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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: October 8, 2012

Regarding: Weekly Community Air Monitoring Report  
Clifton Former MGP Site - Operable Unit 2 (OU-2)  
September 29, 2012 through October 5, 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 September 29, 2012 and October 5, 2012.

There were no fifteen-minute exceedances of odor action levels associated with ground intrusive site activities during this reporting period. There were periods of Particulate Matter (PM-10) [dust] above the action level at an upwind station attributed to offsite activities and periods of Total Volatile Organic Compounds (TVOC) above the action level attributed to surveyors spray painting mark-outs in OU-2. The construction manager was notified and no action was taken as levels dropped below the action and alert levels 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:

- Excavation in Temporary Fabric Structure (TFS)
- Backfilled in TFS
- Backfilled shallow excavation along Bay Street
- Deconned dump trucks
- Operated hoe-ram in TFS
- Installed sumps in TFS
- Loaded out soil off site from shallow excavations via dump trucks
- Operated dust suppressant system South of TFS
- Performed intrusive work in trench Southeast of TFS
- Performed shallow excavation along Willow Avenue
- Received deliveries of clean backfill
- Relocated concrete blocks
- Stockpiled clean backfill
- Stockpiled clean soil
- Surveyed site in OU-2
- Tarped dump trucks
- Operated odor suppressant system at East and West doors on TFS

### **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 October 4, 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.

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If you have any questions regarding the information in this report, please contact me.

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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
9/29/2012	0.1	0.1	0.4	0.0	0.0	0.0	23	8	2	2	16	0
9/30/2012	0.2	0.1	0.5	0.0	0.1	0.1	41	6	2	0	11	0
10/1/2012	0.2	5.8	0.3	0.1	0.1	0.1	24	11	2	2	9	27
10/2/2012	0.1	0.3	0.2	0.2	0.0	0.1	25	19	2	24	43	42
10/3/2012	0.2	0.1	0.1	0.3	0.0	0.2	54	46	2	51	84	2
10/4/2012	0.1	0.3	0.3	0.2	0.0	0.7	50	43	2	49	67	96
10/5/2012	0.7	0.5	0.2	0.1	0.0	0.4	54	17	2	10	30	218
Average	0.2	1.0	0.3	0.1	0.0	0.2	39	21	2	20	37	55
Maximum	0.7	5.8	0.5	0.3	0.1	0.7	54	46	2	51	84	218

**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**

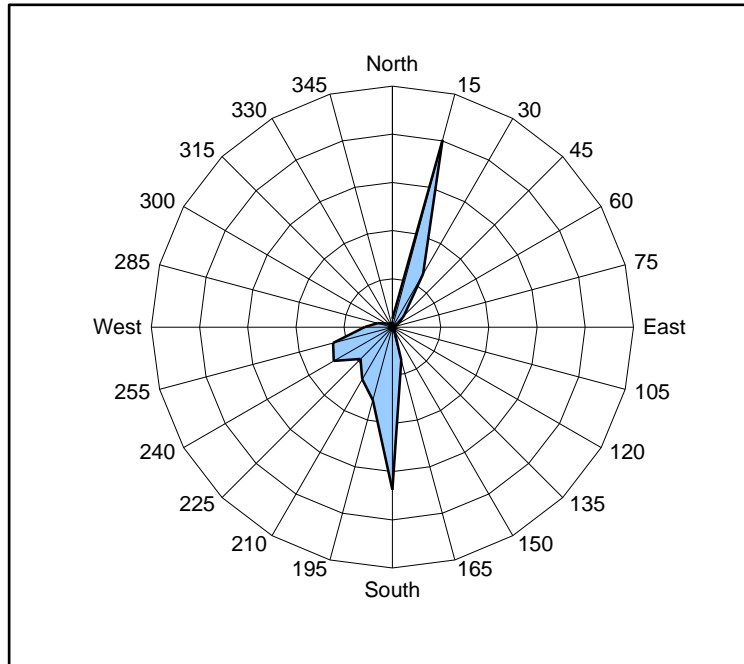


Figure 1. Wind rose for the period 09/29/12 through 10/05/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

