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Memorandum

To: Andrew Prophete (National Grid NY)

From: Brian Skelly

Copy to: Richard Dana and R. Scott Deyette (NYSDEC)
Chris Schroer (EA Engineering)
Andrew Rizk (Louis Berger)
Stephanie Selmer (NYSDOH)
Dave Boram and Thor Helgason (de maximis)
Ted Leissing (National Grid NY)
Shail Pandya (AECOM)
Ronell Marshall and Clayton John (GEI Consultants, Inc.)

Date: October 8, 2012

Regarding: Weekly Community Air Monitoring Report
Clifton Former MGP Site - Operable Unit 2 (OU-2)
September 22, 2012 through September 28, 2012

Dear Andrew:

This report includes a summary of data collected during implementation of the Community Air Monitoring Plan (CAMP) at the Clifton Former MGP Site Operable Unit 2 (OU-2) in Staten Island, New York. Data collected are discussed in relation to remediation activities that occurred between September 22, 2012 and September 28, 2012.

There were no fifteen-minute exceedances of Particulate Matter (PM-10) [dust], or odor action levels associated with ground intrusive site activities during this reporting period. There were fifteen-minute exceedances of the Total Volatile Organic Compounds (TVOC) above the action level attributed to VOCs from spray painting markouts on the sidewalk along Bay Street near an air monitoring station, and to a shallow excavation performed along Willow Avenue. In both cases the construction manager was notified. Plastic was applied to the excavation and foam was sprayed to mitigate VOCs in the shallow excavation and concentrations dropped below the action and alert levels. The tables and figures accompanying this report summarize air monitoring results related to the action levels described by the CAMP Work Plan (AECOM, 2011 and GEI, 2012).

The following information is summarized in this report:

- Site construction activities

- Daily maximum 15-minute average concentrations of TVOC and PM-10 (dust) at each fixed station
- Elevated concentrations (if any)
- Meteorological data

Site Construction Activities

Construction activities during this reporting period included:

- Backfilled in Temporary Fabric Structure (TFS)
- Backfilled shallow excavations
- Deconned dump trucks
- Loaded out material from TFS offsite via dump trucks
- Loaded out soil off site from shallow excavations via dump trucks
- Operated dust suppressant system South of TFS
- Operated odor suppressant system at TFS
- Performed excavation at Southeast portion of former one-story building
- Performed ground intrusive work in trench Southeast of TFS
- Performed shallow excavation along Bay Street
- Performed shallow excavation along Willow Avenue
- Received deliveries of clean backfill
- Stockpiled clean backfill
- Tarped dump trucks
- Tarped stockpiled backfill and clean soil

Data collection

Real-time fixed station monitoring for TVOC and PM-10 (dust) was performed on the OU-2 site perimeter at six locations (FAM#1 through FAM#6. Four AirLogics Classic stations equipped with gas chromatographs (GCs) were operated at FAM#2, FAM#3, FAM#4, and FAM#5 and two AirLogics Light stations were operated at FAM#1 and FAM#6.

Table 1 summarizes the target concentrations for action levels and Site Conditions described by the CAMP. Table 2 provides a daily summary of maximum fifteen-minute average ambient air concentrations from each station. The daily reports appended to this report depict more detailed and time-specific comparison of upwind and downwind measurements and site activities that is needed to determine the Site Condition.

Upwind and downwind ambient air verification samples were collected on September 26, 2012. Meteorological data collected at the on-site weather station are included in this report as Figures 1 through 4 which show a directional wind rose for the period and temperature, relative humidity, and wind speed time series for the period.

If you have any questions regarding the information in this report, please contact me.

Weekly Community Air Monitoring Report
Clifton Former MGP Site Operable Unit 2 (OU-2)
September 22, 2012 through September 28, 2012
October 8, 2012
Page 3

References

AECOM (2011). Appendix A of CERP Community Air Monitoring Plan (CAMP) Former Manufactured Gas Plant Operable Unit - 2 Remediation. Clifton, New York. August.

GEI Consultants, Inc (2012). Community Air Monitoring Plan: Clifton Former Manufactured Gas Plant Site – Operable Unit 2, Borough of Staten Island, New York. February.

