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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: October 17, 2012

Regarding: Weekly Community Air Monitoring Report

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

October 6, 2012 through October 12, 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 October 6, 2012 and October 12, 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. 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:

- Performed excavation in Temporary Fabric Structure (TFS)
- Backfilled in TFS
- Cleaned street of Willow Avenue using Street Sweeper
- Deconned dump trucks
- Installed gravel road along Willow Avenue in OU-2
- Loaded out soil from TFS
- Loaded out soil off site from shallow excavations via dump trucks
- Moved Jersey barriers inward along Willow Avenue
- Operated dust suppressant system South of TFS
- Operated hoe-ram in shallow excavation near FAM#6
- Performed shallow excavation along Bay Street
- Performed shallow excavation near FAM#4 along Willow Avenue, and near FAM#6
- Received deliveries of clean backfill and gravel
- Relocated FAM#6
- Relocated sheet piles
- Relocated TFS
- Removed TIGG unit from TFS
- Stockpiled clean backfill
- Tarped dump trucks
- Tarped stockpiled backfill and clean excavated soil

### **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 October 10, 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.

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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	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		
10/6/2012	0.1	0.0	0.0	0.0	0.0	0.1	60	15	2	8	24	1		
10/7/2012	0.2	0.1	0.1	0.0	0.1	0.1	14	5	2	0	7	0		
10/8/2012	0.1	0.1	0.1	0.1	0.1	0.6	21	9	2	0	9	25		
10/9/2012	0.2	0.0	0.3	0.4	0.3	0.7	20	12	46	0	20	10		
10/10/2012	0.1	0.1	0.1	0.1	0.1	2.2	48	14	47	0	12	0		
10/11/2012	0.3	0.3	0.1	0.1	0.1	0.4	21	10	0	0	6	0		
10/12/2012	0.2	0.2	0.2	0.3	0.1	0.1	17	18	0	12	12	0		
Average	0.2	0.1	0.1	0.1	0.1	0.6	29	12	14	3	13	5		
Maximum	0.3	0.3	0.3	0.4	0.3	2.2	60	18	47	12	24	25		

#### 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



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

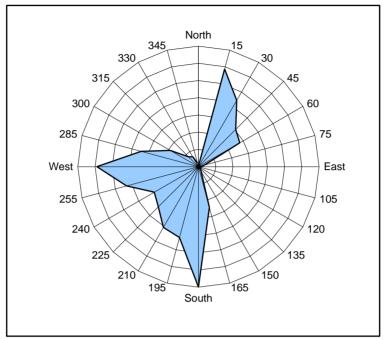


Figure 1. Wind rose for the period 10/06/12 through 10/12/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

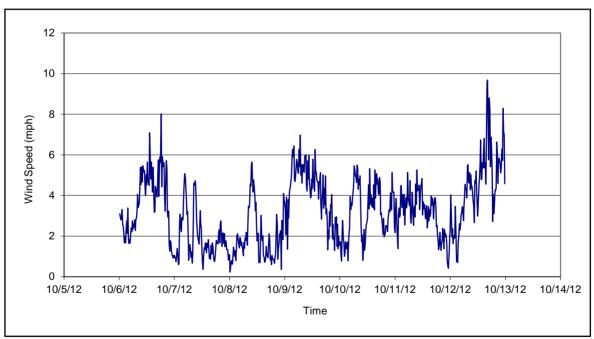


Figure 2. Wind speed for the period 10/06/12 through 10/12/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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

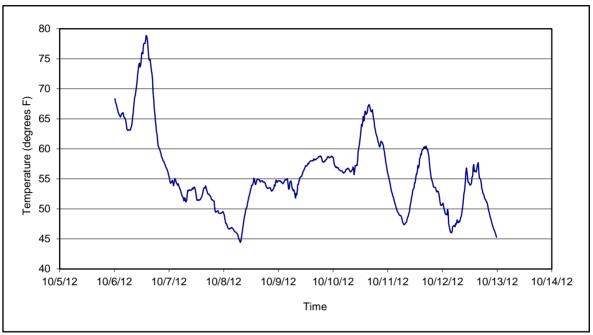


Figure 3. Temperature for the period 10/06/12 through 10/12/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

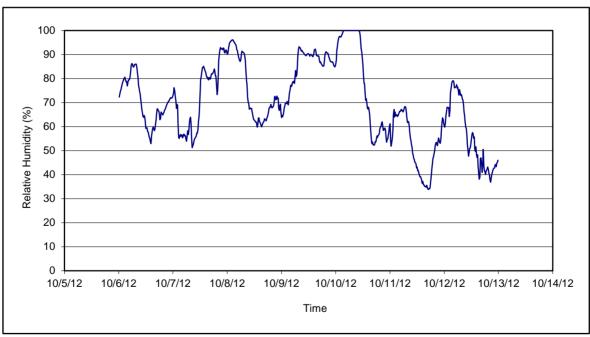


Figure 4. Relative humidity for the period 10/06/12 through 10/12/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

