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May 24, 2007

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Mr. Michael Hinton
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203

RE: Results of Soil Vapor Intrusion Assessment
Hyde Park Facility, Site No. 932036, Town of Niagara, New York

Dear Mr. Hinton:

In a July 27, 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 Company, Electric Division, Hyde Park Facility (Site) in the Town of Niagara, New York (see Figure 1 for location). On November 16, 2006, Parsons, on behalf of Atlantic Richfield Company, issued a work plan (Parsons, 2006a) to "evaluate the vapor intrusion pathway as vapors generated from the site have the potential to impact homes along Rhode Island Avenue and Hyde Park Boulevard" to the south and west of the Site (Figure 2). The field work was conducted in March 2007. This letter summarizes the scope of work completed and the results of the assessment.

OBJECTIVE

The objective of the investigation was to evaluate the potential for soil vapor intrusion into the residences along the west side of Hyde Park Boulevard and the south side of Rhode Island Avenue in the Site vicinity. Specifically, as stated in the work plan, soil vapor near the Site perimeter 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)

A historical data review and a soil vapor intrusion (SVI) field investigation were conducted to accomplish this objective. A summary of the data review, results of the field investigation, conclusions, and a path forward are presented herein.

HISTORICAL DATA REVIEW

Prior to implementing the sampling and analysis work presented in the work plan, historical information concerning the Site was reviewed in further detail. Previous correspondence from NYSDEC and other parties, air photos, and technical and historical documents, such as the

groundwater monitoring reports and the record-of-decision (ROD), were reviewed. The following information was considered relevant to the SVI assessment.

The Site hydrogeology consists of two water bearing zones: (1) low permeability shallow soils consisting of silt and clay with lenses of sand (approximately five to 20 feet below ground surface); and (2) fractured dolomitic bedrock (greater than 20 feet).

Interim remedial measures were conducted in 1999 and 2002 to remove soils impacted with VOCs. The 1999 excavation work was conducted within the Site property boundaries. The December 2002 excavation activity occurred east of the eastern property boundary.

In overburden groundwater, the COPC downgradient limits are approximately at the Site property boundary. TCE has not been detected in off-site overburden wells.

In the overburden, concentrations of TCE range from approximately 500 micrograms per liter (µg/L) in the source area to below detection limits at other locations. Groundwater concentrations at eleven of fifteen shallow wells (on-site and off-site) are below the NYSDEC Class GA (protection for source of drinking water) groundwater standard of 5 µg/L. TCE has remained below the groundwater standard at all off-site overburden wells during the last three years of sampling.

During the 2006 groundwater sampling event, concentrations of all COPCs at shallow off-site well MW-13A were non-detect (ND). At off-site shallow well MW-14A, COPC concentrations were below detection limits (ND), 1.7 µg/L, 2.2 µg/L and ND for TCE, DCE, VC and DCA respectively (Intera, 2006).

Bedrock groundwater concentrations of TCE ranged from ND to 6.5 µg/L (Intera, 2006) during the 2006 sampling event. Five of 18 monitoring wells had detections, and only one of the detections, near the source area, was above the groundwater standard. Concentrations of DCE ranged from 1.4 µg/L to 855 µg/L, and VC ranged from 1.6 µg/L to 170 µg/L. Although DCE and VC have migrated as far south as MW-15, in 2006, TCE was either below the NYSDEC groundwater standard or not detected at all locations except MW-17B, in the interior of the Site.

Although natural attenuation has been documented in groundwater, Atlantic Richfield is currently in the process of evaluating methods to enhance the groundwater remediation using an *in situ* remediation treatment for COPCs. A report was submitted to NYSDEC in November 2006, with preferred remedial options and suggestions for pilot testing (Parsons, 2006b).

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

SAMPLING AND ANALYSIS METHODS

Prior to conducting the field work, a Fact Sheet (Attachment A) was developed by NYSDEC and Atlantic Richfield, and distributed to the residential and commercial property owners immediately adjacent to the Hyde Park facility, and to the appropriate regulatory and government contacts.

Installation

Six temporary soil vapor implants were installed around the western and southern perimeter of the Site (Figure 3), as described in the work plan. The implants were installed using a hand auger. Each implant consisted of a 6-inch long soil gas sampling implant connected to ¼-inch Teflon tubing. The annulus around the implant was backfilled with a coarse sand pack. Bentonite chips were placed starting at approximately 3 inches above the top of the implant, and provided a minimum 3-foot seal. Bentonite chips were placed in 6-inch increments, and hydrated during construction.

Implants were installed at approximately five feet below ground surface (NYSDOH, 2006), which is less than two feet above the water table. This depth ensures that the samples are not significantly affected by changes in barometric pressure, wind speed, or temperature. It is also expected to yield the maximum vapor concentrations, due to its proximity to groundwater, a potential source.

Soils encountered at all six locations during implant construction were generally moist to wet, very stiff, red-brown and brown silt, with some clay, and a trace of fine sand. This confirms previous characterization work, which indicated that the overburden soils were comprised primarily of silt and clay, and exhibited low permeability during hydrogeologic testing (Intera, 2006).

Approximately 15 gallons of excavated silt and clay have been contained onsite in a single 55-gallon drum for disposal.

Sampling and Analysis

Four of the six locations (VP-1, 2, 4, and 5) were sampled on March 8 and 9, 2007 (Figure 3). Prior to sampling, the vapor implants were purged and leak tested as described in the work plan. Helium concentrations during all leak tests confirmed the integrity of the implant construction and subsequent sample quality. Purging was conducted at the rates specified in Standard Operating Procedure No. 1 in the November 2006 work plan. Although soils were moist, no water was visible in the syringe during purging of these four samples. One ambient air sample was collected during each day of sampling at an upwind location (two total ambient samples).

Soil vapor points VP-3 and VP-6 were not sampled due to water in the implants. At both locations, the depth to groundwater at nearby wells (7.85' BGS at MW-14A and 7.54' BGS at MW- 1A) indicated that water in the implants was not groundwater. Rather, it may have been vadose zone water that had drained into the implant.

Vapor samples were collected via tubing directly into 1.0-liter MC1000SV Minican™ evacuated sampling canisters. Each sample was collected over approximately a one-hour period. Due to tight soils, a lower volume of vapor was obtained from sample VP-5 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.

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). All volatile sample results were considered usable following data validation. The data validation report is included as Attachment B.

Results from the sampling are presented in Figure 3 and Table 1. The raw data results from the laboratory are provided in Attachment C. COPCs in all samples were non-detect, with the exception of sample VP-1 and ambient air sample VA-1, both located in the northwest corner of the Site. The only detection at VP-1 was TCE at 4.50 $\mu g/m^3$. Although a single soil gas-to-indoor air guideline is not available from NYSDOH, this concentration is below the NYSDOH indoor air concentration guideline (NYSDOH, 2006).

The detections at VA-1 (ambient outdoor air sample) were: 1.83 $\mu g/m^3$ cis-DCE and 1.14 $\mu g/m^3$ TCE.

Analytical results from the residual soils generated during the vapor probe installation indicated that soil concentrations were non-detect for the COPCs analyzed (Attachment C).

QUALITATIVE RISK EVALUATION

Based on the predominant absence of VOCs 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 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 off-site buildings or homes along

Rhode Island Avenue and Hyde Park Boulevard. The following observations support this conclusion:

COPCs were not detected in soil vapor samples, with the exception of TCE at 4.5 $\mu g/m^3$ in VP-1. VP-1 is located in the northwestern portion of the Site. The nearest off-site buildings are commercial properties on the west side of Hyde Park Boulevard, approximately 150 feet west of the Site boundary.

As noted in the previous section, a single soil gas-to-indoor air guideline for TCE is not available from NYSDOH. However, the detected soil gas concentration of 4.5 $\mu g/m^3$ is below the NYSDOH indoor air concentration guideline of 5 $\mu g/m^3$ (NYSDOH, 2006). Therefore, even if TCE did not attenuate as it migrated from the subsurface into the indoor air, the measured concentration is less than the indoor air guideline.

The absence of COPCs in three of the four soil vapor samples, the presence of TCE in one sample below the NYSDOH air guideline, the Site hydrogeology, and the distribution of COPCs in groundwater, indicate that there is not a completed exposure pathway for soil vapor intrusion into nearby residences. Off-site overburden groundwater COCs are predominantly below NYSDEC Class GA groundwater standards (see Attachment D for groundwater results plotted on site plans). This clean water bearing zone thus provides a 10 to 15 foot isolation layer between the buildings or homes and the off-site dissolved phase COPCs existing in bedrock groundwater (Figure 4). In addition, the moist, low-permeability clay soil inhibits upward vapor migration, and the potential for vapor intrusion. Although concentrations of DCE and VC in bedrock groundwater exceeded standards in some off-site wells, off-site concentrations of TCE (the only parameter detected in soil vapor) in bedrock groundwater were below the NYSDEC groundwater standard.

PATH FORWARD

The results of the SVI assessment do not indicate a 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. However, at the request of NYSDEC, an attempt to sample location VP-3, located near the corner of Rhode Island Avenue and Hyde Park Boulevard, will be made during a period of dryer, warmer weather, until August 2007. If the sampling attempt is successful, the results will be presented as a supplement to this report. If sampling cannot be conducted by that time, the evaluation will be considered complete. 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

Mark S. Raybuck
Project Manager

cc: M. Forcucci, NYSDOH
W. Barber, Atlantic Richfield Company
File 442667, No. 9

REFERENCES

NYSDOH, 2006. New York State Department of Health, *Guidance for Evaluating Soil Vapor Intrusion in the State of New York,* October 2006.

