

September 19, 2011

Ms. Sherrel Henry
Remedial Project Manager
U.S. Environmental Protection Agency
290 Broadway – 20th Floor
New York, New York 10007-1866

Re: Peter Cooper Markhams Site, Dayton, NY
June 2011 Post-Remedial Groundwater Monitoring
Monitoring & Maintenance Summary Report June 2011

Dear Ms. Henry:

On behalf of the cooperating Potentially Responsible Parties (cPRPs) for the above-referenced site, Benchmark Environmental Engineering & Science, PLLC, has prepared this letter report to transmit the results of the June 2011 post-remedial groundwater monitoring event at the Peter Cooper Markhams Site in Dayton, New York (see Figure 1). A monitoring and maintenance summary is also included in this report. The work was performed in accordance with our approved (June 2009) Post-Remedial Operation, Maintenance and Monitoring (OM&M) Plan. Groundwater and surface water monitoring requirements are presented on Table 1.

FIELD SAMPLING PROCEDURE

On June 22, 2011, Benchmark staff collected a round of static water level measurements in the seven monitoring wells shown on Figure 2; measurements and groundwater elevations are summarized in Table 2. Groundwater samples were collected from on-site monitoring wells MW-5S, MW-7S, MW-8S, and MW-9S; a surface water sample was collected from Wetland F.

The monitoring wells were sampled using a Mini-Typhoon® submersible pump and dedicated tubing in accordance with low-flow groundwater purging procedures. Field measurements for pH, Eh, specific conductance, temperature, turbidity, and visual/ olfactory observations were recorded and monitored for stabilization. Purging was considered complete when pH, specific conductivity, and temperature stabilized and the turbidity measured below or stabilized above 50 NTU. Stability is defined as the variation between field measurements of 10 percent or less with no overall upward or downward trend in the measurements. Once the field parameters stabilized, groundwater samples were collected and analyzed for the parameters presented in Table 1. Immediately following groundwater sample collection, field measurements for pH, specific conductance, temperature, turbidity, Eh, and visual/olfactory observations were recorded. The submersible pump was decontaminated using Alconox and water following sample collection activities at each well.

The surface water sample from Wetland F was collected by slowly immersing a dedicated sample jar attached to a dipper handle into the water. The contents of the collection jar were then transferred to laboratory-supplied bottles for analysis.

Attachment 1 includes sample collection logs. All water samples were transferred to laboratory supplied, pre-preserved sample containers and transported under chain-of-custody command to Test America Laboratories, Inc. for analysis of total metals, including arsenic, chromium, manganese, iron, and hexavalent chromium; soluble (filtered) metals samples were collected if turbidity was above 50 NTU. Samples were also collected for ammonia, nitrate, alkalinity, and total sulfide.

ANALYTICAL RESULTS

Attachment 2 includes the Test America analytical data package for the June 2011 sampling event. Compounds detected above method detection limits are shown on Table 3 with their associated sample concentrations. NYSDEC Groundwater Quality Standards and Guidance Values (GWQS/GV; TOGS 1.1.1, June 1998) are presented for comparison. Concentrations exceeding the GWQS/GVs are highlighted.

As indicated on Table 3, sample concentrations were reported as non-detect or below GWQS/GV at all of the monitored locations with the exception of nitrate in MW-9S (upgradient well) and iron and manganese in the remaining wells and Wetland F. Due to elevated turbidity in the samples collected from Wetland F and MW-7S a soluble metals sample was collected and filtered in the laboratory. Soluble iron and manganese were reported as non-detect in Wetland F; soluble iron concentrations remained above the GWQS at MW-7S.

HISTORICAL DATA

Table 3 includes groundwater monitoring results for past monitoring events (i.e. April 2002; June 2009; December 2009, and May 2010). In general, the data indicate similar concentrations for these parameters at each of the monitoring locations.

DATA QUALITY

Site-specific quality control (QC) sampling during each event included the collection of one blind duplicate sample (collected from MW-5S) and one matrix spike/matrix spike duplicate (MS/MSD) sample (collected from MW-9S) for total metal analysis only. In general, internal laboratory and site-specific QC samples indicate satisfactory analytical accuracy and precision.

GROUNDWATER ELEVATION DATA

Groundwater monitoring includes a round of static water level measurements from seven monitoring wells across the site. Table 2 includes groundwater elevation data for the 2011 monitoring year. An isopotential map representing the shallow groundwater was prepared from the June 22, 2011 depth-to-groundwater measurements and is presented as Figure 3. Based on those measurements, the inferred groundwater flow directions indicate that shallow groundwater migrates to the west towards wetland F, which is consistent with observations recorded during the site Remedial Investigation.

ANNUAL MAINTENANCE SUMMARY REPORT

Post remedial site inspections were performed during each groundwater monitoring event (June 2009, December 2009, May 2010, and June 2011). Inspection reports indicated no irregularities or changes to the property access or security. The final cover system appears in good condition, with the gas vent monitoring system intact and operational. A copy of the Field Inspection Form is provided in Attachment 3. During the June 2011 monitoring event, it was noted that accessibility to

the monitoring wells was hampered by overgrown brush and weeds. The overgrown vegetation will be cut prior to the end of the 2011 calendar year.

ENVIRONMENTAL EASEMENT

All aspects of the Environmental Easement remain unchanged. A copy of the New York State Department of Environmental Conservation Institutional and Engineering Certification Form is provided in Attachment 3 of this report.

CONCLUSIONS

The groundwater monitoring data from each monitoring event indicate no significant impact by leaching from the containment cell area into the water table. In addition, no toxic metals (arsenic, chromium, hexavalent chromium) were detected above their representative GWQS/GVs at any of the sample locations.

Please contact us if you have any questions or require additional information.

Sincerely,
Benchmark Environmental Engineering & Science, PLLC



Thomas H. Forbes, P.E.
Project Manager

Att.

Cc: M. Joy
H. Killeen
K. McMahon
J. Wittenborn
M. Moore (NYSDEC)

File: 0021-003-500

TABLES

TABLE 1
MONITORING PROGRAM REQUIREMENTS

June 2011 Monitoring Event
Peter Cooper Markhams Site
Dayton, New York

Sample Location	Frequency	Parameters										
		DTW	Field ¹	Total Metals ²					Water Quality			
				As	Cr	Hex. Cr.	Mn	Fe	Ammonia	Nitrate	Alkalinity	T. Sulfide
Groundwater												
MW-2SR (cross-gradient)	Annual	X										
MW-4S		X										
MW-5S		X	X	X	X	X	X	X	X	X	X	X
MW-6S		X										
MW-7S		X	X	X	X	X	X	X	X	X	X	X
MW-8S		X	X	X	X	X	X	X	X	X	X	X
MW-9S (upgradient)		X	X	X	X	X	X	X	X	X	X	X
Surface Water												
Wetland F (surface water)	Annual		X	X	X	X	X	X	X	X	X	X
QA/QC Samples ³												
Blind Duplicate	Annual			X	X	X	X	X				
Matrix Spike				X	X	X	X	X				
Matrix Spike Duplicate				X	X	X	X	X				

Notes:

1. Field measurements include: pH, temperature, specific conductance, turbidity, Eh
2. If field measured turbidity is greater than 50 NTU, dissolved metals will also be collected.
3. QA/QC samples will be collected at a frequency of 1 per 20 for each matrix.
4. DTW = depth to water

TABLE 2

SUMMARY OF GROUNDWATER ELEVATIONS

**Monitoring Event
Peter Cooper Markhams Site
Dayton, New York**

Location	TOR Elevation (fmsl)	06/22/11	
		DTW (fbTOR)	GWE (fmsl)
MW-2SR	1313.33	6.49	1306.84
MW-4S	1313.11	8.30	1304.81
MW-5S	1302.70	2.81	1299.89
MW-6S	1315.47	12.70	1302.77
MW-7S	1312.82	11.45	1301.37
MW-8S	1304.10	4.10	1300.00
MW-9S	1314.13	4.31	1309.82

Notes:

1. DTW = depth to water
2. fbTOR = feet below top of riser
3. fmsl = feet above mean sea level
4. GWE = groundwater elevation
5. TOR = top of riser