	System Op	erations								Gene	eral Observations					
		mpling Date	10/8	/2012	General W	eather C	onditions:									
	Syster	n Start Time	conti	nuous	Clear - ~	- 45°F	-54°F									
		n Stop Time		nuous												
	Total H	rs Monitored	2	24	General De	escription	of Site Activities:									
					Health &	Safety N	leeting		Tarped dump trucks							
	System	Calibrations		Ok	Continuo	us Air M	onitoring		Backfilled inTemporary Fabric Structure (TFS)							
	(1	Fime/Status)	0646	6-0942	Stockpile	ed clean :	soil		Operated hoe-ram in shallow excavations							
					Deconne	d dump	trucks		Operated di	ust suppressant	system South of TFS					
								excavations via dump trucks	Performed s	shallow excavation	on along Bay Street					
					Tarped s	tockpiled	backfill and clear	excavated soil								
					# of				15	-Minute						
Date	Alert	Station	Start	End	15-min	Wind	Upwind/	Upwind	Downwind-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			
									Min**	Max**						
10/8/2012	No exceedances			ļ		<u> </u>							None taken			
		l	<u> </u>	<u> </u>	<u> </u>	<u> </u>			1							
Comments:																
í																
						DM 40	(1E min)	TVOC (45!)			TVOC (4 min)	Oder Intensity (45 min)				
				Land Charles			( <b>15-min)</b> ug/m³	TVOC (15-min)			TVOC (1-min)	Odor Intensity (15-min)				
				lert Limit:			ug/m² ug/m³	3.7 ppm			- 05	- 2 (a hutaaal aaala)				
<b>——</b>			Act	ion Limit		150	ug/III	5.0 ppm			25 ppm	3 (n-butanol scale)				
Notes:																
	irections are presented										i.e. dust) less than 10 micron	s in diameter				
	d minus downwind cor		are a time	e specific	comparisor	٦.			TVOC - tota	I volatile organic	c compounds					
	xed Air Monitoring star															
	micrograms per cubic i								NA - not app							
ppmv - p	ppmv - parts per million by volume								ND - no dat	a available		Field Representative: R.Marshall				



	System Op	erations								General Ol	bservations				
		ampling Date	10/9	/2012	General We	eather C	onditions:								
		m Start Time		nuous			45°F - ~58°F								
		m Stop Time		nuous	,										
		rs Monitored		24	General De	scription	of Site Activities:								
			_						Tarped dump trucks Installed gravel road terrain along Willow Avenue						
	System	Calibrations	(	Ok	Health & Safety Meeting Continuous Air Monitoring						nward along Willow		venue		
		Time/Status)		-0810			orary Fabric Struct	uro (TES)			w excavation near				
	,	rine/Status)	0038	-0010	Deconne			uie (TF3)		eliveries of grav		-AIVI#O			
								excavation via dump trucks			ion near FAM#6				
							init from TFS	r excavation via dump trucks	Relocated F		ion near FAIVI#6				
					Removed	I IIGG L	Init from 1FS	T							
					# of					-Minute					
Date	Alert	Station	Start	End	15-min	Wind	Upwind/	Upwind		rind-Upwind	Site Condition	Site Activity During the Period	Actions Taken		
	Trigger		Time	Time	Periods	Dir.	Downwind	Station(s)		entration		(if applicable)			
									Min**	Max**					
10/9/2012	No exceedances												None taken		
<b></b>															
<b> </b>															
Comments:															
							(15-min)	TVOC (15-min)		TVO	C (1-min)	Odor Intensity (15-min)			
				lert Limit:			ug/m <sup>3</sup>	3.7 ppm			-	-			
	Action Limit: 150 ug/m <sup>3</sup> 5.0 ppn									25	5 ppm	3 (n-butanol scale)			
Notes:															
* Wind d	irections are presente	d by octant (i	e. N, NE	, E, SE, S	S, SW, W. N	W).			PM-10 - par	ticulate matter (	i.e. dust) less than	10 microns in diameter			
	d minus downwind co									I volatile organi					
	xed Air Monitoring sta			,	,										
	nicrograms per cubic								NA - not app	olicable					
	arts per million by vol								ND - no data			Field Representative:	R.Marshall		
PPIIIV P	and por million by von	uo							110 date	a a ranabio		Date:	10/9/2012		
										Date: 10/9/2012					