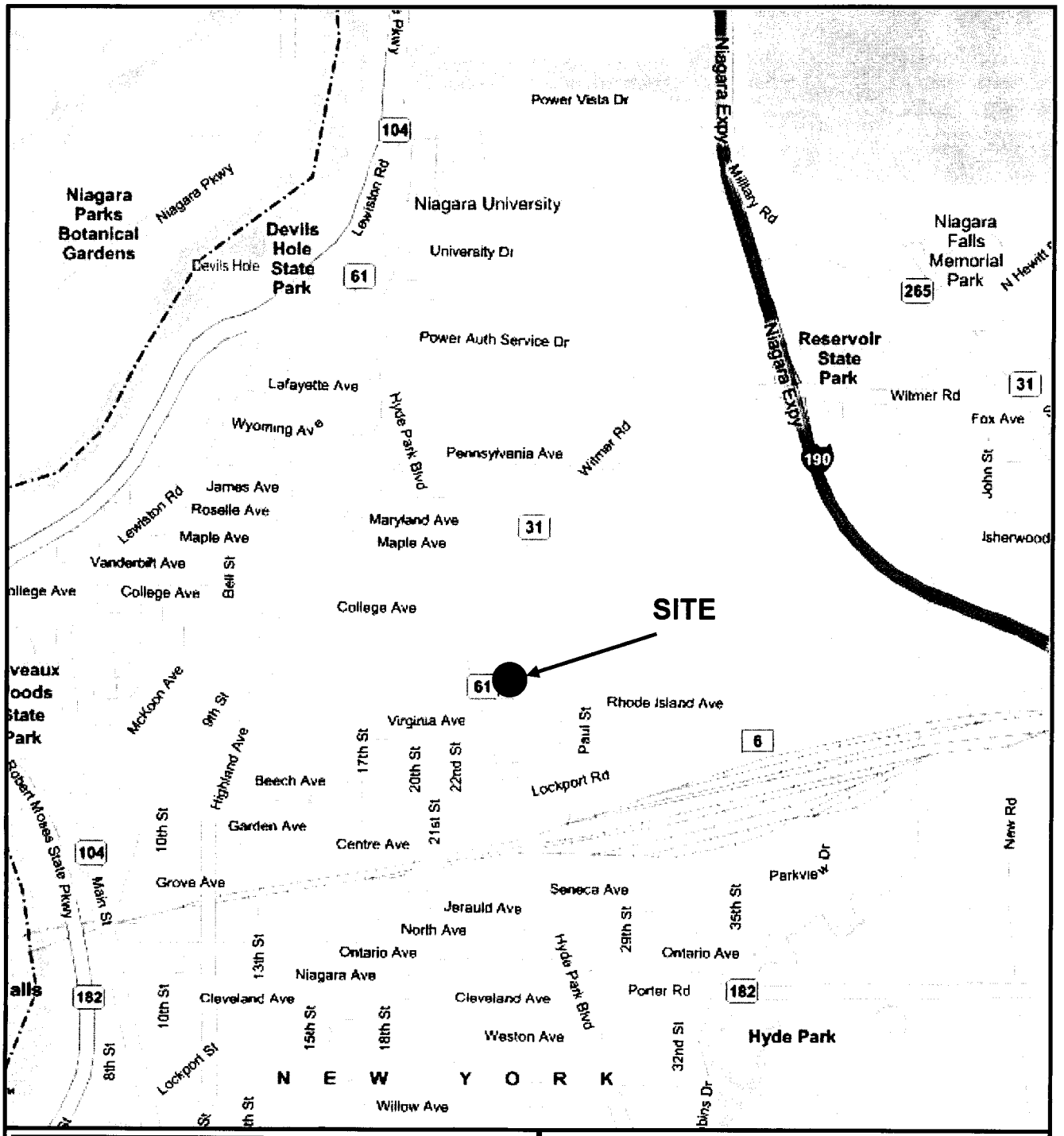
Parsons, 2006a. Work Plan for Soil Vapor Intrusion Assessment at the Former Carborundum Company – Electric Products Division, Hyde Park Facility (NYSDEC Site No. 932036), November 2006.

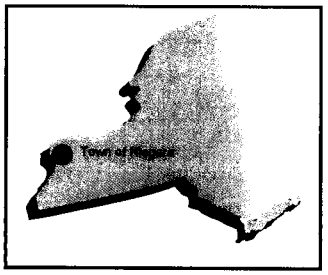
Parsons, 2006b. Evaluation of In Situ Treatment Technologies as Remedial Alternatives for Groundwater, November 2006.

Intera Inc, 2006. Final Summary Report for the 2005 Groundwater Monitoring Program, Former Carborundum Company – Electric Products Division, Hyde Park Facility, Town of Niagara, Niagara County, New York Site No. 932036.

ATTACHMENTS

Attachment A: Fact Sheet
Attachment B: Data Usability Report
Attachment C: Laboratory Analytical Data
Attachment D: Historical Groundwater Concentration Maps





New York

FIGURE 1

FORMER CARBORUNDUM CO. ELETRIC
PRODUCTS DIVISION
TOWN OF NIAGARA, NEW YORK

SITE LOCATION MAP

PARSONS
40 La Riviere Dr., Suite 350, Buffalo, NY 14202

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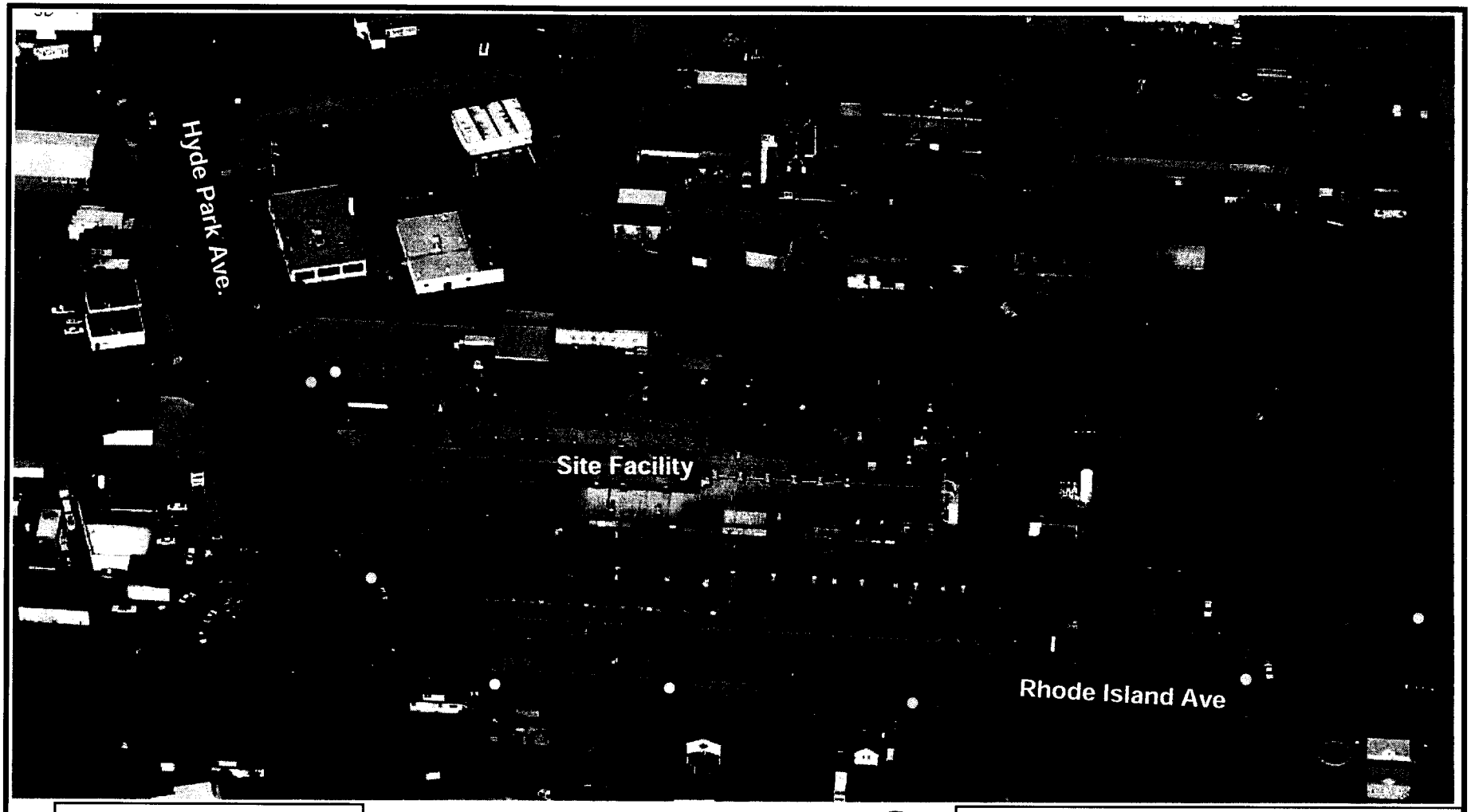

