

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 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 5, 2013

Regarding: Weekly Community Air Monitoring Report

Clifton Former MGP Site - Operable Unit 2 (OU-2)

February 23, 2013 through March 1, 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 February 23, 2013 and March 1, 2013.

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. 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

Weekly Community Air Monitoring Report Clifton Former MGP Site Operable Unit 2 (OU-2) February 23, 2013 through March 1, 2013 March 5, 2013 Page 2

Site Construction Activities

Construction activities during this reporting period included:

- Backfilled in Temporary Fabric Structure (TFS)
- Deconned construction vehicles
- Deconned dump trucks
- Demobilized equipment
- Domobilized TIGG unit
- Installed NAPL recovery wells in OU-2
- Loaded construction vehicles offsite
- Performed shallow excavation near Northeast corner of OU-2
- Received deliveries of clean gravel
- Received deliveries of clean soil
- Surveyed site in OU2
- Transported clean backfill in TFS
- Transported equipment across OU2

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 February 27, 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) February 23, 2013 through March 1, 2013 March 5, 2013 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

			1		
	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/m³, < 150 ug/m³	≥ 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/m³, < 440 ug/m³	≥ 440 ug/m ³

Notes:

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



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)

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

			TV	OC			PM-10							
Date			(pp	om)			(ug/m³)							
	FAM#1	FAM#2	FAM#3	FAM#4	FAM#5	FAM#6	FAM#1	FAM#2	FAM#3	FAM#4	FAM#5	FAM#6		
2/23/2013	0.0	0.1	0.2	0.2	0.1	0.0	36	8	1	1	9	15		
2/24/2013	0.0	0.1	0.2	0.2	0.1	0.0	42	21	0	12	21	30		
2/25/2013	0.1	1.3	0.2	0.3	0.3	0.0	62	22	6	11	22	90		
2/26/2013	0.0	0.2	0.3	0.3	0.3	0.0	67	34	18	21	32	67		
2/27/2013	0.1	0.2	0.2	0.6	0.3	0.0	83	25	13	16	28	17		
2/28/2013	0.1	0.2	0.2	0.2	0.2	0.0	39	21	10	9	19	84		
3/1/2013	0.5*	0.5	0.2	0.1**	0.3	0.0	20	9	3	56	9	10		
Average	0.1	0.4	0.2	0.3	0.2	0.0	50	20	7	18	20	45		
Maximum	0.1	1.3	0.3	0.6	0.3	0.0	83	34	18	56	32	90		

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



^{*}No recordable data for TVOC at FAM#1 from 12:14 - 23:59 on 3/3/13

^{**}No recordable data for TVOC at FAM#4 from 16:15 - 23:59 on 3/1/13 due to PID communication issue

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

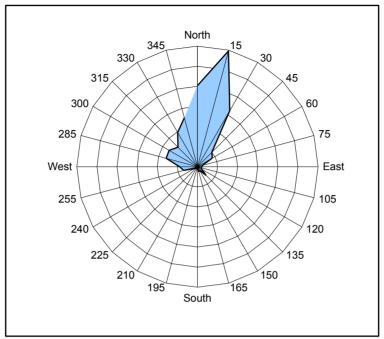


Figure 1. Wind rose for the period 02/23/13 through 03/01/13 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

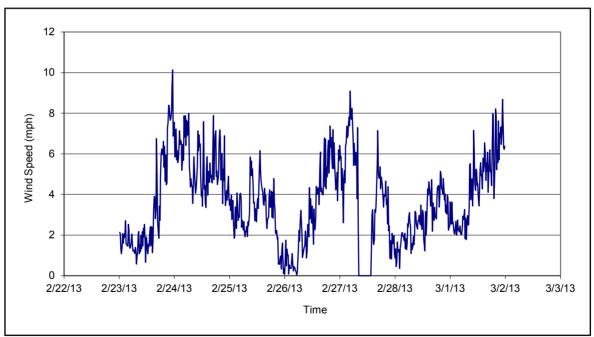


Figure 2. Wind speed for the period 02/23/13 through 03/01/13 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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

