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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: December 21, 2012

Regarding: Weekly Community Air Monitoring Report  
Clifton Former MGP Site - Operable Unit 2 (OU-2)  
December 8, 2012 through December 14, 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 December 8, 2012 and December 14, 2012.

There were no fifteen-minute exceedances of the Total Volatile Organic Compounds (TVOC), or odor action levels associated with ground intrusive site activities during this reporting period. There was an exceedance above the alert level for Particulate Matter (PM-10) [dust] at a crosswind station. This was caused by sawing through the concrete sidewalk during site restoration at close proximity to the station. The construction manager was notified, water was applied and the levels dropped below the alert level. 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:

- Excavated in Temporary Fabric Structure (TFS)
- Deconned dump trucks
- Received deliveries of clean backfill
- Installed erosion control along Bay Street
- Installed lining in the bottom of the trench north of the TFS
- Leveled terrain in the TFS
- Loaded out soil from the TFS
- Performed Shallow excavation northeast of the TFS
- Received deliveries of clean backfill
- Restored side walk along Willow Avenue
- Tarped dump trucks
- Transported soil into the TFS
- Loaded out soil from shallow excavation

### **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 December 12, 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)  
December 8, 2012 through December 14, 2012  
December 21, 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 <sup>3</sup>	150 ug/m <sup>3</sup>	< 100 ug/m <sup>3</sup>	≥ 100 ug/m <sup>3</sup> , < 150 ug/m <sup>3</sup>	≥ 150 ug/m <sup>3</sup>
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 <sup>3</sup>	≥ 330 ug/m <sup>3</sup> , < 440 ug/m <sup>3</sup>	≥ 440 ug/m <sup>3</sup>

**Notes:**

<sup>1</sup> 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

<sup>2</sup> 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/m<sup>3</sup> - 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 <sup>3</sup> )					
	FAM#1	FAM#2	FAM#3	FAM#4	FAM#5	FAM#6	FAM#1	FAM#2	FAM#3	FAM#4	FAM#5	FAM#6
12/8/2012	0.0	0.1	0.4	0.1	0.1	0.0	79	5	34	45	65	79
12/9/2012	0.0	0.1	0.2	0.1	0.1	0.0	68	6	21	34	53	57
12/10/2012	0.0	0.5	0.4	0.5	0.3	0.0	96	97	3	84	107	112
12/11/2012	0.0	0.1	0.6	0.6	0.5	0.0	44	29	9	28	40	45
12/12/2012	0.0	0.2	0.5	0.4	0.1	0.0	27	28	148	41	55	39
12/13/2012	0.0	0.2	0.1	0.0	0.1	0.0	60	27	12	43	64	32
12/14/2012	0.1	0.1	0.2	0.5	0.1	0.0	64	65	14	42	63	39
Average	0.0	0.2	0.4	0.3	0.2	0.0	63	37	34	45	64	58
Maximum	0.1	0.5	0.6	0.6	0.5	0.0	96	97	148	84	107	112

**Notes:**

FAM - fixed air monitoring station location

ug/m<sup>3</sup> - 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**

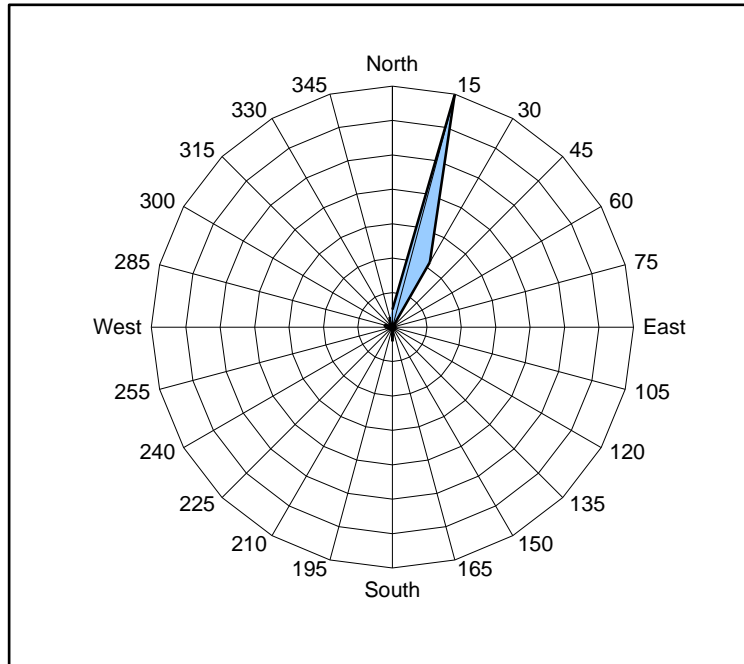


Figure 1. Wind rose for the period 12/08/12 through 12/14/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

