Design Phase Work Limit Investigation Report
Brownfield Environmental Restoration Project

Lot 6, Riverside Technology Park
City of Schenectady, New York

Prepared for:

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September 2003

Lot 6, Riverside Technology Park
City of Schenectady, New York

Design Phase Work Limit Investigation Report

Introduction

Completion of contamination studies reported in the Project SI/RAR and DEC-issued Record of Decision for the Riverside Technology Park Lot 6 site have indicated two areas in the eastern site area (designated "Area A" and "Area B") that have been impacted by petroleum contamination that exists above allowable limits. Determination of the horizontal and vertical limits of the proposed remediation soil excavation was based upon the results of the completed SI/RAR soil gas survey, as confirmed and supported by test pit soil sample testing.

Contamination had been considered to be present predominantly within the "smear zone", the soils within the vertical zone of ground water table fluctuation. Consideration of highest and lowest recorded ground water surface levels in the impacted area had presented the following previous estimate of maximum smear zone thickness and depth:

Top of Smear Zone:	3.6 ft. Depth
Bottom of Smear Zone:	9.4 ft. Depth
Smear Zone Thickness:	5.8 feet

The extent of soil contamination was interpreted to be confined predominantly to the smear zone, with the soil above the smear zone containing only organic compound vapor, volatilized from the smear zone below. The soil above the smear zone was considered to be essentially free of VOCs available to act as a contaminant source.

In order to more accurately and completely delineate the soils exceeding SCGs and requiring removal a design investigation program was formulated and initiated prior to advancing environmental restoration design. The investigation Work Plan is attached to this investigation report.

Design Investigation Soil Sampling Program

The investigation soil sampling and testing program followed the scope of the prepared Work Plan, with some variance due to encountered field conditions.

Soil samples were obtained utilizing "Geoprobe" methods in and adjacent to the identified "Area A" and "Area B" locations in the eastern portion of Lot 6. The locations of geoprobes were established at grid-line intersections on a 20-ft. by 20-ft. grid, aligned with the previously established soil gas grid. The soil sample grid was identified by east-west grid lines A through F, and north-south grid lines A through K. A total of 36 locations were initially identified, including three within the City of Schenectady sewer easement along the northern property limit. The sewer easement samples were not taken to avoid risk of damaging the sewers, and four additional locations were added during the field program.

For consideration of soil samples taken above the smear zone, the sampling grid area was further divided into six sub-areas, four in Area A and two in Area B. The geoprobe grid and sub-areas are presented on Drawing No 03-158.06-1, "Construction Guidance Investigation, Contaminated Soil Delineation."

Soil samples retrieved above the smear zone will be taken at depth intervals of 1.5 to 2.5 feet and 2.5 to 3.5 feet. All of the samples from the geoprobe locations included in each identified sub-area, from the same sample depth interval, were formed into a composite sample for laboratory analysis (that is, each sub-area had two composite samples submitted to the laboratory). Sample composites were formed by standard sample mixing and splitting techniques, performed within a clear plastic bag.

Soil samples were taken from geoprobe macro-cores corresponding to depths above, within, and below the assumed smear zone. Each identified location (total 33) had soil samples taken above the smear zone, but only selected samples representative of the presumed contaminated area (total 20 locations) were taken from within and below the smear zone ("deep" samples). These locations are identified on attached Drawing No 03-158.06-1, "Construction Guidance Investigation, Contaminated Soil Delineation." Samples were field screened for VOC's by PID prior to delivery to the laboratory.

Soil sampling at grid locations BJ, CA, CE, and CF was attempted but was not successful due to soil characteristics (loose uniform sands) and saturation. No deep samples were recovered at these locations. Based upon initial screening of recovered samples, the soil sample grid was extended to include four additional sampling locations, three in area A (AB, DX, XD) and one in Area B (AJ).

Laboratory Testing of Soil Samples

Collected soil samples submitted to the laboratory were analyzed for volatile organic compounds (VOC's) by SW846 Method 8260 (Target Compound List (TCL) target compounds plus Tentatively Identified Compounds, TIC's), and evaluated on the basis of individual VOC's as well as total VOC's (the sum of individual target compounds plus TIC's). This was the same method utilized for analyses during the SI/RAR investigations, and upon which the ROD is based.

