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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: February 4, 2013

Regarding: Weekly Community Air Monitoring Report

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

January 26, 2013 through February 1, 2013

#### 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 January 26, 2013 and February 1, 2013.

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:

- Excavated in Temporary Fabric Structure (TFS)
- Backfilled in TFS
- Deconned dump trucks
- Loaded out soil from TFS
- Operated hoe-ram in TFS
- Mobilized sonic drill rig
- Operated sonic drill rig
- Received delivery of clean backfill
- Received delivery of gravel
- Relocated frac tank
- Secured sound barriers along on Bay Street
- Secured sound barriers along Willow Avenue
- Stockpiled clean soil
- Surveyed site in OU-2
- Tarped dump trucks
- Transported soil into TFS
- Transported support beams near East entrance of TFS.
- Welded western entrance gate on TFS

# **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 January 31, 2013. 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	OC			PM-10						
Date			(pr	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	
1/26/2013	0.0	0.4	0.2	0.1	0.1	0.0	79	13	5	4	14	45	
1/27/2013	0.0	0.7	0.5	0.1	0.1	0.0	20	18	7	12	24	47	
1/28/2013	0.1	0.7	0.4	0.1	0.1	0.0	27	44	25	32	48	93	
1/29/2013	0.1	0.6	0.7	0.6	0.5	0.1	14	74	38	50	66	94	
1/30/2013	0.1	0.2	0.2	0.2	0.1	0.0	7	53	20	30	43	51	
1/31/2013	0.1	0.1	0.2	0.1	0.1	0.0	2	16	4	6	17	12	
2/1/2013	0.1	0.1	0.1	0.6	0.1	0.0	4	8	2	43	11	7	
Average	0.1	0.4	0.3	0.2	0.2	0.0	22	32	14	25	32	50	
Maximum	0.1	0.7	0.7	0.6	0.5	0.1	79	74	38	50	66	94	

#### 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



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

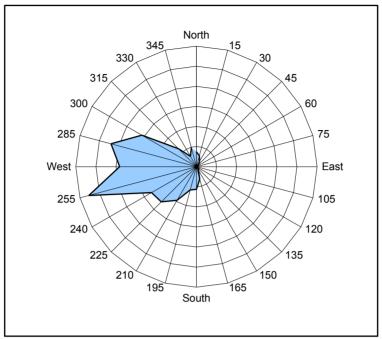


Figure 1. Wind rose for the period 01/26/13 through 02/01/13 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute data.

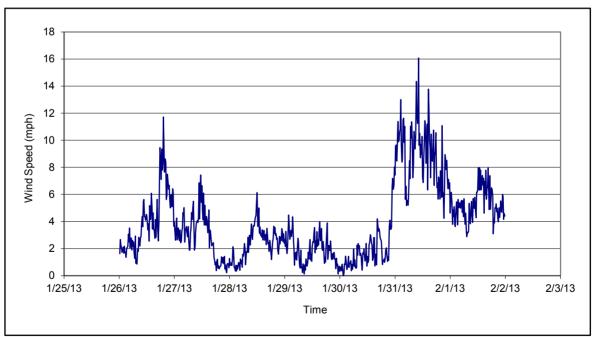


Figure 2. Wind speed for the period 01/26/13 through 02/01/13 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

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

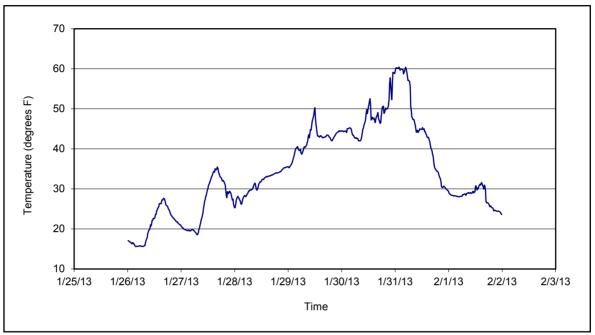


Figure 3. Temperature for the period 01/26/13 through 02/01/13 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

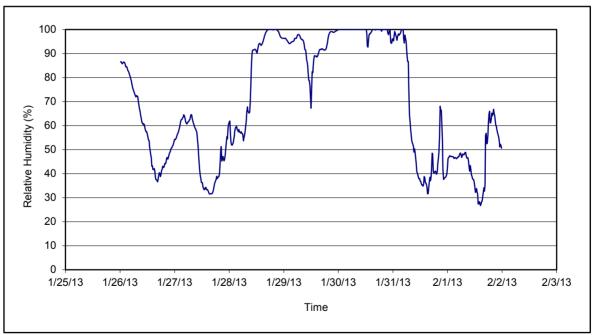


Figure 4. Relative humidity for the period 01/26/13 through 02/01/13 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

