Lawler, Matusky & Skelly Engineers LLP

Environmental Science & Engineering Consultants

JOHN P. LAWLER, P.E.
MICHAEL J. SKELLY, P.E.
KARIM A. ABOOD, P.E.
PATRICK J. LAWLER, P.E.
THOMAS L. ENGLERT, P.E.
PETER M. McGRODDY, P.E.
THOMAS E. PEASE, P.E.
THOMAS B. VANDERBEEK, P.E.

Principal
SUSAN G. METZGER, Ph.D.

ONE BLUE HILL PLAZA
P.O. BOX 1509
PEARL RIVER, NEW YORK 10965
(914) 735-8300
FACSIMILE (914) 735-7466

November 22, 1999
File No. 650-394

Mr. Carl Hoffman
New York State Department of Environmental Conservation
Operation and Maintenance Section - Bureau of Hazardous Site Control
Division of Environmental Remediation
50 Wolf Road
Albany, New York 12233-7010

Re: **Servall Laundry Site**
Bay Shore, Suffolk County
Site No. 1-52-077, Work Assignment No. D002676-39.1
Monthly Report – October 1999

Dear Mr. Hoffman:

Attached please find the Monthly Report of October 1999 for your review. This report contains ERM's operations report and is the last one under Work Assignment No. D002676-39.1. During the month of October a transition of plant operations from ERM to the H2M Group occurred without any plant down time.

Plant down time occurred in the first half of the month due to a high re-injection well level. The flow rate was reduced to 75 gpm to maintain operations, then increased over time to 130 gpm. A total volume of 3,383,320 gallons of water was processed between October 1 and October 29, 1999.

The influent VOC concentration in October was detected at 39.1 ppb; the plant removed 98.5% of the influent VOC. Effluent total manganese concentration, 613 ppb, exceeded discharge limitations during the month of October.

LMS will continue to provide task management of the plant operations until September 30, 2000. The monthly operating reports for the next 11 months will be based on the information supplied by H2M and presented in the same format as the current reports, unless you comment otherwise.

If you have any questions or comments please feel free to contact me at 914-735-8300 x 249.

Very Truly Yours,

Robert DeGiorgio, P.E.
Project Manager

Enclosures

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

1999 Monthly Operations Report

October-99

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
Environmental Science & Engineering Consultants
One Blue Hill Plaza
Pearl River, New York 10965

650-393

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

1999 Monthly Operations Report

Summary Report
1999 Compliance Sampling
Treatability Testing
Graphical Data Trends
Summary Notes and Action Items
ERM Reports

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
Environmental Science & Engineering Consultants
One Blue Hill Plaza
Pearl River, New York 10965

650-393

Servall Laundry
Site No. 1-52-077
Groundwater Remediation -1999 Operation and Maintenance

Summary Report

Plant Operating Data	unit	1999 Monthly Average	January-99	February-99	March-99	April-99	May-99	June-99	July-99
Flow Rate	gpm	80	63	109	123.29	116.65	125	51.08	48.57
Gallons processed	gallons	3,364,265	1,355,390	4,409,230	5,503,790	5,039,370	5,603,350	2,206,540	2,377,920
Percent of Time Operating	%	93%	48%	91%	100%	97%	100%	97%	100%
Influent VOC concentration	ug/L	203	-	19.5	144.1	373.7	275.3	114.8	73.5
Effluent VOC concentration	ug/L	2.35	-	2.3	3.5	1.8	1.8	1.4	0.8
VOC removal efficiency	%	95.1%	-	88.2%	97.6%	99.5%	99.3%	98.8%	98.9%
Pounds of VOCs Treated	lb	7.6	-	0.63	6.45	15.63	12.78	2.09	1.44
Influent Total Iron	ug/L	486	-	574	420	564	385	236	321
Influent Total Manganese	ug/L	552	-	629	565	496	517	492	719
Effluent Total Iron	ug/L	74	-	134	60.4	50	50	199	100
Effluent Total Manganese	ug/L	553	-	612	569	490	542	507	710
Total Iron removal efficiency	%	84.5%	-	76.7%	85.6%	91.1%	87.0%	15.7%	68.8%
Total Manganese removal efficiency	%	1.3%	-	2.7%	0.0%	1.2%	0.0%	0.0%	0.0%
Sodium hypochlorite (12%)	lb	781	510	1020	1020	1020	1020	1020	700
Polymer	lb	50	50	50	50	50	50	50	50
Hydrogen peroxide (50%)	lb	3530	1500	4500	4500	4500	4500	2267	2267
Caustic (50%)	lb	0	0	0	0	0	0	0	0
Hydrochloric Acid	lb	125	125	125	125	125	125	125	125
Cartridge Filters	ea	1	1	1	1	1	1	1	1
Spare Parts or other	at cost	$801	$0	$7,964	$0	$45	$0	$0	$0
Consumables cost	*$*	*$3,227*	*$1,341*	*$10,892*	*$2,928*	*$2,973*	*$2,928*	*$1,811*	*$1,757*
Sludge generated (20% dewatered)	gal	25	25	25	25	25	25	25	25
Sludge disposed of	gal	39	0	0	0	0	0	0	0
Sludge disposal cost	*$*	*$105.88*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*
Gas (estimated)	therms	914	980	980	935	935	935	935	935
Electricity (estimated)	kw hr	42772	21,200	61,320	61,320	51,560	38,720	38,720	38,720
Utilities cost	*$*	*$4,169*	*$2,251*	*$5,862*	*$5,846*	*$4,968*	*$3,812*	*$3,812*	*$3,812*
Compliance Sampling	at cost	$1,155.70	$0.00	$1,170.00	$1,560.00	$2,000.00	$2,695.00	$1,111.00	$1,111.00
Redevelopment	at cost	$4,300	$20,000	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Operator	Month	$11,228	$11,275	$11,275	$11,275	$11,275	$11,275	$11,275	$11,275
Management & Engineering	at cost	$4,158	$7,000	$4,000	$6,114	$3,750	$4,000	$4,500	$3,000
Services cost	*$*	*$20,842*	*$38,275*	*$16,445*	*$18,949*	*$17,025*	*$17,970*	*$16,886*	*$15,386*
Operating Cost	***$***	***$28,344***	***$41,867***	***$33,198***	***$27,723***	***$24,965***	***$24,710***	***$22,509***	***$20,955***

