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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: June 5, 2012

Regarding: Weekly Community Air Monitoring Report  
Clifton Former MGP Site - Operable Unit 2 (OU-2)  
May 26, 2012 through June 1, 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 26 and June 1, 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 onsite. 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:

- Backfilling excavated area along Bay Street with slurry
- Backfilling Willow Ave trench with kiln-dust
- Decontaminating dump trucks on decontamination pad
- Receiving deliveries of kiln-dust in OU-2
- Excavating along Bay Street for slurry wall installation
- Excavating along Willow Avenue for buttress wall installation
- Operating hoe-ram at Willow Avenue excavation
- Loading soil offsite via dump trucks
- Mixing slurry at batch plant in OU-2
- Mixing soil inside the temporary fabric structure (TFS)w/ kiln-dust
- Removing containment boxes from site via flatbed truck
- Removing generator from site via flatbed truck
- Site surveying on Bay Street
- Stockpiling concrete blocks in OU-2
- Covering dump trucks with tarps using scaffolding
- Transporting equipment around OU-2 using construction vehicle
- Transporting soil from excavation along Willow Avenue to the TFS via pave loader
- Transporting soil from excavation operations along Bay Street and Willow Avenue into the TFS via dump trucks

### **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 May 31, 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 <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
5/26/2012	ND <sup>(a)</sup>	0.2	0.2	0.3	0.1	0.1	57	24	3	15	4	62
5/27/2012	ND <sup>(a)</sup>	0.1	0.1	0.2	0.1	0.1	76	27	3	21	8	78
5/28/2012	ND <sup>(a)</sup>	0.1	0.1	0.2	0.1	0.1	87	22 <sup>(b)</sup>	2	9	0	54
5/29/2012	1.2 <sup>(a)</sup>	0.1	0.1	0.7	0.1	0.1	142	27 <sup>(b)</sup>	68	1 <sup>(c)</sup>	0	65
5/30/2012	0.1	0.1	0.1	0.4	0.1	0.1	157	22	44	17 <sup>(c)</sup>	0	68
5/31/2012	0.1	0.1	0.1	0.3	0.1	0.1	60	31	8	18 <sup>(d)</sup>	4	66
6/1/2012	0.1	0.2	0.1	0.2	0.1	0.1	32	3	4	14 <sup>(d)</sup>	5	44
Average	0.1	0.1	0.1	0.3	0.1	0.1	87	21	19	15	3	62
Maximum	0.1	0.2	0.2	0.7	0.1	0.1	157	31	68	21	8	78

**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> Due to an equipment malfunction, no TVOC data are available for FAM#1 from 02:15 on 5/26/12 - 06:41 on 5/29/12.

<sup>(b)</sup> Due to an equipment malfunction, no TVOC data are available for FAM#2 from 12:17 on 5/28/12 - 06:39 on 5/29/12.

<sup>(c)</sup> Due to a power loss, no TVOC and PM-10 data are available for FAM#4 from 20:48 on 5/29/12 - 06:18 on 5/30/12.

<sup>(d)</sup> Due to an equipment malfunction, no TVOC and PM-10 data are available for FAM#4 from 22:03 on 5/31/12 - 08:13 on 6/1/12.

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

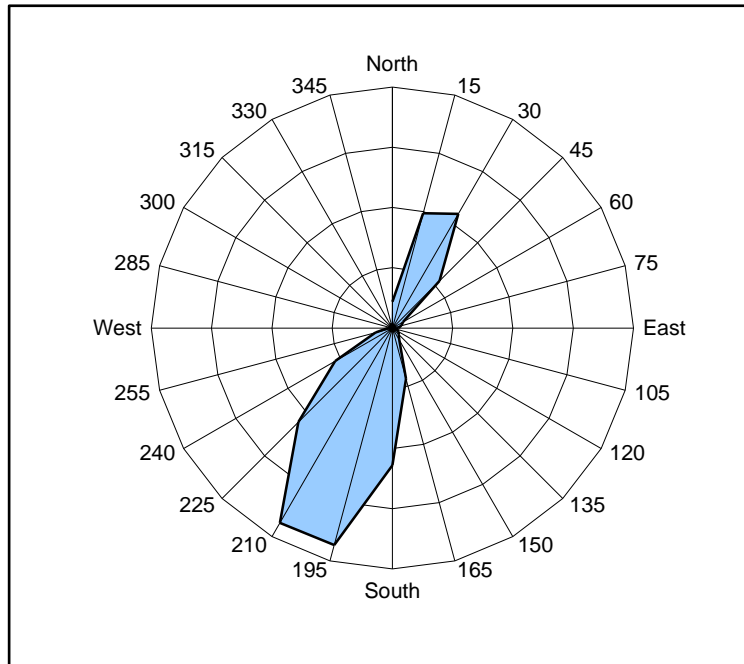


Figure 1. Wind rose for the period 05/26/12 through 06/01/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

