12 Metro Park Road, Albany, New York 12205

October 8, 2001

Mr. Carl Hoffman, P.E.
New York Department of Environmental Conservation
Operation and Maintenance Section – Bureau of Hazardous Site Control
Division of Environmental Remediation
625 Broadway
11th Floor
Albany, New York 12233 - 7016

Re: **ServAll Laundry Site**
Bay Shore, Suffolk County
Site No. 1-52-077, Work Assignment No. D003821-19
Monthly Report August 2001

Telephone
518.458.1313
Facsimile
518.458.2472

Dear Mr. Hoffmann:

This is the Monthly Report for August 2001, the seventh monthly report submitted under Work Assignment No. D003821-19

The plant processed a total volume of 4,224,010 gallons of water at an average flow rate of 113.73 GPM for the month of August. In this sampling event the total influent volatile organic compounds (VOCs) concentration was 16.72 ppb (see discussion below regarding blank correction). Most compounds detected in the influent sample fell into the chlorinated solvent category, as would be expected with groundwater impacts arising from a dry cleaning operation. The plant removed approximately 50 percent of the influent VOCs. No iron was detected in the system effluent sample during this sampling event. The effluent manganese concentration was 603 ppb, which is above the discharge criteria of 600 ppb. This result is consistent with historical sampling results for manganese.

Review of the laboratory report for this sampling round found methyl-tert-butyl ether (MTBE), cis-1,2-dichloroethene, chloroform, 1,1,1-trichloroethane, trichloroethene, and tetrachloroethene to be present at concentrations of 4.2, 0.23, 0.22, 0..37, 0.7, and 11 ug/L, respectively, for the influent sample. In the effluent sample acetone, MTBE, bromodichloromethane, chloroform, and tetrachloroethene were found to be present at concentrations of 4.1, 0.16, 1.1, 2.7, and 0.18 ug/L, respectively.

Based on telephone conversations Earth Tech had with Severn Trent Laboratories, in February 2001, Methylene chloride, MTBE, and acetone are all common laboratory contaminants for this laboratory. USEPA data validation procedures state, that when contamination is seen in a laboratory method blank, trip blank, or field blank a factor of ten times the blank concentration for a common laboratory contaminant is used to "correct" sample results. For other blank contaminants, a factor of five times the blank concentration is used to "correct" sample results.

12 Metro Park Road, Albany, New York 12205

Mr. Carl Hoffman
NYSDEC
ServAll Laundry Site
August 2001 Report

The table below presents a summary of the blank results and there associated sample results.

Compound	Blank (VBLKLG) Concentration	Trip Blank	Effluent Concentration	Influent Concentration	UV-OX
methyl-tert-butyl-ether	ND	ND	0.16	4.2	0.15
methylene chloride	.53	0.59	ND	ND	ND
Acetone	ND	ND	4.1	ND	4.1
chloroform	ND	ND	2.7	0.22	0.43
bromodichloromethane	ND	ND	1.1	ND	ND

Telephone
518.458.1313
Facsimile
518.458.2472

Chloroform is not a common laboratory contaminant, and it was not found to be present in any of the blanks analyzed with the samples. To be conservative the chloroform concentration present in the influent and effluent samples was included in the total volatile organics calculation, and when calculating the overall contaminant reduction efficiency.

As shown in the table above, MTBE was present in both the influent and effluent samples, but not in any of the associated blanks. Earth Tech reported in the February 2001 monthly summary report that the presence of MTBE, in the samples associated with that report, was the result of laboratory contamination. The blank data for this sampling event does not support that same conclusion. To be conservative the MTBE concentration present in the influent was included in the total volatile organics calculation, and when calculating the overall contaminant reduction efficiency. Earth Tech will continue to follow this issue in the future, and data will be evaluated as described above for blank correction with regards to MTBE when appropriate.

Acetone is a common laboratory contaminant, however it was not found to be present in the influent sample or any of the blanks associated with the samples. Because there is no support for laboratory contamination (i.e. method blank) with acetone, to be conservative the results for this compound in the effluent sample were included in the total volatile organics calculation, and when calculating the overall contaminant reduction efficiency.

Bromodichloromethane is not a common laboratory contaminant, or a historical contaminant of concern at the site. However, it is a member of the trihalomethane family. As the table above illustrates bromodichloromethane was shown to be present in the system effluent sample, however this compound was not found to be present in the influent sample or any of the blanks associated with the samples. In a telephone conversation with the Laboratory Director at Severn Trent Laboratories Mr. Jeffery Curran in March, regarding this contamination, he stated that trihalomethane compounds are not laboratory contaminants. Because there is no support for laboratory contamination (i.e. method blank) with bromodichloromethane, to be conservative the results for this compound in the effluent sample were included in the total volatile organics

12 Metro Park Road, Albany, New York 12205

Mr. Carl Hoffman
NYSDEC
ServAll Laundry Site
August 2001 Report

calculation, and when calculating the overall contaminant reduction efficiency.

The typical effluent pH range at the plant is between 6 and 9 SU. The pH seen in the influent is within that range with a value of 6.18. The effluent is also within the range (pH = 6.10). The overall effluent water quality data (TSS, Total Solids, Alkalinity, and pH) were consistent with historical laboratory and daily on-site monitoring data.

The following non-routine, system maintenance activities were conducted by H2M during the reporting period:

Telephone

518.458.1313

Facsimile

518.458.2472

- On 8/1/01 new resistors were purchased (size 249 Ohm with 1% tolerance). Failed resistors replaced on master control panel. Peroxide pump rate lowered
- On 8/3/01 system down upon arrival. Extraction well circuit breaker tripped. System was restarted.
- On 8/10/01 1000 gallons of 25% caustic soda, diaphragm grade was ordered.
- On 8/14/01 system was down upon arrival due to an electrical problem with lamp #3. This problem was repaired. An electrical surge shut the system down again and it was restarted. The caustic soda order stated above was received.
- On 8/27/01 repairs were made to the sodium hypochlorite pump. System was restarted

A complete list of all maintenance activities for this month are in the attached operations and maintenance letter summary submitted by the H2M Group dated July 5, 2001.

If you have any questions or comments regarding this report please feel free to contact me at (518) 437-8310.

Very truly yours,

C. Brett Mongillo

C. Brett Mongillo
Manager Chemistry and Sampling Services
Earth Tech, Inc.

Enclosures

Servall Laundry
Site No. 1-52-077
Groundwater Remediation -2001 Operation and Maintenance

Summary Report

Plant Operating Data	unit	Monthly Average (to date)	Monthly Average (2001)	February-01	March-01	April-01	May-01	June-01
Flow Rate	gpm	116	122	146.1	144.11	129.22	101.99	100.64
Gallons processed	gallons	3373594	3073884	1,706,490	5,546,940	4,526,670	326,040	1,710,410
Percent of Time Operating	%	1	2	790%	92%	68%	5%	26%
Pounds of VOCs Treated	lb	1	0	0.09	0.41	0.37	NA	0.15
Influent VOC concentration	ug/L	103	13	8.1	14.79	22.43	NA	10.53
Effluent VOC concentration	ug/L	8	6	2.1	6.01	12.54	NA	0
Influent Total Iron	ug/L	1709	158	0	210	240	NA	0
Effluent Total Iron	ug/L	323	0	0	0	0	NA	0
Influent Total Manganese	ug/L	742	783	756	874	815	NA	862
Effluent Total Manganese	ug/L	583	769	766	870	813	NA	866
VOC removal efficiency	%	81.7%	51.42%	74.1%	59.4%	44.1%	0.0%	100.0%
Total Iron removal efficiency	%	#DIV/0!	#DIV/0!	0.0%	100.0%	100.0%	0.0%	#DIV/0!
Total Manganese removal efficiency	%	10.1%	1.54%	-1.3%	0.5%	0.2%	0.0%	-0.5%
Cartridge Filters	ea	1	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Sodium hypochlorite (12%)	lb	634	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Polymer	lb	25	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Hydrogen peroxide (50%)	lb	3705	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Caustic (50%)	lb	2074	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Hydrochloric Acid	lb	65	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Spare Parts or other	at cost	443	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Sludge generated (20% dewatered)	gal	19	0	0	0	0	0	0
Sludge disposed of	gal	14	0	0	0	0	0	0
Electricity (estimated)	kw hr	39891	37800	*NA*	*NA*	*NA*	*NA*	*NA*
Gas (estimated)	therms	854	800	*NA*	*NA*	*NA*	*NA*	*NA*
Compliance Sampling	at cost	893	650	*NA*	*NA*	*NA*	*NA*	*NA*
Operator	Month	8927	6700	*NA*	*NA*	*NA*	*NA*	*NA*
Redevelopment	at cost	2048	0	*NA*	*NA*	*NA*	*NA*	*NA*
Management & Engineering	at cost	2874	3200	*NA*	*NA*	*NA*	*NA*	*NA*
Consumables cost	*$*	$3,160	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Sludge disposal cost	*$*	$50	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Utilities cost	*$*	$3,889	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Services cost	*$*	*$14,742*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Operating Cost (Estimated)	***$***	***$21,841***	***$0***	*NA*	*NA*	*NA*	*NA*	*NA*

Notes:
NA = Not Available

Servall Laundry
Site No. 1-52-077
Groundwater Remediation -2001 Operation and Maintenance

