

330 Crossways Park Drive, Woodbury, New York 11797-2015 516-364-9890 • 718-460-3634 • Fax: 516-364-9045 e-mail: findingsolutions@db-eng.com

November 23, 2009

Board of Directors

Henry J. Chlupsa, P.E. President Steven A. Fangmann, PE., BCEE Executive Vice President Nicholas J. Bartilucci, P.E., BCEE Chairman

Vice Presidents

Richard M. Walka Senior Vice President Dennis F. Koehler, P.E. Senior Vice President

Joseph H. Marturano Senior Vice President

Garrett M. Byrnes, P.E. Vice President

Thomas P. Fox, P.G. Vice President

William D. Merklin, P.E. Vice President

Harvey P. Moutal, P.E. Vice President

Michael Neuberger, P.E.

Kenneth J. Pritchard, P.E.

Vice President Theodore S. Pytlar, Jr.

Vice President Brian M. Veith, P.E.

Vice President Charles J. Wachsmuth, P.E.

Vice President Senior Associates

Steven M. Cabrera Christopher M. Clement Rob J. DeGiorgio, P.E., CPESC Joseph A. Fioraliso, P.E. Michael R. Hofgren Philip R. Sachs, P.E. Daniel Shabat, P.E.

Associates

Joseph F. Baader Rudolph F. Cannavale Ellen R. DeOrsay Matthew R. DeVinney, P.E. Frank DeVita Christopher W. Francis Christopher M. LeHanka James J. Magda Olga Mubarak-Jaramillo Roger W. Owens Robbin A. Petrella Edward J. Reilly Jason R. Tonne Mr. Payson Long Division of Environmental Remediation New York State Department of Environmental Conservation 625 Broadway, 12th Floor Albany, NY 12233-7013

Re: Franklin Cleaners Site (Site No. 1-30-050) D&B Work Assignment No. D004446-01 Quarterly Report No. 19 (March 1, 2009 through May 31, 2009) D&B No. 2531

Dear Mr. Long:

The purpose of this letter is to summarize the performance monitoring activities completed by Dvirka and Bartilucci Consulting Engineers (D&B) associated with the groundwater extraction and treatment system at the Franklin Cleaners Site. This report addresses the period from March 1, 2009 through May 31, 2009. A site location map is presented as Figure 1 in Attachment A.

Presented below is a summary of system operations during the quarter, as well as the results of analytical testing completed in accordance with the approved work plan for the referenced work assignment.

Groundwater Extraction and Treatment System Operation

During this period, extraction well EW-1 operated at an average pumping rate of 38.7 gallons per minute (gpm) and extraction well EW-2 operated at an average pumping rate of 5.2 gpm. Approximately 0.93 pounds of PCE were removed from the extracted groundwater by the low profile air stripper during the reporting period and approximately 36.9 pounds of PCE have been removed since start-up of the system in September 2003. The average PCE removal efficiency for this quarter was greater than 99 percent.

Based on measurements recorded at the treatment system discharge flow meter, approximately 6,981,970 gallons of treated groundwater were discharged to the Nassau County Department of Public Works (NCDPW) storm sewer system. Note that this volume is inconsistent with the influent flow meters for EW-1 and EW-2 which recorded approximately 5,525,509 gallons of groundwater entering the

CONSULTING ENGINEERS

Mr. Payson Long Division of Environmental Remediation New York State Department of Environmental Conservation November 23, 2009

treatment system. This inconsistency is possibly due to fouling of the influent flow meter paddle wheels. Note that D&B cleaned the influent flow meter paddle wheels during this quarter; however, the inconsistencies between the influent and effluent flow meters observed this quarter are similar to the previous quarters prior to the influent meter paddle wheel cleaning. As detailed in the recommendations of this report, further diagnosis of these inconsistencies is warranted.

During this reporting period, the groundwater extraction and treatment system was inoperative for a total of approximately 270 hours due to system alarm conditions and routine system maintenance. Of the 270 hours, approximately 163 hours of "downtime" was due to a high-high wet well condition in the treatment system building and approximately 0.5 hours of "downtime" was due to routine pressure blower maintenance. Approximately 106.5 hours of "downtime" was due to an apparent power surge or dip, resulting in a general alarm condition. D&B's maintenance subcontractor, Systematic Technologies, Inc., was then scheduled in order to diagnose this alarm condition. Systematics determined that the pressure blower breaker had tripped due to an apparent power surge or dip and subsequently reset the breaker. In response to the significant amount of downtime associated with high-high wet well conditions and as per our previous recommendations, D&B lowered the level of the high level float approximately 4 inches on June 24, 2009. Note that the float was lowered in an attempt to activate the wet well pumps sooner than the previous setting would allow, therefore, possibly alleviating conditions contributing to the frequent high-high wet well alarms. Based on review of the frequency of this alarm condition prior to the float repositioning, the frequency of the high-high wet well condition for the months of July and August is less, as compared to previous months. D&B will continue to monitor the occurrence of high-high wet well alarms in the Quarter 20 report.

A summary of system downtime is presented in Attachment B. Copies of routine system maintenance reports, as prepared by Systematic Technologies, Inc., are presented in Attachment C.

Groundwater Extraction and Treatment System Sampling

Groundwater samples were collected from the EW-1 and EW-2 well influent piping sample taps, as well as from the air stripper (liquid) discharge sample tap, at a frequency of twice per month during each of the 3 months comprising this reporting period. Each sample was analyzed for volatile organic compounds (VOCs) utilizing United States Environmental Protection Agency (USEPA) Method OLMO4.2. The samples collected from the air stripper discharge sample tap were additionally analyzed for iron and manganese utilizing USEPA Method 200.7 and for pH utilizing USEPA Method 150.1.

The analytical results of samples collected from the system influent are compared to the NYSDEC Class GA Groundwater Standards and Guidance Values, and the analytical results of samples collected from the air stripper discharge are compared to the effluent limitations. Analytical results are presented in Attachment D. Based on the analytical results, extraction well EW-1 exhibited concentrations of tetrachloroethene (PCE) above its NYSDEC Class GA Standard of 5.0 ug/l in groundwater ranging from 13.0 micrograms per liter (ug/l) detected on April 24 and May 18, 2009, to

CONSULTING ENGINEERS

Mr. Payson Long Division of Environmental Remediation New York State Department of Environmental Conservation November 23, 2009

a maximum of 18.0 ug/l detected on March 11, 2009. Extraction well EW-2 exhibited concentrations of PCE above its NYSDEC Class GA Standard of 5.0 ug/l ranging from 53.0 ug/l detected on May 18, 2009, to a maximum of 92.0 ug/l detected on March 11, 2008. The discharge sample results for the period exhibited VOC, metals and pH concentrations below the effluent limitations.

A summary of the extraction and treatment system performance results since the system was put into operation is provided in Attachment E.

In addition, vapor phase samples were collected from the two carbon adsorption unit influent and effluent sample taps at a general frequency of once per week. Each sample was collected by filling a Tedlar bag directly from each of the influent and effluent sample taps located on the two carbon adsorption units. The samples were screened using a calibrated, hand-held photoionization detector (PID). During the reporting period, PID readings collected from both carbon vessels were 0.0 parts per million (ppm) for both the influent and effluent vapor samples at each carbon adsorption unit. Note that the PID readings collected from carbon vessel outlets Nos. 1 and 2 were both below the NYSDEC site-specific effluent limit of 1.0 ppm for total VOCs.

Groundwater Quality Data

The network of downgradient groundwater monitoring wells was sampled to evaluate the effectiveness of the groundwater extraction and treatment system. Samples were collected from groundwater monitoring wells ASMW-1 through ASMW-7 on May 18, 2009. Samples were analyzed for VOCs utilizing USEPA Method OLMO4.2. The locations of the monitoring wells are depicted on Figure 2 provided in Attachment A.

The results of the analyses of the groundwater samples collected from the monitoring wells are provided in Attachment D and summarized on Figure 2 provided in Attachment A. The results are compared to the NYSDEC Class GA Groundwater Standards and Guidance Values. Tetrachloroethene (PCE), at concentrations of 11.0 ug/l (ASMW-1) and 10.0 ug/l (ASMW-2), was detected at a concentration exceeding its Class GA Standard of 5.0 ug/l in groundwater monitoring wells ASMW-1 and ASMW-2, respectively. In addition, 1,1,1-Trichloroethane, at a concentration of 6.4 ug/l, was also detected at a concentration exceeding its Class GA standard of 5.0 ug/l in groundwater monitoring well ASMW-1 (11 ug/l) and ASMW-2 (10 ug/l) decreased from 16.0 ug/l and 16.0 ug/l, respectively, as compared to the previous quarter (March 19, 2009). PCE concentrations have continued to maintain a decreasing trend since 2003. Note that VOCs were not detected in the groundwater samples collected from groundwater monitoring wells ASMW-3, ASMW-4, ASMW-5, ASMW-6 and ASMW-7 during this period. Please refer to the trend line graphs provided in Attachment F, which summarize PCE concentrations detected in samples collected from ASMW-1, ASMW-2 and ASMW-3 since June 2003.