	System Op	orations			1						General Observations		
		mpling Date	1/28/	2013	General Weath	ner Conc	litions:				General Observations		
		n Start Time	contir				/ ~ 26°F - ~34°F						
		n Stop Time	contir	nuous									
		s Monitored	2	4	General Descr	iption of	Site Activities:						
					Health &	Safety I	Meeting		Operated s	sonic drill rig	Transported soil into TFS		
	System	Calibrations	C	k	Continuo	us Air N	lonitoring		Deconned	dump trucks	Backfilled in TFS		
	(1	Time/Status)	0647-	-0925			nporary Fabric Stru	cture (TFS)	Tarped du		Relocated frac tank		
							y of clean backfill		Stockpiled				
							y of gravel			noe-ram in TF			
					Mobilize	sonic c	Irill rig			t soil from TFS	S	<del></del>	
					# of					Minute			
Date	Alert	Station	Start	End	15-min	Wind	Upwind/	Upwind		ind-Upwind	Site Condition	Site Activity During the Period	Actions Taken
	Trigger		Time	Time	Periods	Dir.	Downwind	Station(s)	Min**	entration Max**		(if applicable)	
1/28/2013	No exceedances				<b> </b>	-			IVIII1""	IVIdX		+	None taken
1/20/2013	INO EXCEEDANCES				<del> </del>							+	None taken
									-				
-											-		
Comments:	1				1	1			l	1	I.	1	
Comments.													
						PM-10	(15-min)	TVOC (15-min)			TVOC (1-min)	Odor Intensity (15-min)	
			Al	ert Limit:		100	ug/m <sup>3</sup>	3.7 ppm				-	
			Acti	on Limit:		150	ug/m <sup>3</sup>	5.0 ppm			25 ppm	3 (n-butanol scale)	
Notes:	<u> </u>												
	ections are presente										er (i.e. dust) less than 10 micror	ns in diameter	
** Upwind	minus downwind cor	ncentrations a	are a time	specific	comparison.				TVOC - tot	al volatile orga	anic compounds		
	d Air Monitoring stat												
	crograms per cubic i								NA - not a				
ppmv - par	ts per million by volu	ıme							ND - no da	ta available		Field Representative:	R. Marshall
1												Date:	1/28/2013



	System Op	erations									General Observations		
		mpling Date	1/29/	2013	General Weath	ner Cond	litions:						
		1 Start Time	contir	nuous	Overcast	t w/snov	/ ~ 26°F - ~34°F						
	Systen	n Stop Time	contir	nuous									
	Total Hrs Monitored 24 General Description of Site Activities:												
					Health &	Safety I	Meeting		Operated s	onic drill rig	Transported soil into TFS		
	System	Calibrations	C	k	Continuo	us Air N	lonitoring		Deconned	dump trucks	Backfilled in TFS		
	(T	ime/Status)	0742	0909	Excavate	ed in Ter	nporary Fabric Stru	icture (TFS)	Tarped dur	np trucks	Relocated frac tank		
							y of clean backfill		Stockpiled	clean soil			
							y of gravel			oe-ram in TFS			
					Surveyed	d site in	OU-2		Loaded out	soil from TFS	3		
					# of					Minute			
Date	Alert	Station	Start	End	15-min	Wind	Upwind/	Upwind		nd-Upwind	Site Condition	Site Activity During the Period	Actions Taken
Date	Trigger	Ctation	Time	Time	Periods	Dir.	Downwind	Station(s)		entration		(if applicable)	rotono ration
									Min**	Max**			
1/29/2013	No exceedances					<u> </u>			ļ				None taken
<del>                                     </del>						<b> </b>						<del> </del>	
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Comments:	•				•			•				<u> </u>	
							(15-min)	TVOC (15-min)			TVOC (1-min)	Odor Intensity (15-min)	
				ert Limit:			ug/m <sup>3</sup>	3.7 ppm			-	-	
			Acti	on Limit:		150	ug/m³	5.0 ppm			25 ppm	3 (n-butanol scale)	
Notes:													
	ctions are presented										er (i.e. dust) less than 10 microns	in diameter	
	minus downwind cor		are a time	specific	comparison.				TVOC - tot	al volatile orga	anic compounds		
	d Air Monitoring stat												
	crograms per cubic r								NA - not ap	plicable			
ppmv - par	ts per million by volu	ime							ND - no da	ta available		Field Representative:	R. Marshall
1												Date:	1/29/2013