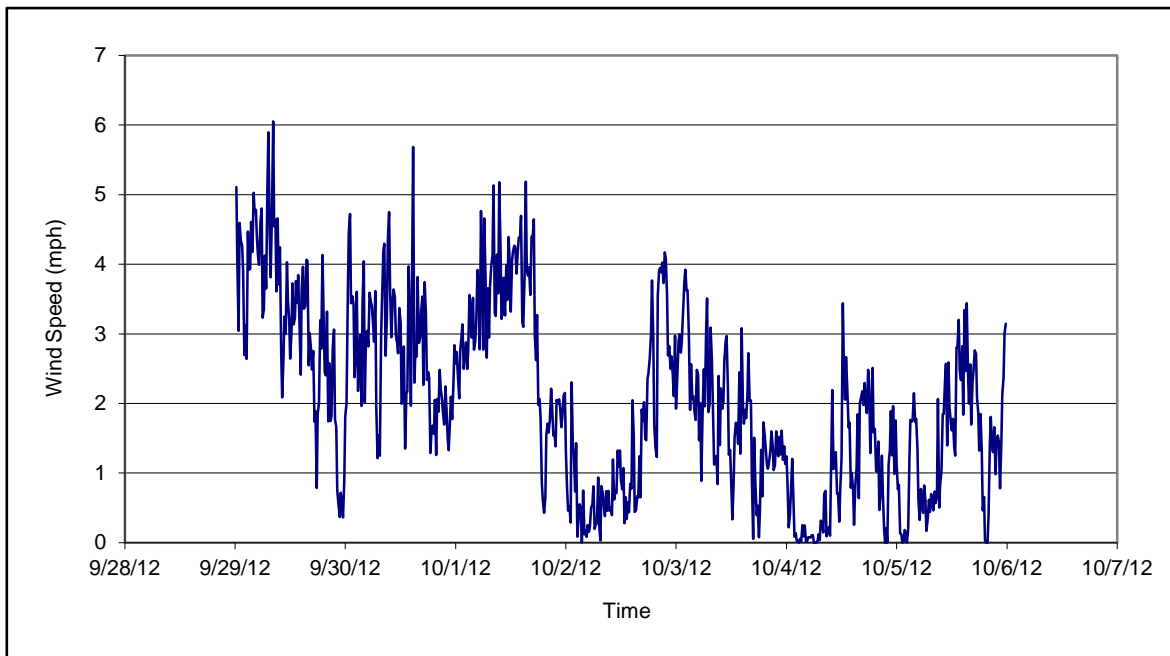


Figure 2. Wind speed for the period 09/29/12 through 10/05/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

**Figures 1-4**  
**Meteorological Data**  
**Weekly Community Air Monitoring Report**  
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**Borough of Staten Island, New York**