TABLE 3

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS ^{1,2}

June 2011 Monitoring Event
Peter Cooper Markhams Site
Dayton, New York

Parameter	Monitoring Location and Sample Collection Date																																				GWQS ⁴													
	MW-5S ⁵										MW-7S										MW-8S										MW-9S										Wetland-F									
	04/25/02	06/19/09	12/30/09	05/28/10	06/22/11	04/24/02	06/19/09	12/30/09	05/28/10	06/22/11	04/23/02	06/19/09	12/30/09	05/28/10	06/22/11	04/23/02	06/19/09	12/30/09	05/28/10	06/22/11	06/19/09	12/30/09	05/28/10	06/22/11	06/19/09	12/30/09	05/28/10	06/22/11	06/19/09	12/30/09	05/28/10	06/22/11																		
Field Measurements ³ :																																																		
Sample No.	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	--									
pH (units)	--	6.81	6.75	6.78	6.58	6.68	6.80	6.86	6.90	7.00	--	6.80	6.74	6.79	6.77	6.82	6.79	6.78	6.31	6.41	--	6.90	6.90	6.92	6.65	6.70	7.04	6.25	6.67	6.72	--	7.36	6.48	6.52	6.84	6.79	7.71	6.78	6.31	6.38	7.24	7.24	6.04	7.45	7.27	6.5 - 8.5				
Temperature (°C)	--	7.14	11.4	11.7	6.3	6.2	14.3	14.9	14.2	14.5	--	8.77	9.6	10.1	5.4	7.7	15.0	15.1	13.7	13.4	--	7.6	11.5	12.2	6.9	6.9	16.1	12.7	13.5	14.3	--	6.02	12.2	12.6	6.5	5.4	12.2	12.4	15.7	16.1	16.7	16.9	2.00	22.00	20.90	NA				
Sp. Conductance (mS)	--	822	1004	993	1099	1090	985	966	1035	1029	--	1959	1753	1754	1804	1799	1687	1785	1771	1660	--	755	754	764	767	767	653	635	886	879	--	540	337	337	369	369	402	299	266	280	416	426	571.8	469.0	385.0	NA				
Turbidity (NTU)	--	2	4.6	2.4	2.9	2.9	37	5.47	4.29	3.11	--	12.4	>1000	180	405	537	190	27	96.8	40.4	--	17	32	22	30	19	63	5.38	34.6	20	--	11.2	6.2	4	2.43	2.02	18.6	2.98	7.26	9.45	1.2	250	588	6.79	7.83	NA				
Eh (mV)	--	67.3	69	70	-29	-20	-38	21	-9	15	--	170	-56	-62	-62	-64	-83	-114	-86	-92	--	4.6	80	81	7	15	21	41	48	59	--	1.8	93	90	52	56	4	50	54	80	3	-42	-39	530	-1	NA				
Wet Chemistry (mg/L):																																																		
Alkalinity, Total	NA		538 D		470 D		471 D		478		NA		519 D		586 D		446 D		438		NA		291 D		285 D		300 D		355		NA		98.4 D		98.8 D		73.5 C		39.1		228 D		274 D		243 D		204		NA	
Ammonia	ND		ND		0.063		0.047		ND		ND		0.063		0.119		0.039 C		ND		0.34		0.038		0.04		0.042		0.028		ND < 10		ND		0.029		ND		0.065		0.167		0.088		0.2		2			
Nitrate (as Nitrogen)	2.8		0.271		0.347				0.443 CF6		ND		ND		ND		ND		ND		14.6		9.48 D		0.543		1.98		2.3		9.3		7.19 D		11.1 D		12.1 D		13.8		7.9 D		ND		ND		3.8		10	
Sulfide, Total	NA		ND		ND				ND		NA		ND		ND		ND		ND		NA		ND		ND		ND		ND		NA		ND		ND		ND		ND		0.173		ND		ND		ND		0.05	
Total Inorganic Compounds (mg/L):																																																		
Arsenic	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		0.025	
Chromium	ND		0.0056		ND		ND		0.0064		ND		0.0055		0.0050		0.0046		0.0056		ND		ND		ND		ND		0.0093		ND		0.0051		ND		ND		ND		ND		0.006		ND		ND		0.05	
Hexavalent Chromium	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		0.05	
Manganese	NA		1.61		1.45		1.50		1.80		NA		0.264		0.428		0.213		0.200		NA		19.6		1.54		2.34		14.30		NA		1.54		0.005		0.004		0.008		0.676		0.305		0.392		0.51		0.3	
Iron	NA		0.408		0.128		0.508		0.560		NA		104		83.3		17.8		25.0		NA		1.93		ND		0.088		0.61		NA		0.322		ND		0.076		0.077		0.647		6.14		0.715		0.94		0.3	
Soluble Inorganic Compounds (mg/L):																																																		
Arsenic	NA		NA		NA		NA		NA		NA		ND		ND		ND		ND		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		ND		ND		NA		ND		0.025	
Chromium	NA		NA		NA		NA		NA		NA		0.005 P		0.005 P		0.0043		0.0056		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		ND		ND		NA		ND		0.05	
Manganese	NA		NA		NA		NA		NA		NA		0.206 P		0.186 P		0.193		0.2		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.0116 P		0.0272 P		NA		ND		0.3	
Iron	NA		NA		NA		NA		NA		NA		ND		ND		10.8 CF6		10.2		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		0.104 P		0.089 P		NA		0.07		0.5	

Notes:

1. Only those compounds detected above the method detection limit at a minimum of one sample location are reported in this table.

2. Shaded and bolded values represent an exceedance of the GWQS/GV.

3. Field measurements were collected immediately before and after groundwater sample collection.

4. NYSDEC Class "GA" Groundwater Quality Standards (GWQS) per 6 NYCRR Part 703.

5. Site-specific QA/QC collected from MW -9S (MS/MSD) (May 2010).

Definitions:

J = Estimated value

NA = Not analyzed

ND = Parameter was not detected above laboratory reporting limit.

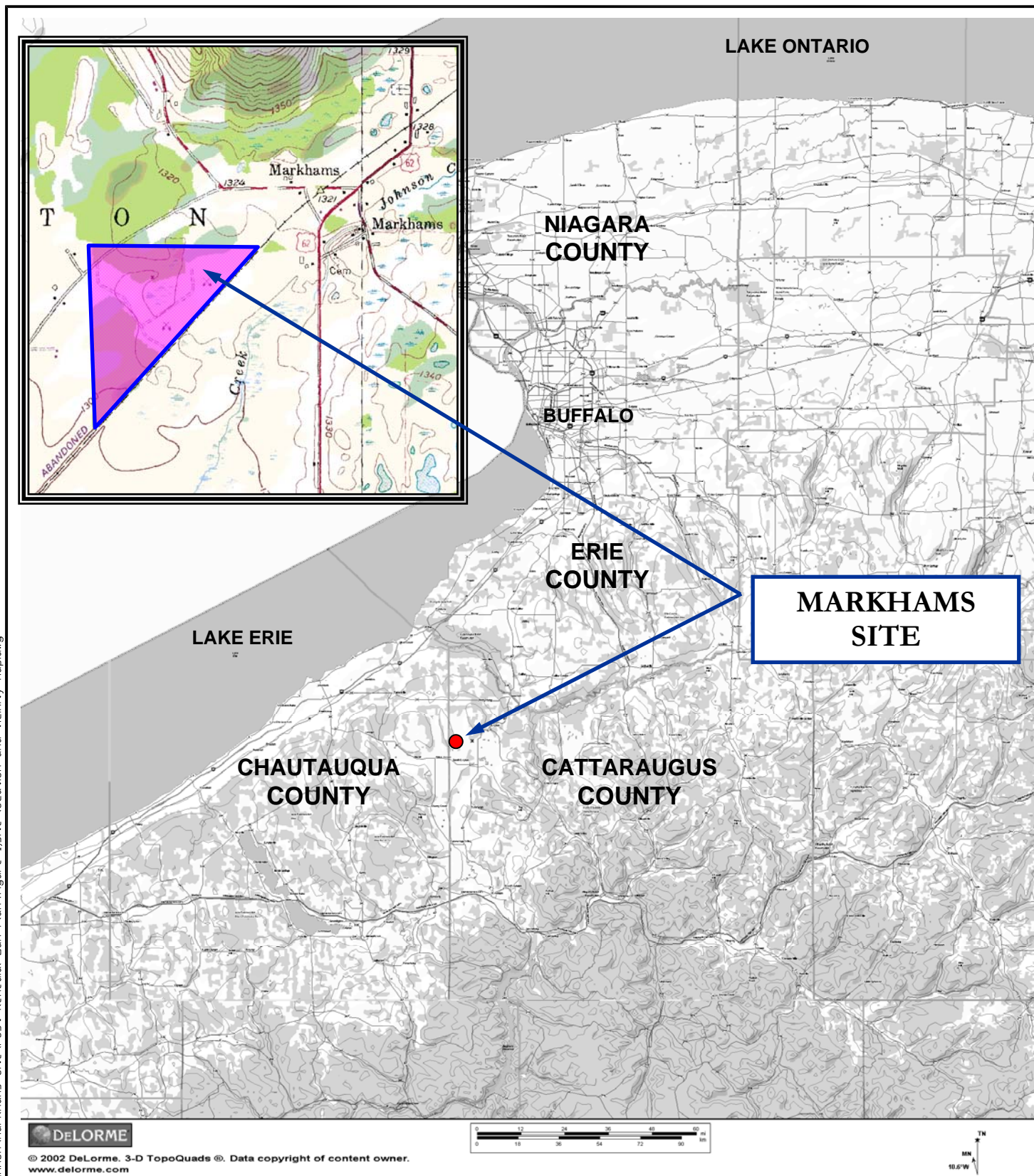
D = Dilution required due to high concentration of target analyte(s).

P = Sample filtered in the laboratory

CF6 = Results confirmed by reanalysis.