Groundwater sampling for Quarter 19 is scheduled for May 2009.

CONSULTING ENGINEERS

Mr. Payson Long Division of Environmental Remediation New York State Department of Environmental Conservation November 23, 2009

Data Validation

The biweekly system samples and groundwater samples have been analyzed for VOCs by Mitkem Corporation (Mitkem). The effluent sample (AS-1) was additionally analyzed for iron, manganese and pH. Mitkem is a New York State Department of Health Environmental Laboratory Approval Program-certified laboratory. The data packages submitted by Mitkem have been reviewed for completeness and compliance with the NYSDEC Analytical Services Protocol (ASP) Quality Assurance/Quality Control (QA/QC) requirements. All sample results have been deemed valid and usable for environmental assessment purposes as qualified below:

- All samples were analyzed within the method specified holding times and all QA/QC requirements (surrogate recoveries, calibrations, blanks, etc.) were met.
- No problems were noted with sample results and qualification of the data was not required.

Data Validation Checklists are presented in Attachment G.

Findings/Conclusions

Based on the results of performance monitoring conducted during this period, we offer the following conclusions:

- The analytical results of the system influent samples show that groundwater extraction wells EW-1 and EW-2 continue to capture VOC-contaminated groundwater at a combined total flow rate of 43.9 gpm, which is greater than the minimum required pumping rate of 20 gpm, as specified in the December 2000 Groundwater Extraction and Treatment System Design Report.
- The analytical results of the groundwater discharge samples show that the air stripper is effectively removing the captured VOCs and reducing concentrations to below the effluent discharge criteria.
- Concentrations of PCE detected in groundwater monitoring well ASMW-1 decreased from 16.0 ug/l (March 19, 2009) to 11.0 ug/l (May 18, 2009). In addition, ASMW-1 continues to exhibit an overall decreasing trend from a high of 30.0 ug/l (May 16, 2005) for the past 3-year period.
- Concentrations of PCE detected in groundwater monitoring well ASMW-2 decreased from 16.0 ug/l (March 19, 2008) to 10.0 ug/l (May 18, 2009). In addition, ASMW-2 continues to exhibit an overall decreasing trend from a high of 100 ug/l (February 24, 2005) for the past 3-year period.

CONSULTING ENGINEERS

Mr. Payson Long Division of Environmental Remediation New York State Department of Environmental Conservation November 23, 2009

- PCE concentrations remain non-detect in the downgradient groundwater monitoring wells ASMW-4, ASMW-5, ASMW-6 and ASMW-7 and upgradient monitoring well ASMW-3.
- Inconsistencies were again noted between the influent flow meters for EW-1 and EW-2, and the treatment system discharge flow meter. Cleaning of the influent flow meter was ineffective at reducing this inconsistency during this reporting period. Further diagnosis is warranted and recommended in the following section.
- The recurring high-high wet well condition continues to be the most frequent alarm condition, causing approximately 80% of the total system downtime since Quarter 15 (March 2008 through May 2008). In an attempt to limit the conditions contributing to this alarm condition, D&B lowered the high wet well float approximately 4 inches. The lower float level appears to have reduced the frequency of the high-high wet well condition.
- As the downgradient early warning groundwater monitoring wells continue to exhibit non-detect VOC concentrations, we conclude that the selected remedy is functioning as intended by the Record of Decisions (ROD). In addition, please note that the Village of Rockville Centre Public Supply Well located to the south of Molloy College and downgradient of the groundwater treatment system, continues to exhibit non-detect concentrations of chlorinated VOCs.
- According to information received from the Director of Facilities at Molloy College, no new groundwater irrigation wells have been installed on the Molloy College property, which is located immediately downgradient of the Franklin Cleaners off-site groundwater extraction and treatment system.
- A new DER-10 document, dated December 2002, has been implemented since the March 1998 ROD was issued.
- The toxicity data, cleanup levels and remedial action objectives, as defined in the March 1998 ROD, remain unchanged.

Recommendations

Based on the results of performance monitoring conducted during this period, we offer the following recommendations:

- Continue operation of the groundwater extraction and treatment system to minimize downgradient migration of PCE, currently being captured by the system.
- Continue groundwater monitoring through the existing monitoring well network to determine contaminant concentration trends over time and to evaluate the continued effectiveness of the remediation system.

CONSULTING ENGINEERS

Mr. Payson Long Division of Environmental Remediation New York State Department of Environmental Conservation November 23, 2009

- Lower the level of the high level float an additional 4 inches in an effort to further reduce the frequency of high-high wet well alarm conditions.
- D&B recommends that the NYSDEC issue a call-out to further diagnose the inconsistencies noted between the influent and effluent flow meters and potentially replace these items, as necessary, based on the result of the diagnosis.

Please do not hesitate to contact me at (516) 364-9890, Ext. 3094, if you have any questions.

Very truly yours,

Saphian

Stephen Tauss Project Manager

SET/PM/jmy/kap Attachments cc: J. Trad (NYSDEC) J. Multari (Molloy College) J. Neri (H2M) R. Walka (D&B) F. DeVita (D&B) P. Martorano (D&B) +2531\SET07279PL-19.doc(R07)

ATTACHMENT A

FIGURES





PMartoranc

F:\2531\DWG\Quarterly Reports\Quarter 19\FIGURE 2.dwg, FIG 2, 11/23/2009 5:31:19 PM,

ATTACHMENT B

DESCRIPTION OF SYSTEM ALARM CONDITIONS

♦2531\SET07279PL-19.doc

FRANKLIN CLEANERS SITE NYSDEC CONTRACT No. D004446 / SITE No. 1-30-050 SUMMARY OF SYSTEM DOWNTIME

SHUT-OFF DATE/TIME	RESTART DATE/TIME	CAUSE FOR SHUTDOWN
3/5/09 1:40 PM	3/5/09 2:10 PM	Routine Pressure Blower Maintenance ⁽¹⁾ . Restarted system.
4/11/09 5:00 AM	4/15/09 3:30 PM	Alarm Condition #3 - High Wet Well: Tripped breaker which activated the pump, pumping the wet well level down. Once the level was low, attempted to reset the alarm. System would not restart. Tripped main breaker three times trying to restart the system. This action did not work either. Then noticed alarm for pressure blower was activated. Checked voltage and breaker. Flipped breaker on main board back on and restarted. Shut down occured most likely due to powe surge.
4/24/09 10:56 AM	4/24/09 5:47 PM	Alarm Condition #3 - High Wet Well: Trip breaker on wet well pumps. Pump wet well down past shutoff float. Restart system.
4/26/09 8:25 AM	4/28/09 2:35 PM	Alarm Condition #3 - High Wet Well: Trip breaker on wet well pumps. Pump wet well down past shutoff float. Restart system.
4/30/09 6:39 AM	4/30/09 10:00 AM	Alarm Condition #3 - High Wet Well: Trip breaker on wet well pumps. Pump wet well down past shutoff float. Restart system.
5/4/09 6:30 PM	5/5/09 10:30 AM	Alarm Condition #3 - High Wet Well: Trip breaker on wet well pumps. Pump wet well down past shutoff float. Restart system.
5/7/09 5:00 AM	5/7/09 4:00 PM	Alarm Condition #3 - High Wet Well: Trip breaker on wet well pumps. Pump wet well down past shutoff float. Restart system.
5/8/09 5:30 PM	5/10/09 8:15 PM	Alarm Condition #3 - High Wet Well: Trip breaker on wet well pumps. Pump wet well down past shutoff float. Restart system.
5/12/09 11:30 AM	5/12/09 12:00 PM	Routine Pressure Blower Maintenance ⁽¹⁾ . Restarted system.
5/31/09 6:34 AM	6/1/09 7:00 PM	Alarm Condition #3 & #5 - High Wet Well: Trip breaker on wet well pumps. Pump wet well down past shutoff float. Restart system.

