAME <u>BP/Sanborn</u>		Sheet <u>1</u> of <u>1</u>	
Driller: <u>Josh</u>				Location: <u>Near Trees along west side of property</u>	
Inspector: <u>Jim Schuetz</u>		PROJECT NUMBER <u>442156</u>		Elevation:	
Rig Type: <u>Skid steer mounted Geoprobe</u>				Weather <u>Cloudy/Rain 50 F</u>	
Method: <u>Direct push</u>		Date/Time Start <u>12/11/06 3:30 PM</u>			
		Date/Time Finish <u>12/11/06 5:00 PM</u>			
Top of Boring Elevation		FIELD IDENTIFICATION OF MATERIAL		WELL CONSTRUCTION DIAGRAM	
Sample Depth	Rec. %				
0			UNIFIED SOIL CLASS.	<p>Flush-mount protective casing</p> <p>Grout</p> <p>Bentonite seal</p> <p>1" SCH 40 PVC well riser</p> <p># 3 Sand</p> <p>3.5'-9.5' screen interval</p> <p>2" SCH 40 PVC well screen, 0.010"</p> <p>Bentonite seal</p> <p>TOR @ 11.5'</p> <p>refusal may be TOR</p>	
1			GM		
2		0-2'- Wet, brown, hard gravel (fine-coarse) cobbles - boulders) and Silt, little clay, trace Sand			
3		2-5': Wet hard, light yellow-gray, red-brown, gray, mottled, Silt and Clay	ML		
4					
5	90%	5-8: Moist hard, red-brown, gray, mottled, Clay and Silt. Laminated	CL		
6					
7					
8	90%	8-11: Moist, hard, red-brown, green, mottled, Clay and Silt, trace Sand (coarse -fine).	CL		
9					
10					
11		11-11.5 Same as above			
STANDARD PENETRATION					
TOR= TOP OF ROCK		SUMMARY:		Top of competent bedrock (TOR) defined as auger and split	
SS = SPLIT SPOON				spoon (SS) refusal.	
ST = SHELBY TUBE				Hand dug 0-5'	

ATTACHMENT C
DATA USABILITY REPORT

DATA USABILITY SUMMARY REPORT

SANBORN SOIL VAPOR INVESTIGATION

Prepared By:

PARSONS

290 Elwood Davis Road, Suite 312
Liverpool, New York 13088
Phone: (315) 451-9560
Fax: (315) 451-9570

November 2007

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LIST OF ATTACHMENTS

Attachment A - Validated Laboratory Data

SECTION 1

DATA USABILITY SUMMARY

Soil vapor samples were collected at the Sanborn Site on July 24, 2007 through August 20, 2007. Analytical results from these samples were validated and reviewed by Parsons for usability with respect to the following requirements:

- Work Plan, and
- USEPA Region II Standard Operating Procedures (SOPs).

The analytical laboratory for this project was Paradigm Environmental Services, Inc. (Paradigm).

1.1 LABORATORY DATA PACKAGES

The laboratory data package turnaround time, defined as the time from sample receipt by the laboratory to receipt of the analytical data packages by Parsons, was 16 days on average for the soil vapor samples.

The data packages received from Paradigm were paginated, complete, and overall were of good quality. Comments on specific quality control (QC) and other requirements are discussed in detail in the attached data validation report in Section 2.

1.2 SAMPLING AND CHAIN-OF-CUSTODY

The samples were collected, properly preserved, shipped under a COC record, and received at Paradigm within one to five days of sampling. All samples were received intact and in good condition at Paradigm.

1.3 LABORATORY ANALYTICAL METHODS

The soil vapor samples were collected from the Site and analyzed for the volatile organic compounds (VOCs) cis-1,2-dichloroethene, trans-1,2-dichloroethene, trichloroethene, and vinyl chloride. Summaries of issues concerning this laboratory analysis are presented in Subsection 1.3.1. The data qualifications resulting from the data validation review and statements on the laboratory analytical precision, accuracy, representativeness, completeness, and comparability (PARCC) are discussed for each analytical method in Section 2. The laboratory data were reviewed and may be qualified with the following validation flags:

- "U" - not detected at the value given,
- "UJ" - estimated and not detected at the value given,
- "J" - estimated at the value given,
- "N" - presumptive evidence at the value given, and

"R" - unusable value.

The validated laboratory data were tabulated and are presented in Attachment A.

1.3.1 Volatile Organic Analysis

Soil vapor samples collected from the Site were analyzed for certain VOCs using the USEPA TO-15 analytical method. The reported results for the VOC samples did not require qualification as a result of data validation. Therefore, the reported VOC analytical results were 100% complete (i.e., usable) for the data presented by Paradigm. PARCC requirements were met overall.

SECTION 2

DATA VALIDATION REPORT

2.1 SOIL VAPOR

Data review has been completed for data packages generated by Paradigm containing soil vapor samples collected from the Site. The specific samples contained in these data packages, the analyses performed, and a usability summary are presented in Table 2.1-1. All of these samples were properly preserved, shipped under a COC record, and received intact by the analytical laboratory. The validated laboratory data are presented in Attachment A.

Data validation was performed for all samples in accordance with the most current editions of the USEPA Region II SOPs for organic data review. This data validation and usability report is presented by analysis type.

2.1.1 Volatiles

The following items were reviewed for compliancy in the volatile analysis:

- Custody documentation
- Holding times
- Laboratory method blank contamination
- GC/MS instrument performance
- Initial calibrations
- Internal standard area counts and retention times
- Field duplicate precision
- Sample result verification and identification
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols. Sample surrogates, matrix spike/matrix spike duplicate precision and accuracy, continuing calibrations, and laboratory control samples were not analyzed. Therefore, these items were not evaluated for this project.

Usability

All volatile sample results were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The volatile data presented by Paradigm were 100% complete (i.e., usable). The validated volatile laboratory data are tabulated and presented in Attachment A.

It was noted that results for sample VP-4/C-1010 were reported with elevated detection limits due to limited sample volume.

TABLE 2.1-1**SUMMARY OF SAMPLE ANALYSES AND USABILITY
SANBORN – AIR**

<u>SAMPLE ID</u>	<u>MATRI</u> <u>X</u>	<u>SAMPLE</u> <u>DATE</u>	<u>VOCs</u>
VP-1/C-1017	Air	7/24/07	OK
A-1/C-1020	Air	7/24/07	OK
VN-2C/C-1023	Air	7/25/07	OK
VP-5/C-1013	Air	7/25/07	OK
VP-51/C-1012	Air	7/25/07	OK
A-2/C-1008	Air	7/25/07	OK
VP-4/C-1010	Air	7/25/07	OK
VN-1B/C-1011	Air	7/25/07	OK
VN-3C/C-1001	Air	7/25/07	OK
VP-3/C-1009	Air	7/25/07	OK
VP-1C/C-1015	Air	7/25/07	OK
VN-3B/C-1021	Air	7/25/07	OK
VP-2/C-1016	Air	7/25/07	OK
VP-6/C-1000	Air	7/26/07	OK
A-3/C-1022	Air	7/26/07	OK
VN-2B/C-1026	Air	8/20/07	OK
VA-3/C-1007	Air	8/20/07	OK
TOTAL SAMPLES:			17

NOTES: OK – Sample analysis considered usable and valid.

ATTACHMENT A

VALIDATED LABORATORY DATA

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
SOIL VAPOR SAMPLING

		x		x		x		x		x		Dup of VP-5	
Former Carborundum Site Validated Soil Vapor Analytical Results Sanborn, NY July, 2007		Field Location ID	VP-1	VP-1C	VP-2	VP-3	VP-4	VP-5	VP-5	VP-51*	VP-6		
		Field Sample ID:	C-1017	C-1015	C-1016	C-1009	C-1010	C-1013	C-1012	C-1000			
		Source:	Paradigm	Paradigm	Paradigm	Paradigm	Paradigm	Paradigm	Paradigm	Paradigm			
		Analysis	TO-15	TO-15	TO-15	TO-15	TO-15	TO-15	TO-15	TO-15			
		Matrix:	Vapor	Vapor	Vapor	Vapor	Vapor	Vapor	Vapor	Vapor			
		Sampled:	7/24/07	7/25/2007	7/25/2007	7/25/2007	7/25/2007	7/25/2007	7/25/2007	7/26/07			
		Validated:	8/30/2007	8/30/2007	8/30/2007	8/30/2007	8/30/2007	8/30/2007	8/30/2007	8/30/2007			
CAS NO.	COMPOUND	UNITS:											
		VOLATILES											
75-01-4	vinyl chloride	ug/m ³	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <2.03	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	
156-60-5	trans-1,2-dichloroethene	ug/m ³	ND <1.00	ND <1.00	ND <1.00	ND <3.14	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	
156-59-2	cis-1,2-dichloroethene	ug/m ³	ND <1.00	ND <1.00	ND <1.00	ND <3.14	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	
79-01-6	trichloroethene	ug/m ³	ND <1.00	ND <1.00	ND <1.00	ND <2.00	2.46	3.44	ND <1.00	ND <1.00	ND <1.00	ND <1.00	