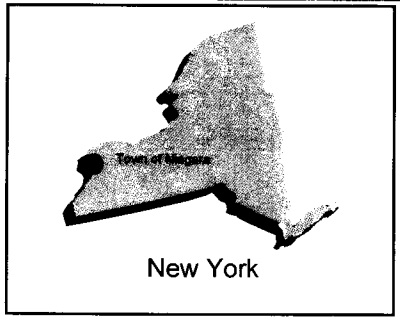

Approximate site boundary

Sample Location

DRAFT – NOT TO SCALE

Photograph source: local.live.com

FIGURE 2

FORMER CARBORUNDUM CO. ELETRIC
PRODUCTS DIVISION
TOWN OF NIAGARA, NEW YORK

SITE AERIAL PHOTO

PARSONS
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VP-1	3/8/2007
VC	ND
DCA	ND
cis-DCE	ND
trans-DCE	ND
TCE	4.5

VA-1	3/8/2007
VC	ND
DCA	ND
cis-DCE	ND
trans-DCE	1.83
TCE	1.14

VP-2	3/8/2007
VC	ND
DCA	ND
cis-DCE	ND
trans-DCE	ND
TCE	ND

VP-4	3/9/2007
VC	ND
DCA	ND
cis-DCE	ND
trans-DCE	ND
TCE	ND

VP-5	3/9/2007
VC	ND
DCA	ND
cis-DCE	ND
trans-DCE	ND
TCE	ND

VA-2	3/9/2007
VC	ND
DCA	ND
cis-DCE	ND
trans-DCE	ND
TCE	ND

Wind direction 3/8/2007

Wind direction 3/9/2007

Kanthal-Globar Building

Brick Building

Hyde Park Boulevard

Rhode Island Avenue

MW-1A
MW-2A
MW-3A
MW-4A
MW-5A
MW-7A
MW-10A
MW-11A
MW-12A
MW-13A
MW-14A
MW-16A
MW-17A
MW-18A
MW-19A

MH-1
MH-2

VP-1
VP-2
VP-3
VP-4
VP-5
VP-6

VA-1
VA-2

60 30 0 60 120

Legend:

MW-5A Overburden Monitoring Well Location

MH-1 Manhole / Sanitary Sewer Sample Location

VP-1 Sample Location
VA - Ambient Air Sample
VP - Soil Vapor Sample

Compound	Abreviation
vinyl chloride	VC
1,1-dichloroethane	DCA
trans-1,2-dichloroethene	trans-DCE
cis-1,2-dichloroethene	cis-DCE
trichloroethene	TCE

PARSONS
40 LA RIVIERE DR, SUITE 350
BUFFALO, NEW YORK 14222
(716) 541-0730

FIGURE 3
FORMER CARBORUNDUM COMPANY
ELECTRIC PRODUCTS DIVISION
TOWN OF NIAGARA, NEW YORK
SOIL VAPOR SAMPLING
ANALYTICAL RESULTS – MARCH 2007

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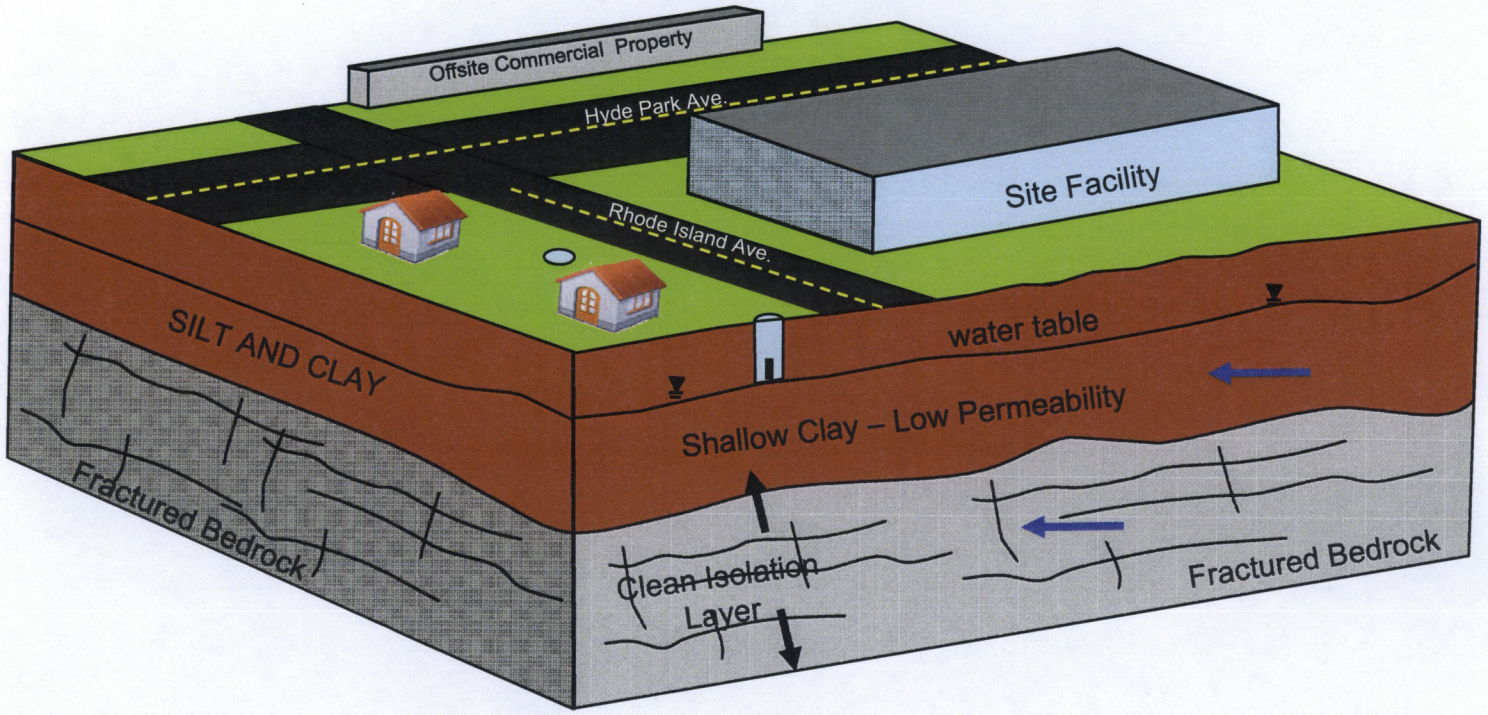

LEGEND

Groundwater Flow

Soil Vapor Sampling Point

DRAFT

Not to scale

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FIGURE 4

FORMER CARBORUNDUM CO. ELETRIC
PRODUCTS DIVISION
TOWN OF NIAGARA, NEW YORK

CONCEPTUAL MODEL

PARSONS
40 La Riviere Dr., Suite 350, Buffalo, NY 14202

TABLE 1

SUMMARY OF ANALYTICAL RESULTS
SOIL VAPOR SAMPLING

Hyde Park Facility Soil Vapor Analytical Results Town of Niagara, NY March, 2007		Field Location ID: Field Sample ID: Source: Analysis Matrix: Sampled:	VP-1 C-1002 Paradigm TO-15 Vapor 3/8/07	VP-2 C-1022 Paradigm TO-15 Vapor 3/8/07	VP-4 C-1026 Paradigm TO-15 Vapor 3/8/07	VP-5 C-1012 Paradigm TO-15 Vapor 3/9/07	VA-1 C-1007 Paradigm TO-15 Vapor 3/8/07	VA-2 C-1004 Paradigm TO-15 Vapor 3/9/07
CAS NO.	COMPOUND	UNITS:						
	VOLATILES							
75-01-4	vinyl chloride	ug/m^3	ND <1.00	ND <1.00	ND <1.00	ND <1.01	ND <1.00	ND <1.00
75-35-4	1,1-dichloroethane	ug/m^3	ND <1.00	ND <1.00	ND <1.00	ND <1.60	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 <1.57	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 <1.57	1.83	ND <1.00
79-01-6	trichloroethene	ug/m^3	4.50	ND <1.000	ND <1.000	ND <1.00	1.14	ND <1.000

ATTACHMENT A

FACT SHEET

FACT SHEET

February 2007

Environmental Site Investigation to Begin at Globar Facility in Niagara

Project Start: February 2007 **Site # 932036**

Beginning in February of 2007, environmental investigation activities will begin at the Globar Facility, which is located near the intersection of Hyde Park Boulevard and Rhode Island Avenue in the Town of Niagara. (See map at right.)

The Globar facility was previously owned by the Carborundum company. On behalf of BP America (BP), the parent company of Carborundum, the Atlantic Richfield Company (ARC) – a BP-affiliated company, will be conducting soil vapor investigation activities at the Globar Facility site. The upcoming soil vapor investigation activities are being conducted in order to evaluate the potential for vapors (from the groundwater beneath the Globar Facility) to migrate to off-site locations. Investigation activities are scheduled to begin in February of 2007.

Environmental investigation and cleanup work at this site is being performed in cooperation with New York State Department of Environmental Conservation (DEC) and New York State Department of Health (DOH) under New York State's Superfund Program. New York State's Superfund Program oversees the identification, investigation, and cleanup of sites where significant amounts of hazardous waste may exist.

This fact sheet is being provided to explain why the upcoming investigation activities are occurring, what investigation activities will involve, and how to obtain more information.

