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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: July 5, 2012

Regarding: Weekly Community Air Monitoring Report

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

June 23, 2012 through June 29, 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 June 23 and June 29, 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. There were some elevated levels of dust measured that were attributed to GEO-CON demobilization operations onsite. 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:

- Backfilled trench with slurry
- Batch plant operations
- Deconned load out dump trucks
- Demobilized Batch Plant
- Emptied frac tank
- Excavated along Willow Avenue
- Loaded out scrap metal from site via construction vehicle
- Loaded out soil from site via tarped dumptrucks
- Mixed slurry at batch plant in OU-2
- Mixed soil inside the Temporary Fabric Structure (TFS) with kiln-dust
- Operated hoe-ram on foundation of one-story building
- Operated mist odor suppressant along Willow Avenue
- Received delivery of bentonite
- Segregated scrap metal from demolition
- Set up jersey blocks in exclusion zone
- Stockpiled clean soil
- Stockpiling scrap metal from demolition
- Surveyed site on Willow Avenue
- Transported soil from excavation operations along Willow Avenue to the TFS via dump trucks
- Installed well points

## **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. Due to work progressing along Willow Avenue, FAM#4 was temporarily relocated on Operable Unit 1 along Willow Avenue west of the wastewater treatment plant near the brick buildings. 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.

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Upwind and downwind ambient air verification samples were collected on June 29, 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.

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 <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	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/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	ОС			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	
6/23/2012	0.1	0.1	0.1	ND	0.3	0.1	61	46	3	34	2	75	
6/24/2012	0.1	0.5	ND	ND	0.2	0.3	23	21	3	3	0	35	
6/25/2012	0.1	0.1	0.2	0.8	0.1	0.1	44	28	4	13	3	54	
6/26/2012	0.1	0.0	0.2	0.5	0.1	0.1	30	41	4	5	2	13	
6/27/2012	0.0	0.1	0.3	0.4	0.1	0.1	34	21	4	3	2	25	
6/28/2012	0.0	0.1	0.2	0.3	0.1	0.2	62	23	3	1	0	0	
6/29/2012	0.1	0.3	0.2	0.2	0.1	0.2	100	47	3	20	63	88	
Average	0.1	0.2	0.2	0.4	0.1	0.2	51	32	3	11	10	41	
Maximum	0.1	0.5	0.3	0.8	0.3	0.3	100	47	4	34	63	88	

#### 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

Due to equipment malfunction there is no recordable TVOC data for FAM#3 from 22:24 on 6/23/2012 - 7:37 on 6/25/2012.

Due to equipment malfunction there is no recordable TVOC data for FAM#4 from 4:34 on 6/23/2012 - 7:07 on 6/25/2012.



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

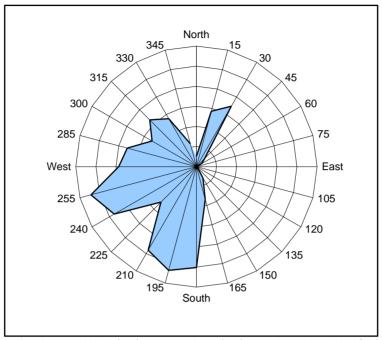


Figure 1. Wind rose for the period 06/23/12 through 06/29/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

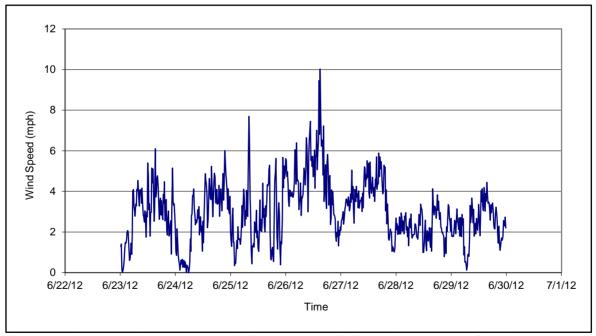


Figure 2. Wind speed for the period 06/23/12 through 06/29/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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