FIGURES

FIGURE 1



726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO.: 0021-003-400

DATE: JANUARY 2008

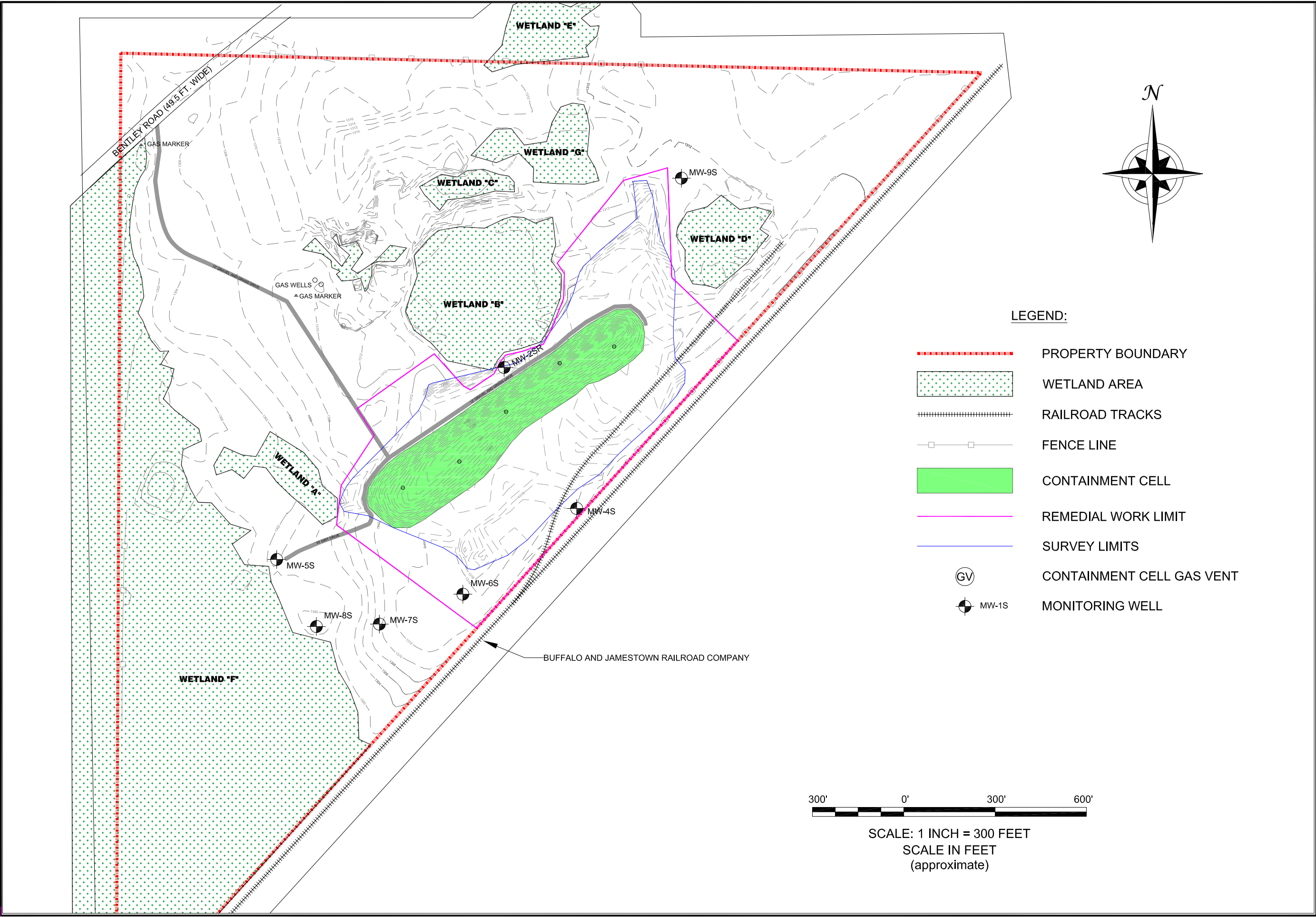
DRAFTED BY: AJZ

SITE LOCATION AND VICINITY MAP

POST-REMEDIAL OPERATION & MAINTENANCE PLAN

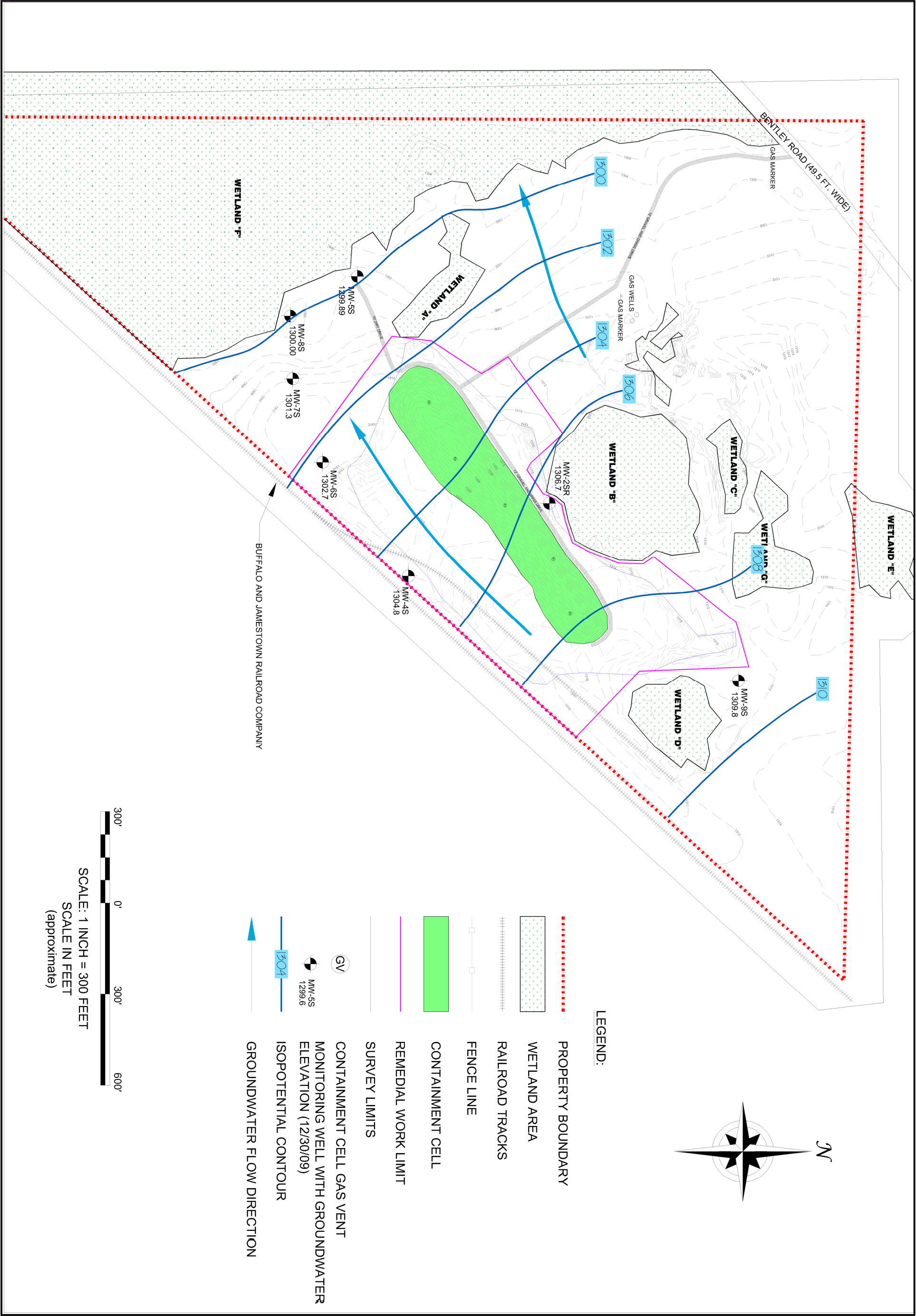
PETER COOPER MARKHAMS SITE
DAYTON, NEW YORK

PREPARED FOR
RESPONDENTS FOR PETER COOPER MARKHAMS SITE



SITE PLAN
POST-REMEDIAL MONITORING
PETER COOPER MARKHAMS SUPERFUND SITE
DAYTON, NEW YORK
PREPARED FOR
CPRPs FOR PETER COOPER MARKHAMS

FIGURE 2



ATTACHMENT 1

SAMPLE COLLECTION LOGS

EQUIPMENT CALIBRATION LOG

PROJECT INFORMATION:

Project Name: Peter Cooper Markham Date: 6/22/11

Project No.: _____ Instrument Source: ☒ BM ☐ Rental

METER TYPE	UNITS	TIME	MAKE/MODEL	SERIAL NUMBER	CAL. BY	STANDARD	POST CAL. READING	SETTINGS
<input checked="" type="checkbox"/> pH meter	units		Myron L Company Ultra Meter 6P	606987 <input type="checkbox"/> 6212375 <input type="checkbox"/>	<u>NLO</u>	4.00 7.00 10.01 < 0.4	<u>4.01</u> <u>7.00</u> <u>10.01</u> <u>0.3</u>	
<input checked="" type="checkbox"/> Turbidity meter	NTU		Hach 2100P Turbidimeter	06120C020523 <input type="checkbox"/> 07110C026405 <input type="checkbox"/>	<u>NLO</u>	20 100 800	<u>18</u> <u>101</u> <u>795</u>	
<input type="checkbox"/> Sp. Cond. meter	uS mS		Myron L Company Ultra Meter 6P	606987 <input type="checkbox"/> 6212375 <input type="checkbox"/>		_____ mS @ 25 °C		MIBK response factor = 1.0
<input type="checkbox"/> PID	ppm		MinRAE 2000			open air zero		
<input type="checkbox"/> Dissolved Oxygen	ppm		HACH Model HQ30d			_____ ppm Iso. Gas		
<input type="checkbox"/> Particulate meter	mg/m ³					100% Saturation		
<input type="checkbox"/> Oxygen	%					zero air		
<input type="checkbox"/> Hydrogen sulfide	ppm					open air		
<input type="checkbox"/> Carbon monoxide	ppm					open air		
<input type="checkbox"/> LEL	%					open air		
<input type="checkbox"/> Radiation Meter	uR/H					background area		
<input type="checkbox"/>								

ADDITIONAL REMARKS:

PREPARED BY: NLO DATE: _____

GROUNDWATER FIELD FORM

Project Name: Peter Cooper Markhams Site

Date:

5/28/2010 6/22/11

Location: Markhams

Project No.: 0199-001-100

Field Team: RLD / TAB

Well No. MW-5S		Diameter (inches): 2"				Sample Date / Time: 5/28/2010			
Product Depth (ftTOR): -		Water Column (ft): 6.66				DTW when sampled:			
DTW (static) (ftTOR): 2.81		One Well Volume (gal):				Purpose: <input type="checkbox"/> Development <input type="checkbox"/> Sample <input checked="" type="checkbox"/> Purge & Sample			
Total Depth (ftTOR): 9.47		Total Volume Purged (gal): 1.086				Purge Method: Lowflow (mini monsoon)			
Time	Water Level (ftTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
10.31	0 Initial	-	7.06	13.5	909.9	21.0	-	-33	No odor clear
10.33	1 2.87	0.05	6.95	15.2	1018	11.1	-	-40	" "
10.35	2 2.87	0.10	6.82	14.1	1033	1.30	-	-27	" "
10.37	3 2.87	0.15	6.51	14.0	1086	5.57	-	-16	" "
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information:									
10.38	S1 2.81	0.20	6.90	14.2	1035	4.29	-	-9	" "
	S2 2.87	0.50	7.00	14.5	1029	3.11	-	15	" "

Well No. MW-8S		Diameter (inches): 2"				Sample Date / Time: 5/28/2010 6/22/11			
Product Depth (ftTOR): -		Water Column (ft): 8.72				DTW when sampled:			
DTW (static) (ftTOR): 4.70		One Well Volume (gal): 1.421				Purpose: <input type="checkbox"/> Development <input type="checkbox"/> Sample <input checked="" type="checkbox"/> Purge & Sample			
Total Depth (ftTOR): 12.82		Total Volume Purged (gal):				Purge Method: Lowflow (mini monsoon)			
Time	Water Level (ftTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
10.31	0 Initial	-	7.06	13.5	909.9	21.0	-	-33	No odor clear
11.17	1 4.70	-	6.81	17.3	794.9	30.6	-	26	cloudy turbid no odor
11.18	2 4.10	0.05	6.62	14.3	891.8	46.0	-	34	" "
11.20	3 4.20	0.1	6.66	13.4	883.4	14.8	-	40	" "
11.22	4 4.20	0.15	6.66	13.1	879.1	75.4	-	43	" "
11.24	5 4.20	0.20	6.67	13.5	866.3	34.6	-	43	" "
	6								
	7								
	8								
	9								
	10								
Sample Information:									
11.34	S1 4.20	0.20	6.67	13.5	866.3	34.6	-	43	" "
11.31	S2 4.20	0.50	6.72	14.3	878.6	25.0	-	59	" "

REMARKS: blind log taken 55

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

Note: All water level measurements are in feet, distance from top of riser.