	System Op	erations									General Observations		
		mpling Date	1/30/	/2013	General Weath	er Cond	litions:				Octional Opaci valiona		
		n Start Time		nuous	Overcast								
		n Stop Time		nuous	0.1010001								
		s Monitored			General Descri	intion of	Site Activities:						
		o	_		Health &				Loaded or	ut soil from TFS			
	System	Calibrations	C	Ok	Continuo					dump trucks	Transported soil into TFS		
		rime/Status)		-1045			nporary Fabric Stru	icture (TES)	Tarped du		Backfilled in TFS		
	(.	inic/Otatas)	0142	1040			y of clean backfill	icture (11 G)		l clean soil	Relocated frac tank		
							y of gravel			hoe-ram in TFS	relocated hae talk		
					Surveyed						s near East entrance to TFS.		
	1				Curreyee	I SILC III V	1			5-Minute	The Last children to 11 c.		
	Alert	Start End # of Wind Upwind/ Upwind Downwind-Upwind O			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
	1119901			1	Periods	J	Dominia.	Otalion(o)				(ii applicable)	
1/30/2013	No exceedances									I			None taken
												+	
Comments:						<u> </u>				1			
comments.													
						PM-10	(15-min)	TVOC (15-min)			TVOC (1-min)	Odor Intensity (15-min)	
			Al	lert Limit:			ug/m <sup>3</sup>	3.7 ppm			-	=	
			Acti	ion Limit:		150	ug/m <sup>3</sup>	5.0 ppm			25 ppm	3 (n-butanol scale)	
Notes:							•			•			
* Wind dire	ctions are presented	d by octant (i.	e. N, NE.	, E, SE. S	S, SW, W, NW).				PM-10 - p	articulate matter	(i.e. dust) less than 10 microns in	n diameter	
	minus downwind cor									tal volatile organ			
	d Air Monitoring stat			•	•					3-	-		
	crograms per cubic r								NA - not a	pplicable			
ppmv - par	ts per million by volu	ıme								ata available		Field Representative:	R. Marshall
												Date:	1/30/2013
												_	Page 1 of _