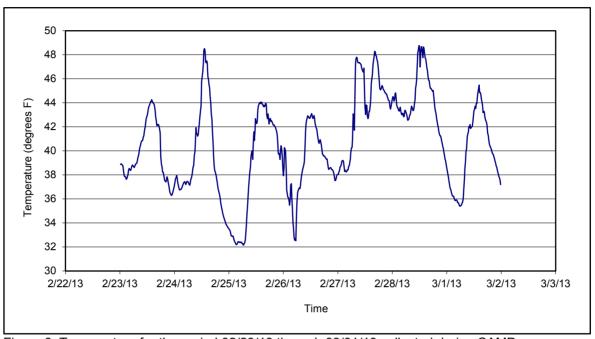


Figure 3. Temperature for the period 02/23/13 through 03/01/13 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

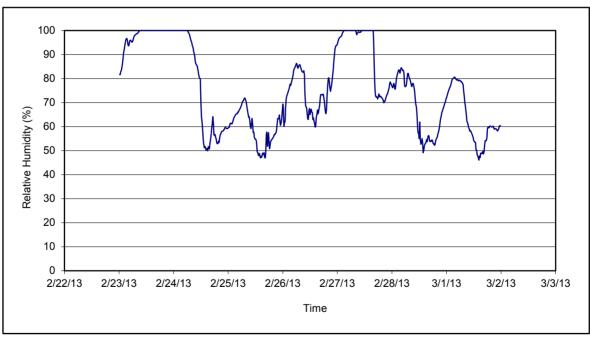


Figure 4. Relative humidity for the period 02/23/13 through 03/01/13 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

	System Op	orations			1	General Observations										
		mpling Date	2/25	/2013	General Weath	her Cond	litione:				General Observations					
		n Start Time		nuous			- ~ 27°F - ~41°F									
		n Stop Time		nuous	Cicai - 0	vercast -	2/1- 411									
		s Monitored			General Descr	intion of	Cito Activition:									
	Total Fil	s wormored														
	0.1	0 " "		SI.	Health &											
		Calibrations)k	Continuo											
	(1	ime/Status)	0802	-1114			n backfill in TFS			onstruction vehi	cles offsite					
					Deconne				Surveyed	site in OU2						
							porary Fabric Struc	cture (TFS)								
					Deconne	ed constr	uction vehicles									
					# of					-Minute						
Date	Alert	Station	Start	End	15-min	Wind	Upwind/	Upwind		vind-Upwind	Site Condition	Site Activity During the Period	Actions Taken			
Date	Trigger	Station	Time	Time	Periods	Dir.	Downwind	Station(s)	Cond	centration	Site Condition	(if applicable)	Actions Taken			
					1 Chods				Min**	Max**	1					
2/25/2013	No exceedances												None taken			
Comments:	<u> </u>					II.	l		1	L						
comments.																
						PM-10	(15-min)	TVOC (15-mi	in)		TVOC (1-min)	Odor Intensity (15-min)				
			ΔΙ	lert Limit:			ug/m ³	3.7 ppm	,			odor intensity (10-mm)				
				ion Limit:			ug/m ³	5.0 ppm			25 ppm	3 (n-butanol scale)				
			٨٠١١	ion Limit.		130	-gi	5.0 ррпп			20 ppiii	J (II-Dutation scale)				
Notes:																
	ctions are presented										er (i.e. dust) less than 10 microns	in diameter				
	ninus downwind cor		are a time	e specific	comparison.				IVOC - to	ital volatile orga	anic compounds					
	d Air Monitoring stat															
	rograms per cubic r								NA - not a							
ppmv - part	ts per million by volu	ime							ND - no da	ata available		Field Representative:	R. Marshall			
												Date:	2/25/2013			
													Page 1 of _1			



