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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

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### **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
- Tarped 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.

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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/m³, < 150 ug/m³	≥ 150 ug/m <sup>3</sup>
Odor (15-minute)	Odors / Complaints	INΔ		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/m³, < 440 ug/m³	≥ 440 ug/m <sup>3</sup>

#### Notes:

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



<sup>&</sup>lt;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>&</sup>lt;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)

# 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	
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

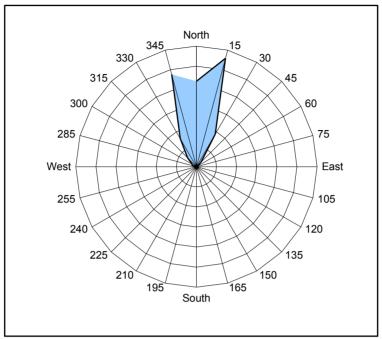


Figure 1. Wind rose for the period 03/02/13 through 03/08/13 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

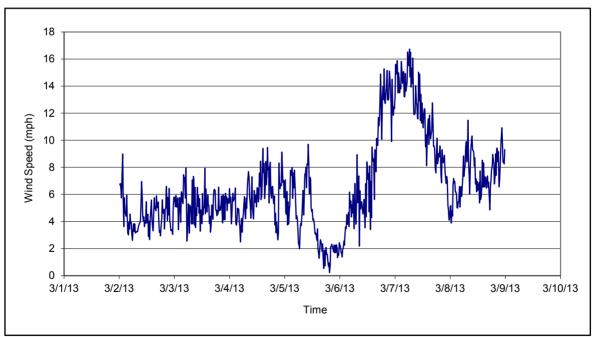


Figure 2. Wind speed for the period 03/02/13 through 03/08/13 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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

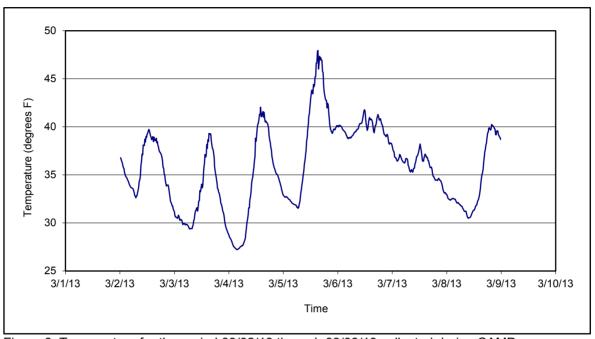


Figure 3. Temperature for the period 03/02/13 through 03/08/13 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

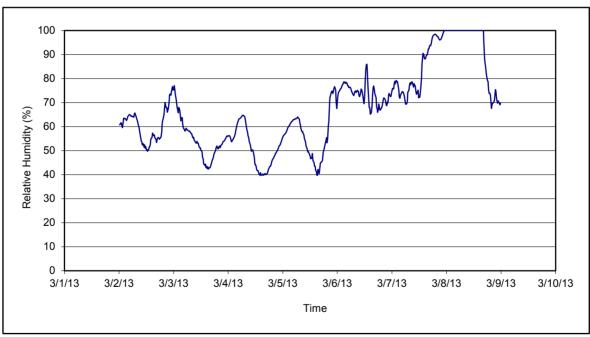


Figure 4. Relative humidity for the period 03/02/13 through 03/08/13 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

	System Op	erations			1						General Observations				
		mpling Date	3/4/	2013	General Weath	ner Cond	itions:								
	Syster	n Start Time	conti	nuous	Clear - ~	28°F - ~	40°F								
		n Stop Time	conti	nuous											
	Total H	s Monitored	2	24	General Descri										
					Health &										
		Calibrations		Ok	Continuo										
	(7	ime/Status)	0834	-1051			mporary Fabric Str	ructure (TFS)		Performed shallow excavation					
							ow excavation			dump trucks					
										mp trucks					
	1				Loaded o	out soil o	ff site from shallow	excavation		around site	T	T			
										-Minute					
Date	Date Alert Station		Start	End	# of 15-min	Wind	Upwind/	Upwind		ind-Upwind	Site Condition	Site Activity During the Period	Actions Taken		
	Trigger		Time	Time	Periods	Dir.	Downwind	Station(s)	Min**	entration Max**		(if applicable)			
3/4/13	No exceedances								IVIIII	IVIAX			Nana takan		
3/4/13	IND EXCEEDANCES			1	1	1			1	1		+	None taken		
												+			
												+			
_															
Comments:															
						DM 40	(15-min)	TVOC (15-min			TVOC (1-min)	Odor Intensity (15-min)			
				lert Limit:			ug/m <sup>3</sup>	3.7 ppm	)		1 VOC (1-111111)	Odor Intensity (15-min)			
				iert Limit: ion Limit:			ug/m³	3.7 ppm 5.0 ppm			- 25 ppm	3 (n-butanol scale)			
Neter			Act	JOH EIIIIL.		100		о.о ррпп			20 ppm	o (ii batanoi scale)			
Notes:	ections are presented	d by oatort /:	. N N'		C C)A/ \A/ N'!A/\				DM 10 -	articulata m -44-	er (i.e. dust) less than 10 microns	in diameter			
	minus downwind co					•					er (i.e. dust) less than 10 micron: anic compounds	s iii ulailielel			
			are a ulli	e specific	companson.				1 000 - 10	iai voiaille orga	inic compounds				
	FAM - Fixed Air Monitoring station location ug/m³ - micrograms per cubic meter								NA - not a	nnlicable					
	rts per million by volu									ata available		Field Representative:	R. Marshall		
ррліч ра	to poion by voic								110 01	ata a randolo		Date:	3/4/2013		
l													0.112010		



