Environmental Resources Management

5788 Widewaters Parkway Dewitt, NY 13214 (315) 445-2554 (315) 445-2543

14 September 2012

VIA Email: cfmannes@gw.dec.state.ny.us

Christopher Mannes, P.E.
Environmental Engineer 2
Division of Environmental Remediation – Region 7
New York State Department of Environmental Conservation
615 Erie Blvd. West
Syracuse, New York 13204



RE: Soil Pile Removal Plan

Bridge Street Swale Area

Celi Drive Site - Dewitt, New York

GSP Holdings, Inc. (a/k/a General Super Plating Co., Inc.; GSP)

DEC BCP Site Number: C734108

Dear Mr. Mannes:

A release of metals-containing wastewater occurred at the Celi Drive Site Brownfield Site (Site) resulting from a failed liner in a plating line equalization tank. The failed liner was identified and replaced immediately. The released metals-containing wastewater affected the soil beneath and on the east side of the facility and flowed down gradient in a constructed storm water drainage trench to the Bridge Street Swale Area (BSSA) located approximately one-quarter mile north the of the Site (Figure 1; Attachment A). Thereafter, the Site became a participant in the New York Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) and the Site was assigned Site Number C734108. During the Remedial Investigation, ERM evaluated the distribution of metals-affected soil and concluded that the soil in the center of the BSSA trench is affected with metals above the site specific Part 375 Restricted Commercial Use Soil Cleanup Objectives.

On 7 March 2012 ERM observed an excavator parked in the BSSA along the storm water drainage trench located north of Bridge Street. ERM returned to BSSA on the morning 8 March 2012 and met an employee of the Town of Dewitt. The employee was excavating material from the BSSA drainage trench and placing the material along the east and west edges of the trench within the swing radius of the excavator. The employee was notified that the material being excavated was currently being investigated by ERM on behalf of GSP under the oversight of the NYSDEC through the BCP. The Town of Dewitt stopped the excavation on 8 March 2012.

ERM notified GSP of ERM's observations of activity along the swale. GSP subcontracted Environment Products and Services of Vermont, Inc. (EP&S) who

mobilized to the area on 8 and 9 March 2012 to cover the excavated material with polyethylene sheeting to isolate the soil piles from the surrounding area. ERM notified the NYSDEC prior to mobilizing EP&S.

In concurrence with discussions with the NYSDEC, ERM returned to the BSSA on 9 March 2012 to collect four composite soil samples for waste characterization analysis. At the request of the facility planned to receive the waste, the characterization analyses included:

- extractable petroleum hydrocarbons;
- toxicity characteristic leaching procedure (TCLP) for metals;
- percent solids;
- pH;
- free liquids; and
- ignitability.

In order to assure representativeness of the samples, the excavated soil was divided into four distinct areas for sampling purposes. All samples were collected with a stainless steel spoon and placed in a polyethylene bag. The soil and debris within each bag was thoroughly mixed and placed in glass jars provided by the laboratory. Samples were placed in a pre-chilled cooler and shipped under chain of custody to Spectrum Analytical, Inc. located in Agawam, Massachusetts. A copy of the analytical results is presented in Attachment B.

Soil Pile Removal Plan

The soil that was excavated from and staged along the BSSA drainage trench will be collected and placed in roll-off containers, then transported to a NYSDEC-permitted landfill for disposal. Prior to the initiation of any site-work, a Community Air Monitoring Plan will be implemented as described in Attachment C. Work will be performed in accordance with ERM's site-specific health & safety plan, included in the Revised Brownfield Investigation Work Plan that was submitted to and approved by the NYSDEC in December 2009.

The excavated soil will be removed using an excavator and/or front-end loader by the Town of Dewitt Highway Department. The staged soil will be removed down to native soil, and approximately 3 to 6 inches underlying material will be removed from beneath the staged soil. The excavated material will be placed into staged roll-off containers for transportation and disposal by GSP.

To permanently remove the soil, ERM will construct a temporary staging area in the vicinity of the drainage trench to locate construction equipment and roll-off dumpsters to stage and transport the removed soil. The staging area will be constructed in the following manner:

- The staging area will be cleared and graded (if needed). At the current time, ERM anticipates, pending formal access, using the west side of the Planet Fitness parking lot to stage. If access is denied, a second option will be to stage the material in the Town of Dewitt/New York State Department of Transportation Right of Way along the BSSA drainage trench.
- A berm of clean fill or straw/hay bales will be built around the staging area to prevent run-on of surface water or run-off. Standard roll-off dumpsters will be staged inside of the containment to receive the removed soil.
- All material inside the staging area will be covered with 6-mil polyethylene sheeting. Suitable weighted objects will be placed on top of the cover to secure it in place. The material stockpiled in the staging area will remain covered when the staging area is not being actively used.
- The area will be secured with fencing or similar barrier and labeled to minimize public access to the area and for security reasons.

Disturbed areas along the drainage trench or access road associated with this work will be filled with topsoil, brought up to grade and seeded, if necessary.

Confirmation Soil Sampling

ERM will collect three confirmation soil samples from the excavated portion of the storm water drainage trench to assess conditions following the soil removal conducted by the Town of Dewitt. The samples will be submitted to a New York State Department of Health (NYSDOH)-certified laboratory and analyzed for chromium (Cr), copper (Cu), nickel(Ni), zinc (Zn), and cyanide (CN-). Laboratory analytical reports will be presented as NYSDEC Analytical Services Protocol (ASP) Category B deliverables for all analyses, including an electronic deliverable. The sampling will be performed in accordance with the Revised Brownfield Investigation Work Plan that was submitted to and approved by the NYSDEC in December 2009.

Soil Management

Removed soil will be transported to a NYSDEC-permitted landfill for disposal.

Reporting

The results of the soil pile removal effort will be summarized in a monthly BCP progress report.

Schedule

ERM anticipates beginning the cleanup activity within one week of receiving NYSDEC approval of this plan and finalization of formal access. It is anticipated that this work will be performed during the final week of September 2012 and will require up to three days to complete.