NOTES:

1. Maintenance event performed by Systematic Technologies, Inc.

٠

ATTACHMENT C

SYSTEM MAINTENANCE REPORTS

FRANKLIN CLEANERS SITE, ROCKVILLE CENTRE, NY

Date: 3/3/09				
Name of Personnel Onsite	Title	Time Arriv	red Time Dep	parted Total Hours
J. Sorensen	Technician	1300	1345	0.75 on site
Check off Items that were c				
☐ Item 2A: Pressure		nce		
☐ Item 2B: Pressure B			t	
☐ Item 3: Air Stripper			-	
	ctivated Carbon I	Removal and	Replacement	
□ Item 5: Submersible				
Item 6: Non-routine	Maintenance			
Description of Work:				
Item 1: Snow Removal				
Name of Part / Supply / Mat	erial Manufac	turer	Model Number	Quantity Used
				·
Description of Waste Generation	ated Volume of	of Waste	Disposal Facility	Waste Transporter
			(Name & Address)	(Name & Address)
In signing this report I hereby				
inspection activities performed				
between STI and Dvirka and	Bartilucci.		- Luke Sou	Vensen 3/4/09
		Signal	ture / Print / Date	

FRANKLIN CLEANERS SITE, ROCKVILLE CENTRE, NY

				1
Date: 3/5/09		· · ·		
Name of Personnel Onsite	Title	Time Arrived	Time Depar	rted Total Hours
L. Sorensen	President	1340	1410	0.5 on site
 Item 6: Non-routine Description of Work: <u>Item 2A: Pressure Blowe</u> 1. Inspected fan wheel f 2. Inspected fan wheel f 	oval Blower Maintenance lower Fan Wheel F Maintenance tivated Carbon Re Wet Well Pump I Maintenance <u>r Maintenance</u> or wear and corros or buildup of mate	Replacement emoval and Repla Maintenance and sion; rials;		
 Inspected V-belt drive Lubricated motor bea Inspected all setscrev Name of Part / Supply / Mate 	rings and fan bear vs and bolts for tig	ings; htness.	del Number	Quantity Used
Bearing Grease	Mobil		bilith SHC 100	Not Measurable
Description of Waste Genera	ated Volume of		posal Facility me & Address)	Waste Transporter (Name & Address)
In signing this report I hereby inspection activities performe between STI and Dvirka and	ed during this even	t conform to the	requirements spe	ecified under contract

FRANKLIN CLEANERS SITE, ROCKVILLE CENTRE, NY

Date: 4/15/09				
Name of Personnel Onsite	Title	Time Arrived	Time Departed	Total Hours
L. Sorensen	President	1500	1515	0.25 on site, 1.5 travel
J. Sorensen	Technician	1500	1515	0.25 on site 1.5 travel

Check off Items that were completed:

- □ Item 1: Snow Removal
- □ Item 2A: Pressure Blower Maintenance
- □ Item 2B: Pressure Blower Fan Wheel Replacement
- □ Item 3: Air Stripper Maintenance
- □ Item 4: Granular Activated Carbon Removal and Replacement
- Litem 5: Submersible Wet Well Pump Maintenance and Inspection
- ☑ Item 6: Non-routine Maintenance

Description of Work:

Item 6: Non-Routine Maintenance: Diagnose inoperable blower. Found tripped breaker. Reset breaker, problem corrected.

Name of Part / Supply / Material	Manufacturer	Model Number	Quantity Used
Description of Waste Generated	Volume of Waste	Disposal Facility	Waste Transporter
		(Name & Address)	(Name & Address)
		· · · · · · · · · · · · · · · · · · ·	
In signing this report I hereby certif			
inspection activities performed dur	ing this event conform to	o the requirements spe	ecified under contract
between STI and Dvirka and Bartil			
	Signat	ture / Print / Date	· / · ·

FRANKLIN CLEANERS SITE, ROCKVILLE CENTRE, NY

Date: 5/12/09				
Name of Personnel Onsite	Title	Time Arriv	ved Time Depa	arted Total Hours
L. Sorensen	President	1130	1210	.66 on site
			· · · · · · · · · · · · · · · · · · ·	
Check off Items that were c	ompleted:		engeget typeter i ter de sy og er sænnarennande	
Item 1: Snow Remo				
Titem 2A: Pressure	Blower Mainten	ance		
Item 2B: Pressure B		el Replacemei	nt	
Item 3: Air Stripper				
☐ Item 4: Granular Ac			•	
□ Item 5: Submersible		np Maintenanc	e and Inspection	
Item 6: Non-routine	Maintenance			
Description of Work:				
Have OA: Des same Discus				
Item 2A: Pressure Blowe		···· •! - ···		
1. Inspected fan wheel f				
2. Inspected fan wheel t	•		-i	
3. Inspected V-belt drive			ISION	
4. Lubricated motor bea				
5. Inspected all setscrev	ws and doils to	rugniness.		
			·	
Name of Part / Supply / Mat	erial Manufa	cturer	Model Number	Quantity Used
Bearing Grease	Mobil		Mobilith SHC 100	Not Measurable
Dealing Orease				
		,		·
		······································		·····
Description of Waste Gener	ated Volume	of Waste	Disposal Facility	Waste Transporter
			(Name & Address)	(Name & Address)
·····		half		(1000000)
In signing this report I hereb	v certify that to	the hest of my	knowledge the maint	enance and
inspection activities perform				
between STI and Dvirka and				Scrensen 6/1/09
		Sion	ature / Print / Date	

ATTACHMENT D

ANALYTICAL RESULTS

♦2531\SET07279PL-19.doc

FRANKLIN CLEANERS SITE NYSDEC CONTRACT No. D004446 / SITE No. 1-30-050 RESULTS OF ANALYSIS OF EW-1 INFLUENT

(EW-1) WATER 3/11/2009 D&B	(EW-1) WATER 3/25/2009	(EW-1) WATER		<u>(EW-1)</u>	<u>(EW-1)</u>	NYSDEC CLASS GA GROUNDWATER
3/11/2009 D&B		WATER				
D&B	3/23/2009	4/9/2000		WATER	WATER	STANDARDS AND
	D&B	4/8/2009	4/24/2009	5/5/2009	5/18/2009	GUIDANCE VALUES
		D&B	D&B	D&B	<u>D&B</u>	
(ug/L)	(ug/L)	. (ug/L)	(ug/L)	(ug/L)	(ug/L) .	(ug/L)
U U	Ü	· <u> </u>	· · · · · · · · · · · · · · · · · · ·			
U	U U	U	U	U	U	5 ST
		U	U	U	U	
	-	-	-	-	-	2 ST
-	-	-	-	U	-	5 ST
-	-	•	-	U	-	5 ST
	+	-	+	U	-	5 ST
	-	•	•	U	-	5 ST
• •	-	-	-	U	-	5 ST
-		-	-	U	-	50 GV
, v ,	-	-	-	U	-	60 GV
	-	-	-	U	-	
	-	U	U	U	U	5 ST
	-	-	-	U	-	5 ST
U	-	-	-	U	-	10 GV
· · · ·		U	U	U	U	5 ST
1 ¥ 1	-	U	U	U	U	5 ST
U	U .	U	U	U	U	50 GV
U	U	U	U	U	U	7 ST
U	U	U	U	U	U	5 ST
U	U	U	U	U	U	
U	U	U	U	Ū	Ŭ	5 ST
U U	U	U	U	υ	Ū I	1 ST
U	U	U	Ŭ	Ū	ū	0.6 ST
U U	U	Ű	Ű	ŭ	-	5 ST
l u	Ŭ	Ŭ ·	Ű	ŭ	-	
l ú l	ũ	Ŭ	Ű	ŭ		1 ST
Ū	Ŭ	ů	Ű	Ŭ		50 GV
Ū	Ū	Ŭ	-	Ŭ	-	0.4 ST
l ū l	Ŭ	Ŭ	-	- ŭ	-	
Ū Ū	-	ŭ	-	•	-	5 ST
	-	-	-	-	-	0.4 ST
Ŭ	ŭ	ŭ	ŭ			1 ST
18	16	16	13	•	-	5 ST
						50 GV
	-					50 GV
ŭ	-	-		-	-	50 GV
ŭ	-	•	-	-	-	5 ST
	-	° ,	-	•	-	5 ST
U U			-	•	- 1	5 ST
-	-	U U	-		-	
I ŭ I	-		÷	U	-	5 ST
i i l	-	11		U	-	50 GV
		11	-	U		5 ST
0	0	U 11	-	U		5 ST
1				-		3 ST
,	-	-	_	-	-	3 ST
-	-	-		-	-	3 ST
						0.04 ST
		<u> </u>	·		U	<u>5 ST</u>
<u>/</u>	ABBREVIATIONS:		QUALIFIEI	<u>RS:</u>		
YSDEC Class GA	ug/L = Micrograms pe	r liter ST: Standa	ard Value U: Compou	and analyzed for but no	t detected	
	• • •					e estimated
	U U U U U U U U U U U U U U U U U U U	U U U U	U U U U U U	U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U U	U Ú	U Ú

Engwork:_HazWaste\2531 (NYSDEC - Franklin Cleaners Site)\Quarterly Reports\Quarter 9 (Sep 06 - Nov 06)\Quarter 19 Sampling Results.xls

B: Compound detected in method blank as well as sample, value estimated.