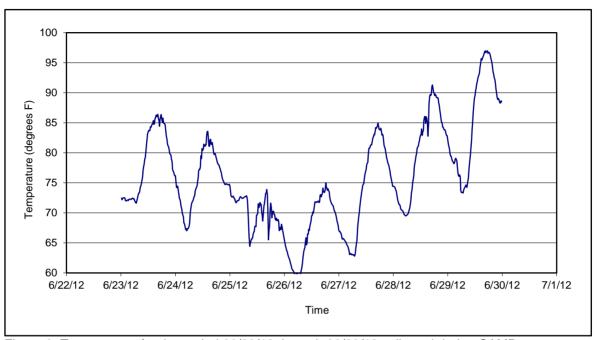


Figure 3. Temperature for the period 06/23/12 through 06/29/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

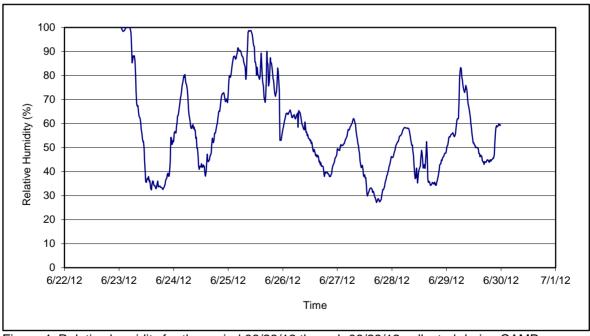


Figure 4. Relative humidity for the period 06/23/12 through 06/29/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

	Syste	m Operation	s					General Observations								
		mpling Date	6/25/	/2012	General We	eather C	onditions:									
	Syster	n Start Time	contir	nuous	Overcast	w/thund	lerstorms - clear ~6	65°F- ~70°F								
	Syster	n Stop Time	contir	nuous												
	Total Hr	s Monitored	2	24	General De	scription	of Site Activities:									
					Health &	Safety M	Meeting		Stockpiled of	lean soil		Batch plant operations				
	System	Calibrations	C	)k	Continuous Air Monitoring					oad out dump tr	ucks	Load out demoed scrap metal from site via co	onstruction vehicle			
	(Time/Status) 0959-1254					metal from demol				arped dumptrucks						
					Operated	l hoe-ran	n on foundation of	one-story building		te on Willow Av						
							Willow Avenue	Mixed soil inside the Temporary Fabric Stru								
					Operated	l mist od	or suppressant alo	ng Willow Avenue	Transported	soil from exca	vation operations along	Willow Avenue to the TFS via dump trucks				
					# of				15-	Minute						
Date	Alert	Station	Start	End	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)		entration	Oile Condition	(if applicable)	Actions Taken			
									Min**	Max**						
6/25/2012	None					ļ		ļ					No excedances			
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Comments:			<u> </u>	l		1		I	I	!	I					
						PM-10	(15-min)	TVOC (15-m	in)	T	/OC (1-min)	Odor Intensity (15-min)				
			Al	lert Limit:		100	ug/m³	3.7 ppm			-	-				
	Action Limit: 150 ug/m <sup>3</sup>					ug/m <sup>3</sup>	5.0 ppm			25 ppm	3 (n-butanol scale)					
Notes:			_													
	rections ar	e presented l	by octant	(i.e. N. 1	NE, E, SE. S.	SW, W.	NW).		PM-10 - pai	ticulate matter	(i.e. dust) less than 10 n	nicrons in diameter				
		wnwind conc								I volatile organi						
		nitoring statio							NA - not ap							
		per cubic me							ND - no dat			Field Representative:	R. Marshall			
ppmv - pa	arts per mi	llion by volum	ne									Date:	6/25/2012			
•	-	-										<del>-</del>	Page 1 of _1_			