SITE BACKGROUND

DEC and DOH are currently in the process of performing assessments at sites across New York State where environmental contamination has been found to be present in soil and groundwater. The purpose of these assessments is to determine if there is any potential for vapor migration from the contaminated sites to impact indoor air in nearby buildings where people are living or working, or that are otherwise occupied.

Trichloroethene, a chemical used in the manufacturing process, was released into the soil and groundwater at the Globar Facility site during past site operations. Trichloroethene is a manufactured, volatile organic chemical that can be used as a paint stripper, an adhesive solvent, an ingredient in paints and varnishes, a solvent to remove grease from metal, and an ingredient in the manufacturing of other organic chemicals. Other names for Trichloroethene include TCE and trichloroethylene.

BP, as required by DEC, has performed an environmental investigation and has removed that majority of soil contaminated by TCE. On behalf of BP, ARC continues to monitor groundwater at the site, and long term monitoring data indicates that concentrations of TCE and its breakdown products in the site's groundwater have stabilized or decreased. ARC is in the process of evaluating methods to enhance groundwater cleanup at the site. Because all residential homes in the area are provided with public water, residential drinking water is not affected.

WHAT IS SOIL VAPOR INTRUSION?

Vapor intrusion refers to the process by which vapors move from a subsurface source into the indoor air of overlying or adjacent buildings. The subsurface source can either be environmentally impacted groundwater or soil which release vapors into the pore spaces in the soil.

Vapors can enter buildings in two different ways. In rare cases, vapor intrusion results when environmentally impacted groundwater enters basements and releases volatile chemicals into the indoor air. In most cases, vapor intrusion is caused by vapors that migrate through the soil directly into basements or foundation slabs.

Although DEC has historically evaluated soil gas pathways, improvements in analytical techniques and the knowledge gained from remedial sites in New York and other states has increased the understanding of the vapor intrusion process. As a result, additional work may be now be required to investigate or remediate sites that are in the operational or monitoring phase, or that have already been closed.

Impacted soil vapor is not the only possible source of volatile chemicals in indoor air. Chemicals are part of our everyday life. Volatile chemicals are found in many household products, such as paints, glues, aerosol sprays, new carpeting or furniture, refrigerants and recently dry-cleaned clothing. Volatile chemicals are also emitted by common commercial and industrial activities. Indoor air may also become affected through the infiltration of outdoor air containing volatile chemicals.

More information about soil vapor intrusion is available online at:
http://www.dec.state.ny.us/website/der/guidance/vapor and
http://www.health.state.ny.us/environmental/investigations/soil_gas/svi_guidance/fs_tce.htm.

DETAILS OF THE INVESTIGATION

Upcoming soil vapor investigation activities will be performed by ARC. During February of 2007, ARC will begin installing several vapor monitoring points along Rhode Island Avenue across from the Globar Facility, and adjacent to Hyde Park Boulevard.

These sampling locations will be tested to evaluate the potential for vapors from groundwater in the vicinity of the Globar facility to migrate toward nearby residential locations. Some sampling locations will be located in the Rhode Island right-of-way. During this phase of the soil vapor investigation, no sampling will be performed on private property. It is important to note that even if investigative activities are taking place in close proximity to your property, this does not mean that your house is impacted by vapor intrusion.

WHAT IS THE NEXT STEP?

Upon completion of the sampling activities and receipt of the data from a private, independent laboratory, sampling results will be shared with the public through mailings such as this one, or at a public meeting. Test results are expected to be available within the next few months. If the test results indicate that it is appropriate to test inside homes, potentially affected homeowners will be contacted so that the procedure can be fully explained, property access can be requested, and specific testing arrangements can be made.

WHO SHOULD I CONTACT IF I HAVE QUESTIONS?

Questions regarding soil vapor investigation activities at the Globar Facility site are welcome. Should you have any questions, please contact the following representatives:

Site-Related Environmental Questions
Mr. Michael Hinton, Project Manager
NYS Department of Environmental Conservation
270 Michigan Avenue
Buffalo, NY 14203
(716) 851-7220

Site-Related Health Questions
Mr. Matthew Forcucci, Public Health Specialist
NYS Department of Health
584 Delaware Avenue
Buffalo, NY 14202
(716) 847-4385

Site-Related Project Questions
Mr. William Barber
Atlantic Richfield Company (a BP affiliated company)
4850 East 49th Street, MBC3-147
Cuyahoga Heights, Ohio 44125
(216) 271-8038

Site-Related Project Questions
Mr. John C. Curry
BP
4101 Winfield Rd., MC 103D
Warrenville, IL 60555
(630) 821-3209

LOCATIONS TO VIEW PROJECT RELATED DOCUMENTS

Public understanding of this project is valued and appreciated. Project related documents are available for your review at the following locations:

Niagara Town Hall
7105 Lockport Rd.
Niagara Falls, NY 14305
(716) 297-2150

NYS Department of Environmental Conservation
270 Michigan Avenue
Buffalo, NY 14203
(716) 851-7220
(Please call for an appointment.)

ATTACHMENT B

DATA USABILITY REPORT

DATA USABILITY SUMMARY REPORT

HYDE PARK SOIL VAPOR INVESTIGATION

Prepared By:

PARSONS

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

MAY 2007

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LIST OF ATTACHMENTS

SECTION 1

DATA USABILITY SUMMARY

Soil vapor samples were collected at the Hyde Park Site on March 8 and March 9, 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 22 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 three to four 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) 1,1-dichloroethane, cis-1,2-dichloroethene, trans-1,2-dichloroethene, trichloroethene, and vinyl chloride. Summaries of issues concerning this laboratory analysis are presented in Subsections 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 REPORTS

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
- Sample result verification and identification
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols, with the exception of internal standard responses. 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.

Internal Standard (IS) Responses

All IS responses were compliant for all samples with the exception of the IS chlorobenzene-d5 which was not recovered in sample VP-5/C-1012. Since target compounds were not associated with this noncompliant IS, validation qualification of this sample was not required.

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 the laboratory reported slightly elevated detection limits for sample VP-5/C-1012 due to limited sample volume.

TABLE 2.1-1

SUMMARY OF SAMPLE ANALYSES AND USABILITY
HYDE PARK – AIR

SAMPLE ID	MATRIX	SAMPLE DATE	VOCs
VP-4/C-1026	Air	3/8/07	OK
VP-2/C-1022	Air	3/8/07	OK
VA-1/C-1007	Air	3/8/07	OK
VP-1/C-1002	Air	3/8/07	OK
VP-5/C-1012	Air	3/9/07	OK
VA-2/C-1004	Air	3/9/07	OK
TOTAL SAMPLES:			6

NOTES: OK – Sample analysis considered usable and valid.

ATTACHMENT A

VALIDATED LABORATORY DATA

BP Hyde Park SVI Validated Air Analytical Data SDG: 07-0814		Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	VA-1 3343 Paradigm 07-0814 Air 3/8/2007 4/20/2007	VA-2 3347 Paradigm 07-0814 Air 3/9/2007 4/20/2007	VP-1 3344 Paradigm 07-0814 Air 3/8/2007 4/20/2007	VP-2 3342 Paradigm 07-0814 Air 3/8/2007 4/20/2007	VP-4 3341 Paradigm 07-0814 Air 3/8/2007 4/20/2007	VP-5 3345 Paradigm 07-0814 Air 3/9/2007 4/20/2007
CAS NO.	COMPOUND	UNITS:						
	VOLATILES							
75-34-3	1,1-Dichloroethane	ug/m3	1 U	1 U	1 U	1 U	1 U	1.6 U
156-59-2	cis-1,2-Dichloroethene	ug/m3	1.83	1 U	1 U	1 U	1 U	1.57 U
156-60-5	trans-1,2-Dichloroethene	ug/m3	1 U	1 U	1 U	1 U	1 U	1.57 U
79-01-6	Trichloroethene	ug/m3	1.14	1 U	4.5	1 U	1 U	1 U
75-01-4	Vinyl Chloride	ug/m3	1 U	1 U	1 U	1 U	1 U	1.01 U

ATTACHMENT C

LABORATORY ANALYTICAL DATA

Soil Vapor Data
Residual Soil Data

Lab Project Number: 07-0814

Client: Parsons Engineering

Project Name: N/A

Analysis Parameters: EPA TO-15

Report of Analysis
&
QC Deliverables

REPORT PREPARED BY
Paradigm Environmental Services, Inc.
179 Lake Avenue, Rochester, New York 14608

PARADIGM
ENVIRONMENTAL SERVICES, INC.

