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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: August 24, 2012

Regarding: Weekly Community Air Monitoring Report

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

July 28, 2012 through August 3, 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 July 28, 2012 and August 3, 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 fifteen-minute exceedances of the Total Volatile Organic Compounds (TVOC) at an upwind station that were attributed to offsite source. There were fifteen-minute exceedances of Particulate Matter (PM-10) [dust] caused by vehicular traffic. Additional water was sprayed and the PM-10 levels dropped below the action and alert levels. 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

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- 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
- Backfilled Willow Avenue excavation
- Deconned dump trucks
- Deconned load out dump trucks
- Load out soil from site via tarped dump trucks
- Operated odor and dust suppressant systems
- Performed erosion control along Willow Avenue using "Sweepster"
- Received delivery of clean backfill
- Received delivery of roll off dumpster
- Tarped dump trucks
- Transported clean backfill into 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 August 1, 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

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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/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	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	
7/28/2012	0.1	0.2	1.1	2.4	0.1	0.0	71	42	1	0	35	56	
7/29/2012	0.0	0.0	0.1	0.2	0.1	0.0	41	16	0	0	0	16	
7/30/2012	0.1	0.1	0.1	9.1	0.1	0.3	51	24	0	5	2	41	
7/31/2012	0.1	0.2	0.3	2.1	0.7	1.1	29	16	0	2	6	29	
8/1/2012	0.2	1.1	0.3	1.1	0.5	1.5	37	29	2	5	12	152	
8/2/2012	0.1	0.6	0.5	3.4	0.4	0.3	102	33	30	21	51	56	
8/3/2012	0.2	3.5	1.1	0.9	0.2	0.6	96	65	0	41	72	101	
Average	0.1	0.8	0.5	2.8	0.3	0.6	61	32	5	11	25	64	
Maximum	0.2	3.5	1.1	9.1	0.7	1.5	102	65	30	41	72	152	

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



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

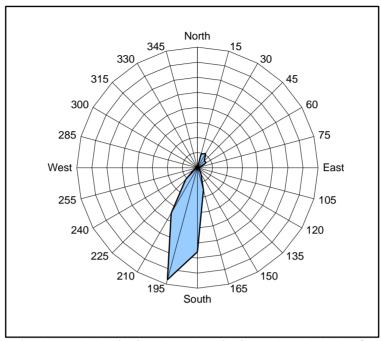


Figure 1. Wind rose for the period 07/28/12 through 08/03/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

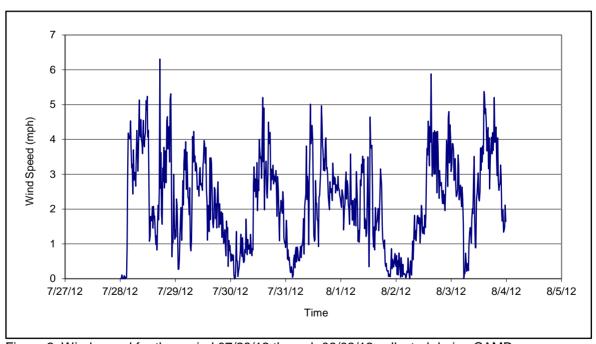


Figure 2. Wind speed for the period 07/28/12 through 08/03/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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

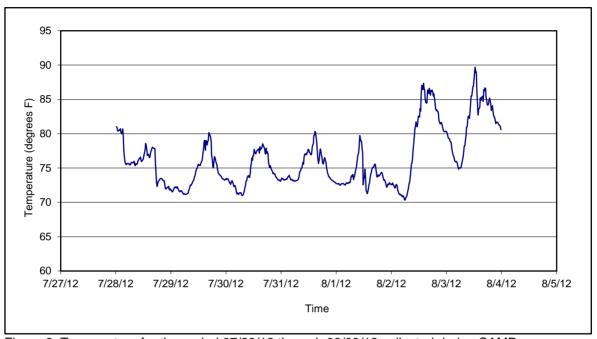


Figure 3. Temperature for the period 07/28/12 through 08/03/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

