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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: April 24, 2012

Regarding: Weekly Community Air Monitoring Report

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

April 14, 2012 through April 20, 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 April 14 and April 20, 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. Fifteen-minute averages of TVOC, PM-10, and odor intensity data remained at a Site Condition 1.

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)

Weekly Community Air Monitoring Report Clifton Former MGP Site Operable Unit 2 (OU-2) April 14, 2012 through April 20, 2012 April 24, 2012 Page 2

Meteorological data

Site Construction Activities

Construction activities during this reporting period included:

- Installing rolling gate for entrance to OU-2 on Bay St.
- Installing water lines for dust suppression in OU-2
- Cutting through street asphalt for surveying on Willow Ave
- Accepting delivery of gravel in OU-2
- Backfilling trench in OU-2
- Emptying frac tanks & drummed contents using vac truck
- Transporting crushed asphalt into Temporary Fabric Structure (TFS)
- Loading impacted soil into TFS
- Moving sound attenuated barriers out onto end of sidewalk on Bay st.
- Placing erosion control hay bales along Bay Street
- Pre-trenching in OU-2
- Removing excess debris from ground surfaces in OU-2
- Setting up sidewalk barriers on Bay Street
- Surveying on 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). 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.

Upwind and downwind ambient air verification samples were collected on April 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.

References

Weekly Community Air Monitoring Report Clifton Former MGP Site Operable Unit 2 (OU-2) April 14, 2012 through April 20, 2012 April 24, 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 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
4/14/2012	0.2	0.1	0.1	0.2	0.0	0.0	48	20	4	25	1	34
4/15/2012	0.1	0.1	0.1	0.2	0.1	0.1	63	34	4	28	7	51
4/16/2012	0.2	0.1	0.1	0.3	0.1	0.0	76	26	9	56	9	73
4/17/2012	0.4	0.1	0.1	0.1	0.0	0.1	38	23	5	15	19	80
4/18/2012	0.1	0.1	0.1 ^(a)	0.2	0.0	0.2	41	50	4	14	10	41
4/19/2012	0.1	0.1	0.1	0.2	0.7	0.0	68	19	8	31	8	56
4/20/2012	0.2	0.1	0.1	0.2	0.1	0.1	93	17	2	17	25	58
Average	0.2	0.1	0.1	0.2	0.2	0.1	61	27	5	27	11	56
Maximum	0.4	0.1	0.1	0.3	0.7	0.2	93	50	9	56	25	80

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



⁽a) The VOC monitor at FAM#3 was operating in compound-specific mode from 07:25 on 4/18/12 to 15:36 on 4/18/12. During this time no TVOC measurements were collected and concentrations of benzene were <0.03 ppm. Toluene, ethylbenzene, and xylenes were not detected.

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

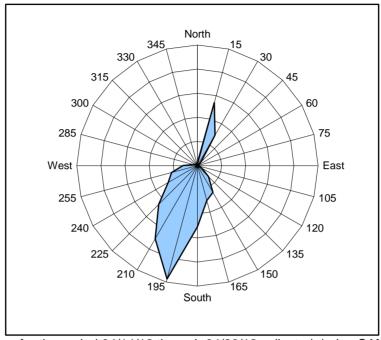


Figure 1. Wind rose for the period 04/14/12 through 04/20/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

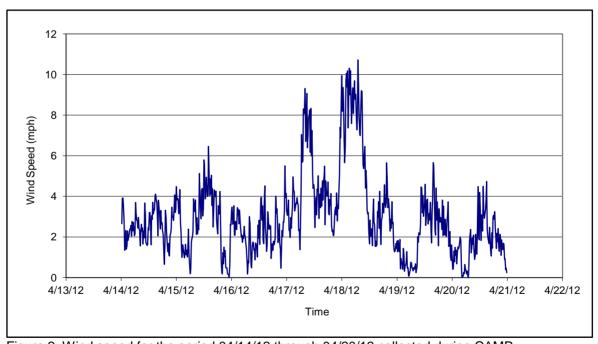


Figure 2. Wind speed for the period 04/14/12 through 04/20/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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