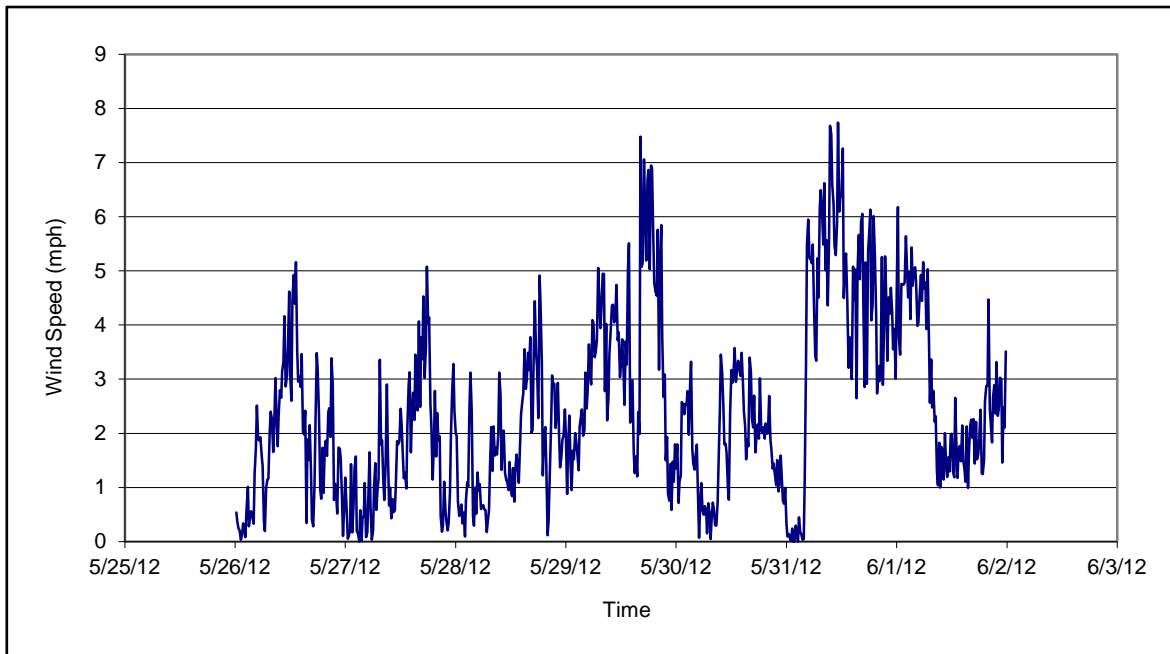


Figure 2. Wind speed for the period 05/26/12 through 06/01/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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