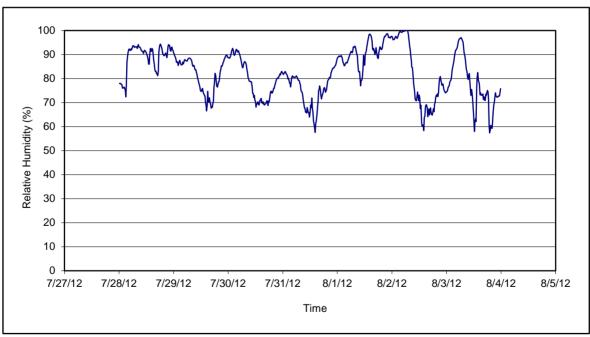


Figure 4. Relative humidity for the period 07/28/12 through 08/03/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

	m Operation	ıs								General Observations				
		ampling Date		/2012	General We									
		m Start Time		nuous	Clear- ~7	1°F- ~78	3°F							
		m Stop Time		nuous										
	Total H	rs Monitored	2	24			of Site Activities:							
	0	0.11	_	SI.	Health &									
		Calibrations Time/Status)		Ok 1-0813	Continuo		onitoring ut dump trucks		Tarped dum	- 4				
	(rime/Status)	0640	1-0813				motruoko	Deconned d	•				
					Load out soil from site via tarped dumptrucks Backfilled Willow Avenue excavation					elivery of clean	hackfill			
					Backfilled		Avenue excavation				ppressant systems			
						0				Minute	pprocedure oyotomic			
Date	Alert Trigger	Station	Start Time	End Time	# of 15-min Periods	Wind Dir.	Upwind/ Downwind	Upwind Station(s)	Downwind-Upwind Concentration Min** Max**		Site Condition	Site Activity During the Period (if applicable)	Actions Taken	
7/30/2012	TVOC	FAM#4	16:12	16:29	28	SSE	UW	N/A	3.76 9.08		1	Excavation inside temporary fabric structure (TFS). FAM#4 was on the upwind portion of the site.	Notified construction manager and contractor	
						ļ								
Comments:		l	i .	l	l	<u> </u>			l		<u> </u>			
		wind portion o	of the site	with wind	from the so	uth-sout	heast. TZOVC cor	nceantrations at downwind	d stations FAM	M#5 and FAM#	6 remained below the ale	rt limit of 3.75 ppm so a at Site Condition 1 rer	nained.	
							(15-min)	TVOC (15-mi	n)	T	VOC (1-min)	Odor Intensity (15-min)		
				lert Limit:			ug/m³	3.7 ppm			-	-		
Action Limit: 150 ug/m ³							ug/m³	5.0 ppm			25 ppm	3 (n-butanol scale)		
** Upwind	d minus do	re presented ownwind cond onitoring station	centration	s are a ti					PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter TVOC - total volatile organic compounds NA - not applicable					
FAM - Fixed Air Monitoring station location ug/m³ - micrograms per cubic meter ppmv - parts per million by volume									ND - no data			Field Representative: Date:	R. Marshall 7/30/2012	
												-	Page 1 of _1	