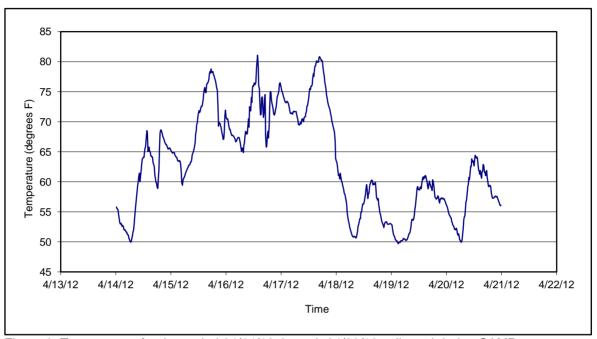


Figure 3. Temperature for the period 04/14/12 through 04/20/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

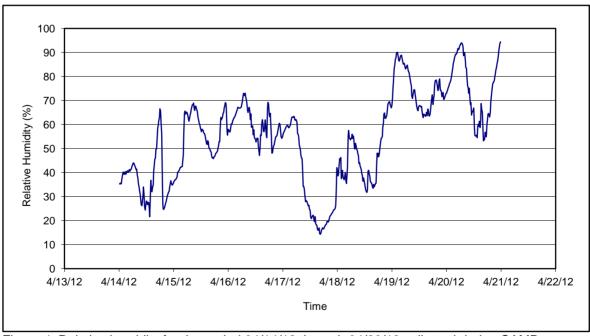


Figure 4. Relative humidity for the period 04/14/12 through 04/20/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

	Syste	m Operation	ıs							Gener	al Observatio	ns				
		ampling Date		/2012	General We	eather Co	onditions:									
	Syster	m Start Time	conti	nuous	Sunny- ~	68°F- ~8	0°F									
	Syste	m Stop Time	conti	nuous												
	Total H	rs Monitored	2	24	General Description of Site Activities:											
										on Willow A						
		Calibrations)k	Continuo						or dust suppres					
	(Time/Status)	0717	-0800	Pre-trend				Setting up sidewalk barriers on Bay St.							
					Backfilling				Site surve	ing on Will	ow Ave and Ba	ay st.				
				_	Load imp	acted so	il into Temporary fa	bric structure								
					# of				15-M	linute						
Date	Alert	Station	Start	End	15-min	Wind	Upwind/	Upwind		d-Upwind	Site	Site Activity During the Period	Actions Taken			
Date	Trigger	Ctation	Time	Time	Periods	Dir.	Downwind	Station(s)		ntration	Condition	(if applicable)	Actions ration			
									Min**	Max**						
4/16/12	None			ļ									No exceedances	1		
	ļ															
2 1 -	<u> </u>	ļ														
Comments	:															
						DM 40	15-min)	TVOC (15-min)		TVCC	` (1 min)	Odor Intonoity (45 min)				
			^	lert Limit:			1 5-min) ug/m³			1 400	(1-min)	Odor Intensity (15-min)				
				iert Limit: tion Limit:			ng/m³	3.7 ppm		O.F.	- ppm	- 3 (n-butanol scale)				
			ACI	ion Limit.		150	ag/111	5.0 ppm		25	phul	o (n-butanoi scale)				
Notes:																
* Wind di	rections are	e presented b	y octant	(i.e. N, N	E, E, SE, S,	SW, W,	NW).					less than 10 microns in diameter				
		wnwind conce			ne specific c	omparisc	n.				organic compou	unds				
		nitoring station		า					NA - not a				R. Marshall			
		per cubic me							·							
ppmv - pa	arts per mil	lion by volum	е									Date:	4/16/2012	D 4 ()		
														Page 1 of <u>1</u>		