PREPARED BY:

GROUNDWATER FIELD FORM

Project Name: Peter Cooper Markhams Site

Date: 6/22/11

Location: Markhams

Project No.: 0199-001-100

Field Team: RLD / TAB

Wetland F			Diameter (inches):			Sample Date / Time:			
Product Depth (fbTOR): --			Water Column (ft):			DTW when sampled:			
DTW (static) (fbTOR):			One Well Volume (gal):			Purpose: <input type="checkbox"/> Development <input checked="" type="checkbox"/> Sample <input type="checkbox"/> Purge & Sample			
Total Depth (fbTOR):			Total Volume Purged (gal):			Purge Method: Lowflow (mini monsoon)			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
0	Initial								
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
Sample Information:									
1053	S1	—	7.27	20.9	385.0	7.83	—	—1	Clear no odor
	S2								

			Diameter (inches):			Sample Date / Time:			
Product Depth (fbTOR): --			Water Column (ft):			DTW when sampled:			
DTW (static) (fbTOR):			One Well Volume (gal):			Purpose: <input type="checkbox"/> Development <input type="checkbox"/> Sample <input type="checkbox"/> Purge & Sample			
Total Depth (fbTOR):			Total Volume Purged (gal):			Purge Method: Lowflow (mini monsoon)			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
0	Initial								
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
Sample Information:									
	S1								
	S2								

REMARKS: Soluble metals to be filtered in the lab. For wetland F

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.489

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

Note: All water level measurements are in feet, distance from top of riser.

PREPARED BY:

ATTACHMENT 2

TESTAMERICA LABORATORIES, INC.
SAMPLE DATA SUMMARY PACKAGE
JUNE 2011

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Tel: (716)691-2600

TestAmerica Job ID: 480-6415-1

Client Project/Site: Benchmark-Peter Cooper Markhams

Sampling Event: Annual sampling

For:

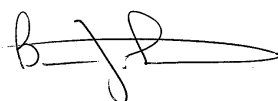
Benchmark Env. Eng. & Science, PLLC

2558 Hamburg Turnpike

Suite 300

Lackawanna, New York 14218

Attn: Mr. Tom Forbes



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07/07/2011 05:26:30 PM

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Definitions/Glossary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
F	MS or MSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.
EPA	United States Environmental Protection Agency
ND	Not Detected above the reporting level.
MDL	Method Detection Limit
RL	Reporting Limit
RE, RE1 (etc.)	Indicates a Re-extraction or Reanalysis of the sample.
%R	Percent Recovery
RPD	Relative Percent Difference, a measure of the relative difference between two points.

Case Narrative

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Job ID: 480-6415-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative 480-6415-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

Metals

Method(s) 6010B: The Serial Dilution (480-6415-6 SD) in batch 480-21211, exhibited results outside the quality control limits for total manganese. However, the Post Digestion Spike was compliant so no corrective action was necessary

No other analytical or quality issues were noted.

General Chemistry

Method(s) 353.2: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 21173 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) SM 4500 S2 D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 21902 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Detection Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Client Sample ID: WETLAND F

Lab Sample ID: 480-6415-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.51		0.050		mg/L	1		6010B	Total/NA
Manganese	0.94		0.0030		mg/L	1		6010B	Total/NA
Iron, Dissolved	0.070		0.050		mg/L	1		6010B	Dissolved
Alkalinity, Total	204		100		mg/L	10		310.2	Total/NA
Ammonia (as N)	0.20		0.020		mg/L	1		350.1	Total/NA
Nitrate as N	3.8		0.050		mg/L	1		353.2	Total/NA

Client Sample ID: Blind Duplicate

Lab Sample ID: 480-6415-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.0061		0.0040		mg/L	1		6010B	Total/NA
Iron	0.53		0.050		mg/L	1		6010B	Total/NA
Manganese	1.8		0.0030		mg/L	1		6010B	Total/NA

Client Sample ID: MW-5S

Lab Sample ID: 480-6415-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.0064		0.0040		mg/L	1		6010B	Total/NA
Iron	0.56		0.050		mg/L	1		6010B	Total/NA
Manganese	1.8		0.0030		mg/L	1		6010B	Total/NA
Alkalinity, Total	478		100		mg/L	10		310.2	Total/NA

Client Sample ID: MW-7S

Lab Sample ID: 480-6415-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.0056		0.0040		mg/L	1		6010B	Total/NA
Iron	25.0		0.050		mg/L	1		6010B	Total/NA
Manganese	0.20		0.0030		mg/L	1		6010B	Total/NA
Chromium, Dissolved	0.0056		0.0040		mg/L	1		6010B	Dissolved
Iron, Dissolved	10.2		0.050		mg/L	1		6010B	Dissolved
Manganese, Dissolved	0.20		0.0030		mg/L	1		6010B	Dissolved
Alkalinity, Total	438		100		mg/L	10		310.2	Total/NA

Client Sample ID: MW-8S

Lab Sample ID: 480-6415-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.0093		0.0040		mg/L	1		6010B	Total/NA
Iron	0.61		0.050		mg/L	1		6010B	Total/NA
Manganese	14.3		0.0030		mg/L	1		6010B	Total/NA
Alkalinity, Total	355		100		mg/L	10		310.2	Total/NA
Ammonia (as N)	0.028		0.020		mg/L	1		350.1	Total/NA
Nitrate as N	2.3		0.050		mg/L	1		353.2	Total/NA

Client Sample ID: MW-9S

Lab Sample ID: 480-6415-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.077		0.050		mg/L	1		6010B	Total/NA
Manganese	0.0075		0.0030		mg/L	1		6010B	Total/NA
Alkalinity, Total	39.1		10.0		mg/L	1		310.2	Total/NA
Nitrate as N	13.8		0.050		mg/L	1		353.2	Total/NA

Client Sample Results

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Client Sample ID: WETLAND F

Lab Sample ID: 480-6415-1

Date Collected: 06/22/11 10:53

Matrix: Water

Date Received: 06/22/11 14:50

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010		mg/L		06/23/11 10:30	06/23/11 20:45	1
Chromium	ND		0.0040		mg/L		06/23/11 10:30	06/23/11 20:45	1
Iron	0.51		0.050		mg/L		06/23/11 10:30	06/23/11 20:45	1
Manganese	0.94		0.0030		mg/L		06/23/11 10:30	06/23/11 20:45	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic, Dissolved	ND		0.010		mg/L		06/30/11 10:55	06/30/11 16:32	1
Chromium, Dissolved	ND		0.0040		mg/L		06/30/11 10:55	06/30/11 16:32	1
Iron, Dissolved	0.070		0.050		mg/L		06/30/11 10:55	06/30/11 16:32	1
Manganese, Dissolved	ND		0.0030		mg/L		06/30/11 10:55	06/30/11 16:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	204		100		mg/L			06/28/11 12:03	10
Ammonia (as N)	0.20		0.020		mg/L			06/25/11 10:32	1
Nitrate as N	3.8		0.050		mg/L			06/22/11 23:26	1
Chromium (hexavalent)	ND		0.010		mg/L			06/22/11 21:56	1
Sulfide	ND		0.50		mg/L			06/25/11 17:29	5

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent (dissolved)	ND		0.010		mg/L			06/22/11 21:58	1

Client Sample Results

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Client Sample ID: Blind Duplicate

Lab Sample ID: 480-6415-2

Date Collected: 06/22/11 10:00

Matrix: Water

Date Received: 06/22/11 14:50

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010		mg/L		06/23/11 10:30	06/23/11 20:47	1
Chromium	0.0061		0.0040		mg/L		06/23/11 10:30	06/23/11 20:47	1
Iron	0.53		0.050		mg/L		06/23/11 10:30	06/23/11 20:47	1
Manganese	1.8		0.0030		mg/L		06/23/11 10:30	06/23/11 20:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium (hexavalent)	ND		0.010		mg/L			06/22/11 22:01	1

Client Sample Results

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Client Sample ID: MW-5S

Lab Sample ID: 480-6415-3

Date Collected: 06/22/11 10:38

Matrix: Water

Date Received: 06/22/11 14:50

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010		mg/L		06/23/11 10:30	06/23/11 20:49	1
Chromium	0.0064		0.0040		mg/L		06/23/11 10:30	06/23/11 20:49	1
Iron	0.56		0.050		mg/L		06/23/11 10:30	06/23/11 20:49	1
Manganese	1.8		0.0030		mg/L		06/23/11 10:30	06/23/11 20:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	478		100		mg/L			06/30/11 15:37	10
Ammonia (as N)	ND		0.020		mg/L			06/25/11 10:33	1
Nitrate as N	ND		0.050		mg/L			06/22/11 23:31	1
Chromium (hexavalent)	ND		0.010		mg/L			06/22/11 22:06	1
Sulfide	ND		0.10		mg/L			06/25/11 17:33	1

Client Sample Results

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Client Sample ID: MW-7S

Lab Sample ID: 480-6415-4

Date Collected: 06/22/11 12:00

Matrix: Water

Date Received: 06/22/11 14:50

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010		mg/L		06/23/11 10:30	06/23/11 20:51	1
Chromium	0.0056		0.0040		mg/L		06/23/11 10:30	06/23/11 20:51	1
Iron	25.0		0.050		mg/L		06/23/11 10:30	06/23/11 20:51	1
Manganese	0.20		0.0030		mg/L		06/23/11 10:30	06/23/11 20:51	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic, Dissolved	ND		0.010		mg/L		06/24/11 09:40	06/27/11 15:05	1
Chromium, Dissolved	0.0056		0.0040		mg/L		06/24/11 09:40	06/27/11 15:05	1
Iron, Dissolved	10.2		0.050		mg/L		06/24/11 09:40	06/27/11 15:05	1
Manganese, Dissolved	0.20		0.0030		mg/L		06/24/11 09:40	06/27/11 15:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	438		100		mg/L			06/28/11 13:10	10
Ammonia (as N)	ND		0.020		mg/L			06/25/11 10:34	1
Nitrate as N	ND		0.050		mg/L			06/22/11 23:13	1
Chromium (hexavalent)	ND		0.010		mg/L			06/22/11 22:08	1
Sulfide	ND		0.10		mg/L			06/25/11 17:37	1

Client Sample Results

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Client Sample ID: MW-8S

Lab Sample ID: 480-6415-5

Date Collected: 06/22/11 11:24

Matrix: Water

Date Received: 06/22/11 14:50

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010		mg/L		06/23/11 10:30	06/23/11 20:53	1
Chromium	0.0093		0.0040		mg/L		06/23/11 10:30	06/23/11 20:53	1
Iron	0.61		0.050		mg/L		06/23/11 10:30	06/23/11 20:53	1
Manganese	14.3		0.0030		mg/L		06/23/11 10:30	06/23/11 20:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	355		100		mg/L			06/28/11 13:10	10
Ammonia (as N)	0.028		0.020		mg/L			06/25/11 10:35	1
Nitrate as N	2.3		0.050		mg/L			06/22/11 23:14	1
Chromium (hexavalent)	ND		0.010		mg/L			06/22/11 22:13	1
Sulfide	ND		0.10		mg/L			06/25/11 17:41	1