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_	System Op	orations			1						General Observations		
-		mpling Date	3/5/	2013	General Weath	ner Cond	itions:				General Observations		
		n Start Time			Clear - ~								
		n Stop Time											
		s Monitored		24	General Descr	iption of	Site Activities:						
					Health &								
	System	Calibrations	C	)k	Continuo								
	. (1	ime/Status)	0636	-0753	B Disassembled Temporary Fabric Structure (TFS) continued								
					Backfille	d in shall	ow excavation		Deconned	dump trucks			
							covery wells on Ol	J-2	Tarped dur				
					Grouted	newly in:	stalled NAPL well		Laid poly a	round site			
					# of					Minute			
Date			Start	End	15-min	Wind	Upwind/	Upwind		nd-Upwind	Site Condition	Site Activity During the Period	Actions Taken
Dute	Trigger	Otation.	Time	Time	Periods	Dir.	Downwind	Station(s)		entration	one continue.	(if applicable)	riodone ranon
									Min**	Max**			
3/5/13	No exceedances			ļ		ļ			1				None taken
	ļ			<u> </u>		<u> </u>							
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Comments:	•			•	•								
							(15-min)	TVOC (15-mir	1)		TVOC (1-min)	Odor Intensity (15-min)	
				ert Limit:			ug/m <sup>3</sup>	3.7 ppm			-	-	
			Act	ion Limit:		150	ug/m <sup>3</sup>	5.0 ppm			25 ppm	3 (n-butanol scale)	
Notes:													
	ections are presented										er (i.e. dust) less than 10 microns	in diameter	
	minus downwind cor		are a time	e specific	comparison.				TVOC - tot	al volatile orga	anic compounds		
	ed Air Monitoring stat												
	crograms per cubic r								NA - not ap				
ppmv - pa	rts per million by volu	ıme							ND - no da	ta available		Field Representative:	R. Marshall
												Date:	3/5/2013



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	System Op										General Observations		
	Sa	ampling Date	3/6/	2013	General Weat	her Cond	ditions:						
	Syste	m Start Time	conti	nuous	Overcas	t w/ rain-	- ~ 39°F - ~40°F						
	Syste	m Stop Time	conti	nuous									
		Irs Monitored		24	General Descr	iption of	Site Activities:						
			_		Health 8								
	System	Calibrations		Ok			lonitoring		Installed N	APL recovery	wells		
								(750)	iristalled iv	APL recovery	wells		
	(	Time/Status)	0636	6-0753			emporary Fabric St						
							ecovery wells on O						
					Operate	d hoe-ra	m to break up bin	blocks					
					" "				15-	Minute			
	Alert		Start	End	# of	Wind	Upwind/	Upwind	Downw	ind-Upwind		Site Activity During the Period	
Date	Trigger	Station	Time	Time	15-min	Dir.	Downwind	Station(s)		entration	Site Condition	(if applicable)	Actions Taken
	33 -				Periods			(-)	Min**			( ) [ ]	
3/6/13	No exceedances									TTICK.			None taken
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		-											
		1											
Comments:													
							(15-min)	TVOC (15-min)	)		TVOC (1-min)	Odor Intensity (15-min)	
				lert Limit:			ug/m <sup>3</sup>	3.7 ppm			-	-	
			Act	ion Limit:	:	150	ug/m <sup>3</sup>	5.0 ppm			25 ppm	3 (n-butanol scale)	
Notes:													
* Wind dire	ctions are presente	ed by octant (	ie N NF	F SF	S SW W NW)				PM-10 - na	articulate matte	er (i.e. dust) less than 10 micron	s in diameter	
	minus downwind co										anic compounds	o in didinotor	
	d Air Monitoring sta			c apecilic	o oonipanoon.				1 400 - 10	.a. voiaule orga	ano compounds		
	crograms per cubic								NIA				
									NA - not a			Field Dames 1 11	0 1-6-
ppmv - par	ts per million by vol	ume							ип - uo as	ta available		Field Representative:	C. John