Samples were submitted to Northeast Analytical laboratories on June 9 and June 10, 2003. Laboratory results were reported on June 25 and June 26, 2003.

Findings

Laboratory results of testing performed on soil samples were reported on June 25 and June 26, 2003. Soil contamination by petroleum VOC's has been identified in many of the samples taken, but the extent and delineation of contamination varies depending upon whether the contamination is evaluated relative to only TCL target VOC's , or to total VOC's, including the sum of target VOC's plus TIC's. The reported laboratory data is presented and summarized in three attached tables:

- Table DG-3A [Area A Grab Samples], "Volatile Organic Compounds – Soil Quality Test Results"
- Table DG-3B [Sub-Area Composite Samples & Area B Grab Samples], "Volatile Organic Compounds – Soil Quality Test Results"
- Table DG-4 "Summary Data - VOCs by EPA 8260 ug/kg (ppb)"

The soil clean-up criteria established by the SI/RAR and ROD for the site are based upon volatile organic compound, VOC's, applied to both individual target VOC'sd and total VOC's. These include:

Ethylbenzene	5,500 ug/kg.
Toluene	1,500 ug/kg.
m&p -Xylenes	1,200 ug/kg.
o -Xylene	1,200 ug/kg.
Total VOC's	10,000 ug/kg.

The extent of required soil removal is dependent upon whether the interpretation of total VOC's includes only compounds on the Target Compound List ("TCL target VOC's") or includes the sum of all VOC's quantified, including target VOC's as well as TIC's not on the TCL ("total VOC's").

Evaluation of total VOC's indicates contamination within the contaminated area generally from 79,510 to 1,083,560 ug/kg (ppb) petroleum VOC's, to depths of from 7 feet to 12 feet. This data and the delineation of the interpreted contaminated area that will require removal is presented on attached Drawing No 03-158.06-2A, "Construction Guidance Investigation, Contamination Delineation – Total VOC's." The indicated contamination area requiring soil removal, including both Area A and Area B, is estimated at 10,750 square feet, with an estimated soil removal of 3,675 cubic yards (computed to 6,200 tons of soil at 125 pounds per cubic foot).

Evaluation of TCL target VOC's interprets contamination within a much smaller contaminated area generally from 27,700 to 639,140 ug/kg (ppb) petroleum VOC's, to depths of from 7 feet to 12 feet. This data and the delineation of the interpreted contaminated area that will require removal is presented on attached Drawing No 03-158.06-2B, "Construction Guidance Investigation, Contamination Delineation – Target VOC's." The indicated contamination area requiring soil removal, including Area A and a minor area in Area B exhibiting stained soil, is estimated at 6,500 square feet, with an estimated soil removal of 2,250 cubic yards (computed to 3,750 tons of soil at 125 pounds per cubic foot).

A presentation of typical geologic conditions and contaminated soil depths under both interpretation criteria is presented on cross section B-B' on attached Drawing No 03-158.06-3, "Construction Guidance Investigation, Cross Section B-B'."

Oil staining was observed in the surface soil samples (1-foot) at locations A*J* and D*J*. It is noted that the eastern limit of contaminated soil delineation, utilizing total VOC criteria, is estimated since completed soil sampling and testing did not verify non-contaminated soil in this direction.

During the soil sampling program, the ground water table was within one to two feet of the ground surface. For convenience, two tables summarizing ground water monitoring well construction and ground water level data are attached:

- Table DG-1, "Monitoring Well Construction Data"
- Table DG-2, "Water Table Elevation Data"

Attachments include:

- Design Phase Work Limit Investigation Work Plan
- Table DG-1, "Monitoring Well Construction Data"
- Table DG-2, "Water Table Elevation Data"
- Table DG-3A [Area A Grab Samples], "Volatile Organic Compounds – Soil Quality Test Results"
- Table DG-3B [Sub-Area Composite Samples & Area B Grab Samples], "Volatile Organic Compounds – Soil Quality Test Results"
- Table DG-4 "Summary Data - VOCs by EPA 8260 ug/kg (ppb)"
- Drawing No 03-158.06-1, "Construction Guidance Investigation, Contaminated Soil Delineation."