Summary Report

Plant Operating Data	unit	July-01	August-01	September-01	October-01	November-01	December-01	Total Year 2001
Flow Rate	gpm	117.3	113.73					-
Gallons processed	gallons	3,476,630	4,224,010					21,517,190
Percent of Time Operating	%	54%	63%					157%
Pounds of VOCs Treated	lb	0.06	0.30					1.38
Influent VOC concentration	ug/L	6.75	16.72					79.32
Effluent VOC concentration	ug/L	4.61	8.24					33.50
Influent Total Iron	ug/L	189	308					947
Effluent Total Iron	ug/L	0	0					0
Influent Total Manganese	ug/L	780	609					4,696
Effluent Total Manganese	ug/L	695	603					4,613
VOC removal efficiency	%	31.7%	50.7%					51.4%
Total Iron removal efficiency	%	100.0%	100.0%					#DIV/0!
Total Manganese removal efficiency	%	10.9%	1.0%					1.5%
Cartridge Filters	ea	*NA*	*NA*					0
Sodium hypochlorite (12%)	lb	*NA*	*NA*					0
Polymer	lb	*NA*	*NA*					0
Hydrogen peroxide (50%)	lb	*NA*	*NA*					0
Caustic (50%)	lb	*NA*	*NA*					0
Hydrochloric Acid	lb	*NA*	*NA*					0
Spare Parts or other	at cost	*NA*	*NA*					$0
Sludge generated (20% dewatered)	gal	0	0					0
Sludge disposed of	gal	0	0					0
Electricity (estimated)	kw hr	*NA*	*NA*					0
Gas (estimated)	therms	*NA*	*NA*					7,200
Compliance Sampling	at cost	*NA*	*NA*					$0
Operator	Month	*NA*	*NA*					$0
Redevelopment	at cost	*NA*	*NA*					$0
Management & Engineering	at cost	*NA*	*NA*					$0
Consumables cost	*$*	*NA*	*NA*					$0
Sludge disposal cost	*$*	*NA*	*NA*					$0
Utilities cost	*$*	*NA*	*NA*					$0
Services cost	*$*	*NA*	*NA*					$0
Operating Cost (Estimated)	***$***	*NA*	*NA*					**$0**

Notes:
NA = Not Available

Servall Laundry Site
Site No. 1-52-077
Groundwater Remediation - Operation and Maintenance

2001 Compliance Sampling - UNCORRETED

Influent	2001 DATA											
Constituents	Discharge Criteria	units	February		March		April		May		June	
Chlorobenzene	5	ug/L		U		U		U	NA			U
Vinyl Chloride	2	ug/L		U		U		U	NA			U
1,1-Dichloroethene	5	ug/L		U		U		U	NA			U
Trichloroethene	5	ug/L	0.8		0.76		0.75		NA		0.83	
Tetrachloroethene	5	ug/L	5.1		11		15		NA		5.7	
1,1-Dichloroethane	5	ug/L		U		U		U	NA			U
Toluene	5	ug/L		U		U		U	NA			U
cis-1,2-Dichloroethene	5	ug/L		U		U	0.4	J	NA			U
trans-1,2-Dichloroethene	5	ug/L		U		U		U	NA			U
Methylene Chloride	N/A	ug/L	0.22	JB	0.43	JB	0.71	JB	NA		0.26	JB
1,1,1-Trichloroethane	N/A	ug/L	0.38	J		U	0.26	J	NA			U
Chloroform	N/A	ug/L		U		U		U	NA		0.16	J
Bromodichloromethane	N/A	ug/L		U		U		U	NA			U
Trichlorofluoromethane	N/A	ug/L		U		U		U	NA			U
Tetrahydrofuran	N/A	ug/L		U		U		U	NA			U
Methyl tert-Butly Ether	N/A	ug/L	1.6	JB	2.6	J	5	J	NA		4	J
Naphthalene	N/A	ug/L					0.31	J	NA			U
Total VOCs	**N/A**	**ug/L**	**8.10**		**14.79**		**22.43**		**0.00**		**10.95**	
pH			**6.2**		**5.8**		**5.85**		**NA**		**6.54**	
Iron (total)	600[4]	ug/L		U	210		240		NA			U
Manganese (total)	600[4]	ug/L	**756**		**874**		**815**		NA		862	
Alkalinity	N/A	mg/L	20		23.5		24		NA		21	
Total Suspended Solids	N/A	mg/L		U		U		U	NA			U
Total Solids	N/A	mg/L	114		117		3360		NA		141	

Effluent	2001 DATA											
Constituents	Discharge Criteria	units	February		March		April		May		June	
Chlorobenzene	5	ug/L		U		U		U	NA			U
Vinyl Chloride	2	ug/L		U		U		U	NA			U
1,1-Dichloroethene	5	ug/L		U		U		U	NA			U
Trichloroethene	5	ug/L		U		U		U	NA			U
Tetrachloroethene	5	ug/L	0.9		0.29	J	0.2	J	NA			U
1,1-Dichloroethane	5	ug/L		U		U		U	NA			U
Styrene	5 (POC)	ug/L		U		U		U	NA			U
Toluene	5	ug/L		U		U		U	NA			U
cis-1,2-Dichloroethene	5	ug/L		U		U		U	NA			U
trans-1,2-Dichloroethene	5	ug/L		U		U		U	NA			U
Methylene Chloride	N/A	ug/L	0.36	JB	0.42	JB	0.75	JB	NA		0.35	JB
1,1,1-Trichloroethane	N/A	ug/L		U		U		U	NA			U
Chloroform	N/A	ug/L	0.16	J	0.3	J	1.7		NA		0.67	U
Tetrahydrofuran	50	ug/L		U		U		U	NA			U
Acetone	N/A	ug/L		U	5		9.4	B	NA		3.6	B
2-Butanone	N/A	ug/L		U		U		U	NA			U
Bromodichloromethane	N/A	ug/L		U		U	0.3	J	NA			U
Methyl tert-Butly Ether	N/A	ug/L	0.68	JB		U	0.3	J	NA			U
Total VOCs	**N/A**	**ug/L**	**2.10**		**6.01**		**12.54**		**0.00**		**4.62**	
pH			**6.58**		**6.45**		**6.97**		**NA**		**7.56**	
Iron (total)	600[4]	ug/L		U		U		U	NA			U
Manganese (total)	600[4]	ug/L	**766**		**870**		**813**		NA		**866**	
Alkalinity	N/A	mg/L	22		36		67		NA		70	
Total Suspended Solids	N/A	mg/L		U		U		U	NA			U
Total Solids	N/A	mg/L	92		134		159		NA		189	

Notes:

1. Analytical data analyzed by STL Laboratories.
2. (U) Undetected.
3. (J) Estimate value. Result is below sample practical quantitation limit, but above the instrument detection limit.
4. The combined effluent concentration of Iron and Manganese will not exceed 1,000 ug/L.
5. N/A - No limit established for this site.
6. (E) Estimate value.
7. N-A - Not Analyzed
8. "-" indicates not performed.
9. Bold values exceed discharge limits.
10. (P) pestiside/aroclor target analyte. Greater than 25% difference between the two GC columns.
11. Concentration between EPA contract detection limit and instrument detection limit
12. POC = principal organic contaminant
13. LE - lab error or contamination likely

Servall Laundry Site
Site No. 1-52-077
Groundwater Remediation - Operation and Maintenance

