

## 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: April 24, 2012

Regarding: Weekly Community Air Monitoring Report  
Clifton Former MGP Site - Operable Unit 2 (OU-2)  
April 14, 2012 through April 20, 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 14 and April 20, 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 TVOC, PM-10, and odor intensity data remained at a Site Condition 1.

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:

- Installing rolling gate for entrance to OU-2 on Bay St.
- Installing water lines for dust suppression in OU-2
- Cutting through street asphalt for surveying on Willow Ave
- Accepting delivery of gravel in OU-2
- Backfilling trench in OU-2
- Emptying frac tanks & drummed contents using vac truck
- Transporting crushed asphalt into Temporary Fabric Structure (TFS)
- Loading impacted soil into TFS
- Moving sound attenuated barriers out onto end of sidewalk on Bay st.
- Placing erosion control hay bales along Bay Street
- Pre-trenching in OU-2
- Removing excess debris from ground surfaces in OU-2
- Setting up sidewalk barriers on Bay Street
- Surveying on Willow Avenue

### **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.

Upwind and downwind ambient air verification samples were collected on April 19, 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**

Weekly Community Air Monitoring Report  
Clifton Former MGP Site Operable Unit 2 (OU-2)  
April 14, 2012 through April 20, 2012  
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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
4/14/2012	0.2	0.1	0.1	0.2	0.0	0.0	48	20	4	25	1	34
4/15/2012	0.1	0.1	0.1	0.2	0.1	0.1	63	34	4	28	7	51
4/16/2012	0.2	0.1	0.1	0.3	0.1	0.0	76	26	9	56	9	73
4/17/2012	0.4	0.1	0.1	0.1	0.0	0.1	38	23	5	15	19	80
4/18/2012	0.1	0.1	0.1 <sup>(a)</sup>	0.2	0.0	0.2	41	50	4	14	10	41
4/19/2012	0.1	0.1	0.1	0.2	0.7	0.0	68	19	8	31	8	56
4/20/2012	0.2	0.1	0.1	0.2	0.1	0.1	93	17	2	17	25	58
Average	0.2	0.1	0.1	0.2	0.2	0.1	61	27	5	27	11	56
Maximum	0.4	0.1	0.1	0.3	0.7	0.2	93	50	9	56	25	80

**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

<sup>(a)</sup> The VOC monitor at FAM#3 was operating in compound-specific mode from 07:25 on 4/18/12 to 15:36 on 4/18/12. During this time no TVOC measurements were collected and concentrations of benzene were <0.03 ppm. Toluene, ethylbenzene, and xylenes were not detected.

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

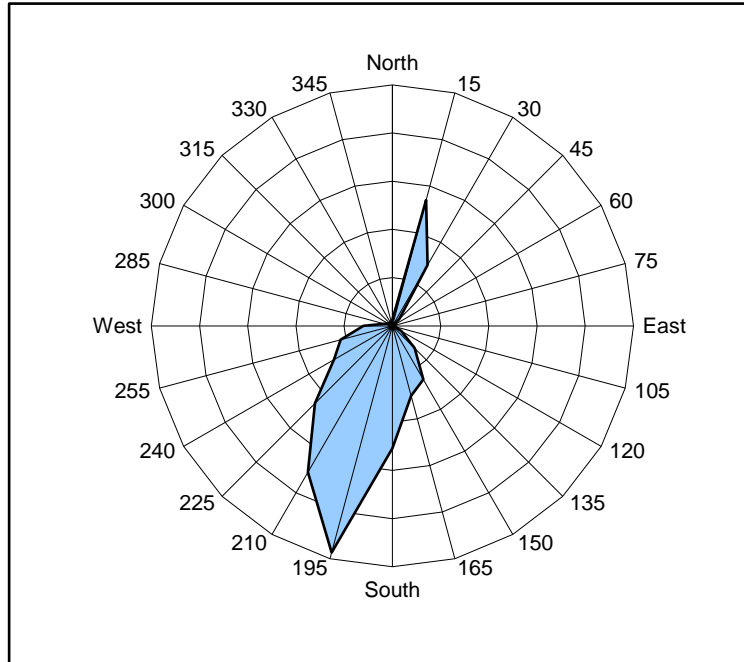


Figure 1. Wind rose for the period 04/14/12 through 04/20/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

