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Memorandum

To: Andrew Prophete (National Grid NY)

From: Brian Skelly

Copy to: Richard Dana, 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 (GEI Consultants, Inc.)

Date: May 9, 2012

Regarding: Weekly Community Air Monitoring Report
Clifton Former MGP Site - Operable Unit 2 (OU-2)
April 28, 2012 through May 4, 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 April 28 and May 4, 2012.

There were no fifteen-minute exceedances of the Total Volatile Organic Compounds (TVOC), Particulate Matter (PM-10) [dust], or odor action levels associated with ground intrusive site activities during this reporting period. Fifteen-minute averages of PM-10, and odor intensity data remained at a Site Condition 1. Fifteen-minute averages of TVOC data were at Site Condition 1, or Site Condition 2 as discussed below.

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:

- Utility clearance and utility surveying on Willow Avenue to support the wastewater treatment plant
- Pre-trenching in OU-2 along Willow Avenue and Bay Street
- Pre-trenching inside TFS in OU-2
- Backfilling trenches in OU-2
- Transported jersey blocks from inside the 1-story building to inside the TFS
- Transporting soils into the Temporary Fabric Structure (TFS)
- Segregating soils into the TFS
- Installing dust suppressant water lines in OU-2
- Installing pipes in a trench along Bay Street
- Installing a pole and electrical panel box in the southeast corner of OU-2
- Moving equipment into storage units in OU-2
- Transporting pipes in OU-2

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). FAM#3 was located in the northeast corner of the 40 Willow Avenue Property during the week. 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. Diesel generators were used to power the four AirLogics Classic stations and will continue 24 hours a day, 7 days per week until 120 volt electrical connections are established onsite.

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.

On Wednesday, May 2, FAM#4 measured TVOC exceeding the alert limit of 3.7 ppm from 9:00am - 9:14am during site activity. The construction manager was notified and the contractor continued spraying the work area with foam. TVOC remained below action level of 5.0ppm.

On Friday, May 4, FAM#2 measured TVOC exceeding the alert limit of 3.7 ppm from 4:00pm - 4:16pm after hours. TVOC remained below action level of 5.0ppm and the levels TVOC decreased for the rest of the day and through the weekend.

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Upwind and downwind ambient air verification samples were collected on May 2, 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.

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
4/28/2012	0.4	0.0	0.2	0.2	0.0	0.0	27	16	12	12	7	25
4/29/2012	0.3	0.0	0.2	0.2	0.0	0.1	58	20	13	13	4	43
4/30/2012	0.0	0.1	0.4	0.2	0.3	0.4	49	15	7	7	25	78
5/1/2012	0.6	0.3	0.4	0.8	0.3	1.0	53	21	8	22	20	39
5/2/2012	0.3	0.4	0.2	3.9	0.6	0.2	31	16	3	4	15	26
5/3/2012	0.3	0.2	0.3	0.7	0.5	0.1	56	18	4	15	4	43
5/4/2012	0.4	4.9	0.7	0.6	0.5	0.1	57	25	3	21	5	46
Average	0.3	0.9	0.4	0.9	0.3	0.3	47	19	7	13	11	43
Maximum	0.6	4.9	0.7	3.9	0.6	1.0	58	25	13	22	25	78

Notes:

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

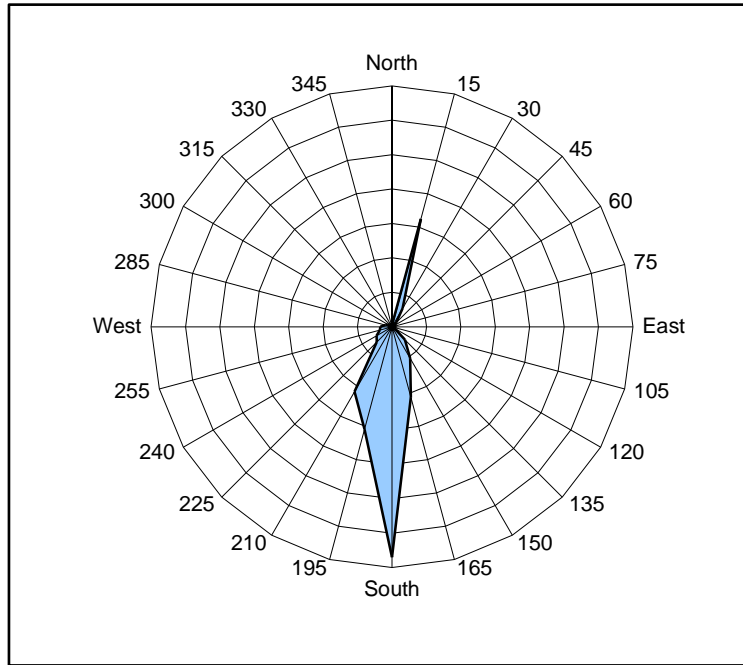


Figure 1. Wind rose for the period 04/28/12 through 05/04/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