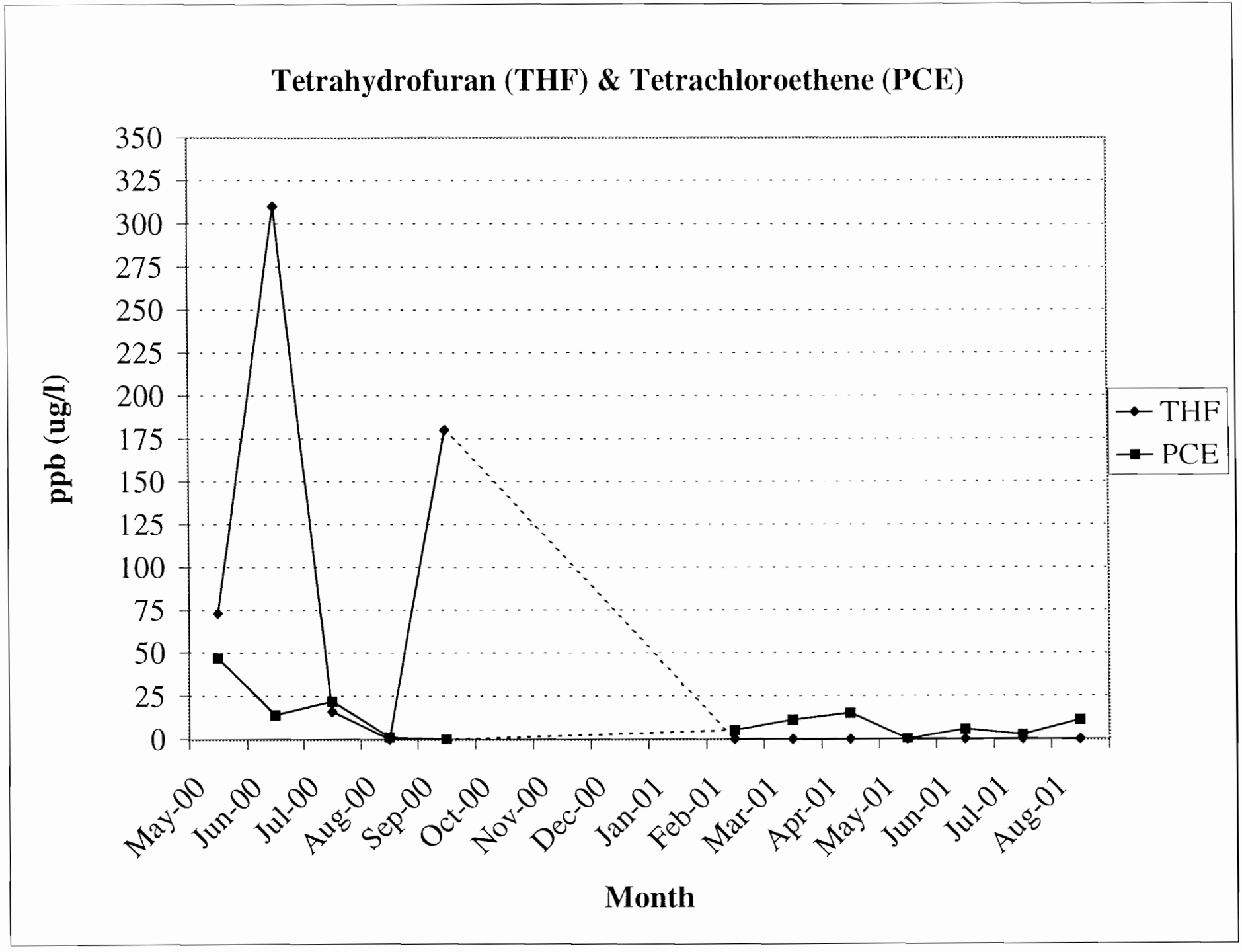
2001 Compliance Sampling - UNCORRETED

Influent			2001 DATA											
Constituents	Discharge Criteria	units	July		August		September		October		November		December	
Chlorobenzene	5	ug/L		U		U								
Vinyl Chloride	2	ug/L		U		U								
1,1-Dichlorcethene	5	ug/L		U		U								
Trichloroethene	5	ug/L	0.8		0.7									
Tetrachloroethene	5	ug/L	2.5		11									
1,1-Dichlorcethane	5	ug/L		U		U								
Toluene	5	ug/L		U		U								
cis-1,2-Dichlorcethene	5	ug/L		U	0.23	J								
trans-1,2-Dichloroethene	5	ug/L		U		U								
Methylene Chloride	N/A	ug/L	0.41	JB		U								
1,1,1-Trichloroethane	N/A	ug/L	0.41	J	0.37	J								
Chloroform	N/A	ug/L	0.14	J	0.22	J								
Bromodichloromethane	N/A	ug/L		U		U								
Trichlorofluoromethane	N/A	ug/L		U		U								
Tetrahydrofuran	N/A	ug/L		U		U								
Methyl tert-Butly Ether	N/A	ug/L	2.9	J	4.2	J								
Naphthalene	N/A	ug/L		U		U								
Total VOCs	**N/A**	**ug/L**	**7.16**		**16.72**		**0.00**		**0.00**		**0.00**		**0.00**	
pH			**6.2**		**6.18**									
Iron (total)	600[4]	ug/L	189		308									
Manganese (total)	600[4]	ug/L	780		609									
Alkalinity	N/A	mg/L	23		25									
Total Suspended Solids	N/A	mg/L		U	0									
Total Solids	N/A	mg/L	134		173									

Effluent			2001 DATA											
Constituents	Discharge Criteria	units	July		August		September		October		November		December	
Chlorobenzene	5	ug/L		U		U								
Vinyl Chloride	2	ug/L		U		U								
1,1-Dichloroethene	5	ug/L		U		U								
Trichloroethene	5	ug/L	0.12	J		U								
Tetrachloroethene	5	ug/L	0.27	J	0.18	J								
1,1-Dichloroethane	5	ug/L		U		U								
Styrene	5 (POC)	ug/L		U		U								
Toluene	5	ug/L		U		U								
cis-1,2-Dichloroethene	5	ug/L		U		U								
trans-1,2-Dichloroethene	5	ug/L		U		U								
Methylene Chloride	N/A	ug/L	0.68	JB		U								
1,1,1-Trichloroethane	N/A	ug/L		U		U								
Chloroform	N/A	ug/L	1.8		2.7									
Tetrahydrofuran	50	ug/L		U		U								
Acetone	N/A	ug/L		U	4.1									
2-Butanone	N/A	ug/L		U		U								
Bromodichloromethane	N/A	ug/L	0.62		1.1									
Methyl tert-Butly Ether	N/A	ug/L	1.8	J	0.16	J								
Total VOCs	**N/A**	**ug/L**	**5.29**		**8.24**		**0.00**		**0.00**		**0.00**		**0.00**	
pH			**7.13**		**6.33**									
Iron (total)	600[4]	ug/L		U		U								
Manganese (total)	600[4]	ug/L	**695**		**603**									
Alkalinity	N/A	mg/L	62		24									
Total Suspended Solids	N/A	mg/L		U		U								
Total Solids	N/A	mg/L	184		174									

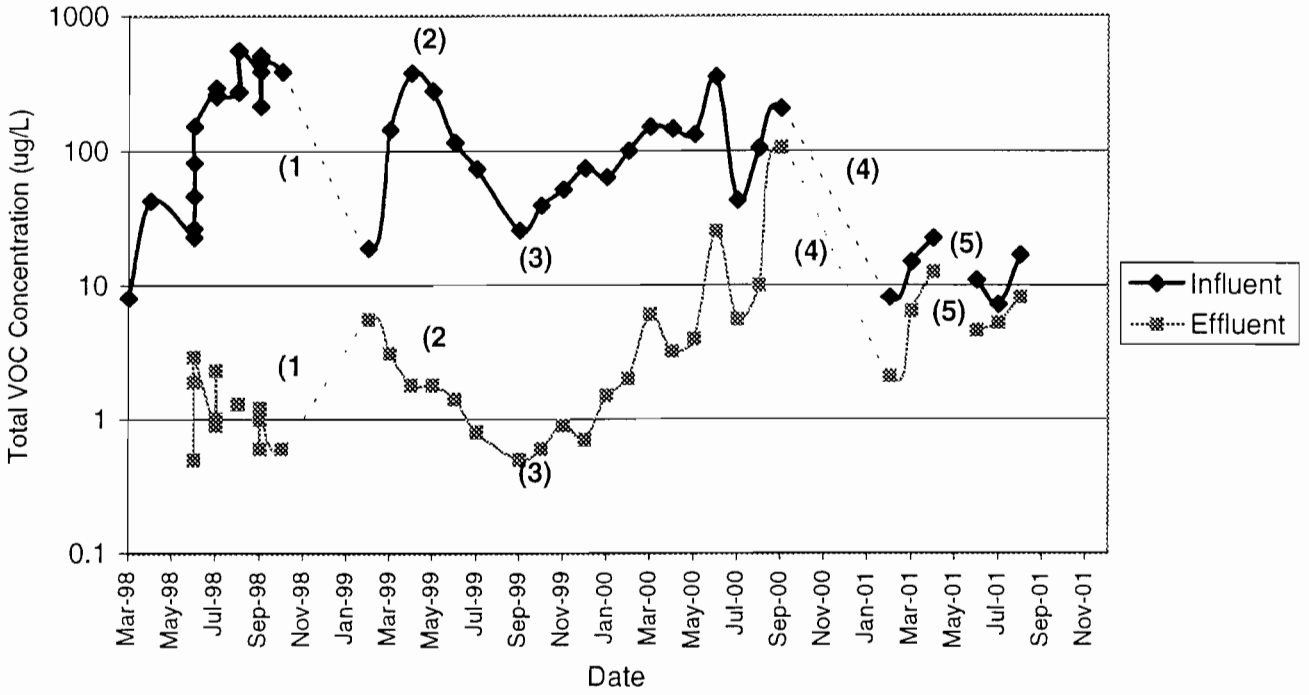
Notes:

1. Analytical data analyzed by STL Laboratories.
2. (U) Undetected.
3. (J) Estimate value. Result is below sample practical quan instrument detection limit.
4. The combined effluent concentration of Iron and Mangan
5. N/A - No limit established for this site.
6. (E) Estimate value.
7. N-A - Not Analyzed
8. "-" indicates not performed.
9. Bold values exceed discharge limits.
10. (P) pesticide/aroclor target analyte. Greater than 25% di
11. Concentration between EPA contract detection limit and
12. POC = principal organic contaminant
13. LE - lab error or contamination likely