	System Op	orations			1						General Observations			
		mpling Date	2/26/	/2013	General Weath	ner Cond	itions:				General Observations			
		n Start Time			Clear - ~									
		n Stop Time		nuous	0.001	_0.								
		s Monitored			General Descr	intion of	Site Activities							
	Totaliii	5 Monitorea	-											
	System	Calibrations	(Ok	Health & Safety Meeting Continuous Air Monitoring									
		rime/Status)		-0845			n backfill in TFS		Londod or	nstruction vehi	alos offaito			
	(1	ime/Status)	0/13	-0045	Deconne					site in OU2	cies offsite			
							porary Fabric Struc	-t (TEO)	,	deliveries of cle				
							uction vehicles	iure (175)	Received	deliveries of cie	an son			
	1	1			Deconne	u consu	uction venicles		T			T		
	Alt		044		# of	\A/:I	Lieu de el/	University of		-Minute		Otto Antivita Desire the Desired		
Date	Alert	Station	Start Time	End	15-min	Wind Dir.	Upwind/	Upwind		ind-Upwind	Site Condition	Site Activity During the Period (if applicable)	Actions Taken	
	Trigger		rime	Time	Periods	DIF.	Downwind	Station(s)		centration		(ir applicable)		
2/26/2013	No exceedances								Min**	Max**			None taken	
2/20/2013	No exceedances												None taken	
					-					-				
									1					
									1					
Comments:														
							(15-min)	TVOC (15-m	in)		TVOC (1-min)	Odor Intensity (15-min)		
				lert Limit:			ug/m³	3.7 ppm			-	-		
			Acti	ion Limit:		150	ug/m³	5.0 ppm			25 ppm	3 (n-butanol scale)		
Notes:														
	ctions are presented										r (i.e. dust) less than 10 microns	in diameter		
	minus downwind cor		are a time	e specific	comparison.				TVOC - to	tal volatile orga	inic compounds			
	d Air Monitoring stat													
	crograms per cubic r					NA - not applicable								
ppmv - part	ts per million by volu	ıme							ND - no da	ata available		Field Representative:	R. Marshall	
												Date:	2/26/2013	
													Page 1 of _1	



	System Op	erations									General Observations					
		mpling Date	2/27/	/2013	General Weath	ner Cond	litions:									
	Systen	n Start Time	conti	nuous	Overcast	t w/ Rain	- ~ 42°F - ~47°F									
	Systen	n Stop Time	conti	nuous												
		s Monitored	2	24	General Descr	iption of	Site Activities:									
					Health &			Transported equipment across OU2								
	System	Calibrations	C	Ok	Continuo				Surveyed site in OU2							
		Time/Status)	0734	-0947			n backfill in TFS		Received deliveries of clean soil							
	ζ.	,			Demobili					ed TIGG unit						
							porary Fabric Stru	cture (TFS)	Performed	shallow excav	ation along Bay Street					
							ruction vehicles									
					4 - 6				15	-Minute						
	Alert	0	Start	End	# of 15-min	Wind	Upwind/	Upwind	Downw	ind-Upwind	Site Condition	Site Activity During the Period	Actions Taken			
Date	Trigger	Station	Time	Time	Periods	Dir.	Downwind	Station(s)	Cond	centration	Site Condition	(if applicable)	Actions Taken			
					i ellous				Min**	Max**						
2/27/2013	No exceedances							_					None taken			
					-					-						
Comments:				<u> </u>		<u> </u>	l.									
comments.																
						PM-10	(15-min)	TVOC (15-mi	n)		TVOC (1-min)	Odor Intensity (15-min)				
			Al	ert Limit:		100	ug/m ³	3.7 ppm	•		- '					
			Acti	ion Limit:		150	ug/m³	5.0 ppm			25 ppm	3 (n-butanol scale)				
Notes:								•								
	ctions are presented	d by octant (i	e. N. NE	. E. SE. S	s. sw. w. nw).				PM-10 - pa	PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter						
	ninus downwind cor										anic compounds					
	d Air Monitoring stat				P											
	rograms per cubic r								NA - not a	pplicable						
	mv - parts per million by volume									ata available		Field Representative:	R. Marshall			
44 Pers										· · · · · ·		Date:	2/27/2013			
												 -				
												Date	Page 1 of			