		VN-1B		VN-1C		VN-2B		VN-2C		VN-3B		VN-3C	
Former Carborundum Site Validated Soil Vapor Analytical Results Sanborn, NY July, 2007		Field Location ID	VN-1B	VN-1C	VN-2B	VN-2C	VN-3B	VN-3C					
		Field Sample ID:	C-1011	C-1015	C-1026	C-1010	C-1021	C-1001					
		Source:	Paradigm	Paradigm	Paradigm	Paradigm	Paradigm	Paradigm					
		Analysis	TO-15	TO-15	TO-15	TO-15	TO-15	TO-15					
		Matrix:	Vapor	Vapor	Vapor	Vapor	Vapor	Vapor					
		Sampled:	7/25/07	7/25/07	8/20/07	7/25/07	7/25/07	7/25/07					
		Validated:	8/30/2007	8/30/2007	9/19/2007	8/30/2007	8/30/2007	8/30/07					
CAS NO.	COMPOUND	UNITS:											
		VOLATILES											
75-01-4	vinyl chloride	ug/m ³	ND <1.00	ND <1.00	ND <1.00	2.79	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	
156-60-5	trans-1,2-dichloroethene	ug/m ³	ND <1.00	ND <1.00	ND <1.00	ND <1.28	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	
156-59-2	cis-1,2-dichloroethene	ug/m ³	ND <1.00	ND <1.00	ND <1.00	ND <1.28	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	
79-01-6	trichloroethene	ug/m ³	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	

		A-1		A-2		A-3		VA-3			
Former Carborundum Site Validated Soil Vapor Analytical Results Sanborn, NY July, 2007		Field Location ID	A-1	A-2	A-3	VA-3					
		Field Sample ID:	C-1020	C-1008	C-1022	C-1007					
		Source:	Paradigm	Paradigm	Paradigm	Paradigm					
		Analysis	TO-15	TO-15	TO-15	TO-15					
		Matrix:	Vapor	Vapor	Vapor	Vapor					
		Sampled:	7/24/07	7/24/07	7/26/07	8/20/07					
		Validated:	8/30/2007	8/30/2007	8/30/2007	9/19/2007					
CAS NO.	COMPOUND	UNITS:									
		VOLATILES									
75-01-4	vinyl chloride	ug/m ³	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	
156-60-5	trans-1,2-dichloroethene	ug/m ³	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	
156-59-2	cis-1,2-dichloroethene	ug/m ³	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	
79-01-6	trichloroethene	ug/m ³	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	ND <1.00	

Approximate sampling depth for VP locations is 5.5 feet to 6.0 feet.
 Approximate sampling depth for VN-#B locations is 5.5 feet to 6.0 feet.
 Approximate sampling depth for VN-#C locations is 8.0 feet to 8.5 feet.
 * Sample VP-51 is a blind duplicate.

Lab Project Number: 07-2627

Client: Parsons

Project Name: Sanborn

Analysis Parameters: EPA TO-15

Report of Analysis
&
QC Deliverables

REPORT PREPARED BY

Paradigm Environmental Services, Inc.

179 Lake Avenue, Rochester, New York 14608

Narrative



PARADIGM

ENVIRONMENTAL SERVICES, INC.

LAB PROJECT NARRATIVE

CLIENT: Parsons
PROJECT LOCATION: Sanborn
LAB PROJECT ID: 07-2627
REPORT DATE: 8/13/2007

Fifteen air canisters were sampled by the client on 7/25-26/2007, and received at the Paradigm laboratory on 7/30/2007. The canisters were submitted for site specific volatile analyte testing by EPA Method TO-15.

The canisters were received with varying levels of vacuum, indicating different available volumes for analysis. For all samples, sufficient volume was available to achieve the project reporting limit target of 1ug/m³, however, due to an instrumental error, some volume from sample "VP-4" was lost during the initial analysis attempt. The re-run had limited available volume. The reporting limit was slightly elevated as a result. Sample results and canister and method QC were reported to project limit of 1ug/m³. QC canister/regulator blanks and method blanks were free from analytes of concern at any reportable level.

The enclosed data package provides summary results for all samples and QC, chromatograms, and quantitation reports for all runs, including initial calibration, mass spectra for reported analytes, calibration summary reports, tune reports, run condition reports, run logs, and a standard certification report.

Summary Data



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8925

Client Job Number: 442156.03027

Field Location: VN-2C

Date Sampled: 07/25/2007

Field ID Number: C-1023

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.325	ND< 1.28	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.325	ND< 1.28	Vinyl Chloride	1.10	2.79

ELAP Number 10958

Method: EPA TO-15

Data File: A2711.d

Comments: ND denotes Non Detect

PPBv = Parts per Billion volume

ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger, Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8926

Client Job Number: 442156.03027

Field Location: VP-5

Date Sampled: 07/25/2007

Field ID Number: C-1013

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	0.462	2.46
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2712.d

Comments: ND denotes Non Detect

PPBv = Parts per Billion volume

ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8927

Client Job Number: 442156.03027

Field Location: VP-51

Date Sampled: 07/25/2007

Field ID Number: C-1012

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	0.647	3.44
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2713.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8929

Client Job Number: 442156.03027

Field Location: A-2

Date Sampled: 07/25/2007

Field ID Number: C-1008

Date Received: 07/30/2007

Sample Type: Air

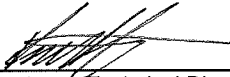
Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2715.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____


Bruce Hoogestege, Technical Director

Volatile Analysis Report for Air

 Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8930

Client Job Number: 442156.03027

Field Location: VP-4

Date Sampled: 07/25/2007

Field ID Number: C-1010

Date Received: 07/30/2007

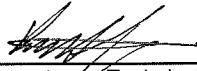
Sample Type: Air

Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.800	ND< 3.14	Trichloroethene	ND< 0.376	ND< 2.00
trans-1,2-Dichloroethene	ND< 0.800	ND< 3.14	Vinyl Chloride	ND< 0.800	ND< 2.03
ELAP Number 10958		Method: EPA TO-15		Data File: A2716.d	

Comments: ND denotes Non Detect
 PPBv = Parts per Billion volume
 ug / m3 - Microgram per cubic meter.
 Detection Limit elevated due to limited sample volume

Signature:



 Bruce Hoogesteger, Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8931

Client Job Number: 442156.03027

Field Location: VN-1B

Date Sampled: 07/25/2007

Field ID Number: C-1011

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2717.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8932

Client Job Number: 442156.03027

Field Location: VN-3C

Date Sampled: 07/25/2007

Field ID Number: C-1001

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2718.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director

Volatile Analysis Report for Air

 Client: Parsons

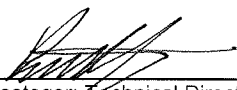
Client Job Site:	Sanborn	Lab Project Number:	07-2627
		Lab Sample Number:	8933
Client Job Number:	442156.03027	Date Sampled:	07/24/2007
Field Location:	VP-1	Date Received:	07/30/2007
Field ID Number:	C-1017	Date Analyzed:	08/09/2007
Sample Type:	Air		

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2719.d

Comments: ND denotes Non Detect
 PPBv = Parts per Billion volume
 ug / m3 - Microgram per cubic meter.

Signature:



 Bruce Hoogesteger, Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8934

Client Job Number: 442156.03027

Field Location: VP-3

Date Sampled: 07/25/2007

Field ID Number: C-1009

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2720.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8935

Client Job Number: 442156.03027

Field Location: VP-1C

Date Sampled: 07/25/2007

Field ID Number: C-1015

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

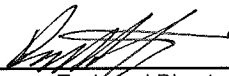
Data File: A2721.d

Comments: ND denotes Non Detect

PPBv = Parts per Billion volume

ug / m3 - Microgram per cubic meter.

Signature: _____


Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8936

Client Job Number: 442156.03027

Field Location: VN-3B

Date Sampled: 07/25/2007

Field ID Number: C-1021

Date Received: 07/30/2007

Sample Type: Air

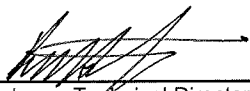
Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2722.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____


Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8937

Client Job Number: 442156.03027

Field Location: VP-2

Date Sampled: 07/25/2007

Field ID Number: C-1016

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/10/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2723.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



ENVIRONMENTAL SERVICES, INC.