	Syste	m Operation	s								General Observations				
		mpling Date	7/31/	/2012	General We	eather C	onditions:								
		n Start Time		nuous	Clear- ~7	5°F- ~78	3°F								
		n Stop Time	conti	nuous											
		s Monitored	2	24	General De	scription	of Site Activities:								
					Health &										
	System	Calibrations	C)k		uous Air Monitoring Delivery of rollloff dumpster									
		Γime/Status)		0832			ut dump trucks		Tarped dum						
	(,,					site via tarped dur	mptrucks	Deconned d						
							Avenue excavation			livery of clean	hackfill				
					Backfilled		Trondo oxodivador				ppressant systems				
						1		1		Minute	pprocedure dyotomo				
	Alert		Start	End	# of	Wind	Upwind/	Upwind		nd-Upwind		Site Activity During the Period			
Date	Trigger	Station	Time	Time	15-min	Dir.	Downwind	Station(s)		entration	Site Condition	(if applicable)	Actions Taken		
	mggci		11110	Title	Periods	DII.	Downwind	Station(s)	Min**	Max**		(ii applicable)			
7/31/2012	No Excee	dances		l -	1								None taken		
170172012	140 EXOCC	adrices											None taken		
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Comments						l	I				1]			
						PM-10	(15-min)	TVOC (15-m	in)	Т	VOC (1-min)	Odor Intensity (15-min)			
			А	lert Limit:			ug/m ³	3.7 ppm	,	-	/	- · · · · · · · · · · · · · · · · · · ·			
				ion Limit:			ug/m³	5.0 ppm			25 ppm	3 (n-butanol scale)			
Notes:							-				• •	, , ,			
	ractions or	a presented	hy octant	(ia N M	WE E SE S	S\N/ \N/	NIM)		PM-10 - por	iculate matter	(i.e. dust) less than 10 mi	crons in diameter			
 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. 										volatile organ		CIONS IN GIAINETEI			
					me specific c	oriparis	on.		NA - not app		ic compounds				
	FAM - Fixed Air Monitoring station location ug/m³ - micrograms per cubic meter								ND - no data			Field Representative:	R. Marshall		
ppmv - parts per million by volume									- no data	avallable					
ppinv - p	ans per mi	mon by volun	IC									Date: _			
													Page 1 of _ <u>1</u> _		



	Syste	m Operation	าร								General Observations					
	Sa	mpling Date	8/1/2	2012	General We	eather C	onditions:									
	Syster	m Start Time	conti	nuous	Clear- ~7	1°F- ~78	3°F									
	Syster	m Stop Time	conti	nuous												
	Total Hr	rs Monitored	2	24			of Site Activities:									
					Health &	Safety N	Meeting									
		Calibrations	C)k	Continuo				Performed e	rosion control	along Willow Avenue usir	g Sweepster				
	(7	Time/Status)	0640	-0813			ut dump trucks			Tarped dump trucks						
							n site via tarped dur	nptrucks	Deconned d							
							excavation			elivery of clean						
					Backfilled	l in TFS			Operated or	lor and dust su	ppressant systems					
	1				# of					Minute						
Date	Alert	Station	Start	End	15-min	Wind	Upwind/	Upwind		nd-Upwind	Site Condition	Site Activity During the Period	Actions Taken			
Date	Trigger	Otation:	Time	Time	Periods	Dir.	Downwind	Station(s)		entration	Cito Coridition	(if applicable)	Actions randing			
									Min**	Max**						
8/01/2012	PM-10	FAM#6	11:22	11:36	15	ESE	DW	FAM#4	101	152	3	Vehicle traffic	Notified construction manager Additional water was sprayed			
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Comments																
						PM-10	(15-min)	TVOC (15-mi	in)	Т'	VOC (1-min)	Odor Intensity (15-min)				
			Α	lert Limit:			ug/m ³	3.7 ppm	•		- 1	-				
Action Limit: 150 ug/m³ 5.0 p											25 ppm	3 (n-butanol scale)				
** Upwin FAM - Fi	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										(i.e. dust) less than 10 mi ic compounds	crons in diameter				
-	-	per cubic m							ND - no data	a available		Field Representative:	R. Marshall			
ppmv - p	arts per mi	illion by volur	ne									Date: _	8/1/2012			
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	Sycto	m Operation	10								General Observations					
		mpling Date		2012	General We	oothor C	anditions:				General Observations					
		n Start Time		nuous	Clear- ~7											
		m Stop Time		nuous	Clear- ~/	3 F- ~0/	Г									
		rs Monitored		11u0us 24	Canaral Da	corintion	of Site Activities:		Tarped dum	n trueke						
	TOTAL TI	s wormored		24	Health &				Deconned of							
	C4	O-1:h4:		Ok							L = -1.60					
		Calibrations		-0902	Continuous Air Monitoring Deconned load out dump trucks					Received delivery of clean backfill Operated odor and dust suppressant systems						
	(1	Γime/Status)	0739	-0902			ut dump trucks i site via tarped dui		Operated of	dor and dust su	ppressant systems					
							i site via tarped dui excavation	nptrucks								
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Date	Alert	Station	Start	End	15-min	Wind	Upwind/	Upwind		ind-Upwind	Site Condition	Site Activity During the Period	Actions Taken			
"	Trigger		Time	Time	Periods	Dir.	Dir. Downwind	Station(s)	Min**	entration Max**		(if applicable)				
8/02/2012	N				1				IVIIII	IVIAX			None taken			
8/02/2012	NO Exceed	uances			1	1			1	-			None taken			
					1	1			1	-						
						1				1						
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Comments	:															
							(15-min)	TVOC (15-mi	n)	T.	VOC (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:																
					NE, E, SE, S,						(i.e. dust) less than 10 mi	crons in diameter				
					me specific o	comparis	on.			al volatile organi	ic compounds					
FAM - Fixed Air Monitoring station location									NA - not ap							
		per cubic m							ND - no dat	a available		Field Representative:	C. John			
ppmv - p	arts per mi	llion by volur	ne									Date: _	8/2/2012			
													Page 1 of _1_			



