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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: September 5, 2012

Regarding: Weekly Community Air Monitoring Report  
Clifton Former MGP Site - Operable Unit 2 (OU-2)  
August 25, 2012 through August 31, 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 August 25, 2012 and August 31, 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 were fifteen-minute exceedances for Particulate Matter (PM-10) [dust]. The elevated levels were caused by the hoe-ram attachment operating on the foundation of the former one-story building. The construction manager was notified, water was sprayed, and the levels dropped below the action and alert levels. 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 and backfilled in Temporary Fabric Structure (TFS)
- Installed new gravel roadway
- Loaded out contaminated soil off site
- Loaded concrete and rebar into roll off dumpster
- Operated hoe-ram on foundation of one-story building
- Operated odor suppressant systems
- Operated street sweeper along Willow Avenue
- Received deliveries of clean backfill
- Relocated jersey blocks to stabilize TFS
- Relocated TFS
- Stockpiled clean soil
- Stockpiled concrete waste
- Welded rebar from foundation

### **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 August 30, 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.

Due to a malfunctioning dust monitor at FAM#2, data were not available from 11:10 pm on Saturday August 25 through 6:47 am on Monday August 27. During this time no site activities were performed as these were non-working hours for the contractor.

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)  
August 25, 2012 through August 31, 2012  
September 5, 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
8/25/2012	0.2	0.1	0.1	0.1	0.2	0.4	56	ND*	8	23	47	81
8/26/2012	0.2	0.0	0.0	0.0	0.1	0.1	35	ND*	3	1	3	12
8/27/2012	0.1	0.1	0.1	0.0	0.3	0.1	33	197*	10	6	23	1
8/28/2012	0.1	0.1	0.1	0.1	0.1	0.1	37	5	20	8	162**	22
8/29/2012	0.1	0.2	0.4	0.2	0.4	0.1	33	6	12	12	49	22
8/30/2012	0.1	0.3	0.3	0.4	0.2	0.2	25	20	7	15	110	17
8/31/2012	0.2	0.1	0.1	0.1	0.1	0.1	60	56	5	9	44	40
Average	0.1	0.1	0.2	0.1	0.2	0.2	40	22	9	11	46	28
Maximum	0.2	0.3	0.4	0.4	0.4	0.4	60	56	20	23	110	81

**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

Due to equipment malfunction there is no recordable data for PM-10 @ FAM#2 from 00:01 on 8/25/12 - 06:47 on 8/27/12.

\*These measurements are not reflected for this time period

\*\* This measurement was recorded at an UW/CW station after hours

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

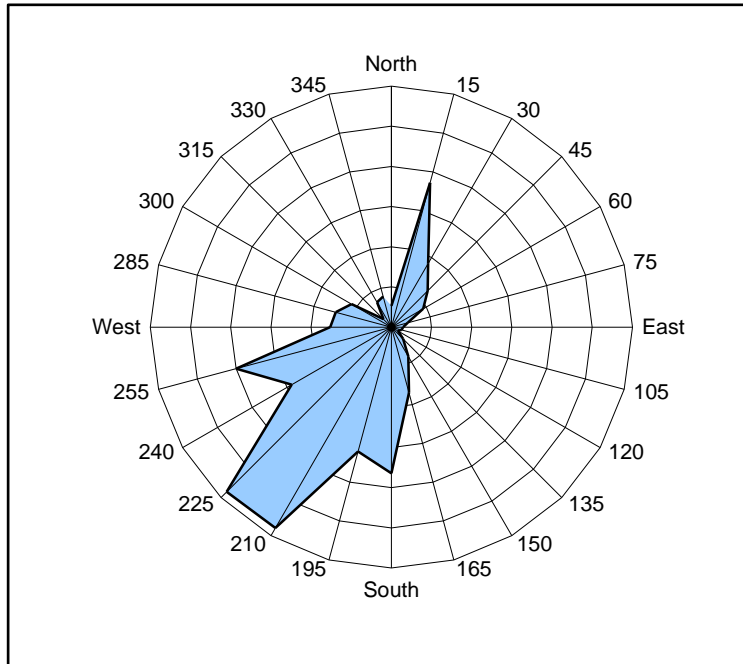


Figure 1. Wind rose for the period 08/25/12 through 08/31/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

