



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: April 18, 2012

Regarding: Weekly Community Air Monitoring Report
Clifton Former MGP Site - Operable Unit 2 (OU-2)
April 7, 2012 through April 13, 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 April 7 and April 13, 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. Fifteen-minute averages of TVOC, PM-10, and odor intensity data remained at a Site Condition 1.

Some elevated dust measurements occurred during the week that were after hours, from upwind sources, from saw cutting through a concrete sidewalk, from leveling clean imported soil, from relocating jersey barriers, and from pre-trenching that exceeded the fifteen-minute action level for Particulate Matter (PM-10) [dust] data. The construction manager was informed of each occurrence. The contractor sprayed water on soil surfaces regularly during working hours to control the dust. 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:

- Moving equipment into Temporary Fabric Structure (TFS)
- Constructing decontamination pad in OU-2
- Receiving delivery of clean imported soil in OU-2
- Installing erosion control along perimeter of OU-2 along Bay St.
- Installing water lines for dust suppression in OU-2
- Placing fabric & absorbent material over storm drains on Willow Ave
- Placing hay bales around perimeter of OU-2 along Willow Ave
- Test pitting in OU-2
- Pre-trenching in OU-2
- Backfilling trench in OU-2
- Removing contents of frac tanks in OU-2 via vac truck
- Surveying on Willow Avenue & Bay Street

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 three of 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 April 12, 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.

Weekly Community Air Monitoring Report
Clifton Former MGP Site Operable Unit 2 (OU-2)
April 6, 2012 through April 13, 2012
April 18, 2012
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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 ³	150 ug/m ³	< 100 ug/m ³	≥ 100 ug/m ³ , < 150 ug/m ³	≥ 150 ug/m ³
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 ³	≥ 330 ug/m ³ , < 440 ug/m ³	≥ 440 ug/m ³

Notes:

¹ 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

² 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/m³ - 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 ³)					
	FAM-1	FAM-2	FAM-3	FAM-4	FAM-5	FAM-6	FAM-1	FAM-2	FAM-3	FAM-4	FAM-5	FAM-6
4/7/2012	0.2	0.5	0.1	0.2	0.2	0.0	18	12	3	14	93	20
4/8/2012	0.2	0.5	0.5	0.2	0.0	0.1	26	22	5	34	4	37
4/9/2012	0.2	0.5	0.1	0.2	0.1	0.1	217	123	207	435	ND	178
4/10/2012	0.2	0.1	0.5	0.2	0.1	0.1	28	35	2	6	5	23
4/11/2012	0.1	0.5	0.1	0.2	0.0	0.1	28	111	169	3	5	88
4/12/2012	0.1	0.5	0.2	0.3	0.3	0.3	27	30	3	4	6	143
4/13/2012	0.2	0.5	0.5	0.5	0.5	0.0	355	100	3	10	9	109
Average	0.2	0.5	0.3	0.3	0.2	0.1	100	62	56	72	20	85
Maximum	0.2	0.5	0.5	0.5	0.5	0.3	355	123	207	435	93	178

Notes:

FAM - fixed air monitoring station location

ug/m³ - 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

PM-10 monitor at FAM#5 was not operable from 4/9 at 6:33 am through 4/10 at 6:48 am