Servall Laundry
Site No. 1-52-077
Groundwater Remediation -1999 Operation and Maintenance

Summary Report

Plant Operating Data	unit	1999 Monthly Average	August-99	September-99	October-99	November-99	December-99	Total 1999
Flow Rate	gpm	80	23.88	57.34	81.02			-
Gallons processed	gallons	3,364,265	790,740	2,973,000	3,383,320			33,642,650
Percent of Time Operating	%	93%	96%	100%	100%			-
Influent VOC concentration	ug/L	203	-	25.5	39.1	0	0	-
Effluent VOC concentration	ug/L	2.35	-	0.5	0.6	0	0	-
VOC removal efficiency	%	95.1%		98.0%	98.5%			
Pounds of VOCs Treated	lb	7.6		0.62	1.09			41
Influent Total Iron	ug/L	486	-	172	979	0	0	-
Influent Total Manganese	ug/L	552	-	630	622	0	0	-
Effluent Total Iron	ug/L	74	-	130	35	0	0	-
Effluent Total Manganese	ug/L	553	-	660	613	0	0	-
Total Iron removal efficiency	%	84.5%		24.4%	96.4%			-
Total Manganese removal efficiency	%	1.3%	0.0%	0.0%	1.4%			-
Sodium hypochlorite (12%)	lb	781	500	500	500			7,810
Polymer	lb	50	50	50	50			500
Hydrogen peroxide (50%)	lb	3530	2267	4500	4500			35,301
Caustic (50%)	lb	0	0	0	0			0
Hydrochloric Acid	lb	125	125	125	125			1,250
Cartridge Filters	ea	1	1	1	3			12
Spare Parts or other	at cost	$801	$0	$0	$0			$8,009
Consumables cost	*$*	*$3,227*	*$1,723*	*$2,839*	*$3,079*			*$32,270*
Sludge generated (20% dewatered)	gal	25	25	25	25			550
Sludge disposed of	gal	39	385	0	0			385
Sludge disposal cost	*$*	*$105.88*	*$1,058.75*	*$0.00*	*$0.00*			*$1,058.75*
Gas (estimated)	therms	914	900	800	800			9135
Electricity (estimated)	kw hr	42772	38,720	38,720	38,720			427720
Utilities cost	*$*	*$4,169*	*$3,800*	*$3,765*	*$3,765*			*$41,692*
Compliance Sampling	at cost	$1,155.70	$0.00	$800.00	$1,110.00			$11,557
Redevelopment	at cost	$4,300	$23,000.00	$0.00	$0.00			$43,000
Operator	Month	$11,228	$10,600	$10,600	$12,158.40			$112,283
Management & Engineering	at cost	$4,158	$2,800	$3,200	$3,217.00			$41,581
Services cost	*$*	*$20,842*	*$36,400*	*$14,600*	*$16,485*			*$208,422*
Operating Cost	***$***	***$28,344***	***$42,981***	***$21,204***	***$23,329***			***$283,442***