9 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8938

Client Job Number: 442156.03027

Field Location: VP-6

Date Sampled: 07/26/2007

Field ID Number: C-1000

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/10/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2724.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8939

Client Job Number: 442156.03027

Field Location: A-3

Date Sampled: 07/26/2007

Field ID Number: C-1022

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/10/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2725.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger, Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: Method Blank

Client Job Number: 442156.03027

Field Location: N/A

Date Sampled: N/A

Field ID Number: N/A

Date Received: N/A

Sample Type: Air

Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2710a.d

Comments: ND denotes Non Detect

PPBv = Parts per Billion volume

ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn
Client Job Number: 442156.03027
Field Location: Can Blank
Field ID Number: C-1023 / R-513
Sample Type: Air

Lab Project Number: 07-2627
Lab Sample Number: N/A
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2645.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: 
Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn
Client Job Number: 442156.03027
Field Location: Can Blank
Field ID Number: C-1013 / R-520
Sample Type: Air

Lab Project Number: 07-2627
Lab Sample Number: N/A
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2646.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn
Client Job Number: 442156.03027
Field Location: Can Blank
Field ID Number: C-1012 / R-518
Sample Type: Air

Lab Project Number: 07-2627
Lab Sample Number: N/A
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2647.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn
Client Job Number: 442156.03027
Field Location: Can Blank
Field ID Number: C-1020 / R-512
Sample Type: Air

Lab Project Number: 07-2627
Lab Sample Number: N/A
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2648.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn
Client Job Number: 442156.03027
Field Location: Can Blank
Field ID Number: C-1008 / R-505
Sample Type: Air

Lab Project Number: 07-2627
Lab Sample Number: N/A
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2649.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn
Client Job Number: 442156.03027
Field Location: Can Blank
Field ID Number: C-1010 / R-501
Sample Type: Air

Lab Project Number: 07-2627
Lab Sample Number: N/A
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2650.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director

Volatile Analysis Report for Air

Client: Parsons
Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: N/A

Client Job Number: 442156.03027

Field Location: Can Blank

Date Sampled: N/A

Field ID Number: C-1011 / R-500

Date Received: N/A

Sample Type: Air

Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

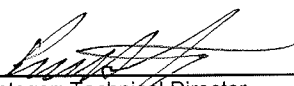
Data File: A2651.d

Comments: ND denotes Non Detect

PPBv = Parts per Billion volume

ug / m3 - Microgram per cubic meter.

Signature:



 Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: **Parsons**

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: N/A

Client Job Number: 442156.03027

Field Location: Can Blank

Date Sampled: N/A

Field ID Number: C-1001 / R-517

Date Received: N/A

Sample Type: Air

Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2652.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: **Parsons**

Client Job Site: Sanborn
Client Job Number: 442156.03027
Field Location: Can Blank
Field ID Number: C-1017 / R-510
Sample Type: Air

Lab Project Number: 07-2627
Lab Sample Number: N/A
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2653.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: N/A

Client Job Number: 442156.03027

Field Location: Can Blank

Date Sampled: N/A

Field ID Number: C-1009 / R-515

Date Received: N/A

Sample Type: Air

Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2654.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: N/A

Client Job Number: 442156.03027

Field Location: Can Blank

Date Sampled: N/A

Field ID Number: C-1015 / R-503

Date Received: N/A

Sample Type: Air

Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2655.d

Comments: ND denotes Non Detect

PPBv = Parts per Billion volume

ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: N/A

Client Job Number: 442156.03027

Field Location: Can Blank

Date Sampled: N/A

Field ID Number: C-1021 / R-502

Date Received: N/A

Sample Type: Air

Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2656.d

Comments: ND denotes Non Detect

PPBv = Parts per Billion volume

ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger, Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: N/A

Client Job Number: 442156.03027

Field Location: Can Blank

Date Sampled: N/A

Field ID Number: C-1016 / R-507

Date Received: N/A

Sample Type: Air

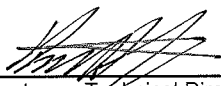
Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2673.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____


Bruce Hoogesteger: Technical Director

PARADIGM ENVIRONMENTAL SERVICES, INC.

CHAIN OF CUSTODY

10-K

179 Lake Avenue
Rochester, NY 14608
(585) 647-2530 • (800) 724-1997
FAX: (585) 647-3311

REPORT TO:

INVOICE TO:

PROJECT NAME/SITE NAME:
Sarburn

COMPANY: Parsons	ADDRESS: 40 LaRiviere Dr Site 352	CITY: Buffalo	STATE: NY	ZIP: 14202
ATTN: Jim Schuetz	PHONE: 716 541-0730	FAX: 716 541-0730	ATTN: Same as Report	STATE: NY
COMMENTS: 442156. 03027-John #, see contract for VOCs	ADDRESS: Same as Report	CITY: Buffalo	STATE: NY	ZIP: 14202

REQUESTED ANALYSIS

LAB PROJECT #:	07-2627	CLIENT PROJECT #:	442156.03027
TURNAROUND TIME: (WORKING DAYS)	1	2	3
QUOTE #:	1	2	3
STD	4	5	OTHER

DATE	TIME	COMPOSITE	GRADES	SAMPLE LOCATION/FIELD ID	MATRIX	CONTAMINANTS	REMARKS	PARADIGM LAB SAMPLE NUMBER
7/25	1305	✓		C-1023, VN-2C	Vapor	TCE, cis-1,2 DCE, VC TO-15	TO-15 analysis	8925
7/25	1135	✓		C-1013, VP-5			fb-all	8926
7/25	1135	✓		C-1012, VP-51				8927
7/24	1435	✓		C-1020, A-1				8928
7/25	1225	✓		C-1008, A-2				8929
7/25	1055	✓		C-1010, VP-4			Small sample	8930
7/25	1345	✓		C-1011, VN-1B				8931
7/25	1515	✓		C-1001, VN-3C				8932
7/24	1416	✓		C-1017, VP-1				8933
7/25	903	✓		C-1009, VP-3				8934

LAB USE ONLY BELOW THIS LINE

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

Receipt Parameter	NELAC Compliance
Container Type:	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
Preservation:	Y <input type="checkbox"/> N <input type="checkbox"/>
Holding Time:	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
Temperature:	Y <input type="checkbox"/> N <input type="checkbox"/>
Comments:	N/A

Results for TCE, cis-1,2 DCE, and VC

James W Schuetz
Sampled By: *James W Schuetz*
Date/Time: *7/21/07-7/25*

Relinquished By: _____
Date/Time: _____

Received By: *Elizabeth A. Honck*
Date/Time: *7/30/07 0930*

Total Cost:

P.I.F.

PARADIGM ENVIRONMENTAL SERVICES, INC.

CHAIN OF CUSTODY

2 of 2

179 Lake Avenue
Rochester, NY 14608
(585) 647-2530 • (800) 724-1997
FAX: (585) 647-3311

REPORT TO:

COMPANY: Parsons

INVOICE TO:

LAB PROJECT #:

CLIENT PROJECT #:

ADDRESS: 40 La Riviere Dr Site 350

ADDRESS:

See contract

07-26027 44215c.03027

CITY: Buffalo STATE: NY ZIP: 14202

CITY:

STATE: ZIP:

TURNAROUND TIME: (WORKING DAYS)

PHONE: 716 541-0730 FAX:

PHONE:

FAX:

ATTN: Jim Schwetz (716) 523 8293

ATTN: Ben Mills

QUOTE #:

PROJECT NAME/SITE NAME: Sanborn

COMMENTS: See contract for Reporting Parameters: TCE, cis,1,2 DCE, and VC

ERH 7/30

REQUESTED ANALYSIS

DATE	TIME	COMPOSITE	G R A B	SAMPLE LOCATION/FIELD ID	M A T R I X	C O N T A M I N E N T S	REMARKS	PARADIGM LAB SAMPLE NUMBER
1 7/25	1400	✓		C-1015 VP-1C	Major	1 ✓		8935
2 7/25	1445	✓		C-1021 VN-3B	Major	1 ✓		8936
3 7/25	1525	✓		C-1016 VP-2	Major	1 ✓		8937
4 7/26	1045	✓		C-1000 VP-6	"	1 ✓		8938
5 7/26	1045	✓		C-1022 A-3	"	1 ✓		8939
6				E see				
7								
8								
9								
10								

LAB USE ONLY BELOW THIS LINE

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

Receipt Parameter NELAC Compliance

Container Type: Y N

Preservation: N/A Y N

Holding Time: Y N

Temperature: N/A Y N

Received By: James Schwetz Date/Time: 7/25 - 7/26

Relinquished By: _____ Date/Time: _____

Received By: Elizabeth A. Honck Date/Time: 7/30/07 P.I.F. 0930

Received @ Lab By: _____ Date/Time: _____

Total Cost:

Date: 7/25/07

Client: Leica Pete Marton

Phone Number 335-1000

Match # 1 Canister Number to #1 Regulator Number

TO-15 Canister Number	Return Condition
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	

Shipping inHg	Starting inHg	Ending inHg	Returned inHg

Flow Regulator Number	Return Condition

Additional Equipment

Comments: Canister cap and flow control fitting must be removed prior to use.

Shipping and Returned inHg to be filled out by lab. Starting and Ending inHg to be filled out by client.
 All canisters / regulators / gauges are provided clean and in proper working condition. Any equipment lost or damaged will be charged at replacement cost. All equipment must be returned within one week of delivery.

