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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 17, 2012

Regarding: Weekly Community Air Monitoring Report

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

July 7, 2012 through July 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 July 7 and July 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. There were some elevated levels of dust measured that were attributed to vehicular traffic moving along the terrain. 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:

- Excavated inside Temporary Fabric Structure (TFS)
- Backfilled in TFS
- Deconned dump trucks
- Loaded out soil from site via tarped dumptrucks
- Operated hoe-ram attachment inside TFS
- Operated dust suppressant sprinkler system
- Received delivery of equipment in OU-2
- Transported foam barrels into TFS
- Pumped out shallow excavation along Willow Avenue

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 July 11, 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 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	
7/7/2012	0.1	0.1	0.1	ND	ND	0.1	87	32	4	14	1	69	
7/8/2012	0.1	0.0	0.0	ND	ND	0.0	63	29	8	8	3	41	
7/9/2012	0.0	0.1	0.6	0.1	0.1	0.3	29	23	3	70	47	104	
7/10/2012	0.1	0.1	0.6	0.2	0.2	0.2	33	18	18	7	48	125	
7/11/2012	0.0	0.2	0.2	0.5	0.1	0.1	42	23	7	5	0	111	
7/12/2012	0.1	0.1	0.1	0.3	0.2	0.2	43	19	3	4	2	114	
7/13/2012	0.1	0.2	0.1	0.6	0.1	0.2	71	29	3	3	0	60	
Average	0.1	0.1	0.2	0.3	0.1	0.2	53	25	7	16	14	89	
Maximum	0.1	0.2	0.6	0.6	0.2	0.3	87	32	18	70	48	125	

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

*Due to equipment malfunction there is no recordable TVOC data for FAM#3 from 17:49 on 7/8/2012 - 8:25 on 7/09/2012.

*Due to equipment malfunction there is no recordable TVOC data for FAM#4 from 00:01 on 7/7/2012 - 8:46 on 7/09/2012.

*Due to equipment malfunction there is no recordable TVOC data for FAM#5 from 00:01 on 7/7/2012 - 14:10 on 7/09/2012.

*The listed measurements do not reflect the above mentioned time periods.



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

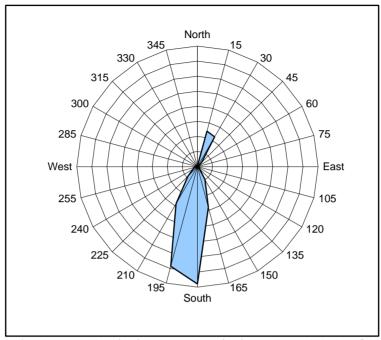


Figure 1. Wind rose for the period 07/07/12 through 07/13/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

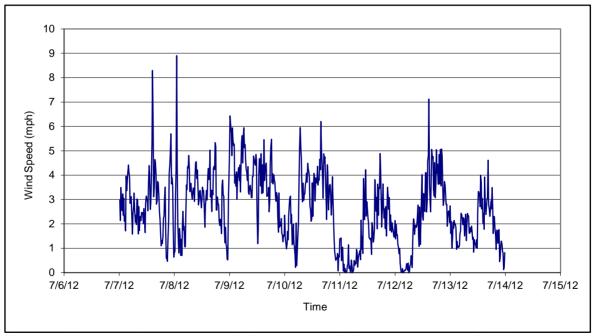


Figure 2. Wind speed for the period 07/07/12 through 07/13/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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

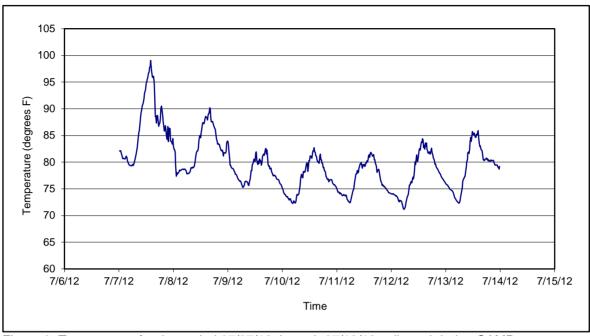


Figure 3. Temperature for the period 07/07/12 through 07/13/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

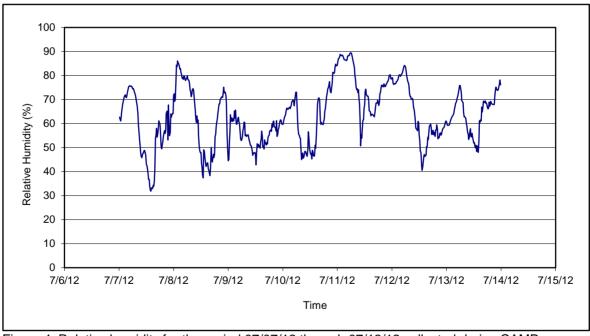


Figure 4. Relative humidity for the period 07/07/12 through 07/13/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