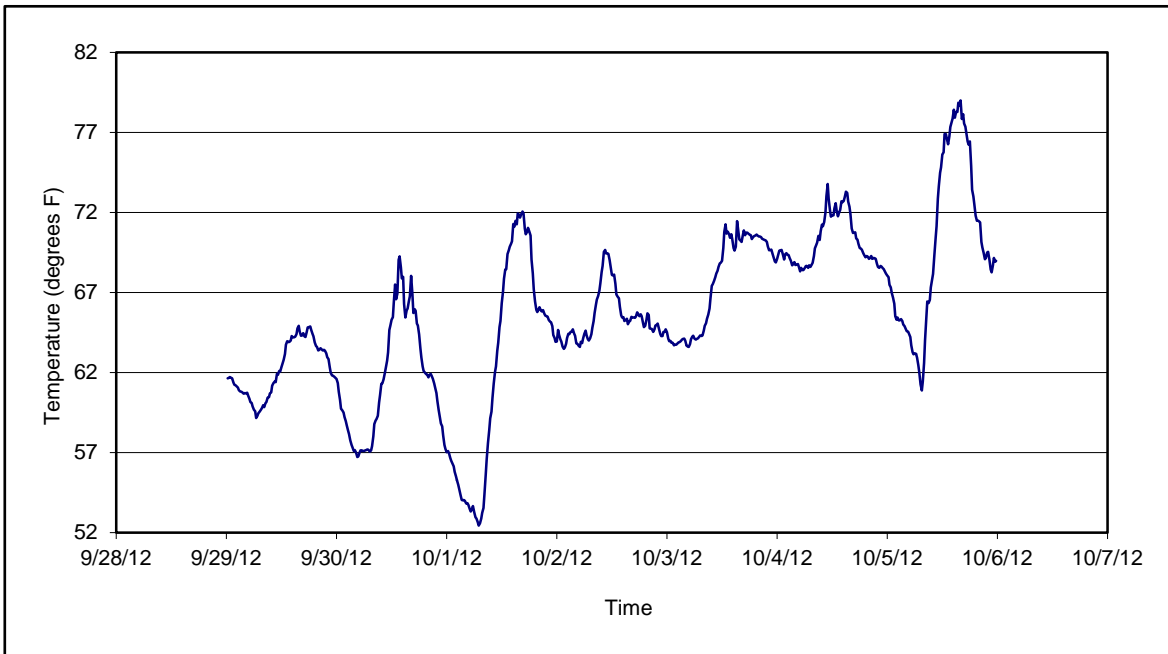


Figure 3. Temperature for the period 09/29/12 through 10/05/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

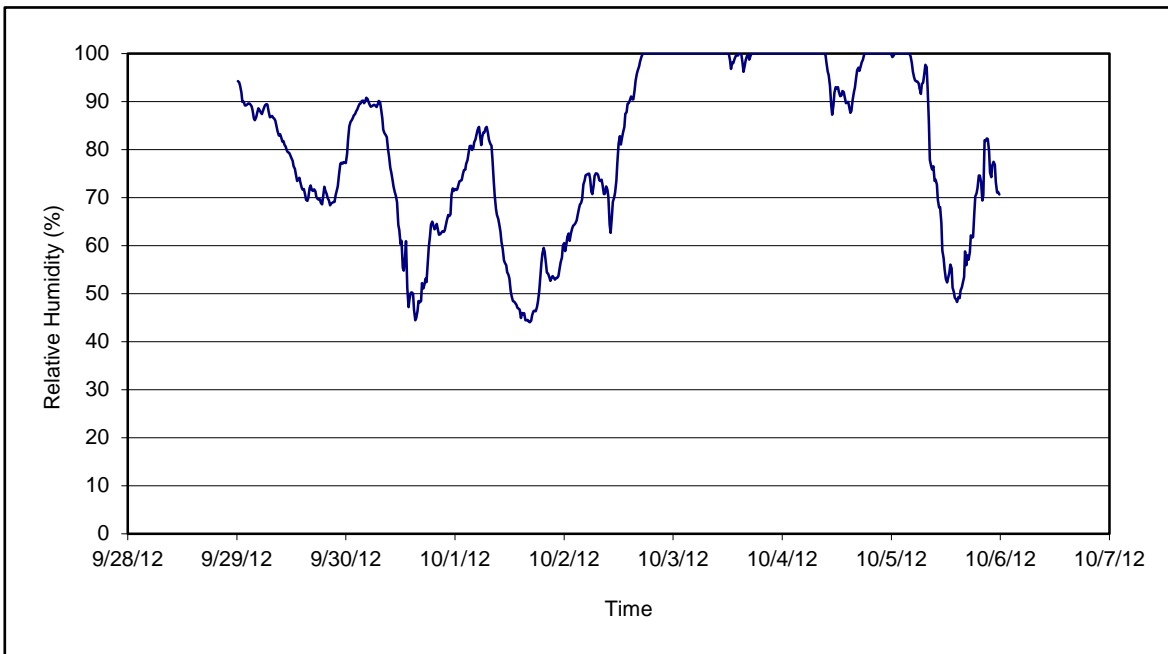


Figure 4. Relative humidity for the period 09/29/12 through 10/05/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.



