

July 8, 2010

Matthew P. Gillette, P.E.
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 8
6274 East Avon-Lima Road
Avon, New York 14414

Subject: IRM Work Plan Addendum
Former Service Station Site #E828143 – Town of Clarkson

Dear Mr. Gillette,

This letter was prepared by Lu Engineers, on behalf of the Town of Clarkson, to present a scope of work for additional interim remedial measures (IRMs) at the Former Service Station ERP Site. IRM activities were completed at the Site in April-July 2009, as outlined in the approved *Interim Remedial Measures Work Plan* (Lu Engineers, January 2009), including:

- Asbestos abatement and hazardous material removal;
- Building demolition;
- Concrete slab and floor drain removal;
- Removal of underground hydraulic lift and oil reservoir;
- Pump island demolition;
- Removal of four (4) underground storage tanks (USTs);
- Excavation and off-site disposal of 368 tons of petroleum-impacted soil; and
- Backfill and grading.

Additional IRMs are proposed to address elevated concentrations of SVOCs and metals in surface soils and drainage ditch sediments. Data obtained during the remedial investigation identified concentrations of polynuclear aromatic hydrocarbons (PAHs) above Industrial Use Soil Cleanup Objectives (SCOs) in surface soils at locations SS-02 and SS-04. Barium was also detected above the Commercial Use SCO at surface soil sample location SS-01. Sample locations and results are shown on the attached Figure 1.

Sediment samples collected from the drainage ditch along the western property boundary indicated PAH concentrations above Industrial Use SCOs at each sampling location (SD-01, SD-02, and SD-03). Arsenic was detected above the Industrial Use SCO at location SD-01, as indicated on Figure 1.

The Site is currently vacant land located in a mixed commercial/residential area near the Four Corners of Clarkson and is not secure from access by the public. Potential human exposure pathways exist via direct contact with surface soils and/or creek sediments. The objective of this proposed additional IRM work is to mitigate exposure pathways and prevent off-site migration of contaminants detected in sediments and surface soil.

Remaining impacts to subsurface soils and/or groundwater will be addressed in the Remedial Investigation/ Alternative Analysis report.

Scope of Work

Proposed additional IRM work will include:

- Placement of clean soil cover material over contaminated surface soil;
- Placement of a gravel cover over contaminated creek sediments; and
- Grading and seeding to control erosion.

It is anticipated that Town of Clarkson municipal forces will perform the additional IRMs, with oversight by Lu Engineers. Town of Clarkson personnel have undergone the appropriate OSHA 40-Hour "HAZWOPER" training.

1. Soil Cover

Lu Engineers will provide surveying services for a field stakeout, prior to placement of cover material. The survey will include a 50-foot grid stakeout of the area to be covered, toe of slope, and temporary access road.

Clean cover material will be placed over the existing soils onsite, as shown on the attached Conceptual Grading Plan, Figure 2. A minimum of three (3) feet of soil cover will be placed over the impacted areas (SS-01, SS-02, and SS-04) and graded to allow proper drainage and facilitate future site use as a park. This will require approximately 1,000 cubic yards of cover material to be placed at the Site.

Cover material will be obtained from the Town of Clarkson fill site on Redman Road, or other approved sources. Fill material from the Town fill site was sampled prior to backfilling the tank pit excavations. Lu Engineers visited the fill site and collected a composite sample of the Town's backfill material, since it originated from a variety of reportedly clean sources. The fill was analyzed by Paradigm Environmental Services for TCLP Metals, PCBs, TCLP SVOCs, and TCLP VOCs. Results were non-detect for all parameters. Analytical results are provided as Attachment 1.



Fill material will be placed in two-foot lifts and compacted. Town forces will utilize a bulldozer to grade the cover material in accordance with the Conceptual Grading Plan and survey stakeout. As noted on the attached plan, the proposed side slopes will be a minimum of one foot vertical to three feet horizontal. The area will be covered with a 4-inch layer of topsoil and seeded within 10 days of the final grading, as specified on Figure 2.

As a best management practice, erosion sediment control measures will, at a minimum, include:

- Silt fence to be placed around the perimeter of the fill area at the toe of slope and beyond the limit of all disturbed areas prior to placement of fill.
- The temporary erosion and sediment control devices shall be checked on a weekly basis by the Town and after a storm event of 0.5 inches of rain or greater. The Town will be responsible for maintenance of the silt fence.
- The site shall at all times be graded and maintained such that all storm water runoff is diverted to soil erosion and sediment control devices before entering a water body, inlets of other systems or discharging beyond the limits of the fill area.
- Erosion control measures will be maintained by the Town until upstream ground cover has been established and removal is approved by Lu Engineers.
- Dust control will be performed by the Town, which will consist of light water misting, as necessary.