New York State Department of Environmental Conservation (2010). DER-10 / Technical Guidance for Site Remediation and Investigation. Washington: Division of Environmental Remediation, December. Appendix 1-A. May.

Table 1 - Action Levels and Site Conditions
Community Air Monitoring Program
Clifton Former MGP Site Operable Unit 2
Borough of Staten Island, New York

	Alert Level	Action Level	Site Condition 1	Site Condition 2	Site Condition 3
TVOC (15-minute)	3.7 ppm	5.0 ppm	< 3.7 ppm	≥ 3.7 ppm, < 5.0 ppm	≥ 5.0 ppm
TVOC (1-minute)	NA	25 ppm	< 25 ppm	NA	≥ 25 ppm
PM-10 (15-minute)	100 ug/m ³	150 ug/m ³	< 100 ug/m ³	≥ 100 ug/m ³ , < 150 ug/m ³	≥ 150 ug/m ³
Odor (15-minute)	Odors / Complaints	NA	No odors	NA	3 (n-butanol)
HCN (15-minute)	Visual Detection	NA	< 0.6 ppm	≥ 0.6 ppm (4-gas meter)	≥ 0.6 ppm (Draeger tube)
Naphthalene (15-minute)	NA	NA	< 440 ug/m ³	≥ 330 ug/m ³ , < 440 ug/m ³	≥ 440 ug/m ³

Notes:

¹ Alert Levels are not established by the NYSDOH or NYSDEC and are internally established concentration levels for total volatile organic compounds. Alert Levels are set below the levels established by the NYSDOH so that actions can be taken prior to exceeding a NYSDOH threshold. An Alert Level serves as a screening tool to trigger contingent measures if necessary, to assist in minimizing off-site transport of contaminants during remedial activities

² Response Levels and Action Levels are not defined in Appendix 1A of the New York State Department of Environmental Conservation *DER-10 / Technical Guidance for Site Investigation and Remediation* (NYSDEC, 2010)

ug/m³ - micrograms per cubic meter

ppmv - parts per million by volume

TVOC - total volatile organic compounds

PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter

HCN - hydrogen cyanide

NA - not applicable

Table 2. Daily Maximum 15-Minute Average Concentrations of TVOC and PM-10
 Community Air Monitoring Program
 Clifton Former MGP Site Operable Unit 2
 Borough of Staten Island, New York

Date	TVOC						PM-10					
	(ppm)						(ug/m ³)					
	FAM#1	FAM#2	FAM#3	FAM#4	FAM#5	FAM#6	FAM#1	FAM#2	FAM#3	FAM#4	FAM#5	FAM#6
9/22/2012	0.2	ND	ND	ND	0.2	0.2	ND	10	1	ND	ND	ND
9/23/2012	ND	ND	ND	ND	ND	ND	ND	9	1	ND	ND	ND
9/24/2012	0.1	0.3	0.3	0.1	0.2	0.1	11	12	7	0	0	0
9/25/2012	0.1	0.2	0.1	0.1	0.2	0.1	37	11	2	1	1	0
9/26/2012	0.1	0.2	0.3	0.1	0.2	0.1	57	14	3	3	42	1
9/27/2012	0.3	0.2	1.6	1.4	0.4	0.3	55	30	2	28	38	2
9/28/2012	0.3	5.3*	0.7	5.1**	0.4	0.1	46	54	2	15	31	1
Average	0.2	0.2	0.6	0.4	0.3	0.1	41	20	3	9	22	1
Maximum	0.3	0.3	1.6	1.4	0.4	0.3	57	54	7	28	42	2

Notes:

* elevated levels of TVOC at FAM#2 were attributed to VOCs from spray painting markouts on the sidewalk along Bay Street near the air monitoring station.

** elevated levels of TVOC at FAM#4 were observed during a shallow excavation performed along Willow Avenue. Plastic was applied to the excavation and foam was sprayed to mitigate VOCs in the shallow excavation and concentrations dropped below the action and alert levels.

