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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: April 10, 2012

Regarding: Weekly Community Air Monitoring Report  
Clifton Former MGP Site - Operable Unit 2 (OU-2)  
March 31, 2012 through April 6, 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 March 31 and April 6, 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.

Some elevated dust measurements occurred during the week that were after hours or caused by construction vehicle exhaust that exceeded the fifteen-minute action level for Particulate Matter (PM-10) [dust] data. In each case, concentrations of PM-10 decreased below the alert level and action levels within 15 minutes of each occurrence. Since activities were not related to ground intrusive activities at these times, PM-10 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:

- Asbestos abatement in one-story building in OU-2
- Cleaning out the storm water drain in OU-2
- Remove concrete blocks from around Temporary Fabric Structure (TFS)
- Relocating the TFS
- Placing concrete blocks from around TFS
- Pre-trenching in TFS
- Grading of soil at the previous TFS location
- Relocating jersey blocks to edge of sidewalk around OU-2.
- Running power lines through conduits around inside the OU-2 perimeter
- Stockpiling crushed stone in OU-2
- Level A survey 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 5, 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)  
March 31, 2012 through April 6, 2012  
April 10, 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
3/31/2012	0.0	0.0	0.2	0.2	0.1	0.3	37	18	2	5	2	38
4/1/2012	0.0	0.6	0.2	0.2	0.1	0.2	49	208	2	9	3	42
4/2/2012	0.2	0.6	0.2	0.2	0.1	0.0	30	19	2	26	102	24
4/3/2012	0.2	0.0	0.1	0.1	0.0	0.1	18	16	37	35	25	21
4/4/2012	0.1	0.1	0.2	0.2	0.5	0.1	53	53	9	65	72	52
4/5/2012	0.2	0.1	0.2	0.2	0.0	0.0	21	18	8	115	26	28
4/6/2012	0.3	0.5	0.5	0.7	0.0	0.0	24	18	40	121	109	25
Average	0.1	0.3	0.2	0.3	0.1	0.1	33	50	14	54	48	33
Maximum	0.3	0.6	0.5	0.7	0.5	0.2	53	208	40	121	109	52

**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**

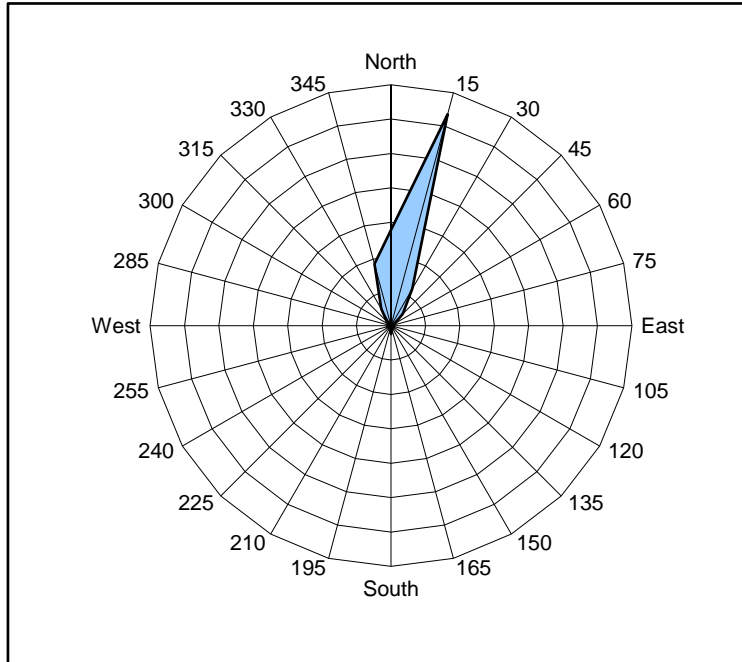


Figure 1. Wind rose for the period 03/31/12 through 04/06/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