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

1999 Compliance Sampling

Influent																	
Constituents	Discharge Criteria	units	January		February		March (23)		March		April		May		June	
Chlorobenzene	5	ug/L	-			U		U		U		U		U		U
Vinyl Chloride	2	ug/L	-			U		U		U		U		U		U
1,1-Dichloroethene	5	ug/L	-			U		U		U		U		U		U
Trichloroethene	5	ug/L	-		1.2		1.5		1.9		5.6		3	JD	1.3	J
Tetrachloroethene	5	ug/L	-		17		150		140	E	350		260	D	110	B
1,1-Dichloroethane	5	ug/L	-			U		U		U		U		U		U
Toluene	5	ug/L	-			U		U		U		U	4.6	JDB	1	J
cis-1,2-Dichloroethene	5	ug/L	-		0.6		1.5		1.7			U		U	0.6	J
trans-1,2-Dichloroethene	5	ug/L	-			U		U		U		U		U		U
Methylene Chloride	N/A	ug/L	-			U				U	12	B	4.5	JD	1.3	JB
1,1,1-Trichloroethane	N/A	ug/L	-		0.7		0.6		0.5			U		U	0.6	J
Chloroform	N/A	ug/L	-			U		U		U	2.3	J		U		U
Bromodichloromethane	N/A	ug/L	-			U		U		U	3.8	J		U		U
Trichlorofluoromethane	N/A	ug/L	-			U		U		U		U		U		U
Methyl tert-Butly Ether	N/A	ug/L	-				N-A				5.7	J	3.2	JD		U
Total VOCs	**N/A**	**ug/L**	**-**		**19.5**		**153.6**		**144.1**		**373.7**		**275.3**		**114.8**	
Iron (total)	600[4]	ug/L	-		574		N/A		420		564		385		236	
Manganese (total)	600[4]	ug/L	-		629		N/A		565		496		517		492	
Alkalinity	N/A	mg/L	-		20		N/A		15.5		14		18		22	
Total Suspended Solids	N/A	mg/L	-		10		N/A		10		10	U	10	U	10	U
Total Solids	N/A	mg/L	-		64		N/A		144		86		183		142	
Effluent																
Constituents	Discharge Criteria	units	January		February		March (23)		March		April		May		June	
Chlorobenzene	5	ug/L	-			U	N-A			U		U		U		
Vinyl Chloride	2	ug/L	-			U	N-A			U		U		U		
1,1-Dichloroethene	5	ug/L	-			U	N-A			U		U		U		
Trichloroethene	5	ug/L	-			U	N-A			U	0.4	J		U		
Tetrachloroethene	5	ug/L	-			U	N-A		I		1.2		0.9		0.1	J
1,1-Dichloroethane	5	ug/L	-			U	N-A			U		U		U	0.1	J
Toluene	5	ug/L	-			U	N-A			U	0.1	J		U		
cis-1,2-Dichloroethene	5	ug/L	-			U	N-A			U		U		U		
trans-1,2-Dichloroethene	5	ug/L	-			U	N-A			U		U		U		
Methylene Chloride	N/A	ug/L	-			U				U		U		U		
1,1,1-Trichloroethane	N/A	ug/L	-		0.4	J	N-A		0.4	J		U	0.3	J	0.4	J
Chloroform	N/A	ug/L	-		1.2		N-A		1.3		0.1	J	0.6	B	0.5	J
Bromodichloromethane	N/A	ug/L	-		0.7		N-A		0.8			U		U	0.3	J
Methyl tert-Butly Ether	N/A	ug/L	-	U		U	N-A			U		U		U		
Total VOCs	**N/A**	**ug/L**	**-**		**2.3**		**N-A**		**3.5**		**1.8**		**1.8**		**1.4**	
Iron (total)	600[4]	ug/L	-		134		N-A		60.4		50		50	U	199	P
Manganese (total)	600[4]	ug/L	-		**612**		N-A		569		490		542		507	P
Alkalinity	N/A	mg/L	-		21		N-A		17		17		16.5		21	
Total Suspended Solids	N/A	mg/L	-		10		N-A		10		10	U	10	U	10	U
Total Solids	N/A	mg/L	-		48		N-A		156		90		186		154	

Notes:

1. Analytical data analyzed by STL Laboratories, February 1999.
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.

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

1999 Compliance Sampling

Influent															
Constituents	Discharge Criteria	units	July		August		September		October		November		December		
Chlorobenzene	5	ug/L		U	-			U		U					
Vinyl Chloride	2	ug/L		U	-			U		U					
1,1-Dichloroethene	5	ug/L	0.2	J	-			U		U					
Trichloroethene	5	ug/L	1.3	JD	-		0.9		1						
Tetrachloroethene	5	ug/L	65	D	-		19		32	E					
1,1-Dichloroethane	5	ug/L	0.2	J	-			U		U					
Toluene	5	ug/L		U	-			U		U					
cis-1,2-Dichloroethene	5	ug/L	0.3	J	-			U	0.3	J					
trans-1,2-Dichloroethene	5	ug/L		U	-			U		U					
Methylene Chloride	N/A	ug/L	1.2	JD	-			U		U					
1,1,1-Trichloroethane	N/A	ug/L	0.7	JD	-		0.6		0.6						
Chloroform	N/A	ug/L	0.9	JD	-			U		U					
Bromodichloromethane	N/A	ug/L		U	-			U		U					
Trichlorofluoromethane	N/A	ug/L	0.1	J	-			U		U					
Methyl tert-Butly Ether	N/A	ug/L	3.6	D	-		5		5.2						
Total VOCs	**N/A**	**ug/L**	**73.5**		**-**		**25.5**		**39.1**						
Iron (total)	600[4]	ug/L	321		-		172		979						
Manganese (total)	600[4]	ug/L	719		-		630		622						
Alkalinity	N/A	mg/L	19		-		22		7.4						
Total Suspended Solids	N/A	mg/L	10	U	-		10	U	10	U					
Total Solids	N/A	mg/L	142		-		154		164						
Effluent															
Constituents	Discharge Criteria	units	July		August		September		October		November		December		
Chlorobenzene	5	ug/L		U	-			U		U					
Vinyl Chloride	2	ug/L		U	-			U		U					
1,1-Dichloroethene	5	ug/L		U	-			U		U					
Trichloroethene	5	ug/L		U	-			U		U					
Tetrachloroethene	5	ug/L		U	-		0.3	J	0.3	J					
1,1-Dichloroethane	5	ug/L	0.1	J	-			U		U					
Toluene	5	ug/L		U	-			U		U					
cis-1,2-Dichloroethene	5	ug/L		U	-			U		U					
trans-1,2-Dichloroethene	5	ug/L		U	-			U		U					
Methylene Chloride	N/A	ug/L		U	-			U		U					
1,1,1-Trichloroethane	N/A	ug/L	0.5		-		0.2	J	0.3	J					
Chloroform	N/A	ug/L	0.2	J	-			U		U					
Bromodichloromethane	N/A	ug/L		U	-			U		U					
Methyl tert-Butly Ether	N/A	ug/L		U	-			U		U					
Total VOCs	**N/A**	**ug/L**	**0.8**		**-**		**0.5**		**0.6**						
Iron (total)	600[4]	ug/L	100	U	-		130		35	U					
Manganese (total)	600[4]	ug/L	**710**		-		**660**		**613**						
Alkalinity	N/A	mg/L	18.5		-		24		30						
Total Suspended Solids	N/A	mg/L	10	U	-		10	U	10	U					
Total Solids	N/A	mg/L	160		-		126		157						