Client Sample Results

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Client Sample ID: MW-9S

Date Collected: 06/22/11 09:54

Date Received: 06/22/11 14:50

Lab Sample ID: 480-6415-6

Matrix: Water

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010		mg/L		06/23/11 10:30	06/23/11 20:56	1
Chromium	ND		0.0040		mg/L		06/23/11 10:30	06/23/11 20:56	1
Iron	0.077		0.050		mg/L		06/23/11 10:30	06/23/11 20:56	1
Manganese	0.0075		0.0030		mg/L		06/23/11 10:30	06/23/11 20:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	39.1		10.0		mg/L			06/28/11 12:56	1
Ammonia (as N)	ND		0.020		mg/L			06/25/11 10:42	1
Nitrate as N	13.8		0.050		mg/L			06/22/11 23:15	1
Chromium (hexavalent)	ND		0.010		mg/L			06/22/11 22:21	1
Sulfide	ND		0.10		mg/L			06/28/11 20:51	1

QC Sample Results

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 480-21211/1-A

Matrix: Water

Analysis Batch: 21381

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 21211

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010		mg/L		06/23/11 10:30	06/23/11 20:17	1
Chromium	ND		0.0040		mg/L		06/23/11 10:30	06/23/11 20:17	1
Iron	ND		0.050		mg/L		06/23/11 10:30	06/23/11 20:17	1
Manganese	ND		0.0030		mg/L		06/23/11 10:30	06/23/11 20:17	1

Lab Sample ID: LCS 480-21211/2-A

Matrix: Water

Analysis Batch: 21381

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 21211

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic	0.200	0.204		mg/L		102	80 - 120
Chromium	0.200	0.208		mg/L		104	80 - 120
Iron	10.0	9.76		mg/L		98	80 - 120
Manganese	0.200	0.211		mg/L		106	80 - 120

Lab Sample ID: 480-6415-6 MS

Matrix: Water

Analysis Batch: 21381

Client Sample ID: MW-9S

Prep Type: Total/NA

Prep Batch: 21211

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic	ND		0.200	0.205		mg/L		102	75 - 125
Chromium	ND		0.200	0.214		mg/L		107	75 - 125
Iron	0.077		10.0	9.83		mg/L		98	75 - 125
Manganese	0.0075		0.200	0.226		mg/L		109	75 - 125

Lab Sample ID: 480-6415-6 MSD

Matrix: Water

Analysis Batch: 21381

Client Sample ID: MW-9S

Prep Type: Total/NA

Prep Batch: 21211

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Arsenic	ND		0.200	0.204		mg/L		102	75 - 125	0	20
Chromium	ND		0.200	0.208		mg/L		104	75 - 125	3	20
Iron	0.077		10.0	9.74		mg/L		97	75 - 125	1	20
Manganese	0.0075		0.200	0.218		mg/L		105	75 - 125	4	20

Lab Sample ID: MB 480-20784/15-B

Matrix: Water

Analysis Batch: 21772

Client Sample ID: Method Blank

Prep Type: Dissolved

Prep Batch: 21321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic, Dissolved	ND		0.010		mg/L		06/24/11 09:40	06/27/11 15:00	1
Chromium, Dissolved	ND		0.0040		mg/L		06/24/11 09:40	06/27/11 15:00	1
Iron, Dissolved	ND		0.050		mg/L		06/24/11 09:40	06/27/11 15:00	1
Manganese, Dissolved	ND		0.0030		mg/L		06/24/11 09:40	06/27/11 15:00	1

Lab Sample ID: LCS 480-20784/16-B

Matrix: Water

Analysis Batch: 21772

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Prep Batch: 21321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic, Dissolved	0.200	0.206		mg/L		103	80 - 120

TestAmerica Buffalo

QC Sample Results

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 480-20784/16-B

Matrix: Water

Analysis Batch: 21772

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Prep Batch: 21321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Chromium, Dissolved	0.200	0.206		mg/L		103	80 - 120	
Iron, Dissolved	10.0	10.30		mg/L		103	80 - 120	
Manganese, Dissolved	0.200	0.212		mg/L		106	80 - 120	

Lab Sample ID: MB 480-21961/1-B

Matrix: Water

Analysis Batch: 22280

Client Sample ID: Method Blank

Prep Type: Dissolved

Prep Batch: 22000

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic, Dissolved	ND		0.010		mg/L		06/30/11 10:55	06/30/11 16:28	1
Chromium, Dissolved	ND		0.0040		mg/L		06/30/11 10:55	06/30/11 16:28	1
Iron, Dissolved	ND		0.050		mg/L		06/30/11 10:55	06/30/11 16:28	1
Manganese, Dissolved	ND		0.0030		mg/L		06/30/11 10:55	06/30/11 16:28	1

Lab Sample ID: LCS 480-21961/2-B

Matrix: Water

Analysis Batch: 22280

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Prep Batch: 22000

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Arsenic, Dissolved	0.200	0.203		mg/L		101	80 - 120	
Chromium, Dissolved	0.200	0.202		mg/L		101	80 - 120	
Iron, Dissolved	10.0	9.74		mg/L		97	80 - 120	
Manganese, Dissolved	0.200	0.211		mg/L		105	80 - 120	

Method: 310.2 - Alkalinity

Lab Sample ID: MB 480-21975/36

Matrix: Water

Analysis Batch: 21975

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		10.0		mg/L			06/28/11 11:49	1

Lab Sample ID: MB 480-21975/64

Matrix: Water

Analysis Batch: 21975

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		10.0		mg/L			06/28/11 12:56	1

Lab Sample ID: LCS 480-21975/35

Matrix: Water

Analysis Batch: 21975

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Alkalinity, Total	50.0	52.64		mg/L		105	90 - 110	

QC Sample Results

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Method: 310.2 - Alkalinity (Continued)

Lab Sample ID: LCS 480-21975/63

Matrix: Water

Analysis Batch: 21975

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Alkalinity, Total	50.0	52.26		mg/L		105	90 - 110

Lab Sample ID: 480-6415-1 MS

Matrix: Water

Analysis Batch: 21975

Client Sample ID: WETLAND F

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Alkalinity, Total	204		20.0	197.5	4	mg/L		-33	22 - 128

Lab Sample ID: 480-6415-1 DU

Matrix: Water

Analysis Batch: 21975

Client Sample ID: WETLAND F

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity, Total	204		201.5		mg/L		1	20

Lab Sample ID: MB 480-22235/39

Matrix: Water

Analysis Batch: 22235

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		10.0		mg/L			06/30/11 15:23	1

Lab Sample ID: LCS 480-22235/38

Matrix: Water

Analysis Batch: 22235

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Alkalinity, Total	50.0	52.12		mg/L		104	90 - 110

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-21565/171

Matrix: Water

Analysis Batch: 21565

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.020		mg/L			06/25/11 12:38	1

Lab Sample ID: MB 480-21565/27

Matrix: Water

Analysis Batch: 21565

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.020		mg/L			06/25/11 10:17	1

QC Sample Results

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: MB 480-21565/51

Matrix: Water

Analysis Batch: 21565

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.020		mg/L			06/25/11 10:40	1

Lab Sample ID: LCS 480-21565/172

Matrix: Water

Analysis Batch: 21565

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Ammonia (as N)	1.00	1.06		mg/L		106	90 - 110

Lab Sample ID: LCS 480-21565/28

Matrix: Water

Analysis Batch: 21565

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Ammonia (as N)	1.00	1.08		mg/L		108	90 - 110

Lab Sample ID: LCS 480-21565/52

Matrix: Water

Analysis Batch: 21565

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Ammonia (as N)	1.00	1.09		mg/L		109	90 - 110

Lab Sample ID: 480-6415-5 MS

Matrix: Water

Analysis Batch: 21565

Client Sample ID: MW-8S

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Ammonia (as N)	0.028		0.200	0.235		mg/L		103	54 - 150

Lab Sample ID: 480-6415-5 DU

Matrix: Water

Analysis Batch: 21565

Client Sample ID: MW-8S

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Ammonia (as N)	0.028		0.0329		mg/L		15	20

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 480-21271/3

Matrix: Water

Analysis Batch: 21271

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium (hexavalent)	ND		0.010		mg/L			06/22/11 21:51	1

QC Sample Results

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: LCS 480-21271/4

Matrix: Water

Analysis Batch: 21271

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Chromium (hexavalent)	0.0500	0.0524		mg/L		105	85 - 115

Lab Sample ID: 480-6415-6 MS

Matrix: Water

Analysis Batch: 21271

Client Sample ID: MW-9S

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Chromium (hexavalent)	ND		0.0500	0.0524		mg/L		105	85 - 115

Lab Sample ID: 480-6415-6 MSD

Matrix: Water

Analysis Batch: 21271

Client Sample ID: MW-9S

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Chromium (hexavalent)	ND		0.0500	0.0520		mg/L		104	85 - 115	1	15

Lab Sample ID: 480-6415-2 DU

Matrix: Water

Analysis Batch: 21271

Client Sample ID: Blind Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chromium (hexavalent)	ND		ND		mg/L		NC	15

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 480-21585/3

Matrix: Water

Analysis Batch: 21585

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		0.10		mg/L			06/25/11 17:17	1

Lab Sample ID: LCS 480-21585/4

Matrix: Water

Analysis Batch: 21585

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Sulfide	0.750	0.686		mg/L		91	90 - 110

Lab Sample ID: MB 480-21902/3

Matrix: Water

Analysis Batch: 21902

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		0.10		mg/L			06/28/11 20:48	1

QC Sample Results

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Method: SM 4500 S2 D - Sulfide, Total (Continued)

Lab Sample ID: LCS 480-21902/4

Matrix: Water

Analysis Batch: 21902

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Sulfide	0.750	0.676		mg/L		90	90 - 110

Lab Sample ID: 480-6415-6 MS

Matrix: Water

Analysis Batch: 21902

Client Sample ID: MW-9S

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Sulfide	ND		0.500	0.430	F	mg/L		86	90 - 110