	Syste	m Operation					General Observations									
		ampling Date		/2012	General We											
		m Start Time		nuous	Clear ~60	°F- ~69	°F									
		m Stop Time		nuous												
	Total H	rs Monitored	2	24			of Site Activities:									
			_			, ,						Batch plant operations				
	System Calibrations Ok									oad out dump to		Load out demoed scrap metal from site via c	onstruction vehicle			
	(Time/Status) 0630-0948						metal from demoli				arped dumptrucks	Emptied frac tank				
							n on foundation of o	one-story building		te on Willow A		EO. 21.12. 1				
							Willow Avenue or suppressant alor	Mixed soil inside the Ten				Willow Avenue to the TFS via dump trucks				
		1			Operated	mist ou	l suppressant alor	lg Willow Avenue		Minute	Valion operations along	Willow Avenue to the TFS via dump trucks				
					# of	Wind	Upwind/	Upwind		ind-Upwind		Site Activity During the Period				
Date	Trigger	Station Time Time 15-min Dir Downwind Station(c) Concept		entration	Site Condition	(if applicable)	Actions Taken									
	mggci		TITLE	111110	Periods	Dir.	Downwind	Otation(5)	Min**	Max**		(ii applicable)				
6/26/2012	None												No excedances			
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							(15-min) ug/m³	TVOC (15-m	in)	Т	VOC (1-min)	Odor Intensity (15-min)				
				lert Limit: ion Limit:			ug/m³	3.7 ppm			- 25 ppm	-				
			ACI	ion Limit:		150	ug/111	5.0 ppm			25 ppm	3 (n-butanol scale)				
Notes:						<b></b>										
		re presented									(i.e. dust) less than 10 m	icrons in diameter				
		wnwind conc			me specific c	omparis	on.			Il volatile organ	ic compounds					
		nitoring station per cubic me		n					NA - not ap			Field Penrs	P. Marahall			
-	-								ND - no dat	a avallable		Field Representative:	R. Marshall			
ppmv - p	arts per mi	illion by volum	ie									Date:				
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	Syste	m Operation	s			General Observations									
		mpling Date	6/27/	/2012	General We	eather C	onditions:								
	Syster	n Start Time	contin	nuous	Clear ~63	3°F- ~83	°F								
	Syster	m Stop Time	contin	nuous											
	Total Hr	s Monitored	2	24	General De	scription	of Site Activities:								
					Health &	Safety M	Meeting		Stockpiled of	lean soil		Batch plant operations			
	System Calibrations Ok					us Air M	onitoring					Load out demoed scrap metal from site via construction vehicle			
	. (1	Γime/Status)	0636	-0916	Segregat	ed scrap	metal from demoli	tion	Load out so	il from site via t	arped dumptrucks	Emptied frac tank			
					Operated	l hoe-ran	n on foundation of	one-story building	Surveyed si	te on Willow Av	enue				
					Excavate	d along	Willow Avenue		Mixed soil in	side the Tempo	orary Fabric Structure (1	ΓFS) with kiln-dust			
					Operated	mist od	or suppressant alo	ng Willow Avenue	Transported	soil from excar	vation operations along	Willow Avenue to the TFS via dump trucks			
									15-	Minute					
D	Alert	0	Start	End	# of 15-min	Wind	Upwind/	Upwind	Downw	nd-Upwind	0'' 0 1'''	Site Activity During the Period	Author Tales		
Date	Trigger	Station	Time	Time	Periods	Dir.	Downwind	Station(s)	Conc	entration	Site Condition	(if applicable)	Actions Taken		
	00				Periods			` '	Min**	Max**		, , , ,			
6/27/2012	None					1							No excedances		
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						DM 10	(15-min)	TVOC (15-m	in\	т\	/OC /1 min)	Odor Intensity (15-min)			
			A.	lant Lineite			ug/m³	3.7 ppm	111)	11	/OC (1-min)	Odor intensity (15-min)			
	Alert Limit: Action Limit:						ug/m³	5.0 ppm			25 ppm	3 (n-butanol scale)			
			ACI	JOH LIHIL		130	ug/III	э.о ррпі			20 ppiii	3 (II-Dutation Scale)			
lotes:															
		e presented l									(i.e. dust) less than 10 n	nicrons in diameter			
		wnwind conc			me specific o	comparis	on.			l volatile organi	c compounds				
		nitoring statio		n					NA - not app						
ua/m - m	icrograms	per cubic me	eter						ND - no dat	a available		Field Representative:	R. Marshall		
-		llion by volum										Date:	6/27/2012		