Please call me at 315.233.3025 if you have any questions or comments.

Sincerely,

Kristopher Perritt

Kirtopha Peruth

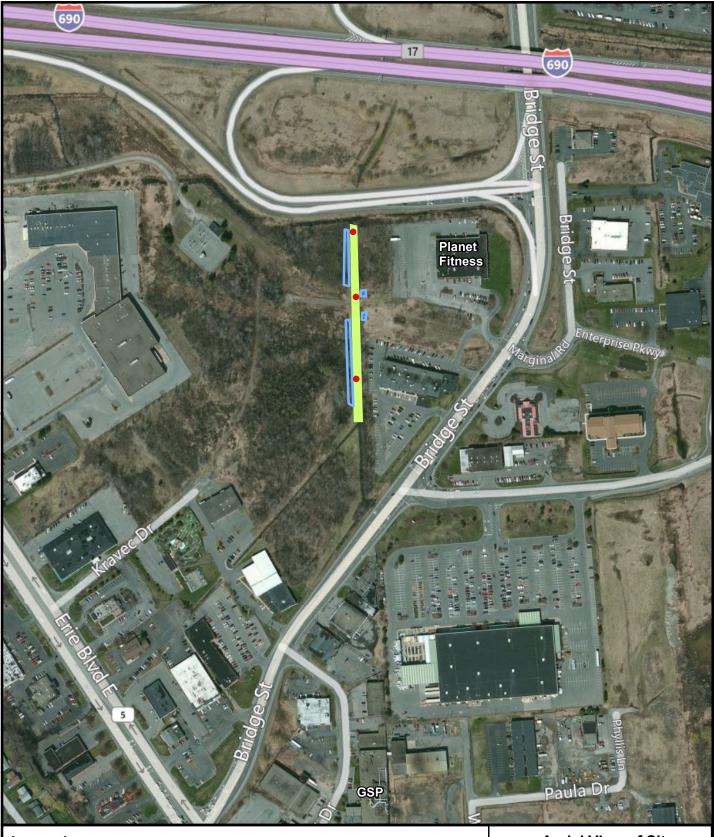
Project Manager

C: Harry Warner, NYSDEC
Tom Gerhardt, GSP Holdings Inc.
Doreen Simmons, Hancock & Estabrook
Richard Jones, NYSDOH
John Kuhn, ERM
Jon Fox, ERM

Attachments

ATTACHMENT A

SITE LAYOUT MAP





Proposed Sample Locations

Miles

Staged Soil Piles

Excavated Area 0.05 0.1



Notes: All locations are approximate

Prepared by MHH

Aerial View of Site

Client

General Super Plating - Dewitt, New York

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0	R
ERM	M

Environmental Resources Management Date: 9/13/2012

Figure:

G:\Graphics\Clients_F_K\General Super Plating\East Syracuse,NY\MXD

ATTACHMENT B

ANALYTICAL RESULTS

Report Date: 14-Mar-12 14:11



□ Re-Issued Report □ Revised Report

HANIBAL TECHNOLOGY

Laboratory Report

Environmental Resources Management 5788 Widewaters Pkwy Dewitt, NY 13214

Attn: Ed Hinchey

Project: GSP - East Syracuse, NY

Project #: GSP

Laboratory ID	Client Sample ID	<u>Matrix</u>	Date Sampled	Date Received
SB45118-01	BSS-Area 01	Soil	09-Mar-12 15:50	12-Mar-12 10:48
SB45118-02	BSS-Area 02	Soil	09-Mar-12 16:05	12-Mar-12 10:48
SB45118-03	BSS-Area 03	Soil	09-Mar-12 16:20	12-Mar-12 10:48
SB45118-04	BSS-Area 04	Soil	09-Mar-12 16:30	12-Mar-12 10:48

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received. All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110 Connecticut # PH-0777 Florida # E87600/E87936 Maine # MA138 New Hampshire # 2538 New Jersey # MA011/MA012 New York # 11393/11840 Pennsylvania # 68-04426/68-02924 Rhode Island # 98 USDA # S-51435



Authorized by:

Nicole Leja Laboratory Director

Dicole Leja

Spectrum Analytical holds certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes.

Please note that this report contains 13 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

CASE NARRATIVE:

The samples were received 1.3 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of \pm 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 1030

Samples:

SB45118-01

BSS-Area 01

A hold time of 24 hours has been set to expedite the analyses through the laboratory. However, the hold time for Ignitability is not specified within the method other than to state that the samples should be analyzed as soon as possible.

Ignitability by Definition

SB45118-02

BSS-Area 02

A hold time of 24 hours has been set to expedite the analyses through the laboratory. However, the hold time for Ignitability is not specified within the method other than to state that the samples should be analyzed as soon as possible.

Ignitability by Definition

SB45118-03

BSS-Area 03

A hold time of 24 hours has been set to expedite the analyses through the laboratory. However, the hold time for Ignitability is not specified within the method other than to state that the samples should be analyzed as soon as possible.

Ignitability by Definition

SB45118-04

BSS-Area 04

A hold time of 24 hours has been set to expedite the analyses through the laboratory. However, the hold time for Ignitability is not specified within the method other than to state that the samples should be analyzed as soon as possible.

Ignitability by Definition

SW846 1311/6010C

Blanks:

1205567-BLK1

The method blank contains analyte at a concentration above the MRL; however, concentration is less than 10% of the sample result, which is negligible according to method criteria.

Barium

SW846 8100Mod.

Duplicates:

1205536-DUP1

Source: SB45118-01

The Reporting Limit has been raised to account for matrix interference.

Samples:

SB45118-01

BSS-Area 01

The Reporting Limit has been raised to account for matrix interference.

SB45118-02

BSS-Area 02

SW846 8100Mod.

Samples:

SB45118-02 BSS-Area 02

The Reporting Limit has been raised to account for matrix interference.

SB45118-03 BSS-Area 03

The Reporting Limit has been raised to account for matrix interference.

SB45118-04 BSS-Area 04

The Reporting Limit has been raised to account for matrix interference.