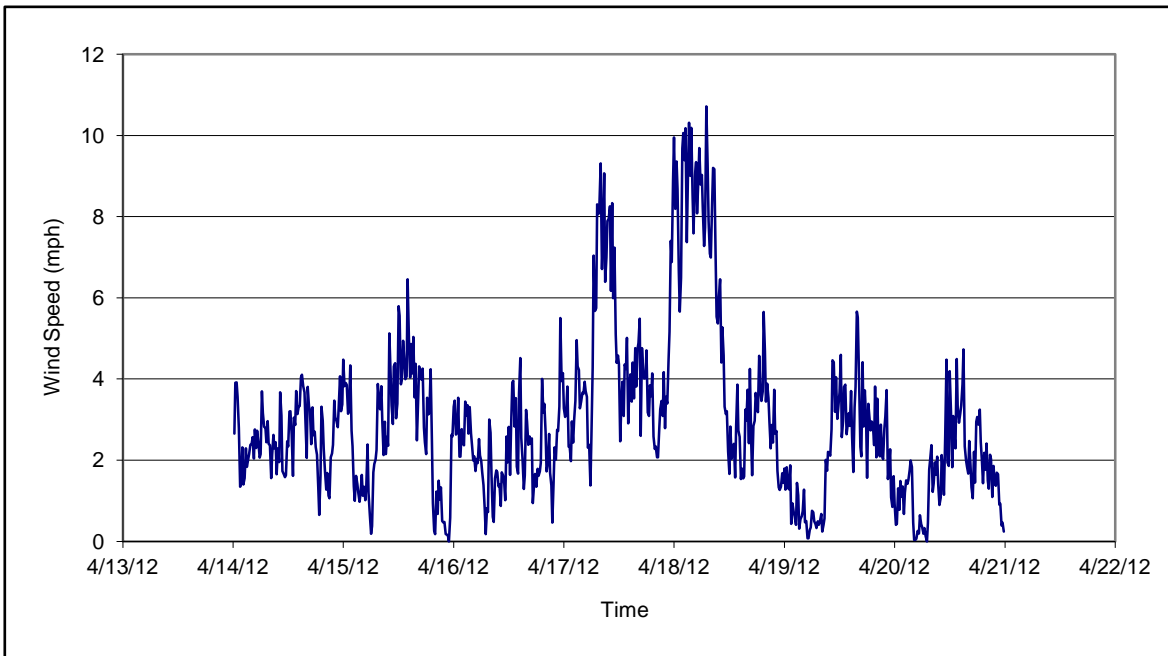


Figure 2. Wind speed for the period 04/14/12 through 04/20/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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

