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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 8, 2012

Regarding: Weekly Community Air Monitoring Report

Clifton Former MGP Site - Operable Unit 2 (OU-2) September 15, 2012 through September 21, 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 September 15, 2012 and September 21, 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:

- Relocated Temporary Fabric Structure (TFS)
- Deconned dump trucks
- Loaded out impacted material from TFS offsite
- Operated dust suppressant South of TFS
- Operated hoe-ram in TFS
- Operated hoe-ram on foundation of former one-story building
- Operated odor suppressant system at TFS
- Performed intrusive work inside of trench Northwest of TFS
- Received deliveries of clean backfill
- Repaired runoff pipe at the base of trench
- Repaired the interior structure of TFS
- Stockpiled clean Backfill
- Stockpiled clean soil
- Stockpiled concrete waste
- Tarped dump trucks

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 September 19, 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 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		
9/15/2012	0.0	0.1	0.3	0.1	0.2	0.1	21	6	3	0	2	0		
9/16/2012	0.1	0.2	0.7	0.2	0.2	0.1	21	5	2	0	0	0		
9/17/2012	0.1	0.1	0.4	0.2	0.2	0.2	63	6	2	3	24	0		
9/18/2012	0.2	0.0	0.1	0.1	0.3	0.2	68	6	2	6	15	0		
9/19/2012	0.1	0.2	0.1	0.1	0.2	0.2	18	5	2	1	10	0		
9/20/2012	0.1	0.1	0.3	0.2	0.2	0.4	20	6	2	8	6	0		
9/21/2012*	0.4	0.2	0.2	0.1	0.3	0.3	42	7	11	9	0	0		
Average	0.1	0.1	0.3	0.1	0.2	0.2	36	6	3	4	8	0		
Maximum	0.4	0.2	0.7	0.2	0.3	0.4	68	7	11	9	24	0		

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 a power outage after working hours, data are not available after 6:18 pm on 9/21/2012.

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

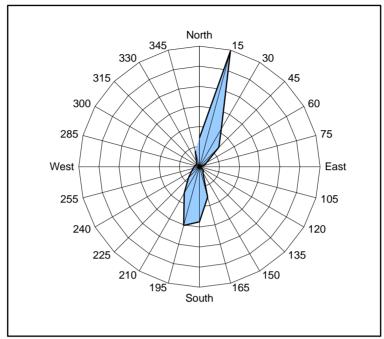


Figure 1. Wind rose for the period 09/15/12 through 09/21/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

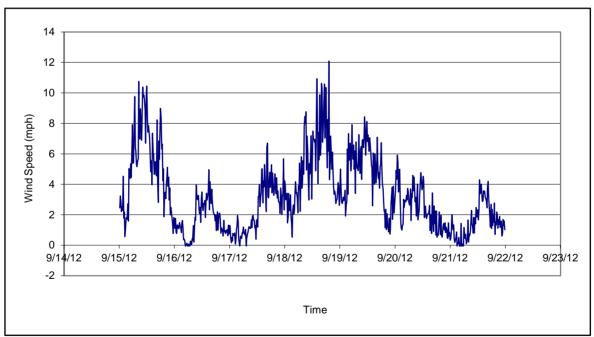


Figure 2. Wind speed for the period 09/15/12 through 09/21/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

Figures 1-4
Meteorological Data
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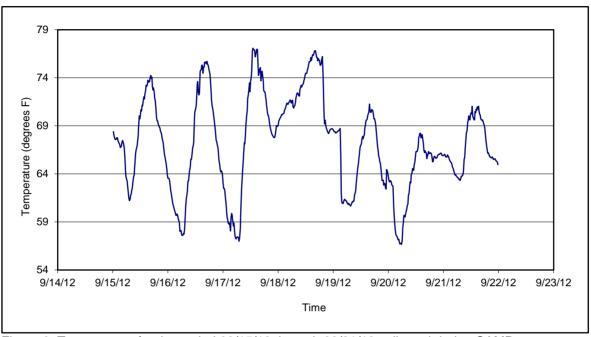