FRANKLIN CLEANERS SITE NYSDEC CONTRACT No. D004446 / SITE No. 1-30-050 RESULTS OF ANALYSIS OF EW-2 INFLUENT

					SYSTEM INFLUENT		
SAMPLE ID	(EW-2)	(EW-2)	(EW-2)	(EW-2)	(EW-2)	(EW-2)	NYSDEC CLASS GA
SAMPLE TYPE	WATER	WATER	WATER	WATER	WATER	WATER	GROUNDWATER
DATE OF COLLECTION	3/11/2009	3/25/2009	4/8/2009	4/24/2009	5/5/2009	5/18/2009	STANDARDS AND
COLLECTED BY	D&B	D&B	D&B	D&B	D&B	D&B	GUIDANCE VALUES
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	
VOCs							
Dichlorodifluoromethane	U U	Ú	Ù	U	U	Ŭ	5 ST
Chloromethane	Ι υ	Ú	Ū	Ū	Ŭ	Ŭ	
Vinyl chloride	l u	l ú	Ū	Ŭ	Ū	Ŭ	2 ST
Bromomethane	Ū	Ū	Ŭ	Ū	l ŭ	Ŭ	5 ST
Chloroethane	Ū Ū	Ŭ	Ŭ	Ŭ	l ŭ	Ŭ.	5 ST
Trichlorofluoromethane	Ŭ	Ŭ	Ŭ	Ŭ	Ŭ	Ŭ .	5 ST
1,1-Dichloroethene	Ŭ Ŭ	Ŭ	Ū	Ŭ	Ŭ	Ŭ	5 ST
1,1,2-Trichloro-1,2,2-trifluoroethane	Ŭ	ŭ	l u	U	U U	U	5 ST
Acetone	Ű	U U	U	U	U	U U	
Carbon disulfide	U	U U	U U	U	U	U U	50 GV
Methyl acetate	U	U U	U	U ·		-	60 GV
Methylene chloride	U	U U	-		U	U	
	-	÷		U	U	U	5 ST
trans 1,2-Dichloroethene	U	U	U	U	U	U	5 ST
Methyl-tert butyl ether	U	U	U	U	U	U	10 GV
1,1-Dichloroethane	U	U	U	U	U U	U	5 ST
cis-1,2-Dichloroethene	U	U	U	U	U U	. U	5 ST
2-Butanone	U	U	U	U	U U	U	50 GV
Chloroform	U	U	U	U	U U	U	7 ST
1,1,1-Trichloroethane	U	U	U	U	U U	U	5 ST
Cyclohexane	U	U	U U	U	U U	U	
Carbon tetrachloride	U	U U	U U	U	U U	Ų	5 ST
Benzene	U	U	υ	U	υ υ	U	1 ST
1,2-Dichloroethane	U	U U	υ	υ	Ŭ	U	0.6 ST
Trichloroethene	U	l u	l u	U	Ŭ	Ŭ	5 ST
Methylcyclohexane	Ŭ	Ŭ	Ū	Ŭ	l ŭ	Ŭ	
1,2-Dichloropropane	Ŭ	Ŭ	. ŭ	Ŭ	l ŭ	Ŭ	1 ST
Bromodichloromethane	Ū	Ŭ	Ů	Ŭ	U U	Ű	50 GV
cis-1,3-Dichloropropene	ŭ	Ŭ	Ŭ	υ	Ŭ	Ŭ	0.4 ST
4-Methyl-2-pentanone	Ŭ	Ŭ	Ŭ	U U	Ŭ	Ŭ	0.4 51
Toluene	Ŭ	Ŭ	Ŭ	U	U	·U	5 ST
trans-1,3-Dichloropropene	Ŭ	U U	U	U U	U U	U U	
1,1,2-Trichloroethane	ŭ	U U	U U	U U	U U	U U	0.4 ST
Tetrachloroethene	92	74	61	61	63	53	1 ST
2-Hexanone	U	<u> </u>					5 ST
Dibromochloromethane	U		U U	U U	U	U	50 GV
1,2-Dibromoethane	U	-	-	U	U	U	50 GV
	-	U	U	U	U	U	5 ST
Chlorobenzene	U	U	U	U	U	U	5 ST
Ethylbenzene	U	U	U	U	U	U	5 ST
Xylene (total)	U	U	U	U	U	U	5 ST
Styrene	U	U	U	U	U	U	5 ST
Bromoform	U	U	U	U U	U	· U	50 GV
Isopropylbenzene	U	U U	U	U	U	U	5 ST
1,1,2,2-Tetrachloroethane	U	U U	U	U .	U	U	5 ST
1,3-Dichlorobenzene	U	U U	U	U U	U	U	3 ST
1,4-Dichlorobenzene	U	U	U	U U	U	U	3 ST
1,2-Dichlorobenzene	U	U U	U	U U	U	U	3 ST
1,2-Dibromo-3-chloropropane	U	U U	U	U .	U	Ū	0.04 ST
1,2,4-Trichlorobenzene	U	Ŭ	Ū	Ū	Ŭ	Ŭ	5 ST
	·····		••••••			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
NOTES:		ABBREVIATIONS:		QUALIFIE	<u>K9:</u>		
Concentration exceeds NYS	DEC Class GA	ug/L = Micrograms pe	r liter ST: Standa	ard Value U: Compo	und analyzed for but no	t detected	
Groundwater Standards or G	uidance Values	: Not established		•	und found at a concentr		le estimated
				5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5			

D: Result taken from reanalysis at a secondary dilution

B: Compound detected in method blank as well as the sample, value estimated

E: Compound concentration exceeds instrument calibration range, value estimated

FRANKLIN CLEANERS SITE NYSDEC CONTRACT No. D004446 / SITE No. 1-30-050 RESULTS OF ANALYSIS OF AIR STRIPPER EFFLUENT FOR VOCs

	SYSTEM	SYSTEM	SYSTEM	SYSTEM	SYSTEM	SYSTEM		NYSDEC CLASS GA
SAMPLE ID		EFFLUENT (AS-1)		EFFLUENT (AS-1)			EFFLUENT	GROUNDWATER
SAMPLE TYPE	WATER	WATER	WATER	WATER	WATER	WATER	LIMITATIONS	STANDARDS AND
DATE OF COLLECTION	3/11/2009	3/25/2009	4/8/2009	4/24/2009	5/5/2009	5/18/2009		GUIDANCE VALUES
COLLECTED BY	D&B	D&B	D&B	D&B	D&B	D&B	(
Dichlorodifluoromethane	<u>(ug/L)</u> U	(ug/L) U	(ug/L) U	(ug/L) U	(ug/L) U	(ug/L) U	(ug/L)	(ug/L) 5 ST
Chloromethane	U	U U	U	U	U U	U		
Vinyl chloride	U U	U U	U	U U	U U	U U		 2 ST
Bromomethane	U U	U U	U	U U		U U		5 ST
Chloroethane		U U	U U	U U		U U		5 ST
Trichlorofluoromethane	U U	U	. U		U U	U		5 ST
1.1-Dichloroethene		U	U U			U U		5 ST
1,1,2-Trichloro-1,2,2-trifluoroethane	U	U U	ŭ	i ü	U U	U U		5 ST
Acetone	1	U	U	l ŭ	U	U U		50 GV
Carbon disulfide	u u	Ŭ	υ	l ŭ	Ŭ	u .		60 GV
Methyl acetate	U U	Ŭ	บ บ	l ü	U U	Ŭ		
Methylene chloride	U U	Ŭ	u U	U.	i u	u u		5 ST
trans 1,2-Dichloroethene	U U	U	U	U U		u u		5 ST
Methyl-tert butyl ether		U	U U	U U		u u		10 GV
1,1-Dichloroethane	U U	U	บ บ		U U	U U	10	5 ST
cis-1,2-Dichloroethene	U U	U	U U		. U	U U	10	5 ST
2-Butanone	U U	Ŭ	U U	l ü		U U		
Chloroform	U U	U	U			U U		50 GV 7 ST
1,1,1-Trichloroethane	U U	U	U U	i u	U U	U U		
Cyclohexane	U U	U	U U		U U	U U	10	5 ST
Carbon tetrachloride	U U	U	U		U	U U		
Benzene	U U	U	U U		l U	U U		5 ST
1,2-Dichloroethane	U	Ŭ	U	l ü	U U	U U		1 ST
Trichloroethene	U U	Ŭ	U U	U U		U U		0.6 ST
Methylcyclohexane	U U	U	U	l ü	U U	U U	10	5 ST
1,2-Dichloropropane	U	U	U			U U		
Bromodichloromethane	U	U	U					1 ST
cis-1,3-Dichloropropene	U U	U	U U	U U	-	U U		50 GV
4-Methyl-2-pentanone	Ú	U	U U			U U		0.4 ST
Toluene	U	U U	U U			-		
trans-1,3-Dichloropropene	U U	U	U U		-	U		5 ST
1,1,2-Trichloroethane		U	U U		U	U		0.4 ST
Tetrachloroethene	U U	U	U U			U U		1 ST
2-Hexanone	U U	U U	U	-	-	-	5	5 ST
Z-riexanone Dibromochloromethane			U			U		50 GV
1,2-Dibromoethane			U			U U		50 GV
Chlorobenzene	U	U U	U U	-	-	-		5 ST
Ethylbenzene			U			U		5 ST
Xylene (total)		U U	U			U		5 ST
Styrene			U U		U 1	U		5 ST
Bromoform			U		-	U		5 ST
Isopropylbenzene			U U		U	U		50 GV
1,1,2,2-Tetrachloroethane			U U			U U		5 ST
1,3-Dichlorobenzene	U U		U U			U U		5 ST
1,4-Dichlorobenzene	U		U		-	•		3 ST
1,2-Dichlorobenzene	U U			U	U	U		3 ST
1,2-Dichlorobenzene 1,2-Dibromo-3-chloropropane	U U		U	U		U		3 ST
1,2-Dibromo-3-chloropropane 1,2,4-Trichlorobenzene	U U	U U	U U	U		U		0.04 ST
	<u> </u>		UU	U	U	U		<u>5 ST</u>
NOTES:		ABBREVIATIONS			QUALIFIERS:			
Concentration exceeds S	ite Specific Effluent	ug/L = Micrograms p	er liter ST: Stand	lard Value	U: Compound analy	zed for but not detecte	ėd	
Limitation	•	: Not established						