System Operations  Sampling Date System Start Time System Stop Time Total Hrs Monitored Clear ~ 49°F60°F  System Calibrations (Time/Status)  Ok Continuous Air Monitoring Deconned dump trucks  Excavated in Temporary Fabric Structure (TFS) Tarped dump trucks  Excavated in Temporary Fabric Structure (TFS) Tarped dump trucks  Received delivery of clean backfill Stockpiled clean soil Transported soil into TFS  Surveyed site in OU-2  Date Alert Trigger Station Trigger Station Time Time Periods Dir. Wind Time Periods  Ok Wind Dywind Downwind Station(s)  Dir. Downwind Station(s)  Site Condition  General Observations  Stackfilled in TFS  Deconned dump trucks  Tarped dump trucks  Stockpiled clean soil  Operated hoe-ram in TFS  Loaded out soil from TFS  Loaded out soil from TFS  Surveyed site in OU-2  Davind Downwind Upwind Concentration  Min** Max**  I/31/2013 No exceedances	Actions Taken
System Stop Time Total Hrs Monitored 24 General Description of Site Activities:  Health & Safety Meeting Deconned dump trucks  System Calibrations (Time/Status) 0740-0915 Excavated in Temporary Fabric Structure (TFS) Tarped dump trucks  Received delivery of clean backfill Stockpiled clean soil  Transported soil into TFS Operated hoe-ram in TFS  Surveyed site in OU-2 Loaded out soil from TFS  Date Alert Trigger Station Start Time Time Periods Dir. Downwind Station(s) Station(s) Station(s) Station(s) Site Condition Site Condition Site Activity During the Period (if applicable)	Actions Taken
Total Hrs Monitored 24 General Description of Site Activities: Health & Safety Meeting Deconned dump trucks (Time/Status) 0740-0915 Excavated in Temporary Fabric Structure (TFS) Tarped dump trucks Received delivery of clean backfill Stockpiled clean soil Transported soil into TFS Operated hove-ram in TFS Surveyed site in OU-2  Date Alert Trigger Station Time Station Time Time Time Time Time Time Time Time	Actions Taken
System Calibrations Ok (Time/Status) 0740-0915	Actions Taken
System Calibrations Ok (Time/Status) 0740-0915	Actions Taken
System Calibrations (Time/Status) 0740-0915	Actions Taken
Received delivery of clean backfill Transported soil into TFS Surveyed site in OU-2  Date  Alert Trigger  Station Time Time Time Time Time  Received delivery of clean backfill Transported soil into TFS Surveyed site in OU-2  Loaded out soil from TFS  15-Minute Downwind-Upwind Concentration Min* Max**  Site Condition Site Activity During the Period (if applicable)	Actions Taken
Received delivery of clean backfill Transported soil into TFS Surveyed site in OU-2  Date  Alert Trigger  Station Time Time Time Time Time  Received delivery of clean backfill Transported soil into TFS Surveyed site in OU-2  Loaded out soil from TFS  Loaded out soil from TFS  15-Minute Downwind-Upwind Concentration Min** Max**  Site Condition  Site Activity During the Period (if applicable)	Actions Taken
Date Alert Trigger Station Time Time Time Periods Dir. Downwind Dir. Downwind Dir. Downwind Station(s) Site Condition Site Condition Min* Max**  Surveyed site in OU-2 Loaded out soil from TFS  15-Minute Downwind-Upwind Concentration Min* Max**	Actions Taken
Date Alert Trigger Station Time Start Time Periods Dir. Downwind Dir. Downwind Dir. Downwind Station(s) Site Condition Site Condition Site Condition (if applicable)	Actions Taken
Date Trigger Station Time Station Feriods State Time Station Periods State Station Periods State Station State S	Actions Taken
Date Alert Trigger Station Time Time Time Periods Upwind Dir. Wind Dir. Work Max**  Station Time Start End Time Time Downwind Upwind Dir. Wind Dir. Downwind Dir. Downwind Station(s) Station(s) Site Condition Site Condition (if applicable)  Site Activity During the Period Concentration Min** Max**	Actions Taken
Date Trigger Station Time Time Time Downwind Dir. Downwind Station(s) Concentration Min** Max** (if applicable)	Actions Taken
Min** Max**	
1/31/2013 No exceedances	
	None taken
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 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	
ppmv - parts per million by volume ND - no data available Field Representative:	C. John
Date:	



	System Op	erations				General Observations									
		mpling Date	2/1/2	2013	General Weath	ner Cond	ditions:								
		n Start Time		nuous	Overcast	t-clear ~	28°F - ~30°F								
		n Stop Time													
	Total H	s Monitored	2	4	General Descri										
					Health &										
		Calibrations					lonitoring		Secured sound barriers along Willow Avenue						
	(1	ime/Status)	0730	-0852	Backfille				Secured so	und barriers a	long on Bay Street				
							entrance gate on T	FS							
					Transpor										
	1	1			Stockpile	ed clean	soil								
			<u> </u>		# of					Minute					
Date	Alert	Station	Start	End Time	15-min	Wind Dir.	Upwind/ Downwind	Upwind		nd-Upwind	Site Condition	Site Activity During the Period	Actions Taken		
	Trigger		Time	Time	Periods	DII.	Downwing	Station(s)		Concentration Min** Max**		(if applicable)			
2/1/2013	No exceedances								IVIIII	IVIAX			None taken		
2/1/2013	140 exceedances				<del>                                     </del>	<del>                                     </del>							INUITE LANCIT		
					<b>†</b>	1									
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Comments:	I				1	<u> </u>	I		I						
Comments.															
						PM-10	(15-min)	TVOC (15-min)			TVOC (1-min)	Odor Intensity (15-min)			
			Al	ert Limit:		100	ug/m <sup>3</sup>	3.7 ppm			-	-			
			Acti	on Limit:	:	150	ug/m <sup>3</sup>	5.0 ppm			25 ppm	3 (n-butanol scale)			
Notes:			_												
	ections are presented	d by octant (i	.e. N, NE	, E, SE, S	S, SW, W, NW).				PM-10 - pa	rticulate matte	r (i.e. dust) less than 10 microns	s in diameter			
	minus downwind cor										nic compounds				
FAM - Fixe	d Air Monitoring stat	ion location		•	·					· ·	•				
	crograms per cubic r								NA - not ap	plicable					
ppmv - par	ts per million by volu	ıme							ND - no da	ta available		Field Representative:	C. John		
ĺ												Date:	2/1/2013		