FAM - fixed air monitoring station location

ug/m³ - micrograms per cubic meter

ppmv - parts per million by volume

TVOC - total volatile organic compounds

PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter

Figures 1-4
Meteorological Data
Weekly Community Air Monitoring Report
Clifton Former MGP Site Operable Unit 2
Borough of Staten Island, New York

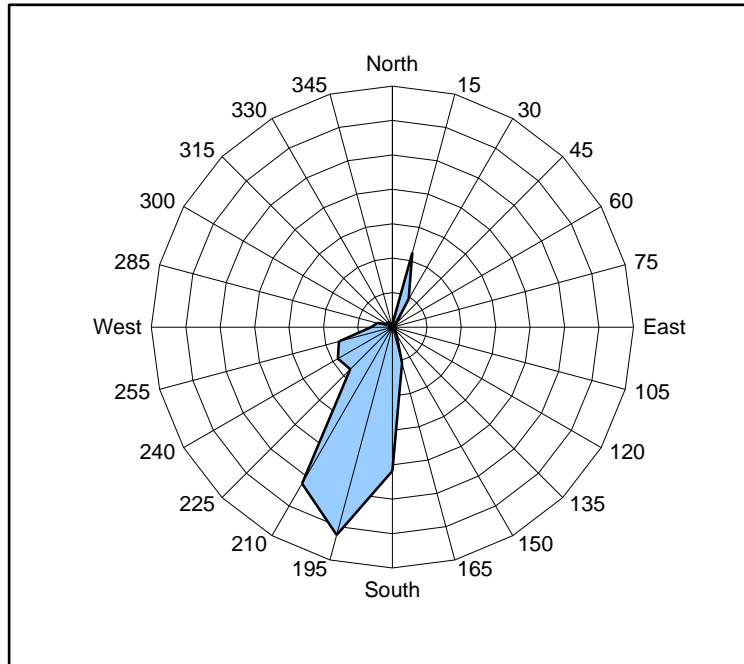


Figure 1. Wind rose for the period 09/22/12 through 09/28/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

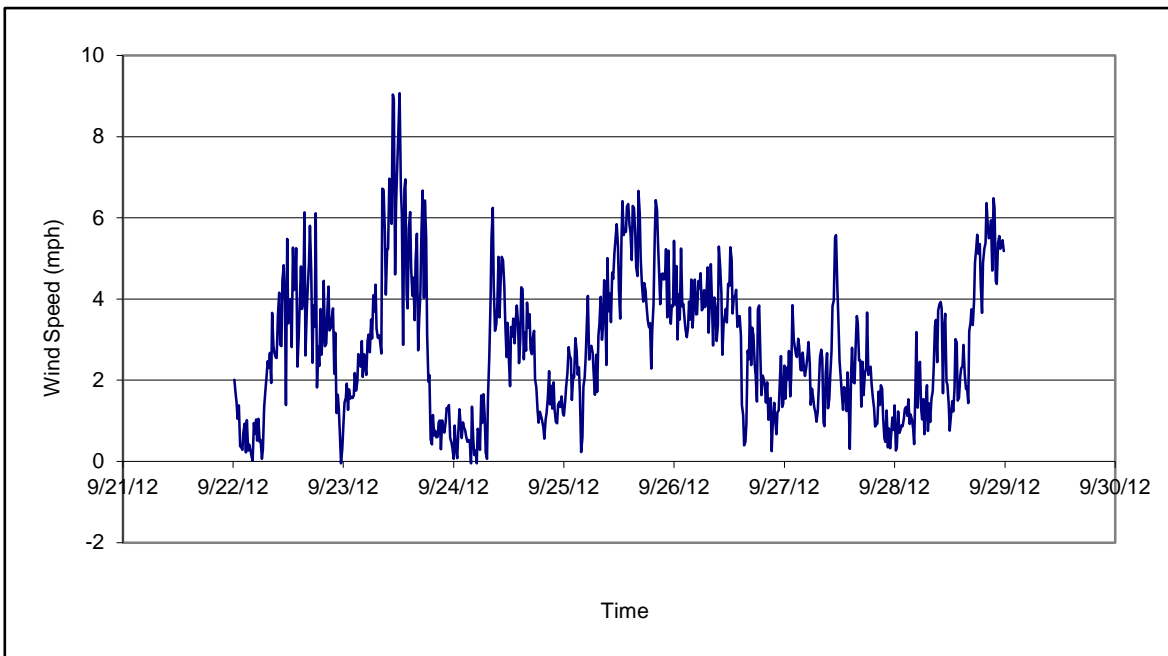


Figure 2. Wind speed for the period 09/22/12 through 09/28/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