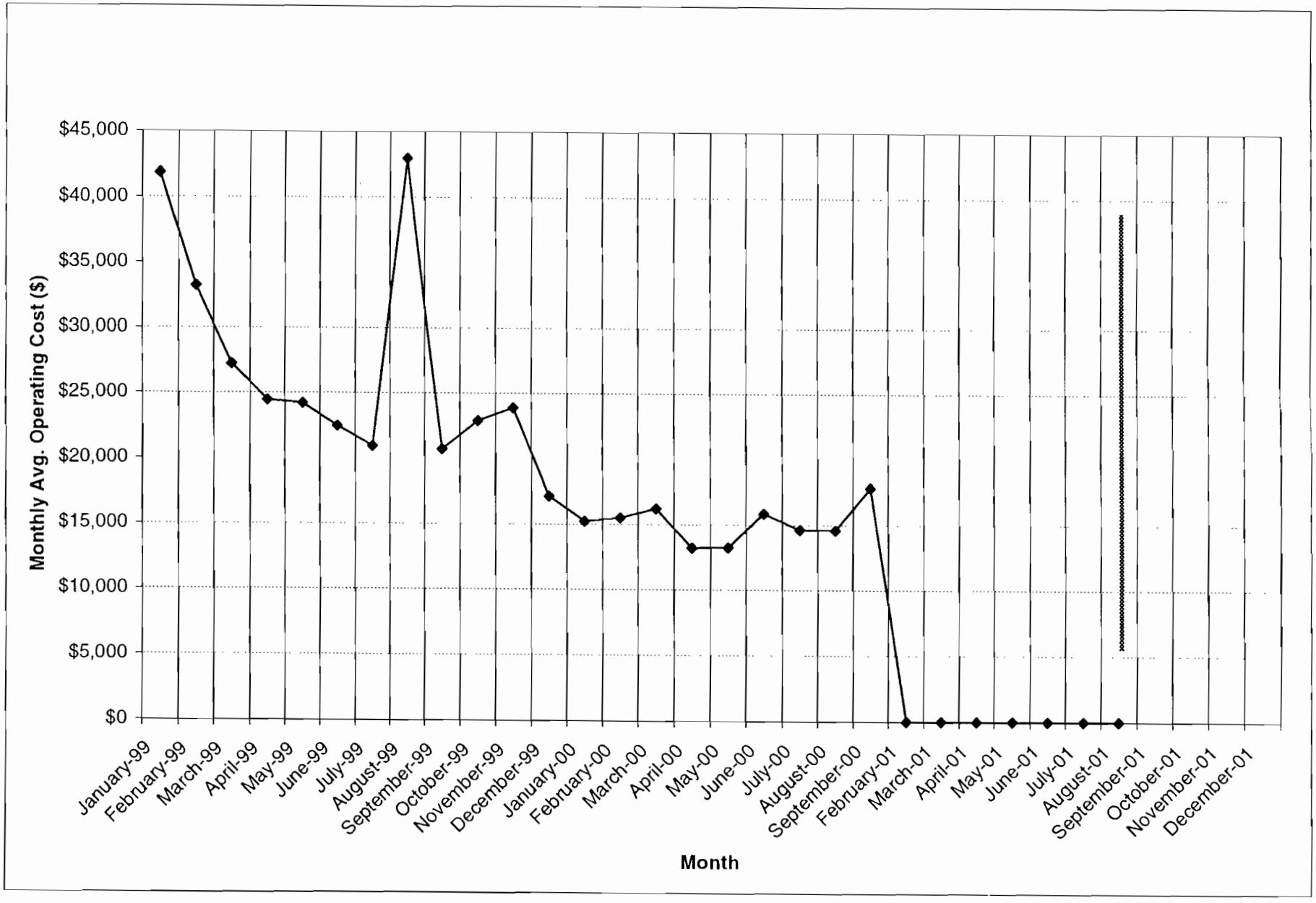

Tetrahydrofuran (THF) & Tetrachloroethene (PCE)
ppb (ug/l)
350
325
300
275
250
225
200
175
150
125
100
75
50
25
0
May-00
Jun-00
Jul-00
Aug-00
Sep-00
Oct-00
Nov-00
Dec-00
Jan-01
Feb-01
Mar-01
Apr-01
May-01
Jun-01
Jul-01
Aug-01
Month
THF
PCE

Servall Laundry Site
Site No. 1-52-077
Groundwater Remediation - Operation and Maintenance

Total Volatile Organic Compound (VOC) Influent and Effluent Trends



NOTES
1. Plant down due to reinjection well fouling (November 19, 1998 to January 23, 1999)
2. Brief Shut down in May: May 8 - May 10,1999
3. Low influent flow due to reinjection well fouling.
4. Plant Shut down due to change in project management
5. Plant shutdown for maintenance


$45,000
$40,000
$35,000
$30,000
$25,000
$20,000
$15,000
$10,000
$5,000
$0
Monthly Avg. Operating Cost ($)
January-99
February-99
March-99
April-99
May-99
June-99
July-99
August-99
September-99
October-99
November-99
December-99
January-00
February-00
March-00
April-00
May-00
June-00
July-00
August-00
September-00
February-01
March-01
April-01
May-01
June-01
July-01
August-01
September-01
October-01
November-01
December-01
Month

Servall Laundry Site
Site No. 1-52-077
Groundwater Remediation

Summary Notes and Action Items

Month	Notes	Action	Resolutions
February	NYSDEC project manager requested repair of broken windows at the site.	Earth Tech requested that the O&M subcontractor (H2M) arrange for repairs	H2M had windows repaired.
	H2M Reported failure of three pH probes and one transmitter unit. They provided cost of replacement from original supplier	Earth Tech confirmed cost of replacement and received authorization to purchase replacements from NYSDEC	pH Probes and transmitter was replaced
	H2M has suggested that the UV lamp system may be ready for replacement lamps.	Earth Tech and H2M will track total VOC removal efficiency to verify the need to replace the UV lamps	
March	Nothing to Report		
April	See Discussion in Report		
May	See Discussion in Report		
June	Nothing to Report		
July	Nothing to Report		
August	Nothing to Report		

Servall Laundry Site
Site No. 1-52-077
Summary of Off-Site Analytical Results

		Date	Mar-98	Apr-98	Jun-98	Jun-98	Jun-98	Jun-98	Jun-98	Jul-98	Jul-98	Jul-98	Aug-98	Aug-98
		Time	8am	8am	9am	1pm	2:50pm	6:50am	9am	6:30am	3pm	9:30am	4:30pm	4pm
INFLUENT	Design Concentration (ug/l)	Average of Samplig Results (ug/l)												
TOTAL VOCs	**14,104**	**162**	**8**	**42.5**	**22.6**	**26.4**	**45.5**	**81.4**	**151.3**	**291.7**	**261.4**	**252**	**272.2**	**552.5**
Iron (mg/L)	0.5 - 5	23	0.19	0.98	0.67	1.1	1.1	1.2	1.7	1.8	1.5		1.5	1.7
Manganese (mg/L)	0.675	110	0.73	1	0.97	1.1	1.1	1.1	1.1	1.2	1		0.96	0.82
EFFLUENT														
TOTAL VOCs		**5**	**0**	**0**	**0**	**0**	**0.5**	**1.9**	**2.9**	**0.9**	**2.3**	**1**	**0**	**1.3**
Removal Efficiencies		96.63%	100%	100%	100%	100%	99%	98%	98%	100%	99%	100%	100%	100%
Iron (mg/L)		0.29	0.1	0.45	0.08	0.06	0.05	0.04	0.06	0.14	0.14		0.17	2.4
Manganese (mg/L)		107.9	0.66	0.87	0.91	1.7	1	1.1	1	1.2	1.1		0.97	0.79

* Numbers vary from published values in the Final Prove-out Report by Consumers Applied Technologies and Enviroclean Northeast, Inc., not dated. Published values, 2.2 and 23, were changed to **22** and **2.3**, respectively, as determined by the trends in VOC concentrations sampled.

Servall Laundry Site
Site No. 1-52-077
Summary of Off-Site Analytical Results

		Date	Sep-98	Sep-98	Sep-98	Sep-98	Sep-98	Oct-98
		Time		8am			1pm	9am
INFLUENT	Design Concentration (ug/l)	Average of Samplig Results (ug/l)						
TOTAL VOCs	**14,104**	**162**	**382.8**	**503.2**	**473.1**	**213**	**453.6**	**383.3**
Iron (mg/L)	0.5 - 5	23	1.4	1.2	1.4	1.2	1.1	0.9
Manganese (mg/L)	0.675	110	0.85	0.8	0.74	0.69	0.73	0.67
EFFLUENT								
TOTAL VOCs		**5**	**0**	**1.1**	**1**	**0.6**	**1.2**	**0.6**
Removal Efficiencies		96.63%	100%	100%	100%	100%	100%	100%
Iron (mg/L)		0.29	0.19	0.05	0.11	0.05	0.15	0.06
Manganese (mg/L)		107.9	0.84	0.79	0.74	0.72	0.72	0.66

* Numbers vary from published values in the Final Prove-out Report by Consumers Applied Technologies and Enviroclean Northeast, Inc., not dated. Published values, 2.2 and 23, were changed to **22** and **2.3**, respectively, as determined by the trends in VOC concentrations sampled.