BSS-Are SB45118				Client P GS			<u>Matrix</u> Soil	·	ection Date/ -Mar-12 15			<u>ceived</u> Mar-12	
CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cer
Extractab	ole Petroleum Hydrocarbon	s											
Fingerprintir			R01										
	by method SW846 3550										OFW		
8006-61-9	Gasoline	< 198	U	mg/kg dry	338	198	10	SW846 8100Mod.	13-Mar-12 "	14-Mar-12	SEW "	1205536	
68476-30-2	Fuel Oil #2	< 196		mg/kg dry	338	196	10				,		
68476-31-3 68553-00-4	Fuel Oil #4 Fuel Oil #6	< 33.8 < 202	U	mg/kg dry	338	33.8	10				,		
M09800000	Motor Oil	< 202 < 185	U	mg/kg dry	338	202	10						
			U	mg/kg dry	338	185	10				,,		
3032-32-4	Ligroin	< 84.4	U	mg/kg dry	338	84.4	10				,		
J00100000	Aviation Fuel	< 84.4		mg/kg dry	338	84.4	10				,		
	Hydraulic Oil	< 33.8	U	mg/kg dry	338	33.8	10						
	Dielectric Fluid	< 84.4	U	mg/kg dry	338	84.4	10						
	Unidentified	2,770		mg/kg dry	338	84.4	10						
	Other Oil	Calculated as		mg/kg dry	338	33.8	10	"	•	•	"	•	
	Total Petroleum Hydrocarbons	2,770		mg/kg dry	338	33.8	10	и		"	"		
Surrogate red	coveries:												
3386-33-2	1-Chlorooctadecane	91			40-14	0 %				"	"		
TCLP Me	etals by EPA 1311 & 6000/7	000 Series Met	hods										
	TCLP Extraction	Completed		N/A			1	SW846 1311	12-Mar-12	13-Mar-12	KK	1205472	Х
7440-22-4	Silver	< 0.0045	U	mg/l	0.0100	0.0045	1	SW846 1311/6010C	13-Mar-12	14-Mar-12	EDT	1205567	Х
7440-38-2	Arsenic	< 0.0040	U	mg/l	0.0080	0.0040	1			"	"		Х
440-39-3	Barium	0.717		mg/l	0.0100	0.0046	1				"		Х
7440-43-9	Cadmium	0.122		mg/l	0.0050	0.0003	1	н		"	"		Х
440-47-3	Chromium	< 0.0063	U	mg/l	0.0100	0.0063	1			14-Mar-12	"		Х
7440-50-8	Copper	0.0278		mg/l	0.0100	0.0027	1			14-Mar-12	"		Х
439-97-6	Mercury	< 0.00007	U	mg/l	0.00020	0.00007	1	SW846 1311/7470A		13-Mar-12	RH	1205568	Х
7440-02-0	Nickel	0.785		mg/l	0.0100	0.0013	1	SW846 1311/6010C		14-Mar-12	EDT	1205567	Х
7439-92-1	Lead	0.0485		mg/l	0.0150	0.0048	1			14-Mar-12	"		Х
782-49-2	Selenium	0.0103	J	mg/l	0.0300	0.0050	1			14-Mar-12	"		Х
General C	Chemistry Parameters												
	% Solids	77.7		%			1	SM2540 G Mod.	12-Mar-12	12-Mar-12	DT	1205479	
Toxicity (Characteristics												
	Free Liquid	Absent		N/A			1	SW846 9095B	14-Mar-12	14-Mar-12	BD	1205732	Х
	Ignitability by Definition	Negative	IgHT	N/A			1	SW846 1030	14-Mar-12 09:45	14-Mar-12 11:17	VK	1205735	Х
	рН	7.37	рН	pH Units			1	SW846 9045D	13-Mar-12 10:30	13-Mar-12 10:30	TDD	1205537	Х

Sample Io BSS-Area	dentification a 02			Client P	-		<u>Matrix</u>	Colle	ection Date	/Time	Red	ceived	
SB45118				GS	SP		Soil	09-	-Mar-12 16	5:05	12-1	Mar-12	
CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cer
Extractab	le Petroleum Hydrocarbon	ıs											
Fingerprintir	ng by GC		R01										
Prepared	by method SW846 3550I	<u>B/C</u>											
8006-61-9	Gasoline	< 118	U	mg/kg dry	202	118	5	SW846 8100Mod.	13-Mar-12	14-Mar-12	SEW	1205536	
68476-30-2	Fuel Oil #2	< 117	U	mg/kg dry	202	117	5	п		н	"		
68476-31-3	Fuel Oil #4	< 20.2	U	mg/kg dry	202	20.2	5	н		н	"		
68553-00-4	Fuel Oil #6	< 120	U	mg/kg dry	202	120	5				"		
M09800000	Motor Oil	< 110	U	mg/kg dry	202	110	5				"		
8032-32-4	Ligroin	< 50.4	U	mg/kg dry	202	50.4	5			н	"		
J00100000	Aviation Fuel	< 50.4	U	mg/kg dry	202	50.4	5	п		н	"		
	Hydraulic Oil	< 20.2	U	mg/kg dry	202	20.2	5	п			"		
	Dielectric Fluid	< 50.4	U	mg/kg dry	202	50.4	5	н			"		
	Unidentified	2,510		mg/kg dry	202	50.4	5				"		
	Other Oil	Calculated as		mg/kg dry	202	20.2	5	и			"		
	Total Petroleum Hydrocarbons	2,510		mg/kg dry	202	20.2	5			и	"		
Surrogate red	coveries:												
3386-33-2	1-Chlorooctadecane	90			40-14	10 %					"		
TCLP Me	etals by EPA 1311 & 6000/7	000 Series Met	hods										
	TCLP Extraction	Completed		N/A			1	SW846 1311	12-Mar-12	13-Mar-12	KK	1205472	Х
7440-22-4	Silver	< 0.0045	U	mg/l	0.0100	0.0045	1	SW846 1311/6010C	13-Mar-12	14-Mar-12	EDT	1205567	Х
7440-38-2	Arsenic	< 0.0040	U	mg/l	0.0080	0.0040	1			н	"		Х
7440-39-3	Barium	0.911		mg/l	0.0100	0.0046	1				"		Х
7440-43-9	Cadmium	0.0231		mg/l	0.0050	0.0003	1			н	"		Х
7440-47-3	Chromium	< 0.0063	U	mg/l	0.0100	0.0063	1			14-Mar-12	"		Х
7440-50-8	Copper	0.0095	J	mg/l	0.0100	0.0027	1			14-Mar-12	"		Х
7439-97-6	Mercury	< 0.00007	U	mg/l	0.00020	0.00007	1	SW846 1311/7470A		13-Mar-12	RH	1205568	Х
7440-02-0	Nickel	0.227		mg/l	0.0100	0.0013	1	SW846 1311/6010C		14-Mar-12	EDT	1205567	Х
7439-92-1	Lead	0.0115	J	mg/l	0.0150	0.0048	1			14-Mar-12	"		Х
7782-49-2	Selenium	0.0111	J	mg/l	0.0300	0.0050	1			14-Mar-12			Х
General C	Chemistry Parameters			9			•						
ocherar c	% Solids	62.4		%			1	SM2540 G Mod.	12-Mar-12	12-Mar-12	DT	1205479	
Tovicity (Characteristics	<u></u>		,,			·	5 <u>2</u> 6 .6 G6G.			٥.	.200.70	
I JAICHLY C	Free Liquid	Absent		N/A			1	SW846 9095B	14-Mar-12	14-Mar-12	BD	1205732	Х
	Ignitability by Definition	Negative	IgHT	N/A			1	SW846 1030	14-Mar-12	14-Mar-12	VK	1205735	
		_							09:45	11:17			
	pH	7.48	pН	pH Units			1	SW846 9045D	13-Mar-12 10:30	13-Mar-12 10:30	TDD	1205537	Х