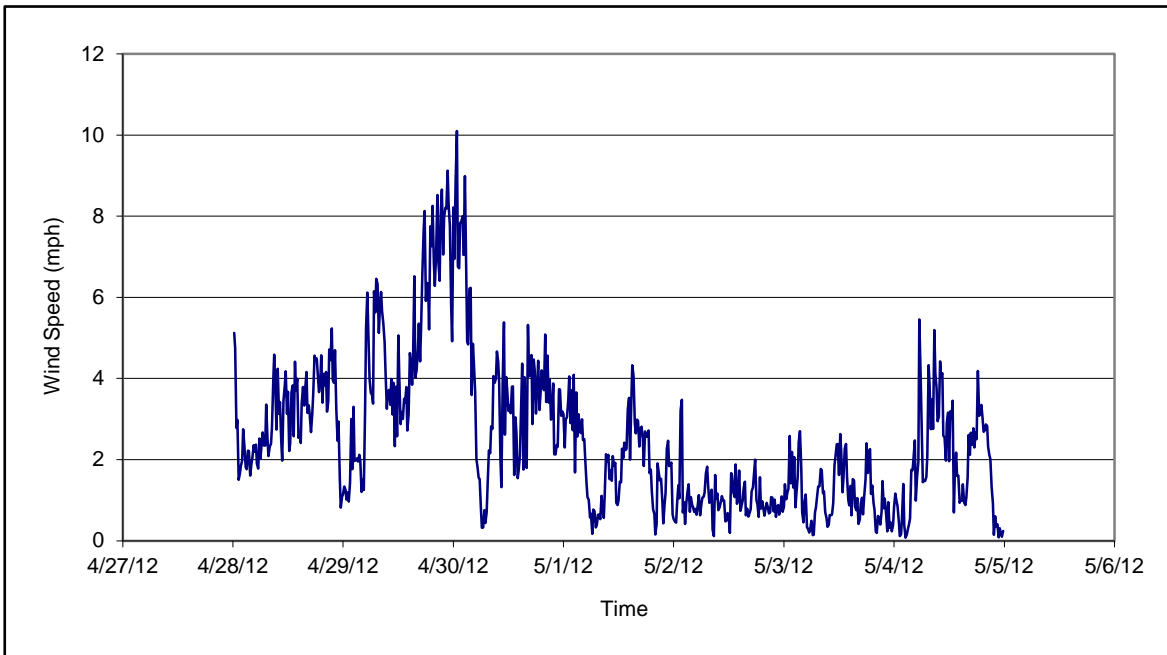


Figure 2. Wind speed for the period 04/28/12 through 05/04/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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