	Syste	m Operation	ns								General Observations			
		ampling Date		2012	General We	eather C	onditions:							
	Syster	m Start Time	conti	nuous	Clear ~70	0°F- ~80	°F							
	Syste	m Stop Time	conti	nuous										
	Total H	rs Monitored	2	24			of Site Activities:							
					Health &									
		Calibrations)k	Continuous Air Monitoring									
	(Time/Status)	0825	-1035			attachment inside	TFS						
					Excavate									
							ut dump trucks			elivery of equip				
			1		Load out	soil from	site via tarped dur	nptrucks		•	along Willow Avenue		1	
Date	Alert Trigger	Station	Start Time	End Time	# of 15-min Periods	Wind Dir.	Upwind/ Downwind	Upwind Station(s)				Site Activity During the Period (if applicable)	Actions Taken	
7/9/2012	PM-10	FAM#6	7:52	7:52	1	NNW	CW/UW	N/A	104	104	1	Vehicle traffic	Notified construction manager additional water was sprayed	
7/9/2012	PM-10	FAM#6	8:26	8:33	8	NE	DW	FAM#2	89	92	1	Vehicle traffic	Notified construction manager additional water was sprayed	
Comments	:			•					•					
			А	lert Limit			(15-min) ug/m³	TVOC (15-mi 3.7 ppm				Odor Intensity (15-min)		
				ion Limit			ug/m³	5.0 ppm			25 ppm	3 (n-butanol scale)		
					NE, E, SE, S, me specific o					ticulate matter I volatile organ	(i.e. dust) less than 10 mi	crons in diameter		
		nitoring stati			o opoonio c	o.npano	···		NA - not app	-	.o compoundo			
		nor cubic m		••					ND no dot			Field Depresentative	C John/D Morahall	

FAM - Fixed Air Monitoring station locatio ug/m³ - micrograms per cubic meter ppmv - parts per million by volume

ND - no data available

Field Representative: Date: C. John/R. Marshall 7/9/2012

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		m Operation									General Observations					
		mpling Date	7/10/		General We											
		n Start Time	conti		Clear ~74	1°F- ~81°	°F									
		m Stop Time	conti													
	Total Hr	rs Monitored	2	4		General Description of Site Activities:										
					Health & Safety Meeting Continuous Air Monitoring											
		Calibrations		k												
	(1	Γime/Status)	0637	-0835			attachment inside	IFS	B							
					Excavate					elivery of equip						
							it dump trucks site via tarped dur			foam barrels in						
1					Load out	SOII ITOM	site via tarped dur	nptrucks			along Willow Avenue		T			
	Alert	Start End		# of	Wind	Upwind/	Upwind		Minute 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			
	rrigger		Tillie	Tille	Periods	DII.	Downwind	Glation(3)	Min**	Max**		(ii applicable)				
						2011					,		Notified construction manager			
/10/2012	PM-10	FAM#6	14:31	14:36	6	SSW	UW	N/A	104	107	1	Vehicle traffic	additional water was sprayed			
/10/2012	PM-10	FAM#6	14:53	15:01	9	ESE	DW	FAM#2	104	125	2	Vehicle traffic	Notified construction manager			
10/2012	F IVI-10	I AIVI#O	14.55	13.01	3	LOL	DW	r Alvi#2	104	123	2	verlicle traffic	additional water was sprayed			
10/2012	PM-10	FAM#6	15:04	15:06	3	SSE	DW	FAM#2	100	101	2	Vehicle traffic	Notified construction manager			
10/2012	1 101 10	171111110	10.04	10.00	Ŭ	OOL		17 (IVIII) Z	100	101	-	vernole damo	additional water was sprayed			
						1										
mments:	- U				•				•		•					
							(15-min)	TVOC (15-mi	n)	T	VOC (1-min)	Odor Intensity (15-min)				
				ert Limit:			ug/m³	3.7 ppm			-	- · · · · · · · · · · · · · · · · · · ·				
	Action Limit					150 (ug/m³	5.0 ppm	m 25 ppm 3 (n-butanol scale)							

* 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: 7/10/2012

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	Svste	m Operation	ıs								General Observations						
		mpling Date		/2012	General We	eather C	onditions:										
	Syster	m Start Time	contin	nuous	Clear ~72	2°F- ~83	°F										
	Syster	m Stop Time	contin	nuous													
	Total H	rs Monitored	2	24	General De	scription	of Site Activities:										
					Health &	Safety N	Meeting										
	System	Calibrations	C)k						Pumped out trench along Willow Ave							
	. (Time/Status)	0635	-0718	Operated	ho-ram	attachment inside	TFS	Backfilled in	TFS							
	,	·			Excavate				Received de	elivery of equipa	ment in OU-2						
					Deconne	d load o	ut dump trucks		Transported	foam barrels in	nto TFS						
					Load out	soil from	n site via tarped dur	nptrucks	Operated or	for supressant	along Willow Avenue						
									15-	Minute	-						
<u> </u>	Alert		Start	End	# of	Wind	Upwind/	Upwind	Downwi	nd-Upwind	a. a	Site Activity During the Period					
Date	Trigger	Station	Time	Time	15-min Periods	Dir.	Downwind	Station(s)	Conc	entration	Site Condition	(if applicable)	Actions Taken				
	00				Periods			, ,	Min**	Max**		` ,					
7/11/2012	PM-10	FAM#6	10:47	10:54	8	SSE	DW	FAM#4	101	11	2	Vehicle traffic	Notified construction manager additional water was sprayed				
													additional Nator Nat oprayed				
Comments:	!																
						PM-10	(15-min)	TVOC (15-m	in)	T	/OC (1-min)	Odor Intensity (15-min)					
			ΔΙ	lert Limit:			ug/m ³	3.7 ppm	,	•	-	- ·					
	Action Limit: 150 ug/m ³							5.0 ppm			25 ppm	3 (n-butanol scale)					
		re presented				SW, W	, NW).			ticulate matter	(i.e. dust) less than 10 mi						
		nitoring statio		n					NA - not app	olicable							
ug/m³ - m	nicrograms	per cubic me	eter						ND - no data	a available		Field Representative:	R. Marshall				
ppmv - pa	arts per mi	illion by volun	ne									Date:	7/11/2012				
												-	Page 1 of _1_				