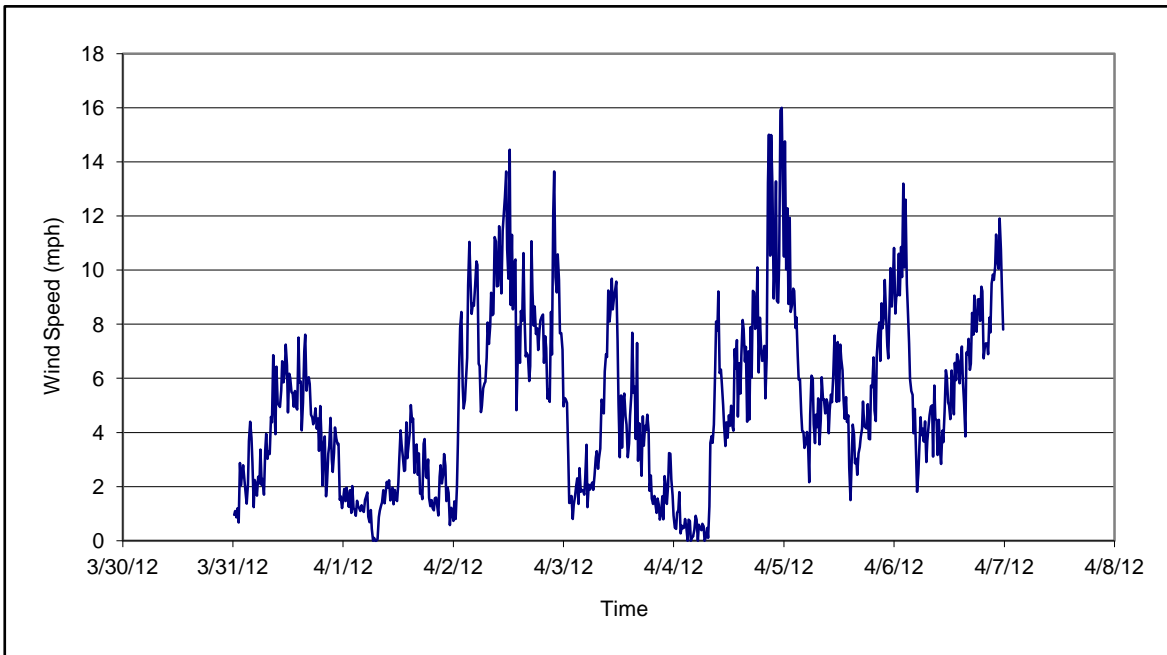


Figure 2. Wind speed for the period 03/31/12 through 04/06/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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