FRANKLIN CLEANERS SITE NYSDEC CONTRACT No. D004446 / SITE No. 1-30-050 RESULTS OF ANALYSIS OF AIR STRIPPER EFFLUENT IRON, MANGANESE AND pH

SAMPLE ID	SYSTEM	SYSTEM	SYSTEM	SYSTEM	SYSTEM	SYSTEM	an a
SAMPLE TYPE	WATER	WATER	WATER	WATER	EFFLUENT (AS-1)	EFFLUENI (AS-1)	
DATE OF COLLECTION	3/11/2009	3/25/2009	4/8/2009	4/24/2009	WATER	WATER	EFFLUENT LIMITATIONS
COLLECTED BY	D&B	D&B	4/8/2009 D&B		5/5/2009 D&B	5/18/2009 D&B	
JNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	1 1 1 1	D&B	
METALS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
ron	63.3 B	U	U	U	Ú	918	1000
Manganese	27.4 B	23.0 B	26.6 B	24.2 B	24.9 B	451	1000
pH (S.U.)	6.8	6.8	6.8	7.2	7.1	6.9	1000 6.5 to 8.5
		0.0	0.0	1.6	7.1	0.9	0.5 (0 8.5
		1					
				1			
					· .		
BBREVIATIONS:	QUALIFIERS:						

ug/L: Micrograms per liter

B: Concentration is greater than the instrument detection limit (IDL) but less than the Contract Required Detection Limit (CRDL)

FRANKLIN CLEANERS SITE NYSDEC CONTRACT No. D004446 / SITE No. 1-30-050 VAPOR PHASE SAMPLE RESULTS

	CARBON VESSEL NO. 1	CARBON VESSEL NO. 1	CARBON VESSEL NO. 2	CARBON VESSEL NO. 2
SAMPLE ID	INFLUENT	EFFLUENT	INFLUENT	EFFLUENT
SAMPLE TYPE	AIR	AIR	AIR	AIR
COLLECTED BY	D&B	D&B	D&B	D&B
UNITS	(ppm)	(ppm)	(ppm)	(ppm)
		(ppin)		(ppin)
DATE OF COLLECTION	PID Reading	PID Reading	PID Reading	PID Reading
March 3, 2009	0.0	0.0	0.0	0.0
March 11, 2009	0.0	0.0	0.0	0.0
March 19, 2009	0.0	0.0	0.0	0.0
March 25, 2009	0.0	0.0	0.0	0.0
March 31, 2009	0.0	0.0	0.0	0.0
April 8, 2009	0.0	0.0	0.0	0.0
April 17, 2009	0.0	0.0	0.0	0.0
April 24, 2009	0.0	0.0	0.0	0.0
May 5, 2009	0.0	0.0	0.0	0.0
May 12, 2009	0.0	0.0	0.0	0.0
May 18, 2009	0.0	0.0	0.0	0.0
May 28, 2009	0.0	0.0	0.0	0.0
			1	
			4	
		,		
1				
				· · ·

NOTES:

÷

Samples were collected by filling a Tedlar bag at each of the sampling locations. Samples were tested using a handheld photoionization detector (PID).

FRANKLIN CLEANERS SITE NYSDEC CONTRACT No. D004446 / SITE No. 1-30-050 RESULTS OF GROUNDWATER SAMPLING

SAMPLE ID	ASMW-1	ASMW-2	ASMW-3	ASMW-4	ASMW-5	ASMW-6	ASMW-7	NYSDEC CLASS GA
SAMPLE TYPE	WATER	WATER	WATER	WATER	WATER	WATER	WATER	GROUNDWATER
DATE OF COLLECTION	5/18/2009	5/18/2009	5/18/2009	5/18/2009	5/18/2009	5/18/2009	5/18/2009	STANDARDS AND GUIDANCE
COLLECTED BY	D&B	D&B	D&B	D&B	D&B	D&B	D&B	- VALUES
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Dichlorodifluoromethane	U	U	U	U	U	U	U	5 ST
Chloromethane	U U	U	U	U	U	U	Ū	
Vinyl chloride	U U	U	Ų	U	U	U	U U	2 ST
Bromomethane	U	U	U	l U	U	U	Ŭ	5 ST
Chloroethane	U	U	U	U U	U	U	U	5 ST
Trichlorofluoromethane	U	U	U	U U	U	U	U	5 ST
1,1-Dichloroethene	U U	U	U	U	U	U	Ŭ	5 ST
1,1,2-Trichloro-1,2,2-trifluoroethane	U U	U	U	i u	U	Ű	Ū	5 ST
Acetone	U U	U	U	Ι υ	U	Ū	Ŭ	50 GV
Carbon disulfide	U	U	U	υ	U	Ŭ	Ū	60 GV
Methyl acetate	U	U	U	U	U U	Ū	Ŭ	-
Methylene chloride	U	U	U	U	Ū	Ŭ	Ŭ Ŭ	5 ST
trans 1,2-Dichloroethene	U	U	Ŭ	Ŭ	Ū	Ŭ	· ŭ	5 ST
Methyl-tert butyl ether	U	U	Ū	Ŭ	Ū	Ŭ	U U	10 GV
1,1-Dichloroethane	U	U	Ŭ	Ŭ I	Ū	Ŭ	Ŭ	5 ST
cis-1,2-Dichloroethene	U	Ū	Ŭ	Ū	U U	Ŭ	ŭ	5 ST
2-Butanone	U	U U	ũ	Ŭ	Ŭ	Ŭ	U U	50 GV
Chloroform	U	Ū	Ŭ	Ŭ	Ŭ	Ŭ ·	l ŭ	7 ST
1,1,1-Trichloroethane	6.4 J	1 U	Ŭ	Ū	Ŭ	Ű	u u	5 ST
Cyclohexane	U	- u	Ŭ	Ŭ	U U	Ŭ	U U	
Carbon tetrachloride	Ū	Ŭ	Ŭ	Ŭ	U U	U U	U U	5 ST
Benzene	l ū	ŭ	Ŭ	Ŭ	Ŭ	U U	U -	
1.2-Dichloroethane	Ŭ	U U	Ŭ	U U	U U	U	U U	1 ST
Trichloroethene	ů	U U	ŭ	Ŭ	U U	U	U	0.6 ST
Methylcyclohexane	ŭ	U U	Ŭ	u u	U U	U	-	5 ST
1,2-Dichloropropane		U U	Ŭ	U U	U U	U	U	
Bromodichloromethane	Ŭ	U U	U	U U	U U	U	Ŭ	1 ST
cis-1,3-Dichloropropene	U U	U U	Ŭ	U U	U	U U	U	50 GV
4-Methyl-2-pentanone	Ŭ		U	U U		U	U	0.4 ST
Toluene	U U	U U U	U	U U	U U	U	U	
trans-1,3-Dichloropropene	U	U U U	U	U U	U	U	U	5 ST
1.1.2-Trichloroethane	U U	U	U	U U	U	U	U	0.4 ST
Tetrachloroethene	11	10	U		U	U	U	1 ST
2-Hexanone	U U		U U		-	U	U	5 ST
Dibromochloromethane	-		-	U	U	U	U	50 GV
1,2-Dibromoethane	U	U	U	U	U	U	U	50 GV
Chlorobenzene	U	U	U	U	U	U	U	5 ST
		U	· U	U	U	U	U	5 ST
Ethylbenzene	U	U	U	U	U	U	U	5 ST
Xylene (total)	U	U	U	U	U	U	U	5 ST
Styrene	U	U	U	U	U	U	U	5 ST
Bromoform	U	U	U.	U	U	U	U	50 GV
Isopropylbenzene	U	U	U	U	U	U	U	5 ST
1,1,2,2-Tetrachloroethane	U	U	U	U	U	Ų	U	5 ST
1,3-Dichlorobenzene	U	U	U	U	U	U	U	3 ST
1,4-Dichlorobenzene	U	U	U	U	U	U	Ŭ	3 ST
1,2-Dichlorobenzene	U	U	U	U	U	U	Ū	3 ST
1,2-Dibromo-3-chloropropane	U	U	U	U	U	Ŭ	Ū	0.04 ST
1,2,4-Trichlorobenzene	U	U	U	U	U	Ū	Ŭ	5 ST
NOTES:		ABBREVIATIONS:			QUALIFIERS:			
Concentration exceeds NYSE		ug/L = Micrograms per			U: Compound analyze			
Groundwater Standards or Gu	Jidance Values	: Not established	GV: Guida	nce Value	J: Compound found a	t a concentration below	v CRDL, value estim	ated

ATTACHMENT E

PERFORMANCE SUMMARY

♦2531\SET07279PL-19.doc

FRANKLIN CLEANERS SITE NYSDEC CONTRACT No. D004446 / SITE No. 1-30-050 EXTRACTION AND TREATMENT SYSTEM PERFORMANCE RESULTS