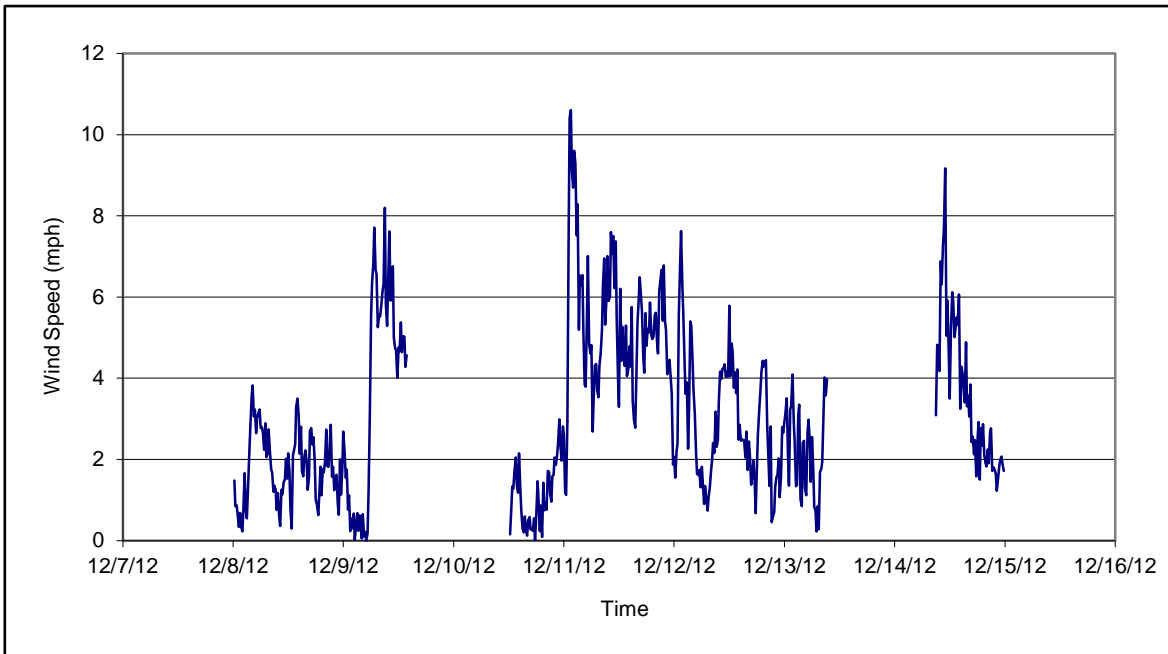


Figure 2. Wind speed for the period 12/08/12 through 12/14/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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