Expected Return Date:

Lab Signature: [Signature]

Customer Signature: [Signature]
 Print Name: James W Schum

Actual Return Date: 7/27/07

Lab Signature: [Signature]
 Customer Signature: [Signature]
 Print Name: Elizabeth O'Hara



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: N/A

Lab Project Number: 07-2950

Lab Sample Number: 9898

Client Job Number: N/A

Field Location: VN-2b

Date Sampled: 08/20/2007

Field ID Number: C-1026

Date Received: 08/21/2007

Sample Type: Air

Date Analyzed: 08/22/2007

Date Reissued: 08/28/2007

Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00
Trichloroethene	ND< 0.188	ND< 1.00
Vinyl Chloride	ND< 0.394	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

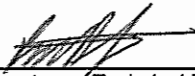
Data File: A2750.d

Comments: ND denotes Non Detect

PPBv = Parts per Billion volume

ug / m3 - Microgram per cubic meter.

Signature: _____


Bruce Hoogesteger, Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: N/A

Lab Project Number: 07-2950

Lab Sample Number: 9899

Client Job Number: N/A

Field Location: VA-3

Date Sampled: 08/20/2007

Field ID Number: C-1007

Date Received: 08/21/2007

Sample Type: Air

Date Analyzed: 08/22/2007

Date Reissued: 08/28/2007

Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00
Trichloroethene	ND< 0.188	ND< 1.00
Vinyl Chloride	ND< 0.394	ND< 1.00
ELAP Number 10958	Method: EPA TO-15	Data File: A2751.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director

Volatile Analysis Report for AirClient: Parsons

Client Job Site: N/A

Lab Project Number: 07-2950

Lab Sample Number: Method Blank

Client Job Number: N/A

Field Location: N/A

Date Sampled: N/A

Field ID Number: N/A

Date Received: N/A

Sample Type: Air

Date Analyzed: 08/22/2007

Date Reissued: 08/28/2007

Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00
Trichloroethene	ND< 0.188	ND< 1.00
Vinyl Chloride	ND< 0.394	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2745a.d

Comments: ND denotes Non Detect

PPBv = Parts per Billion volume

ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger, Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: N/A

Lab Project Number: 07-2950

Lab Sample Number: Can Blank

Client Job Number: N/A

Field Location: N/A

Date Sampled: N/A

Field ID Number: C-1007 / R-514

Date Received: N/A

Sample Type: Air

Date Analyzed: 08/09/2007


Date Reissued: 08/28/2007

Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00
Trichloroethene	ND< 0.188	ND< 1.00
Vinyl Chloride	ND< 0.394	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2732.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____


Bruce Hoogesteger: Technical Director

PARADIGM ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue
Rochester, NY 14608
(585) 647-2530 • (800) 724-1997
FAX: (585) 647-3311

CHAIN OF CUSTODY

REPORT TO:

INVOICE TO:

COMPANY: Parsons	COMPANY: Parsons	LAB PROJECT #:	CLIENT PROJECT #:
ADDRESS: 40 La Riviere Dr. Suite 350	ADDRESS: Parsons	TURNAROUND TIME: (WORKING DAYS)	
CITY: Buffalo	CITY: Buffalo	STATE: NY	ZIP: 14202
PHONE: (716) 541-0730	PHONE: (716) 541-0730	FAX: 30	
ATTN: Jim Schuetz	ATTN: 30		
COMMENTS: 10-15 Parameters = TCE - DCE - VC		QUOTE #:	STD OTHER
		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 5	<input type="checkbox"/>

DATE	TIME	COMPOSITION	GRADES	SAMPLE LOCATION/FIELD ID	MATRIX	CONTAMINANTS	REQUESTED ANALYSIS	REMARKS	PARADIGM LAB SAMPLE NUMBER
8/20/07	1146	✓		C-1026 VM-26	✓	✓			
8/20/07	1150	✓		C-1007 VA-3	✓	✓			

LAB USE ONLY BELOW THIS LINE

Sample Condition: Per NELAC/EIAP 210/241/242/243/244

Receipt Parameter	NELAC Compliance
Container Type:	Y <input type="checkbox"/> N <input type="checkbox"/>
Preservation:	Y <input type="checkbox"/> N <input type="checkbox"/>
Holding Time:	Y <input type="checkbox"/> N <input type="checkbox"/>
Temperature:	Y <input type="checkbox"/> N <input type="checkbox"/>

Sampled By	Date/Time	Total Cost:
<i>[Signature]</i>	8/20/07	
Relinquished By	Date/Time	
<i>[Signature]</i>	8/21/07	
Received By	Date/Time	
<i>[Signature]</i>		
Received @ Lab By	Date/Time	

ATTACHMENT D
LABORATORY ANALYTICAL DATA



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8926

Client Job Number: 442156.03027

Field Location: VP-5

Date Sampled: 07/25/2007

Field ID Number: C-1013

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	0.462	2.46
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00
ELAP Number 10958		Method: EPA TO-15		Data File: A2712.d	

Comments: ND denotes Non Detect

PPBv = Parts per Billion volume

ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8927

Client Job Number: 442156.03027

Field Location: VP-51

Date Sampled: 07/25/2007

Field ID Number: C-1012

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/09/2007

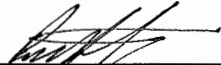
Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	0.647	3.44
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00
ELAP Number 10958		Method: EPA TO-15		Data File: A2713.d	

Comments: ND denotes Non Detect

PPBv = Parts per Billion volume

ug / m3 - Microgram per cubic meter.

Signature: _____


Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8928

Client Job Number: 442156.03027

Field Location: A-1

Date Sampled: 07/24/2007

Field ID Number: C-1020

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2714.d

Comments: ND denotes Non Detect
 PPBv = Parts per Billion volume
 ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8929

Client Job Number: 442156.03027

Field Location: A-2

Date Sampled: 07/25/2007

Field ID Number: C-1008

Date Received: 07/30/2007


Sample Type: Air

Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00
ELAP Number 10958		Method: EPA TO-15		Data File: A2715.d	

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____


Bruce Hoogesteger, Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8930

Client Job Number: 442156.03027

Field Location: VP-4

Date Sampled: 07/25/2007

Field ID Number: C-1010

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.800	ND< 3.14	Trichloroethene	ND< 0.376	ND< 2.00
trans-1,2-Dichloroethene	ND< 0.800	ND< 3.14	Vinyl Chloride	ND< 0.800	ND< 2.03

ELAP Number 10958 Method: EPA TO-15 Data File: A2716.d

Comments: ND denotes Non Detect
 PPBv = Parts per Billion volume
 ug / m3 - Microgram per cubic meter.
 Detection Limit elevated due to limited sample volume

Signature: _____

Bruce Hoogesteger, Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8931

Client Job Number: 442156.03027

Field Location: VN-1B

Date Sampled: 07/25/2007

Field ID Number: C-1011

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2717.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8932

Client Job Number: 442156.03027

Field Location: VN-3C

Date Sampled: 07/25/2007

Field ID Number: C-1001

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2718.d

Comments: ND denotes Non Detect

PPBv = Parts per Billion volume

ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director

Volatile Analysis Report for Air

 Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8933

Client Job Number: 442156.03027

Field Location: VP-1

Date Sampled: 07/24/2007

Field ID Number: C-1017

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

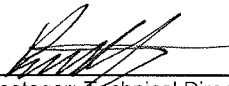
ELAP Number 10958 Method: EPA TO-15 Data File: A2719.d

Comments: ND denotes Non Detect

PPBv = Parts per Billion volume

ug / m3 - Microgram per cubic meter.

Signature:


 Bruce Hoogesteger, Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8934

Client Job Number: 442156.03027

Field Location: VP-3

Date Sampled: 07/25/2007

Field ID Number: C-1009

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

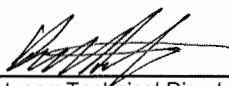
ELAP Number 10958

Method: EPA TO-15

Data File: A2720.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____


Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8935

Client Job Number: 442156.03027

Field Location: VP-1C

Date Sampled: 07/25/2007

Field ID Number: C-1015

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2721.d

Comments: ND denotes Non Detect

PPBv = Parts per Billion volume

ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8936

Client Job Number: 442156.03027

Field Location: VN-3B

Date Sampled: 07/25/2007

Field ID Number: C-1021

Date Received: 07/30/2007

Sample Type: Air

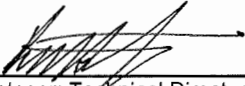
Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2722.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____


Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8937

Client Job Number: 442156.03027

Field Location: VP-2

Date Sampled: 07/25/2007

Field ID Number: C-1016

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/10/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

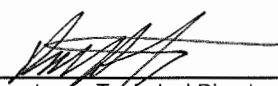
ELAP Number 10958

Method: EPA TO-15

Data File: A2723.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____


Bruce Hoogesteger, Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: 8938

Client Job Number: 442156.03027

Field Location: VP-6

Date Sampled: 07/26/2007

Field ID Number: C-1000

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/10/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2724.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger, Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Client Job Number: 442156.03027

Lab Sample Number: 8939

Field Location: A-3

Date Sampled: 07/26/2007

Field ID Number: C-1022

Date Received: 07/30/2007

Sample Type: Air

Date Analyzed: 08/10/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2725.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger, Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: Method Blank

Client Job Number: 442156.03027

Field Location: N/A

Date Sampled: N/A

Field ID Number: N/A

Date Received: N/A

Sample Type: Air

Date Analyzed: 08/09/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2710a.d

Comments: ND denotes Non Detect

PPBv = Parts per Billion volume

ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director

Volatile Analysis Report for Air

 Client: Parsons

 Client Job Site: Sanborn
 Client Job Number: 442156.03027
 Field Location: Can Blank
 Field ID Number: C-1023 / R-513
 Sample Type: Air

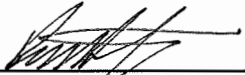
 Lab Project Number: 07-2627
 Lab Sample Number: N/A
 Date Sampled: N/A
 Date Received: N/A
 Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2645.d

Comments: ND denotes Non Detect
 PPBv = Parts per Billion volume
 ug / m3 - Microgram per cubic meter.