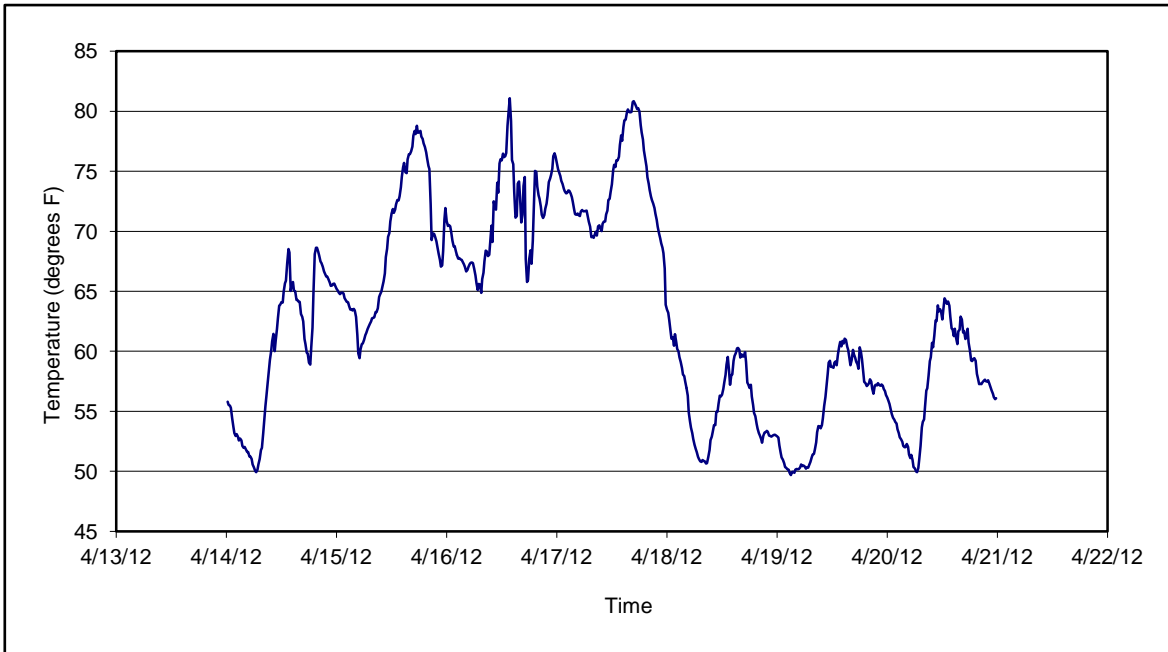


Figure 3. Temperature for the period 04/14/12 through 04/20/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

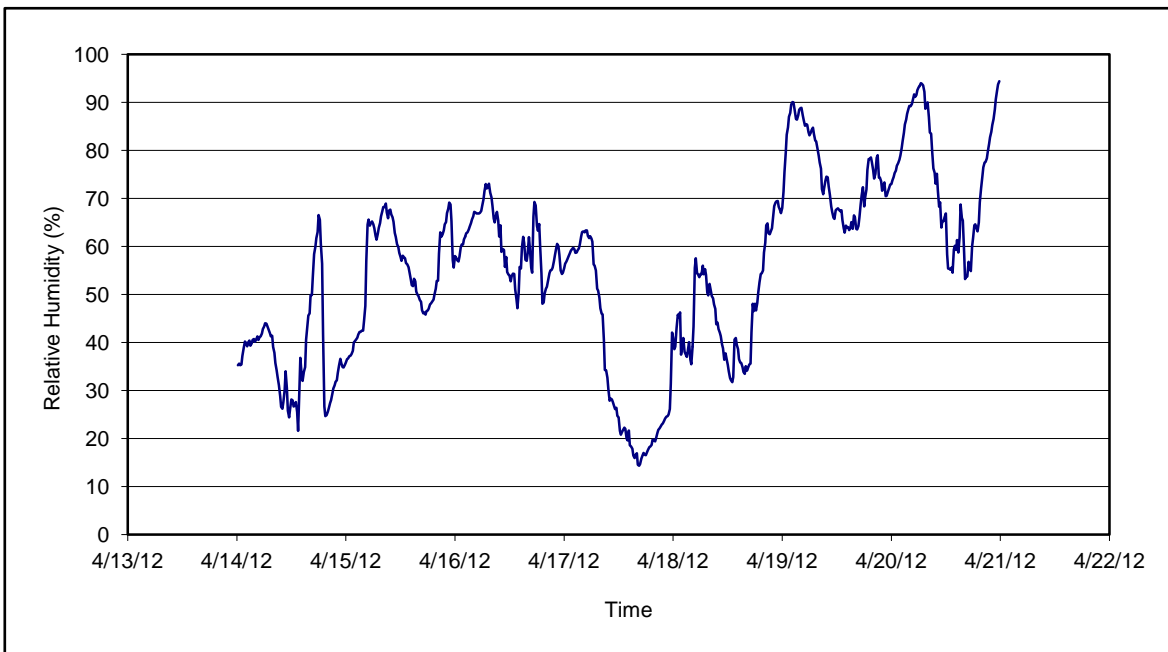


Figure 4. Relative humidity for the period 04/14/12 through 04/20/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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