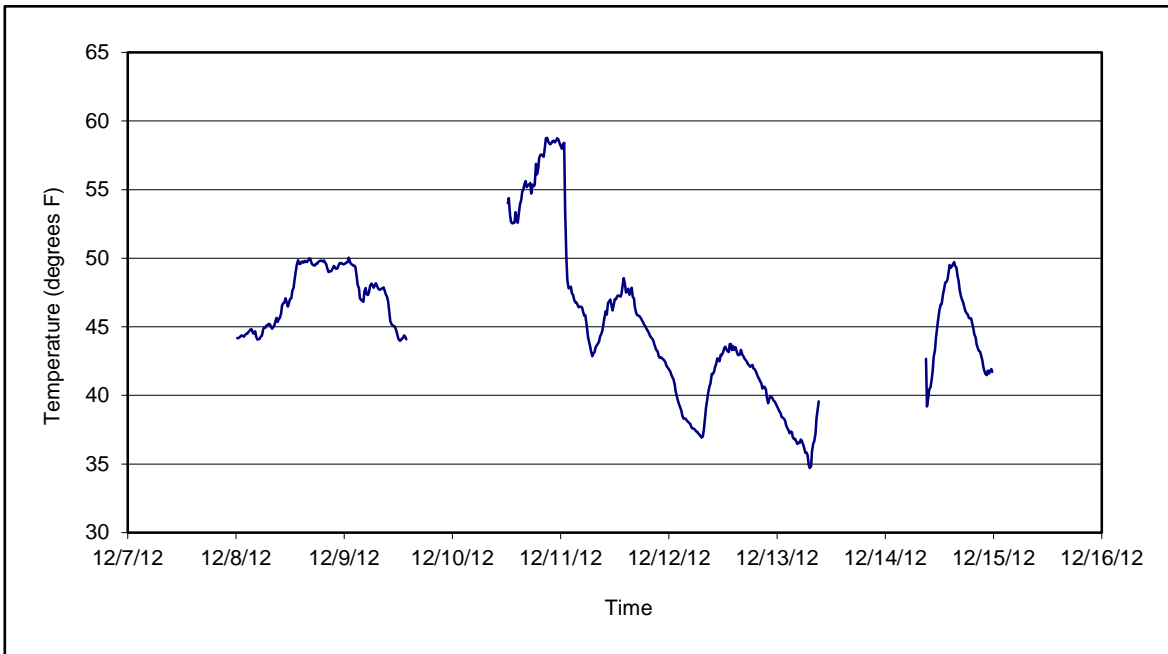


Figure 3. Temperature for the period 12/08/12 through 12/14/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.



Figure 4. Relative humidity for the period 12/08/12 through 12/14/12 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	12/10/2012	General Weather Conditions: Overcast - ~ 44°F - ~54°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Excavated in Temporary Fabric Structure (TFS) Decanned dump trucks Loaded out soil from TFS Tarped dump trucks  Transported soil into TFS Restored side walk west of 85 Willow Ave Delivery of clean backfill												
System Start Time	continuous													
System Stop Time	continuous													
Total Hrs Monitored	24													
System Calibrations (Time/Status)	Ok 0645-1027													
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	
12/10/2012	PM-10	FAM#5	12:54	13:26	33	NNE	CW/DW	FAM#6	0	3	1	Dump trucks moving along the terrain	CM notified	
12/10/2012	PM-10	FAM#6	12:47	13:24	37	NNW	UW	N/A	100	112	1	Dump trucks moving along the terrain	CM notified	
Comments:														
Alert Limit:					<b>PM-10 (15-min)</b>		<b>TVOC (15-min)</b>		<b>TVOC (1-min)</b>		<b>Odor Intensity (15-min)</b>			
Action Limit:					100 ug/m <sup>3</sup>		3.7 ppm		-		-			
Action Limit:					150 ug/m <sup>3</sup>		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 <sup>3</sup> - micrograms per cubic meter							ND - no data available							
ppmv - parts per million by volume							Field Representative: R. Marshall							
							Date: 12/10/2012							



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

<b>System Operations</b>					<b>General Observations</b>									
Sampling Date	12/11/2012	General Weather Conditions: Partly Cloudy - ~ 42°F - ~47°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Excavated in Temporary Fabric Structure (TFS) Deconned dump trucks Loaded out soil from TFS Tarped dump trucks  Transported soil into TFS Restored side walk along Willow Ave Delivery of clean backfill Shallow excavation performed North East of TFS Bull Dozer spreading material into TFS												
System Start Time	continuous													
System Stop Time	continuous													
Total Hrs Monitored	24													
System Calibrations (Time/Status)	Ok 0729-0834													
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	
12/11//2012	No Exceedances												No Action Taken	
<b>Comments:</b>														
					<b>PM-10 (15-min)</b>			<b>TVOC (15-min)</b>			<b>TVOC (1-min)</b>			<b>Odor Intensity (15-min)</b>
					Alert Limit:	100 ug/m <sup>3</sup>		3.7 ppm			-			-
					Action Limit:	150 ug/m <sup>3</sup>		5.0 ppm			25 ppm			3 (n-butanol scale)
<b>Notes:</b>														
* 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					TVOC - total volatile organic compounds				
** Upwind minus downwind concentrations are a time specific comparison.					NA - not applicable					ND - no data available				
FAM - Fixed Air Monitoring station location										Field Representative: C. John				
ug/m <sup>3</sup> - micrograms per cubic meter										Date: 12/11/2012				
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: 12/12/2012 System Start Time: continuous System Stop Time: continuous Total Hrs Monitored: 24  System Calibrations (Time/Status): Ok 0641-0758					General Weather Conditions: Clear - ~ 37°F - ~43°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Excavated in Temporary Fabric Structure (TFS) Deconned dump trucks Loaded out soil from TFS Tarped dump trucks																																																																
					Transported soil into TFS Restored side walk along Willow Ave Received deliveries of clean backfill Performed Shallow excavation North East of TFS Leveled terrain in 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																																																								
12/12/2012	PM-10	FAM#3	10:05	10:19	15	NNE	CW	FAM#2	92	141	2	Sawing through concrete sidewalk along Willow Avenue	Notified construction manager Water was applied																																																								
<b>Comments:</b>																																																																					
<table border="0"> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;"><b>PM-10 (15-min)</b></td> <td></td> <td style="text-align: center;"><b>TVOC (15-min)</b></td> <td></td> <td style="text-align: center;"><b>TVOC (1-min)</b></td> <td></td> <td style="text-align: center;"><b>Odor Intensity (15-min)</b></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Alert Limit: 100 ug/m<sup>3</sup></td> <td></td> <td>3.7 ppm</td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Action Limit: 150 ug/m<sup>3</sup></td> <td></td> <td>5.0 ppm</td> <td></td> <td>25 ppm</td> <td></td> <td>3 (n-butanol scale)</td> <td></td> <td></td> </tr> </table>																																	<b>PM-10 (15-min)</b>		<b>TVOC (15-min)</b>		<b>TVOC (1-min)</b>		<b>Odor Intensity (15-min)</b>								Alert Limit: 100 ug/m <sup>3</sup>		3.7 ppm		-		-								Action Limit: 150 ug/m <sup>3</sup>		5.0 ppm		25 ppm		3 (n-butanol scale)		
					<b>PM-10 (15-min)</b>		<b>TVOC (15-min)</b>		<b>TVOC (1-min)</b>		<b>Odor Intensity (15-min)</b>																																																										
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<b>Notes:</b>																																																																					
* 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 <sup>3</sup> - 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: 12/12/2012																																																														



