



455 Winding Brook Drive  
Suite 201  
Glastonbury, CT 06033

Ph: (860) 368-5300  
Fax: (860) 368-5307

## 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 22, 2012

Regarding: Weekly Community Air Monitoring Report  
Clifton Former MGP Site - Operable Unit 2 (OU-2)  
May 12, 2012 through May 18, 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 May 12 and May 18, 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. There were some elevated levels of dust measured that were attributed to onsite truck traffic, smoke from generator exhaust, and loading bentonite into the mixing plant.

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:

- Mixing slurry using the mixing plant in OU-2
- Installing of slurry wall in OU-2 along Bay Street
- Backfilling excavated areas along Bay Street with slurry
- Transporting soil from slurry operations into the temporary fabric structure (TFS)
- Transporting jersey blocks from 1-story building into the TFS
- Crushing concrete blocks with a hoe-ram in OU-2
- GEO-CON Mobilization 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 5/16/2012, elevated levels of PM-10 were measured above the 15-minute average alert levels and action levels of 100 ug/m<sup>3</sup> and 150 ug/m<sup>3</sup>, respectively. The elevated levels were measured at downwind fixed air monitoring station FAM#1 located at the northwest corner of OU-2 and occurred throughout the work day. The construction manager was notified. The elevated levels of dust were attributed to loading bentonite into the mixing plant upwind of FAM#1 in OU-2.

Upwind and downwind ambient air verification samples were collected on May 17, 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)  
May 12, 2012 through May 18, 2012  
May 22, 2012  
Page 3

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
5/12/2012	0.1	0.1	0.1	0.2	0.1	0.1	67	20	3	17	0	26
5/13/2012	0.5	0.5	0.1	0.2	0.1	0.1	44	24	4	13	0	33
5/14/2012	0.2	0.1	0.1	0.2	0.1	0.2	93	15	1	70	2	58
5/15/2012	0.2	0.1	0.1	0.2	0.1	1.1	87	21	2	18	0	71
5/16/2012	0.2	0.2	0.1	0.2	0.1	0.5	209	37	5	110	7	52
5/17/2012	0.2	0.1	0.1	0.2	0.1	0.0	40	36	4	34	7	45
5/18/2012	0.2	0.5	0.4	0.4	0.1	0.2	98	27	2	62	32	119
Average	0.2	0.2	0.1	0.2	0.1	0.3	91	26	3	46	7	58
Maximum	0.5	0.5	0.4	0.4	0.1	1.1	209	37	5	110	32	119

**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

No recordable data for TVOC at FAM#4 from 13:00 On 5/14 - 06:46 on 5/15/12 due to equipment malfunction during non-working hours.

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

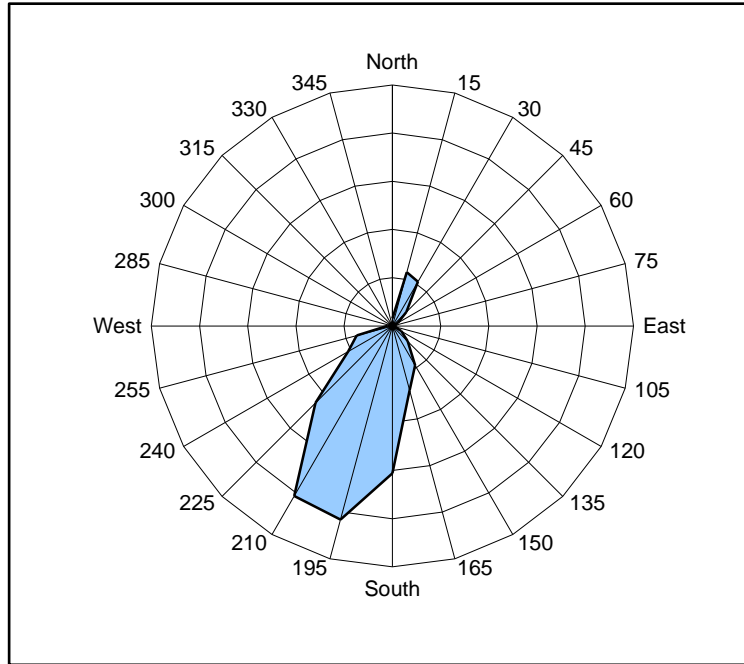


Figure 1. Wind rose for the period 05/12/12 through 05/18/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