LAB PROJECT NARRATIVE

CLIENT: Parsons
PROJECT LOCATION: N/A
LAB PROJECT ID: 07-0814
REPORT DATE: 3/22/2007

Seven air canisters were sampled by the client on 3/8/2007 and 3/9/2007, and received at the Paradigm laboratory on 3/12/2007. 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 six of the seven samples, sufficient volume was available to achieve the project reporting limit target of 1ug/m3. A single sample, designated "VP-5", had slightly elevated reporting limits, due to limited air volume. This sample also showed poor transferal of Internal Standards, due to limited volume. Sample results and canister and method QC were reported to project limit of 1ug/m3, and data was reviewed for reporting estimated concentrations of any analytes present at 0.5-1.0 ug/m3 (there were none). 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

PARADIGM
ENVIRONMENTAL SERVICES, INC. 179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Air

Client: Parsons

Client Job Site: N/A
Client Job Number: N/A
Field Location: VP-4
Field ID Number: C-1026
Sample Type: Air

Lab Project Number: 07-0814
Lab Sample Number: 3341

Date Sampled: 03/08/2007
Date Received: 03/12/2007
Date Analyzed: 03/14/2007

Halocarbons	PPBv	ug / m3
1,1-Dichloroethane	ND< 0.250	ND< 1.00
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00

Halocarbons	PPBv	ug / m3
Trichloroethene	ND< 0.188	ND< 1.000
Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2261.d

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

Signature: _____
Bruce Hoogesteger: Technical Director

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Volatile Analysis Report for Air

Client: Parsons

Client Job Site: N/A
Client Job Number: N/A
Field Location: VP-2
Field ID Number: C-1022
Sample Type: Air

Lab Project Number: 07-0814
Lab Sample Number: 3342
Date Sampled: 03/08/2007
Date Received: 03/12/2007
Date Analyzed: 03/14/2007

Halocarbons	PPBv	ug / m3
1,1-Dichloroethane	ND< 0.250	ND< 1.00
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00

Halocarbons	PPBv	ug / m3
Trichloroethene	ND< 0.188	ND< 1.000
Vinyl Chloride	ND< 0.395	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2263.d

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

Signature: _____
Bruce Hoogesteger, Technical Director

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Volatile Analysis Report for Air

Client: Parsons

Client Job Site:	N/A	**Lab Project Number:**	07-0814
		Lab Sample Number:	3343
Client Job Number:	N/A		
Field Location:	VA-1	**Date Sampled:**	03/08/2007
Field ID Number:	C-1007	**Date Received:**	03/12/2007
Sample Type:	Air	**Date Analyzed:**	03/14/2007

Halocarbons	PPBv	ug / m3
1,1-Dichloroethane	ND< 0.250	ND< 1.00
cis-1,2-Dichloroethene	0.465	1.83
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00

Halocarbons	PPBv	ug / m3
Trichloroethene	0.214	1.14
Vinyl Chloride	ND< 0.395	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2265.d

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

Signature: _____
Bruce Hoogesteger: Technical Director

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Volatile Analysis Report for Air

Client: Parsons

Client Job Site: N/A
Client Job Number: N/A
Field Location: VP-1
Field ID Number: C-1002
Sample Type: Air

Lab Project Number: 07-0814
Lab Sample Number: 3344

Date Sampled: 03/08/2007
Date Received: 03/12/2007
Date Analyzed: 03/15/2007

Halocarbons	PPBv	ug / m3
1,1-Dichloroethane	ND< 0.250	ND< 1.00
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00

Halocarbons	PPBv	ug / m3
Trichloroethene	0.846	4.50
Vinyl Chloride	ND< 0.395	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2267.d

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

Signature: _____
Bruce Hoogesteger: Technical Director

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Volatile Analysis Report for Air

Client: Parsons

Client Job Site: N/A
Client Job Number: N/A
Field Location: VP-5
Field ID Number: C-1012
Sample Type: Air

Lab Project Number: 07-0814
Lab Sample Number: 3345

Date Sampled: 03/08/2007
Date Received: 03/12/2007
Date Analyzed: 03/15/2007

Halocarbons	PPBv	ug / m3
1,1-Dichloroethane	ND< 0.400	ND< 1.60
cis-1,2-Dichloroethene	ND< 0.400	ND< 1.57
trans-1,2-Dichloroethene	ND< 0.400	ND< 1.57

Halocarbons	PPBv	ug / m3
Trichloroethene	ND< 0.188	ND< 1.000
Vinyl Chloride	ND< 0.400	ND< 1.01

ELAP Number 10958 Method: EPA TO-15 Data File: A2271.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

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Volatile Analysis Report for Air

Client: Parsons

Client Job Site:	N/A	**Lab Project Number:**	07-0814
		Lab Sample Number:	3347
Client Job Number:	N/A		
Field Location:	VA-2	**Date Sampled:**	03/08/2007
Field ID Number:	C-1004	**Date Received:**	03/12/2007
Sample Type:	Air	**Date Analyzed:**	03/15/2007

Halocarbons	PPBv	ug / m3
1,1-Dichloroethane	ND< 0.250	ND< 1.00
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00

Halocarbons	PPBv	ug / m3
Trichloroethene	ND< 0.188	ND< 1.000
Vinyl Chloride	ND< 0.395	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2269.d

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

Signature: _____
Bruce Hoogesteger: Technical Director

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Volatile Analysis Report for Air

Client: Parsons

Client Job Site: N/A
Client Job Number: N/A
Field Location: N/A
Field ID Number: N/A
Sample Type: Air

Lab Project Number: 07-0814
Lab Sample Number: Method Blank
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 02/08/2007

Halocarbons	PPBv	ug / m3
1,1-Dichloroethane	ND< 0.250	ND< 1.00
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00

Halocarbons	PPBv	ug / m3
Trichloroethene	ND< 0.188	ND< 1.000
Vinyl Chloride	ND< 0.395	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2203.d

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

Signature:
Bruce Hoogesteger: Technical Director

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Volatile Analysis Report for Air

Client: Parsons

Client Job Site: N/A
Client Job Number: N/A
Field Location: C-0000
Field ID Number: 0
Sample Type: Air

Lab Project Number: 07-0814
Lab Sample Number: Method Blank
Date Sampled: 03/08/2007
Date Received: 03/12/2007
Date Analyzed: 03/14/2007

Halocarbons	PPBv	ug / m3
1,1-Dichloroethane	ND< 0.250	ND< 1.00
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00

Halocarbons	PPBv	ug / m3
Trichloroethene	ND< 0.188	ND< 1.000
Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2257.d

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

Signature: _____
Bruce Hoogesteger: Technical Director

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Volatile Analysis Report for Air

Client: Parsons

Client Job Site: N/A
Client Job Number: N/A
Field Location: N/A
Field ID Number: Can C-1004
Sample Type: Air

Lab Project Number: 07-0814
Lab Sample Number: QC Can Blank
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 02/08/2007

Halocarbons	PPBv	ug / m3
1,1-Dichloroethane	ND< 0.250	ND< 1.00
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00

Halocarbons	PPBv	ug / m3
Trichloroethene	ND< 0.189	ND< 1.00
Vinyl Chloride	ND< 0.395	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2204.d

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

Signature: _____
Bruce Hoogesteger: Technical Director

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Volatile Analysis Report for Air

Client: Parsons

Client Job Site: N/A
Client Job Number: N/A
Field Location: N/A
Field ID Number: N/A
Sample Type: Air

Lab Project Number: 07-0814
Lab Sample Number: Can C-1022
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 02/08/2007

Halocarbons	PPBv	ug / m3
1,1-Dichloroethane	ND< 0.250	ND< 1.00
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00

Halocarbons	PPBv	ug / m3
Trichloroethene	ND< 0.188	ND< 1.000
Vinyl Chloride	ND< 0.395	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2205.d

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

Signature: _____
Bruce Hoogesteger: Technical Director

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Volatile Analysis Report for Air

Client: Parsons

Client Job Site: N/A
Client Job Number: N/A
Field Location: N/A
Field ID Number: Can C-1012
Sample Type: Air

Lab Project Number: 07-0814
Lab Sample Number: QC Can Blank
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 02/08/2007

Halocarbons	PPBv	ug / m3
1,1-Dichloroethane	ND< 0.250	ND< 1.00
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00

Halocarbons	PPBv	ug / m3
Trichloroethene	ND< 0.188	ND< 1.000
Vinyl Chloride	ND< 0.395	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2206.d

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

Signature: _____
Bruce Hoogesteger: Technical Director

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Volatile Analysis Report for Air

Client: Parsons

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

Lab Project Number: 07-0814
Lab Sample Number: QC Can Blank

Date Sampled: N/A
Date Received: N/A
Date Analyzed: 02/08/2007

Halocarbons	PPBv	ug / m3
1,1-Dichloroethane	ND< 0.250	ND< 1.00
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00

Halocarbons	PPBv	ug / m3
Trichloroethene	ND< 0.188	ND< 1.000
Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2207.d

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

Signature: _____
Bruce Hoogesteger: Technical Director

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ENVIRONMENTAL SERVICES, INC. 179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Air

Client: Parsons

Client Job Site: N/A
Client Job Number: N/A
Field Location: N/A
Field ID Number: Can C-1002
Sample Type: Air

Lab Project Number: 07-0814
Lab Sample Number: QC Can Blank
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 02/08/2007

Halocarbons	PPBv	ug / m3
1,1-Dichloroethane	ND< 0.250	ND< 1.00
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00

Halocarbons	PPBv	ug / m3
Trichloroethene	ND< 0.188	ND< 1.000
Vinyl Chloride	ND< 0.396	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2209.d

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

Signature: _____
Bruce Hoogesteger: Technical Director

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Volatile Analysis Report for Air

Client: Parsons

Client Job Site: N/A
Client Job Number: N/A
Field Location: N/A
Field ID Number: Can C-1009
Sample Type: Air

Lab Project Number: 07-0814
Lab Sample Number: QC Can Blank

Date Sampled: N/A
Date Received: N/A
Date Analyzed: 02/08/2007

Halocarbons	PPBv	ug / m3
1,1-Dichloroethane	ND< 0.250	ND< 1.00
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00