Signature: _____



 Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: **Parsons**

Client Job Site: Sanborn
 Client Job Number: 442156.03027
 Field Location: Can Blank
 Field ID Number: C-1012 / R-518
 Sample Type: Air

Lab Project Number: 07-2627
 Lab Sample Number: N/A
 Date Sampled: N/A
 Date Received: N/A
 Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2647.d

Comments: ND denotes Non Detect
 PPBv = Parts per Billion volume
 ug / m3 - Microgram per cubic meter.

Signature: _____


 Bruce Hoogesteger: Technical Director



ENVIRONMENTAL SERVICES, INC.

Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: N/A

Client Job Number: 442156.03027

Field Location: Can Blank

Date Sampled: N/A

Field ID Number: C-1020 / R-512

Date Received: N/A

Sample Type: Air

Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2648.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: N/A

Client Job Number: 442156.03027

Field Location: Can Blank

Date Sampled: N/A

Field ID Number: C-1008 / R-505

Date Received: N/A

Sample Type: Air

Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2649.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: N/A

Client Job Number: 442156.03027

Field Location: Can Blank

Date Sampled: N/A

Field ID Number: C-1010 / R-501

Date Received: N/A

Sample Type: Air

Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15


Data File: A2650.d

Comments: ND denotes Non Detect

PPBv = Parts per Billion volume

ug / m3 - Microgram per cubic meter.

Signature: _____


Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn
Client Job Number: 442156.03027
Field Location: Can Blank
Field ID Number: C-1011 / R-500
Sample Type: Air

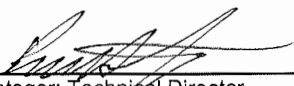
Lab Project Number: 07-2627
Lab Sample Number: N/A
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2651.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____


Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: **Parsons**

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: N/A

Client Job Number: 442156.03027

Field Location: Can Blank

Date Sampled: N/A

Field ID Number: C-1017 / R-510

Date Received: N/A

Sample Type: Air

Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2653.d

Comments: ND denotes Non Detect

PPBv = Parts per Billion volume

ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director

Volatile Analysis Report for Air

Client: **Parsons**

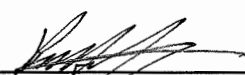
Client Job Site: Sanborn	Lab Project Number: 07-2627
Client Job Number: 442156.03027	Lab Sample Number: N/A
Field Location: Can Blank	Date Sampled: N/A
Field ID Number: C-1009 / R-515	Date Received: N/A
Sample Type: Air	Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2654.d

Comments: ND denotes Non Detect
 PPBv = Parts per Billion volume
 ug / m3 - Microgram per cubic meter.

Signature: _____


 Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Client Job Number: 442156.03027

Lab Sample Number: N/A

Field Location: Can Blank

Date Sampled: N/A

Field ID Number: C-1021 / R-502

Date Received: N/A

Sample Type: Air

Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2656.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____


Bruce Hoogesteger, Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn
Client Job Number: 442156.03027
Field Location: Can Blank
Field ID Number: C-1016 / R-507
Sample Type: Air

Lab Project Number: 07-2627
Lab Sample Number: N/A
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2673.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: Sanborn

Lab Project Number: 07-2627

Lab Sample Number: N/A

Client Job Number: 442156.03027

Field Location: Can Blank

Date Sampled: N/A

Field ID Number: C-1022 / r-504

Date Received: N/A

Sample Type: Air

Date Analyzed: 07/18/2007

Halocarbons	PPBv	ug / m3	Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Trichloroethene	ND< 0.188	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00	Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

Data File: A2675.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger, Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: N/A

Lab Project Number: 07-2950

Lab Sample Number: 9898

Client Job Number: N/A

Field Location: VN-2b

Date Sampled: 08/20/2007

Field ID Number: C-1026

Date Received: 08/21/2007

Sample Type: Air

Date Analyzed: 08/22/2007

Date Reissued: 08/28/2007

Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00
Trichloroethene	ND< 0.188	ND< 1.00
Vinyl Chloride	ND< 0.394	ND< 1.00

ELAP Number 10958

Method: EPA TO-15

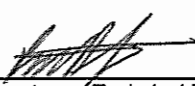
Data File: A2750.d

Comments: ND denotes Non Detect

PPBv = Parts per Billion volume

ug / m3 - Microgram per cubic meter.

Signature: _____


Bruce Hoogesteger, Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: N/A

Lab Project Number: 07-2950

Lab Sample Number: 9899

Client Job Number: N/A

Field Location: VA-3

Date Sampled: 08/20/2007

Field ID Number: C-1007

Date Received: 08/21/2007

Sample Type: Air

Date Analyzed: 08/22/2007

Date Reissued: 08/28/2007

Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00
Trichloroethene	ND< 0.188	ND< 1.00
Vinyl Chloride	ND< 0.394	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2751.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger: Technical Director

Volatile Analysis Report for AirClient: Parsons

Client Job Site: N/A

Lab Project Number: 07-2950

Lab Sample Number: Method Blank

Client Job Number: N/A

Field Location: N/A

Date Sampled: N/A

Field ID Number: N/A

Date Received: N/A

Sample Type: Air

Date Analyzed: 08/22/2007

Date Reissued: 08/28/2007

Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00
Trichloroethene	ND< 0.188	ND< 1.00
Vinyl Chloride	ND< 0.394	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2745a.d

Comments: ND denotes Non Detect

PPBv = Parts per Billion volume

ug / m3 - Microgram per cubic meter.

Signature: _____

Bruce Hoogesteger, Technical Director



Volatile Analysis Report for Air

Client: Parsons

Client Job Site: N/A
Client Job Number: N/A
Field Location: N/A
Field ID Number: C-1007 / R-514
Sample Type: Air

Lab Project Number: 07-2950
Lab Sample Number: Can Blank
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 08/09/2007
Date Reissued: 08/28/2007

Halocarbons	PPBv	ug / m3
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00
Trichloroethene	ND< 0.188	ND< 1.00
Vinyl Chloride	ND< 0.394	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2732.d

Comments: ND denotes Non Detect
PPBv = Parts per Billion volume
ug / m3 - Microgram per cubic meter.

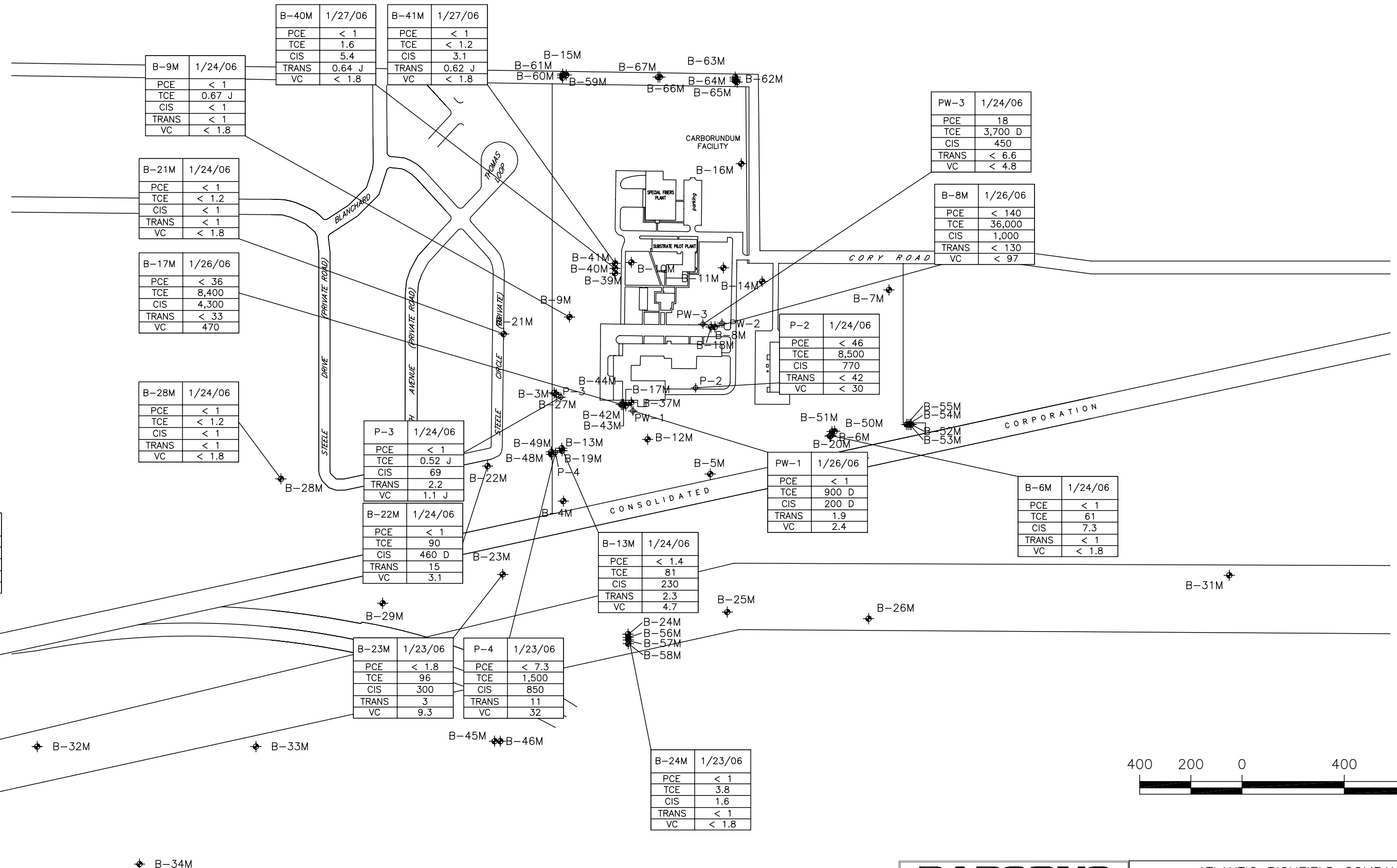
Signature: 
Bruce Hoogesteger: Technical Director