Lab Sample ID: 480-6415-6 DU

Matrix: Water

Analysis Batch: 21902

Client Sample ID: MW-9S

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfide	ND		ND		mg/L		NC	20

QC Association Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Metals

Prep Batch: 21211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-21211/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-21211/2-A	Lab Control Sample	Total/NA	Water	3005A	
480-6415-1	WETLAND F	Total/NA	Water	3005A	
480-6415-2	Blind Duplicate	Total/NA	Water	3005A	
480-6415-3	MW-5S	Total/NA	Water	3005A	
480-6415-4	MW-7S	Total/NA	Water	3005A	
480-6415-5	MW-8S	Total/NA	Water	3005A	
480-6415-6	MW-9S	Total/NA	Water	3005A	
480-6415-6 MS	MW-9S	Total/NA	Water	3005A	
480-6415-6 MSD	MW-9S	Total/NA	Water	3005A	

Prep Batch: 21321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-20784/15-B	Method Blank	Dissolved	Water	3005A	
LCS 480-20784/16-B	Lab Control Sample	Dissolved	Water	3005A	
480-6415-4	MW-7S	Dissolved	Water	3005A	

Analysis Batch: 21381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-21211/1-A	Method Blank	Total/NA	Water	6010B	21211
LCS 480-21211/2-A	Lab Control Sample	Total/NA	Water	6010B	21211
480-6415-1	WETLAND F	Total/NA	Water	6010B	21211
480-6415-2	Blind Duplicate	Total/NA	Water	6010B	21211
480-6415-3	MW-5S	Total/NA	Water	6010B	21211
480-6415-4	MW-7S	Total/NA	Water	6010B	21211
480-6415-5	MW-8S	Total/NA	Water	6010B	21211
480-6415-6	MW-9S	Total/NA	Water	6010B	21211
480-6415-6 MS	MW-9S	Total/NA	Water	6010B	21211
480-6415-6 MSD	MW-9S	Total/NA	Water	6010B	21211

Analysis Batch: 21772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-20784/15-B	Method Blank	Dissolved	Water	6010B	21321
LCS 480-20784/16-B	Lab Control Sample	Dissolved	Water	6010B	21321
480-6415-4	MW-7S	Dissolved	Water	6010B	21321

Prep Batch: 22000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-21961/1-B	Method Blank	Dissolved	Water	3005A	
LCS 480-21961/2-B	Lab Control Sample	Dissolved	Water	3005A	
480-6415-1	WETLAND F	Dissolved	Water	3005A	

Analysis Batch: 22280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-21961/1-B	Method Blank	Dissolved	Water	6010B	22000
LCS 480-21961/2-B	Lab Control Sample	Dissolved	Water	6010B	22000
480-6415-1	WETLAND F	Dissolved	Water	6010B	22000

QC Association Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

General Chemistry

Analysis Batch: 21271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-21271/3	Method Blank	Total/NA	Water	7196A	
LCS 480-21271/4	Lab Control Sample	Total/NA	Water	7196A	
480-6415-1	WETLAND F	Total/NA	Water	7196A	
480-6415-1	WETLAND F	Dissolved	Water	7196A	
480-6415-2	Blind Duplicate	Total/NA	Water	7196A	
480-6415-2 DU	Blind Duplicate	Total/NA	Water	7196A	
480-6415-3	MW-5S	Total/NA	Water	7196A	
480-6415-4	MW-7S	Total/NA	Water	7196A	
480-6415-5	MW-8S	Total/NA	Water	7196A	
480-6415-6	MW-9S	Total/NA	Water	7196A	
480-6415-6 MS	MW-9S	Total/NA	Water	7196A	
480-6415-6 MSD	MW-9S	Total/NA	Water	7196A	

Analysis Batch: 21357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-6415-4	MW-7S	Total/NA	Water	353.2	
480-6415-5	MW-8S	Total/NA	Water	353.2	
480-6415-6	MW-9S	Total/NA	Water	353.2	
480-6415-1	WETLAND F	Total/NA	Water	353.2	
480-6415-3	MW-5S	Total/NA	Water	353.2	

Analysis Batch: 21565

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-21565/27	Method Blank	Total/NA	Water	350.1	
LCS 480-21565/28	Lab Control Sample	Total/NA	Water	350.1	
480-6415-1	WETLAND F	Total/NA	Water	350.1	
480-6415-3	MW-5S	Total/NA	Water	350.1	
480-6415-4	MW-7S	Total/NA	Water	350.1	
480-6415-5	MW-8S	Total/NA	Water	350.1	
480-6415-5 MS	MW-8S	Total/NA	Water	350.1	
MB 480-21565/51	Method Blank	Total/NA	Water	350.1	
LCS 480-21565/52	Lab Control Sample	Total/NA	Water	350.1	
480-6415-6	MW-9S	Total/NA	Water	350.1	
MB 480-21565/171	Method Blank	Total/NA	Water	350.1	
LCS 480-21565/172	Lab Control Sample	Total/NA	Water	350.1	
480-6415-5 DU	MW-8S	Total/NA	Water	350.1	

Analysis Batch: 21585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-21585/3	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 480-21585/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
480-6415-1	WETLAND F	Total/NA	Water	SM 4500 S2 D	
480-6415-3	MW-5S	Total/NA	Water	SM 4500 S2 D	
480-6415-4	MW-7S	Total/NA	Water	SM 4500 S2 D	
480-6415-5	MW-8S	Total/NA	Water	SM 4500 S2 D	

Analysis Batch: 21902

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-21902/3	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 480-21902/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
480-6415-6	MW-9S	Total/NA	Water	SM 4500 S2 D	
480-6415-6 DU	MW-9S	Total/NA	Water	SM 4500 S2 D	

QC Association Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

General Chemistry (Continued)

Analysis Batch: 21902 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-6415-6 MS	MW-9S	Total/NA	Water	SM 4500 S2 D	

Analysis Batch: 21975

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-21975/35	Lab Control Sample	Total/NA	Water	310.2	
MB 480-21975/36	Method Blank	Total/NA	Water	310.2	
480-6415-1	WETLAND F	Total/NA	Water	310.2	
480-6415-1 DU	WETLAND F	Total/NA	Water	310.2	
480-6415-1 MS	WETLAND F	Total/NA	Water	310.2	
LCS 480-21975/63	Lab Control Sample	Total/NA	Water	310.2	
MB 480-21975/64	Method Blank	Total/NA	Water	310.2	
480-6415-6	MW-9S	Total/NA	Water	310.2	
480-6415-4	MW-7S	Total/NA	Water	310.2	
480-6415-5	MW-8S	Total/NA	Water	310.2	

Analysis Batch: 22235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-22235/38	Lab Control Sample	Total/NA	Water	310.2	
MB 480-22235/39	Method Blank	Total/NA	Water	310.2	
480-6415-3	MW-5S	Total/NA	Water	310.2	

Lab Chronicle

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Client Sample ID: WETLAND F

Date Collected: 06/22/11 10:53

Date Received: 06/22/11 14:50

Lab Sample ID: 480-6415-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			21211	06/23/11 10:30	MM	TAL BUF
Total/NA	Analysis	6010B		1	21381	06/23/11 20:45	LH	TAL BUF
Dissolved	Prep	3005A			22000	06/30/11 10:55	MM	TAL BUF
Dissolved	Analysis	6010B		1	22280	06/30/11 16:32	AH	TAL BUF
Total/NA	Analysis	7196A		1	21271	06/22/11 21:56	ML	TAL BUF
Dissolved	Analysis	7196A		1	21271	06/22/11 21:58	ML	TAL BUF
Total/NA	Analysis	353.2		1	21357	06/22/11 23:26	RL	TAL BUF
Total/NA	Analysis	350.1		1	21565	06/25/11 10:32	MD	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		5	21585	06/25/11 17:29	AP	TAL BUF
Total/NA	Analysis	310.2		10	21975	06/28/11 12:03	JR	TAL BUF

Client Sample ID: Blind Duplicate

Date Collected: 06/22/11 10:00

Date Received: 06/22/11 14:50

Lab Sample ID: 480-6415-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			21211	06/23/11 10:30	MM	TAL BUF
Total/NA	Analysis	6010B		1	21381	06/23/11 20:47	LH	TAL BUF
Total/NA	Analysis	7196A		1	21271	06/22/11 22:01	ML	TAL BUF

Client Sample ID: MW-5S

Date Collected: 06/22/11 10:38

Date Received: 06/22/11 14:50

Lab Sample ID: 480-6415-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			21211	06/23/11 10:30	MM	TAL BUF
Total/NA	Analysis	6010B		1	21381	06/23/11 20:49	LH	TAL BUF
Total/NA	Analysis	7196A		1	21271	06/22/11 22:06	ML	TAL BUF
Total/NA	Analysis	353.2		1	21357	06/22/11 23:31	RL	TAL BUF
Total/NA	Analysis	350.1		1	21565	06/25/11 10:33	MD	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	21585	06/25/11 17:33	AP	TAL BUF
Total/NA	Analysis	310.2		10	22235	06/30/11 15:37	JR	TAL BUF

Client Sample ID: MW-7S

Date Collected: 06/22/11 12:00

Date Received: 06/22/11 14:50

Lab Sample ID: 480-6415-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			21211	06/23/11 10:30	MM	TAL BUF
Total/NA	Analysis	6010B		1	21381	06/23/11 20:51	LH	TAL BUF
Dissolved	Prep	3005A			21321	06/24/11 09:40	MM	TAL BUF
Dissolved	Analysis	6010B		1	21772	06/27/11 15:05	LH	TAL BUF
Total/NA	Analysis	7196A		1	21271	06/22/11 22:08	ML	TAL BUF

Lab Chronicle

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Client Sample ID: MW-7S

Date Collected: 06/22/11 12:00

Date Received: 06/22/11 14:50

Lab Sample ID: 480-6415-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	353.2		1	21357	06/22/11 23:13	RL	TAL BUF
Total/NA	Analysis	350.1		1	21565	06/25/11 10:34	MD	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	21585	06/25/11 17:37	AP	TAL BUF
Total/NA	Analysis	310.2		10	21975	06/28/11 13:10	JR	TAL BUF

Client Sample ID: MW-8S

Date Collected: 06/22/11 11:24

Date Received: 06/22/11 14:50

Lab Sample ID: 480-6415-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			21211	06/23/11 10:30	MM	TAL BUF
Total/NA	Analysis	6010B		1	21381	06/23/11 20:53	LH	TAL BUF
Total/NA	Analysis	7196A		1	21271	06/22/11 22:13	ML	TAL BUF
Total/NA	Analysis	353.2		1	21357	06/22/11 23:14	RL	TAL BUF
Total/NA	Analysis	350.1		1	21565	06/25/11 10:35	MD	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	21585	06/25/11 17:41	AP	TAL BUF
Total/NA	Analysis	310.2		10	21975	06/28/11 13:10	JR	TAL BUF