Figure 3. Temperature for the period 09/15/12 through 09/21/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

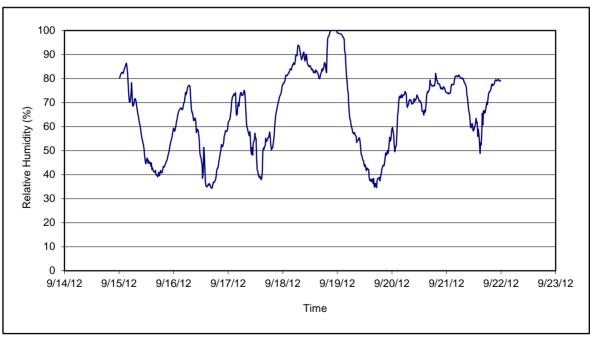


Figure 4. Relative humidity for the period 09/15/12 through 09/21/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

	System Op										General Observations		
		ampling Date		/2012	General W								
		m Start Time		nuous	Clear- ~	61°F - ~	76°F						
		m Stop Time		nuous									
	Total H	rs Monitored		24			n of Site Activities:						
					Health &				Tarped dun				
		Calibrations		Ok	Continuo					concrete waste			
	(Time/Status)	0650)-1005	Stockpile						c Structure (TFS)		
					Deconne				Repaired tr	ne interior structu	ire of IFS		
							ies of clean backfill						
	ı	1		1	Operated	noe-rar	m on foundation of	former one-story building	1		1		
	Alert		C44	End	# of	Wind	Upwind/	Upwind		5-Minute wind-Upwind		Site Activity During the Period	
Date	Trigger	Station	Start Time	Time	15-min	Dir.	Downwind	Station(s)			Site Condition	(if applicable)	Actions Taken
	rrigger		Time	Time	Periods	DII.	Downwind	Station(s)	Concentration Min** Max**			(ii applicable)	
9/17/2012	No Exceedances								IVIIII	IVIAX			
5/11/2012	140 Exceedances												
				-			-						
Comments	:												
						PM-10	(15-min)	TVOC (15-m	in)		TVOC (1-min)	Odor Intensity (15-min)	
			Δ	lert Limit:			ug/m ³	3.7 ppm	,		-	-	
				tion Limit:			ug/m ³	5.0 ppm			25 ppm	3 (n-butanol scale)	
Notes:													
	irections are presented	d by octant (i	e. N, NE	E, SE, S	, SW, W, NV	V).			PM-10 - pa	rticulate matter (i.e. dust) less than 10 microns	in diameter	
	d minus downwind cor									al volatile organic			
	xed Air Monitoring star				•					,	•		
	nicrograms per cubic r								NA - not ap	plicable			
ppmv - p	arts per million by volu	ıme							ND - no dat	ta available		Field Representative:	C. John
												Date:	9/17/2012



