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### **Memorandum**

To: Andrew Prophete (National Grid NY)

From: Brian Skelly

Copy to: Richard Dana, 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 (GEI Consultants, Inc.)

Date: May 22, 2012

Regarding: Weekly Community Air Monitoring Report

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

May 12, 2012 through May 18, 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 May 12 and May 18, 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 onsite truck traffic, smoke from generator exhaust, and loading bentonite into the mixing plant.

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

Weekly Community Air Monitoring Report Clifton Former MGP Site Operable Unit 2 (OU-2) May 12, 2012 through May 18, 2012 May 22, 2012 Page 2

- Elevated concentrations (if any)
- Meteorological data

#### **Site Construction Activities**

Construction activities during this reporting period included:

- Mixing slurry using the mixing plant in OU-2
- Installing of slurry wall in OU-2 along Bay Street
- Backfilling excavated areas along Bay Street with slurry
- Transporting soil from slurry operations into the temporary fabric structure (TFS)
- Transporting jersey blocks from 1-story building into the TFS
- Crushing concrete blocks with a hoe-ram in OU-2
- GEO-CON Mobilization in OU-2

#### **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. 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. Diesel generators were used to power the four AirLogics Classic stations and will continue 24 hours a day, 7 days per week until 120 volt electrical connections are established onsite.

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.

On 5/16/2012, elevated levels of PM-10 were measured above the 15-minute average alert levels and action levels of 100 ug/m³ and 150 ug/m³, respectively. The elevated levels were measured at downwind fixed air monitoring station FAM#1 located at the northwest corner of OU-2 and occurred throughout the work day. The construction manager was notified. The elevated levels of dust were attributed to loading bentonite into the mixing plant upwind of FAM#1 in OU-2.

Upwind and downwind ambient air verification samples were collected on May 17, 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

Weekly Community Air Monitoring Report Clifton Former MGP Site Operable Unit 2 (OU-2) May 12, 2012 through May 18, 2012 May 22, 2012 Page 3

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	m)			(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		
5/12/2012	0.1	0.1	0.1	0.2	0.1	0.1	67	20	3	17	0	26		
5/13/2012	0.5	0.5	0.1	0.2	0.1	0.1	44	24	4	13	0	33		
5/14/2012	0.2	0.1	0.1	0.2	0.1	0.2	93	15	1	70	2	58		
5/15/2012	0.2	0.1	0.1	0.2	0.1	1.1	87	21	2	18	0	71		
5/16/2012	0.2	0.2	0.1	0.2	0.1	0.5	209	37	5	110	7	52		
5/17/2012	0.2	0.1	0.1	0.2	0.1	0.0	40	36	4	34	7	45		
5/18/2012	0.2	0.5	0.4	0.4	0.1	0.2	98	27	2	62	32	119		
Average	0.2	0.2	0.1	0.2	0.1	0.3	91	26	3	46	7	58		
Maximum	0.5	0.5	0.4	0.4	0.1	1.1	209	37	5	110	32	119		

#### 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

No recordable data for TVOC at FAM#4 from 13:00 0n 5/14 - 06:46 on 5/15/12 due to equipment malfunction during non-working hours.



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

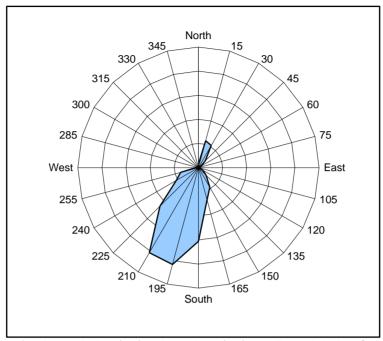


Figure 1. Wind rose for the period 05/12/12 through 05/18/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