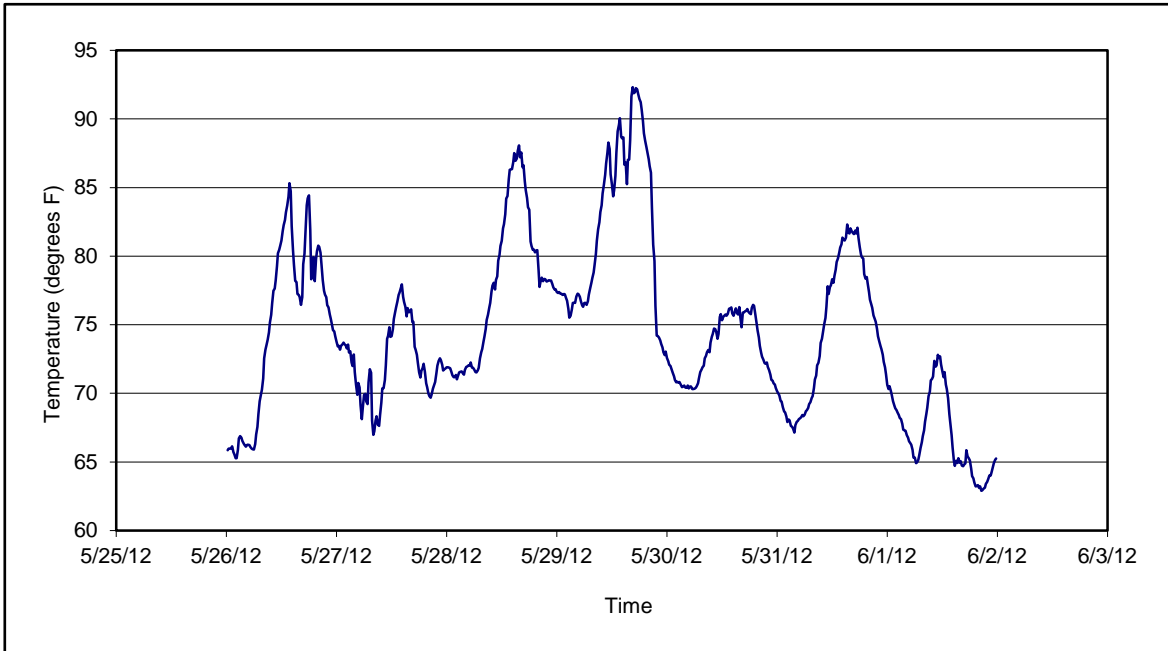


Figure 3. Temperature for the period 05/26/12 through 06/01/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

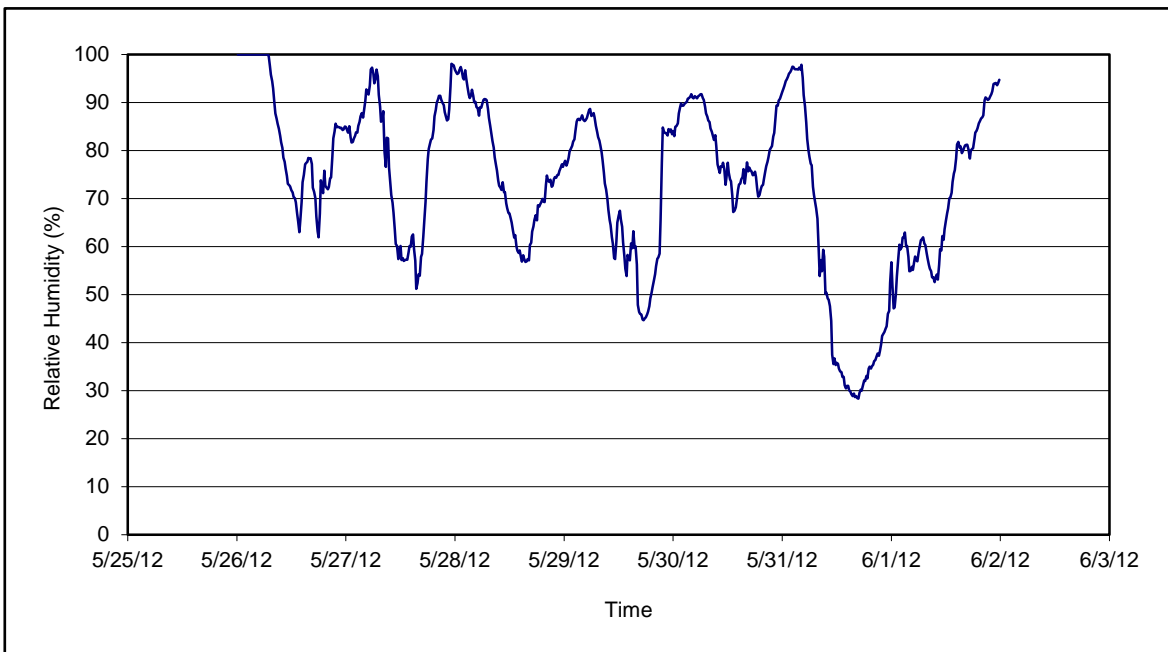


Figure 4. Relative humidity for the period 05/26/12 through 06/01/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

**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: 5/29/2012 System Start Time: continuous System Stop Time: continuous Total Hrs Monitored: 24 System Calibrations (Time/Status): Ok 0636-0916	General Weather Conditions: Clear - -88°F- -90°F General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Site survey on Bay St. Delivery of Kil-dust in OU-2 Mixed soil inside the TFS w/ Kil-dust Excavation along Willow ave for buttress wall installation Deconned dump trucks on decon pad Tarped dumptrucks using scaffolding Transported soil from excavation operations along Bay St. into the TFS via dump trucks Mixed slurry at batch plant in OU-2 Backfilled excavated area along Bay Street with slurry Loaded soil offsite via dumptrucks Transported soil from excavation operations along Willow Ave into the TFS via dump trucks Removed generator from site via flatbed truck Excavation along Bay St. for slurry wall installation