Sampling Date 9/18/2012 System Start Time continuous System Stop Time continuous Total Hrs Monitored 24 General Description of Site Activities: Health & Safety Meeting Tarped dump trucks System Calibrations (Time/Status) 0710-0918 (Time/Status) 0710-0918 Stockpiled clean Backfill Relocated Temporary Fabric Structure (TFS) Deconned dump trucks Repaired the interior structure of TFS Received deliveries of clean backfill Performed intrusive work inside of Trench NW of TFS Operated hoe-ram on foundation of former one-story building Repaired runoff pipe at the base of Trench NW of trench	
System Stop Time continuous Total Hrs Monitored 24 General Description of Site Activities: Health & Safety Meeting Tarped dump trucks System Calibrations Ok Continuous Air Monitoring Stockpiled concrete waste (Time/Status) 0710-0918 Stockpiled clean Backfill Relocated Temporary Fabric Structure (TFS) Deconned dump trucks Repaired the interior structure of TFS Received deliveries of clean backfill Performed intrusive work inside of Trench NW of TFS	
Total Hrs Monitored 24 General Description of Site Activities: Health & Safety Meeting Tarped dump trucks System Calibrations Ok (Time/Status) 0710-0918 Stockpiled concrete waste Stockpiled concrete waste Stockpiled concrete waste Stockpiled cena Backfill Relocated Temporary Fabric Structure (TFS) Deconned dump trucks Repaired the interior structure of TFS Received deliveries of clean backfill Performed intrusive work inside of Trench NW of TFS	
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Received deliveries of clean backfill Performed intrusive work inside of Trench NW of TFS	
Operated hoe-ram on foundation of former one-story building Repaiired runoff pipe at the base of Trench NW of trench	
15-Minute	
Date Alert Station Start End # of Upwind/ Upwind Downwind-Upwind Site Condition Site Activity During	g the Period
Date Trigger Station Time Time Dir. Downwind Station(s) Concentration Site Condition (if applicate the content of the content	ble) Actions Taken
Min** Max**	
9/18/2012 No Exceedances	
Comments:	
PM-10 (15-min) TVOC (15-min) TVOC (1-min) Odor Intensity	(15-min)
Alert Limit: 100 ug/m³ 3.7 ppm	
Action Limit: 150 ug/m³ 5.0 ppm 25 ppm 3 (n-butanol s	scale)
Notes:	
* Wind directions are presented by octant (i.e. N, NE, E, SE, S, SW, W, NW). PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter	
** Upwind minus downwind concentrations are a time specific comparison. TVOC - total volatile organic compounds	
FAM - Fixed Air Monitoring station location	
ug/m³ - micrograms per cubic meter NA - not applicable	
	eld Representative: C. John
	Date: 9/18/2012



	Systa	m Operation				General Observations									
-		mpling Date		2012	General We	ather C	onditions:		Centeral Obodi Validits						
		n Start Time		nuous	Clear- ~ 5										
					Clear- ~ 5	00°F - ~1	70°F								
		m Stop Time		nuous											
	Total H	rs Monitored	2	4			of Site Activities:								
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		Calibrations)k	Continuo						om TFS to Du				
	(Time/Status)	0805	-0945	Stockpile						stem operation				
					Deconne	d dump t	trucks		Intrusive w	ork at Tren	ch NW of TFS	8			
					Received	deliveri	es of clean backfill								
					Operated	hoe-ran	n on foundation of f	ormer one-story building							
								· · ·	15-N	linute					
	Alert		Start	End	# of	Wind	Upwind/	Upwind		d-Upwind	Site	Site Activity During the Period			
Date	Trigger	Station	Time	Time	15-min	Dir.	Downwind	Station(s)		ntration	Condition	(if applicable)	Actions Taken		
	rrigger		11110	11110	Periods	D	Downwind	Oldion(s)	Min** Max**		Condition	(ii applicable)			
9/19/2012	Exceedan	ces													
3/13/2012	LXOCCUAIT	000													
Comments							1								
•															
						PM-10	(15-min)	TVOC (15-min)		TVOC	(1-min)	Odor Intensity (15-min)			
			٨	lert Limit:				3.7 ppm			- (- (13-min)			
	Alert Limit: 100 ug/m³ 3.7 ppm Action Limit: 150 ug/m³ 5.0 ppm									25	ppm	3 (n-butanol scale)			
 			AU	OH EIHIL.		100	-g	о.о ррпі		20	, bhiii	5 (II-butanoi scale)			
Notes:															
		e presented) less than 10 microns in diameter			
		wnwind conc			me specific c	omparis	on.		TVOC - to	al volatile o	rganic compo	unds			
		nitoring static		n											
ug/m³ - r	nicrograms	per cubic me	eter						NA - not a	oplicable					
ppmv - p	arts per mi	llion by volum	ne						ND - no da	ta available	9	Field Representative:	C. John		
		-										Date:	9/19/2012		