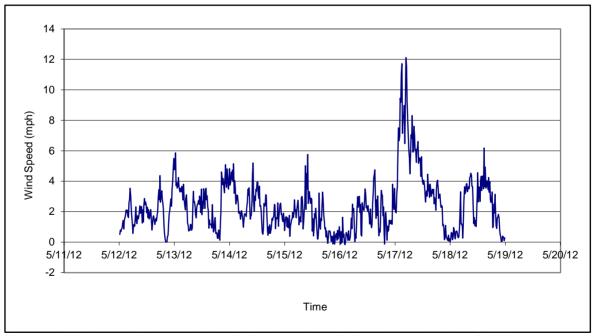


Figure 2. Wind speed for the period 05/12/12 through 05/18/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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

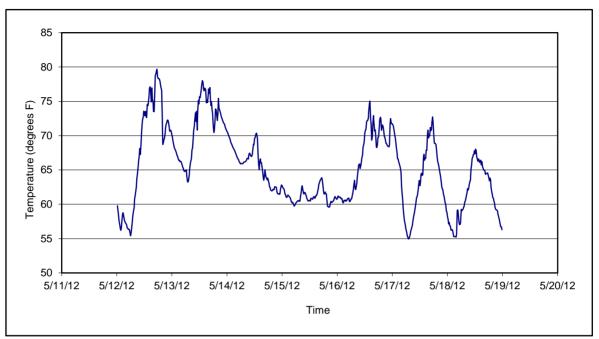


Figure 3. Temperature for the period 05/12/12 through 05/18/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.



Figure 4. Relative humidity for the period 05/12/12 through 05/18/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

	m Operation								General	Observation	s		
		ampling Date		/2012	General We	eather C	onditions:						
		m Start Time		nuous	Overcast	w/rain-	~66°F- ~67°F						
		m Stop Time	contir	nuous									
	Total Hr	rs Monitored	2	24			of Site Activities:						
					Health &				GEO-CON I	Mobilization in	OU-2		
	System	Calibrations	C	Ok	Continuo	us Air M	onitoring						
	۲)	Time/Status)	0626	-0805									
					# of				15-N	1inute			
Date	Alert	Station	Start	End	# 01 15-min	Wind	Upwind/	Upwind	Downwin	d-Upwind	Site	Site Activity During the Period	Actions Taken
Date	Trigger	Station	Time	Time	Periods	Dir.	Downwind	Station(s)	Conce	ntration	Condition	(if applicable)	Actions Taken
					1 chods				Min**	Max**			
5/14/2012	None												No excedances
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110 1 100 00			20.00	011 0/ 1-1/ 1	12 due to equ	припоне	nananonon.						
						PM-10	(15-min)	TVOC (15-min)		TVOC	(1-min)	Odor Intensity (15-min)	
			А	lert Limit:			ug/m <sup>3</sup>	3.7 ppm			-	-	
	Action Limit						ug/m <sup>3</sup>	5.0 ppm		25	ppm	3 (n-butanol scale)	
Notes:			7.01				- 3	ото рр			<b>PP</b>	o (i. Datario ocalo)	
	aatiana are		cotont	/i o NI NI		C\A/ \A/	NIIA/)		DM 10 nor	tioulota matta	r (i o duot) loo	a than 10 miarana in diamatar	
		e presented b wnwind conce									r (i.e. aust) les nic compound:	s than 10 microns in diameter	
		wnwind conce nitoring statioi			ne specific co	Jilipalist	л.		NA - not app		ine compound	5	
		per cubic me		1					ND - no data			Field Representative:	R. Marshall
		lion by volum							יזט - ווט uale	a avallable		Pield Representative.  Date:	5/14/2012
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													1 490 1 01 <u>1</u>