Notes:

1. Analytical data analyzed by STL Laboratories, February
2. (U) Undetected.
3. (J) Estimate value. Result is below sample practical quar
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) pestiside/aroclor target analyte. Greater than 25% di

Servall Laundry Site
Site No. 1-52-077

Groundwater Remediation
UV Oxidation Treatability Testing

Constituents / Sample ID	**INFLUENT FEB 1999**	1EH	2EH	3EH	**INFLUENT MARCH 1999**	1EH	1EL	1EL (dup)
Peroxide Dose Influent (ppm)		28	28	28		28	50	67
Peroxide Dose Residual (ppm)		22	22	22		22	38	53
Chlorobenzene								
Vinyl Chloride								
Methylene Chloride								
1,1-Dichloroethene							0.3	0.3
Trichloroethene	1.2				1.9			
Benzene								
Tetrachloroethene	17	0.4			140	3.2	**7.4**	**7.7**
1,1-Dichloroethane								
Chlorobenzene								
Toluene								
cis-1,2-Dichloroethene	0.6				1.7			
trans-1,2-Dichloroethene								
1,1,1-Trichloroethane	0.7	0.5	0.5	0.5	0.5	0.5	0.5	
Chloroform								
Bromodichloromethane								
Methyl tert-Butly Ether							0.3	
Trichlorofluoromethane								
Total	19.5	0.9	0.5	0.5	144.1	3.7	**8.5**	**8**

Notes:
1. Analytical data analyzed by STL Laboratories. Units are ug/L unless otherwise noted.
2. Bold values exceed discharge limits.

Legend
1 = Lamp Number (1, 2 or 3)
E = Effluent
H = High Power Lamp
L = Low Power Lamp
dup = duplicate sample

Servall Laundry Site
Site No. 1-52-077

Groundwater Remediation
UV Oxidation Treatability Testing

Constituents / Sample ID	**INFLUENT APRIL 1999**	1EH + 2EH	1EH+2EL	**INFLUENT MAY 1999**	1EH	1EL + 2 EL	**INFLUENT JUNE 1999**	1EL	1EH + 2 EL	**INFLUENT JULY 1999**	1EL	1EH + 2 EL
Peroxide Dose Influent (ppm)		50	50		28	28		28	28		28	28
Peroxide Dose Residual (ppm)		38	38		20	20		20	20		20	20
Chlorobenzene												
Vinyl Chloride												
Methylene Chloride	12	0.2		4.5			1.3					
1,1-Dichloroethene			0.2							0.2		
Trichloroethene	5.6			3			1.3			1.1		
Benzene												
Tetrachloroethene	350	0.3	0.6	260	4.7	0.5	110	0.1	0.1	53		
1,1-Dichloroethane								0.1	0.1	0.2		
Chlorobenzene												
Toluene			0.1	4.6		0.1	1					
cis-1,2-Dichloroethene	3.8						0.6			0.3		
trans-1,2-Dichloroethene												
1,1,1-Trichloroethane	0	0.5	0.5		0.5	0.8	0.6	0.5	0.5	0.6	0.6	
Chloroform	2.3	0.1	0.2					0.1	0.1	0.1	0.1	
Bromodichloromethane												
Methyl tert-Butly Ether										3		
Trichlorofluoromethane										0.1	0.1	
Total	373.7	1.1	1.6	272.1	**5.2**	1.4	114.8	0.8	0.8	55.5	0.8	0

Notes:
1. Analytical data analyzed by STL Laboratories. Units are ug/L unless otherwise noted.
2. Bold values exceed discharge limits.

Legend
1 = Lamp Number (1, 2 or 3)
E = Effluent
H = High Power Lamp
L = Low Power Lamp
dup = duplicate sample