ND: No Data available

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

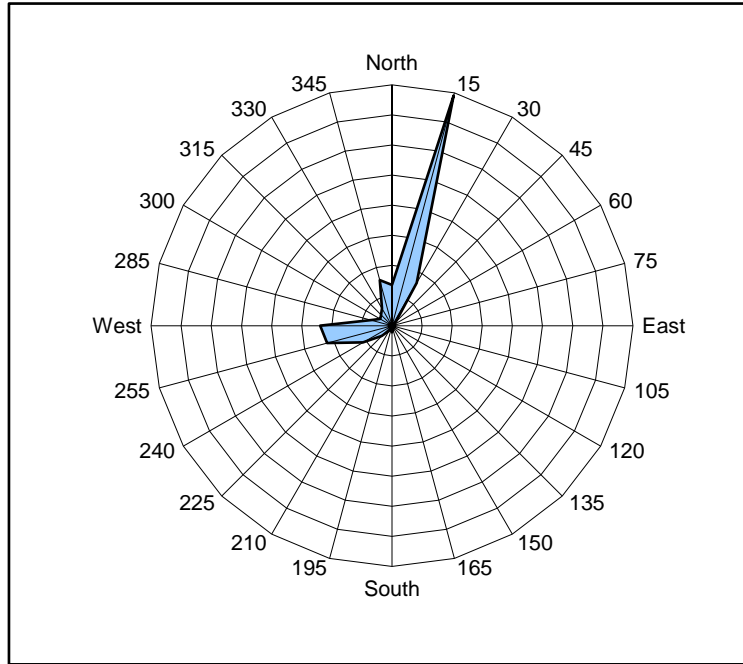


Figure 1. Wind rose for the period 04/07/12 through 04/13/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

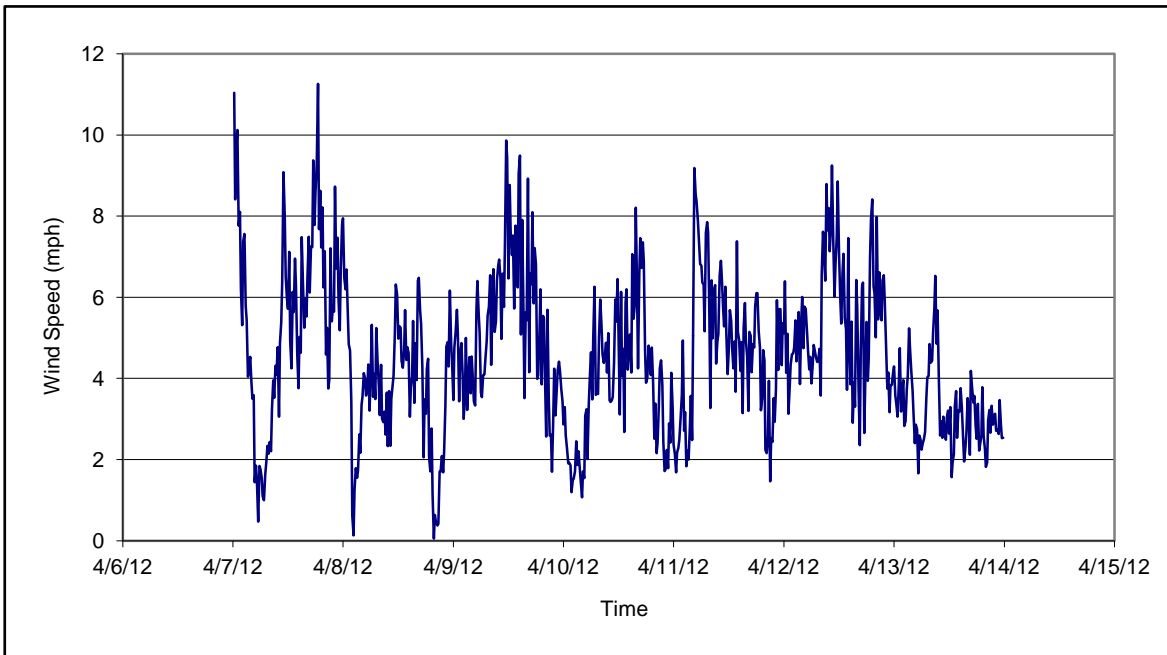


Figure 2. Wind speed for the period 04/07/12 through 04/13/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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