Client Sample ID: MW-9S

Date Collected: 06/22/11 09:54

Date Received: 06/22/11 14:50

Lab Sample ID: 480-6415-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			21211	06/23/11 10:30	MM	TAL BUF
Total/NA	Analysis	6010B		1	21381	06/23/11 20:56	LH	TAL BUF
Total/NA	Analysis	7196A		1	21271	06/22/11 22:21	ML	TAL BUF
Total/NA	Analysis	353.2		1	21357	06/22/11 23:15	RL	TAL BUF
Total/NA	Analysis	350.1		1	21565	06/25/11 10:42	MD	TAL BUF
Total/NA	Analysis	SM 4500 S2 D		1	21902	06/28/11 20:51	AP	TAL BUF
Total/NA	Analysis	310.2		1	21975	06/28/11 12:56	JR	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Certification Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Buffalo	Arkansas	State Program	6	88-0686
TestAmerica Buffalo	California	NELAC	9	1169CA
TestAmerica Buffalo	Connecticut	State Program	1	PH-0568
TestAmerica Buffalo	Florida	NELAC	4	E87672
TestAmerica Buffalo	Georgia	Georgia EPD	4	N/A
TestAmerica Buffalo	Georgia	State Program	4	956
TestAmerica Buffalo	Illinois	NELAC	5	100325 / 200003
TestAmerica Buffalo	Iowa	State Program	7	374
TestAmerica Buffalo	Kansas	NELAC	7	E-10187
TestAmerica Buffalo	Kentucky	Kentucky UST	4	30
TestAmerica Buffalo	Kentucky	State Program	4	90029
TestAmerica Buffalo	Louisiana	NELAC	6	02031
TestAmerica Buffalo	Maine	State Program	1	NY0044
TestAmerica Buffalo	Maryland	State Program	3	294
TestAmerica Buffalo	Massachusetts	State Program	1	M-NY044
TestAmerica Buffalo	Michigan	State Program	5	9937
TestAmerica Buffalo	Minnesota	NELAC	5	036-999-337
TestAmerica Buffalo	New Hampshire	NELAC	1	68-00281
TestAmerica Buffalo	New Hampshire	NELAC	1	2337
TestAmerica Buffalo	New Jersey	NELAC	2	NY455
TestAmerica Buffalo	New York	NELAC	2	10026
TestAmerica Buffalo	North Dakota	State Program	8	R-176
TestAmerica Buffalo	Oklahoma	State Program	6	9421
TestAmerica Buffalo	Oregon	NELAC	10	NY200003
TestAmerica Buffalo	Pennsylvania	NELAC	3	68-00281
TestAmerica Buffalo	Tennessee	State Program	4	TN02970
TestAmerica Buffalo	Texas	NELAC	6	T104704412-08-TX
TestAmerica Buffalo	USDA	USDA		P330-08-00242
TestAmerica Buffalo	Virginia	State Program	3	278
TestAmerica Buffalo	Washington	State Program	10	C1677
TestAmerica Buffalo	West Virginia	West Virginia DEP	3	252
TestAmerica Buffalo	Wisconsin	State Program	5	998310390

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Method Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL BUF
310.2	Alkalinity	MCAWW	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
353.2	Nitrate	EPA	TAL BUF
7196A	Chromium, Hexavalent	SW846	TAL BUF
SM 4500 S2 D	Sulfide, Total	SM	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark-Peter Cooper Markhams

TestAmerica Job ID: 480-6415-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-6415-1	WETLAND F	Water	06/22/11 10:53	06/22/11 14:50
480-6415-2	Blind Duplicate	Water	06/22/11 10:00	06/22/11 14:50
480-6415-3	MW-5S	Water	06/22/11 10:38	06/22/11 14:50
480-6415-4	MW-7S	Water	06/22/11 12:00	06/22/11 14:50
480-6415-5	MW-8S	Water	06/22/11 11:24	06/22/11 14:50
480-6415-6	MW-9S	Water	06/22/11 09:54	06/22/11 14:50

Login Sample Receipt Checklist

Client: Benchmark Env. Eng. & Science, PLLC

Job Number: 480-6415-1

Login Number: 6415

List Source: TestAmerica Buffalo

List Number: 1

Creator: Wienke, Robert

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	Benchmark
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	Lab to filter and preserve sample 1
Chlorine Residual checked.	N/A	

ATTACHMENT 3

NYSDEC INSTITUTIONAL & ENGINEERING CONTROLS CERTIFICATION FORM AND FIELD INSPECTION REPORT



Enclosure 1
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form



Site Details		Box 1	
Site No. N/A			
Site Name Peter Cooper Markhams Superfund Site			
Site Address: Bentley Road		Zip Code: 14041	
City/Town: Dayton			
County: Cattaraugus			
Current Use: Vacant			
Intended Use: Undeveloped			

Verification of Site Details		Box 2	
		YES	NO
1.	Are the Site Details above, correct?	X	<input type="checkbox"/>
	If NO, are changes handwritten above or included on a separate sheet?	<input type="checkbox"/>	<input type="checkbox"/>
2.	Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment since the initial/last certification?	<input type="checkbox"/>	X
	If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	<input type="checkbox"/>	<input type="checkbox"/>
3.	Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property since the initial/last certification?	<input type="checkbox"/>	X
	If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	<input type="checkbox"/>	<input type="checkbox"/>
4.	Has a change-of-use occurred since the initial/last certification?	<input type="checkbox"/>	X
	If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	<input type="checkbox"/>	<input type="checkbox"/>
5.	For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), has any new information revealed that assumptions made in the Qualitative Exposure Assessment for offsite contamination are no longer valid?	<input type="checkbox"/>	X
	If YES, is the new information or evidence that new information has been previously submitted included with this Certification?	<input type="checkbox"/>	<input type="checkbox"/>
6.	For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), are the assumptions in the Qualitative Exposure Assessment still valid (must be certified every five years) ?	X	<input type="checkbox"/>

SITE NO. N/A

Box 3

Description of Institutional Control Certification

	YES	NO
1. Compliance with the Site Management Plan (SMP) for the implemented remedy:	x	<input type="checkbox"/>
2. The groundwater beneath the Site is not used as a potable water source or for any other use without prior written permission of the Department:	x	<input type="checkbox"/>
3. Groundwater monitoring as specified in the SMP:	x	<input type="checkbox"/>
4. Operation and maintenance of the ASD system as specified in the SMP:	<input type="checkbox"/>	<input type="checkbox"/> N/A

Description of Engineering Control Certification

Box 4

	YES	NO
1. Maintenance of the cover systems over the Site:	x	<input type="checkbox"/>

Control Certification Statement

For each Institutional or Engineering control listed above, I certify by checking "Yes" that all of the following statements are true:

- (a) the Institutional Control and/or Engineering Control employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;
- (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;
- (c) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and
- (d) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control.
- (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

IC/EC CERTIFICATIONS

SITE NO. N/A

Box 5

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 2 & 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I _____ at _____,
print name print business address

am certifying as _____ (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner or Remedial Party Rendering Certification

Date

Box 6

QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP) SIGNATURE

I certify that all information and statements in Box 4 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

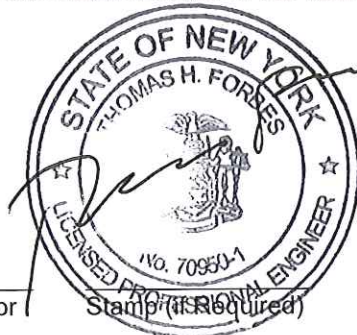
I Thomas H. Forbes at 2558 Hamburg Turnpike Lackawanna, New York 14218

am certifying as a Qualified Environmental Professional for the Peter Cooper Markhams Superfund Site

(Owner or Remedial Party) for the Site named in the Site Details Section of this form.



Signature of Qualified Environmental Professional, for
the Owner or Remedial Party, Rendering
Certification



Stamp (if Required)

8-29-11
Date

Enclosure 2

Certification of Institutional Controls/ Engineering Controls (ICs/ECs) Step-by-Step Instructions, Certification Requirements and Definitions

The Owner, or Remedial Party, and when necessary, a Professional Engineer (P.E.), or the Qualified Environmental Professional (QEP), must review and complete the IC/EC Certification Form, sign the IC/EC Certifications Signature Page, and return it, along with the Periodic Review Report (PRR), within 45 days of the date of this notice.

Please use the following instructions to complete the IC/EC Certification.

I. Verification of Site Details (Box 1 and Box 2):

Answer the six questions in the Verification of Site Details Section. Questions 5 and 6 refer to only sites in the Brownfield Cleanup Program. ECL Section 27-1415-7(c) is included in

IV. IC/EC Certification Requirements. The Owner and/or your P.E. or QEP may include handwritten changes and/or other supporting documentation, as necessary.

II. Verification of Institutional / Engineering Controls (Box 3 and Box 4)

Review the listed Institutional / Engineering Controls, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party is to petition the Department requesting approval to remove the control.

2. Select "YES" or "NO" for **Control Certification** for each IC/EC, based on Sections (a)-(e) of the **Control Certification Statement**.

If the Department concurs with the explanation, the corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Project Manager. If the Department has any questions or concerns regarding the completion of the certification, the Project Manager will contact you.

3. If you cannot certify "Yes" for each Control, please continue to complete the remainder of this **Control Certification** form. Attach supporting documentation that explains why the **Control Certification** cannot be rendered, as well as a statement of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Control Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is conducted.

If the Department concurs with the explanation, the corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Project Manager. Once the corrective measures are complete a new Periodic Review Report (with IC/EC Certification) is to be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

III. IC/EC Certification by Signature (Box 5 and Box 6):

1. If you certified "Yes" for each Control, please complete and sign the IC/EC Certifications page. To determine WHO signs the **IC/EC Certification**, please use Table 1. Signature Requirements for the IC/EC Certification, which follows.

Table 1. Signature Requirements for Control Certification Page		
Type of Control	Example of IC/EC	Required Signatures
IC only	Environmental Easement Deed Restriction.	A site or property owner or remedial party.
IC with an EC which does not include a treatment system or engineered caps.	Fence, Clean Soil Cover, Individual House Water Treatment System, Vapor Mitigation System	A site or property owner or remedial party, and a QEP. (P.E. license not required)
IC with an EC that includes treatment system or an engineered cap.	Pump & Treat System providing hydraulic control of a plume, Part 360 Cap.	A site or property owner or remedial party, and a QEP with a P.E. license.