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**			
5/29/2012	PM-10	FAM#1	14:52	15:05	14	ESE	UW	N/A	119	124	1	Dump trucks moving along the site	Notified construction manager Water was sprayed
5/29/2012	PM-10	FAM#1	16:39	16:53	15	SSW	CW	N/A	107	142	1	Dump trucks moving along the site	Notified construction manager Water was sprayed

**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/C. John  
 Date: 5/29/2012

Due to equipment malfunction no recordable data is available for FAM#1 from 00:01 - 6:41 (non working hours).  
 Due to power loss no recordable data is available for FAM#4 from 00:01 - 06:38 (non working hours).





**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	5/30/2012	General Weather Conditions:			Clear - ~70°F- ~76°F																							
System Start Time	continuous	General Description of Site Activities:			Deconned dump trucks on decon pad Tarped dumptrucks using scaffolding Mixed slurry at batch plant in OU-2 Backfilled excavated area along Bay Street with slurry Loaded soil offsite via dumptrucks Transported soil from excavation operations along Willow Ave into the TFS via dump trucks Removed containment boxes from site via flatbed truck Excavated along Bay St. for slurry wall installation																							
System Stop Time	continuous	Health & Safety Meeting																										
Total Hrs Monitored	24	Continuous Air Monitoring																										
System Calibrations (Time/Status)	Ok 0650-0907	Site survey on Bay St.																										
		Delivery of Kil-dust in OU-2																										
		Mixed soil inside the TFS w/ Kil-dust																										
		Excavation along Willow ave for buttress wall installation																										
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															
5/29/2012	PM-10	FAM#1	14:22	14:29	8	S	DW	N/A	133	138	2	Dump trucks moving along the site	Notified construction manager Water was sprayed															
<b>Comments:</b>																												
<table style="width: 100%; border: none;"> <tr> <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> </tr> <tr> <td style="text-align: right;">Alert Limit:</td> <td style="text-align: center;">100 ug/m<sup>3</sup></td> <td style="text-align: center;">3.7 ppm</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> </tr> <tr> <td style="text-align: right;">Action Limit:</td> <td style="text-align: center;">150 ug/m<sup>3</sup></td> <td style="text-align: center;">5.0 ppm</td> <td style="text-align: center;">25 ppm</td> <td style="text-align: center;">3 (n-butanol scale)</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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* 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: 5/30/2012																
FAM - Fixed Air Monitoring station location						NA - not applicable																						
ug/m <sup>3</sup> - micrograms per cubic meter						ND - no data available																						
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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: 5/31/2012 System Start Time: continuous System Stop Time: continuous Total Hrs Monitored: 24  System Calibrations (Time/Status): Ok 0611-0859	General Weather Conditions: Clear - ~68°F- ~81°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Site survey on Bay St. Mixed soil inside the TFS w/ Kil-dust Excavation along Willow ave for buttress wall installation Transported soil from excavation along Willow Ave to the TFS via pave loader  Deconned dump trucks on decon pad Tarped dumptrucks using scaffolding Mixed slurry at batch plant in OU-2 Loaded soil offsite via dumptrucks Backfilled Willow Ave trench with kil-dust Transported equipment around OU-2 using construction vehicle

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**			
5/31/2012	None												No exceedances

Comments:

	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)

**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  
 Due to equipment malfunction no recordable data is available for FAM#2 from 22:03 - 23:59 (After hours)

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: 5/31/2012



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: 6/1/2012 System Start Time: continuous System Stop Time: continuous Total Hrs Monitored: 24  System Calibrations (Time/Status): Ok 0640-0905	General Weather Conditions: Clear - ~65°F - ~72°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Site survey on Bay St. Mixed soil inside the TFS w/ Kil-dust Excavation along Willow ave for buttress wall installation Transported soil from excavation along Willow Ave to the TFS via pave loader  Stockpiled concrete blocks in OU-2 Hoe-ram operations @ Willow Ave excavation Decconned dump trucks on decon pad Tarped dumptrucks using scaffolding Mixed slurry at batch plant in OU-2 Loaded soil offsite via dumptrucks Backfilled Willow Ave trench with kil-dust Transported equipment around OU-2 using construction vehicle

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**			
6/1/2012	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	-	-
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<p>* 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  Due to equipment malfunction no recordable data is available for FAM#2 from 00:00 - 08:13.</p>	<p>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</p>	<p>Field Representative: R. Marshall  Date: 6/1/2012</p>
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