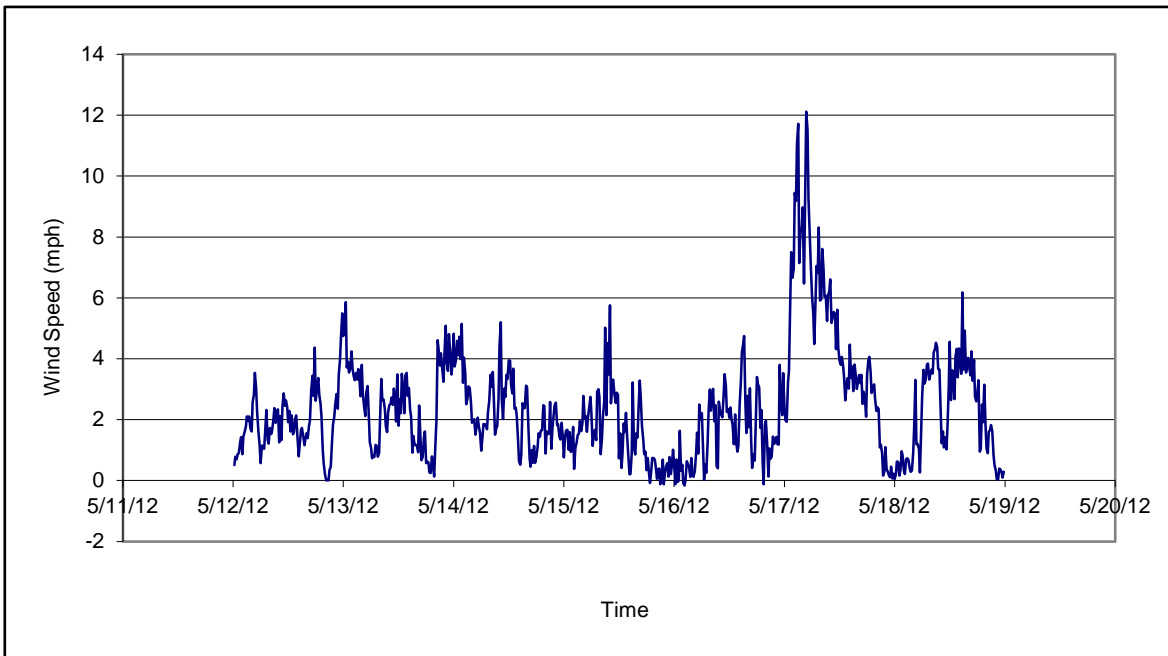


Figure 2. Wind speed for the period 05/12/12 through 05/18/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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