Servall Laundry Site
Site No. 1-52-077
Summary of Off-Site Analytical Results

		Date	Feb-99	Mar-99	Apr-99	May-99	Jun-99	Jul-99	Sep-99	Oct-99	Nov-99
		Time									
INFLUENT	Design Concentration (ug/l)	Average of Samplig Results (ug/l)									
TOTAL VOCs	**14,104**	**162**	**18.8**	**143.6**	**373.7**	**275.3**	**114.8**	**73.5**	**25.5**	**39.1**	**51.6**
Iron (mg/L)	0.5 - 5	23	0.574	0.42	0.564	0.385	0.236	0.321	0.172	0.979	0.716
Manganese (mg/L)	0.675	110	0.629	0.565	0.496	0.517	0.492	0.719	0.63	0.622	0.521
EFFLUENT											
TOTAL VOCs		**5**	**5.57**	**3.1**	**1.8**	**1.8**	**1.4**	**0.8**	**0.5**	**0.6**	**0.9**
Removal Efficiencies		96.63%	70%	98%	100%	99%	99%	99%	98%	98%	98%
Iron (mg/L)		0.29	0.134	0.0604	0.05	0.05	0.199	0.1	0.13	0.035	0.035
Manganese (mg/L)		107.9	0.612	0.569	0.49	0.542	0.507	0.71	0.66	0.613	0.519

* Numbers vary from published values in the Final Prove-out Report by Consumers Applied Technologies and Enviroclean Northeast, Inc., not dated. Published values, 2.2 and 23, were changed to **22** and **2.3**, respectively, as determined by the trends in VOC concentrations sampled.

Servall Laundry Site
Site No. 1-52-077
Summary of Off-Site Analytical Results

		Date	Dec-99	Jan-00	Feb-00	Mar-00	Apr-00	May-00	Jun-00	Jul-00	Aug-00
		Time									
INFLUENT	Design Concentration (ug/l)	Average of Samplig Results (ug/l)									
TOTAL VOCs	**14,104**	**162**	**73.9**	**63.9**	**100.3**	**150.6**	**145.45**	**131.82**	**350.93**	**42.89**	**104.46**
Iron (mg/L)	0.5 - 5	23	0.248	1.27	0.308	0.689	0.426	1.43	6.32	0.444	0.583
Manganese (mg/L)	0.675	110	0.548	0.593	0.542	0.517	0.499	0.864	2.9	0.992	0.514
EFFLUENT											
TOTAL VOCs		**5**	**0.7**	**1.5**	**2**	**6.1**	**3.22**	**3.97**	**25.16**	**5.57**	**10.05**
Removal Efficiencies		96.63%	99%	98%	98%	96%	98%	97%	93%	87%	90%
Iron (mg/L)		0.29	0.035	0.1	0.032	0.032	0.0755	3.01	1.78	0.732	1.4
Manganese (mg/L)		107.9	0.524	0.583	0.533	0.492	0.506	0.417	0.0166	0.841	0.399

* Numbers vary from published values in the Final Prove-out Report by Consumers Applied Technologies and Enviroclean Northeast, Inc., not dated. Published values, 2.2 and 23, were changed to **22** and **2.3**, respectively, as determined by the trends in VOC concentrations sampled.

Servall Laundry Site
Site No. 1-52-077
Summary of Off-Site Analytical Results

		Date	Sep-00	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01
		Time									
INFLUENT	Design Concentration (ug/l)	Average of Samplig Results (ug/l)									
TOTAL VOCs	**14,104**	**162**	**204.19**	**8.1**	**14.79**	**22.43**	**NA**	**10.95**	**7.16**	**16.72**	
Iron (mg/L)	0.5 - 5	23	25.7	0	210	240	0	0	189	308	
Manganese (mg/L)	0.675	110	0.682	756	874	815	0	862	780	609	
EFFLUENT											
TOTAL VOCs		**5**	**105.99**	**2.1**	**6.45**	**12.54**	**NA**	**4.62**	**5.29**	**8.24**	
Removal Efficiencies		96.63%	48%	74%	56%	44%	0%	58%	26%	51%	
Iron (mg/L)		0.29	0.0845	0	0	0	0	0	0	0	
Manganese (mg/L)		107.9	0.439	766	870	813	0	866	695	603	

* Numbers vary from published values in the Final Prove-out Report by Consumers Applied Technologies and Enviroclean Northeast, Inc., not dated. Published values, 2.2 and 23, were changed to **22** and **2.3**, respectively, as determined by the trends in VOC concentrations sampled.

H2M GROUP

Holzmacher, McLendon & Murrell, P.C. ◣ H2M Associates, Inc.
H2M Labs, Inc. ◣ H2M Construction Management, Inc.
575 Broad Hollow Road, Melville, New York 11747
(631) 756-8000, Fax: (631) 694-4122
e-mail: h2m@h2m.com
web: www.h2m.com

September 11, 2001

Brett Mongillo
Earth Tech, Inc.
12 Metro Park Rd.
Albany, NY 12205

SEP 14 2001

Re: Servall Laundry
Bay Shore, New York
August 2001 Operations Report

Dear Mr. Mongillo:

As you are aware, Holzmacher, McLendon, & Murrell, P.C. (H2M) is currently conducting the daily operation and maintenance duties for the above referenced site. A summary of activity with respect to the groundwater extraction and treatment plant for the month of August is provided below.

Overview
Routine equipment maintenance was performed and daily process equipment readings were compiled during the month.

Event Schedule
The following timeline represents specific tasks completed during the month of August.

- 8/1/01 Purchased new resistors from Farrell Electronics (resistor size 249 Ohms with a 1% tolerance). Placed new resistors in place of failed resistors in master control panel. Lowered peroxide pump from 50/50 to 40/40.
- 8/3/01 System down upon arrival. Extraction well circuit breaker was tripped. Restarted system at 8:15.
- 8/9/01 Caustic soda pump not pumping. Level was too low.
- 8/10/01 Ordered 1,000 gallons of 25% Caustic Soda, diaphragm grade from Tridon Chemical.
- 8/13/01 Took monthly compliance samples and sent them via Federal Express to Severn Trent Labs.

- 8/14/01 System down upon arrival due to electrical problem with lamp #3 repaired the problem and restarted the system at 7:00. At 8:20 there was a power surge that caused the system to shut down. Restarted at 8:25. Received shipment of 1,000 gallons of 25% Caustic Soda, diaphragm grade at 9:00 and re-primed the pump and started pumping at 50/50 at 9:30.

- 8/27/01 Conducted repairs to sodium hypochlorite pump. Changed effluent canister filter circular charts and sodium hypochlorite drum and restarted system at 8:30. Emptied out decanter 12B.

Plant Performance

Between August 1, 2001 and August 31, 2001, the treatment plant discharged 4,224,010 gallons of treated water. The average flow rate through the UV/Oxidation system was 113.73 gallons per minute during operating conditions. Operational data and daily chemistry records for the respective monitoring period have been included as an attachment to this report.

Waste Disposal

No waste was shipped off-site during the reporting period.

If you should have any questions or require additional information, please contact Philip Schade at (631) 756-8000, extension 1623.

Very truly yours,

HOLZMACHER, McLENDON, & MURRELL, P.C.

Philip J. Schade, P.E.
Project Manager

Rocky W. Wenskus
Environmental Scientist

RWW/
enclosures

cc: Gary J. Miller, P.E./H2M

H2MGROUP

Daily Operation Check List
Servall Laundry Site

Day	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday
Date	8/1/2001	8/2/2001	8/3/2001	8/6/2001	8/7/2001	8/8/2001	8/9/2001	8/10/2001	8/13/2001	8/14/2001	8/15/2001	8/16/2001
Time	9:35	16:20	9:10	18:30	8:15	8:10	9:25	10:20	15:05	7:15	9:15	8:10
Extraction Well Level (feet)	61.7	57.2	57.3	57.7	57.8	57.8	58.0	58.1	63.5	63.9	69.3	63.6
Influent Flow Rate (gpm)	*53.82	*	*	*12.37	*11.22	*11.65	99.01	100.10	97.36	98.45	96.37	96.41
Influent Filter in Service (yes/no)	No	No	No	No	No	No	No	No	No	No	No	No
Inlet Pressure (psi)	10	10	10	10	10	10	10	10	10	10	10	10
Outlet Pressure (psi)	10	10	10	10	10	10	10	10	10	10	10	10
Cartridge Filter Flow Rate (gpm)	*53.57	*	*	*12.48	*11.23	*11.72	*11.56	*12.20	*10.88	*11.58	*10.38	*10.40
Equalization Tank												
Level (inches)	51.96	51.98	51.97	52.02	52.02	51.99	51.91	52.00	51.98	51.91	51.98	51.99
pH	5.94	5.96	5.99	5.95	5.97	5.94	5.98	5.99	5.93	5.96	5.94	5.95
Mixer (on/off)	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Acid Pump Settings: Speed / Stroke	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
UV/Oxidation Pump in Service (4A/4B)	4A	4A	4A	4A	4A	4A	4A	4A	4A	4A	4A	4A
UV/Oxidation Flow Rate (gpm)	114.56	117.39	116.57	114.06	116.57	113.30	114.43	112.41	113.13	113.10	115.51	115.06
UV/Oxidation Unit												
Lamp # 1 (on/off)	On	On	On	On	On	On	On	On	On	On	On	On
KV	252	252	252	252	252	252	252	252	252	252	252	252
Amps	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
Time	13788.41	13819.37	13822.20	13903.65	13917.29	13941.21	13966.57	13991.36	14068.07	14078.02	14104.07	14126.99
Lamp # 2 (on/off)	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
KV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Amps	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lamp # 3 (on/off)	On	On	On	On	On	On	On	On	On	On	On	On
KV	245	245	245	245	245	245	245	245	245	245	245	245
Amps	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
Time	12017.30	12048.06	12051.09	12132.54	12146.19	12170.10	12195.46	12220.25	12296.96	12306.90	12332.95	12355.88
Peroxide Pump Settings: Speed / Stroke	50/50	40/40	40/40	40/40	40/40	40/40	40/40	40/40	40/40	40/40	40/40	40/40
Peroxide Residual Concentration (mg/l)	20	13	13	10	10	12	12	12	14	13	13	12
Totalizer Reading (gallons)	19673460	19883140	19901280	20455690	20548890	20708840	20878080	21043040	20561280	21628650	21802790	21957510