	Syste	m Operation	าร								General Observations		
		ampling Date		/2012	General W	eather C	onditions:						
	Syste	m Start Time	conti	nuous	Clear ~6	3°F- ~83	°F						
	Syste	m Stop Time	conti	nuous									
	Total H	rs Monitored	2	24	General De	escription	of Site Activities:						
					Health &	Safety N	Meeting		Stockpiled c	lean soil			
	System	Calibrations	(	Ok	Continuo	us Air M	onitoring		Deconned lo	ad out dump to	rucks		
	. (	Time/Status)	0640	-0958	Operated	hoe-rar	n on foundation of	one-story building	Load out soi	I from site via t	arped dumptrucks		
					Operated	d mist od	or suppressant alor	ng Willow Avenue	Surveyed sit	e on Willow Av	/enue		
					Demobe	d Batch I	Plant		Mixed soil in	side the Temp	orary Fabric Structure (T	FS) with kiln-dust	
									Transported	soil from exca	vation operations along V	Villow Avenue to the TFS via dump trucks	
					# of				15-	Minute			
Date	Alert	Station	Start	End	# 01 15-min	Wind	Upwind/	Upwind	Downwi	nd-Upwind	Site Condition	Site Activity During the Period	Actions Taken
Date	Trigger	Station	Time	Time	Periods	Dir.	Downwind	Station(s)		entration	Site Condition	(if applicable)	Actions Taken
					1 chodo				Min**	Max**			
6/28/2012	None												No excedances
									-				
-									+				
Comments	:												
							(15-min)	TVOC (15-m	in)	T	VOC (1-min)	Odor Intensity (15-min)	
				lert Limit:			ug/m <sup>3</sup>	3.7 ppm			-	-	
			Act	tion Limit:		150	ug/m <sup>3</sup>	5.0 ppm			25 ppm	3 (n-butanol scale)	
Notes:													
* Wind o	lirections a	re presented	by octan	t (i.e. N, 1	NE, E, SE, S	, SW, W	, NW).		PM-10 - par	ticulate matter	(i.e. dust) less than 10 m	icrons in diameter	
		wnwind cond			me specific o	comparis	on.		TVOC - total	l volatile organ	ic compounds		
		nitoring stati		n					NA - not app	olicable			
ug/m³ - ı	micrograms	per cubic m	eter						ND - no data	a available		Field Representative:	C.John
ppmy - r	arts per m	illion by volur	me									Date:	6/28/2012



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		m Operation									General Observations					
		ampling Date		/2012	General We											
		m Start Time		nuous	Clear ~63	8°F- ~83°	°F									
		m Stop Time		nuous												
	Total Hr	rs Monitored	2	24			of Site Activities:									
						& Safety Meeting Stockpiled clean soil										
		Calibrations		)k	Continuo				Deconned load out dump trucks							
	(7	Time/Status)	0637	-0820			n on foundation of o				arped dumptrucks					
							or suppressant alor	ng Willow Avenue		te on Willow Av						
					Demobed						orary Fabric Structure (TF					
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Date	Date Alert Station		Start Time	End	15-min	Wind Dir.	Upwind/	Upwind		nd-Upwind	Site Condition	Site Activity During the Period	Actions Taken			
	riiggei		rime	Time	Periods	ods Dir.	Downwind	Station(s)	Min**	entration Max**		(if applicable)				
6/29/2012	PM-10	FAM#1	13:34	13:34	1	NE	UW	N/A	100	100	1	GEOCON demobilizing equipment	None taken			
0/23/2012	1 IVI-10	1 Alvi# I	10.04	13.54	<u> </u>	INL	Ovv	IN/A	100	100		OLOCOTA demobilizing equipment	None taken			
		+														
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Comments:																
						PM-10	(15-min)	TVOC (15-m	in)	Т	VOC (1-min)	Odor Intensity (15-min)				
			А	lert Limit:			ug/m <sup>3</sup>	3.7 ppm	,	-	-	-				
	Action Limit: 150 ug/m³						ug/m³	5.0 ppm			25 ppm	3 (n-butanol scale)				
Notes:							-				• *	,				
	rections ar	re presented l	hy octant	(ie N N	JE E SE S	sw w	NW)		PM-10 - par	ticulate matter	(i.e. dust) less than 10 mid	crons in diameter				
		wnwind conc								l volatile organ		3.5.15 3.3.110101				
		nitoring statio			o opcomo o	o.npano	····		NA - not apr		.c compounds					
		per cubic me		••					ND - no data			Field Representative:	C.John/R. Marshall			
	-															
ppmv - pa	arts per mi	illion by volum	ne									Date:	6/29/2012			