ATTACHMENT E

HISTORICAL GROUNDWATER CONCENTRATION MAPS



WELL	DATE
COMPOUND	CONCENTRATION (mg/L)
PCE = TETRACHLOROETHENE	
TCE = TRICHLOROETHENE	
CIS = CIS-1,2-DICHLOROETHENE	
TRANS = TRANS-1,2-DICHLOROETHENE	
VC = VINYL CHLORIDE	

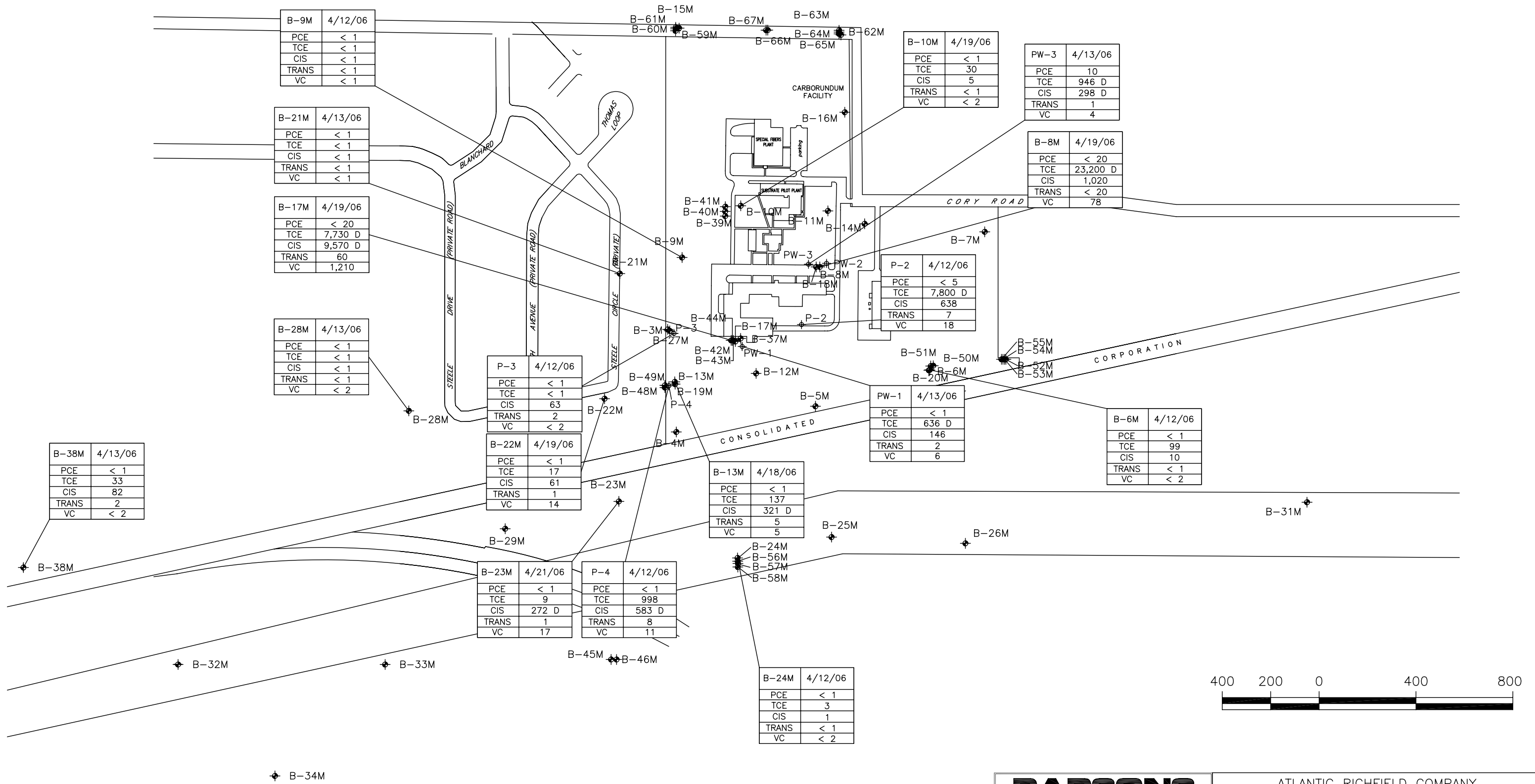


PARSONS
 180 LAWRENCE BELL DRIVE, SUITE 104
 WILLIAMSVILLE, NEW YORK 14221
 716-633-7074

ATLANTIC RICHFIELD COMPANY
 FORMER CARBORUNDUM FACILITY
 SUMMARY OF VOC ANALYTICAL RESULTS IN
 TOP OF ROCK AND ZONE 1
 JANUARY 2006 QUARTERLY SAMPLING EVENT



WELL	DATE
COMPOUND	CONCENTRATION (ug/L)
PCE = TETRACHLOROETHENE	
TCE = TRICHLOROETHENE	
CIS = CIS-1,2-DICHLOROETHENE	
TRANS = TRANS-1,2-DICHLOROETHENE	
VC = VINYL CHLORIDE	