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

1999 Graphical Data Trends

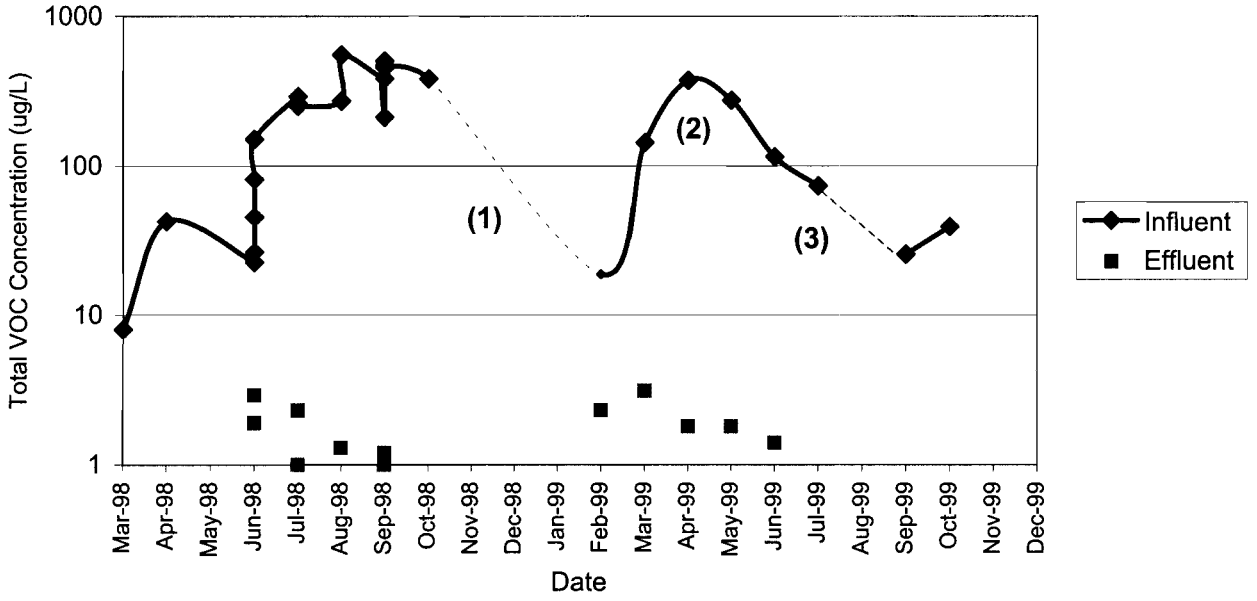

Figure 1 - Total Volatile Organic Compound (VOC) Influent and Effluent Trends

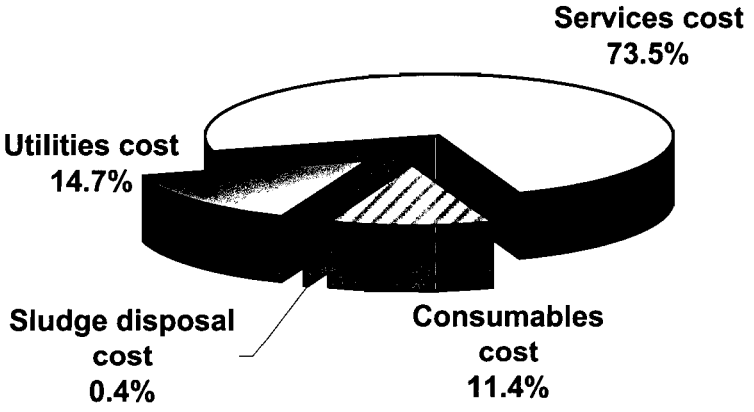

Figure 2 - Average Operating Cost Breakdown - 1999 monthly average to date is $28,344

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.

Servall Laundry
Site No. 1-52-077
Groundwater Remediation - 1999 Operations and Maintenance