	Syste	m Operation	ıs							Gener	al Observation	ons					
		mpling Date		/2012	General We	eather C	onditions:										
		n Start Time		nuous	Sunny ~7												
		n Stop Time		nuous	Í												
		s Monitored		24	General De	scription	of Site Activities:										
			_		Health &				Site survey	on Willow	Ave and on E	Bay st.					
	System	Calibrations	(Ok	Continuo												
		Fime/Status)		-0719	Pre-trenc				Loaded impacted soil into temporary fabric structure Moved sound attenuated barriers out onto end of sidewalk on Bay st.								
	()	ilile/Status)	0023	-0719	Backfilling				woved soc	iilu alleilua	ileu barriers oi	ut onto end of sidewark on bay st.					
					Dackilling	guench	III 00-2										
				1		Ī			15-M	inute	1						
	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		Tillic	Tillie	Periods	Dii.	Downwind	Station(s)	Min**	Max**	Condition	(п аррпсаые)					
4/17/12	None								IVIIII	IVIAA			No exceedances				
				t		i e											
						i											
				<u> </u>		<u> </u>											
Comments	:																
						DM 40	(15-min)	T\/00 (45 m/m)		TVO	2 (4 mairs)	Oder Interests (45 min)					
				lert Limit:			(1 5-min) ug/m³	TVOC (15-min)		1 400	(1-min)	Odor Intensity (15-min)					
							ug/m³	3.7 ppm		05	-						
<u> </u>			ACI	tion Limit:		150	ug/III	5.0 ppm		25	5 ppm	3 (n-butanol scale)					
Notes:																	
		presented b) less than 10 microns in diameter					
		vnwind conce			ne specific co	ompariso	on.				organic compo	ounds					
		itoring station		า					NA - not ap								
		per cubic met							ND - no da	ta available	Э	Field Representative:	R. Marshall				
ppmv - pa	arts per mill	ion by volume	е									Date:	4/17/2012				
												_	Page 1	1 of _1			



nments: VOC monitor at FAM#3 was operating in compound-specific mode from 07:25 on 4/18/12 thorugh 15:36 on 4/18/12. During this time no TVOC measurements were collected and concentrations of benzene were less than 0.03 ppm, d toluene, ethylbenzene, and xylenes were not detected. PM-10 (15-min) TVOC (15-min) TVOC (15-min) Odor Intensity (15-min) Action Limit: 150 ug/m³ 3.7 ppm Action Limit: 150 ug/m³ 5.0 ppm 25 ppm 3 (n-butanol scale)		Syste	m Operation								Gener	al Observation	is				
System Calibrations				4/18	/2012	General We	eather Co	onditions:									
Total Hris Monitorido 24 Heath Search Medicing State Calibration 50 No. 4 Heath Safety Medicing State Calibration 50 No. 5				conti	nuous	Overcast	:- ~53°F-	~58°F									
System Calibrations System Calibrations OK (Time/Status) OSS-07724 Health & Safely Meeting (Time/Status) OSS-07724 Backfilling french in OLV2 Backfilling french		Syster	m Stop Time	conti	nuous												
System Calibrations OK (Time/Slatus) 555-0724 Performing in OU-2 Backfilling trench in OU-2 Backfillin		Total H	rs Monitored	2	24	General De	scription	of Site Activities:		Transport	ed crushed	asphalt into tem	nporary fabric structure (TFS)				
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Backfilling truck in OU-2 Placed erosin- control key bales along Bay st.				0556	6-0724								onto end of sidewalk on Bay st.				
Date Trigger Station Start Fine Periods Open Time Time Periods Dir. Downwind Upwind Downwind-Upwind Condition (if applicable) Actions Taken No exceedances N		(,														
Date Alert Alert Alert Time							9					,	.9,				
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Ingger Ime Ime Ime Periods Dir. Downwind Station(s) Min* Mi	Data		Station	Start	End		Wind	Upwind/				Site		Actions Takon			
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Alert Limit: 100 ug/m³ 3.7 ppm	e VOC m	onitor at FA					mode froi	m 07:25 on 4/18/12	thorugh 15:36 on 4/18/12. Du	ring this tim	e no TVOC	measurements	were collected and concentrations of benze	ene were less than 0.03 ppm,			
Alert Limit: 100 ug/m³ 3.7 ppm									TVOC (15-min)		TVOC	(1-min)	Odor Intensity (15-min)				
Action Limit: 150 ug/m³ 5.0 ppm 25 ppm 3 (n-butanol scale) PS: 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 TUpwind minus downwind concentrations are a time specific comparison. TVOC - total volatile organic compounds AM - Fixed Air Monitoring station location g/m³ - micrograms per cubic meter pmv - parts per million by volume To upwind minus downwind concentrations are a time specific comparison. TVOC - total volatile organic compounds NA - not applicable ND - no data available Field Representative: R. Marshall A/18/2012				Α	Nert Limit:	:			3.7 ppm			-					
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 TVOC - total volatile organic compounds NA - not applicable g/m³ - micrograms per cubic meter pmv - 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 A/18/2012				Act	tion Limit:	• •	150 ເ	ıg/m³			25	ppm	3 (n-butanol scale)				
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pmv - parts per million by volume Date: 4/18/2012												<u> </u>	Field Representative:	R. Marshall			
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	Syste	m Operation	ıs							Gener	ral Observation	ons		
	Sa	mpling Date	4/19	/2012	General Wo									
		m Start Time		nuous	Sunny- ~	50°F- ~5	9°F							
		m Stop Time		nuous										
	Total H	s Monitored	2	24			of Site Activities:					OU-2 on Bay St.		
	0	Oalthar Car	_	N.	Health &						Ave on and B			
		Calibrations Fime/Status)		Ok 1-0717	Continuo Pre-trend							ents using vac truck ut onto end of sidewalk on Bay st.		
	(ime/Status)	0610	-0717							nted barriers of of hay bales ald			
												I surfaces in OU-2 using Bobcat		
						J grave	11.00 2			inute	I I I I I I I I I I I I I I I I I I I	ouridees in ee 2 deing beseat		
Date	Alert Trigger	Station	Start Time	End Time	# of 15-min Periods	Wind Dir.	Upwind/ Downwind	Upwind Station(s)	Downwin		Site Condition	Site Activity During the Period (if applicable)	Actions Taken	
4/19/12	None								IVIIII	IVIAX			No exceedances	
<u> </u>														
Comments	<u>!</u>			<u> </u>	<u> </u>	<u> </u>			<u> </u>				_	
Johnnette														
							(15-min)	TVOC (15-min)		TVOC	C (1-min)	Odor Intensity (15-min)		
			Α	lert Limit:			ug/m ³	3.7 ppm			-	- -		
			Act	tion Limit:		150	ug/m³	5.0 ppm		25	5 ppm	3 (n-butanol scale)		
Notes:														
** Upwind	d minus dov	e presented by pre	entrations	are a tin					TVOC - tot	al volatile o	atter (i.e. dust) organic compo) less than 10 microns in diameter unds		
	- Fixed Air Monitoring station location 3 - micrograms per cubic meter								NA - not applicable ND - no data available Field Representative: R. Marshall					
-	-								ND - no data available Field Representative: Date:					
PPINV P	pmv - parts per million by volume											Date	4/19/2012 Page 1 of <u>1</u>	