Figures 1-4
Meteorological Data
Weekly Community Air Monitoring Report
Clifton Former MGP Site Operable Unit 2
Borough of Staten Island, New York

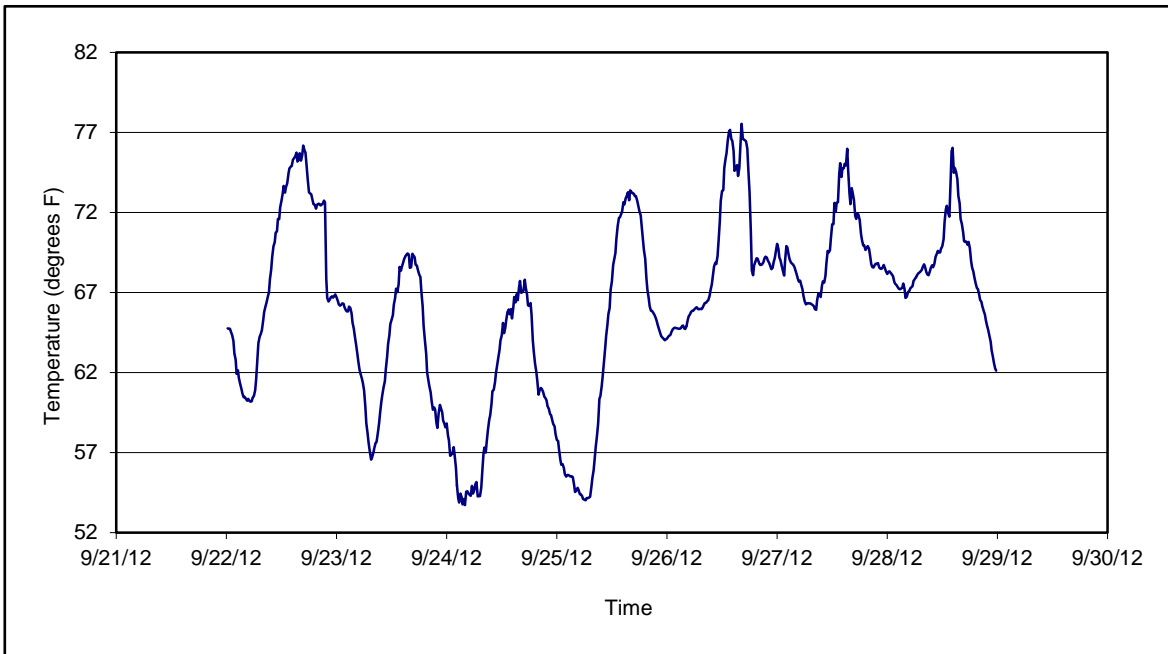


Figure 3. Temperature for the period 09/22/12 through 09/28/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

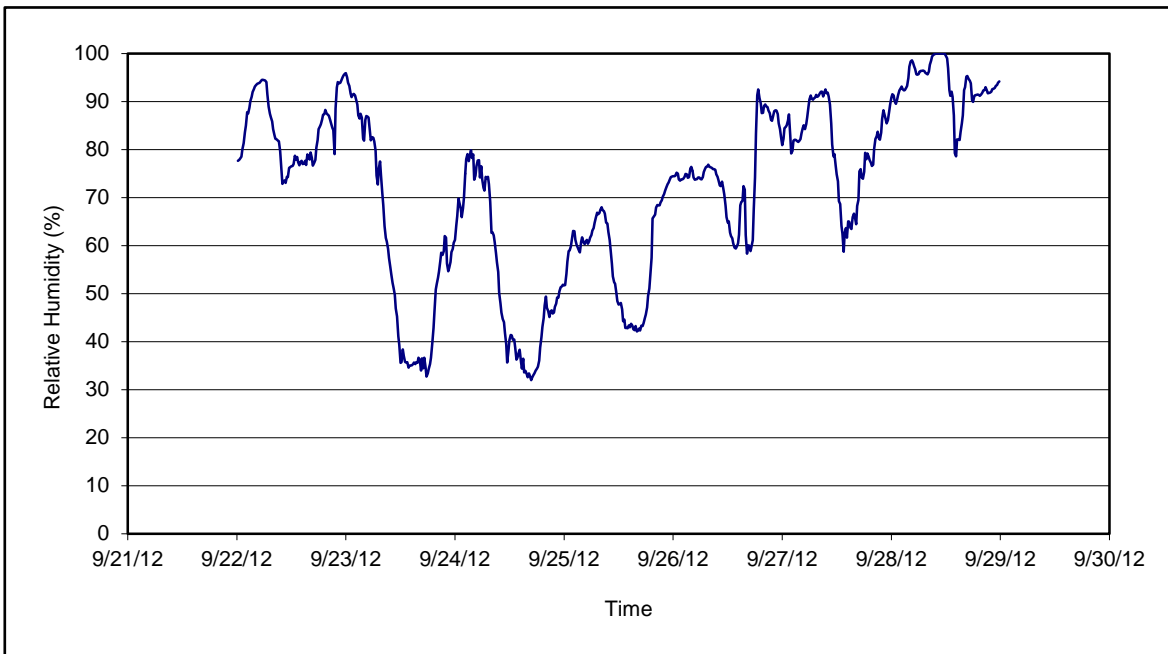


Figure 4. Relative humidity for the period 09/22/12 through 09/28/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

Daily Field Report

Community Air Monitoring Program

Clifton Former MGP Site Operable Unit 2

Borough of Staten Island, New York

System Operations					General Observations								
Sampling Date System Start Time System Stop Time Total Hrs Monitored System Calibrations (Time/Status)		9/24/2012 continuous continuous 24 Ok 0735-1011			General Weather Conditions: Clear - ~ 55°F - ~65°F General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Stockpiled clean backfill Deconned dump trucks Received deliveries of clean backfill Tarped dump trucks Load out of material from TFS to Dump trucks Operated odor suppressant system @ TFS Performed intrusive work at in trench Southeast of TFS Operated dust suppressant system south of TFS Tarped stockpiled backfill and clean soil								
Date	Alert Trigger	Station	Start Time	End Time	# of 15-min Periods	Wind Dir.	Upwind/Downwind	Upwind Station(s)	15-Minute Downwind-Upwind Concentration		Site Condition	Site Activity During the Period (if applicable)	Actions Taken
9/24/2012	No Exceedances								Min**	Max**			None taken
Comments:													
					PM-10 (15-min)		TVOC (15-min)		TVOC (1-min)		Odor Intensity (15-min)		
					Alert Limit: 100 ug/m ³		3.7 ppm		-		-		
					Action Limit: 150 ug/m ³		5.0 ppm		25 ppm		3 (n-butanol scale)		
Notes:													
* Wind directions are presented by octant (i.e. N, NE, E, SE, S, SW, W, NW).						PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter							
** Upwind minus downwind concentrations are a time specific comparison.						TVOC - total volatile organic compounds							
FAM - Fixed Air Monitoring station location						NA - not applicable							
ug/m ³ - micrograms per cubic meter						ND - no data available							
ppmv - parts per million by volume						Field Representative: C. John		Date: 9/24/2012					



Daily Field Report
Community Air Monitoring Program
Clifton Former MGP Site Operable Unit 2
Borough of Staten Island, New York