<b>System Operations</b>					<b>General Observations</b>								
Sampling Date	4/16/2012	General Weather Conditions:			Sunny- ~68°F- ~80°F								
System Start Time	continuous	General Description of Site Activities:			Health & Safety Meeting								
System Stop Time	continuous	Health & Safety Meeting			Surveying on Willow Avenue								
Total Hrs Monitored	24	Continuous Air Monitoring			Installing water lines for dust suppression in OU-2								
System Calibrations	Ok	Pre-trenching in OU-2			Setting up sidewalk barriers on Bay St.								
(Time/Status)	0717-0800	Backfilling trench in OU-2			Site surveying on Willow Ave and Bay st.								
Load impacted soil into Temporary fabric structure													
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
4/16/12	None								Min**	Max**			No exceedances
<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						
** 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: 4/16/2012						
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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	4/17/2012	General Weather Conditions:			Sunny ~72°F- ~75°F							
System Start Time	continuous	General Description of Site Activities:			Health & Safety Meeting Site survey on Willow Ave and on Bay st. Continuous Air Monitoring Loaded impacted soil into temporary fabric structure Pre-trenching in OU-2 Moved sound attenuated barriers out onto end of sidewalk on Bay st. Backfilling trench in OU-2							
System Stop Time	continuous	System Calibrations			Ok (Time/Status) 0623-0719							
Total Hrs Monitored	24											

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**			
4/17/12	None												No exceedances

Comments:

	<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)

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<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: R. Marshall  
Date: 4/17/2012

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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		4/18/2012			General Weather Conditions:								
System Start Time		continuous			Overcast- ~53°F- ~58°F								
System Stop Time		continuous			General Description of Site Activities:								
Total Hrs Monitored		24			Health & Safety Meeting				Transported crushed asphalt into temporary fabric structure (TFS)				
System Calibrations		Ok			Continuous Air Monitoring				Site survey on Willow Ave and Bay st.				
(Time/Status)		0556-0724			Pre-trenching in OU-2				Loaded impacted soil into TFS				
					Backfilling trench in OU-2				Moved sound attenuated barriers out onto end of sidewalk on Bay st.				
									Placed erosion control hay bales along Bay st.				
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**			
4/18/12	None												No exceedances
<b>Comments:</b> The VOC monitor at FAM#3 was operating in compound-specific mode from 07:25 on 4/18/12 through 15:36 on 4/18/12. During this time no TVOC measurements were collected and concentrations of benzene were less than 0.03 ppm, and toluene, ethylbenzene, and xylenes were not detected.													
		<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). ** 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: R. Marshall Date: 4/18/2012													
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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 4/19/2012 System Start Time continuous System Stop Time continuous Total Hrs Monitored 24  System Calibrations Ok (Time/Status) 0610-0717					General Weather Conditions: Sunny- -50°F- -59°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Pre-trenching in OU-2 Backfilling trench in OU-2 Delivery of gravel in OU-2								
					Installed rolling gate for entrance to OU-2 on Bay St. Site survey on Willow Ave on and Bay st. Emptied frac tanks & drummed contents using vac truck Moved sound attenuated barriers out onto end of sidewalk on Bay st. Placed erosion control hay bales along Bay st. Removed excess debri from ground surfaces in OU-2 using Bobcat								
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**			
4/19/12	None												No exceedances
<b>Comments:</b>  													
					<b>PM-10 (15-min)</b> Alert Limit: 100 ug/m <sup>3</sup> Action Limit: 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: R. Marshall Date: 4/19/2012													
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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: 4/20/2012 System Start Time: continuous System Stop Time: continuous Total Hrs Monitored: 24 System Calibrations (Time/Status): Ok 0607-0726					General Weather Conditions: Sunny- ~50°F- ~58°F General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Backfilling trench in OU-2 Site survey on Willow Ave on and Bay st. Removed excess debri from ground surfaces in OU-2 using Bobcat Cut through street asphalt for surveying on Willow Ave Placed erosion control hay bales along Bay st. Pre-trenching in OU-2 between 1-story building and perimeter fence										
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		
4/20/12	None												No exceedances		
Comments:															
					<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							
** Upwind minus downwind concentrations are a time specific comparison.								TVOC - total volatile organic compounds							
FAM - Fixed Air Monitoring station location								NA - not applicable							
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ppmv - parts per million by volume								Field Representative: R. Marshall							
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