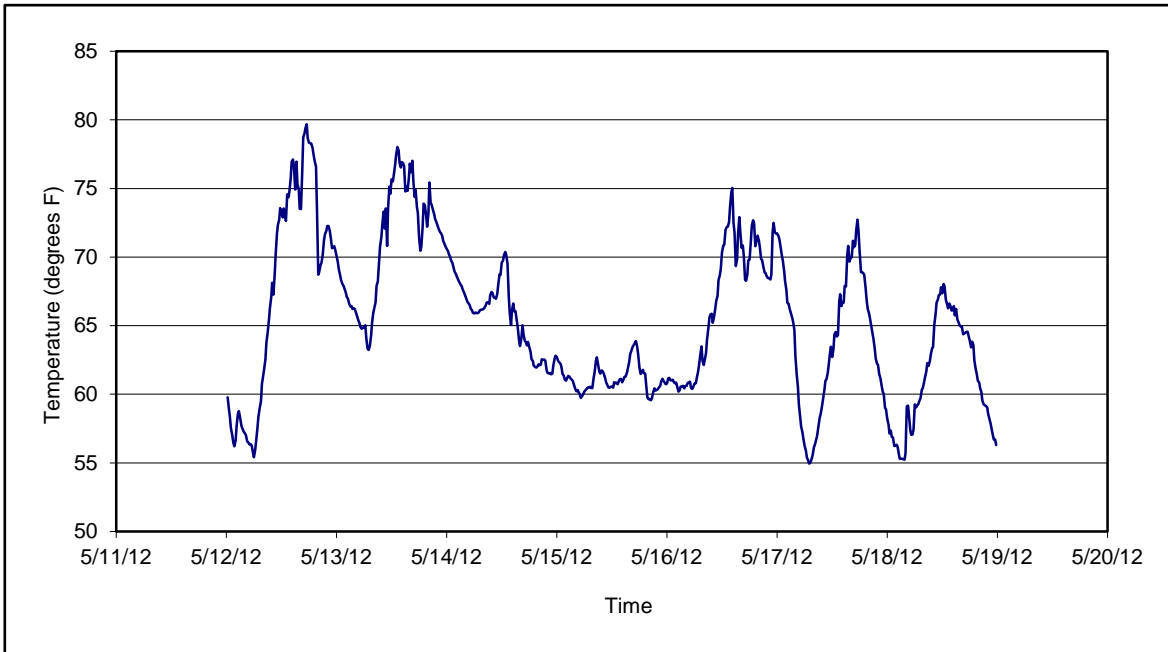


Figure 3. Temperature for the period 05/12/12 through 05/18/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

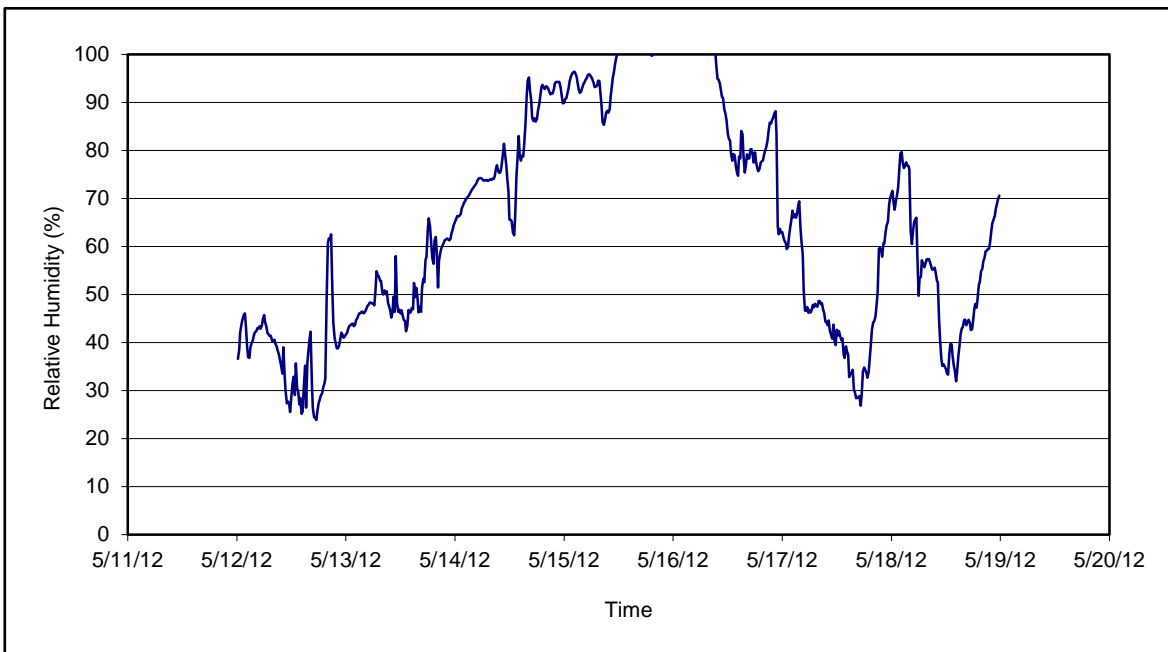


Figure 4. Relative humidity for the period 05/12/12 through 05/18/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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	5/14/2012	General Weather Conditions: Overcast w/rain- ~66°F- ~67°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring <span style="float: right;">GEO-CON Mobilization in OU-2</span>												
System Start Time	continuous													
System Stop Time	continuous													
Total Hrs Monitored	24													
System Calibrations (Time/Status)	Ok 0626-0805													
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	
5/14/2012	None												No exceedances	
<b>Comments:</b> No TVOC data for FAM#4 from 13:00-23:59 on 5/14/12 due to equipment malfunction.														
					<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: 5/14/2012														