Existing surface soils will not be excavated or disturbed during placement of the soil cover. Therefore, particulate air testing for community air monitoring will not be necessary.

2. Stone Cover

A layer of six to eight- inch diameter cobbles will be placed approximately 4 feet wide over the sediments in the drainage creek along the western property boundary. The stone cover will prevent human contact with impacted sediments while still allowing for proper drainage. The placement of cobbles will also help prevent off-site migration of impacted sediments by reducing erosion during storm events.

The areas where stone placement is proposed are indicated on the attached plan, Figure 2. A total length of approximately 205 feet will be covered with cobbles- from the end of the culvert pipe to the terminus of the creek, just north of SD-02. The stone cover material will be obtained from the Town fill site on Redman Road, or other approved source. Clean fill will be added to create a temporary access road for trucks to deliver stone to the northern portions of the creek, as shown on Figure 2.

Existing sediments or contaminated soils will not be disturbed during the placement of stone cover material.

Note: the drainage creek meanders the Site boundary and the length to receive cover is approximately 50% off-site. Lu Engineers and the Town will coordinate with the NYSDEC/DOH to obtain necessary access approvals from the adjacent property owner prior to the start of work.

Health and Safety

A site-specific Health and Safety Plan (HASP) has been prepared and previously submitted for this Site. The HASP will be reviewed by all employees before starting site work. A copy of the HASP will be available on-site at all times during the additional IRM work. Town forces have received OSHA 40-hour Hazardous Waste Operations training. This scope of work does not involve excavation or disruption of existing soil/sediment; therefore, potential worker exposures are minimal.

Schedule and Reporting

It is estimated that the additional IRM work can be completed within one week, assuming the availability of Town forces. Once complete, an IRM Report will be prepared to document all IRM activities completed at the Site.

A cost estimate for this proposed scope of work is included as Attachment 2. It is anticipated that the additional IRM work can be completed within the existing project budget.

If you have any questions or comments regarding this proposed work plan, please contact Laura Neubauer or me.

Respectfully,



Gregory L. Andrus, CHMM
Group Leader
Investigation/Remediation

Enclosure(s): Figure 1- Sample Location Plan
 Figure 2- Conceptual Grading Plan
 Attachment 1- Backfill Analytical Results
 Attachment 2- Cost Estimate

cc: Julia Kenney, NYSDOH
 Paul Kimball, Town of Clarkson
 File 40503



J:\Projects\40500 Clarkson\40500 Brownfield Inv-Cleanup\Cadd\VRM\Sample Location Plan_addendum.dwg, 7/8/2010 10:49:46 AM, diane, AC2008