- Drawing No 03-158.06-2A, "Construction Guidance Investigation, Contamination Delineation – Total VOC's."
- Drawing No 03-158.06-2B, "Construction Guidance Investigation, Contamination Delineation – Target VOC's."
- Drawing No 03-158.06-3, "Construction Guidance Investigation, Cross Section B-B'."

* * *

This information is not a part of the Contract Documents for the Brownfield Restoration at the Riverside Technology Lot 6 site. Neither the Owner, Holt Consulting, nor the NYSDEC represent that the locations of contaminated soil at the site will be the same as shown. The Contractor will be responsible for accurate and comprehensive characterization of contaminated soils to be properly excavated, transported, and disposed

Design Phase Work Limit Investigation Work Plan
Brownfield Environmental Restoration Project

Lot 6, Riverside Technology Park
City of Schenectady, New York

Investigation Work Tasks

Prepared for:

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May 2003

Lot 6, Riverside Technology Park
City of Schenectady, New York

Design Phase Work Limit Investigation Work Plan

DI-1. Introduction

Completion of contamination studies reported in the Project SI/RAR and DEC-issued Record of Decision have indicated two areas in the eastern site area (designated "Area A" and "Area B") that have been impacted by petroleum contamination existing above allowable limits. Determination of the horizontal and vertical limits of the proposed remediation soil excavation was based upon the results of the completed soil gas survey, as confirmed and supported by test pit soil sample testing.

Consideration of highest and lowest recorded ground water surface levels in the impacted area has presented the following estimate of maximum smear zone thickness and depth:

Top of Smear Zone:	3.6 ft. Depth
Bottom of Smear Zone:	9.4 ft. Depth
Smear Zone Thickness:	5.8 feet

The extent of soil contamination is interpreted to be largely confined to the smear zone, with the soil above the smear zone containing only organic compound vapor, volatilized from the smear zone below. The soil above the smear zone is therefore considered to be essentially free of VOCs acting as a contaminant source, and if segregated from the excavated contaminated soils need not be disposed of off-site.

In order to define the vertical limits of contaminated soils above and below the interpreted smear zone, and to confirm the assumed horizontal limits of contaminated soils within the smear zone, an investigation program comprised of geoprobe soil borings and soil sampling is proposed, with laboratory testing of recovered soil samples.

The following work tasks and procedures are proposed for this "Design Phase Work Limit Investigation Work Plan." Basic geoprobe soil boring procedures and soil sample retrieval and preparation procedures will be as described in the Work Plan for previous geoprobe investigations.

DI-2. Geoprobe Soil Sampling Program

Soil samples will be obtained utilizing "Geoprobe" methods in and adjacent to the identified "Area A" and "Area B" locations in the eastern portion of Lot 6. The locations of geoprobes will be established on a 20-ft. by 20-ft. grid, aligned with the previously established soil gas grid. A total of 36 locations have been identified, including three within the City of Schenectady sewer easement along the northern property limit. The grid will be established and staked in the field by instrument survey utilizing control

established previously for the SI/RAR studies. For consideration of soil samples taken above the smear zone, the grid area is further divided into six sub-areas. The geoprobe grid and sub-areas are presented on Drawing No 03-158.06-1, "Construction Guidance Investigation, Contaminated Soil Delineation."

Soil samples will be taken from geoprobe macro-cores corresponding to depths above, within, and below the assumed smear zone. Each identified location (total 36) will have soil samples taken above the smear zone, but only selected samples representative of the presumed contaminated area (total 21 locations) will be taken from within and below the smear zone. These locations are identified on Drawing No 03-158.06-1, "Construction Guidance Investigation, Contaminated Soil Delineation."

Soil samples retrieved above the smear zone will be taken at depth intervals of 1.5 to 2.5 feet and 2.5 to 3.5 feet. All of the samples from the geoprobe locations included in each identified sub-area, from the same sample depth interval, will be formed into a composite sample for laboratory analysis (that is, each sub-area will have two composite samples submitted to the laboratory). Sample composites will be formed by standard sample mixing and splitting techniques, performed within a clear plastic bag to minimize loss of VOC content.