		m Operation									General Observations						
		ampling Date		2012	General We												
	Syster	m Start Time	contir	nuous	Clear- ~8	0°F- ~92	<u>2</u> °F										
	Syster	m Stop Time	contir	nuous													
	Total Hr	rs Monitored	2	24	General De	scription	of Site Activities:		Tarped dump trucks								
					Health &				Deconned dump trucks								
	System	Calibrations	C	Ok	Continuo				Received delivery of clean backfill								
		Time/Status)					ut dump trucks				ppressant systems						
	(Time/Status) 0710-0926						ut dump trucks n site via tarped dun		Operated ou	ioi and dust su	ippressant systems						
								aptrucks									
							n backfill into TFS										
					Backfilled	≀in TFS											
		1	1		# of		ļ			Minute							
Date	Alert	Station	Start	End	15-min	Wind	Upwind/	Upwind	Downwi	ind-Upwind	Site Condition	Site Activity During the Period	Actions Taken				
Date	Trigger	Station	Time	Time	Periods	Dir.	Downwind	Station(s)	Conc	entration	Site Condition	(if applicable)	Actions Taken				
		1	1		renous		ļ	,	Min**	Max**		,					
					2								Notified Construction manager				
8/03/2012	PM-10	FAM#6	12:31	12:32	2	SE	DW	FAM#4	78	79	1	Vehicle traffic	Additional water was sprayed				
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Comments	:																
								TVOC (15-mir	n)	T'	VOC (1-min)	Odor Intensity (15-min)					
								3.7 ppm			-	-					
			Act	tion Limit:		150	ug/m ³	5.0 ppm			25 ppm	3 (n-butanol scale)					
Notes:																	
	irections ar	re presented	by octant	(ie N N	JE F SF S	sw w	NW)		PM-10 - par	ticulate matter	(i.e. dust) less than 10 mid	crons in diameter					
		wnwind conc								I volatile organi							
		nitoring statio			no apocinic o	ompans	on.				io compounda						
		per cubic me		11					NA - not applicable ND - no data available Field Representative: C. John				C. John				
-	-								11D - 110 data	ı avallable		Date:	8/3/2012				
ppmv - þ	ppmy - parts per million by volume											Date:	8/3/2012				



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