	System Op	perations								Gene	ral Observations					
	S	ampling Date	10/10	0/2012	General We	eather C	onditions:									
	Syste	m Start Time	conti	nuous	Cloudy w	/rain - ~	- 56°F - ~67°F									
	Syste	m Stop Time	conti	nuous												
	Total H	Irs Monitored	2	24	General De	scription	of Site Activities:									
					Health &				Performed shallow excavation near FAM#6							
	System	Calibrations	(	Ok	Continuo				Moved Jersey barriers inward along Willow Avenue							
		Time/Status)		-0922			orary Fabric Struc	ture (TFS)	Installed gravel road terrain along Willow Avenue							
	,	, , , , , , , , , , , , , , , , , , , ,			Deconne			( 5)	Relocated T							
								v excavation via dump trucks	Relocated s							
					Tarped d			· cocavation via damp tracke		noor phoo						
					· ·	ump truc	I		15	Minute						
	Alert		Start	End	# of	Wind	Upwind/	Upwind	Downwind-Llowind			Site Activity During the Period				
Date	Trigger	Station	Time	Time	15-min	Dir.	Downwind	Station(s)	Concentration Min** Max**		Site Condition	(if applicable)	Actions Taken			
	55				Periods			J(e)				( 344				
10/10/2012	No exceedances	1			1								None taken			
													Tions taken			
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		+			1				+			+				
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		1			1											
		+			1				+			+				
omments:		1			1				1							
						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			-					
				ion Limit:			ug/m <sup>3</sup>	5.0 ppm			25 ppm	3 (n-butanol scale)				
lotes:							-	11			71					
	irections are presente	d by actant (	o NI NIE	E 0E	C C/A/ /A/ N	١٨/١			PM 10 por	ticulata mattar (i	.e. dust) less than 10 micron	a in diameter				
	d minus downwind co									liculate matter (i I volatile organic		s in diameter				
			are a lilli	e specilio	Companson				1 000 - 1018	i voiatile organic	compounds					
	xed Air Monitoring sta nicrograms per cubic								NA not on	diaabla						
									NA - not applicable  ND - no data available  Field Representative:  R.Marst							
ppmv - p	ppmv - parts per million by volume								ND - no data available Field Representative: R							



10/10/2012

	System Op	perations								Gene	ral Observations					
	S	ampling Date	10/11	1/2012	General We	eather C	onditions:									
	Syste	m Start Time	conti	nuous	Clear - ~	47°F -	~59°F									
	Syste	m Stop Time	conti	nuous												
		lrs Monitored		24	General De	escription	of Site Activities:									
					Health &				Performed shallow excavation near FAM#6							
	System	Calibrations	(	Ok	Continuo				Moved Jersey barriers inward along Willow Avenue							
		Time/Status)		)-0744	Continuo	us All IVI	ormoning									
	(	rime/Status)	0650	1-0744	Deconne		t		Loaded out soil from TFS  Received deliveries of clean backfill							
											Dackilli					
								v excavation via dump trucks	Deconned of							
					Tarped d	ump truc	cks		Stockpiled of							
					# of					-Minute						
Date	Alert	Station	Start	End	15-min	Wind	Upwind/	Upwind	Downwind-Upwind Concentration		Site Condition	Site Activity During the Period	Actions Taken			
Date	Trigger	Station	Time	Time	Periods	Dir.	Downwind	Station(s)			Site Coridition	(if applicable)	Actions Taken			
									Min**	Max**						
10/11/2012	No exceedances												None taken			
												1				
comments:		1			1				1	I.		<u>'</u>				
						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)				
1-4			, 101			.50		0.0 pp.11			kh	o (ii batanoi ocalo)				
Notes:				- 05	0 014/ 14/ 1	n.a.()			DM 40	411-444 "	- dust) lass than 40	- !				
	irections are presente										.e. dust) less than 10 micron	s in diameter				
	d minus downwind co		are a tim	e specific	comparison	١.			I VOC - tota	Il volatile organic	compounds					
	xed Air Monitoring sta															
	g/m³ - micrograms per cubic meter									NA - not applicable  ND - no data available  Field Representative:  C. John						
ppmv - p	ppmv - parts per million by volume								ND - no data	a available	C. John					



10/11/2012

	System Op	erations							General Observations							
		mpling Date	10/12	2/2012	General W	eather Co	onditions:									
		n Start Time		nuous	Clear - ~	48°F - ~	55°F									
		n Stop Time		nuous												
		s Monitored		24	General De	scription	of Site Activities:		Cleaned street of Willow Avenue using Street Sweeper							
					Health &				Performed shallow excavation near FAM#6							
	System	Calibrations	(	Ok	Continuo				Performed shallow excavation near FAM#4 along Willow Avenue							
		ime/Status)		-0744				Fabric Structure (TFS)	Ferromed shallow excevation riear Palvin-4 along viniow avenue Loaded out soil from TFS							
	,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		• • • • •	Deconne					liveries of clean	backfill					
								v excavation via dump trucks	Deconned of							
					Tarped d				Stockpiled of							
						1				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			(3)	Min**	Max**		( 111 - 117				
10/12/2012	No exceedances											1	None taken			
											İ					
											İ					
											İ					
Comments:												•				
							(15-min)	TVOC (15-min)			TVOC (1-min)	Odor Intensity (15-min)				
				lert Limit:		100		3.7 ppm			-	-				
			Act	ion Limit:		150	ug/m <sup>3</sup>	5.0 ppm			25 ppm	3 (n-butanol scale)				
Notes:							•			•						
	rections are presented	d by octant (i	e. N, NE	, E, SE.	S, SW, W. N	IW).			PM-10 - par	ticulate matter (i.	.e. dust) less than 10 microns	s in diameter				
	d minus downwind cor									I volatile organic						
	ked Air Monitoring stat									<b>5</b>	•					
	g/m³ - micrograms per cubic meter									NA - not applicable						
ppmv - pa	arts per million by volu	ime							ND - no dat			Field Representative:	T. Landgraff			