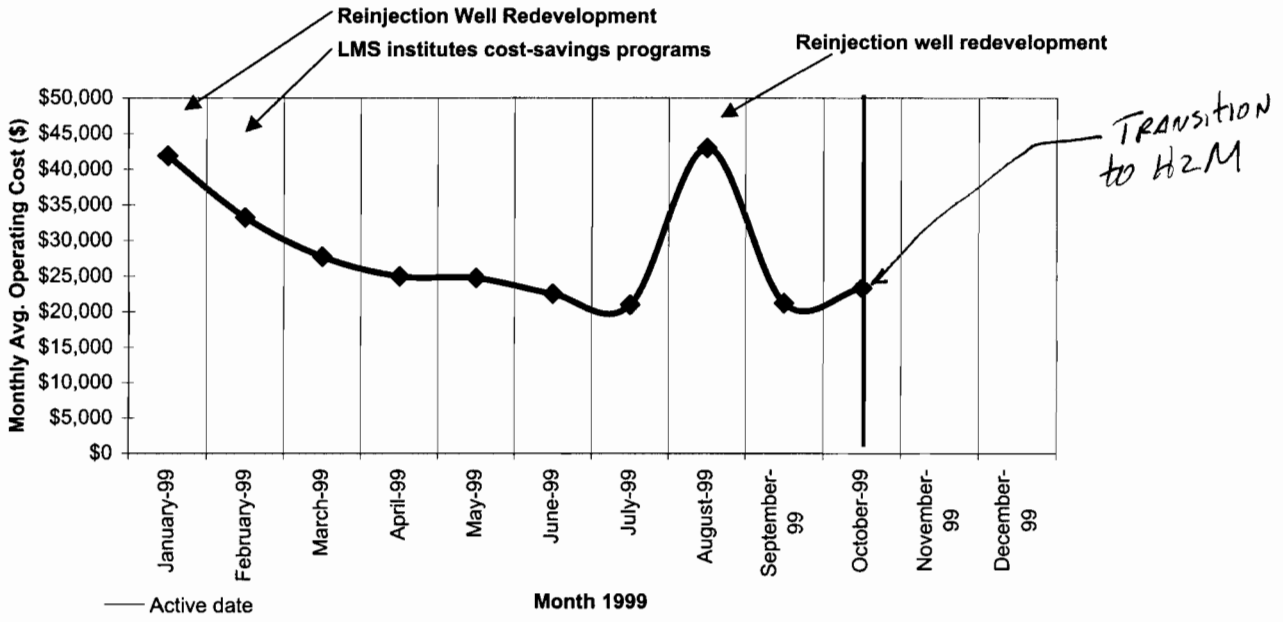

Figure 3 - Average Operating Cost Trends

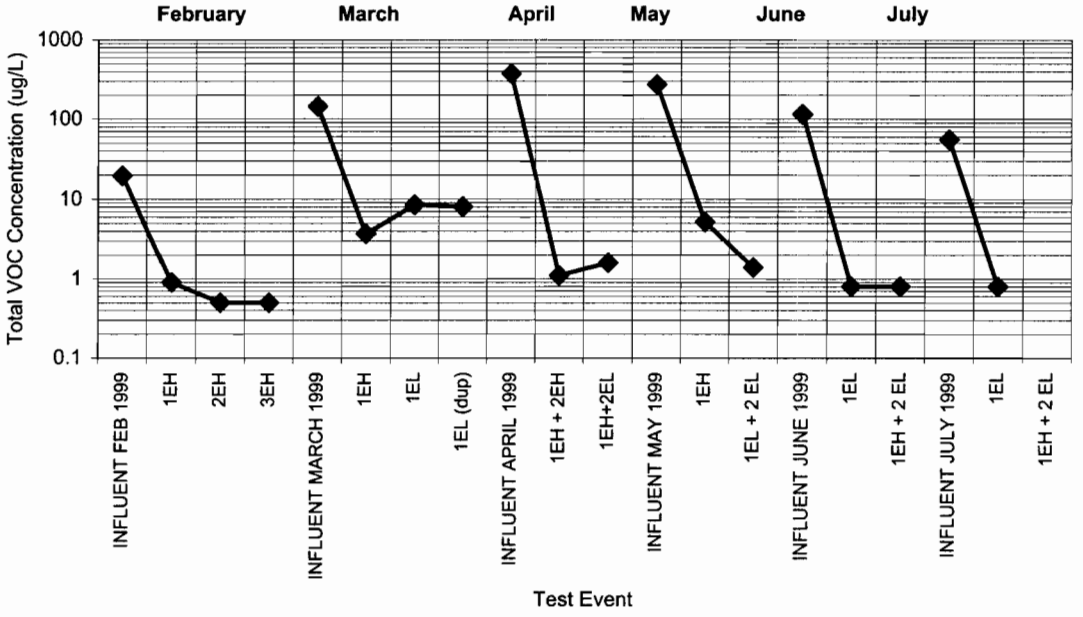

Figure 4 - UV Treatability Testing

Legend
1 = Lamp Number (1, 2 or 3)
E = Effluent
H = High Power Lamp
L = Low Power Lamp
dup = duplicate sample

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

Summary Notes and Action Items

Month	Notes	Action	Resolutions
January	Plant down until last week of the month, redevelopment conducted the week of January 18, 1999	Plant on-line week of January 26, 1999. No compliance sampling conducted this month due to plant downtime	None
February	Influent VOC concentration fairly low at 17 ppb.	None	None
March	Evidence of MTBE was detected in MW-6B at a concentration of 6.2 ppb and in the influent sample collected 3/23/99 at a concentration of 2.6 ppb. Latest compliance sampling shows levels of influent VOCs to be about 140 ppb.	Continue UV Treatability Testing in order to reduce UV power and electrical costs.	NYDEC decides to reduce UV lamp power to one lamp full power followed by the second lamp low power, the third lamp is shutdown.
April	Pump 6B experienced operating problems, unit was disassembled and cleaned, each pump was fitted with new lubrication oil. Still evidence of MTBE in influent samples. Carbon shipped off-site as haz. waste #NYG0681768	Continue UV Treatability Testing in order to reduce UV power and electrical costs.	None
May	Backflow Valve inspected and certified	Continue UV Treatability Testing in order to reduce UV power and electrical costs.	None
June	Reinjection well requires redevelopment. Plant flow rate is about 60 gpm.	Redevelop reinjection well as soon as possible. First reinjection was effective for about 6 months.	Reduced flow rate results in a reduced capture zone. Influent concentrations in June are lower than previous months - likely due to reduced flow rate/capture zone.
July	Reinjection well requires redevelopment. Plant flow rate is about 50 gpm.	Redevelop reinjection well as soon as possible. First reinjection was effective for about 6 months.	Reduced flow rate results in a reduced capture zone. Influent concentrations in July are lower than previous months - likely due to reduced flow rate/capture zone.
August	Reinjection well requires redevelopment. Plant flow rate is about 25 gpm.	Reinjection well redevelop successfully - about 6.5 months between redevelopments	No compliance sampling performed.
September	Influent and effluent VOC concentrations fairly low at 25.5 and 0.5 ppb.	None	None
October	Plant flow rate reached 130 gpm during October, but can not run at 150 gpm for any length of time.	None	None
November			
December			

Environmental
Resources
Management

175 Froehlich Farm Blvd.
Woodbury, NY 11797
(516) 921-4300
(516) 921-5637 (Fax)

Rob De Georgio
Lawler, Matusky & Skelly Engineers LLP
One Blue Hill Plaza
P.O. Box 1509
Pearl River, New York 10965-8509

4 November, 1999

ERM

Servall Laundry GWTP – October 1 - 31, 1999 Operations Report.

Plant operations for October, 1999 are as follows:

Routine visits were conducted and readings taken during this period. Daily plant chemistry tests and routine cartridge filter change outs and cleanings were performed.

- 10/11/99- received and replaced missing Flow meters.
- 10/13/99 Plant down, due to high re-injection well level, lowered flow rate to 75 gpm to keep the plant running.
- 10/14/99 Shocked well with Chlorine tablets, re-injection well is holding steady but still high at 68 feet.
- 10/15/99 Increased the flow to 85 gpm, Re-injection well holding steady
- 10/19/99 Repaired and calibrated pH probes in EQ tank and pH Adjust tank.
- 10/26 – 29/99 Transition with H2M , Onsite

Plant Performance

The plant discharged 3,383,320 gallons of treated water between Oct 1st and Oct 29th (29 days of operation), resulting in an average flow rate of 81.02 gallons per minute. Over the course of the month the flow rate was raised to 130 gpm. The redevelopment of the re-injection well is not holding as well as all parties would like, we have not been able to run at 150 gpm for any length of time since the redevelopment.