	Syste	m Operation	ıs							Gener	ral Observation	ons	
		mpling Date		/2012	General We	eather C	onditions:						
		n Start Time		nuous	Sunny- ~								
		n Stop Time		nuous	_								
		s Monitored		24	General De	scription	of Site Activities:						
		·	_							excess deb	ori from arounc	surfaces in OU-2 using Bobcat	
	System	Calibrations	(Ok	Continuo							lying on Willow Ave	
		Fime/Status)		-0726	Backfilling						ol hay bales al		
	(1	ilile/Status)	0007	-0720			llow Ave on and Ba	v. ot				ony building and perimeter fence	
					Site surve	ey on w	liow Ave on and ba	ly St.	Pre-trench	ing in OU-2	z between 1-st	ory building and perimeter fence	
									15-M	inute			
1 -	Alert	G	Start	End	# of	Wind	Upwind/	Upwind	Downwin		Site	Site Activity During the Period	
Date	Trigger	Station	Time	Time	15-min	Dir.	Downwind	Station(s)	Concei	•	Condition	(if applicable)	Actions Taken
	33				Periods			(-,	Min**	Max**		(
4/20/12	None												No exceedances
Commonts	<u> </u>			<u> </u>							<u> </u>		
Comments	:												
						PM-10	(15-min)	TVOC (15-min)		TVOC	C (1-min)	Odor Intensity (15-min)	
			А	lert Limit:			ug/m ³	3.7 ppm			. ,	-	
				tion Limit:			ug/m ³	5.0 ppm		25	5 ppm	3 (n-butanol scale)	
Notes:								, ,				,	
	rections are	presented b	v octant	(i.e. N. N	F. F. SF. S	SW. W	NW).		PM-10 - na	rticulate m	atter (i.e. dust) less than 10 microns in diameter	
		vnwind conce									organic compo		
		itoring station			ic specific co	Jiipaiist	л.		NA - not ap		rganic compo	out ide	
		per cubic me		1					ND - no da		^	Field Representative:	R. Marshall
									מוו - חמו	ıa avallable	E		
ppmv - pa	arts per mill	ion by volum	е									Date: _	4/20/2012
													Page 1 of