Halocarbons	PPBv	ug / m3
Trichloroethene	ND< 0.188	ND< 1.000
Vinyl Chloride	ND< 0.395	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2210.d

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

Signature: _____
Bruce Hoogesteger: Technical Director

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Volatile Analysis Report for Air

Client: Parsons

Client Job Site: N/A
Client Job Number: N/A
Field Location: N/A
Field ID Number: Can C-1021
Sample Type: Air

Lab Project Number: 07-0814
Lab Sample Number: QC Can Blank
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 02/08/2007

Halocarbons	PPBv	ug / m3
1,1-Dichloroethane	ND< 0.250	ND< 1.00
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00

Halocarbons	PPBv	ug / m3
Trichloroethene	ND< 0.188	ND< 1.000
Vinyl Chloride	ND< 0.395	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2211.d

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

Signature: _____
Bruce Hoogesteger: Technical Director

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ENVIRONMENTAL SERVICES, INC. 179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Air

Client: Parsons

Client Job Site:	N/A	**Lab Project Number:**	07-0814
		Lab Sample Number:	QC Can Blank
Client Job Number:	N/A		
Field Location:	N/A	**Date Sampled:**	N/A
Field ID Number:	Can C-1026	**Date Received:**	N/A
Sample Type:	Air	**Date Analyzed:**	02/08/2007

Halocarbons	PPBv	ug / m3
1,1-Dichloroethane	ND< 0.250	ND< 1.00
cis-1,2-Dichloroethene	ND< 0.255	ND< 1.00
trans-1,2-Dichloroethene	ND< 0.255	ND< 1.00

Halocarbons	PPBv	ug / m3
Trichloroethene	ND< 0.188	ND< 1.000
Vinyl Chloride	ND< 0.395	ND< 1.00

ELAP Number 10958 Method: EPA TO-15 Data File: A2214.d

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

Signature: _____
Bruce Hoogesteger: Technical Director

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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:
COMPANY: Parsons
ADDRESS: 40 La Riviere Dr Suite 350
CITY: Buffalo STATE: NY ZIP: 14202
PHONE: 716 541 0730 FAX:
ATTN: Jim Schuetz @ 7165238293

INVOICE TO:
COMPANY:
ADDRESS: Same as Report
CITY: STATE: ZIP:
PHONE: FAX:
ATTN:

LAB PROJECT #: 07-084
CLIENT PROJECT #:
TURNAROUND TIME: (WORKING DAYS) STD OTHER
1 2 3 5
QUOTE #:

PROJECT NAME/SITE NAME:

COMMENTS: See work order for COC list. Call before analyzing 1012 and 1009

REQUESTED ANALYSIS

	DATE	TIME	COMPOSITE	GRAB	SAMPLE LOCATION/FIELD ID	MATRIX	NUMBER CONTAINERS	COCs TO-15	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	3/8/07	1403 1434	✓		VP-4 / C-1026	Air	1	✓		33[illegible]4
2	3/8	1503 - 1605	✓		VP-2 / C-1022	Air	1	✓		33442
3	3/8	1518 1640	✓		VA-1 / C-1007	Air	1	✓		33443
4	3/8	1552 - 1640	✓		VP-1 / C-1002	Air	1	✓		33444
5	3/9	1000 - 1200	✓		VP-5 / C-1012	Air	1	✓	26" Hg / call before analyzing	33445
6	3/9	1000 1300	✓		VP-51 / C-1009	Air	1	✓	Can is at 29" Hg / call before analyzing	33446
7	3/9	1100 - 1200	✓		VA-2 / C-1004	Air	1	✓		33447
8									ok to analyze VP-5 / C-1012	
9									Cancel VP-51 / C-1009 per client 3/12/07	
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 ☐	Comments:
Preservation:	Y ☐	N ☐	Comments: NA
Holding Time:	Y ☒	N ☐	Comments:
Temperature:	Y ☐	N ☐	Comments: NA

James W Schuetz	3/9/07 1340	Sampled By / Date/Time
[signature]	3/9/07 1340	Relinquished By / Date/Time
[signature]	3/9/07	Received By / Date/Time
Elizabeth A. Honch	3/12/07 1045	Received @ Lab By / Date/Time

Total Cost:

P.I.F.

TO-15 Sampling Equipment Tracking Form

Please call Nathan Beach @ 585-647-2530 to review equip protocol.

Date: 2-9-07

match #1 Canister Number to #1 Regulator Number

Client: Parsons Engineering

Phone Number 716-663-7074

Mark Raybuck (ID)

	TO-15 Canister Number	Return Condition		Shipping inHg	Starting inHg	Ending inHg	Returned inHg		Flow Regulator Number	Return Condition	Additional Equipment
1	C-1004 ambient	good		30	30	6	6	1	R-502 ambient	good	Hg gauge - returned in good cond.
2	C-1022		VP-2	30	30	8	6	2	R-511		
3	C-1012		VP5	30	30	24	26	3	R-506		
4	C-1007 ambient		VA-1	30	30	11	11	4	R-517 ambient		
5	C-1026		VP4	30	30 143	6	5	5	R-513		
6	C-1002		VP-1	30	30	10	8	6	R-515		
7	C-1009		VP-S1	30	30	29	30	7	R-514		
8	~~2/9/07 1545~~ C-1021 2/9/07 1545	good		30	NA	NA	30	8	R-518		

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 / guages 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: 2/20/07

Lab Signature: Jane J. Dalois

Customer Signature:

Print Name

Actual Return Date: 3/9/07

Lab Signature: Elizabeth A. Hond

Customer Signature:

Print Name

PARADIGM
ENVIRONMENTAL SERVICES, INC. 9 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges

Client: Parsons

Client Job Site: Hyde Park
Client Job Number: N/A
Field Location: DR-1
Field ID Number: N/A
Sample Type: Soil

Lab Project Number: 07-1012
Lab Sample Number: 3861

Date Sampled: 03/27/2007
Date Received: 03/29/2007
Date Analyzed: 04/02/2007

Compounds	Results in ug / Kg
Acetone	ND< 52.8
1,2-Dichloroethene (Total)	ND< 10.6
Ethylbenzene	ND< 10.6
Methylene chloride	ND< 26.4
Toluene	ND< 10.6
Trichloroethene	ND< 10.6
Vinyl chloride	ND< 10.6
m,p-Xylene	ND< 10.6
o-Xylene	ND< 10.6

ELAP Number 10958 Method: EPA 8260B Data File: V43389.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature: _____
Bruce Hoogesteger, Technical Director

This report is part of a multipage document and should only be evaluated in its entirety. Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt.

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:	LAB PROJECT #: 07-1012 / CLIENT PROJECT #:
ADDRESS: 40 La Riviere Dr, suite 350	ADDRESS: Same as Report	
CITY: Buffalo STATE: NY ZIP: 14202	CITY: STATE: ZIP:	TURNAROUND TIME: (WORKING DAYS)
PHONE: 716 541 0757 FAX:	PHONE: FAX:	STD: ☒ 5 / OTHER: ☐ 1 ☐ 2 ☐ 3
PROJECT NAME/SITE NAME: Hyde Park	ATTN: James Schuetz	ATTN:
COMMENTS:		QUOTE #:

REQUESTED ANALYSIS

	DATE	TIME	COMPOSITE	GRAB	SAMPLE LOCATION/FIELD ID	MATRIX	NUMBER CONTAINERS	COC list 8260									REMARKS	PARADIGM LAB SAMPLE NUMBER				
1	3/27/07	1045	✓		DR-1	Soil	2										Call J Schuetz for TICs		3	8	6	1
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