Day	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday
Date	8/1/2001	8/2/2001	8/3/2001	8/6/2001	8/7/2001	8/8/2001	8/9/2001	8/10/2001	8/13/2001	8/14/2001	8/15/2001	8/16/2001
pH Adjust Tank												
Level (inches)	49.96	49.96	49.96	49.98	49.99	49.92	49.98	50.06	49.92	49.70	49.97	49.93
pH	7.05	7.03	7.15	7.02	7.02	7.14	6.19	6.18	6.20	6.24	6.80	6.79
Mixer (on/off)	On	On	On	On	On	On	On	On	On	On	On	On
Caustic Pump Settings: Speed / Stroke	60/60	60/60	60/60	60/60	60/60	60/60	60/60	60/60	50/50	50/50	50/50	50/50
Polymer Feed Settings	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Solution Pump: Speed / Stroke	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dilution Water Rate	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Polymeer Bucket Weight (lbs.)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sand Filter Feed Pump in Service (6A/6B)	6B	6B	6B	6B	6B	6B	6B	6B	6B	6B	6B	6B
Sand Filters												
Filter # 1 inlet pressure (psi)	20	19	18	18	18	17	20	19	18	19	18	20
Filter # 1 outlet pressure (psi)	18	17	19	17	17	16	18	17	18	18	16	17
Filter # 2 inlet pressure (psi)	17	17	17	18	18	19	18	18	18	18	16	19
Filter # 2 outlet pressure (psi)	17	16	17	16	16	17	18	18	18	19	16	20
Filter # 3 inlet pressure (psi)	16	18	19	15	17	16	16	17	19	20	18	20
Filter # 3 outlet pressure (psi)	17	18	18	16	18	18	18	19	18	17	19	19
Filter # 4 inlet pressure (psi)	20	20	19	17	20	20	20	20	21	19	20	16
Filter # 4 outlet pressure (psi)	17	16	17	18	17	16	16	18	19	18	16	16
Effluent Flow Rate (gpm)	96.45	96.80	97.92	99.99	90.65	97.27	97.68	94.24	92.78	110.48	102.50	117.62
Effluent Filter in Service (yes/no)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inlet Pressure (psi)	12	12	12	12	12	12	12	12	12	12	12	12
Outlet Pressure (psi)	12	12	12	12	12	12	12	12	12	12	12	12
Reinjection Well Level (feet)	65.70	66.04	65.27	65.94	65.89	65.68	65.63	65.19	65.77	66.93	65.47	66.75
Chemical Storage Levels												
Caustic Level (NaOH) (inches)	32	32	32	32	32	32	32	32	30	30	50	50
Peroxide Level (H_2O_2) (inches)	50	50	50	50	50	50	50	50	50	50	50	50
Acid Level (H_2SO_4) (inches)	53	53	53	53	53	53	53	53	53	53	53	53
Air Compressor (psi)	140	150	145	160	140	150	150	150	155	140	150	150
Compressed Air Dryer (on/off)	On	On	On	On	On	On	On	On	On	On	On	On
Chlorine pump: Speed / Stroke	60/50	60/50	60/50	60/50	60/50	60/50	60/50	60/40	60/40	60/40	50/50	50/50
Chlorine Residual Concentration (mg/l)	0.7	0.7	0.6	0.7	0.5	0.6	0.7	0.5	0.7	0.6	0.6	0.7

* - Unit inoperable

H2M GROUP

Daily Operation Check List
Servall Laundry Site

Day	Friday	Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday
Date	8/17/2001	8/20/2001	8/21/2001	8/22/2001	8/23/2001	8/24/2001	8/27/2001	8/28/2001	8/29/2001	8/30/2001	8/31/2001
Time	8:20	10:30	9:30	**	10:30	17:00	9:30	11:00	8:05	15:15	8:05
Extraction Well Level (feet)	73.5	55.2	55.5	**	55.2	55.2	55.3	55.9	56.0	56.2	56.2
Influent Flow Rate (gpm)	96.34	95.80	96.50	**	96.53	96.89	*8.48	*	97.04	*193.27	*
Influent Filter in Service (yes/no)	No	No	No	**	No	No	No	No	No	No	No
Inlet Pressure (psi)	10	10	10	**	8	8	12	10	10	10	10
Outlet Pressure (psi)	10	10	8	**	8	8	10	10	8	10	10
Cartridge Filter Flow Rate (gpm)	*10.40	*10.82	*10.55	**	*10.64	*10.72	*8.48	*	*10.78	*192.76	*
Equalization Tank											
Level (inches)	51.99	51.95	51.96	**	52.01	52.00	51.97	52.01	51.97	51.98	52.03
pH	5.96	5.96	6.07	**	5.96	5.96	6.02	5.97	5.98	6.01	6.01
Mixer (on/off)	Off	Off	Off	**	Off	Off	Off	Off	Off	Off	Off
Acid Pump Settings: Speed / Stroke	Off	Off	Off	**	Off	Off	Off	Off	Off	Off	Off
UV/Oxidation Pump in Service (4A/4B)	4A	4A	4A	**	4A	4A	4A	4A	4A	4A	4A
UV/Oxidation Flow Rate (gpm)	116.23	113.64	112.22	**	112.22	110.75	107.86	113.80	112.41	111.57	115.16
UV/Oxidation Unit											
Lamp # 1 (on/off)	On	On	On	**	On	On	On	On	On	On	On
KV	252	252	252	**	255	250	252	252	252	252	252
Amps	7.7	7.8	7.8	**	7.9	7.9	7.8	7.7	7.7	7.7	7.7
Time	14151.36	14225.53	14229.28	**	14254.48	14272.80	14321.72	14347.29	14366.37	14399.57	14416.39
Lamp # 2 (on/off)	Off	Off	Off	**	Off	Off	Off	Off	Off	Off	Off
KV	N/A	N/A	N/A	**	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Amps	N/A	N/A	N/A	**	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time	N/A	N/A	N/A	**	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lamp # 3 (on/off)	On	On	On	**	On	On	On	On	On	On	On
KV	245	245	245	**	248	248	248	248	248	248	248
Amps	7.4	7.5	7.5	**	7.5	7.6	7.8	7.5	7.5	7.5	7.5
Time	12380.25	12454.42	12458.16	**	12483.37	12501.69	12550.60	12576.16	12597.25	12628.39	12645.26
Peroxide Pump Settings: Speed / Stroke	40/40	40/40	40/40	**	40/40	50/50	50/50	50/50	50/50	50/50	50/50
Peroxide Residual Concentration (mg/l)	13	13	5	**	3	5	7	8	13	12	13
Totalizer Reading (gallons)	22121660	22622420	22646900	**	22816550	22939380	23243810	23435500	23577300	23785190	23897470

H2MGROUP

Daily Operation Check List
Servall Laundry Site

Day	Friday	Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday
Date	8/17/2001	8/20/2001	8/21/2001	8/22/2001	8/23/2001	8/24/2001	8/27/2001	8/28/2001	8/29/2001	8/30/2001	8/31/2001
pH Adjust Tank											
Level (inches)	49.99	50.00	49.98	**	50.02	49.99	49.99	50.02	49.97	50.10	49.99
pH	6.79	6.60	6.48	**	6.97	6.94	7.14	6.82	6.94	6.92	6.92
Mixer (on/off)	On	On	On	**	On	On	On	On	On	On	On
Caustic Pump Settings: Speed / Stroke	50/50	50/50	55/55	**	55/55	55/55	50/50	55/55	55/55	55/55	55/55
Polymer Feed Settings	Off	Off	Off	**	Off	Off	Off	Off	Off	Off	Off
Solution Pump: Speed / Stroke	N/A	N/A	N/A	**	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dilution Water Rate	N/A	N/A	N/A	**	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Polymeer Bucket Weight (lbs.)	N/A	N/A	N/A	**	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sand Filter Feed Pump in Service (6A/6B)	6B	6B	6B	**	6B	6B	6B	6B	6B	6B	6B
Sand Filters											
Filter # 1 inlet pressure (psi)	18	18	18	**	20	20	18	19	16	18	19
Filter # 1 outlet pressure (psi)	17	18	15	**	18	18	17	18	15	18	17
Filter # 2 inlet pressure (psi)	17	15	16	**	18	18	18	18	19	17	16
Filter # 2 outlet pressure (psi)	16	16	16	**	18	18	18	18	18	17	16
Filter # 3 inlet pressure (psi)	17	16	15	**	19	19	18	17	19	18	19
Filter # 3 outlet pressure (psi)	19	17	15	**	19	19	18	18	19	17	17
Filter # 4 inlet pressure (psi)	20	20	19	**	20	20	20	20	20	20	20
Filter # 4 outlet pressure (psi)	18	18	18	**	16	18	16	18	17	18	19
Effluent Flow Rate (gpm)	99.86	99.75	96.18	**	92.70	104.75	113.11	100.64	102.20	94.94	102.32
Effluent Filter in Service (yes/no)	Yes	Yes	Yes	**	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inlet Pressure (psi)	12	12	12	**	12	12	12	12	12	12	12
Outlet Pressure (psi)	12	10	10	**	10	10	12	12	10	12	12
Reinjection Well Level (feet)	66.11	65.52	64.50	**	66.55	66.65	67.54	66.66	66.29	66.22	66.13
Chemical Storage Levels											
Caustic Level (NaOH) (inches)	50	50	50	**	50	50	49	49	49	49	49
Peroxide Level (H_2O_2) (inches)	50	50	50	**	50	50	49	49	49	49	49
Acid Level (H_2SO_4) (inches)	53	53	53	**	53	53	53	53	53	53	53
Air Compressor (psi)	160	140	130	**	140	150	150	145	130	150	150
Compressed Air Dryer (on/off)	On	On	On	**	On	On	On	On	On	On	On
Chlorine pump: Speed / Stroke	50/50	50/50	50/50	**	50/50	50/50	50/50	50/50	50/50	50/50	50/50
Chlorine Residual Concentration (mg/l)	0.6	0.6	0.5	**	0.8	0.5	0.7	0.6	0.4	0.5	0.7