Soil samples retrieved from within and below the smear zone will be taken at depth intervals of 6.0 to 6.5 feet (smear zone) and 9.5 to 10.0 feet (below smear zone), unless examination of the recovered macro-core indicates reason to vary this procedure to select a different interval. Each sample recovered from the smear zone or from below the smear zone will be submitted to the laboratory for analysis.

Soil samples will be screened for detectable VOCs by field PID. Retrieved soil samples from the macro-cores that are not submitted to the laboratory for analysis will be returned to the geoprobe boreholes as backfill.

DI-3. Laboratory Testing of Soil Samples

The intent of laboratory testing will be to define the character of soil contamination relative to the clean-up guidance exceedances reported in the ROD, that is, petroleum VOCs .

Collected soil samples submitted to the laboratory will be analyzed for volatile organic compounds (VOCs) by SW846 Method 8260 (target compounds plus tentatively identified compounds, TICs), and evaluated on the basis of individual VOCs as well as total VOCs (individual target compounds plus TICs). This was the same method utilized for analyses during the SI/RAR investigations, and upon which the ROD is based. Two-week reporting of test results will be required of the laboratory.

* * *

TABLE DG-1
MONITORING WELL CONSTRUCTION DATA
Lot No. 6, Riverside Technology Park
Schenectady, New York

Monitoring Well No.	Top PVC Elevation	Ground Elevation	Boring Depth	Screened Interval Depth	Top Elev.	Bot. Elev.	
HC-1	235.07	232.39	35.8	4 - 14	228.39	218.39	
HC-2S	233.90	231.39	22.0	4 - 14	227.39	217.39	
HC-2D	234.08	231.56	36.5	24 - 29	207.56	202.56	(Rock)
HC-3	232.41	230.07	34.0	9 - 19	221.07	211.07	
HC-4S	236.52	234.20	17.5	7 - 17	227.2	217.2	
HC-4D	236.18	234.21	35.0	28 - 33	206.21	201.21	(Rock)
HC-5	240.18	237.91	27.0	6 - 18	231.91	219.91	
HC-6	236.00	233.27	16.2	5 - 15	228.27	218.27	

Note: Elevations are in feet above mean sea level (msl).
Depths are in feet below the ground surface.

TABLE DG-2
WATER TABLE ELEVATION DATA
Lot No. 6, Riverside Technology Park
Schenectady, New York
7/24/00 – 6/9/03

Monitoring Well No.	HC-1	HC-2S	HC-2D	HC-3	HC-4S	HC-4D	HC-5	HC-6
Top of PVC Elevation	235.07	233.90	234.08	232.41	236.52	236.18	240.18	236.00
Ground Surface Elev.	232.39	231.39	231.56	230.07	234.20	234.21	237.91	233.27
7/24/00	228.14							
7/25/00	227.69						229.91	228.37
7/26/00	227.44						228.56	228.47
7/27/00	227.44					226.46	228.49	228.47
7/28/00	227.44				227.85	226.73	228.56	228.42
7/31/00	227.36	226.84		227.19	227.75	226.71	228.38	228.27
9/1/00			225.82			226.41		
9/7/00	227.70	227.09	225.87	226.98	227.60	226.33	227.93	228.26
5/1/01	228.51	228.34	226.7	228.16	229.39	227.81	230.07	229.42
9/27/01		224.51	223.93		225.26	224.23	225.62	226.25
11/16/01	225.47	222.6	222.64	223.52	223.76	222.83	224.18	224.76
8/7/02	226.96	226.33	224.77	225.95	225.95	226.66	227.17	227.34
6/9/03	229.02	229.6	n/a	229.08	230.28	228.84	230.83	232
6/9/03 *DEPTH (below surface)*	3.37	1.79	n/a	0.99	3.92	5.37	7.08	1.27

Elevations are in feet above mean sea level.