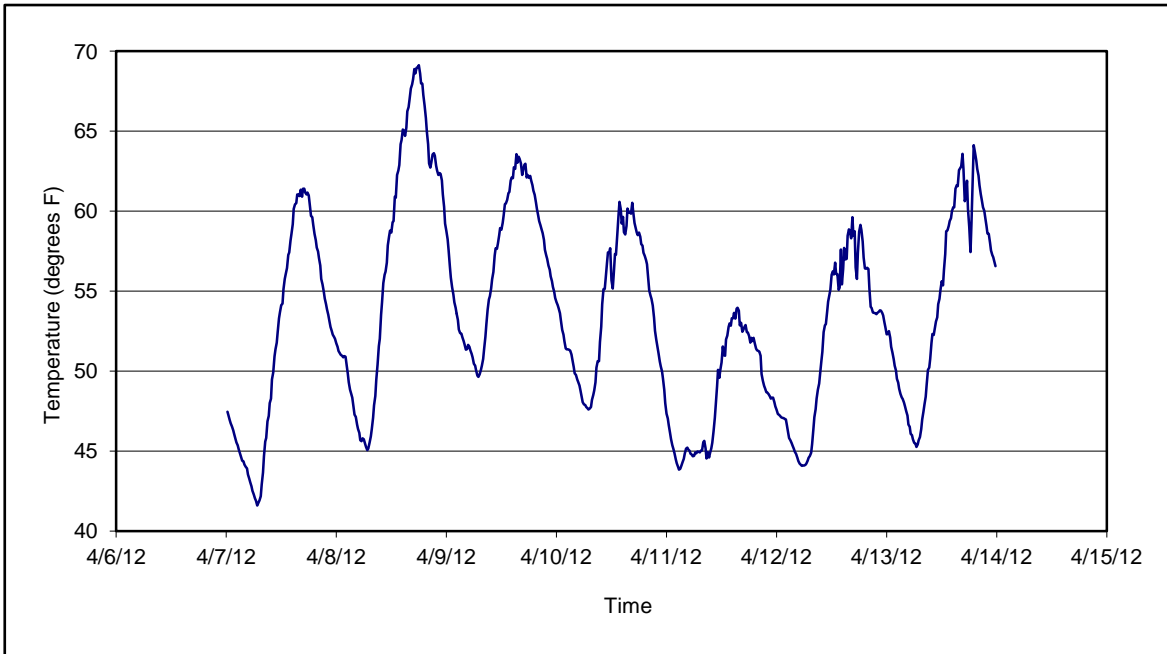


Figure 3. Temperature for the period 04/07/12 through 04/13/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