	SYSTEM INFLUENT	SYSTEM INFLUENT	SYSTEM INFLUENT	SYSTEM INFLUENT	SYSTEM EFFLUENT		LOTALATED	FOTHATED	ESTIMATED
	(EW-1) AVERAGE	(EW-1) PCE	(EW-2) AVERAGE	(EW-2) PCE	(AS-1) PCE	PCE REMOVAL	ESTIMATED AVERAGE PCE	ESTIMATED SYSTEM	CUMULATIVE PCE
DATE OF SAMPLE	EXTRACTION RATE	CONCENTRATION	EXTRACTION RATE	CONCENTRATION					
COLLECTION	(gpm)	(ug/l)			CONCENTRATION	EFFICIENCY	REMOVAL RATE	RUNTIME	REMOVAL
12/15/2006	(gpiii) 39.3	19	(gpm)	(ug/l)	(ug/l)	(%)	(lb/hr)	<u>(hr)</u>	(lbs)
12/28/2006		the second se	0.0	NS	< 0.5	97.37	3.74E-04	261	28.21
1/7/2007	<u>41.2</u> 38.3	20	0.0	NS	< 0.5	97.50	4.13E-04	309	28.34
1/22/2007	38.9	17	0.0	NS NS	< 0.5 < 0.5	97.06	3.26E-04	311	28.44
2/7/2007	37.9	19				97,22	3.51E-04	289	28.55
			0.0	NS	< 0.5	97.37	3.61E-04	383	28.68
2/23/2007	36.9	13	0.0	NS	< 0.5	96.15	2.40E-04	489	28.80 (1)
3/5/2007	38.0	9J	0.0	NS	< 0.5	94.44	1.71E-04	112	28.82
3/23/2007	41.1	19	_0.0	NS	< 0.5	97.37	3.91E-04	431	28.99
4/3/2007	39.2	20	0.0	. NS	< 0.5	97.50	3.93E-04	190	29.06
4/16/2007	40.5	17	0.0	NS	< 0.5	97.06	3.45E-04	286	29.16
5/2/2007	39.2	. 16	0.0	NS	< 0.5	96.88	3.14E-04	284	29.25
5/16/2007	39.5	16	0.0	ŅS	< 0.5	96.88	3.16E-04	336	29.36
5/29/2007	41.4	1,5	0.0	NS	< 0.5	96.67	3.11E-04	417	29,49 ⁽¹⁾
6/14/2007	39.3	14	0.0	NS	< 0.5	96.43	2.76E-04	284	29.56
6/24/2007	39.3	5	0.0	NS	< 0.5	90.00	9.84E-05	336	29.60
7/10/2007	39.2	12	0.0	NS	< 0.5	95.83	2.36E-04	263	29.66
7/27/2007	37.7	14	0.0	NS	< 0.5	96.43	2.64E-04	182	29.71
8/23/2007	38.3	17	6.5	130	< 0.5	97.35	3.26E-04 4.23E-04	191 28	29.78 (1)
9/5/2007	40.0	14	6.3	53	< 0.5	93.07	4.48E-04	112	29.83
9/21/2007	39.0	9 J	6.3	51	< 0.5	99.06	3.37E-04	359	29.95
10/21/2007	38.4	10	6.1	59	< 0.5	99.18	3.73E-04	484	30.13
10/31/2007	39.9	14	5.9	73	< 0.5	99.40	4.95E-04	233 ·	30.13
11/12/2007	39.4	15 B	5.7	80 B	< 0.5	99.46	5.24E-04	289	30.40
11/26/2007	38.5	13	6.0	64	< 0.5	99,40	4.43E-04		
12/10/2007	40.6	16	6.5	100	< 0.5			407	30.58 (1)
12/27/2008	40.3	13	6.1	73		99.50	6.51E-04	217	30.72
1/7/2008	40.3	12			< 0.5	99.37	4.85E-04	348	30.89
1/21/2008			6.7	75	< 0.5	99.32	4.94E-04	265	31.02
	38.3	14	6.3	86	< 0.5	99.42	5.40E-04	327	31.20
2/7/2008	40.7	15	6.3	81	< 0.5	99,44	5,61E-04	379	31.41
2/19/2008	39.0	16	6.5	90	< 0.5	99,46	6.05E-04	524	31.73 (1)
3/3/2008	40.1	20	5.9	100	< .0.5	99.58	6.97E-04	60	31.77
3/17/2008	40.5	16	6.2	100	< 0.5	99.51	6.35E-04	317	31.97
4/2/2008	39.8	17	6.2	100	< 0,5	99.52	6.49E-04	374	32.21
4/18/2008	38.9	16	6.5	86	< 0.5	99,45	5,92E-04	371	32.43,
5/1/2008	38.3	19	6.4	89	< 0.5	<u>99.5</u> 1	6.50E-04	280	32.62
5/13/2008	40.9	17	6.4	95	< 0.5	99.51	6,53E-04	716	33.08.(1)
6/5/2008	38.6	20	6.5	100	< 0.5	99.54	7.12E-04	110	33,16
6/23/2008	39.9	24	5.9	130	< 0.5	99.66	8.64E-04	247	33.37
7/10/2008	39.8	12	6.0	64	< 0.5	99.31	4.30E-04	394	33.54
7/25/2008	39.6	14	6.0	· 71	< 0.5	99.39	4,91E-04	327	33.70
8/7/2008	40.2	14	5,9	66	< 0.5	99,38	4.77E-04	279	33.84
8/21/2008	40.3	13	6.0	61	< 0.5	99,33	4.46E-04	510	34.06 (1)
9/5/2008	39.0	13	6.0	60	< 0,5	99.31	4.34E-04	110	34.11
9/19/2008	39.6	15	6.1	82	< 0.5	99.44	5.48E-04	327	34.29
10/3/2008	40.1	12	6.1	51	< 0.5	99.23	3.97E-04	338	34.43
10/16/2008	39.0	. 11	6.2	64	< 0.5	99.25	4.14E-04	311	34.55
10/30/2008	39.5	12	5.8	45	< 0.5	99.21	3.68E-04	248	34.65
11/12/2008	39.8	12	6.0	64	< 0.5	99.30	4.31E-04	312	34.78
11/25/2008	39.9	16	6.1	80	< 0.5	99.46	5.64E-04	430	35.02 (1)
12/9/2008	39.7	16	6.2	78	< 0.5	99.45	5.60E-04	207	35.14
12/24/2008	40.4	13	6.4	57	< 0.5	99,28	4.46E-04	300	35.27
1/8/2009	39.9	12	6.1	53	< 0.5	99,24	4.02E-04	361	35.42
1/19/2009	40.3	14	6,1	61	< 0.5	99,24	4.69E-04	269	35.42
2/2/2009	40.3	12	6,1	56	< 0.5	99.35	4.69E-04 4.13E-04	323	
2/26/2009	39.1	12	5.6	69	< 0.5	99.26			35.68
3/11/2009	40.1	18	5.7	92			5.07E-04	581	35.97 (1)
3/25/2009	40.1 39.0	16			< 0.5	99.54	6.24E-04	253	36.13
			5.3	74	< 0.5	99.48	5,09E-04	335	36.30
4/8/2009	39.2	16	5.3	61	< 0.5	99,44	4,76E-04	334	36.46
4/24/2009	40.4	13	5.2	61	< 0.5	99.38	4,22E-04	277	36.58
5/5/2009	39.5	16	5.2	63	< 0,5	99.46	4.81E-04	186	36,67
5/18/2009	40.5	13	5.5	53	< 0.5	99.33	4,10E-04	554	36.89 (1)

NOTES:

ABBREVIATIONS:

QUALIFIERS:

1. Performance results for the reporting period are shaded. 2. Estimated through the end of the reporting period.

gpm: gallons per minute ug/L: micrograms per liter lb/hr: pounds per hour NS: Not sampled

D: Result taken from reanalysis at a secondary dilution

J: Compound found at a concentration below CRDL, value estimated

B: Compound detected in method blank as well as the sample, value estimated E: Compound concentration exceeds instrument calibration range, value estimated

ATTACHMENT F

MONITORING WELL TREND LINE

◆2531\SET07279PL-19.doc

GRAPH 1

Franklin Cleaners Site NYSDEC Contract No. D004446 / Site No. 1-30-050 Groundwater Monitoring Well ASMW-1



Sample Collection Timeline (Months)

7/30/2009 9:06 AM

GRAPH 2

Franklin Cleaners Site NYSDEC Contract No. D004446 / Site No. 1-30-050 Groundwater Monitoring Well ASMW-2



Sample Collection Timeline (Months)

7/30/2009 9:06 AM

GRAPH 3

Franklin Cleaners Site NYSDEC Contract No. D004446 / Site No. 1-30-050 Groundwater Monitoring Well ASMW-3



Sample Collection Timeline (Months)

ATTACHMENT G

.