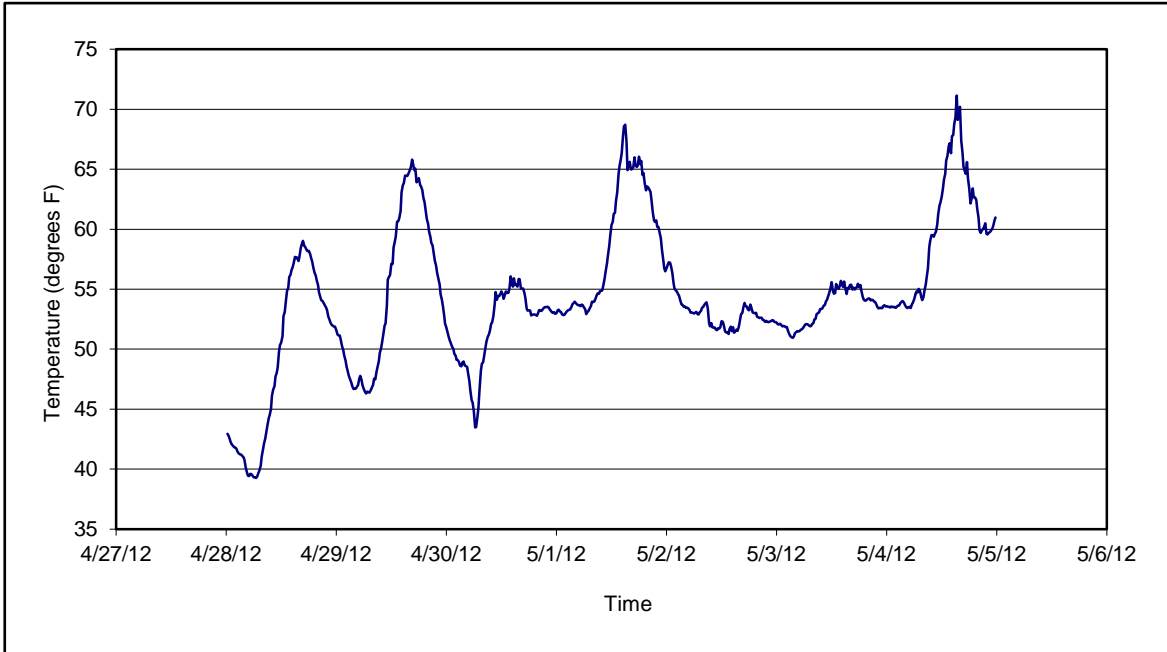


Figure 3. Temperature for the period 04/28/12 through 05/04/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