June 2003

TABLE DG-3 A
[Area A Grab Samples]
VOLATILE ORGANIC COMPOUNDS - SOIL QUALITY TEST RESULTS
Lot No. 6, Riverside Technology Park
Design Guidance Geoprobes - June 9-10, 2003

Grid Location:	XD		AB		BB		BE		CD		DX		DB		DD				DF		EA		EC		EE		Soil Clean-up
Sample ID:	XD-2.5	XD-7.0	AB-2.5	AB-7.0	BB-6.0	BB-8.0	BE-2.5	BE-6.0	CD-6.0	CD-8.0	DX-1.5	DX-7.0	DB-6.0	DB-9.0	DD-6.0	DD-9.5	DD-11.0	DD-15.0	DF-6.0	DF-8.0	EA-6.0	EA-9.5	EC-6.0	EC-9.5	EE-6.0	EE-8.0	Criteria (ug/kg)
Sample Depth:	2.5 - 3.0	**7.0 - 7.5**	2.5 - 3.0	**7.0 - 7.5**	**6.0 - 6.5**	8.0 - 8.5	**2.5 - 3.0**	**6.0 - 6.5**	**6.0 - 6.5**	**8.0 - 8.5**	1.5 - 2.0	7.0 - 7.5	**6.0 - 6.5**	**9.0 - 9.5**	**6.0 - 6.5**	**9.0-10.0**	**11.0-11.5**	14.5-15.0	6.0 - 6.5	8.0 - 8.5	**6.0 - 6.5**	**9.5-10.0**	**6.0 - 6.5**	**9.5-10.0**	**6.0 - 6.5**	**8.0 - 8.5**	TAGM 4046
Sample PQL:	10.9	2350	10.3	225	2260	14.6	1130	2050	2120	1130	11.5	10.8	2250	2200	2140	2330	2120	10.6	10.6	10.5	2230	2360	2130	2410	2350	2110	
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Acetone	**66.1**	ND	ND	ND	ND	**294 E**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**34.5**	ND	ND	ND	ND	ND	ND	ND	ND	**200**
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
cis- 1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
t-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2-Chloroethylvinylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
4-Methyl-2-Pentanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**4,230**	ND	ND	ND	**1,500**
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Ethylbenzene	ND	ND	ND	ND	**9,260**	ND	**3,320**	**26,200**	**64,100**	ND	ND	ND	ND	ND	ND	ND	**4,220**	ND	ND	ND	**16,300**	ND	**30,700**	ND	**14,800**	**6,500**	**5,500**
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
m&p Xylenes	ND	ND	ND	ND	ND	ND	ND	**9,400**	**24,000**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**104,000**	ND	**117,000**	ND	**38,400**	**17,200**	**1,200**
o-Xylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5,300**	ND	**2,730**	ND	**1,200**
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Sum of TICs	0	9,690	261	17,340	108,690	698	68,230	92,030	270,400	4,669	0	33	53,500	42,780	27,430	24,720	86,800	158	97	0	132,890	14,680	143,270	40,810	125,980	58,840	
(Sum of Unknown Compounds)	37	167,130	1,730	95,570	591,810	483	271,160	268,050	725,060	20,541	0	0	336,460	142,430	93,820	120,140	394,050	146	4,011	4,362	289,380	64,830	338,640	55,690	201,590	150,030	
Total Volatile Compounds	103	176,820	1,991	112,910	709,760	1,475	342,710	395,680	1,083,560	25,210	0	33	389,960	185,210	121,250	144,860	485,070	339	4,108	4,362	542,570	79,510	639,140	96,500	383,500	232,570	**10,000**
PID Field Screening, ppm	2	80	40	120	n/a	n/a	n/a	n/a	n/a	n/a	3	12	900	125	400	800	1,400	115	30	8	1,200	105	1,350	1,200	1,560	180	

Concentrations reported in micrograms per kilogram (ug/kg) dry weight, EPA 8260
ND = The compound was analyzed for but not detected at or above the method/sample PQL.
Detected at concentration above the PQL in **Bold**
Detected above the TAGM 4046 Clean-up Criteria ***shaded***, sample depth in **Bold**