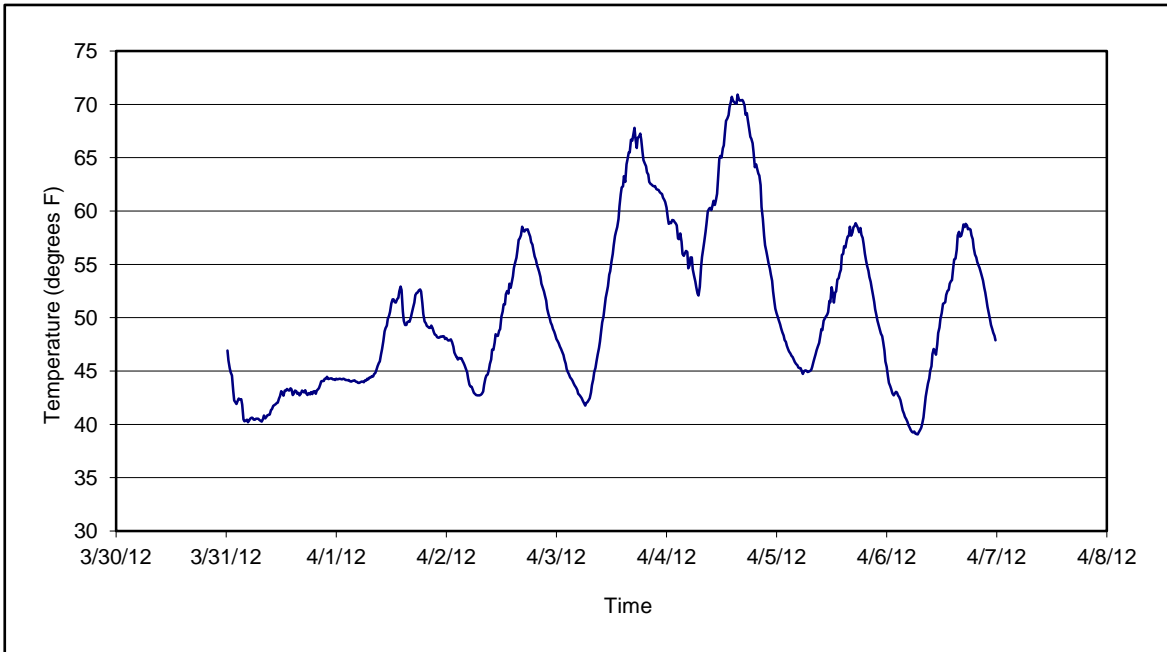


Figure 3. Temperature for the period 03/31/12 through 04/06/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

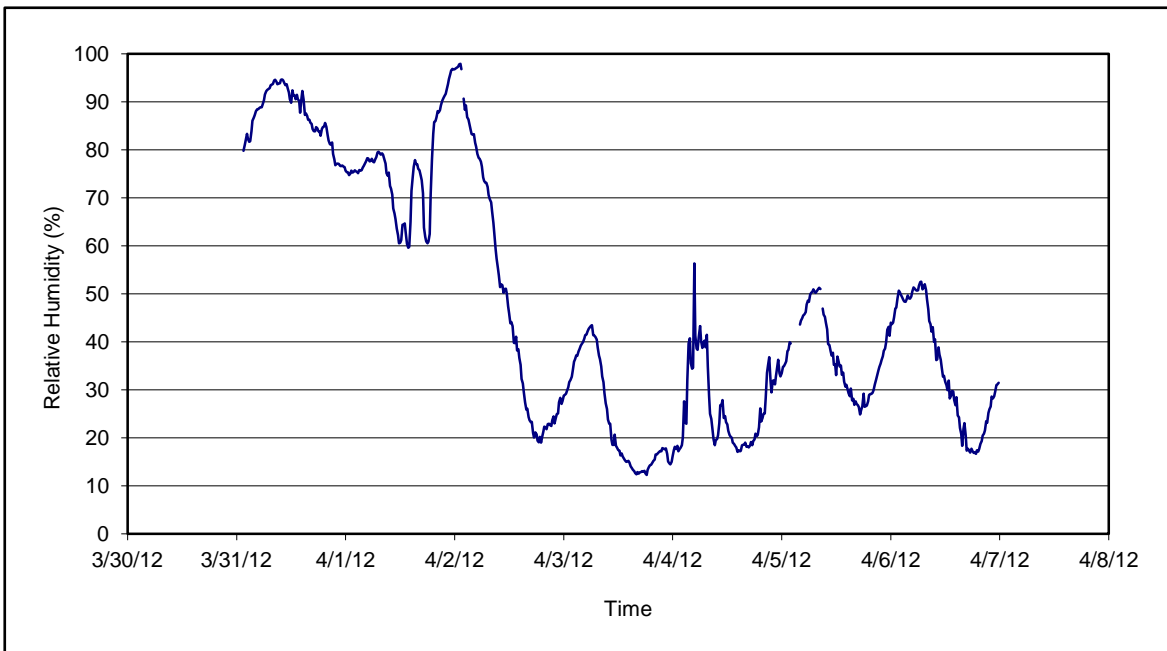


Figure 4. Relative humidity for the period 03/31/12 through 04/06/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