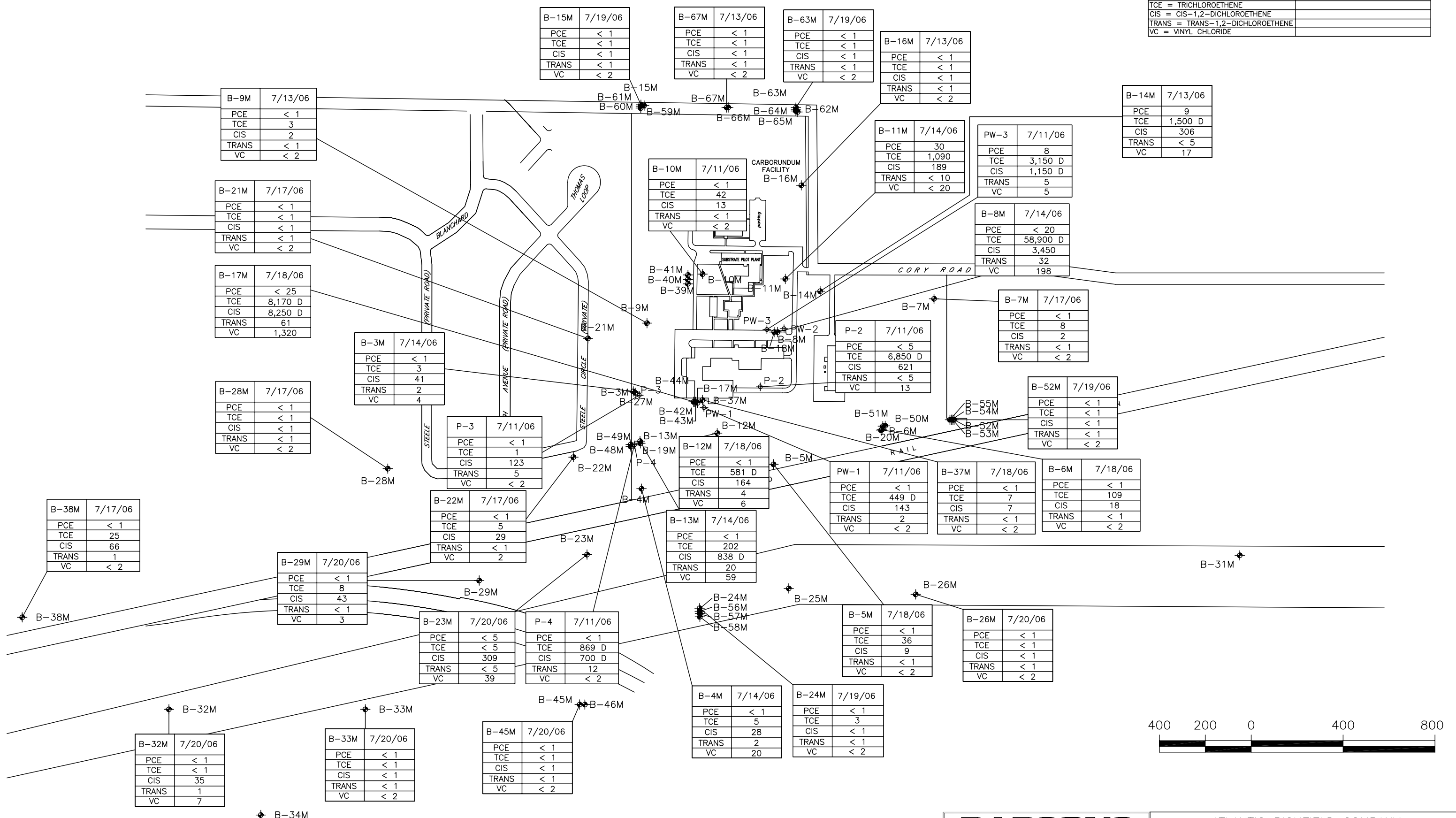


PARSONS
 180 LAWRENCE BELL DRIVE, SUITE 104
 WILLIAMSVILLE, NEW YORK 14221
 716-633-7074

ATLANTIC RICHFIELD COMPANY
 FORMER CARBORUNDUM FACILITY
 SUMMARY OF VOC ANALYTICAL RESULTS IN
 TOP OF ROCK AND ZONE 1
 APRIL 2006 QUARTERLY SAMPLING EVENT



WELL	DATE
COMPOUND	CONCENTRATION (ug/L)
PCE = TETRACHLOROETHENE	
TCE = TRICHLOROETHENE	
CIS = CIS-1,2-DICHLOROETHENE	
TRANS = TRANS-1,2-DICHLOROETHENE	
VC = VINYL CHLORIDE	



PARSONS
 180 LAWRENCE BELL DRIVE, SUITE 104
 WILLIAMSVILLE, NEW YORK 14221
 716-633-7074

ATLANTIC RICHFIELD COMPANY
 FORMER CARBORUNDUM FACILITY
 SUMMARY OF VOC ANALYTICAL RESULTS IN
 TOP OF ROCK AND ZONE 1
 JULY 2006 QUARTERLY SAMPLING EVENT



B-17M	10/09/06	B-9M	10/09/06	B-10M	10/11/06
PCE	< 25	PCE	< 1	PCE	< 1
TCE	12,000 D	TCE	4	TCE	53
CIS	6,730 D	CIS	1	CIS	9
TRANS	36	TRANS	< 1	TRANS	< 1
VC	798	VC	< 2	VC	< 2

LEGEND:

WELL IDENTIFICATION	B-8M	10/09/06	SAMPLING DATE
TETRACHLOROETHENE	PCE	< 25	CONCENTRATION RESULTS (MEASURED IN ug/L)
TRICHLOROETHENE	TCE	29,100 D	
CIS-1,2 DICHLOROETHENE	CIS	975	
TRANS-1,2 DICHLOROETHENE	TRANS	< 25	
VINYL CHLORIDE	VC	< 50	

B-21M	10/10/06
PCE	< 1
TCE	1
CIS	< 1
TRANS	< 1
VC	< 2

P-3	10/09/06
PCE	< 1
TCE	1
CIS	88
TRANS	4
VC	< 2

B-13M	10/11/06
PCE	< 1
TCE	73
CIS	368 D
TRANS	8
VC	19

B-22M	10/10/06
PCE	< 1
TCE	10
CIS	66
TRANS	1
VC	4

B-28M	10/10/06
PCE	< 1
TCE	< 1
CIS	< 1
TRANS	< 1
VC	< 2

B-23M	10/10/06
PCE	< 1
TCE	10
CIS	243 D
TRANS	2
VC	28

B-38M	10/12/06
PCE	< 1
TCE	23
CIS	55
TRANS	< 1
VC	2

PW-3	10/09/06
PCE	3
TCE	4,620 D
CIS	1,550
TRANS	6
VC	4

B-8M	10/09/06
PCE	< 25
TCE	29,100 D
CIS	975
TRANS	< 25
VC	< 50

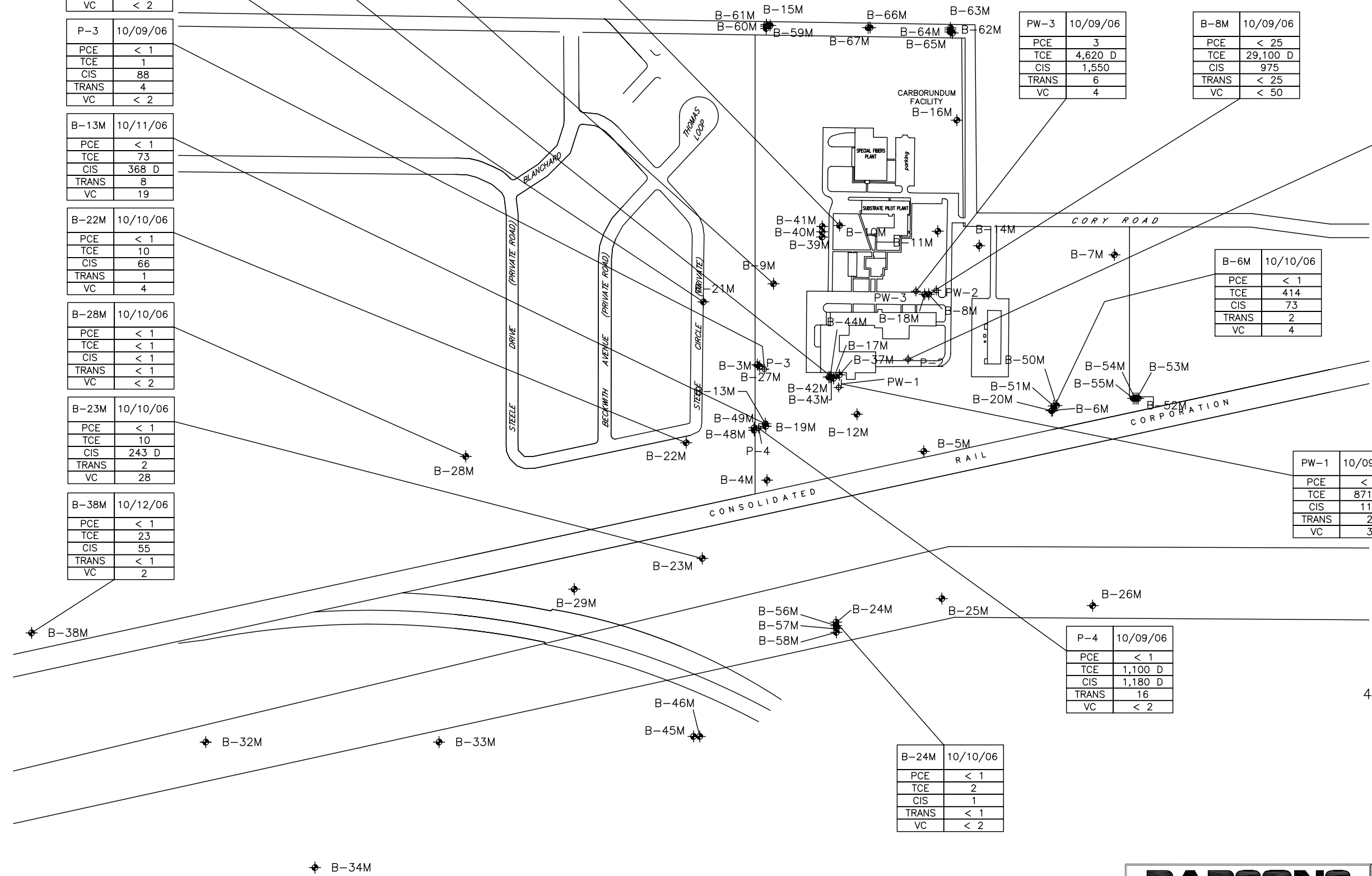
P-2	10/09/06
PCE	< 5
TCE	2,770 D
CIS	322
TRANS	6
VC	12

B-6M	10/10/06
PCE	< 1
TCE	414
CIS	73
TRANS	2
VC	4

PW-1	10/09/06
PCE	< 1
TCE	871 D
CIS	114
TRANS	2
VC	3

P-4	10/09/06
PCE	< 1
TCE	1,100 D
CIS	1,180 D
TRANS	16
VC	< 2

B-24M	10/10/06
PCE	< 1
TCE	2
CIS	1
TRANS	< 1
VC	< 2



PARSONS
 180 LAWRENCE BELL DRIVE, SUITE 104
 WILLIAMSVILLE, NEW YORK 14221
 716-633-7074

ATLANTIC RICHFIELD COMPANY
 FORMER CARBORUNDUM FACILITY
 SUMMARY OF VOC ANALYTICAL RESULTS IN
 TOP OF ROCK AND ZONE 1
 OCTOBER 2006 QUARTERLY SAMPLING EVENT