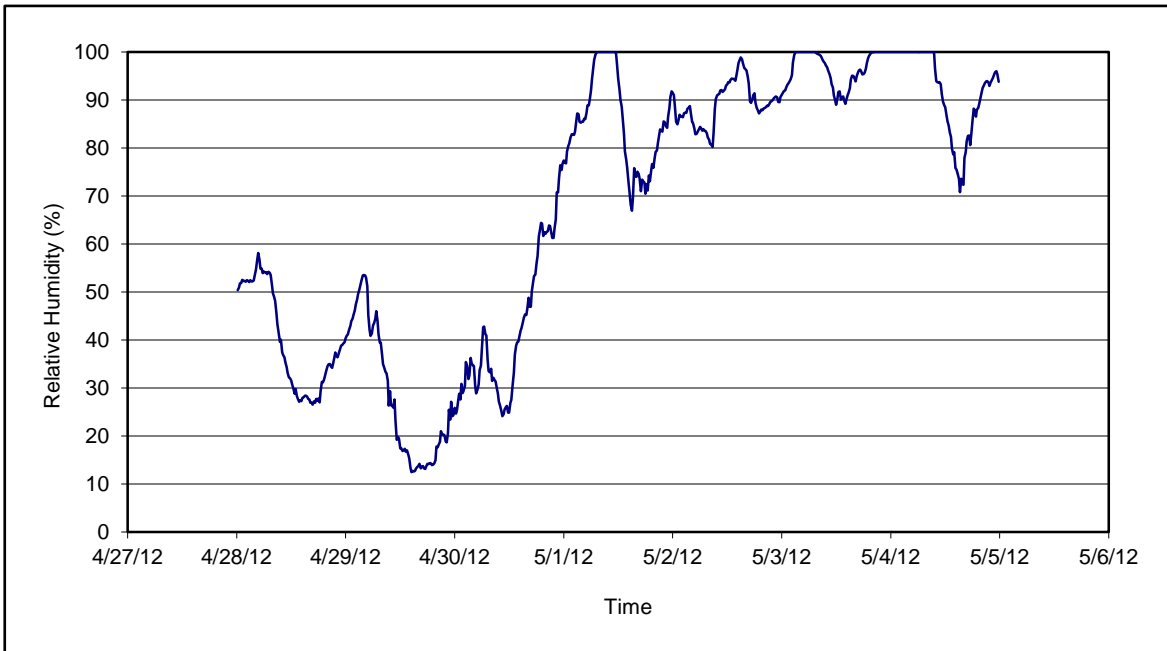


Figure 4. Relative humidity for the period 04/28/12 through 05/04/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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	4/30/2012	General Weather Conditions: Sunny- -47°F- -57°F																																																					
System Start Time	continuous	General Description of Site Activities:																																																					
System Stop Time	continuous	Health & Safety Meeting						Pre-trenching in OU-2 along Willow Avenue																																															
Total Hrs Monitored	24	Continuous Air Monitoring						Pre-trenching in OU-2 between the one-story building and the perimeter fence along Bay Street																																															
System Calibrations (Time/Status)	Ok 0620-0820	Utility work on Willow Avenue to support WWTP						Backfilling trenches in OU-2																																															
		Transporting pipes in OU-2						Pre trenching inside TFS																																															
		Pre trenching inside TFS																																																					
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																																										
4/30/2012	None								Min**	Max**			No exceedances																																										
Comments:																																																							
<table border="0" style="width: 100%;"> <tr> <td></td><td></td><td></td><td></td><td>PM-10 (15-min)</td><td>TVOC (15-min)</td><td>TVOC (1-min)</td><td>Odor Intensity (15-min)</td><td colspan="6"></td> </tr> <tr> <td></td><td></td><td></td><td></td><td>Alert Limit: 100 ug/m³</td><td>3.7 ppm</td><td>-</td><td>-</td><td colspan="6"></td> </tr> <tr> <td></td><td></td><td></td><td></td><td>Action Limit: 150 ug/m³</td><td>5.0 ppm</td><td>25 ppm</td><td>3 (n-butanol scale)</td><td colspan="6"></td> </tr> </table>																		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)						
				PM-10 (15-min)	TVOC (15-min)	TVOC (1-min)	Odor Intensity (15-min)																																																
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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/C. John																																											
ug/m ³ - micrograms per cubic meter						ND - no data available						Date: 4/30/2012																																											
ppmv - parts per million by volume												Page 1 of 1																																											



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 5/1/2012 System Start Time continuous System Stop Time continuous Total Hrs Monitored 24 System Calibrations Ok (Time/Status) 0738-0927					General Weather Conditions: Sunny- ~52°F- ~59°F General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Utility work on Willow Avenue to support WWTP Pre trenching inside TFS Relocating soil into TFS Pre-trenching in OU-2 along Willow Avenue Pre-trenching in OU-2 between the one-story building and the perimeter fence along Bay Street Backfilling trenches in OU-2 Pre trenching inside TFS									
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	
5/1/2012	None												No exceedances	
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: R. Marshall/C. John								
						Date: 5/1/2012								
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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: 5/2/2012 System Start Time: continuous System Stop Time: continuous Total Hrs Monitored: 24 System Calibrations (Time/Status): Ok 0738-0927					General Weather Conditions: Sunny- -53°F- -54°F General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Utility work on Willow Avenue to support WWTP Segregated soil inside of TFS Pre-trenching in OU-2 along Willow Avenue Installed pipes inside of trench along Bay St. Backfilling trench in OU-2 Transported jersey blocks from inside the 1-story building to inside the TFS									
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	
5/2/12	TVOC	FAM#4	9:09	9:14	6	E	UW	N/A	3.7	3.9	2	Pre trenching on the outside of the temporary fabric structure	Notified the construction manager	
Comments:														
During this alert, the gas chromatograph switched to compound-specific mode for BTEX compounds and measured benzene at less than 0.07 ppm and m,p-xylene less than 0.06 ppm. Toluene and ethylbenzene were not detected.														
					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						Field Representative: R. Marshall/ C. John		
** Upwind minus downwind concentrations are a time specific comparison.						TVOC - total volatile organic compounds						Date: 5/2/2012		
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														
													Page 1 of 1	



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: 5/3/2012 System Start Time: continuous System Stop Time: continuous Total Hrs Monitored: 24 System Calibrations (Time/Status): Ok 0738-0927		General Weather Conditions: Sunny- ~53°F- ~54°F General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Utility work on Willow Avenue to support WWTP Segregated soil inside of TFS Moved equipment into storage units in OU-2 Pre-trenching in OU-2 along Bay St. Installed pipes inside of trench along Bay St. Backfilling trench in OU-2 Installed pole at SE corner of OU-2 for electrical panel box											
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
5/3/2012	None												No exceedances
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: 5/3/2012			
ppmv - parts per million by volume													
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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	5/4/2012				General Weather Conditions: Sunny - ~53°F - ~54°F								
System Start Time	continuous				General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Reconned swing gate on Bay St. Segregated soil inside of TFS Installed dust suppressant water line in OU-2 Installed electric panel box near SE corner of 1-story building Backfilled trench in OU-2								
System Stop Time	continuous												
Total Hrs Monitored	24												
System Calibrations (Time/Status)	Ok 0626-0845												
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
5/4/2012	TVOC	FAM#2	16:01	16:09	9	S	DW	FAM#1	3.6	4.8	1*	After hours. No site activity.	None taken. All personnel were off-site. Notified the construction manager.
Comments:													
The gas chromatograph at FAM#5 ran in compound-specific mode for BTEX from 06:36 - 15:19. There were no detections of benzene, toluene, ethylbenzene, or xylenes.													
*No ground intrusive work being performed during this time period.													
		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								
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