System Operations Sampling Date: 9/25/2012 System Start Time: continuous System Stop Time: continuous Total Hrs Monitored: 24 System Calibrations (Time/Status): Ok 0638-0918	General Observations General Weather Conditions: Clear -- 54°F -- ~73°F General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Stockpiled clean Backfill Decanned dump trucks Received deliveries of clean backfill Tarped stockpiled backfill and clean excavated soil Tarped dump trucks Loaded out material from TFS offsite via dump trucks Operated odor suppressant system at TFS Performed intrusive work in trench Southeast of TFS Operated dust suppressant South of TFS Performed excavation at Southeast portion of former one-story building
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Date	Alert Trigger	Station	Start Time	End Time	# of 15-min Periods	Wind Dir.	Upwind/ Downwind	Upwind Station(s)	15-Minute Downwind-Upwind Concentration		Site Condition	Site Activity During the Period (if applicable)	Actions Taken
									Min**	Max**			
9/25/2012	No Exceedances												None taken

Comments:

	PM-10 (15-min) Alert Limit: 100 ug/m ³ Action Limit: 150 ug/m ³	TVOC (15-min) 3.7 ppm 5.0 ppm	TVOC (1-min) - 25 ppm	Odor Intensity (15-min) - 3 (n-butanol scale)
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Notes:

* Wind directions are presented by octant (i.e. N, NE, E, SE, S, SW, W, NW).
 ** Upwind minus downwind concentrations are a time specific comparison.
 FAM - Fixed Air Monitoring station location
 ug/m³ - micrograms per cubic meter
 ppmv - parts per million by volume

PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter
 TVOC - total volatile organic compounds

 NA - not applicable
 ND - no data available

 Field Representative: C. John
 Date: 9/25/2012



Daily Field Report
 Community Air Monitoring Program
 Clifton Former MGP Site Operable Unit 2
 Borough of Staten Island, New York

System Operations					General Observations											
Sampling Date	9/26/2012	General Weather Conditions: Clear - ~ 54°F - ~73°F														
System Start Time	continuous	General Description of Site Activities:					Backfilled inside Temporary Fabric Structure (TFS)					Tarped dump trucks				
System Stop Time	continuous	Health & Safety Meeting					Tarped dump trucks					Loaded out material from TFS offsite via dump trucks				
Total Hrs Monitored	24	Continuous Air Monitoring					Operated odor suppressant system at TFS					Operated dust suppressant system South of TFS				
System Calibrations (Time/Status)	Ok 0638-0918	Stockpiled clean Backfill					Performed intrusive work in trench Southeast of TFS					Operated dust suppressant system South of TFS				
		Decconned dump trucks					Performed excavation at Southeast portion of former one-story building									
		Received deliveries of clean backfill														
		Tarped stockpiled backfill and clean excavated soil														
Date	Alert Trigger	Station	Start Time	End Time	# of 15-min Periods	Wind Dir.	Upwind/ Downwind	Upwind Station(s)	15-Minute Downwind-Upwind Concentration Min** Max**		Site Condition	Site Activity During the Period (if applicable)	Actions Taken			
9/26/2012	No Exceedances												None taken			
Comments:																
					PM-10 (15-min)			TVOC (15-min)			TVOC (1-min)		Odor Intensity (15-min)			
					Alert Limit: 100 ug/m ³			3.7 ppm			-		-			
					Action Limit: 150 ug/m ³			5.0 ppm			25 ppm		3 (n-butanol scale)			
Notes:																
* Wind directions are presented by octant (i.e. N, NE, E, SE, S, SW, W, NW).										PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter						
** Upwind minus downwind concentrations are a time specific comparison.										TVOC - total volatile organic compounds						
FAM - Fixed Air Monitoring station location										NA - not applicable						
ug/m ³ - micrograms per cubic meter										ND - no data available						
ppmv - parts per million by volume										Field Representative: C. John						
										Date: 9/26/2012						



Daily Field Report
Community Air Monitoring Program
Clifton Former MGP Site Operable Unit 2
Borough of Staten Island, New York