	Syste	m Operation	ıs								General Observations		
		ampling Date		/2012	General We	eather C	onditions:						
		m Start Time	contin		Clear ~72								
		m Stop Time		nuous									
		rs Monitored	2	24	General De	scription	of Site Activities:						
					Health &								
	System	Calibrations	C)k	Continuo								
		Time/Status)	0618				attachment inside	TFS	Backfilled in	TFS			
	`	,			Excavate				Received de	elivery of equip	ment in OU-2		
							ut dump trucks			I foam barrels i			
							site via tarped dur	nptrucks			along Willow Avenue		
										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
	33				Periods			(-)	Min**	Max**		(-11	
7/12/2012	PM-10	FAM#6	11:15	11:26	12	SSE	DW	FAM#4	101	107	2	Vehicle traffic	Notified construction manager
1712/2012	1 101 10	17441110	11.10	11.20		OOL	5,,	17441774	101	107	-	vernole traine	additional water was sprayed
									1				
									-				
									+				
									+				
									+				
									+				
									1				
Comments													
						DM-10	(15-min)	TVOC (15-m	in)		VOC (1-min)	Odor Intensity (15-min)	
			ΔΙ	lert Limit:			ug/m³	3.7 ppm	,	'	-	-	
	Action Limit: 150 ug/m³							5.0 ppm			25 ppm	3 (n-butanol scale)	
Notes:			. 101				<u> </u>	2.5 pp			- P. Prote		
	rections or	re presented	hy octant	(ie N N	JE E SE S	SW W	NW)		PM-10 - par	ticulate matter	(i.e. dust) less than 10 mi	crons in diameter	
		wnwind cond								l volatile organ		orono in dialifeter	
		nitoring station			no apount t	ompans	O11.		NA - not apr		io compounds		
		per cubic m										Field Representative:	R. Marshall
ppmv - p	arts ner mi											I lata:	7/11/2012



	Syste	m Operation	s								General Observations						
		mpling Date		/2012	General We	eather Co	onditions:										
		n Start Time		nuous	Clear ~73	3°F- ~85°	°F										
	Syster	m Stop Time	conti	nuous													
	Total Hr	rs Monitored	2	24	General De	scription	of Site Activities:										
					Health &	Safety M	leeting										
	System	Calibrations	C	Ok	Continuo	us Air Mo	onitoring		Pumped out trench along Willow Ave								
	(1	Fime/Status)	0656	-0920	Operated	l ho-ram	attachment inside	TFS	Backfilled in	Backfilled in TFS							
					Excavate	d inside	TFS		Received d	elivery of equip	nent in OU-2						
							ut dump trucks			d foam barrels ir							
					Load out	soil from	site via tarped dur	nptrucks	Operated o	dor supressant	along Willow Avenue						
					# of				15	-Minute							
D-4-	Alert	Station	Start	End	# of 15-min	Wind	Upwind/	Upwind	Downw	rind-Upwind	Cita Canditian	Site Activity During the Period	Antinua Talian				
Date	Trigger	Station	Time	Time	Periods	Dir.	Downwind	Station(s)	Cond	centration	Site Condition	(if applicable)	Actions Taken				
					Pellous			, ,	Min**	Max**		,					
omments	:				•					•							
	PM-10 (15-min) Alert Limit: 100 ug/m ³							TVOC (15-mi	n)	T	/OC (1-min)	Odor Intensity (15-min)					
				lert Limit:			ug/m³ ug/m³	3.7 ppm			-	- 2 (= hutanal anala)					
			ACI	ion Limit:		150	uy/III	5.0 ppm			25 ppm	3 (n-butanol scale)					
** Upwin	d minus do	e presented wnwind cond nitoring statio	entration	s are a tir						al volatile organi	i.e. dust) less than 10 mi c compounds	crons in diameter					
		per cubic me		••					ND - no da			Field Representative:	R. Marshall				
	3. 00								110 00	a a a a a a a a a a a a a a a a a a a		ricia representative.					
-	arts ner mil	llion by volun	26									Date:	7/13/2012				