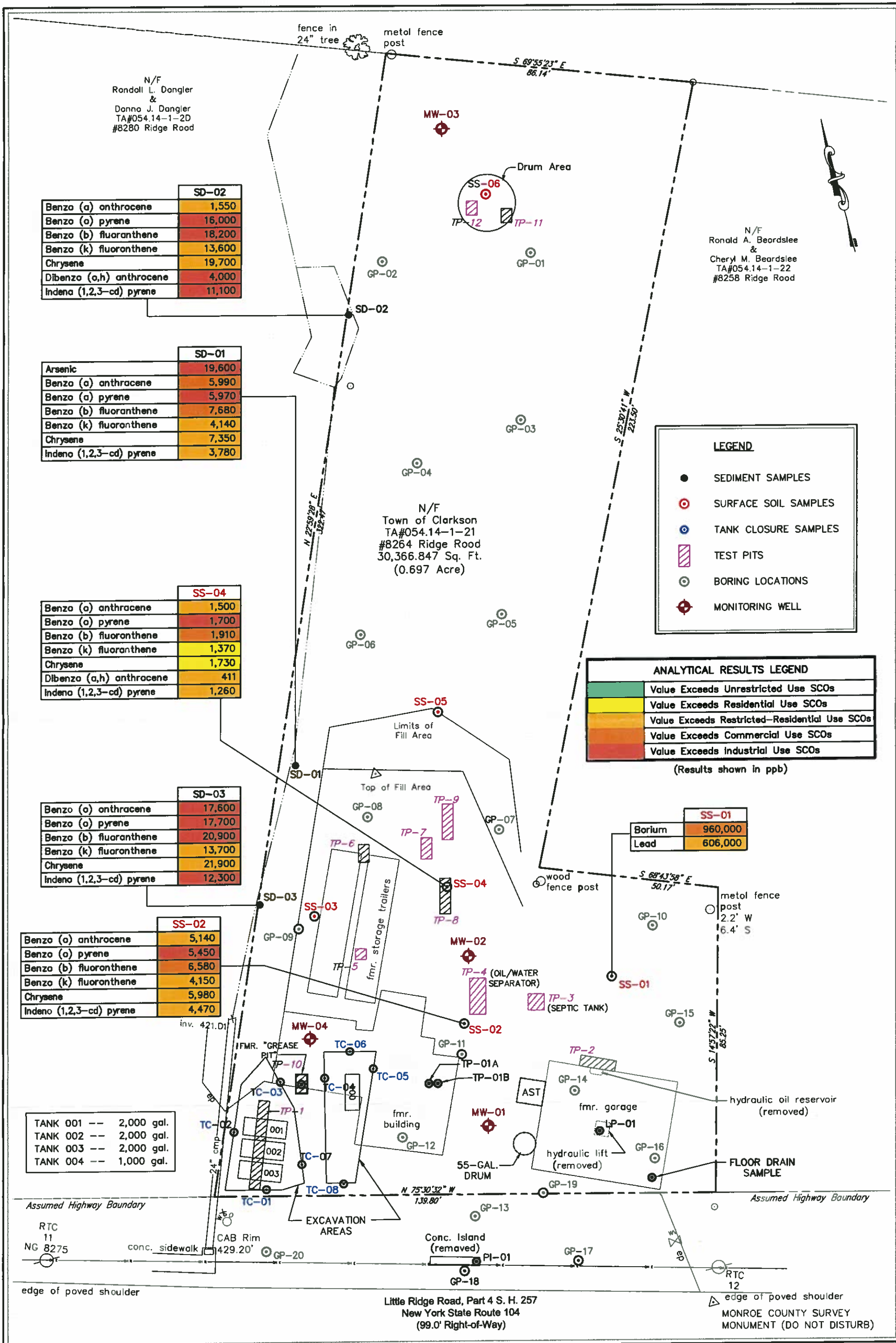


FIGURE 1.
SAMPLE LOCATION PLAN
FMR. GAS STATION -- ENVIRONMENTAL RESTORATION PROGRAM
8264 RIDGE ROAD WEST
TOWN OF CLARKSON NEW YORK

DATE: JULY 2010
SCALE: 1" = 25'
DESIGNED/DRAWN/CHECKED LS/DS/GA
P.N. 40503 ERP Site#E828143

Attachment 1 – Analytical Results





Analytical Report Cover Page

Lu Engineers

For Lab Project # 09-2521

Issued July 16, 2009

This report contains a total of 6 pages

The reported results relate only to the samples as they have been received by the laboratory.

Any noncompliant QC parameters having impact on the data are flagged or documented on the final report.

All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

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The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of frequently used data flags and their meaning:

"ND" = analyzed for but not detected.

"E" = Result has been estimated, calibration limit exceeded.

"D" = Duplicate results outside QC limits. May indicate a non-homogenous matrix.

"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.

"B" = Method blank contained trace levels of analyte. Refer to included method blank report.

Client: Lu Engineers

Lab Project No.: 09-2521

Client Job Site: Clarkson ERP

Lab Sample No.: 8027

Client Job No.: 40503

Sample Type: TCLP Extract

Field Location: CS-Fill

Date Sampled: 07/14/2009

Field ID No.: N/A

Date Received: 07/14/2009

Laboratory Report for TCLP Metals Analysis

Parameter	Date Analyzed	Analytical Method	Result (mg/L)	Regulatory Limit (mg/L)
TCLP Metal Series				
Arsenic	07/15/2009	EPA 6010	<0.100	5.0
Barium	07/15/2009	EPA 6010	1.93	100.0
Cadmium	07/15/2009	EPA 6010	<0.025	1.0
Chromium	07/15/2009	EPA 6010	<0.050	5.0
Lead	07/15/2009	EPA 6010	<0.100	5.0
Mercury	07/15/2009	EPA 7470	<0.0020	0.2
Selenium	07/15/2009	EPA 6010	<0.100	1.0
Silver	07/15/2009	EPA 6010	<0.050	5.0

ELAP ID No.: 10958

Comments:

Approved By:



Bruce Hoogesteger, Technical Director

PCB Analysis Report for Soils/Solids/Sludges

Client: Lu Engineers

Client Job Site: Clarkson ERP

Lab Project Number: 09-2521

Client Job Number: 40503

Lab Sample Number: 8027

Field Location: CS - Fill

Date Sampled: 07/14/2009

Field ID Number: N/A

Date Received: 07/14/2009

Sample Type: Soil

Date Analyzed: 07/14/2009

PCB Identification	Results in mg / Kg
Aroclor 1016	ND< 0.313
Aroclor 1221	ND< 0.313
Aroclor 1232	ND< 0.313
Aroclor 1242	ND< 0.313
Aroclor 1248	ND< 0.313
Aroclor 1254	ND< 0.313
Aroclor 1260	ND< 0.313

ELAP Number 10958

Method: EPA 8082

Comments: ND denotes Non Detect
mg / Kg = milligram per Kilogram

Signature: _____

Bruce Hoogesteger: Technical Director

**PARADIGM**

ENVIRONMENTAL SERVICES, INC.