**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		5/15/2012			General Weather Conditions: Overcast w/rain- ~61°F- ~63°F									
System Start Time		continuous			General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Installing of slurry wall in OU-2 along Bay Street Crushing concrete blocks with hoe-ram in OU-2									
System Stop Time		continuous												
Total Hrs Monitored		24			Transporting soil from slurry operations into TFS Mixing slurry using mixing plant set up in OU-2 Backfilling excavated area along Bay Street with slurry									
System Calibrations (Time/Status)		Ok 0645-1045												
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	
5/15/2012	None												No exceedances	
<b>Comments:</b> No TVOC data for FAM#4 from 00:01-06:48 on 5/15/12 due to equipment malfunction.														
					<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						Field Representative: R. Marshall		
ug/m <sup>3</sup> - micrograms per cubic meter						ND - no data available						Date: 5/15/2012		
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: 5/16/2012 System Start Time: continuous System Stop Time: continuous Total Hrs Monitored: 24 System Calibrations (Time/Status): Ok 0645-1045					General Weather Conditions: Overcast w/rain- ~60°F- ~62°F General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Installing slurry wall in OU-2 along Bay Street Crushing concrete blocks with a hoe-ram in OU-2 Transporting soil from slurry operations into the TFS Mixing slurry using the mixing plant in OU-2 Backfilling excavated area along Bay Street with slurry									
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	
5/16/2012	PM-10	FAM#1	8:51	8:51	1	S	DW	FAM#2	93	93	1	Loading bentonite into the mixing plant	Notified construction manager.	
5/16/2012	PM-10	FAM#1	8:53	8:55	3	S	DW	FAM#2	87	90	1	Loading bentonite into the mixing plant	Notified construction manager.	
5/16/2012	PM-10	FAM#1	11:00	11:09	10	S	DW	FAM#2	87	97	1	Loading bentonite into the mixing plant	Notified construction manager.	
5/16/2012	PM-10	FAM#1	12:23	12:31	9	S	DW	FAM#2	87	108	2	Loading bentonite into the mixing plant	Notified construction manager.	
5/16/2012	PM-10	FAM#1	14:32	14:36	5	S	DW	FAM#2	84	89	1	Loading bentonite into the mixing plant	Notified construction manager.	
5/16/2012	PM-10	FAM#1	15:59	16:16	18	S	DW	FAM#2	100	208	3	Loading bentonite into the mixing plant	Notified construction manager.	
5/16/2012	PM-10	FAM#4	12:58	13:06	9	S	UW	N/A	101	109	1*	Recently repaired generator emitting black smoke UW of FAM#4	None taken. Informed by repairman that black smoke should stop shortly.	
<b>Comments:</b>														
* Since no ground intrusive activities were conducted during this reporting 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						Field Representative: R. Marshall		
ug/m <sup>3</sup> - micrograms per cubic meter						ND - no data available						Date: 5/16/2012		
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	5/17/2012				General Weather Conditions: Overcast w/rain- ~61°F- ~73°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Installing slurry wall in OU-2 along Bay Street Crushing concrete blocks with hoe-ram in OU-2  Transporting soil from slurry operations into the TFS Mixing slurry using mixing plant in OU-2 Backfilling excavated area along Bay Street with slurry Transporting jersey blocks from 1-story building into the TFS								
System Start Time	continuous												
System Stop Time	continuous												
Total Hrs Monitored	24												
System Calibrations (Time/Status)	Ok 0621-0713												
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
5/17/2012	None												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:		5/17/2012					
												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: 5/18/2012 System Start Time: continuous System Stop Time: continuous Total Hrs Monitored: 24  System Calibrations: Ok (Time/Status): 0617-0747					General Weather Conditions: Overcast w/rain- ~61°F- ~73°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Installing slurry wall in OU-2 along Bay Street Crushing concrete blocks with hoe-ram in OU-2  Transporting soil from slurry operations into the TFS Mixing slurry using mixing plant in OU-2 Backfilling excavated area along Bay Street with slurry Transporting jersey blocks from 1-story building into 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	
5/18/2012	PM-10	FAM#6	11:27	11:31	5	S/SE	DW	FAM#4	95	112	2	On site dump truck traffic	None taken. Short duration spike.	
<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						Field Representative: R. Marshall		
ug/m <sup>3</sup> - micrograms per cubic meter						ND - no data available						Date: 5/18/2012		
ppmv - parts per million by volume														