DATA VALIDATION CHECKLISTS

DATA VALIDATION CHECK LIST

Project Name:	Franklin Cleaners
Project Number:	2531-03
Sample Date(s):	March 11, 2009
Matrix/Number of Samples:	<u>Water/3</u> Trip Blank/0
Analyzing Laboratory:	Mitkem Laboratories, Warwick, RI
Analyses:	Volatile Organic Compounds (VOCs): OLM4.2 Metals: Iron and manganese by USEPA SW846 Method 6010
Laboratory Report No:	SH0364 Date:3/27/2009

ORGANIC ANALYSES

VOCS

	Reported		Performance Acceptable		Not	
	No	Yes	No	Yes	Required	
1. Holding times		X		X		
2. Blanks						
A. Method blanks		Х		Х		
B. Trip blanks					X	
C. Field blanks					Х	
3. Matrix spike (MS) %R					Х	
4. Matrix spike duplicate (MSD) %R					Х	
5. MS/MSD precision (RPD)					X	
6. Laboratory Control Sample (LCS) %R		Х		Х		
7. LCS duplicate (LCSD) %R					X	
8. LCS/LCSD precision (RPD)					X	
9. Surrogate spike recoveries		Х		Х		
10. Instrument performance check		X		Х		
11. Internal standard retention times and areas		Х		Х		
12. Initial calibration RRF's and %RSD's		X		Х		
13. Continuing calibration RRF's and %D's		Х	X			
14. Field duplicates RPD	1				X	
OCs - volatile organic compounds %D - percent diffe R - percent recovery %RSD - percent re		deviation		RF - relative res PD - relative pe		

Comments:

Performance was acceptable with the following exception:

13. The %D was above the QC limit of 25 % for acetone, cyclohexane, 2-butanone, methylcyclohexane and 1,2-dibromo-3chloropropane in the continuing calibration associated with all samples. The above compounds were qualified as estimated (J/UJ) in all samples.

J:_HazWaste\2531 (NYSDEC - Franklin Cleaners Site)\Data validation\wat_SH0364_031109.doc

INORGANIC ANALYSES METALS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks				1	
A. Preparation and calibration blanks		X		X	
B. Field blanks					X
3. Initial calibration verification %R	•	X		X	
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R				1	X
6. Interference check sample %R		X		X	
7. Laboratory control sample %R		X		X	
8. Spike sample %R					X
9. Post digestive spike sample %R			·	1	X
10. Duplicate %RPD				1	. X
11. Serial dilution check %D		1		1	X
12. Field duplicates RPD				1	X

%R - percent recovery %D - percent difference

RPD - relative percent difference

Comments:

Performance was acceptable.

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 08/18/2009
VALIDATION PERFORMED BY SIGNATURE:	1h-p

J:_HazWaste\2531 (NYSDEC - Franklin Cleaners Site)\Data validation\wat_SH0364_031109.doc

DATA VALIDATION CHECK LIST

Project Name:	Franklin Cleaners
Project Number:	2531-03
Sample Date(s):	March 19&20, 2009
Matrix/Number	<u>Water/7</u> Trip Blank/1
of Samples:	
Analyzing Laboratory:	Mitkem Laboratories, Warwick, RI
Analyses:	Volatile Organic Compounds (VOCs): OLM4.2

Laboratory Report No:

SH0449

Date:3/27/2009

ORGANIC ANALYSES

	Reported			Performance Acceptable	
	No	Yes	No	Yes	Required
1. Holding times		Х		Х	
2. Blanks	1				
A. Method blanks		Х		Х	
B. Trip blanks		Х		Х	
C. Field blanks					X
3. Matrix spike (MS) %R					X
4. Matrix spike duplicate (MSD) %R					X
5. MS/MSD precision (RPD)					X
6. Laboratory Control Sample (LCS) %R		X ·		·X	
7. LCS duplicate (LCSD) %R					X
8. LCS/LCSD precision (RPD)					X
9. Surrogate spike recoveries		Х		Х	
10. Instrument performance check		Х]	Х	
11. Internal standard retention times and areas		Х		Х	
12. Initial calibration RRF's and %RSD's		Х	· ·	Х	
13. Continuing calibration RRF's and %D's		X	X		
14. Field duplicates RPD					X
OCs - volatile organic compounds %D - percent diffe		Auronaumanna		RF - relative res	
R - percent recovery %RSD - percent r	elative standan	d deviation	R	PD - relative pe	rcent difference
omments:					

Performance was acceptable with the following exception:

13. The %D was above the QC limit of 25 % for carbon disulfide, 2-butanone, 4-methyl-2pentanone and 2-hexanone in the continuing calibration associated with all samples. The above compounds were qualified as estimated (J/UJ) in all samples.

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 08/18/2009
VALIDATION PERFORMED BY SIGNATURE:	De-Da

J:_HazWaste\2531 (NYSDEC - Franklin Cleaners Site)\Data validation\wat_SH0449_031909.doc

Pages 1/1

DATA VALIDATION CHECK LIST

Project Name:	Franklin Cleaners		
Project Number:	2531-03		
Sample Date(s):	March 25, 2009		
Matrix/Number of Samples:	<u>Water/3</u> Trip Blank/0		
Analyzing Laboratory:	Mitkem Laboratories, Wa	rwick, RI	•
Analyses:	Volatile Organic Compound Metals: Iron and mangane	<u>unds (VOCs):</u> OLM4.2 ese by USEPA SW846 Method 6010	
Laboratory Report No:	SH0476	Date:4/22/2009	

ORGANIC ANALYSES

V	Ο	С	S

Report No:

	Reported		1	ormance eptable	Not
	No	Yes	No	Yes	Required
1. Holding times		Х		X	
2. Blanks					····· ·
A. Method blanks		X	X		
B. Trip blanks					· X
C. Field blanks					Х
3. Matrix spike (MS) %R					X
4. Matrix spike duplicate (MSD) %R					X
5. MS/MSD precision (RPD)					X
6. Laboratory Control Sample (LCS) %R		Х		X	
7. LCS duplicate (LCSD) %R					Х
8. LCS/LCSD precision (RPD)					X
9. Surrogate spike recoveries		Х		X	
10. Instrument performance check		Х		X	
11. Internal standard retention times and areas		Х		X	
12. Initial calibration RRF's and %RSD's		X	1	• X	
13. Continuing calibration RRF's and %D's	,	X	X		
14. Field duplicates RPD					X
Cs - volatile organic compounds %D - percent differ R - percent recovery %RSD - percent rel		deviation		RF - relative res PD - relative per	

Comments:

Performance was acceptable with the following exceptions:

- 2A. 1,2,4-Trichlorobenzene was detected in the method blank. 1,2,4-Trichlorobenzene was not detected in the associated samples therefore qualification of the data was not necessary.
- 13. The %D was above the QC limit of 25 % for 2-hexanone in the continuing calibration associated with all samples. The above compounds were qualified as estimated (J/UJ) in all samples.

J:_HazWaste\2531 (NYSDEC - Franklin Cleaners Site)\Data validation\wat_SH0476_032509.doc

INORGANIC ANALYSES METALS ſ

		orted	Performance Acceptable		Not
1. Holding times	No	Yes	No	Yes	Required
2. Blanks		X		X	
A. Preparation and calibration blanks					
B. Field blanks		<u>.</u> X		X	
3. Initial calibration verification %R	+		-		X
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R		X		X	
6. Interference check sample %R					X
7. Laboratory control sample %R	+	X		X	
8. Spike sample %R	+	X		X	
9. Post digestive spike sample %R	+	X		X	
10. Duplicate %RPD	+				X
11. Serial dilution check %D	<u> </u>	X		X	
12. Field duplicates RPD	<u> </u>	X		X	<u> </u>
- percent recovery %D - percent diffe	I]		- relative per		X

<u>Comments:</u> Performance was acceptable.

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 08/18/2009
VALIDATION PERFORMED BY SIGNATURE:	la-2

J:_HazWaste\2531 (NYSDEC - Franklin Cleaners Site)\Data validation\wat_SH0476_032509.doc

DATA VALIDATION CHECK LIST

Project Name:	Franklin Cleaners		
Project Number:	2531-03		
Sample Date(s):	April 8, 2009		
Matrix/Number of Samples:	<u>Water/3</u> Trip Blank/0		
Analyzing Laboratory:	Mitkem Laboratories, Warw	ick, RI	
Analyses:	Volatile Organic Compound Metals: Iron and manganese	<u>s (VOCs):</u> OLM4.2 by USEPA SW846 Method 6010	
Laboratory Report No:	SH0580	Date:4/28/2009	

ORGANIC ANALYSES

VOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		Х	1 1	x	
2. Blanks		······································			
A. Method blanks		Х	1	Х	
B. Trip blanks					X
C. Field blanks					X
3. Matrix spike (MS) %R					X
4. Matrix spike duplicate (MSD) %R					X
5. MS/MSD precision (RPD)					X
6. Laboratory Control Sample (LCS) %R		Х		X	
7. LCS duplicate (LCSD) %R					Х
8. LCS/LCSD precision (RPD)					X
9. Surrogate spike recoveries		Х		X	
10. Instrument performance check		X		X	
11. Internal standard retention times and areas	1	Х	1	Х	
12. Initial calibration RRF's and %RSD's	1	Х		X	
13. Continuing calibration RRF's and %D's		Х	X		
14. Field duplicates RPD					X
OCs - volatile organic compounds %D - percent diffe R - percent recovery %RSD - percent re		l deviation		RF - relative res PD - relative pe	

Comments:

Performance was acceptable with the following exception:

13. The %D was above the QC limit of 25 % for trichlorofluoromethane and acetone in the continuing calibration associated with all samples. The above compounds were qualified as estimated (J/UJ) in all samples.