BSS-Are	a 03			Client P GS	-		<u>Matrix</u> Soil		ction Date. Mar-12 16			<u>ceived</u> Mar-12	
SB45118	1-03			G.	5 F		3011	09-	·Wiai-12 10	.20	12-1	viai-12	
CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cei
Extractab	ole Petroleum Hydrocarbon	ıs											
Fingerprintir		2.0	R01										
•	by method SW846 3550I										OFW		
8006-61-9	Gasoline	< 297	U	mg/kg dry	506	297	10	SW846 8100Mod.	13-Mar-12	14-Mar-12	SEW "	1205536	
68476-30-2	Fuel Oil #2	< 294	U	mg/kg dry	506	294	10						
68476-31-3	Fuel Oil #4	< 50.6	U	mg/kg dry	506	50.6	10						
68553-00-4	Fuel Oil #6	< 303	U	mg/kg dry	506	303	10						
M09800000	Motor Oil	< 277	U	mg/kg dry	506	277	10						
8032-32-4	Ligroin	< 127	U	mg/kg dry	506	127	10						
J00100000	Aviation Fuel	Calculated as		mg/kg dry	506	127	10	•	•		"	•	
	Hydraulic Oil	< 50.6	U	mg/kg dry	506	50.6	10						
	Dielectric Fluid	< 127	U	mg/kg dry	506	127	10				"		
	Unidentified	8,590		mg/kg dry	506	127	10						
	Other Oil	Calculated as		mg/kg dry	506	50.6	10				"		
	Total Petroleum Hydrocarbons	8,590		mg/kg dry	506	50.6	10	•		ı	"		
Surrogate red	coveries:												
3386-33-2	1-Chlorooctadecane	83			40-14	10 %					"		
TCLP Me	etals by EPA 1311 & 6000/7	000 Series Met	hods										
	TCLP Extraction	Completed		N/A			1	SW846 1311	12-Mar-12	13-Mar-12	KK	1205472	Х
7440-22-4	Silver	< 0.0045	U	mg/l	0.0100	0.0045	1	SW846 1311/6010C	13-Mar-12	14-Mar-12	EDT	1205567	>
7440-38-2	Arsenic	0.0057	J	mg/l	0.0080	0.0040	1				"		Х
7440-39-3	Barium	0.790		mg/l	0.0100	0.0046	1				"		>
7440-43-9	Cadmium	0.0393		mg/l	0.0050	0.0003	1				"		>
7440-47-3	Chromium	< 0.0063	U	mg/l	0.0100	0.0063	1			14-Mar-12	"		>
7440-50-8	Copper	0.0218		mg/l	0.0100	0.0027	1			14-Mar-12	")
7439-97-6	Mercury	< 0.00007	U	mg/l	0.00020	0.00007	1	SW846 1311/7470A		13-Mar-12	RH	1205568	>
7440-02-0	Nickel	1.10		mg/l	0.0100	0.0013	1	SW846 1311/6010C		14-Mar-12	EDT	1205567	>
7439-92-1	Lead	0.0345		mg/l	0.0150	0.0048	1			14-Mar-12	"		>
7782-49-2	Selenium	0.0112	J	mg/l	0.0300	0.0050	1			14-Mar-12	")
General C	Chemistry Parameters			ŭ									
0	% Solids	51.6		%			1	SM2540 G Mod.	12-Mar-12	12-Mar-12	DT	1205479	
Toxicity (Characteristics												
,	Free Liquid	Absent		N/A			1	SW846 9095B	14-Mar-12	14-Mar-12	BD	1205732	>
	Ignitability by Definition	Negative	IgHT	N/A			1	SW846 1030	14-Mar-12 09:45	14-Mar-12 11:17	VK	1205735)
	pН	7.68	рН	pH Units			1	SW846 9045D	13-Mar-12	13-Mar-12	TDD	1205537)