**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	12/13/2012	General Weather Conditions: Clear - ~ 37°F - ~43°F											
System Start Time	continuous	General Description of Site Activities:											
System Stop Time	continuous	Health & Safety Meeting				Transported soil into TFS				Installed lining in the bottom of the trench North of TFS			
Total Hrs Monitored	24	Continuous Air Monitoring				Installed erosion control along Bay St.				Performed shallow excavation North East of TFS			
System Calibrations (Time/Status)	Ok 0742-0944	Excavated in Temporary Fabric Structure (TFS)				Delivery of clean backfill				Leveled terrain in TFS			
		Deconned dump trucks				Performed shallow excavation North East of TFS				Restored sidewalk along Willow Avenue			
		Loaded out soil from TFS				Leveled terrain in TFS							
		Tarp'd dump trucks				Restored sidewalk along Willow Avenue							
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
12/13//2012	No Exceedances												No Action Taken
Comments:													
Alert Limit:		Action Limit:		<b>PM-10 (15-min)</b> 100 ug/m <sup>3</sup> 150 ug/m <sup>3</sup>			<b>TVOC (15-min)</b> 3.7 ppm 5.0 ppm			<b>TVOC (1-min)</b> - 25 ppm		<b>Odor Intensity (15-min)</b> - 3 (n-butanol scale)	
<b>Notes:</b>													
* 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 <sup>3</sup> - 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:		12/13/2012	



**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		12/14/2012			General Weather Conditions: Clear - ~ 38°F - ~48°F									
System Start Time		continuous			General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Excavated in Temporary Fabric Structure (TFS) Deconned dump trucks Loaded out soil from TFS Tarped dump trucks Transported soil into TFS Restored side walk along Willow Ave Delivery of clean backfill Shallow excavation performed North East of TFS Bull Dozer spread material into TFS Sidewalk Restorated along Willow Ave. Hoe Ram operated inside Trench north of TFS Stockpiled Cement w/ rebar and load out into tarped dump trucks Tarped Clean backfill Stockpile in preparation for Weekend incliment weather									
System Stop Time		continuous												
Total Hrs Monitored		24												
System Calibrations (Time/Status)		Ok 0742-0944												
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	
12/14/2012	No Exceedances												No Action Taken	
<b>Comments:</b>														
					PM-10 (15-min)		TVOC (15-min)		TVOC (1-min)		Odor Intensity (15-min)			
					Alert Limit: 100 ug/m <sup>3</sup>		3.7 ppm		-		-			
					Action Limit: 150 ug/m <sup>3</sup>		5.0 ppm		25 ppm		3 (n-butanol scale)			
<b>Notes:</b>														
* 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					TVOC - total volatile organic compounds				
** Upwind minus downwind concentrations are a time specific comparison.														
FAM - Fixed Air Monitoring station location										NA - not applicable				
ug/m <sup>3</sup> - micrograms per cubic meter										ND - no data available				
ppmv - parts per million by volume										Field Representative: C. John		Date: 12/14/2012		