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	10/1/2012				General Weather Conditions: Cloudy w/rain - ~ 58°F - ~74°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Stockpiled clean backfill Decommed dump trucks Performed shallow excavation along Willow Avenue Tarped stockpiled backfill and clean excavated soil							
System Start Time	continuous											
System Stop Time	continuous											
Total Hrs Monitored	24											
System Calibrations (Time/Status)	Ok 0650-0923	Tarped dump trucks Loaded out soil off site from shallow excavations via dump trucks Backfilled in Temporary Fabric Structure (TFS) Performed intrusive work in trench Southeast of TFS Operated dust suppressant system South of TFS Performed shallow excavation along Bay Street										

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**			
10/1/2012	TVOC	FAM#2	18:22	18:28	7	WSW	DW	FAM#4	5.21	5.79	*1	Contractors spray painting markouts	Notified construction manager at start of next work day No actions were taken

**Comments:**  
\*Elevated levels for TVOC were not caused by ground intrusive activity. Site condition remained at 1.

	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

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: 10/1/2012



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	10/2/2012	General Weather Conditions:			Cloudy w/rain - ~ 62°F - ~66°F							
System Start Time	continuous	General Description of Site Activities:			Installed sumps in TFS							
System Stop Time	continuous	Health & Safety Meeting			Tarp'd dump trucks							
Total Hrs Monitored	24	Continuous Air Monitoring			Loaded out soil off site from shallow excavations via dump trucks							
System Calibrations (Time/Status)	Ok 0650-0803	Stockpiled clean backfill			Backfilled in Temporary Fabric Structure (TFS)							
		Decom'd dump trucks			Relocated concrete blocks							
		Performed shallow excavation along Willow Avenue			Operated dust suppressant system South of TFS							
		Tarp'd stockpiled backfill and clean excavated soil			Performed shallow excavation along Bay Street							
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
10/2/2012	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).					PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter				TVOC - total volatile organic compounds			
** Upwind minus downwind concentrations are a time specific comparison.					NA - not applicable				ND - no data available			
FAM - Fixed Air Monitoring station location									Field Representative: R.Marshall			
ug/m <sup>3</sup> - micrograms per cubic meter									Date: 10/2/2012			
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)	10/3/2012 continuous continuous 24  Ok 0728-0836			General Weather Conditions: Fog - cloudy w/rain - ~ 65°F - -71°F		General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Stockpiled clean backfill Decommed dump trucks Performed shallow excavation along Willow Avenue Tarped stockpiled backfill and clean excavated soil					Installed sumps in TFS Tarped dump trucks Loaded out soil off site from shallow excavations via dump trucks Backfilled in Temporary Fabric Structure (TFS) Operated hoe-ram in TFS Operated dust suppressant system South of TFS Performed shallow excavation along Bay Street		Surveyed site in OU-2 Received deliveries of clean backfill	
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		
10/3/2012	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).						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: 10/3/2012			
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	10/4/2012	General Weather Conditions: Fog - cloudy w/rain - ~ 69°F - ~75°F							
System Start Time	continuous	General Description of Site Activities: Health & Safety Meeting      Tarped dump trucks Continuous Air Monitoring      Backfilled in Temporary Fabric Structure (TFS) Total Hrs Monitored      24      Stockpiled clean soil      Operated hoe-ram in TFS System Calibrations      Ok      Decconned dump trucks      Operated dust suppressant system South of TFS (Time/Status)      0656-0845      Loaded out soil off site from shallow excavations via dump trucks      Performed shallow excavation along Bay Street Tarped stockpiled backfill and clean excavated soil      Surveyed site in OU-2 Received deliveries of clean backfill Hoe Ram operating in 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		Site Condition	Site Activity During the Period (if applicable)	Actions Taken
									Min**	Max**			
10/4/2012	No exceedances												None taken

**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).  
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 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: 10/4/2012



**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: 10/5/2012 System Start Time: continuous System Stop Time: continuous Total Hrs Monitored: 24  System Calibrations (Time/Status): Ok 0645-0810		General Weather Conditions: Clear - - 60°F - -76°F  General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Stockpiled clean soil Decanned dump trucks Loaded out soil off site from shallow excavations via dump trucks Tarped stockpiled backfill and clean excavated 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
10/5/2012	PM-10	FAM#6	8:27	10:11	105	SW	CW/UW	N/A	102	218	1	Offsite activities	Construction manager was notified No action 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: 10/5/2012			