Sample Id BSS-Are: SB45118				Client P	-		<u>Matrix</u> Soil		ection Date -Mar-12 16			<u>ceived</u> Mar-12	
CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Extractab	le Petroleum Hydrocarbon	ıs											
Fingerprintin			R01										
	by method SW846 3550I												
8006-61-9	Gasoline	< 317	U	mg/kg dry	541	317	10	SW846 8100Mod.	13-Mar-12	14-Mar-12	SEW	1205536	
68476-30-2	Fuel Oil #2	< 315	U	mg/kg dry	541	315	10			"	"	"	
68476-31-3	Fuel Oil #4	< 54.1	U	mg/kg dry	541	54.1	10	"			"		
68553-00-4	Fuel Oil #6	< 323	U	mg/kg dry	541	323	10	"			"		
M09800000	Motor Oil	< 296	U	mg/kg dry	541	296	10	"			"		
8032-32-4	Ligroin	< 135	U	mg/kg dry	541	135	10			н	"		
J00100000	Aviation Fuel	< 135	U	mg/kg dry	541	135	10				"		
	Hydraulic Oil	< 54.1	U	mg/kg dry	541	54.1	10	п			"		
	Dielectric Fluid	< 135	U	mg/kg dry	541	135	10	n .			"		
	Unidentified	8,500		mg/kg dry	541	135	10	п			"		
	Other Oil	Calculated as		mg/kg dry	541	54.1	10	п			"		
	Total Petroleum Hydrocarbons	8,500		mg/kg dry	541	54.1	10	п			"		
Surrogate red	coveries:												
3386-33-2	1-Chlorooctadecane	83			40-14	0 %		п			"		
TCLP Me	etals by EPA 1311 & 6000/7	000 Series Met	hods										
	TCLP Extraction	Completed		N/A			1	SW846 1311	12-Mar-12	13-Mar-12	KK	1205472	Χ
7440-22-4	Silver	< 0.0045	U	mg/l	0.0100	0.0045	1	SW846 1311/6010C	13-Mar-12	14-Mar-12	EDT	1205567	Х
7440-38-2	Arsenic	< 0.0040	U	mg/l	0.0080	0.0040	1			н	"		Х
7440-39-3	Barium	0.685		mg/l	0.0100	0.0046	1			н	"		Χ
7440-43-9	Cadmium	0.0154		mg/l	0.0050	0.0003	1	п			"		Х
7440-47-3	Chromium	< 0.0063	U	mg/l	0.0100	0.0063	1	п		14-Mar-12	"		Х
7440-50-8	Copper	0.0092	J	mg/l	0.0100	0.0027	1	п		14-Mar-12	"		Х
7439-97-6	Mercury	< 0.00007	U	mg/l	0.00020	0.00007	1	SW846 1311/7470A		13-Mar-12	RH	1205568	Х
7440-02-0	Nickel	0.591		mg/l	0.0100	0.0013	1	SW846 1311/6010C		14-Mar-12	EDT	1205567	Х
7439-92-1	Lead	0.0348		mg/l	0.0150	0.0048	1			14-Mar-12			Х
7782-49-2	Selenium	0.0083	J	mg/l	0.0300	0.0050	1			14-Mar-12			Х
General C	Chemistry Parameters			gr	0.0000	0.0000	·						
General	% Solids	48.2		%			1	SM2540 G Mod.	12-Mar-12	12-Mar-12	DT	1205479	
Toxicity (Characteristics			,•			•	5 <u>-</u> 5 .5 6 mod.	12	12	٥.	55476	
TOAICITY C	Free Liquid	Absent		N/A			1	SW846 9095B	14-Mar-12	14-Mar-12	BD	1205732	Χ
	Ignitability by Definition	Negative	IgHT	N/A			1	SW846 1030	14-Mar-12	14-Mar-12	VK	1205735	X
									09:45	11:17			
	рН	7.64	pН	pH Units			1	SW846 9045D	13-Mar-12 10:30	13-Mar-12 10:30	TDD	1205537	Х

Extractable Petroleum Hydrocarbons - Quality Control

					Spike	Source		%REC		RPD
nalyte(s)	Result	Flag	Units	*RDL	Level	Result	%REC	Limits	RPD	Limit
atch 1205536 - SW846 3550B/C										
Blank (1205536-BLK1)					Pre	pared & Analy	zed: 13-Mar-12	<u>2</u>		
Gasoline	< 7.8	U	mg/kg wet	7.8						
Fuel Oil #2	< 7.7	U	mg/kg wet	7.7						
Fuel Oil #4	< 1.3	U	mg/kg wet	1.3						
Fuel Oil #6	< 7.9	U	mg/kg wet	7.9						
Motor Oil	< 7.3	U	mg/kg wet	7.3						
Ligroin	< 3.3	U	mg/kg wet	3.3						
Aviation Fuel	< 3.3	U	mg/kg wet	3.3						
Hydraulic Oil	< 1.3	U	mg/kg wet	1.3						
Dielectric Fluid	< 3.3	U	mg/kg wet	3.3						
Unidentified	< 3.3	U	mg/kg wet	3.3						
Other Oil	< 1.3	U	mg/kg wet	1.3						
Total Petroleum Hydrocarbons	< 1.3	U	mg/kg wet	1.3						
Surrogate: 1-Chlorooctadecane	2.52		mg/kg wet		3.33		76	40-140		
LCS (1205536-BS1)					Pre	pared & Analy	zed: 13-Mar-1	<u>2</u>		
Fuel Oil #2	602		mg/kg wet	7.7	667		90	40-140		
Surrogate: 1-Chlorooctadecane	2.80		mg/kg wet		3.33		84	40-140		
<u>Duplicate (1205536-DUP1)</u>		R01	Source: SB	<u>45118-01</u>	Pre	pared: 13-Mai	-12 Analyzed	: 14-Mar-12		
Gasoline	< 193	U	mg/kg dry	193		BRL				50
Fuel Oil #2	< 192	U	mg/kg dry	192		BRL				50
Fuel Oil #4	< 33.0	U	mg/kg dry	33.0		BRL				50
Fuel Oil #6	< 197	U	mg/kg dry	197		BRL				50
Motor Oil	< 180	U	mg/kg dry	180		BRL				50
Ligroin	< 82.5	U	mg/kg dry	82.5		BRL				50
Aviation Fuel	< 82.5	U	mg/kg dry	82.5		BRL				50
Hydraulic Oil	< 33.0	U	mg/kg dry	33.0		BRL				50
Dielectric Fluid	< 82.5	U	mg/kg dry	82.5		BRL				50
Unidentified	2790		mg/kg dry	82.5		2770			0.8	50
Other Oil	Calculated as		mg/kg dry	33.0		Calculated as				50
Total Petroleum Hydrocarbons	2790		mg/kg dry	33.0		2770			0.8	50
Surrogate: 1-Chlorooctadecane	3.57		mg/kg dry		4.13		86	40-140		