IV. IC/EC Certification Requirements:

Division of Environmental Remediation Program Policy requires periodic certification of IC(s) and EC(s) as follows:

For Environmental Restoration Projects: N.Y. Env'tl Conserv.Law Section 56-0503
(Environmental restoration projects; state assistance)

For State Superfund Projects: Env'tl Conserv.Law Section 27-1318.
(Institutional and engineering controls)

For Brownfields Cleanup Program Projects: Env'tl Conserv.Law Section 27-1415. (Remedial
program requirements)

Env'tl Conserv.Law Section 27-1415-7(c) states:

- (c) At non-significant threat sites where contaminants in groundwater at the site boundary contravene drinking water standards, such certification shall also certify that no new information has come to the owner's attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of offsite contamination are no longer valid. Every five years the owner at such sites shall certify that the assumptions made in the qualitative exposure assessment remain valid. The requirement to provide such certifications may be terminated by a written determination by the Commissioner in consultation with the Commissioner of Health, after notice to the parties on the brownfield site contact list and a public comment period of thirty days.

Voluntary Cleanup Program: Applicable program guidance.

Petroleum Remediation Program: Applicable program guidance.

Federal Brownfields: Applicable program guidance.

Manufactured Gas Plant Projects: Applicable program guidance (including non-registry listed MGPs).

WHERE to mail the signed Certification Form by March 1st of each year (or within 45 days of the date of the Department notice letter):

New York State Department of Environmental Conservation
Division of Environmental Remediation

Attn: Division of Environmental Remediation – North Section
NYSDEC
270 Michigan Avenue
Buffalo, NY 14203-2999

Please note that extra postage may be required.

V. Definitions

“Engineering Control” (EC), means any physical barrier or method employed to actively or passively contain, stabilize, or monitor contamination, restrict the movement of contamination to ensure the long-term effectiveness of a remedial program, or eliminate potential exposure pathways to contamination. Engineering controls include, but are not limited to, pavement, caps, covers, subsurface barriers, vapor barriers, slurry walls, building ventilation systems, fences, access controls, provision of alternative water supplies via connection to an existing public water supply, adding treatment technologies to such water supplies, and installing filtration devices on private water supplies.

“Institutional Control” (IC), means any non-physical means of enforcing a restriction on the use of real property that limits human and environmental exposure, restricts the use of groundwater, provides notice to potential owners, operators, or members of the public, or prevents actions that would interfere with the effectiveness of a remedial program or with the effectiveness and/or integrity of operation, maintenance, or monitoring activities at or pertaining to a remedial site.

“Professional Engineer” (P.E.) means an individual or firm licensed or otherwise authorized under article 145 of the Education Law of the State of New York to practice engineering.

“Property Owner” means, for purposes of an IC/EC certification, the actual owner of a property. If the site has multiple properties with different owners, the Department requires that the owners be represented by a single representative to sign the certification.

“Oversight Document” means any document the Department issues pursuant to each Remedial Program (see below) to define the role of a person participating in the investigation and/or remediation of a site or area(s) of concern. Examples for the various programs are as follows:

BCP (after approval of the BCP application by DEC) - Brownfield Site Cleanup Agreement.

ERP (after approval of the ERP application by DEC) - State Assistance Contract.

Federal Superfund Sites - Federal Consent Decrees, Administrative Orders on Consent or Unilateral Orders issued pursuant to CERCLA.

Oil Spill Program - Order on Consent, or Stipulation pursuant to Article 12 of the Navigation Law (and the New York Environmental Conservation Law).

State Superfund Program - Administrative Consent Order, Record of Decision.

VCP (after approval of the VCP application by DEC) - Voluntary Cleanup Agreement.

RCRA Corrective Action Sites- Federal Consent Decrees, Administrative Orders on Consent or permit conditions issued pursuant to RCRA.

“Qualified Environmental Professional” (QEP), means a person who possesses sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding the presence of releases or threatened releases to the surface or subsurface of a property or off-site areas, sufficient to meet the objectives and performance factors for the areas of practice identified by this Part. Such a person must:

(1) hold a current professional engineer’s or a professional geologist’s license or registration issued by the State or another state, and have the equivalent of three years of full-time relevant experience in site investigation and remediation of the type detailed in this Part; or

(2) be a site remediation professional licensed or certified by the federal government, a state or a recognized accrediting agency, to perform investigation or remediation tasks consistent with Department guidance, and have the equivalent of three years of full-time relevant experience.

“Qualitative Exposure Assessment” means a qualitative assessment to determine the route, intensity, frequency, and duration of actual or potential exposures of humans and/or fish and wildlife to contaminants.

“Remedial Party” means a person implementing a remedial program at a remedial site pursuant to an order, agreement or State assistance contract with the Department.

“Site Management” (SM) means the activities undertaken as the last phase of the remedial program at a site, which continue after a Certificate of Completion is issued. Site management is conducted in accordance with a site management plan, which identifies and implements the institutional and engineering controls required for a site, as well as any necessary monitoring and/or operation and maintenance of the remedy.

“Site Management Plan” (SMP) means a document which details the steps necessary to assure that the institutional and engineering controls required for a site are in-place, and any physical components of the remedy are operated, maintained and monitored to assure their continued effectiveness, developed pursuant to Section 6 (DER10 Technical Guide).

“Site Owner” means the actual owner of a site. If the site has multiple owners of multiple properties with ICs and/or ECs, the Department requires that the owners designate a single representative for IC/EC Certification activities.

Field Inspection Report Post-Remedial Operation & Maintenance Plan

Property Name: Peter Cooper Markhams Site

Project No.: 0199-001-100

Client:

Property Address: Bentley Road

Dayton, NY 14041

Property ID: (Tax Assessment Map)

Section:

Block:

Lot(s):

Preparer's Name: R. Dubisz

Date/Time: 6/22/10- 13:00

CERTIFICATION

The results of this inspection were discussed with the Site Manager. Any corrective actions required have been identified and noted in this report, and a supplemental Corrective Action Form has been completed. Proper implementation of these corrective actions have been discussed with the Site Manager, agreed upon, and scheduled.

Preparer / Inspector: Rick Dubisz

Date: 6/22/11

Signature: 

Next Scheduled Inspection Date: Fall 2012

Property Access

- | | | | |
|--|---|--|------------------------------|
| 1. Is the access road in need of repair? | <input type="checkbox"/> yes | <input checked="" type="checkbox"/> no | <input type="checkbox"/> N/A |
| 2. Sufficient signage posted (No Trespassing)? | <input checked="" type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N/A |
| 3. Has there been any noted or reported trespassing? | <input type="checkbox"/> yes | <input checked="" type="checkbox"/> no | <input type="checkbox"/> N/A |

Please note any irregularities/ changes in site access and security: _____

Final Surface Cover / Vegetation

The integrity of the vegetative soil cover or other surface coverage (e.g., asphalt, concrete) over the entire Site must be maintained. The following documents the condition of the above.

1. Final Cover is in Place and in good condition? ☒ yes ☐ no ☐ N/A

Cover consists of (mainly): Wild Vegetative Grass Cover

- | | | | |
|---|------------------------------|--|---|
| 2. Evidence of erosion? | <input type="checkbox"/> yes | <input checked="" type="checkbox"/> no | <input type="checkbox"/> N/A |
| 3. Cracks visible in pavement? | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input checked="" type="checkbox"/> N/A |
| 4. Evidence of distressed vegetation/turf? | <input type="checkbox"/> yes | <input checked="" type="checkbox"/> no | <input type="checkbox"/> N/A |
| 5. Evidence of unintended traffic and/or rutting? | <input type="checkbox"/> yes | <input checked="" type="checkbox"/> no | <input type="checkbox"/> N/A |
| 6. Evidence of uneven settlement and/or ponding? | <input type="checkbox"/> yes | <input checked="" type="checkbox"/> no | <input type="checkbox"/> N/A |

Field Inspection Report Post-Remedial Operation & Maintenance Plan

☐ ☒ ☐

Final Surface Cover / Vegetation

7. Damage to any surface coverage? ☐ yes ☒ no ☐ N/A

If yes to any question above, please provide more information below.

Gas Vent System Monitoring and Maintenance

Are there signs of stressed vegetation around gas vents? ☐ yes ☒ no ☐ N/A

Are the gas vents currently intact and operational? ☒ yes ☐ no ☐ N/A

Has regular maintenance and monitoring been documented and enclosed or referenced?
☒ yes ☐ no ☐ N/A

Groundwater Monitoring

Is there a plan in place and currently being followed? ☒ yes ☐ no ☐ N/A

Are the wells currently intact and operational? ☒ yes ☐ no ☐ N/A

When was the most recent sampling event report and submittal? Date: May 2010

When is the next projected sampling event? Date: Completed May 2011 Event

Property Use Changes / Site Development

Has the property usage changed, or site been redeveloped since the last inspection?
☐ yes ☒ no ☐ N/A

If yes, please list with date: _____

Field Inspection Report Post-Remedial Operation & Maintenance Plan

New Information

Has any new information been brought to the owner/engineer's attention regarding any and/or all engineering and institutional controls and their operation and effectiveness?

☐ yes

☒ no

☐ N/A

Comments:

This space for Notes and Comments

Access to and around monitoring wells limited to overgrown brush/weeds. Brush/weed cutting required.

Please include the following Attachments:

1. Site Sketch
 2. Photographs
-
-

Corrective Action Certification Post-Remedial Operation & Maintenance Plan

Property Name: Peter Cooper Markhams Site

Project No.: 0199-001-100

Client:

Property Address: Bentley Road

Dayton, NY 14041

Property ID: (Tax Assessment Map)

Section:

Block:

Lot(s):

Preparer's Name: R. Dubisz

Date/Time: June 2011

Issue Addressed

The Environmental Inspection of the above property determined the need for corrective action. This form has been completed to document the required corrective action and its implementation.

Description of Site Issue identified during Environmental Inspection (include sketch & photographs):

Overgrown brush/weedy vegetation along pathways and around monitoring wells, restricting access.

Corrective Action Taken

Date Completed: To completed in Fall 2011/Spring 2012

Describe Action Taken (include sketch & photographs):

Brush cutting and weed trimming along roadways to monitoring wells, and around monitoring wells.

Certification of Implementation

The signatory hereby certifies that the corrective action as described in this form has been completed in accordance with all relevant requirements of the Soil/Fill Management Plan and other applicable documents.

Preparer / Inspector: Rick Dubisz

Date: June 23, 2011

Signature: 

Please verify inclusion of the following Attachments: