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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: March 12, 2013

Regarding: Weekly Community Air Monitoring Report  
Clifton Former MGP Site - Operable Unit 2 (OU-2)  
March 2, 2013 through March 8, 2013

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 2, 2013 and March 8, 2013.

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 exceedances above the alert level for Particulate Matter (PM-10) [dust] due to grout being mixed near an UW/CW station. The levels dropped backed below the alert level on their own. 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:

- Disassembled Temporary Fabric Structure (TFS)
- Backfilled shallow excavation
- Grouted newly installed NAPL recovery wells
- Installed NAPL recovery wells
- Laid poly sheeting around site
- Loaded out broken bin blocks offsite via dump trucks
- Loaded out soil off site from shallow excavation
- Operated hoe-ram to break up bin blocks
- Performed shallow excavation along Willow Avenue
- Removed waste water lines from OU2
- Tarpred dump trucks
- Deconned 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. 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 March 8, 2013. 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 2, 2013 through March 8, 2013  
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## **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
3/2/2013	ND	0.2	0.1	ND	0.3	0.0	14	6	1	0	5	10
3/3/2013	ND	0.2	0.1	ND	0.3	0.0	15	6	1	0	5	10
3/4/2013	ND	0.3	0.1	0.1	0.3	0.0	23	9	23	3	8	14
3/5/2013	0.0	0.3	0.2	0.3	0.4	0.0	30	18	5	14	16	20
3/6/2013	0.0	0.3	0.2	0.3	0.6	0.0	27	11	2	10	10	24
3/7/2013	0.0	0.4	0.3	0.5	0.5	0.1	23	7	2	1	7	14
3/8/2013	0.3	0.5	0.6	0.6	0.5	0.2	30	10	4	143	36	18
Average	0.1	0.3	0.2	0.4	0.4	0.1	23	10	5	24	12	16
Maximum	0.3	0.5	0.6	0.6	0.6	0.2	30	18	23	143	36	24

**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

ND - No recordable data for TVOC due to an equipment communication malfunction

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

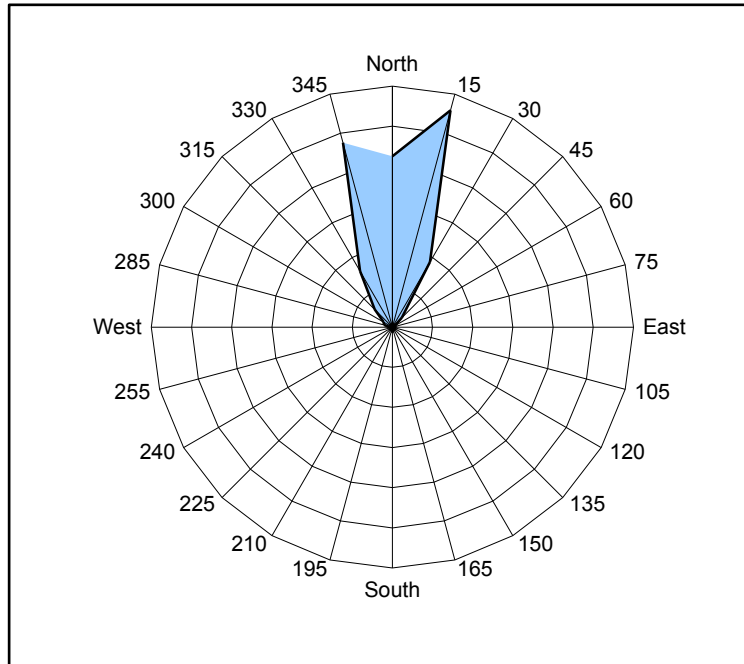


Figure 1. Wind rose for the period 03/02/13 through 03/08/13 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