	Syster	m Operation	s							Genera	l Observations				
		mpling Date	5/15/	/2012	General We	eather Co	onditions:								
	Systen	n Start Time	contir	nuous	Overcast	w/rain-	-61°F- ~63°F								
	Systen	n Stop Time	contir	nuous											
	Total Hr	s Monitored	2	24			of Site Activities:		Transporting soil from slurry operations into TFS						
					Health &	Safety M	leeting		Mixing slurry using mixing plant set up in OU-2						
		Calibrations		)k						excavated are	a along Bay Stre	eet with slurry			
	(T	Time/Status)	0645	-1045			wall in OU-2 along I								
					Crushing	concrete	e blocks with hoe-ra	m in OU-2							
	•											<del>_</del>			
					# of					Minute					
Date	Alert	Station	Start	End	15-min	Wind	Upwind/	Upwind		nd-Upwind	Site	Site Activity During the Period	Actions Taken		
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									Min**	Max**					
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							(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)			
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		presented b										than 10 microns in diameter			
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		itoring statior		1					NA - not ap	•					
-		per cubic met							ND - no data available Field Representative: R. Marsha						
ppmv - pa	rts per milli	ion by volume	Э									Date:	5/15/2012		
													Page 1 of <u>1</u>		



	m Operation	าร							Genera	I Observation	ıs					
		mpling Date		/2012	General We	eather Co	onditions:									
		n Start Time		nuous	Overcast	w/rain-	-60°F- ~62°F									
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	(,,						blocks with a hoe				g, c	,				
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									15-N	/linute						
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Date	Trigger	Station	Time	Time	15-min Periods	Dir.	Downwind	Station(s)	Conce	ntration	Condition	(if applicable)	Actions Taken			
					Perious			, ,	Min**	Max**		, ,,				
5/16/2012	PM-10	FAM#1	8:51	8:51	1	S	DW	FAM#2	93	93	1	Loading bentonite into the mixing plant	Notified construction manager.			
5/16/2012	PM-10	FAM#1	8:53	8:55	3	S	DW	FAM#2	87	90	1	Loading bentonite into the mixing plant	Notified construction manager.			
5/16/2012	PM-10	FAM#1	11:00	11:09	10	S	DW	FAM#2	87	97	1	Loading bentonite into the mixing plant	Notified construction manager.			
5/16/2012	PM-10	FAM#1	12:23	12:31	9	S	DW	FAM#2	87	108	2	Loading bentonite into the mixing plant	Notified construction manager.			
5/16/2012	PM-10	FAM#1	14:32	14:36	5	S	DW	FAM#2	84	89	1	Loading bentonite into the mixing plant	Notified construction manager.			
5/16/2012	PM-10	FAM#1	15:59	16:16	18	S	DW	FAM#2	100	208	3	Loading bentonite into the mixing plant	Notified construction manager.			
												Recently repaired generator emitting	None taken.			
5/16/2012	PM-10	FAM#4	12:58	13:06	9	S	UW	N/A	101	109	1*	black smoke UW of FAM#4	Informed by repairman that			
												black stricke OVV of 1 Alvi#4	black smoke should stop shortly.			
Comments:					ale contra an itle tan an		and DM 40 areas	almandada Olfo Oamalitian A								
" Since no g	rouna intru	isive activitie	s were co	onauctea	auring this r	eporting	perioa, Pivi-10 rem	ained at a Site Condition 1.								
						PM-10	(15-min)	TVOC (15-min)		TVOC	(1-min)	Odor Intensity (15-min)				
			Δ	lert Limit:			ug/m <sup>3</sup>	3.7 ppm		1700	-	-				
	Action Limit: 15							5.0 ppm		25	ppm	3 (n-butanol scale)				
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Notes:				/: - N. N.	IE E OE O	0\4/\4/	N II A / \		DM 40			then 40 minutes in dispersion				
			-		IE, E, SE, S,							ss than 10 microns in diameter				
					ne specific co	omparisc	n.		TVOC - total volatile organic compounds							
		nitoring statio		1					NA - not applicable ND - no data available			Field Depres and the second	D. Marshall			
_	•	per cubic me							ואט - חט dat	a avaliable		Field Representative:	R. Marshall			
ppmv - parts per million by volume												Date: _	5/16/2012			