* - Unit inoperable

** - No readings

H2MGROUP

Servall Laundry
Process Control Samples

Day	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday
Date	8/1/2001	8/2/2001	8/3/2001	8/6/2001	8/7/2001	8/8/2001	8/9/2001	8/10/2001	8/13/2001	8/14/2001	8/15/2001	8/16/2001
Time	9:45	16:35	9:30	18:45	8:30	8:25	9:40	10:35	15:20	7:30	9:30	8:25
Influent												
pH	5.19	5.25	5.20	5.24	5.25	5.23	5.14	5.05	5.18	5.20	5.17	5.19
Iron (mg/L)	0.3	0.3	0.4	0.3	0.4	0.7	0.6	0.5	0.4	0.5	0.3	0.4
UVOX												
pH	5.27	5.23	5.25	5.26	5.30	5.27	5.21	5.14	5.21	5.17	5.17	5.18
Peroxide Residual (mg/L)	20	13	13	10	10	12	12	12	14	13	13	12
Effluent												
pH	6.29	6.40	6.30	6.35	6.39	6.36	6.31	5.33	5.45	5.40	5.96	5.98
Iron (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chlorine (mg/L)	0.7	0.7	0.6	0.7	0.5	0.6	0.7	0.5	0.7	0.6	0.6	0.7

Day	Friday	Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday	
Date	8/17/2001	8/20/2001	8/21/2001	8/22/2001	8/23/2001	8/24/2001	8/27/2001	8/28/2001	8/29/2001	8/30/2001	8/31/2001	
Time	8:40	11:00	10:00	**	11:00	17:30	10:00	11:15	8:20	15:30	8:20	
Influent												
pH	5.21	5.30	5.40	**	5.50	5.30	5.40	5.38	5.14	5.19	5.25	
Iron (mg/L)	0.4	0.4	0.5	**	0.5	0.3	0.4	0.5	0.3	0.4	0.5	
UVOX												
pH	5.30	5.40	5.30	**	5.37	5.29	5.32	5.37	5.28	5.25	5.23	
Peroxide Residual (mg/L)	13	13	5	**	3	5	7	8	13	12	13	
Effluent												
pH	6.08	5.88	5.60	**	6.41	6.33	6.40	6.35	6.16	6.20	6.30	
Iron (mg/L)	0.0	0.2	0.3	**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Chlorine (mg/L)	0.6	0.6	0.5	**	0.8	0.5	0.7	0.6	0.4	0.5	0.7	

** - No readings

TABLE VO-1.0
7001-2082A
EARTH TECHNOLOGY
524.2 VOLATILE ORGANICS

Aqueous

All values are ug/L.

Client Sample I.D.	Method Blank	INFLUENT	UV-OX	Quant. Limits with no Dilution
Lab Sample I.D.	VBLKLG	012082A-01	012082A-02	
Method Blank I.D.	VBLKLG	VBLKLG	VBLKLG	
Quant. Factor	1.00	1.00	1.00	
Dichlorodifluoromethane	U	U	U	0.50
Chloromethane	U	U	U	0.50
Vinyl Chloride	U	U	U	0.50
Bromomethane	U	U	U	0.50
Chloroethane	U	U	U	0.50
Freon 123A	U	U	U	0.50
Trichlorofluoromethane	U	U	U	0.50
Diethyl ether	U	U	U	25
1,1,2-Trichloro(1,2,2)trifluor	U	U	U	0.50
1,1-Dichloroethene	U	U	U	0.50
Acetone	U	U	4.1	2.5
Propionitrile	U	U	U	25
Methyl tert-Butyl ether	U	4.2J	.15J	25
Carbon Disulfide	U	U	U	25
Bromodichloromethane	U	U	U	0.50
Iodomethane	U	U	U	0.50
Allyl Chloride	U	U	U	25
Acrylonitrile	U	U	U	25
Methylene Chloride	.53J	U	U	1.0
trans-1,2-Dichloroethene	U	U	U	0.50
1,1-Dichloroethane	U	U	U	0.50
2,2-Dichloropropane	U	U	U	0.50
2-Butanone	U	U	U	2.5
cis-1,2-Dichloroethene	U	.23J	U	0.50
Bromochloromethane	U	U	U	0.50
Chloroform	U	.22J	.43J	0.50
1,1,1-Trichloroethane	U	.37J	.29J	0.50
Carbon Tetrachloride	U	U	U	0.50
1,1-Dichloropropene	U	U	U	0.50
Methacrylonitrile	U	U	U	25
Benzene	U	U	U	0.50
1,2-Dichloroethane	U	U	U	0.50
Ethyl Methacrylate	U	U	U	25
1,4-Dioxane	U	U	U	50
Chloroacetonitrile	U	U	U	25
Date Received		08/14/01	08/14/01	
Date Extracted	N/A	N/A	N/A	
Date Analyzed	08/15/01	08/15/01	08/15/01	

See Appendix for qualifier definitions
Note: Compound detection limit = quantitation limit x quantitation factor
Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

TABLE VO-1.0
7001-2082A
EARTH TECHNOLOGY
524.2 VOLATILE ORGANICS

Aqueous

All values are ug/L.

Client Sample I.D.	Method Blank	INFLUENT	UV-OX	Quant. Limits with no Dilution
Lab Sample I.D.	VBLKLG	012082A-01	012082A-02	
Method Blank I.D.	VBLKLG	VBLKLG	VBLKLG	
Quant. Factor	1.00	1.00	1.00	
1-Chlorobutane	U	U	U	25
1,1-Dichloro-2-propanone	U	U	U	2.5
Trichloroethene	U	.7	U	0.50
Tetrahydrofuran	U	U	U	25
1,2-Dichloropropane	U	U	U	0.50
Methyl Acrylate	U	U	U	25
Dibromomethane	U	U	U	0.50
cis-1,3-Dichloropropene	U	U	U	0.50
4-Methyl-2-pentanone	U	U	U	2.5
Methyl Methacrylate	U	U	U	25
Toluene	U	U	U	0.50
trans-1,3-Dichloropropene	U	U	U	0.50
2-Chloroethylvinylether	U	U	U	0.50
1,1,2-Trichloroethane	U	U	U	0.50
Tetrachloroethene	U	11	.11J	0.50
2-Hexanone	U	U	U	2.5
1,3-Dichloropropane	U	U	U	0.50
Dibromochloromethane	U	U	U	0.50
1,2-Dibromoethane	U	U	U	0.50
Chlorobenzene	U	U	U	0.50
1,1,1,2-Tetrachloroethane	U	U	U	0.50
Ethylbenzene	U	U	U	0.50
mp-xylene	U	U	U	1.0
o-Xylene	U	U	U	0.50
Styrene	U	U	U	0.50
Bromoform	U	U	U	0.50
Isopropylbenzene	U	U	U	0.50
Bromobenzene	U	U	U	0.50
1,1,2,2-Tetrachloroethane	U	U	U	0.50
1,2,3-Trichloropropane	U	U	U	0.50
n-Propylbenzene	U	U	U	0.50
2-Chlorotoluene	U	U	U	0.50
4-Chlorotoluene	U	U	U	0.50
1,3,5-Trimethylbenzene	U	U	U	0.50
tert-Butylbenzene	U	U	U	0.50
Date Received		08/14/01	08/14/01	
Date Extracted	N/A	N/A	N/A	
Date Analyzed	08/15/01	08/15/01	08/15/01	

See Appendix for qualifier definitions
Note: Compound detection limit = quantitation limit x quantitation factor
Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

TABLE VO-1.0
7001-2082A
EARTH TECHNOLOGY
524.2 VOLATILE ORGANICS

Aqueous

All values are ug/L.