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

Semi-Volatile Analysis Report for TCLP Extract**Client:** Lu Engineers**Client Job Site:** Clarkson ERP**Lab Project Number:** 09-2521**Client Job Number:** 40503**Lab Sample Number:** 8027**Field Location:** CS - Fill**Date Sampled:** 07/14/2009**Field ID Number:** N/A**Date Received:** 07/14/2009**Sample Type:** TCLP Extract**Date Analyzed:** 07/15/2009

Base / Neutrals	Results in ug / L	Regulatory Limits in ug / L
1,4-Dichlorobenzene	ND< 40.0	7,500
2,4-Dinitrotoluene	ND< 40.0	130
Hexachlorobenzene	ND< 40.0	3000
Hexachlorobutadiene	ND< 40.0	500
Hexachloroethane	ND< 40.0	130
Nitrobenzene	ND< 40.0	2000
Pyridine	ND< 40.0	5000

ELAP Number 10958

Method: EPA 8270C

Data File: S46144.D

Comments: ND denotes Non Detect
ug / L = microgram per Liter

Signature:Bruce Hoogesteger
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.

09252181.XLS



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

Volatile Analysis Report for TCLP Extract

Client: Lu Engineers

Client Job Site: Clarkson ERP

Lab Project Number: 09-2521

Lab Sample Number: 8027

Client Job Number: 40503

Field Location: CS - Fill

Date Sampled: 07/14/2009

Field ID Number: N/A

Date Received: 07/14/2009

Sample Type: TCLP Extract

Date Analyzed: 07/15/2009

Compounds	Results in ug / L	Regulatory Limits in ug / L
Benzene	ND< 20.0	500
2-Butanone	ND< 100	200,000
Carbon Tetrachloride	ND< 20.0	500
Chlorobenzene	ND< 20.0	100,000
Chloroform	ND< 20.0	6,000
1,2-Dichloroethane	ND< 20.0	500
1,1-Dichloroethene	ND< 20.0	700
Tetrachloroethene	ND< 20.0	700
Trichloroethene	ND< 20.0	500
Vinyl chloride	ND< 20.0	200

ELAP Number 10958

Method: EPA 8260B

Data File: V67169.D

Comments: ND denotes Non Detect

ug / L = microgram per Liter

Surrogate outliers Indicate probable matrix interference



Signature: 

Bruce Hoogesteger: Technical Director

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092521V1.XLS

CHAIN OF CUSTODY

Sampled By <i>Laura M. Smith</i>	Date/Time <i>7/14/09 15:09</i>	Total Cost:	
Requisitioned By <i>Laura M. Smith</i>	Date/Time <i>7/14/09 16:10</i>	P.I.F.	
Received By <i>[Signature]</i>	Date/Time <i>7/14/09 16:10</i>		
Received @ Lab By <i>Elizabeth A. Honch</i>	Date/Time <i>7/14/09 16:30</i>		

Attachment 2 – Cost Estimate





Former Service Station Site #E828143

Additional IRM Cost Estimate

Description	Estimated Quantity	Unit	Unit Price	Estimated Cost
1. Soil Cover				
Survey Stakeout	1	@	\$ 1,000.00	\$ 1,000.00
Silt Fence & Installation	330	L.F.	\$ 3.00	\$ 990.00
Suitable Fill Material (Imported) - includes transportation	1000	C.Y.	\$ 7.00	\$ 7,000.00
4" Topsoil (incl. labor)	50	C.Y.	\$ 16.00	\$ 800.00
Fine Grade, Seed, & Water	440	S.Y.	\$ 2.00	\$ 880.00
2. Stone Cover				
Cobbles (6-8") - includes transportation	15	C.Y.	\$ 70.00	\$ 1,050.00
3. Engineering				
Oversight & Documentation	5	Days	\$ 650.00	\$ 3,250.00
Project Management (10%)	20	Hrs.	\$ 75.00	\$ 1,500.00
Total				\$ 16,470.00