	Syste	m Operation	s							Gener	al Observation	ons					
		mpling Date		/2012	General We	eather C	onditions:					-					
		n Start Time		nuous	Overcast-												
		n Stop Time		nuous	3.0.0001	0. 1											
		s Monitored		24	General De	ecrintion	of Site Activities:										
	Total III	S MOIIIOTEU			Health &				Tarped dump trucks								
	0	0-1:14:	_	Ok	Continuo						from TFS to	Duran tavalia					
		Calibrations															
	(Γime/Status)	0610	-0833	Stockpiled				Operated odor suppressant system operational @ TFS Performed intrusive work at Trench NW of TFS								
					Deconnec												
							es of clean backfill		Operated of	dust suppre	ssant South o	TIFS					
					Operated	hoe-ran	n in TFS										
					# of					linute							
Date	Alert	Station	Start	End	15-min	Wind	Upwind/	Upwind		d-Upwind	Site	Site Activity During the Period	Actions Taken				
Date	Trigger	Otation	Time	Time	Periods	Dir.	Downwind	Station(s)		ntration	Condition	(if applicable)	Actions ration				
					1 chods				Min**	Max**							
9/20/2012	Exceedan	ces															
													•				
Comments		1		ı	ļ	l .	ı		l								
Comments																	
						PM-10	(15-min)	TVOC (15-min)		TVOC	(1-min)	Odor Intensity (15-min)					
			Δ	lert Limit:				3.7 ppm			-	-					
	Alert Limit: 100 ug/m³ 3.7 ppm Action Limit: 150 ug/m³ 5.0 ppm									25	ppm	3 (n-butanol scale)					
			AU	JOH EIHIL		100	-gi	3.0 ррпі		20	PPIII	5 (II-butanoi scale)					
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.											less than 10 microns in diameter					
					me specific c	omparis	on.		TVOC - tot	tal volatile o	rganic compo	unds					
		nitoring statio		n													
-	-	per cubic me							NA - not ap	oplicable							
ppmv - p	arts per mi	llion by volum	ne						ND - no da	ıta available	•	Field Representative:	C. John				
												Date:	9/20/2012				



	System Op	erations								G	eneral Observations						
		ampling Date	9/21/	/2012	General W	eather Co	onditions:										
	Syste	m Start Time	contir	nuous	Overcast	- ~ 57°F	- ~68°F										
		m Stop Time	contir	nuous													
	Total H	rs Monitored	2	:4			of Site Activities:										
					Health & Safety Meeting					Tarped dump trucks							
	System	Calibrations	C)k	Continuous Air Monitoring				Loaded out of material from TFS offsite								
	(Time/Status)	0606	-0746	Stockpile						perational @ TFS						
					Deconne					hallow excavation							
							es of clean backfill		Operated du	ıst Suppressant	S of TFS						
					Operated	hoe-ran	n in TFS										
					# of					-Minute							
Date	Alert Trigger	Station	Start Time	End Time	15-min Periods	Wind Dir.	Upwind/ Downwind	Upwind Station(s)	Downwind-Upwind Concentration		Site Condition	Site Activity During the Period (if applicable)	Actions Taken				
					renous				Min**	Max**							
9/21/2012	No Exceedances												None taken				
					_												
					_												
					1												
Comments:																	
							(15-min)	TVOC (15-min)			TVOC (1-min)	Odor Intensity (15-min)					
Alert Limit: 100 ug/m ³								3.7 ppm			-	-					
			Acti	ion Limit:		150	ug/m³	5.0 ppm			25 ppm	3 (n-butanol scale)					
	rections are presented minus downwind cor									ticulate matter (i. I volatile organic	e. dust) less than 10 microns	in diameter					
FAM - Fix	ced Air Monitoring stat	ion location			•				NA - not app		•						
ug/m³ - micrograms per cubic meter ppmv - parts per million by volume									ND - no data			Field Representative:	C. John				



Date:

9/21/2012