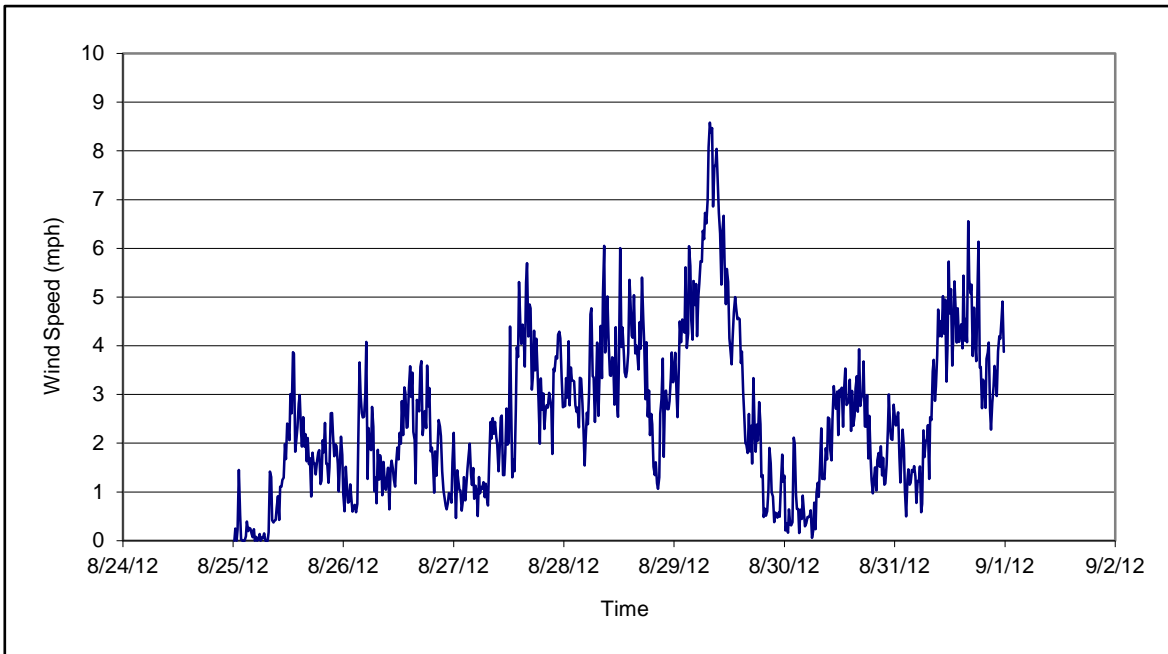


Figure 2. Wind speed for the period 08/25/12 through 08/31/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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

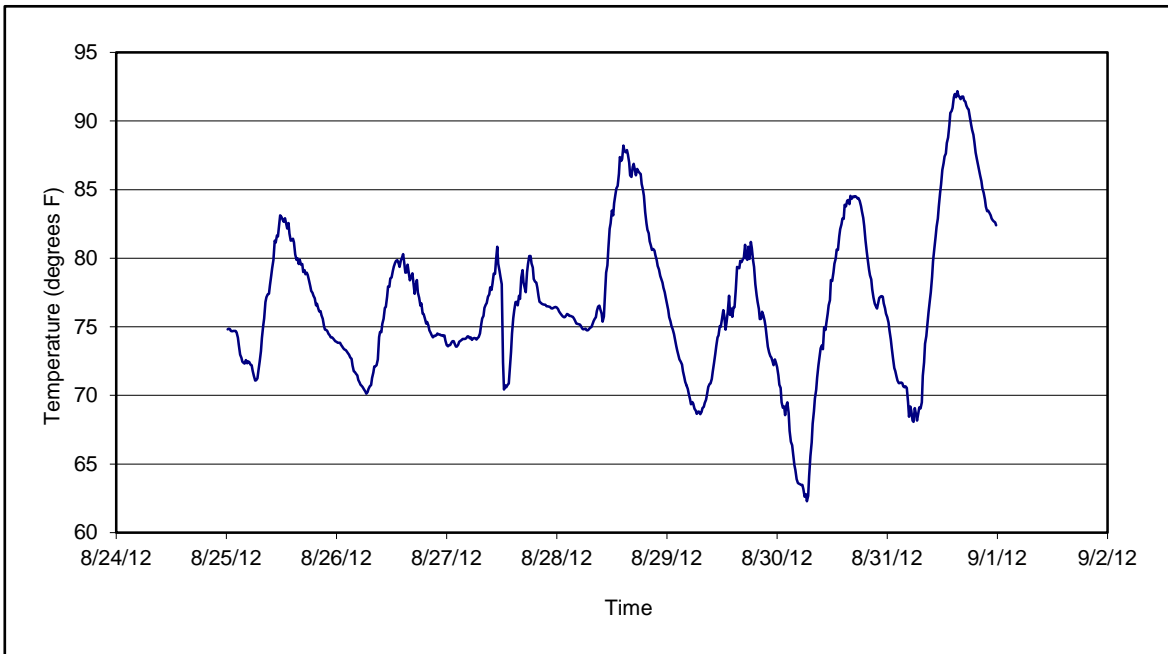


Figure 3. Temperature for the period 08/25/12 through 08/31/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

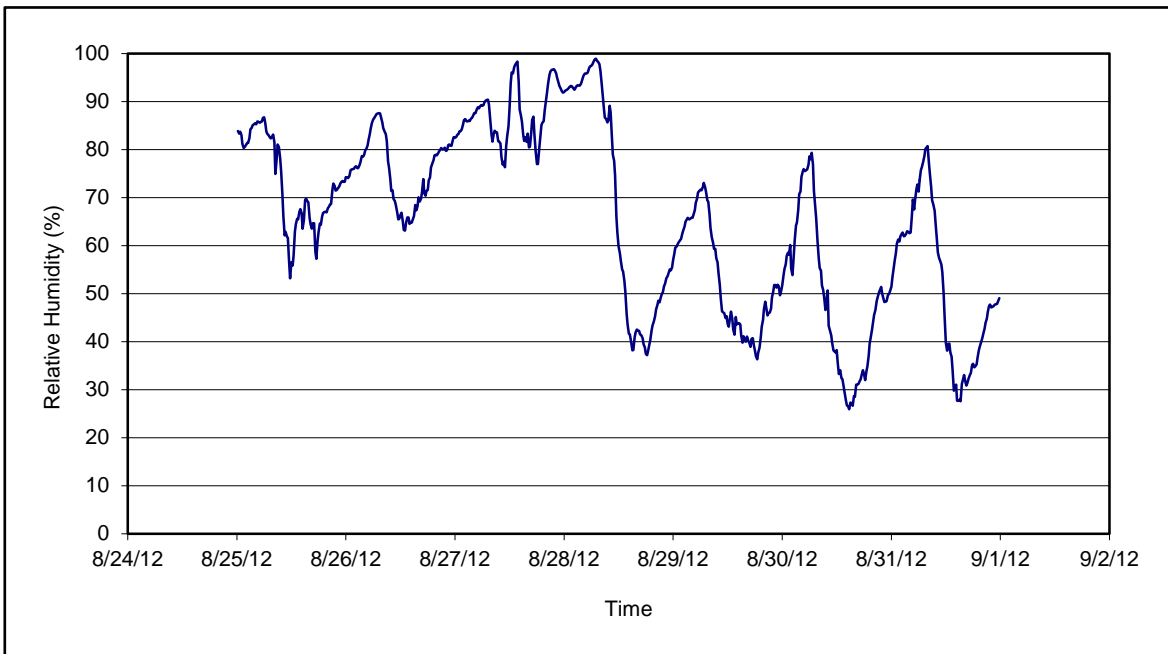


Figure 4. Relative humidity for the period 08/25/12 through 08/31/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

**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	8/27/2012	General Weather Conditions:			Clear - ~ 72°F - ~78°F							
System Start Time	continuous	General Description of Site Activities:			Loading concrete and rebar into roll off dumpster							
System Stop Time	continuous	Health & Safety Meeting										
Total Hrs Monitored	24	Continuous Air Monitoring										
System Calibrations (Time/Status)	Ok 0618-0859	Relocated Temporary Fabric Structure (TFS)										
		Received deliveries of clean backfill										
		Welding rebar from foundation										
		Operated hoe-ram on foundation of one-story building										