TCLP Metals by EPA 1311 & 6000/7000 Series Methods - Quality Control

nalyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
tch 1205567 - SW846 3010A										
Blank (1205567-BLK1)					Pre	pared: 13-Mar	-12 Analyzed	: 14-Mar-12		
Nickel	< 0.0013	U	mg/l	0.0013						
Lead	< 0.0048	U	mg/l	0.0048						
Selenium	0.0077	J	mg/l	0.0050						
Cadmium	< 0.0003	U	mg/l	0.0003						
Arsenic	< 0.0040	U	mg/l	0.0040						
Chromium	< 0.0063	U	mg/l	0.0063						
Silver	< 0.0045	U	mg/l	0.0045						
Copper	< 0.0027	U	mg/l	0.0027						
Barium	0.0106	QB1	mg/l	0.0046						
LCS (1205567-BS1)			· ·		Pre	pared: 13-Mar	-12 Analyzed	: 14-Mar-12		
Lead	2.33		mg/l	0.0048	2.50	parour ro mar	93	85-115		
Nickel	2.27		mg/l	0.0013	2.50		91	85-115		
Selenium	2.70		mg/l	0.0050	2.50		108	85-115		
Copper	2.47		mg/l	0.0027	2.50		99	85-115		
Silver	2.58		mg/l	0.0045	2.50		103	85-115		
Arsenic	2.67		mg/l	0.0040	2.50		107	85-115		
Cadmium	2.47		mg/l	0.0003	2.50		99	85-115		
Chromium	2.65		mg/l	0.0063	2.50		106	85-115		
Barium	2.58		mg/l	0.0046	2.50		103	85-115		
LCS Dup (1205567-BSD1)			v			nared: 13-Mar	-12 Analyzed	· 14-Mar-12		
Nickel	2.32		mg/l	0.0013	2.50	parour ro mar	93	85-115	2	20
Selenium	2.74		mg/l	0.0050	2.50		109	85-115	1	20
Lead	2.33		mg/l	0.0048	2.50		93	85-115	0.3	20
Arsenic	2.72		mg/l	0.0040	2.50		109	85-115	2	20
Cadmium	2.51		mg/l	0.0003	2.50		100	85-115	2	20
Copper	2.55		mg/l	0.0027	2.50		102	85-115	3	20
Chromium	2.60		mg/l	0.0063	2.50		104	85-115	2	20
Silver	2.63		mg/l	0.0045	2.50		105	85-115	2	104
Barium	2.63		mg/l	0.0046	2.50		105	85-115	2	20
<u>Duplicate (1205567-DUP1)</u>			Source: SE			nared: 13-Mar	-12 Analyzed		_	
Selenium	0.0106	J	mg/l	0.0050	1.10	0.0103	12 Analyzeu	. 14 WIGI 12	3	20
Nickel	0.765	ŭ	mg/l	0.0030		0.785			3	20
Lead	0.0504		mg/l	0.0048		0.0485			4	20
Copper	0.0315		mg/l	0.0027		0.0278			12	20
Cadmium	0.119		mg/l	0.0003		0.122			3	20
Arsenic	< 0.0040	U	mg/l	0.0040		BRL			O	20
Silver	< 0.0045	U	mg/l	0.0045		BRL				20
Chromium	< 0.0063	U	mg/l	0.0063		BRL				20
Barium	0.715		mg/l	0.0046		0.717			0.3	20
Matrix Spike (1205567-MS1)	· · · · ·		Source: SE		Droi		-12 Analyzed	· 14-Mar-19	0.0	
Nickel	3.06		mg/l	0.0013	2.50	0.785	91	75-125		
Lead	2.39		mg/l	0.0013	2.50	0.765	94	75-125 75-125		
Selenium	2.81		mg/l	0.0050	2.50	0.0403	112	75-125 75-125		
Chromium	2.58		mg/l	0.0063	2.50	BRL	103	75-125 75-125		
Cadmium	2.54		mg/l	0.0003	2.50	0.122	97	75-125 75-125		
			mg/l	0.0003	2.50	BRL	111	75-125 75-125		
	777			J.0070	2.50	DITL		10-120		
Arsenic	2.77 2.57		-	0.0045	2.50	RDI	103	75-125		
Arsenic Silver	2.57		mg/l	0.0045	2.50 2.50	BRL 0.0278	103 105	75-125 75-125		
Arsenic Silver Copper	2.57 2.66		mg/l mg/l	0.0027	2.50	0.0278	105	75-125		
Arsenic Silver	2.57		mg/l	0.0027 0.0046	2.50 2.50	0.0278 0.717		75-125 75-125		