June 2003

TABLE DG-3 B
[Sub-Area Composite Samples & Area B Grab Samples]
VOLATILE ORGANIC COMPOUNDS - SOIL QUALITY TEST RESULTS
Lot No. 6, Riverside Technology Park
Design Guidance Geoprobes - June 9-10, 2003

Grid Location	Sub-Area A-1		Sub-Area A-2		Sub-Area A-3		Sub-Area A-4	Sub-Area B-1		Sub-Area B-2			A*I*		B*I*	B*K*	C*H*		C*J*		C*K*		D*H*		Soil Clean-up
Sample ID	(composite)		(composite)		(composite)		(composite)	(composite)		(composite)			AI-2.5	AI-7.0	BI-6.0	BK-6.0	CH	CH	CJ-6.0	CJ-9.5	CK-6.0	CK-8.5	DH-6.0	DH-9.0	Criteria (ug/kg)
Sample Depth	**1.5 - 2.5**	**2.5 - 3.5**	1.5 - 2.5	**2.5 - 3.5**	1.5 - 2.5	**2.5 - 3.5**	**1.5 - 2.5**	**1.5 - 2.5**	2.5 - 3.5	1.5 - 2.5	**2.5 - 3.5**		2.5 - 3.5	7.0 - 7.5	6.0 - 6.5	6.0 - 6.5	6.0 - 6.5	7.5 - 8.0	**6.0 - 6.5**	9.5 - 10.0	6.0 - 6.5	8.5 - 9.0	6.0 - 6.5	9.0 - 9.5	TAGM 4046
Sample PQL	10.2	2140	9.95	2090	10.9	2050	1130	10.8	10.9	10.5	1140		10.7	14.1	10.6	11.1	10.7	11.2	2100	11.3	10.6	10.8	10.5	11.4	
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Acetone	ND	ND	ND	ND	ND	ND	ND	**52.1**	ND	ND	ND		**121**	**156**	**24.2**	ND	**16.3**	**25.1**	ND	ND	ND	**19.3**	**43.6**	**156**	**200**
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
cis- 1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
t-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2-Chloroethylvinylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
4-Methyl-2-Pentanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Toluene	ND	ND	ND	**13,700**	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1,500**
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Ethylbenzene	ND	**12,200**	ND	**33,100**	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5,500**
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
m&p Xylenes	ND	**41,800**	ND	**127,000**	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1,200**
o-Xylene	ND	**12,300**	ND	**36,000**	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1,200**
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Sum of TICs	0	70,690	866	123,480	2,794	138,730	79,120	2,267	102	610	74,110		0	309	0	0	335	1,382	223,900	0	0	0	99	0	
(Sum of Unknown Compounds)	11,879	262,630	923	257,230	2,619	123,110	185,490	19,312	638	1,125	541,430		125	947	15	84	1,286	7,054	612,930	1,959	225	160	332	1,145	
Total Volatile Compounds	11,879	399,620	1,788	590,510	5,413	261,840	264,610	21,631	740	1,735	615,540		246	1,412	39	84	1,637	8,461	836,830	1,959	225	179	474	1,301	**10,000**
PID Field Screening, ppm	50	1,500	15	900	80	250	n/a	n/a	n/a	n/a	n/a		7	2	n/a	200	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	

Concentrations reported in micrograms per kilogram (ug/kg) dry weight, EPA 8260
ND = The compound was analyzed for but not detected at or above the method/sample PQL.
Detected at concentration above the PQL in **Bold**
Detected above the TAGM 4046 Clean-up Criteria ***shaded***, sample depth in **Bold**