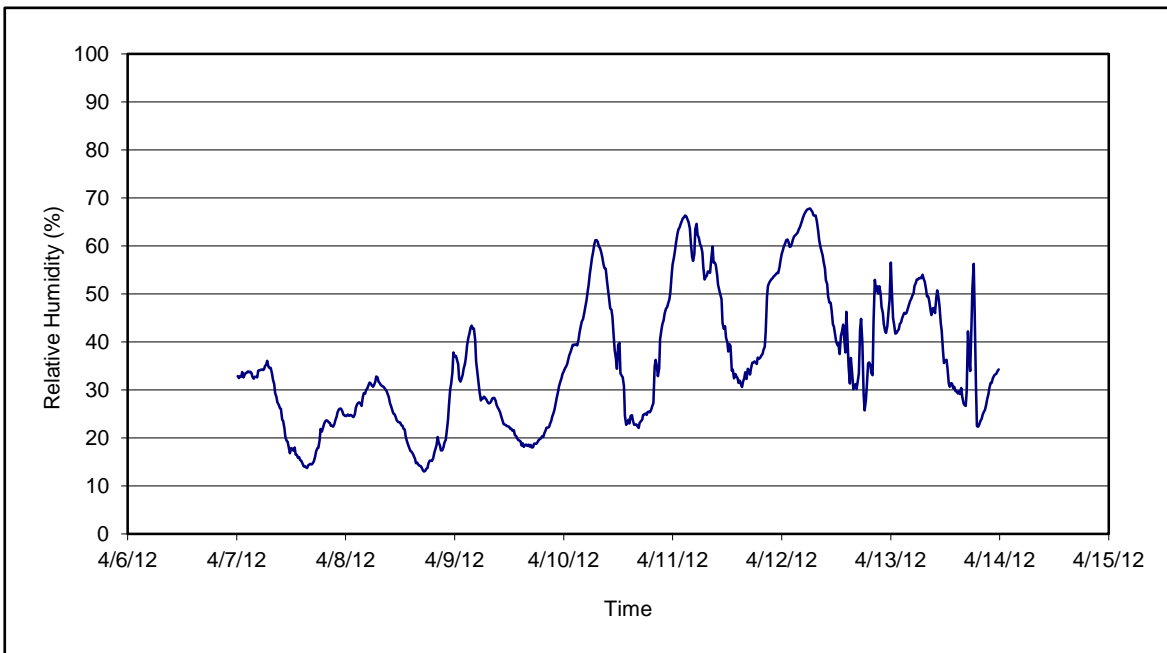


Figure 4. Relative humidity for the period 04/07/12 through 04/13/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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: 4/9/2012 System Start Time: continuous System Stop Time: continuous Total Hrs Monitored: 24 System Calibrations (Time/Status): Ok 0630-0936					General Weather Conditions: Sunny w/ gusty winds- ~50°F- ~62°F General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Pre-trenching in OU2 Surveying on Willow Ave Backfilling trench in OU2 Test pit in OU2								
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
4/9/2012	PM-10	FAM#1	21:46	22:15	30	S	CW	FAM#2	96	158	1*	No ground intrusive activity. After Hours	N/A
4/9/2012	PM-10	FAM#2	9:21	9:26	6	W.	DW	FAM#4	< 0	< 0	1**	Pre-trenching in OU2	Notified construction manager. Water was sprayed to reduce dust levels
4/9/2012	PM-10	FAM#2	12:00	12:13	13	SW	DW	FAM#4	< 0	< 0	1**	Pre-trenching in OU2	Notified construction manager. Water and foam was sprayed to reduce dust levels
4/9/2012	PM-10	FAM#3	9:37	9:39	3	W	DW	FAM#4	9	84	1	Pre-trenching in OU2	Notified construction manager. Water was sprayed to reduce dust levels
4/9/2012	PM-10	FAM#4	9:13	9:39	17	W	CW/UW	N/A	113	435	1	Upwind station. Pre-trenching in OU2	Notified construction manager. Water was sprayed to reduce dust levels
4/9/2012	PM-10	FAM#4	10:10	10:31	21	W	UW	N/A	100	241	1	Upwind station. Pre-trenching in OU2	Notified construction manager. Water and foam was sprayed to reduce dust levels
4/9/2012	PM-10	FAM#4	12:01	12:03	3	SW	UW	N/A	100	103	1	Upwind station. Pre-trenching in OU2	Notified construction manager. Water and foam was sprayed to reduce dust levels
4/9/2012	PM-10	FAM#4	12:07	12:07	1	W	UW	N/A	109	109	1	Upwind station. Pre-trenching in OU2	Notified construction manager. Water and foam was sprayed to reduce dust levels
4/9/2012	PM-10	FAM#4	12:10	12:12	3	SW	UW	N/A	101	109	1	Upwind station. Pre-trenching in OU2	Notified construction manager. Water and foam was sprayed to reduce dust levels
4/9/2012	PM-10	FAM#4	13:38	13:52	15	SW	UW	N/A	110	141	1	Upwind station. Pre-trenching in OU2	Notified construction manager. Water and foam was sprayed to reduce dust levels
4/9/2012	PM-10	FAM#6	21:48	22:17	26	S	UW	N/A	151	178	1*	No ground intrusive activity. After Hours	N/A

Comments:
 * Since no ground intrusive activities were conducted during this time period, PM-10 remained at a Site Condition 1.
 ** Upwind levels for dust were higher than the Downwind levels during this time period. PM-10 remained at a Site Condition 1.
 PM-10 monitor at FAM#5 was not operable from 06:33 on 4/9 through 06:48 on 4/10.

	PM-10 (15-min)	TVOC (15-min)	TVOC (1-min)	Odor Intensity (15-min)
Alert Limit:	100 ug/m ³	3.7 ppm	-	-
Action Limit:	150 ug/m ³	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/m³ - 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: 4/9/2012