TCLP Metals by EPA 1311 & 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limi
Batch 1205567 - SW846 3010A										
Matrix Spike Dup (1205567-MSD1)			Source: S				-12 Analyzed			
Lead	2.31		mg/l	0.0048	2.50	0.0485	90	75-125	3	20
Selenium	2.75		mg/l	0.0050	2.50	0.0103	110	75-125	2	20
Silver	2.46		mg/l	0.0045	2.50	BRL	98	75-125	5	20
Chromium	2.52		mg/l	0.0063	2.50	BRL	101	75-125	2	20
Cadmium	2.49		mg/l	0.0003	2.50	0.122	95	75-125	2	20
Arsenic	2.72		mg/l	0.0040	2.50	BRL	109	75-125	2	20
Copper	2.60		mg/l	0.0027	2.50	0.0278	103	75-125	3	20
Barium	3.36		mg/l	0.0046	2.50	0.717	106	75-125	1	20
Post Spike (1205567-PS1)			Source: S	B45118-01	Pre	pared: 13-Mai	-12 Analyzed	: 14-Mar-12		
Nickel	2.98		mg/l	0.0013	2.50	0.785	88	75-125		
Selenium	2.75		mg/l	0.0050	2.50	0.0103	109	75-125		
Lead	2.38		mg/l	0.0048	2.50	0.0485	93	75-125		
Arsenic	2.76		mg/l	0.0040	2.50	BRL	111	75-125		
Chromium	2.58		mg/l	0.0063	2.50	BRL	103	75-125		
Copper	2.58		mg/l	0.0027	2.50	0.0278	102	75-125		
Cadmium	2.55		mg/l	0.0003	2.50	0.122	97	75-125		
Silver	2.72		mg/l	0.0045	2.50	BRL	109	75-125		
Barium	3.39		mg/l	0.0046	2.50	0.717	107	75-125		
Batch 1205568 - EPA200/SW7000 Series										
Blank (1205568-BLK1)					<u>Pre</u>	pared & Analy	zed: 13-Mar-12	<u>2</u>		
Mercury	< 0.00007	U	mg/l	0.00007						
LCS (1205568-BS1)					Pre	pared & Analy	zed: 13-Mar-12	2		
Mercury	0.00472		mg/l	0.00007	0.00500	•	94	- 85-115		
Duplicate (1205568-DUP1)			Source: S	B45118-01	Pre	pared & Analy	zed: 13-Mar-12	2		
Mercury	< 0.00007	U	mg/l	0.00007		BRL		_		20
Matrix Spike (1205568-MS1)			Source: S	B45118-01	Pre	pared & Analy	zed: 13-Mar-12	2		
Mercury	0.00492		mg/l	0.00007	0.00500	BRL	98	75-125		
Matrix Spike Dup (1205568-MSD1)			Source: S	B45118-01	Pre	pared & Analy	zed: 13-Mar-12	2		
Mercury	0.00488		mg/l	0.00007	0.00500	BRL	98	= 75-125	0.8	20
Post Spike (1205568-PS1)	-		Source: S				zed: 13-Mar-12			
Mercury	0.00491		mg/l	0.00007	0.00500	BRL	98	<u>≤</u> 80-120		

Toxicity Characteristics - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1205537 - General Preparation										
Reference (1205537-SRM1)					Pre	pared & Analy	zed: 13-Mar-1	<u>2</u>		
рН	5.56		pH Units		5.51		101	92-108		
Reference (1205537-SRM2)					Pre	pared & Analy	zed: 13-Mar-1	<u>2</u>		
рН	5.96		pH Units		6.00		99	97.5-102.5		
Batch 1205732 - General Preparation										
<u>Duplicate (1205732-DUP1)</u>		<u>s</u>	Source: SB	<u>45118-04</u>	<u>Pre</u>	pared & Analy	zed: 14-Mar-1	<u>2</u>		
Free Liquid	Absent		N/A			Absent				35

Notes and Definitions

A hold time of 24 hours has been set to expedite the analyses through the laboratory. However, the hold time for **IgHT** Ignitability is not specified within the method other than to state that the samples should be analyzed as soon as possible. J Detected above the Method Detection Limit but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag). QB1 The method blank contains analyte at a concentration above the MRL; however, concentration is less than 10% of the sample result, which is negligible according to method criteria. R01 The Reporting Limit has been raised to account for matrix interference. U Analyte included in the analysis, but not detected at or above the MDL. Sample results reported on a dry weight basis dry NR Not Reported

RPD Relative Percent Difference

рΗ The method for pH does not stipulate a specific holding time other than to state that the samples should be analyzed as soon as possible. For aqueous samples the 40 CFR 136 specifies a holding time of 15 minutes from sampling to analysis. Therefore all aqueous pH samples not analyzed in the field are considered out of hold time at the time of sample receipt. All soil samples are analyzed as soon as possible after sample receipt.

Interpretation of Total Petroleum Hydrocarbon Report

Petroleum identification is determined by comparing the GC fingerprint obtained from the sample with a library of GC fingerprints obtained from analyses of various petroleum products. Possible match categories are as follows:

Gasoline - includes regular, unleaded, premium, etc.

Fuel Oil #2 - includes home heating oil, #2 fuel oil, and diesel

Fuel Oil #4 - includes #4 fuel oil

Fuel Oil #6 - includes #6 fuel oil and bunker "C" oil

Motor Oil - includes virgin and waste automobile oil

Ligroin - includes mineral spirits, petroleum naphtha, vm&p naphtha

Aviation Fuel - includes kerosene, Jet A and JP-4

Other Oil - includes lubricating and cutting oil, and silicon oil

At times, the unidentified petroleum product is quantified using a calibration that most closely approximates the distribution of compounds in the sample. When this occurs, the result is qualified as Calculated as.

<u>Laboratory Control Sample (LCS)</u>: A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

<u>Matrix Spike</u>: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

<u>Method Blank</u>: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

<u>Surrogate</u>: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

<u>Continuing Calibration Verification:</u> The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by: June O'Connor

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■ Standard TAT - 7 to 10 business days

■ Standard TAT - Date Needed: \$\frac{7}{144}\text{17}\$

• All TATs subject to laboratory approval.

• Min. 24-hour notification needed for rushes.

• Samples disposed of after 60 days unless

otherwise instructed.