WELL	DATE
COMPOUND	CONCENTRATION (ug/L)
PCE = TETRACHLOROETHENE	
TCE = TRICHLOROETHENE	
CIS = CIS-1,2-DICHLOROETHENE	
TRANS = TRANS-1,2-DICHLOROETHENE	
VC = VINYL CHLORIDE	

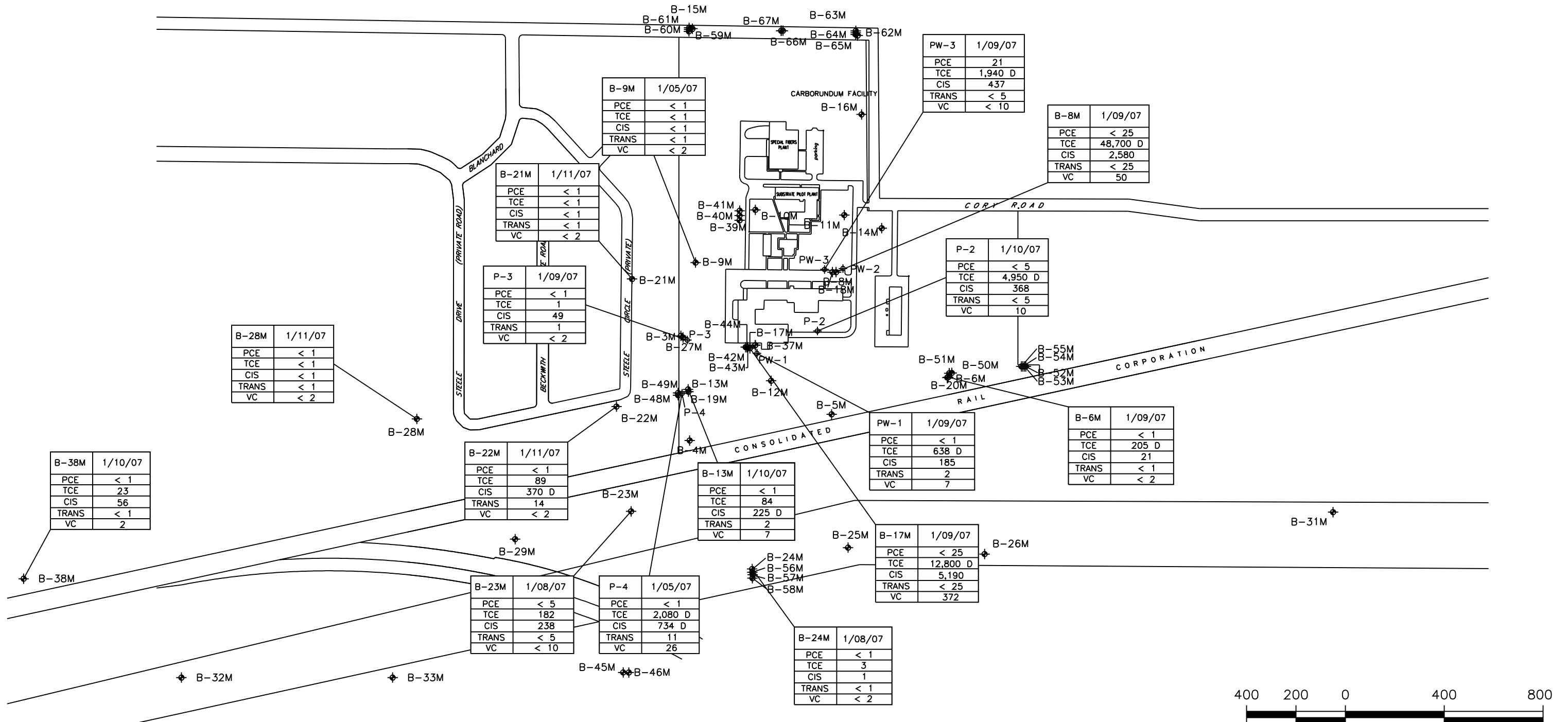
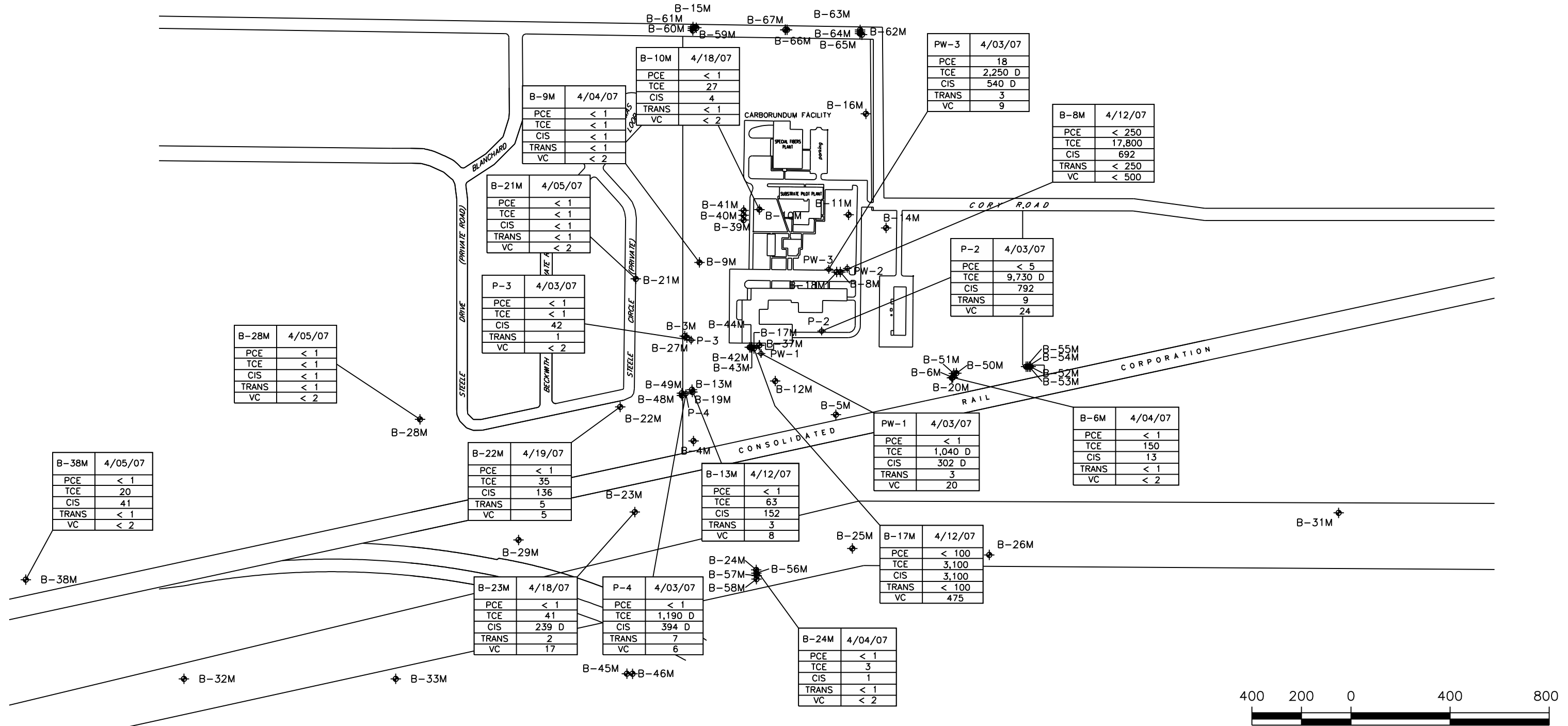


FIGURE 3
 ATLANTIC RICHFIELD COMPANY
 FORMER CARBORUNDUM FACILITY
 SUMMARY OF VOC ANALYTICAL RESULTS IN
 TOP OF ROCK AND ZONE 1
 JANUARY 2007 QUARTERLY SAMPLING EVENT

PARSONS
 40 LA RIVIERE DRIVE, SUITE 350
 BUFFALO, NEW YORK 14202
 716-541-0730



WELL	DATE
PCE = TETRACHLOROETHENE	
TCE = TRICHLOROETHENE	
CIS = CIS-1,2-DICHLOROETHENE	
TRANS = TRANS-1,2-DICHLOROETHENE	
VC = VINYL CHLORIDE	



PARSONS
 40 LA RIVIERE DRIVE, SUITE 350
 BUFFALO, NEW YORK 14202
 716-541-0730

FIGURE 3
 ATLANTIC RICHFIELD COMPANY
 FORMER CARBORUNDUM FACILITY
 SUMMARY OF VOC ANALYTICAL RESULTS IN
 TOP OF ROCK AND ZONE 1
 APRIL 2007 QUARTERLY SAMPLING EVENT