Client Sample I.D.	Method Blank	INFLUENT	UV-OX	Quant. Limits with no Dilution
Lab Sample I.D.	VBLKLG	012082A-01	012082A-02	
Method Blank I.D.	VBLKLG	VBLKLG	VBLKLG	
Quant. Factor	1.00	1.00	1.00	
1,2,4-Trimethylbenzene	U	U	U	0.50
1-Chlorohexane	U	U	U	0.50
sec-Butylbenzene	U	U	U	0.50
1,3-Dichlorobenzene	U	U	U	0.50
4-Isopropyltoluene	U	U	U	0.50
1,4-Dichlorobenzene	U	U	U	0.50
1,2-Dichlorobenzene	U	U	U	0.50
n-Butylbenzene	U	U	U	0.50
1,2-Dibromo-3-Chloropropane	U	U	U	0.50
Benzyl Chloride	U	U	U	0.50
trans-1,4-Dichloro-2-butene	U	U	U	25
Hexachloroethane	.13J	.13JB	U	25
Nitrobenzene	U	U	U	25
Pentachloroethane	U	U	U	0.50
2-Nitropropane	U	U	U	25
1,2,4-Trichlorobenzene	U	U	U	0.50
Hexachlorobutadiene	.19J	U	U	0.50
Naphthalene	U	U	U	0.50
1,2,3-Trichlorobenzene	U	U	U	0.50
Date Received		08/14/01	08/14/01	
Date Extracted	N/A	N/A	N/A	
Date Analyzed	08/15/01	08/15/01	08/15/01	

See Appendix for qualifier definitions
Note: Compound detection limit = quantitation limit x quantitation factor
Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

TABLE VO-1.1
7001-2082A
EARTH TECHNOLOGY
524.2 VOLATILE ORGANICS

Aqueous

All values are ug/L.

Client Sample I.D.	EFFLUENT	TB081301		
Lab Sample I.D.	012082A-03	012082A-04		Quant. Limits with no Dilution
Method Blank I.D.	VBLKLG	VBLKLG		
Quant. Factor	1.00	1.00		
Dichlorodifluoromethane	U	U		0.50
Chloromethane	U	U		0.50
Vinyl Chloride	U	U		0.50
Bromomethane	U	U		0.50
Chloroethane	U	U		0.50
Freon 123A	U	U		0.50
Trichlorofluoromethane	U	U		0.50
Diethyl ether	U	U		25
1,1,2-Trichloro(1,2,2)trifluor	U	U		0.50
1,1-Dichloroethene	U	U		0.50
Acetone	4.1	U		2.5
Propionitrile	U	U		25
Methyl tert-Butyl ether	.16J	U		25
Carbon Disulfide	U	U		25
Bromodichloromethane	1.1	U		0.50
Iodomethane	U	U		0.50
Allyl Chloride	U	U		25
Acrylonitrile	U	U		25
Methylene Chloride	U	.59JB		1.0
trans-1,2-Dichloroethene	U	U		0.50
1,1-Dichloroethane	U	U		0.50
2,2-Dichloropropane	U	U		0.50
2-Butanone	U	U		2.5
cis-1,2-Dichloroethene	U	U		0.50
Bromochloromethane	U	U		0.50
Chloroform	2.7	U		0.50
1,1,1-Trichloroethane	U	U		0.50
Carbon Tetrachloride	U	U		0.50
1,1-Dichloropropene	U	U		0.50
Methacrylonitrile	U	U		25
Benzene	U	U		0.50
1,2-Dichloroethane	U	U		0.50
Ethyl Methacrylate	U	U		25
1,4-Dioxane	U	U		50
Chloroacetonitrile	U	U		25
Date Received	08/14/01	08/14/01		
Date Extracted	N/A	N/A		
Date Analyzed	08/15/01	08/15/01		

See Appendix for qualifier definitions
Note: Compound detection limit = quantitation limit x quantitation factor
Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

TABLE VO-1.1
7001-2082A
EARTH TECHNOLOGY
524.2 VOLATILE ORGANICS

Aqueous

All values are ug/L.

Client Sample I.D.	EFFLUENT	TB081301		
Lab Sample I.D.	012082A-03	012082A-04		Quant. Limits with no Dilution
Method Blank I.D.	VBLKLG	VBLKLG		
Quant. Factor	1.00	1.00		
1-Chlorobutane	U	U		25
1,1-Dichloro-2-propanone	U	U		2.5
Trichloroethene	U	U		0.50
Tetrahydrofuran	U	U		25
1,2-Dichloropropane	U	U		0.50
Methyl Acrylate	U	U		25
Dibromomethane	U	U		0.50
cis-1,3-Dichloropropene	U	U		0.50
4-Methyl-2-pentanone	U	U		2.5
Methyl Methacrylate	U	U		25
Toluene	U	U		0.50
trans-1,3-Dichloropropene	U	U		0.50
2-Chloroethylvinylether	U	U		0.50
1,1,2-Trichloroethane	U	U		0.50
Tetrachloroethene	.18J	U		0.50
2-Hexanone	U	U		2.5
1,3-Dichloropropane	U	U		0.50
Dibromochloromethane	U	U		0.50
1,2-Dibromoethane	U	U		0.50
Chlorobenzene	U	U		0.50
1,1,1,2-Tetrachloroethane	U	U		0.50
Ethylbenzene	U	U		0.50
mp-xylene	U	U		1.0
o-Xylene	U	U		0.50
Styrene	U	U		0.50
Bromoform	U	U		0.50
Isopropylbenzene	U	U		0.50
Bromobenzene	U	U		0.50
1,1,2,2-Tetrachloroethane	U	U		0.50
1,2,3-Trichloropropane	U	U		0.50
n-Propylbenzene	U	U		0.50
2-Chlorotoluene	U	U		0.50
4-Chlorotoluene	U	U		0.50
1,3,5-Trimethylbenzene	U	U		0.50
tert-Butylbenzene	U	U		0.50
Date Received	08/14/01	08/14/01		
Date Extracted	N/A	N/A		
Date Analyzed	08/15/01	08/15/01		

See Appendix for qualifier definitions
Note: Compound detection limit = quantitation limit x quantitation factor
Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

TABLE VO-1.1
7001-2082A
EARTH TECHNOLOGY
524.2 VOLATILE ORGANICS

Aqueous

All values are ug/L.

Client Sample I.D.	EFFLUENT	TB081301		Quant. Limits with no Dilution
Lab Sample I.D.	012082A-03	012082A-04		
Method Blank I.D.	VBLKLG	VBLKLG		
Quant. Factor	1.00	1.00		
1,2,4-Trimethylbenzene	U	U		0.50
1-Chlorohexane	U	U		0.50
sec-Butylbenzene	U	U		0.50
1,3-Dichlorobenzene	U	U		0.50
4-Isopropyltoluene	U	U		0.50
1,4-Dichlorobenzene	U	U		0.50
1,2-Dichlorobenzene	U	U		0.50
n-Butylbenzene	U	U		0.50
1,2-Dibromo-3-Chloropropane	U	U		0.50
Benzyl Chloride	U	U		0.50
trans-1,4-Dichloro-2-butene	U	U		25
Hexachloroethane	U	U		25
Nitrobenzene	U	U		25
Pentachloroethane	U	U		0.50
2-Nitropropane	U	U		25
1,2,4-Trichlorobenzene	U	U		0.50
Hexachlorobutadiene	U	U		0.50
Naphthalene	U	U		0.50
1,2,3-Trichlorobenzene	U	U		0.50
Date Received	08/14/01	08/14/01		
Date Extracted	N/A	N/A		
Date Analyzed	08/15/01	08/15/01		

See Appendix for qualifier definitions
Note: Compound detection limit = quantitation limit x quantitation factor
Quant. Factor = a numerical value which takes into account any variation in sample weight/volume, % moisture and sample dilution.

1

WET CHEM ANALYSIS DATA SHEET

SAMPLE NO.

INFLUENT

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2082A SAS No.: _____ SDG No.: A2082

Matrix (soil/water): WATER Lab Sample ID: 012082A-01

% Solids: 0 Date Received: 08/14/01

CAS No.	Analyte	Concentration	C	Units	Q	M
471-34-1	Alkalinity	25.0		mg/L		T
12408-02-5	pH	6.18		S.U.		D
	TDS	173.		mg/L		G
	TSS	5.0	U	mg/L		G

Comments:

FORM I - WC

1

WET CHEM ANALYSIS DATA SHEET

SAMPLE NO.

UV-OX

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2082A SAS No.: _____ SDG No.: A2082

Matrix (soil/water): WATER Lab Sample ID: 012082A-02

% Solids: 0 Date Received: 08/14/01

CAS No.	Analyte	Concentration	C	Units	Q	M
471-34-1	Alkalinity	24.0		mg/L		T
12408-02-5	pH	6.10		S.U.		D
	TDS	173.		mg/L		G
	TSS	5.0	U	mg/L		G

Comments:

FORM I - WC

1

WET CHEM ANALYSIS DATA SHEET

SAMPLE NO.

EFFLUENT

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2082A SAS No.: _____ SDG No.: A2082

Matrix (soil/water): WATER Lab Sample ID: 012082A-03

% Solids: 0 Date Received: 08/14/01

CAS No.	Analyte	Concentration	C	Units	Q	M
471-34-1	Alkalinity	24.0		mg/L		T
12408-02-5	pH	6.33		S.U.		D
	TDS	174.		mg/L		G
	TSS	5.0	U	mg/L		G

Comments:

FORM I - WC

TABLE AS-1.0
7001-2082A
EARTH TECHNOLOGY
MISCELLANEOUS ATOMIC SPECTROSCOPY

Aqueous

All values are ug/L.

Client Sample I.D.	INFLUENT	UV-OX	EFFLUENT	
Lab Sample I.D.	012082A-01	012082A-02	012082A-03	
Iron	308.	273.	100.U	
Manganese	609.	614.	603.	

See Appendix for qualifier definitions