LAB USE ONLY BELOW THIS LINE

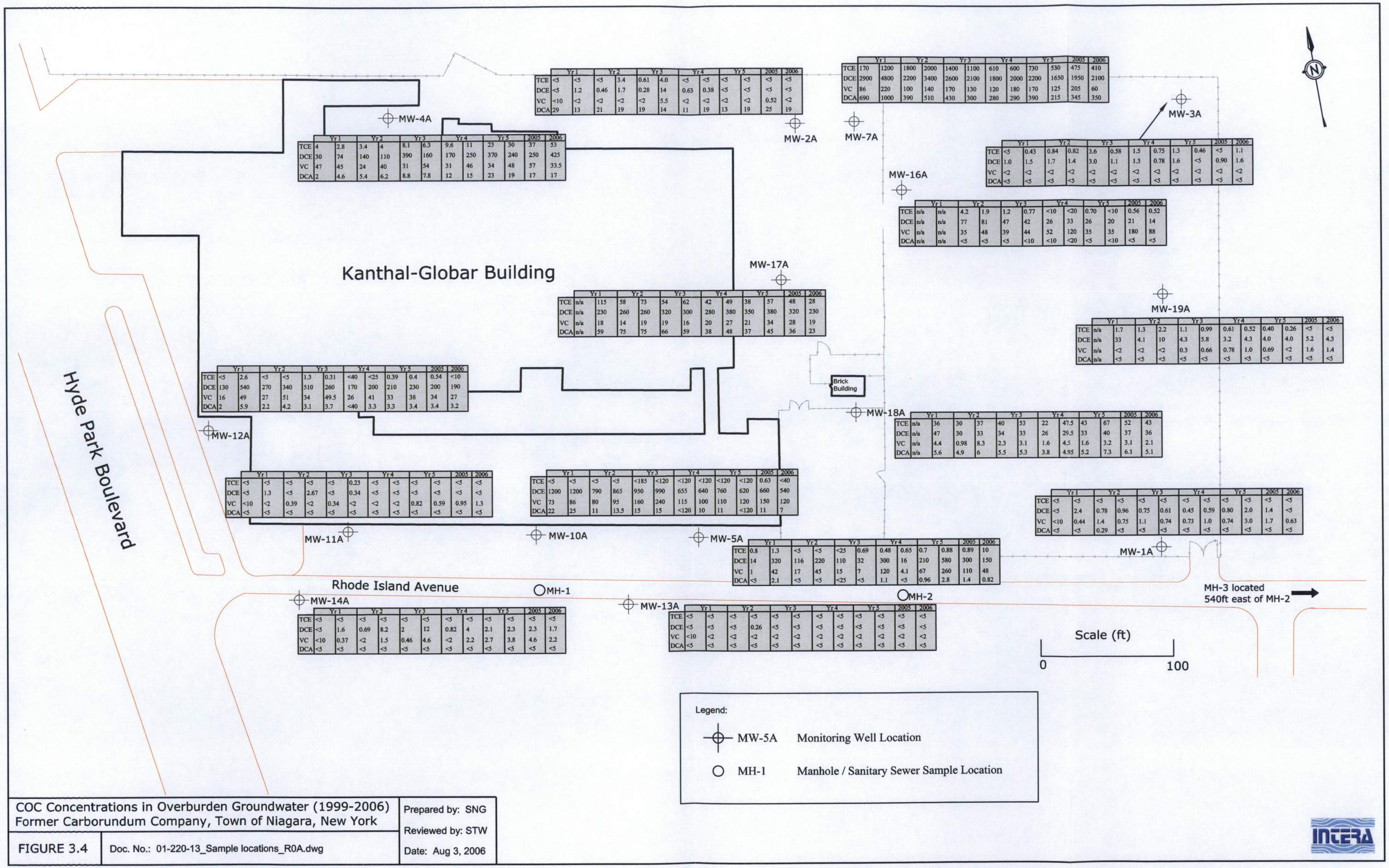
Sample Condition: Per NELAC/ELAP 210/241/242/243/244

Receipt Parameter	NELAC Compliance	
Container Type:	Y ✓	N
Comments:		
Preservation:	Y ✓	N
Comments:		
Holding Time:	Y ✓	N
Comments:		
Temperature:	Y	N ✓
Comments: 11°C iced		

James W Schuetz	3/27/07 1045	Total Cost:
Sampled By	Date/Time	
[signature]	3/27/07 1300	
Relinquished By	Date/Time	
[signature]	3/27/07 1300	P.I.F.
Received By	Date/Time	
Brad Stell	3/29/07 09:40	
Received @ Lab By	Date/Time	

ATTACHMENT D

HISTORICAL GROUNDWATER CONCENTRATION MAPS



	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	4	2.8	3.4	4	8.1	6.3	9.6	11	23	30	37	53
DCE	30	74	140	110	390	160	170	250	370	240	250	425
VC	47	45	24	40	31	54	31	46	34	48	57	33.5
DCA	2	4.6	5.4	6.2	8.8	7.8	12	15	23	19	17	17

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	<5	<5	<5	3.4	0.61	4.0	<5	<5	<5	<5	<5	<5
DCE	<5	1.2	0.46	1.7	0.28	14	0.63	0.38	<5	<5	<5	<5
VC	<10	<2	<2	<2	<2	5.5	<2	<2	<2	<2	0.52	<2
DCA	29	13	21	19	19	14	11	19	13	19	25	19

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	170	1200	1800	2000	1400	1100	610	600	730	530	475	410
DCE	2900	4800	2200	3400	2600	2100	1800	2000	2200	1650	1950	2100
VC	86	220	100	140	170	130	120	180	170	125	205	60
DCA	690	1000	390	510	430	300	280	290	390	215	345	350

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	<5	0.43	0.84	0.82	3.6	0.58	1.5	0.75	1.3	0.46	<5	1.1
DCE	1.0	1.5	1.7	1.4	3.0	1.1	1.3	0.78	1.6	<5	0.90	1.6
VC	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
DCA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	n/a	n/a	4.2	1.9	1.2	0.77	<10	<20	0.70	<10	0.56	0.52
DCE	n/a	n/a	77	81	47	42	26	33	26	20	21	14
VC	n/a	n/a	35	48	39	44	52	120	35	35	180	88
DCA	n/a	n/a	<5	<5	<5	<10	<10	<20	<5	<10	<5	<5

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	n/a	115	58	73	54	62	42	49	38	57	48	28
DCE	n/a	230	260	260	320	300	280	380	350	380	320	230
VC	n/a	18	14	19	19	16	20	27	21	34	28	19
DCA	n/a	59	75	75	66	59	38	48	37	45	36	23

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	n/a	1.7	1.3	2.2	1.1	0.99	0.61	0.52	0.40	0.26	<5	<5
DCE	n/a	33	4.1	10	4.3	5.8	3.2	4.3	4.0	4.0	5.2	4.3
VC	n/a	<2	<2	<2	0.3	0.66	0.78	1.0	0.69	<2	1.6	1.4
DCA	n/a	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	n/a	36	30	37	40	53	22	47.5	43	67	52	43
DCE	n/a	47	30	33	34	33	26	29.5	33	40	37	36
VC	n/a	4.4	0.98	8.3	2.3	3.1	1.6	4.5	1.6	3.2	3.1	2.1
DCA	n/a	5.6	4.9	6	5.5	5.3	3.8	4.95	5.2	7.3	6.1	5.1

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	<5	2.6	<5	<5	1.3	0.31	<40	<25	0.39	0.4	0.54	<10
DCE	130	540	270	340	510	260	170	200	210	230	200	190
VC	16	49	27	51	34	49.5	26	41	33	38	34	27
DCA	2	5.9	2.2	4.2	3.1	3.7	<40	3.3	3.3	3.4	3.4	3.2

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	<5	<5	<5	<5	<5	0.23	<5	<5	<5	<5	<5	<5
DCE	<5	1.3	<5	2.67	<5	0.34	<5	<5	<5	<5	<5	<5
VC	<10	<2	0.39	<2	0.34	<2	<2	<2	0.82	0.59	0.95	1.3
DCA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	<5	<5	<5	<5	<185	<120	<120	<120	<120	<120	0.63	<40
DCE	1200	1200	790	865	950	990	655	640	760	620	660	540
VC	73	86	80	95	160	240	115	100	110	120	150	120
DCA	22	25	11	13.5	15	15	<120	10	11	<120	11	7

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	0.8	1.3	<5	<5	<25	0.69	0.48	0.65	0.7	0.88	0.89	10
DCE	14	320	116	220	110	32	300	16	210	580	300	150
VC	1	42	17	45	15	7	120	4.1	67	260	110	48
DCA	<5	2.1	<5	<5	<25	<5	1.1	<5	0.96	2.8	1.4	0.82

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
DCE	<5	1.6	0.69	8.2	2	12	0.82	4	2.1	2.3	2.3	1.7
VC	<10	0.37	<2	1.5	0.46	4.6	<2	2.2	2.7	3.8	4.6	2.2
DCA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
DCE	<5	<5	<5	0.26	<5	<5	<5	<5	<5	<5	<5	<5
VC	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
DCA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