System Operations					General Observations								
Sampling Date		9/27/2012			General Weather Conditions: Cloudy w/rain - ~ 58°F - ~74°F								
System Start Time		continuous			General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Stockpiled clean backfill Decommed dump trucks Performed shallow excavation along Willow Avenue Tarped stockpiled backfill and clean excavated soil								
System Stop Time		continuous											
Total Hrs Monitored		24											
System Calibrations (Time/Status)		Ok 0650-0923											
					Tarped dump trucks Loaded out soil off site from shallow excavations via dump trucks Backfilled in Temporary Fabric Structure (TFS) Performed intrusive work in trench Southeast of TFS Operated dust suppressant system South of TFS Performed shallow excavation along Bay Street								
Date	Alert Trigger	Station	Start Time	End Time	# of 15-min Periods	Wind Dir.	Upwind/Downwind	Upwind Station(s)	15-Minute Downwind-Upwind Concentration Min** Max**		Site Condition	Site Activity During the Period (if applicable)	Actions Taken
9/27/2012	No Exceedances												None taken
Comments:													
					PM-10 (15-min)		TVOC (15-min)		TVOC (1-min)		Odor Intensity (15-min)		
					Alert Limit: 100 ug/m ³		3.7 ppm		-		-		
					Action Limit: 150 ug/m ³		5.0 ppm		25 ppm		3 (n-butanol scale)		
Notes:													
* Wind directions are presented by octant (i.e. N, NE, E, SE, S, SW, W, NW).						PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter							
** Upwind minus downwind concentrations are a time specific comparison.						TVOC - total volatile organic compounds							
FAM - Fixed Air Monitoring station location						NA - not applicable						Field Representative: R.Marshall	
ug/m ³ - micrograms per cubic meter						ND - no data available						Date: 9/27/2012	
ppmv - parts per million by volume													



Daily Field Report
Community Air Monitoring Program
Clifton Former MGP Site Operable Unit 2
Borough of Staten Island, New York

System Operations					General Observations								
Sampling Date: 9/28/2012 System Start Time: continuous System Stop Time: continuous Total Hrs Monitored: 24 System Calibrations (Time/Status): Ok 0650-0923					General Weather Conditions: Cloudy w/rain - ~ 58°F - ~74°F General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Stockpiled clean backfill Decommed dump trucks Performed shallow excavation along Willow Avenue Tarped stockpiled backfill and clean excavated soil								
					Backfilled in Temporary Fabric Structure (TFS) Loaded out soil off site from shallow excavations via dump trucks Backfilled shallow excavations Tarped dump trucks Operated dust suppressant system South of TFS Performed shallow excavation along Bay Street				Surveyed in OU-2				
Date	Alert Trigger	Station	Start Time	End Time	# of 15-min Periods	Wind Dir.	Upwind/Downwind	Upwind Station(s)	15-Minute Downwind-Upwind Concentration Min** Max**		Site Condition	Site Activity During the Period (if applicable)	Actions Taken
9/28/2012	TVOC	FAM#2	11:12	11:17	6	SSE	DW	FAM#3	4.9	5.3	1	VOCs attributed to spray painting markouts on the sidewalk along Bay Street near an air monitoring station. Since VOCs were not caused by contaminated soils, a Site Condition 1 remained.	Notified construction manager No actions taken Levels dropped below action and alert levels on their own
9/28/2012	TVOC	FAM#4	8:38	8:41	10	SSE	UW	NA	NA	NA	1	VOCs attributed to a shallow excavation performed along Willow Avenue.	Notified construction manager. Plastic was applied to the excavation and foam was sprayed to mitigate VOCs in the shallow excavation and concentrations dropped below the action and alert levels.
Comments:													
						PM-10 (15-min) Alert Limit: 100 ug/m ³ Action Limit: 150 ug/m ³		TVOC (15-min) 3.7 ppm 5.0 ppm		TVOC (1-min) - 25 ppm		Odor Intensity (15-min) - 3 (n-butanol scale)	
Notes:													
* Wind directions are presented by octant (i.e. N, NE, E, SE, S, SW, W, NW). ** Upwind minus downwind concentrations are a time specific comparison. FAM - Fixed Air Monitoring station location ug/m ³ - micrograms per cubic meter ppmv - parts per million by volume													
PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter TVOC - total volatile organic compounds NA - not applicable ND - no data available													
												Field Representative: R.Marshall Date: 9/28/2012	