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☐ Provide MA DEP MCP CAM Report ☐ Provide CT DPH RCP Report	Ahalyses:	15 RU	Containers			WW=Wastewater SL=Sludge A=Air	Soil SL=Sludg	DW=Drinking Water GW=Groundwater O=Oil SW=Surface Water SO=Soil	DW=Drinking O=Oil SW=
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## Recipient's Copy ## Express Package Service ## Express Package Service ## Express Package Service ## FedEx Priority Overnight ## FedEx Day by Traight ## FedEx Day by Freight ## FedEx Day by Freight ## FedEx Packages up to 150 lbs. ## FedEx Day by Freight ## FedEx Day Freight ## FedEx Day by Freight ## Fed	peckage ha had at a specific FedEx location, print FedEx address here. State M ZIP	Recipient's Name Company Company Recipient's Address Address Place annual deliver to P.D. boxes or P.D. ZiP codes.	From This portion can be removed for Recipient's records. Date 34	US Airbill Freder BL14
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	Shock .		Relinguished by:	5	A 2101				6	- Aics	03 BSS- Pica 63	M BSS- Arca OZ	BSS-AMLO	Lab Id: Sample Id:	G=Grab C=Composite	V1	=Drinking Water ii SW= Surface W		Project Mgr. Ed Hinchay	(2) 136 (312)	Dowitt NY 1321	Report To: ERM	SPECTRUM ANALYTICAL, INC. Featuring HANIBAL TECHNOLOGY
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Ambient	6-1 8 ho 2/ EVE	3/4/12 17:00 DE-m	Date: Time: Temp°C			12. F	301		*	XXX	XXXX	XXXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	# of A # of C # of P TCLE Parce Sprits D. 1	OA Vamber	Glas	ontainers:	7=CH;OH	RQN: Sampler(s): RSs-		Site Name:	Project No : (_S/)	CHAIN OF CUSTODY RECORD
☐ Ambient ☐ Refrigerated ☐ Fridge temp°C ☐ Freezer temp°C	E). Hind	DE-mail to Poly of Gents Cong	☐ EDD Format					S. M. J.		X ton Pier.	8		The chapteness the state of		Other	QA/QC Reporting Level	Analyses: ☐ Provide MA DEP MCP CAM Report ☐ Provide CT DPH RCP Report	List preservative code below: QA/QC Reporting Notes:	Reserts	Location: $\underbrace{844}$ Syracuse State: \underbrace{N}	GSP		Standard TAT - 7 to 10 business days RS Rush TAT - Date Needed: 3/14/12 All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes. Samples disposed of after 60 days unless otherwise instructed.

ATTACHMENT C

COMMUNITY AIR MONITORING PLAN

COMMUNITY AIR MONITORING PLAN SOIL REMOVAL-BRIDGE STREET SWALE AREA DEWITT, NEW YORK NYSDEC VCP NUMBER C734108

A Community Air Monitoring Plan (CAMP) involves real-time monitoring for volatile organic compounds (VOCs) and particulate matter (i.e., dust) at the downwind perimeter of each designated work area when intrusive activities are in progress. Intrusive activities include soil or waste excavation, staging, or handling; test pitting or trenching; and/or the installation of soil borings or monitoring wells.

The CAMP provides a measure of protection for on-Site workers and the downwind community (i.e., off-Site receptors including residences, parks, businesses, etc.) not directly involved with the subject work activities. Routine monitoring is required under the CAMP to evaluate concentrations and corrective action and/or work stoppage may be required to abate emissions detected at concentrations above specified action levels. Routine data collected during implementation of the CAMP may also help document that work activities did not spread compounds of potential concern off-Site through the air. Reliance on the procedures and action levels described in this CAMP should not preclude simple, common sense measures to keep VOCs, dust, and odors at a minimum around work areas.

COMMUNITY AIR MONITORING PLAN

Compounds of potential concern associated with the VCP include the metals; nickel, copper and chromum that may be included in particulate matter (i.e., dust) associated with the soil removal. High background concentrrations of semi-volatile organic compoinds (SVOC) were detected in characterization samples collected in March but are not associated with the VCP. Particulate matter concentrations will be measured using a calibrated electronic aerosol monitor. It is not necessary to moitor for SVOCs as they are not volatile and would be associated with fugitive particulate.

Relevant weather conditions including wind direction, speed, humidity, temperature, and precipitation will be measured and recorded prior to the initiation of subsurface intrusive activities. Background readings of particulate matter will be collected at a minimum of five locations on Site prior to the initiation of fieldwork on each day that intrusive work will be performed. Additional background measurements may be collected if weather conditions change significantly.

Continuous monitoring for particulate matter will be performed downwind of the work area during soil removal activities. Periodic monitoring will be performed during non-intrusive activities if requested by an NYSDEC and/or NYSDOH on-Site representative. Non-intrusive activities include any work activity that does not disturb the subsurface or staged soil piles, including routine Site visits, collection of samples, surveying, etc. Periodic monitoring will consist of collecting one reading downwind of the work area at the following intervals:

- upon arrival at a sample location or other work activity location;
- during performance of the relevant work activity;
- during the opening of a well cap (if applicable);
- during well baling or purging procedures (if applicable); and
- prior to leaving a sample location or other work activity location.

PARTICULATE MATTER RESPONSE LEVELS AND CORRECTIVE ACTIONS

Fugitive dust migration from the work area will be visually assessed during intrusive activities. Particulate concentrations will be monitored continuously at the downwind perimeter of the work area during intrusive activities. Particulate monitoring will be performed using real-time electronic aerosol monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes for comparison to the airborne particulate action levels referenced below. The monitoring equipment will be equipped with an audible alarm to indicate an exceedance of a specified action level.

- If the downwind PM-10 concentration is 100 micrograms per cubic meter ($\mu g/m^3$) greater than background for the 15-minute period, or if airborne dust is observed leaving the work area, dust suppression techniques will be employed. Work may continue with dust suppression techniques provided that downwind PM-10 concentration does not exceed 150 $\mu g/m^3$ above background and provided that significant visible dust is not migrating from the work area.
- If downwind PM-10 concentrations are greater than 150 μ g/m³ above background, intrusive activities will be stopped and a re-evaluation of the intrusive activities will be initiated. Work can resume provided that dust suppression measures and/or other engineering controls are successful in reducing the downwind PM-10 concentration to within 150 mcg/m³ of background and in preventing significant visible dust migration.

All 15-minute readings will be recorded and will be available for review by NYSDEC and/or NYSDOH personnel. Instantaneous readings (if any) used for decision purposes will also be recorded.