Schenectady IDA Riverside Lot 6				Table DG-4 Summary Data				
Geoprobe Soil Samples June 2003				VOC's by EPA 8260 ug/kg (ppb)				
	No. Targets	Total Targets	No. TICs	Largest Indiv. TIC	Total TICs	Total Unknowns	Total NT VOCs	Total VOCs
"Control" Samples								
X0 (Blank)	-	0	0	0	0	15,598	15,598	15,598
Y0 (Back)	-	0	0	0	0	0	0	0
Composite "Surface" Samples								
Sub-Area A-1								
1.5 - 2.5	-	0	0	-	0	11,879	11,879	11,879
2.5 - 3.5	3 BETX	66,300	6	22,500	70,690	262,630	333,320	399,620
Sub-Area A-2								
1.5 - 2.5	-	0	11	137	866	923	1,788	1,788
2.5 - 3.5	4 BETX	209,800	9	29,200	123,480	257,230	380,710	590,510
Sub-Area A-3								
1.5 - 2.5	-	0	12	522	2,794	2,619	5,413	5,413
2.5 - 3.5	-	0	13	22,400	138,730	123,110	261,840	261,840
Sub-Area A-4								
1.5 - 2.5	-	0	6	20,800	79,120	185,490	264,610	264,610
Sub-Area B-1								
1.5 - 2.5	1	52	4	768	2,267	19,312	21,579	21,631
2.5 - 3.5	-	0	3	49	102	638	740	740
Sub-Area B-2								
1.5 - 2.5	-	0	11	116	610	1,125	1,735	1,735
2.5 - 3.5	-	0	6	13,200	74,110	541,430	615,540	615,540
								0
Area "B" Samples								
AI-2.5	1	121	0	-	0	125	125	246
AI-7.0	1	156	7	69	309	947	1,256	1,412
BI-6.0	1	24	0	-	0	15	15	39
BK-6.0	-	0	0	-	0	84	84	84
CH 6.0 - 6.5	1	16	5	112	335	1,286	1,621	1,637
CH 7.5 - 8.0	1	25	4	499	1,382	7,054	8,436	8,461
CJ-6.0	-	0	6	64,600	223,900	612,930	836,830	836,830
CJ-9.5	-	0	0	-	0	1,959	1,959	1,959
CK-6.0	-	0	0	-	0	225	225	225
CK-8.5	1	19	0	-	0	160	160	179
DH-6.0	1	44	5	30	99	332	430	474
DH-9.0	1	156	0	-	0	1,145	1,145	1,301
Area "A" Samples								
XD-2.5	1	66	0	-	0	37	37	103
XD-7.0	-	0	2	5,380	9,690	167,130	176,820	176,820
AB-2.5	-	0	3	100	261	1,730	1,991	1,991
AB-7.0	-	0	4	6,020	17,340	95,570	112,910	112,910
BB-6.0	1 BETX	9,260	6	47,000	108,690	591,810	700,500	709,760
BB-8.0	1	294	16	76	698	483	1,181	1,475
BE-2.5	1 BETX	3,320	7	15,600	68,230	271,160	339,390	342,710
BE-6.0	2 BETX	35,600	7	17,900	92,030	268,050	360,080	395,680
CD-6.0	2 BETX	88,100	7	49,500	270,400	725,060	995,460	1,083,560
CD-8.0	-	0	6	953	4,669	20,541	25,210	25,210
DX-1.5	-	0	0	-	0	0	0	0
DX-7.0	-	0	2	20	33	0	33	33
DB-6.0	-	0	4	23,900	53,500	336,460	389,960	389,960
DB-9.0	-	0	6	9,810	42,780	142,430	185,210	185,210
DD-6.0	-	0	6	8,940	27,430	93,820	121,250	121,250
DD-9.5	-	0	5	7,120	24,720	120,140	144,860	144,860
DD-11.0	1 BETX	4,220	5	28,200	86,800	394,050	480,850	485,070
DD-15.0	1	35	8	34	158	146	304	339
DF-6.0	-	0	1	97	97	4,011	4,108	4,108
DF-8.0	-	0	0	-	0	4,362	4,362	4,362
EA-6.0	2 BETX	120,300	10	26,600	132,890	289,380	422,270	542,570
EA-9.5	-	0	5	4,030	14,680	64,830	79,510	79,510
EC-6.0	4 BETX	157,230	10	30,200	143,270	338,640	481,910	639,140
EC-9.5	-	0	10	6,630	40,810	55,690	96,500	96,500
EE-6.0	3 BETX	55,930	10	25,100	125,980	201,590	327,570	383,500
EE-8.0	2 BETX	23,700	8	15,400	58,840	150,030	208,870	232,570