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	4/11/2012	General Weather Conditions: Sunny w/ gusty winds- ~48°F- ~63°F			General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Pre-trenching in OU2 Backfilling trench in OU2 Erosion Control along perimeter of OU2 along Bay St. Utility surveying on Bay St. Sampling using hand auger Move roll off dumpster off site									
System Start Time	continuous													
System Stop Time	continuous													
Total Hrs Monitored	24													
System Calibrations (Time/Status)	Ok 0608-0738													
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	
4/11/12	PM-10	FAM#2	13:12	13:15	4	N	UW	N/A	105	111	1*	Leveling backfilled area with clean imported soil	Water is sprayed continuously on ground surfaces throughout the day.	
4/11/12	PM-10	FAM#3	10:26	10:41	16	N	CW	FAM#2	94	155	1**	Sawing through sidewalk concrete during utility survey	Notified construction manager Water was poured on concrete	
Comments:														
* Since the soil was clean imported fill during this time period, PM-10 remained at a Site Condition 1.														
** Since the dust was caused by concrete and not contaminated soil, PM-10 remained at a Site Condition 1.														
					PM-10 (15-min)	TVOC (15-min)	TVOC (1-min)	Odor Intensity (15-min)						
					Alert Limit:	100 ug/m ³	3.7 ppm	-						
					Action Limit:	150 ug/m ³	5.0 ppm	25 ppm						
Notes:														
* 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 ³ - micrograms per cubic meter					ND - no data available					Field Representative: R. Marshall				
ppmv - parts per million by volume										Date: 4/11/2012				



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 4/12/2012 System Start Time continuous System Stop Time continuous Total Hrs Monitored 24 System Calibrations (Time/Status) Ok 0631-0726					General Weather Conditions: Sunny-overcast- ~48°F- ~58°F General Description of Site Activities: Health & Safety Meeting Continuous Air Monitoring Pre-trenching in OU-2 Backfilling trench in OU-2 Surveying on Willow Avenue Erosion control at the perimeter of OU-2 along Bay St. Moving equipment into Temporary Fabric Structure (TFS) Constructing decon pad in OU-2										
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		
4/12/12	PM-10	FAM#6	13:51	14:04	14	N	UW	N/A	117	143	1	Construction vehicle relocating jersey barriers in OU-2	Notified construction manager Water was sprayed		
Comments:															
					PM-10 (15-min)			TVOC (15-min)			TVOC (1-min)		Odor Intensity (15-min)		
					Alert Limit: 100 ug/m ³			3.7 ppm			-		-		
					Action Limit: 150 ug/m ³			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).						PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter						Field Representative: R. Marshall		Date: 4/12/2012	
** 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 ³ - micrograms per cubic meter						ND - no data available									
ppmv - parts per million by volume															
													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	4/13/2012	General Weather Conditions:											
System Start Time	continuous	Sunny-overcast- ~45°F- ~62°F											
System Stop Time	continuous	General Description of Site Activities:											
Total Hrs Monitored	24	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> Health & Safety Meeting Continuous Air Monitoring Pre-trenching in OU-2 Backfilling trench in OU-2 Delivery of soil in OU-2 </div> <div style="width: 50%;"> Surveying on Willow Avenue Erosion control at the perimeter of OU-2 along Bay St. Installing water lines for dust suppression in OU-2 Constructing decon pad in OU-2 Removing contents of frac tanks in OU-2 via vac truck </div> </div>											
System Calibrations (Time/Status)	Ok 0555-0705												
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
4/13/12	PM-10	FAM#1	6:11	6:24	15	N	UW	N/A	119	124	1*	None (after hours)	None taken
4/13/12	PM-10	FAM#2	7:33	7:33	1	N	CW	N/A	100	100	1	Pre trenching	None taken
4/13/12	PM-10	FAM#6	7:33	7:46	4	N	UW	N/A	100	104	1	Pre trenching	Notified construction manager Water was sprayed
4/13/12	PM-10	FAM#6	13:39	13:48	10	S	DW	FAM#4	99	108	2	Pre trenching	Notified construction manager Water was sprayed
4/13/12	PM-10	FAM#6	14:27	14:28	2	S	CW/UW	N/A	100	102	1	Backfilling trench	Notified construction manager Water was sprayed
Comments:													
*No site activities were being performed during this time period.													
					PM-10 (15-min)		TVOC (15-min)		TVOC (1-min)		Odor Intensity (15-min)		
					Alert Limit: 100 ug/m ³		3.7 ppm		-		-		
					Action Limit: 150 ug/m ³		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).						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 ³ - micrograms per cubic meter						ND - no data available							
ppmv - parts per million by volume						Field Representative: R. Marshall			Date: 4/13/2012				