J:_HazWaste\2531 (NYSDEC - Franklin Cleaners Site)\Data validation\wat_SH0580_040809.doc

INORGANIC ANALYSES METALS

eported Yes X X X X X X	No	yes X X X	Not Required
X		X	X
X		X	X
X		X	·X
			X
X		v	
		X	
			X
X		X	1
X		X	
X	1	X	
X		X	
X		X	1
			X
	X X X X	X X X X	X X X X

Comments:

Performance was acceptable.

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 08/18/2009
VALIDATION PERFORMED BY SIGNATURE:	le-2~

J:_HazWaste\2531 (NYSDEC - Franklin Cleaners Site)\Data validation\wat_SH0580_040809.doc

DATA VALIDATION CHECK LIST

Project Name:	Franklin Cleaners	
Project Number:	2531-03	
Sample Date(s):	April 24, 2009	
Matrix/Number of Samples:	<u>Water/3</u> Trip Blank/0	
Analyzing Laboratory:	Mitkem Laboratories, Wa	rwick, RI
Analyses:	Volatile Organic Compou Metals: Iron and mangane	nds (VOCs): OLM4.2 se by USEPA SW846 Method 6010
Laboratory Depart Net	SH0709	Date:5/11/2009

ORGANIC ANALYSES

١	IO	C	2
	\sim	`	ື

Report No:

•	Rep	Reported		Performance Acceptable	
· · · ·	No	Yes	No	Yes	Required
1. Holding times		X		Х	
2. Blanks					
A. Method blanks		Х		X	
B. Trip blanks					X
C. Field blanks					X
3. Matrix spike (MS) %R					X
4. Matrix spike duplicate (MSD) %R					X
5. MS/MSD precision (RPD)]				X
6. Laboratory Control Sample (LCS) %R		Х		X	
7. LCS duplicate (LCSD) %R			· ·		X
8. LCS/LCSD precision (RPD)		•			X
9. Surrogate spike recoveries		Х		X	
10. Instrument performance check		Х	Î	X	
11. Internal standard retention times and areas		X		X	
12. Initial calibration RRF's and %RSD's		Х		X	5
13. Continuing calibration RRF's and %D's		X	X ·		
14. Field duplicates RPD					X
DCs - volatile organic compounds %D - percent diffe R - percent recovery %RSD - percent recovery		deviation		RF - relative res PD - relative pe	

Comments:

Performance was acceptable with the following exception:

13. The %D was above the QC limit of 25 % for 2-butonone and acetone in the continuing calibration associated with all samples. The above compounds were qualified as estimated (J/UJ) in all samples.

J:_HazWaste\2531 (NYSDEC - Franklin Cleaners Site)\Data validation\wat_SH0709_042409.doc

INORGANIC ANALYSES METALS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation and calibration blanks		X		X	
B. Field blanks					X
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R					X
6. Interference check sample %R		X		X	
7. Laboratory control sample %R		X		X	
8. Spike sample %R		1.			X
9. Post digestive spike sample %R	·				X
10. Duplicate %RPD					X
11. Serial dilution check %D					X
12. Field duplicates RPD			·		X
R - percent recovery %D - percent diffe	rence	RP	D - relative p	ercent differen	ce

Comments:

Performance was acceptable.

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 08/18/2009
VALIDATION PERFORMED BY SIGNATURE:	l-R-

J:_HazWaste\2531 (NYSDEC - Franklin Cleaners Site)\Data validation\wat_SH0709_042409.doc

DATA VALIDATION CHECK LIST

Project Name:	Franklin Cleaners		
Project Number:	2531-03		4
Sample Date(s):	May 5, 2009		
Matrix/Number of Samples:	<u>Water/3</u> Trip Blank/0		
Analyzing Laboratory:	Mitkem Laboratories, Warwick, RI		•
Analyses:	Volatile Organic Compounds (VOCs) Metals: Iron and manganese by USEP		
Laboratory Report No:	SH0780	Date:5/26/2009	

ORGANIC ANALYSES VOCS

Report No:

	Rep	orted		rmance eptable	Not
	No	Yes	No	Yes	Required
1. Holding times		X		Х	
2. Blanks			· · ·		
A. Method blanks		Х		X	
B. Trip blanks					X
C. Field blanks					X
3. Matrix spike (MS) %R					X
4. Matrix spike duplicate (MSD) %R					X
5. MS/MSD precision (RPD)					X
6. Laboratory Control Sample (LCS) %R		X		X	
7. LCS duplicate (LCSD) %R					X
8. LCS/LCSD precision (RPD)					X
9. Surrogate spike recoveries		Х		X	
10. Instrument performance check		X		X	
11. Internal standard retention times and areas		Х		X	
12. Initial calibration RRF's and %RSD's		X		X	* .
13. Continuing calibration RRF's and %D's		Х	X		
14. Field duplicates RPD					X
OCs - volatile organic compounds %D - percent diffe R - percent recovery %RSD - percent recovery		l deviation		RF - relative res RPD - relative pe	

Comments:

Performance was acceptable with the following exception:

13. The %D was above the QC limit of 25 % for bromomethane and acetone in the continuing calibration associated with all samples. The above compounds were qualified as estimated (J/UJ) in all samples.

J:_HazWaste\2531 (NYSDEC - Franklin Cleaners Site)\Data validation\wat_SH0780_050509.doc

Pages 1/2

INORGANIC ANALYSES METALS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation and calibration blanks		X		X	
B. Field blanks					·X
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R					X
6. Interference check sample %R		X		X	
7. Laboratory control sample %R		X		X	
8. Spike sample %R		X		X	
9. Post digestive spike sample %R					X
10. Duplicate %RPD		X		X	
11. Serial dilution check %D		X		X	
12. Field duplicates RPD					X
R - percent recovery %D - percent diff	ference	RF	D - relative po	ercent differen	ice

Comments:

Performance was acceptable.

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 08/18/2009
VALIDATION PERFORMED BY SIGNATURE:	el man

J:_HazWaste\2531 (NYSDEC - Franklin Cleaners Site)\Data validation\wat_SH0780_050509.doc

Pages 2/2

DATA VALIDATION CHECK LIST

Project Name:	Franklin Cleaners		
Project Number:	2531-03		·.
Sample Date(s):	May 18, 2009		
Matrix/Number of Samples:	<u>Water/10</u> Trip Blank/1		
Analyzing Laboratory:	Mitkem Laboratories, Wa	rwick, RI	
Analyses:	Volatile Organic Compour Metals: Iron and mangane	<u>nds (VOCs):</u> OLM4.2 se by USEPA SW846 Method 6010	
Laboratory Report No:	SH0873	Date:5/29/2009	

ORGANIC ANALYSES

VOCS

	Reported		Performance Acceptable		Not	
· · · · · · · · · · · · · · · · · · ·	No	Yes	No	Yes	Required	
1. Holding times		X		X		
2. Blanks						
A. Method blanks	·	Х		X		
B. Trip blanks		Х		X		
C. Field blanks					X	
3. Matrix spike (MS) %R				-	X	
4. Matrix spike duplicate (MSD) %R				-	X	
5. MS/MSD precision (RPD)					X	
6. Laboratory Control Sample (LCS) %R		X		X		
7. LCS duplicate (LCSD) %R		* .			X	
8. LCS/LCSD precision (RPD)					X	
9. Surrogate spike recoveries		X		X		
10. Instrument performance check		Х		X		
11. Internal standard retention times and areas		Х		X		
12. Initial calibration RRF's and %RSD's		Х		X		
13. Continuing calibration RRF's and %D's	•	X	X			
14. Field duplicates RPD	1				X	
OCs - volatile organic compounds %D - percent diffe R - percent recovery %RSD - percent n		deviation		RF - relative re PD - relative pe	sponse factor ercent difference	

Comments:

Performance was acceptable with the following exception:

13. The %D was above the QC limit of 25 % for dichlorodifluoromethane, bromomethane and chloroethane in the continuing calibration associated with all samples. The above compounds were qualified as estimated (J/UJ) in all samples.

J:_HazWaste\2531 (NYSDEC - Franklin Cleaners Site)\Data validation\wat_SH0873_051809.doc

INORGANIC ANALYSES METALS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	•
2. Blanks					
A. Preparation and calibration blanks		X		X	
B. Field blanks					X
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R					X
6. Interference check sample %R		X		X	
7. Laboratory control sample %R		X		X	
8. Spike sample %R]	X
9. Post digestive spike sample %R				1	X
10. Duplicate %RPD					X
11. Serial dilution check %D				1	X
12. Field duplicates RPD					X

Comments:

Performance was acceptable.

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 08/18/2009
VALIDATION PERFORMED BY SIGNATURE:	le - h

J:_HazWaste\2531 (NYSDEC - Franklin Cleaners Site)\Data validation\wat_SH0873_051809.doc