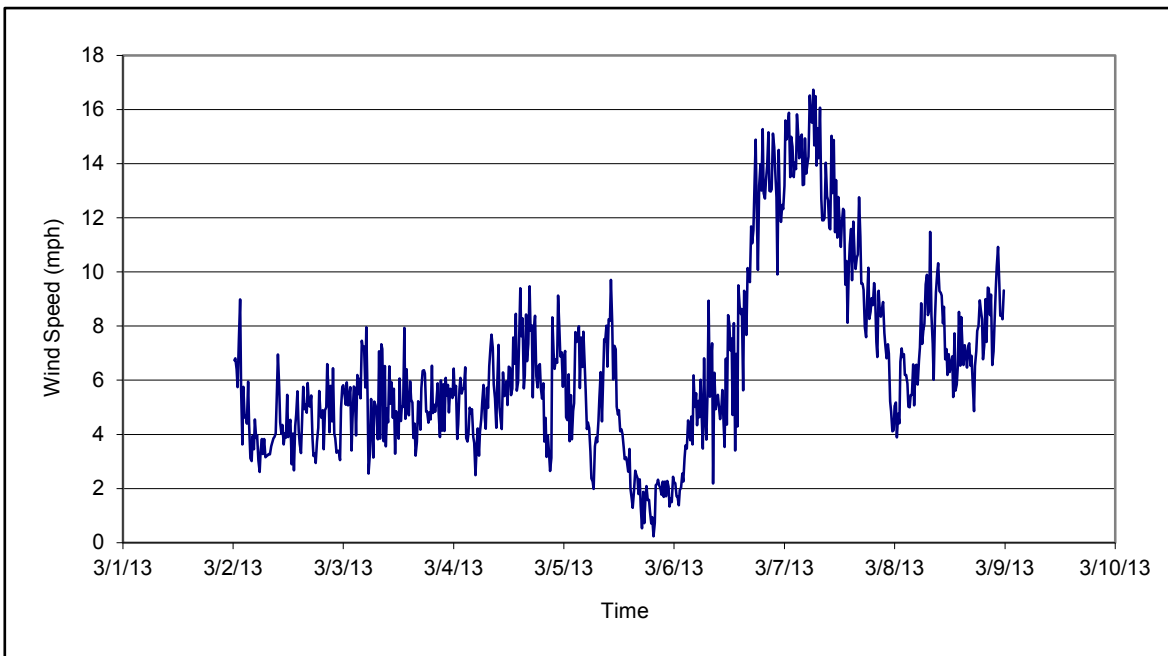


Figure 2. Wind speed for the period 03/02/13 through 03/08/13 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

**Figures 1-4**  
**Meteorological Data**  
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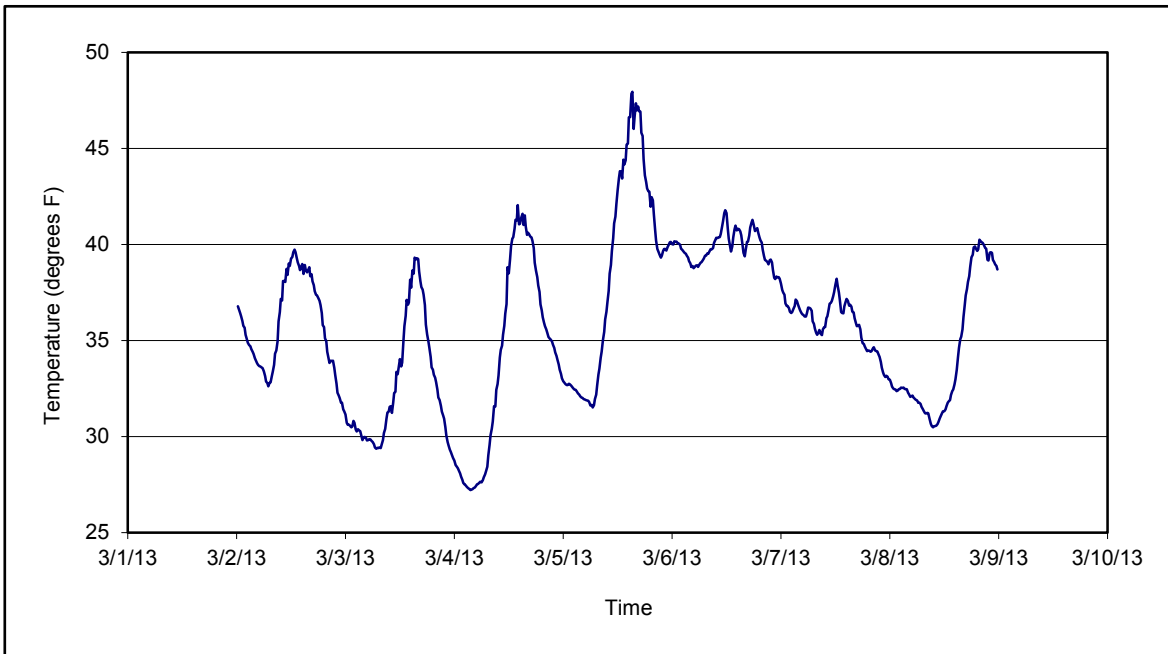


Figure 3. Temperature for the period 03/02/13 through 03/08/13 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