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	Syster	n Operation	s							Genera	l Observations	<u> </u>				
		mpling Date	5/17/	/2012	General We	eather Co	onditions:									
		n Start Time	contir				~61°F- ~73°F									
		n Stop Time		nuous												
	Total Hr	s Monitored	2	24	General De	scription	of Site Activities:		Transporting	g soil from slu	irry operations	into the TFS				
					Health &	Safety M	leeting		Mixing slurry using mixing plant in OU-2							
	System	Calibrations	C	)k						Backfilling excavated area along Bay Street with slurry						
		ime/Status)	0621	-0713			all in OU-2 along Ba	ay Street	Transporting jersey blocks from 1-story building into the TFS							
							e blocks with hoe-ra				•	•				
					4 -4				15-N	/linute						
Data	Alert	Ctatian	Start	End	# of 15-min	Wind	Upwind/	Upwind		nd-Upwind	Site	Site Activity During the Period	Actions Taken			
Date	Trigger	Station	Time	Time	Periods	Dir.	Downwind	Station(s)	Conce	entration	Condition	(if applicable)	Actions Taken			
					i ellous				Min**	Max**						
5/17/2012	None												No excedances			
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Comments						<u> </u>			1							
Comments:	•															
						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		1 400	( 1-11111) -	Odor Intensity (15-min)				
									- 25 ppm			3 (n-butanol scale)				
Natar			AUI	JOH EHHIL			~g····	5.0 ppm		23	PPIII	o (ii butanoi soaio)				
Notes:				(: - N N	O- O	C\A/ \A/	N II A / \		DM 40 ==	#!=  <b>=</b> ## = **		a than 40 minutes in dispersion				
		presented b										s than 10 microns in diameter				
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		itoring station		1					NA - not ap			Field Department	D. Marahall			
-		per cubic met							ND - no dat	a avaliable		Field Representative:	R. Marshall			
ppmv - pa	rts per mill	ion by volum	е									Date: _	5/17/2012			
													Page 1 of <u>1</u>			



	Syste	m Operation	าร							Genera	I Observations	<b>S</b>					
		ampling Date		/2012	General We	eather C	onditions:										
		m Start Time		nuous	Overcast	w/rain-	~61°F- ~73°F										
	Syste	m Stop Time	conti	nuous													
	Total H	rs Monitored	2	24	General De	scription	of Site Activities:		Transporting soil from slurry operations into the TFS								
					Health &	Safety N	<b>leeting</b>		Mixing slurr	y using mixing	g plant in OU-2						
	System	Calibrations		Ok	Continuo	us Air M	onitoring		Backfilling excavated area along Bay Street with slurry								
	(Time/Status) 0617-0747						all in OU-2 along Ba	ay Street	Transportin	g jersey block	s from 1-story	building into the TFS					
							e blocks with hoe-ra			-, ,	•	-					
					# of					Minute							
Date	Alert	Station	Start	End	15-min	Wind	Upwind/	Upwind		nd-Upwind	Site	Site Activity During the Period	Actions Taken				
Date	Trigger	Otation	Time	Time	Periods	Dir.	Downwind	Station(s)		entration	Condition	(if applicable)	Actions Taken				
									Min**	Max**							
5/18/2012	PM-10	FAM#6	11:27	11:31	5	S/SE	DW	FAM#4	95	112	2	On site dump truck traffic	None taken. Short duration spike.				
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					+				+								
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omments	•																
							(15-min)	TVOC (15-min)		TVOC	(1-min)	Odor Intensity (15-min)					
			Α	Nert Limit	:	100	ug/m³	3.7 ppm			-	-					
	Action Limit:									25	ppm	3 (n-butanol scale)					
otes:						_											
	ections are	e presented b	ov octant	(i.e. N. N	IE, E, SE, S	SW. W.	NW).		PM-10 - pa	ticulate matte	er (i.e. dust) les	s than 10 microns in diameter					
		wnwind conce									anic compounds						
		nitoring statio			no opcomo o	ompanist			NA - not ap		ano compound	,					
		per cubic me							ND - no dat			Field Representative:	R. Marshall				
									ווט טוו - טויו	a avallable			5/18/2012				
bbun - ba	iris per mil	llion by volum	ıe									Date:					
													Page 1 of				