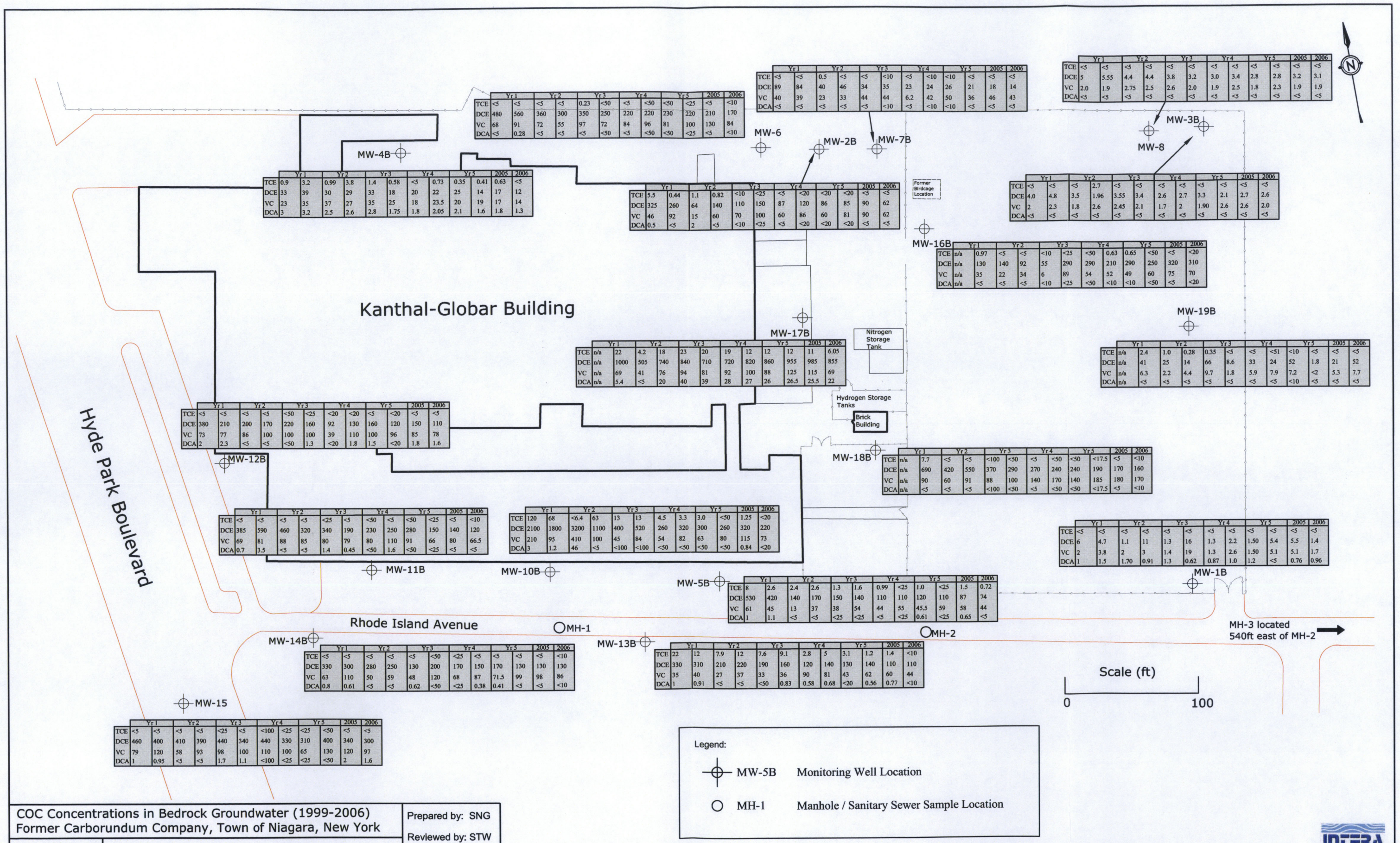
	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
DCE	<5	2.4	0.78	0.96	0.75	0.61	0.45	0.59	0.80	2.0	1.4	<5
VC	<10	0.44	1.4	0.75	1.1	0.74	0.73	1.0	0.74	3.0	1.7	0.63
DCA	<5	<5	0.29	<5	<5	<5	<5	<5	<5	<5	<5	<5

COC Concentrations in Overburden Groundwater (1999-2006)
Former Carborundum Company, Town of Niagara, New York

FIGURE 3.4

Doc. No.: 01-220-13_Sample locations_R0A.dwg

Prepared by: SNG
Reviewed by: STW
Date: Aug 3, 2006



	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	<5	<5	<5	<5	0.23	<50	<5	<50	<50	<25	<5	<10
DCE	480	560	360	300	350	250	220	220	230	220	210	170
VC	68	91	72	55	97	72	84	96	81	100	130	84
DCA	<5	0.28	<5	<5	<5	<50	<5	<50	<50	<25	<5	<10

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	<5	<5	0.5	<5	<5	<10	<5	<10	<10	<5	<5	<5
DCE	89	84	40	46	34	35	23	24	26	21	18	14
VC	40	39	23	33	44	44	6.2	42	50	36	46	43
DCA	<5	<5	<5	<5	<5	<10	<5	<10	<10	<5	<5	<5

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
DCE	5	5.55	4.4	4.4	3.8	3.2	3.0	3.4	2.8	2.8	3.2	3.1
VC	2.0	1.9	2.75	2.5	2.6	2.0	1.9	2.5	1.8	2.3	1.9	1.9
DCA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	0.9	3.2	0.99	3.8	1.4	0.58	<5	0.73	0.35	0.41	0.63	<5
DCE	33	39	30	29	33	18	20	22	25	14	17	12
VC	23	35	37	27	35	25	18	23.5	20	19	17	14
DCA	3	3.2	2.5	2.6	2.8	1.75	1.8	2.05	2.1	1.6	1.8	1.3

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	5.5	0.44	1.1	0.82	<10	<25	<5	<20	<20	<20	<5	<5
DCE	325	260	64	140	110	150	87	120	86	85	90	62
VC	46	92	15	60	70	100	60	86	60	81	90	62
DCA	0.5	<5	2	<5	<10	<25	<5	<20	<20	<20	<5	<5

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	<5	<5	<5	2.7	<5	<5	<5	<5	<5	<5	<5	<5
DCE	4.0	4.8	3.5	1.96	3.55	3.4	2.6	2.7	3.3	2.1	2.7	2.6
VC	2	2.3	1.8	2.6	2.45	2.1	1.7	2	1.90	2.6	2.6	2.0
DCA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	n/a	0.97	<5	<5	<10	<25	<50	0.63	0.65	<50	<5	<20
DCE	n/a	130	140	92	55	290	290	210	290	250	320	310
VC	n/a	35	22	34	6	89	54	52	49	60	75	70
DCA	n/a	<5	<5	<5	<10	<25	<50	<10	<10	<50	<5	<20

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	n/a	22	4.2	18	23	20	19	12	12	12	11	6.05
DCE	n/a	1000	505	740	840	710	720	820	860	955	985	855
VC	n/a	69	41	76	94	81	92	100	88	125	115	69
DCA	n/a	5.4	<5	20	40	39	28	27	26	26.5	25.5	22

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	n/a	2.4	1.0	0.28	0.35	<5	<5	<51	<10	<5	<5	<5
DCE	n/a	41	25	14	66	8.6	33	24	52	1.8	21	52
VC	n/a	6.3	2.2	4.4	9.7	1.8	5.9	7.9	7.2	<2	5.3	7.7
DCA	n/a	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	<5	<5	<5	<5	<50	<25	<20	<20	<5	<20	<5	<5
DCE	380	210	200	170	220	160	92	130	160	120	150	110
VC	73	77	86	100	100	100	39	110	100	96	85	78
DCA	2	2.3	<5	<5	<50	1.3	<20	1.8	1.5	<20	1.8	1.6

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	n/a	7.7	<5	<5	<100	<50	<5	<50	<50	<17.5	<5	<10
DCE	n/a	690	420	550	370	290	270	240	240	190	170	160
VC	n/a	90	60	91	88	100	140	170	140	185	180	170
DCA	n/a	<5	<5	<5	<100	<50	<5	<50	<50	<17.5	<5	<10

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	<5	<5	<5	<5	<25	<5	<50	<5	<50	<25	<5	<10
DCE	385	590	460	320	340	190	230	250	280	150	140	120
VC	69	81	88	85	80	79	80	110	91	66	80	66.5
DCA	0.7	3.5	<5	<5	1.4	0.45	<50	1.6	<50	<25	<5	<5

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	120	68	<6.4	63	13	13	4.5	3.3	3.0	<50	1.25	<20
DCE	2100	1800	3200	1100	400	520	260	320	300	260	320	220
VC	210	95	410	100	45	84	54	82	63	80	115	73
DCA	3	1.2	46	<5	<100	<100	<50	<50	<50	<50	0.84	<20

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	8	2.6	2.4	2.6	1.3	1.6	0.99	<25	1.0	<25	1.5	0.72
DCE	530	420	140	170	150	140	110	110	120	110	87	74
VC	61	45	13	37	38	54	44	55	45.5	59	58	44
DCA	1	1.1	<5	<5	<25	<25	<5	<25	0.61	<25	0.65	<5

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	<5	<5	<5	<5	<5	<50	<25	<5	<5	<5	<5	<10
DCE	330	300	280	250	130	200	170	150	170	130	130	130
VC	63	110	50	59	48	120	68	87	71.5	99	98	86
DCA	0.8	0.61	<5	<5	0.62	<50	<25	0.38	0.41	<5	<5	<10

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	22	12	7.9	12	7.6	9.1	2.8	5	3.1	1.2	1.4	<10
DCE	330	310	210	220	190	160	120	140	130	140	110	110
VC	35	40	27	37	33	36	90	81	43	62	60	44
DCA	1	0.91	<5	<5	<50	0.83	0.58	0.68	<20	0.56	0.77	<10

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	<5	<5	<5	<5	<25	<5	<100	<25	<25	<50	<5	<5
DCE	460	400	410	390	440	340	440	330	310	400	340	300
VC	79	120	58	93	98	100	110	100	65	130	120	97
DCA	1	0.95	<5	<5	1.7	1.1	<100	<25	<25	<50	2	1.6

	Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		2005	2006
TCE	<5	<5	2.7	<5	<5	<5	<5	<5	<5	<5	<5	<5
DCE	6	4.7	1.1	11	1.3	16	1.3	2.2	1.50	5.4	5.5	1.4
VC	2	3.8	2	3	1.4	19	1.3	2.6	1.50	5.1	5.1	1.7
DCA	1	1.5	1.70	0.91	1.3	0.62	0.87	1.0	1.2	<5	0.76	0.96

Legend:

- MW-5B — Monitoring Well Location
- MH-1 — Manhole / Sanitary Sewer Sample Location

COC Concentrations in Bedrock Groundwater (1999-2006)
Former Carborundum Company, Town of Niagara, New York

FIGURE 3.5

Doc. No.: 01-220-13_Sample locations_R0A.dwg

Prepared by: SNG
Reviewed by: STW
Date: Aug 3, 2006