Any questions regarding this report should be directed to the undersigned at (516) 921-9393.

Sincerely,

Mark Gouch
Operations Manager

Attachments: Daily Operations Reports

Servall Daily Operations Checklist
October 1999

Day	Tuesday	ednesda	Monday	Tuesday	ednesda	Thursday	Friday	Saturday	Sunday	Monday
Date	10/19/99	10/20/99	10/25/99	10/26/99	10/27/99	10/28/99	10/29/99	10/30/99	10/31/99	11/1/99
Time	830	1230	715	845	845	845	830			
Extraction Well Level	68.8	58.9	57.5	57.7	57.5	59.4	58.3			
Influent Flow Rate	75.03	107.47	92.68	107.46	119.58	103.7	122.2			
Influent Filter In Service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Inlet psi	20	20	20	20	1	4	20			
Outlet psi	20	20	20	20	1	1	20			
Cartridge Filter Flow Rate (GPM)	N/A	N/A	N/A	N/A	102.46	103	121	N/A	N/A	N/A
EQ Tank Level (inches)	52.01	52.01	52.04	52.02	51.97	51.98	51.96			
EQ Tank Mixer	OFF									
Acid Pump: Speed/Stroke	OFF									
UV/OX Pump in Service	4A	4A	4A	4A	4A	4A	4A			
UV/OX Flow Rate	96	98.7	99.3	97.8	109.8	114	129			
UV/OX Unit										
Lamp # 1 (on/off)	ON	ON	ON	ON	ON	ON	ON			
KV	2550	2500	2550	2550	2500	2550	2550			
Amps	7	7	7.9	7.9	7.9	7.6	7.9			
Time			7819.99	7845.41	7869.14	7893.1	7916.66			
Lamp # 2 (on/off)	OFF	OFF	OFF	OFF	OFF	OFF	OFF			
KV			OFF	OFF	OFF	OFF	OFF			
Amps			OFF	OFF	OFF	OFF	OFF			
Time			5984.86	5984.86	5984.86	5984.86	5984.86			
Lamp # 3 (on/off)	ON	ON	ON	ON	ON	ON	ON			
KV	2550	2550	2550	2600	2600	2600	2575			
Amps	7	7	7	7	7	6.8	6.9			
Time			6247.53	6272.94	6296.67	6320.62	6344.2			
Peroxide Pump: Speed/Stroke	55/50	55/50	50/50	50/50	55/50	55/50	50/50			
Peroxide Residual	20	18				28				
pH Adjust Tank Level (inches)	50.06	50.04	49.74	49.99	50.02	50.08	50			
pH	5.4	5.4	5.67	5.56	5.55	5.56	5.62			
Mixer (on/off)	ON	ON	ON	ON	ON	ON	ON			
Totalizer reading	60279980	60437190	61113300	61261810	61415230	61572470	61753920			
Caustic Pump: Speed/Stroke	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Polymer Feed Settings	ON	ON	ON	ON	ON	ON	ON			

Servall Daily Operations Checklist
October 1999

Day	Tuesday	ednesda	Monday	Tuesday	ednesda	Thursday	Friday	Saturday	Sunday	Monday
Date	10/19/99	10/20/99	10/25/99	10/26/99	10/27/99	10/28/99	10/29/99	10/30/99	10/31/99	11/1/99
Time	830	1230	715	845	845	845	830			
Solution Pump: Speed/Stroke	5/30	5/30	5/30	5/30	5/30	5/30	5/30			
Dilution Water Rate	10	10	10	10	10	10	10			
Polymer Bucket Wt.	20	20	15	14	13	13	13			
Sand Filter Pump In Service	6B	6B	6B	6B	6B	6B	6B			
Sand Filters										
Filter #1 Inlet psi	22	26	34	15	18	18	20			
Filter #1 Outlet psi	14	18	24	12	13	13	14			
Filter #2 Inlet psi	20	24	32	13	16	15	18			
Filter #2 Outlet psi	16	16	24	11	12	12	14			
Filter #3 Inlet psi	18	20	30	14	16	15	18			
Filter #3 Outlet psi	16	14	24	13	14	14	16			
Filter #4 Inlet psi	22	26	32	16	20	20	22			
Filter #4 Outlet psi	16	18	24	12	14	12	16			
Effluent Flow Rate	89.61	91.42	100.7	91.05		102.27	130			
Effluent Filter in Service	A/B	A/B	A/B	A/B	A/B	A/B	A/B			
Inlet psi	14	14	22	10	10	10	12			
Outlet psi	8	10	10	8	8	9	10			
Reinjection Well level	62.1	62.14	64.16	62.38		63.33	64.44			
Chemical Storage Levels										
NaOH (caustic) Level	67.1	82.6	82.6	82.6	62	62	72.3			
H_2O_2 (peroxide) Level	58.3	58.3	58.3	58.3	58.3	58.3	58.3			
H_2SO_4 (acid) Level	58.1	58.6	58.1	58.6	58.5	60.1	60.2			
Air Compressor (psi)	150	150	150	150	145	150	140			
Compressed Air Dryer	ON	ON	ON	ON	ON	ON	ON			
Chlorine Pump: Speed/Stroke	80/70	80/70	100/100	80/80	DOWN	DOWN	80/80			
Chlorine Residual	0.8	0.5								