**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 4/2/2012 System Start Time continuous System Stop Time continuous Total Hrs Monitored 24  System Calibrations Ok (Time/Status) 0620-0720					General Weather Conditions: Sunny- ~43 °F- ~49°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Cleaning out storm water drain in OU2 Pre-trenching in OU2  Level A survey on Willow Ave Asbestos abatement in 1-story building Relocating jersey blocks to edge of sidewalk around OU2. Running power lines through conduits around inside perimeter inOU2										
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		
4/2/2012	PM-10	FAM#5	10:19	10:20	2	N E	DW	FAM#6	96	97	1	Hoe-ram used to break through concrete refusal during pre-trenching	Notified construction manager.		
<b>Comments:</b>															
* Since no ground intrusive activities were conducted during this time period, PM-10 remained at a Site Condition 1.															
					<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: Ronell Marshall									
						Date: 4/2/2012									
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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 System Start Time System Stop Time Total Hrs Monitored  System Calibrations (Time/Status)		4/3/2012 continuous continuous 24  Ok 0645-0756			General Weather Conditions: Sunny- ~42 °F- ~55°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Pre-trenching in OU2 Stockpiling crushed stone in OU2  Surveying on Willow Ave Asbestos abatement in 1-story building Running power lines through conduits around inside perimeter inOU2																																																			
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																																											
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<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></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 style="text-align: center;"><b>TVOC (15-min)</b></td> <td style="text-align: center;"><b>TVOC (1-min)</b></td> <td style="text-align: center;"><b>Odor Intensity (15-min)</b></td> <td colspan="6"></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">Alert Limit: Action Limit:</td> <td style="text-align: center;">100 ug/m<sup>3</sup> 150 ug/m<sup>3</sup></td> <td style="text-align: center;">3.7 ppm 5.0 ppm</td> <td style="text-align: center;">- 25 ppm</td> <td style="text-align: center;">- 3 (n-butanol scale)</td> <td colspan="4"></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: Action Limit:	100 ug/m <sup>3</sup> 150 ug/m <sup>3</sup>	3.7 ppm 5.0 ppm	- 25 ppm	- 3 (n-butanol scale)				
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<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;">           * 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         </td> <td style="width: 40%; vertical-align: top;">           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         </td> <td style="width: 10%; vertical-align: top;">           Field Representative:            Date:         </td> </tr> <tr> <td></td> <td></td> <td style="text-align: right;">           R. Marshall            4/3/2012         </td> </tr> </table>														* 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: Date:			R. Marshall 4/3/2012																																					
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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	4/4/2012	General Weather Conditions:			Sunny- ~42 °F- ~55°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Pre-trenching in OU2 Stockpiling crushed stone in OU2  Surveying on Willow Ave Asbestos abatement in 1-story building Running power lines through conduits around inside perimeter inOU2									
System Start Time	continuous	System Stop Time	continuous	Total Hrs Monitored									24	
System Calibrations (Time/Status)	Ok 0645-0756													
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**				
<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:			M. Quinlan				
							Date:			4/4/2012				
													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 4/5/2012 System Start Time continuous System Stop Time continuous Total Hrs Monitored 24  System Calibrations Ok (Time/Status) 0645-0756					General Weather Conditions: Sunny- ~45 °F- ~57°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Relocate Temporary Fabric Structure (TFS) Leveling soil where TFS used to be  Surveying on Willow Ave Asbestos abatement in 1-story building Remove concrete blocks from around 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
4/5/2012	PM-10	FAM#4	15:16	15:29	14	NW	CW/UW	N/A	104	115	1*	No ground intrusive activity.	NA
<b>Comments:</b>													
* Since no ground intrusive activities were conducted during this time period, PM-10 remained at a Site Condition 1.													
		<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)			
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ug/m <sup>3</sup> - micrograms per cubic meter						ND - no data available							
ppmv - parts per million by volume						Field Representative: R. Marshall							
						Date: 4/5/2012							



# 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    4/6/2012 System Start Time    continuous System Stop Time    continuous Total Hrs Monitored    24  System Calibrations    Ok (Time/Status)    0634-0856		General Weather Conditions: Sunny- ~39°F- ~56°F  General Description of Site Activities: Health & Safety Meeting                                  Surveying on Willow Ave Continuous Air Monitoring                                 Placing concrete blocks from around TFS Relocate Station FAM#4 Pre-trenching in OU2											
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
4/6/2012	PM-10	FAM#4	1:50	2:00	11	N	DW	FAM#6	99	115	1*	No ground intrusive activity. After Hours	NA
4/6/2012	PM-10	FAM#5	13:48	14:03	10	NE	DW/CW	FAM#6	91	102	1*	Parking and shutting down construction vehicles, and covering the backfilled trench with fabric and plastic	NA
<b>Comments:</b> * Since no ground intrusive activities were conducted during this reporting period, PM-10 remained at a Site Condition 1.													
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				-		-	
		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: <span style="float: right;">R. Marshall</span> Date: <span style="float: right;">4/6/2012</span>													