	System Op	erations			I						General Observations					
		ampling Date	2/28	3/2013	General Weath	her Cond	litions:									
		m Start Time		inuous	Overcas	t w/ Rain	ı - ~ 43°F - ~48°F									
		m Stop Time	conti	inuous	1											
	Total H	rs Monitored	2	24	General Descr											
					Health & Safety Meeting					Transported equipment across OU2						
		Calibrations		Ok	Continuo				Surveyed site in OU2							
	(Time/Status)	0910	0-1045			n backfill in TFS			deliveries of cle	ean gravel					
					Demobili					ed TIGG unit						
					Backfille	d in Tem	porary Fabric Struc	cture (TFS)	Performe	d shallow excav	ation along Bay Street					
									15	5-Minute						
D-4-	Alert	04-4:	Start	End	# of 15-min	Wind	Upwind/	Upwind	Downy	vind-Upwind	Site Condition	Site Activity During the Period	Actions Taken			
Date	Trigger	Station	Time	Time	Periods	Dir.	Downwind	Station(s)		centration	Site Condition	(if applicable)	Actions Taken			
					1 Chods				Min**	Max**						
2/28/2013	No exceedances												None taken			
										ļ						
				—						+		+				
				├						-						
				+						1						
						1				1						
				1												
Comments:																
						PM-10	(15-min)	TVOC (15-mi	n)		TVOC (1-min)	Odor Intensity (15-min)				
			Α	lert Limit:			ug/m ³	3.7 ppm	,		-	-				
				tion Limit:			ug/m ³	5.0 ppm 25 ppm				3 (n-butanol scale)				
Notes:																
	ections are presente	d bv octant (i	i.e. N. NE	. E. SE. (S. SW. W. NW)				PM-10 - p	articulate matte	r (i.e. dust) less than 10 micron	s in diameter				
	minus downwind co										inic compounds					
	d Air Monitoring sta									9-	r e e e e					
	crograms per cubic								NA - not a	applicable						
ppmv - par	ts per million by vol	ume								ata available		Field Representative:	R. Marshall			
												Date:	2/28/2013			
1													D 4 ()			



	System Op	erations									General Observations					
		mpling Date	3/1/	2013	General Weath	ner Cond	itions:									
	Syster	n Start Time	conti	nuous	Clear - ~	35°F - ~	45°F									
	Syster	n Stop Time	conti	nuous												
		s Monitored		24	General Descr	iption of	Site Activities:									
					Health &	Safety N	/leeting									
	System	Calibrations		Ok	Continuous Air Monitoring					Surveyed site in OU2						
		Time/Status)	0730	-0911	Transpor	ted clea	n backfill in TFS				ation near Northeast corner of Ol	J-2				
	•	,			Backfille	d in Tem	porary Fabric Strue	cture (TFS)								
					Installed	NAPL re	covery wells on O	U-2								
							•									
					# of				15	-Minute						
D-4-	Alert	04-4:	Start	End	# or 15-min	Wind	Upwind/	Upwind	Downy	ind-Upwind	Site Condition	Site Activity During the Period	Actions Taken			
Date	Trigger	Station	Time	Time	Periods	Dir.	Downwind	Station(s)	Con	entration	Site Condition	(if applicable)	Actions Taken			
					i ellous				Min**	Max**						
3/1/13	No exceedances												None taken			
1																
Comments:																
							(15-min)	TVOC (15-m	in)		TVOC (1-min)	Odor Intensity (15-min)				
				lert Limit:			ug/m³	3.7 ppm			-	-				
			Act	ion Limit:		150	ug/m³	5.0 ppm			25 ppm	3 (n-butanol scale)				
Notes:																
* Wind dire	ctions are presente	d by octant (i	.e. N, NE	, E, SE, S	S, SW, W, NW).				PM-10 - p	articulate matte	er (i.e. dust) less than 10 microns	in diameter				
** Upwind r	minus downwind co	ncentrations	are a time	e specific	comparison.				TVOC - to	tal volatile orga	nic compounds					
	d Air Monitoring sta															
ug/m³ - mic	crograms per cubic i	meter							NA - not a	pplicable						
ppmv - parl	ts per million by volu	ıme							ND - no d	ata available		Field Representative:	R. Marshall			
												Date:	2/28/2013			



Page 1 of _1_