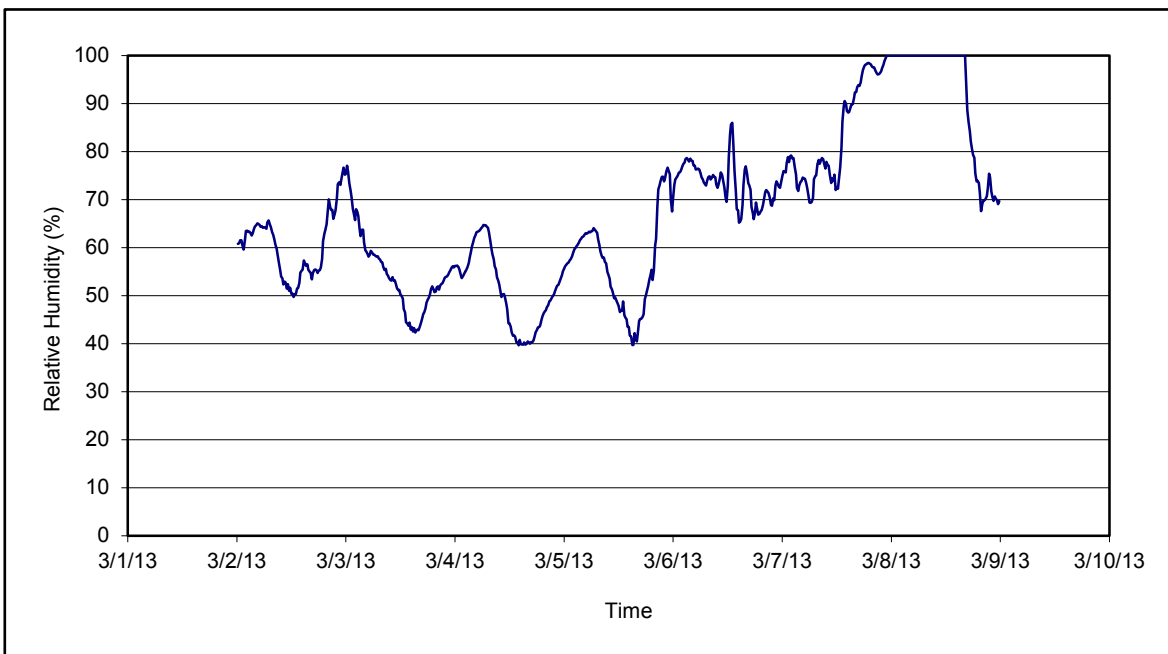


Figure 4. Relative humidity for the period 03/02/13 through 03/08/13 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

**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		3/4/2013			General Weather Conditions: Clear - ~ 28°F - ~40°F								
System Start Time		continuous			General Description of Site Activities:								
System Stop Time		continuous			Health & Safety Meeting				Disassembled Temporary Fabric Structure (TFS)				
Total Hrs Monitored		24			Continuous Air Monitoring				Performed shallow excavation				
System Calibrations (Time/Status)		Ok 0834-1051			Backfilled in shallow excavation				Decconned dump trucks				
					Installed NAPL recovery wells on OU-2				Tarped dump trucks				
					Loaded out soil off site from shallow excavation				Laid poly around site				
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
3/4/13	No exceedances								Min**	Max**			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								
ug/m <sup>3</sup> - micrograms per cubic meter					ND - no data available								
ppmv - parts per million by volume					Field Representative: R. Marshall								
					Date: 3/4/2013								





**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 3/5/2013 System Start Time continuous System Stop Time continuous Total Hrs Monitored 24  System Calibrations Ok (Time/Status) 0636-0753					General Weather Conditions: Clear - ~ 36°F - ~47°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Disassembled Temporary Fabric Structure (TFS) continued Backfilled in shallow excavation Installed NAPL recovery wells on OU-2 Grouted newly installed NAPL well  Decconned dump trucks Tarped dump trucks Laid poly around site								
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
3/5/13	No exceedances								Min**	Max**			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					Field Representative: R. Marshall			
** Upwind minus downwind concentrations are a time specific comparison.					TVOC - total volatile organic compounds					Date: 3/5/2013			
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													



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: 3/6/2013 System Start Time: continuous System Stop Time: continuous Total Hrs Monitored: 24 System Calibrations (Time/Status): Ok 0636-0753					General Weather Conditions: Overcast w/ rain- ~ 39°F - ~40°F General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Disassembled Temporary Fabric Structure (TFS) Installed NAPL recovery wells on OU-2 Operated hoe-ram to break up bin blocks Installed NAPL recovery wells									
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	
3/6/13	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).						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: 3/6/2013		
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**

<b>System Operations</b>					<b>General Observations</b>								
Sampling Date	3/7/2013				<b>General Weather Conditions:</b> Overcast w/ snow - ~ 35°F - ~37°F								
System Start Time	continuous				<b>General Description of Site Activities:</b> Health & Safety Meeting Continuous Air Monitoring Disassembled Temporary Fabric Structure (TFS) continued Installed NAPL recovery wells Removed waste water lines from OU2								
System Stop Time	continuous												
Total Hrs Monitored	24												
System Calibrations (Time/Status)	Ok 0815-1019												
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
3/7/13	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: 3/7/2013	



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 3/8/2013 System Start Time continuous System Stop Time continuous Total Hrs Monitored 24 System Calibrations Ok (Time/Status) 0836-1041					General Weather Conditions: Overcast w/ snow- ~ 29°F - ~32°F General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Disassembling of Temporary Fabric Structure (TFS) continued Grouted newly installed NAPL recovery wells Loaded out bin blocks that were broken up into dump trucks Performed shallow excavation along Willow Avenue									
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	
3/8/13	PM-10	FAM#4	12:44	12:57	14	NW	CW/UW	FAM#1	90	122	1	Mixing grout	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 & R. Marshall Date: 3/8/2013				