	System Op										General Observations		
	Sa	ampling Date	3/7/	2013	General Weat	her Cond	ditions:						
	Syster	m Start Time	conti	nuous	Overcas	t w/ sno	w- ~ 35°F - ~37°F						
		m Stop Time		nuous									
		Irs Monitored		24	General Descr	rintion of	Site Activities:						
	Total I	iio ivioriitorea	-		Health 8								
	0	0-1:11:	,	Ok									
		Calibrations					lonitoring						
	(	Time/Status)	0815	-1019				ructure (TFS) continued					
							ecovery wells						
					Remove	d waste	water lines from OI	U2					
									15.	Minute			
	Alert		Start	End	# of	Wind	Upwind/	Upwind		ind-Upwind		Site Activity During the Period	
Date	Trigger	Station	Time	Time	15-min	Dir.	Downwind	Station(s)		entration	Site Condition	(if applicable)	Actions Taken
	rrigger		Tillie	Tillie	Periods	Dii.	Downwind	Station(s)	Min**	Max**		(п аррпсаые)	
0/7/40									IVIIII	IVIAX			
3/7/13	No exceedances												None taken
						1							
						1						1	
												1	
Comments:	L.						L.			J.		•	
						PM-10	(15-min)	TVOC (15-min)			TVOC (1-min)	Odor Intensity (15-min)	
			٨	lert Limit:			ug/m <sup>3</sup>	3.7 ppm			1 700 (1-11111)	out intensity (10-min)	
				ion Limit			ug/m <sup>3</sup>	5.0 ppm			25 ppm	3 (n-butanol scale)	
			ACI	IOH LIIIII.		150	ug/III	5.0 ppm			25 ррпі	3 (II-butanoi scale)	
Notes:													
* Wind dire	ctions are presente	ed by octant (	i.e. N, NE	, E, SE,	S, SW, W, NW)	١.			PM-10 - pa	rticulate matte	er (i.e. dust) less than 10 microns	s in diameter	
** Upwind	minus downwind co	ncentrations	are a time	e specific	c comparison.				TVOC - to	al volatile orga	anic compounds		
	d Air Monitoring sta				•					Ū	•		
	crograms per cubic								NA - not a	pplicable			
	ts per million by vol									ta available		Field Representative:	C. John
pp pui	· · · · · · · · · · · · · · · · ·											Data:	2/7/2012



	System Op	erations									General Observations				
		ampling Date	3/8/2		General Weath										
		m Start Time	contin		Overcast	t w/ snov	~ 29°F - ~32°F								
		m Stop Time	contir												
	Total H	Irs Monitored	2	24	General Descri										
			_		Health &										
		Calibrations		)k	Continuo										
	(	Time/Status)	0836	-1041				Structure (TFS) continued							
						Grouted newly installed NAPL recovery wells  Loaded out bin blocks that were broken up into dump trucks									
							v excavation along								
					# of					Minute					
Date	Date Alert Station Sta			End	15-min	Wind	Upwind/	Upwind		nd-Upwind	Site Condition	Site Activity During the Period	Actions Taken		
Date	Trigger Station		Time	Time	Periods	Dir.	Downwind	Station(s)	Concentration			(if applicable)			
0/0/40	PM-10	E414#4	10.11	12:57	14				Min**	Max**	1	No.			
3/8/13	PIVI-10	FAM#4	12:44	12:57	14	NW	CW/UW	FAM#1	90	122	1	Mixing grout	None taken		
		1													
		<del> </del>													
2															
Comments:															
						DM 40	(15-min)	TVOC (15-min)			TVOC (1-min)	Odor Intensity (15-min)			
			٨١	ert Limit:		100		3.7 ppm			1 VOC (1-min)	Odor intensity (15-min)			
				ion Limit:			ug/m <sup>3</sup>	5.7 ppm			25 ppm	3 (n-butanol scale)			
			7,00	OH EIHIL		.50	-g-···	ο.ο ρριιι			=2 bbiii	o (ii batarioi soale)			
Notes:	ctions are presente	d by satant (i	. N NE	F 0F 0	C CIA/ IA/ NIIA/)				DM 10 no	rticulata matta	er (i.e. dust) less than 10 microns	in diameter			
	minus downwind co										ir (i.e. dust) less than 10 microns inic compounds	ili diametei			
	d Air Monitoring sta		are a tillit	s apecino	companson.				1 400 - 101	ai voiaille orga	illic compounds				
	crograms per cubic								NA - not ap	policable					
	ts per million by vol									ta available		Field Representative:	C. John & R. Marshall		
, p part	,	-							00			Date:	3/8/2013		



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