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**			
8/27/2012	PM-10	FAM#2	7:49	8:04	15	SSE	DW	FAM#3	109	194	3	Hoe-ram operating on foundation	Notified construction manager Water was sprayed
8/27/2012	PM-10	FAM#2	8:14	8:29	16	SSE	DW	FAM#3	101	150	3	Hoe-ram operating on foundation	Notified construction manager Water was sprayed
8/27/2012	PM-10	FAM#2	9:47	9:59	16	SSE	DW	FAM#3	99	108	2	Hoe-ram operating on foundation	Notified construction manager Water was sprayed
8/27/2012	PM-10	FAM#2	10:00	10:00	1	S	DW	FAM#3	108	108	2	Hoe-ram operating on foundation	Notified construction manager Water was sprayed

<b>Comments:</b>													


**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: 8/27/2012





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		8/28/2012			General Weather Conditions:																							
System Start Time		continuous			Clear - ~ 75°F - ~88°F																							
System Stop Time		continuous			General Description of Site Activities:																							
Total Hrs Monitored		24			Health & Safety Meeting					Loading concrete and rebar into roll off dumpster																		
System Calibrations (Time/Status)		Ok 0622-0902			Continuous Air Monitoring					Installed new gravel roadway																		
					Relocated jersey blocks to stabilize TFS					Stockpiled concrete waste																		
					Received deliveries of clean backfill																							
					Welding rebar from foundation																							
					Operated hoe-ram on foundation of one-story building																							
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**																		
8/28/2012	PM-10	FAM#5	18:40	19:08	29	WNW	CW/UW	N/A	102	132	1	No activity, After hours	None taken															
8/28/2012	PM-10	FAM#5	19:19	19:20	2	WSW	CW/UW	N/A	101	103	1	No activity, After hours	None taken															
8/28/2012	PM-10	FAM#5	19:23	20:39	67	WSW	CW/UW	N/A	105	162	1	No activity, After hours	None taken															
<b>Comments:</b>																												
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 20%;">PM-10 (15-min)</th> <th style="width: 20%;">TVOC (15-min)</th> <th style="width: 20%;">TVOC (1-min)</th> <th style="width: 20%;">Odor Intensity (15-min)</th> </tr> </thead> <tbody> <tr> <td>Alert Limit:</td> <td>100 ug/m<sup>3</sup></td> <td>3.7 ppm</td> <td>-</td> <td>-</td> </tr> <tr> <td>Action Limit:</td> <td>150 ug/m<sup>3</sup></td> <td>5.0 ppm</td> <td>25 ppm</td> <td>3 (n-butanol scale)</td> </tr> </tbody> </table>															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)
	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																						
** 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:		8/28/2012																



**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 System Start Time System Stop Time Total Hrs Monitored		8/29/2012 continuous continuous 24			General Weather Conditions: Clear - ~ 69°F - ~81°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Operated hoe-ram on foundation of one-story building Loaded concrete and rebar into roll off dumpster Stockpiled clean soil Stockpiled concrete waste  Operated street sweeper along Willow Avenue										
System Calibrations (Time/Status)		Ok 0618-0755													
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		
8/29/2012	No Exceedances								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:		3.7 ppm		-		-					
				Action Limit:		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: C. John Date: 8/29/2012	



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: 8/30/2012 System Start Time: continuous System Stop Time: continuous Total Hrs Monitored: 24 System Calibrations (Time/Status): Ok 0648-0827					General Weather Conditions: Clear - ~ 63°F - ~84°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Operated hoe-ram on foundation of one-story building Loaded concrete and rebar into roll off dumpster Stockpiled Clean Soil Operated odor suppressant systems  Stockpiled Concrete waste Loaded out of contaminated soil									
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	
8/30/2012	PM-10	FAM#5	12:11	12:17	7	WNW	CW/UW	N/A	101	110	1	Offsite activities	None 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								
** 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: C. John		
ug/m <sup>3</sup> - micrograms per cubic meter						ND - no data available						Date: 8/30/2012		
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 System Start Time System Stop Time Total Hrs Monitored  System Calibrations (Time/Status)		8/31/2012 continuous continuous 24  Ok 0658-0911		General Weather Conditions: Clear - ~ 69°F - ~88°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Operated hoe-ram on foundation of one-story building Loaded concrete and rebar into roll off dumpster Stockpiled clean soil  Stockpiled concrete waste Load out contaminated soil off site Operated odor suppressant systems									
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
8/31/2012	No exceedances												None 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). ** 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: 8/31/2012	