Servall Daily Operations Checklist
October 1999

Day	Thursday	Friday	Monday	Tuesday	Wednesday	Monday	ednesda	Thursday	Friday	Monday
Date	9/30/99	10/1/99	10/4/99	10/5/99	10/6/99	10/11/99	10/13/99	10/14/99	10/15/99	10/18/99
Time	1015	845	845	930	1000	1100	1500	1015	750	750
Extraction Well Level	60.1	60.4	53.2	53.6	55.4	58.9	56.7	62.8	62.3	62.2
Influent Flow Rate										75.03
Influent Filter In Service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Inlet psi	0	0	0					84	68	68
Outlet psi	0	0	0					84	68	68
Cartridge Filter Flow Rate (GPM)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA
EQ Tank Level (inches)	51.99	52.03	52.01	52.04	52.00	53.59	62.40	51.96	51.99	51.99
EQ Tank Mixer	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Acid Pump: Speed/Stroke	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
UV/OX Pump in Service	4B	4B	4B	4B	4B	4B	4B	4A	4A	4A
UV/OX Flow Rate	104.7	101.7	103.5	104.79	100.5	98.1	94.2	71.1	83.7	78.9
UV/OX Unit										
Lamp # 1 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
KV	2500	2500	2500	2500	2500	2500	2500	2550	2500	2550
Amps	8	7.9	7.7	8	7.9	7.6	7.9	7.9	7.9	7.9
Time	7340.52	7363.23	7434.35	7439.13	7483.46	7529.12	7556.48	7559.04	7580.57	7652.57
Lamp # 2 (on/off)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
KV	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Amps	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Time	5984.86	5984.86	5984.86	5984.86	5984.86	5984.86	5984.86	5984.86	5984.86	5984.86
Lamp # 3 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
KV	2500	2550	2600	2550	2550	2600	2600	2550	2550	2575
Amps	7	6.9	6.5	7	6.9	6.5	7	7	7	7
Time	5768.09	5790.81	5861.91	5886.65	5911.02	5956.67	5984.03	5986.58	6008.11	6080.11
Peroxide Pump: Speed/Stroke	50/50	50/50	50/50	50/50	50/50	55/50	55/50	55/50	55/50	55/50
Peroxide Residual										14
pH Adjust Tank Level (inches)	54.02	54	54	53.98	54.08	54.02	46.68	49.9	49.8	49.9
pH	5.4	5.4	5.4	5.39	5.4	5.4	5.4	5.4	5.4	5.4
Mixer (on/off)	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON
Totalizer reading	58370600	58508990	58944680	59096910	59096910	59526790	59677910	59689570	59784150	60130260
Caustic Pump: Speed/Stroke	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Polymer Feed Settings						ON	ON	ON	ON	ON

Servall Daily Operations Checklist
October 1999

Day	Thursday	Friday	Monday	Tuesday	Wednesday	Monday	ednesda	Thursday	Friday	Monday
Date	9/30/99	10/1/99	10/4/99	10/5/99	10/6/99	10/11/99	10/13/99	10/14/99	10/15/99	10/18/99
Time	1015	845	845	930	1000	1100	1500	1015	750	750
Solution Pump: Speed/Stroke	10/30	10/30	10/30	10/30	10/30	10/35	10/35	5/30	5/30	5/30
Dilution Water Rate	10	10	10	10	15	15	15	10	10	10
Polymer Bucket Wt.	37	36	31	31	30	26	20	21	21	20
Sand Filter Pump In Service	6B	6B	6B	6B	6B	6B	6A	6B	6B	6B
Sand Filters										
Filter #1 Inlet psi	20	20	20	20	22	20	20	20	20	25
Filter #1 Outlet psi	12	12	15	13	15	15	12	12	13	15
Filter #2 Inlet psi	20	18	20	19	20	18	18	18	20	25
Filter #2 Outlet psi	11	13	13	12	15	15	12	12	13	15
Filter #3 Inlet psi	21	17	18	19	20	18	17	17	18	24
Filter #3 Outlet psi	13	13	15	12	16	14	14	14	14	16
Filter #4 Inlet psi	21	20	20	20	23	18	18	20	21	26
Filter #4 Outlet psi	12	12	14	11	15	16	14	14	14	16
Effluent Flow Rate	94.17	94.16	91.91	96.08	111.8	106.48	101.97	72.53	75.41	76.71
Effluent Filter in Service	A/B	A/B	A/B	A/B	A/B	A/B	A/B	A/B	A/B	A/B
Inlet psi	10	10	10		10	10	10	10	10	12
Outlet psi	8	8	8		8	8	10	10	8	8
Reinjection Well level	60.84	62.71	65.36	63.16	65.05	64.15		65.87	64.98	61.4
Chemical Storage Levels										
NaOH (caustic) Level	80.8	80.8	81	81.5	81.3	81	81	67.1	67.1	72.3
H_2O_2 (peroxide) Level	32.7	32.7	32.7	32.7	32.7	32.7	32.7	58.3	58.3	58.3
H_2SO_4 (acid) Level	60.1	59.4	60.3	58.9	58.4	58	58.4	58.2	58.1	58.7
Air Compressor (psi)	150	150	150	150	150	150	150	140	140	145
Compressed Air Dryer	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Chlorine Pump: Speed/Stroke	70/70	70/70	70/70	70/70	70/70	100/100	80/80	85/70	80/70	85/70
Chlorine Residual	0.5	0.7	0.7							0.6