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December 16, 1999
File No. 650-395

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. D002676-39.2
Monthly Report – November 1999

Dear Mr. Hoffman:

Attached please find the Monthly Report of November 1999, the first monthly report submitted under Work Assignment No. D002676-39.2. On November 1, 1999, the H2M Group assumed the daily operation and maintenance duties at the Servall Laundry plant.

The change in operations from ERM to H2M included identifying contacts for emergency situations. The PLC autodialer has been reprogrammed to alert H2M personnel in the event of plant alarms. Additionally, we submitted contact information required for bulk chemical storage permits. Please revise the information accordingly.

The plant operated during November 1999 at an average flow rate of 135 gpm; a total volume of 4,057,020 gallons of water was processed. The influent VOC concentration increased from previous months to 51.6 ppb; the plant removed approximately 98.3% of the influent VOC. Effluent concentrations of total manganese and total iron were within discharge limitations during the month of November.

The polymer feed pump has been temporarily removed from service due to an inoperative shutdown circuit. An improvement in reinjection well performance has been noted in the absence of the polymer. LMS in conjunction with H2M will continue to monitor the performance without the addition of polymer, and will return the polymer feed system upon your approval and repair of the circuit, if necessary.

LMS will continue to provide task management of the plant operations until September 30, 2000. If you have any questions or comments please feel free to contact me at 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

Monthly Operations Report

November-99

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

650-395

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

Monthly Operations Report

Summary Report
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

650-395

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		1		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		U					
Vinyl Chloride	2	ug/L		U	-			U		U		U					
1,1-Dichloroethene	5	ug/L	0.2	J	-			U		U		U					
Trichloroethene	5	ug/L	1.3	JD	-		0.9		1		1.2						
Tetrachloroethene	5	ug/L	65	D	-		19		32	E	44	E					
1,1-Dichloroethane	5	ug/L	0.2	J	-			U		U		U					
Toluene	5	ug/L		U	-			U		U		U					
cis-1,2-Dichloroethene	5	ug/L	0.3	J	-			U	0.3	J	0.4	J					
trans-1,2-Dichloroethene	5	ug/L		U	-			U		U		U					
Methylene Chloride	N/A	ug/L	1.2	JD	-			U		U		U					
1,1,1-Trichloroethane	N/A	ug/L	0.7	JD	-		0.6		0.6		0.5						
Chloroform	N/A	ug/L	0.9	JD	-			U		U		U					
Bromodichloromethane	N/A	ug/L		U	-			U		U		U					
Trichlorofluoromethane	N/A	ug/L	0.1	J	-			U		U		U					
Methyl tert-Butly Ether	N/A	ug/L	3.6	D	-		5		5.2		5.5						
Total VOCs	**N/A**	**ug/L**	**73.5**		-		**25.5**		**39.1**		**51.6**						
Iron (total)	600[4]	ug/L	321		-		172		979		716						
Manganese (total)	600[4]	ug/L	719		-		630		622		521						
Alkalinity	N/A	mg/L	19		-		22		7.4		12						
Total Suspended Solids	N/A	mg/L	10	U	-		10	U	10	U	10	U					
Total Solids	N/A	mg/L	142		-		154		164		129						
Effluent																	
Constituents	Discharge Criteria	units	July		August		September		October		November		December				
Chlorobenzene	5	ug/L		U	-			U		U		U					
Vinyl Chloride	2	ug/L		U	-			U		U		U					
1,1-Dichloroethene	5	ug/L		U	-			U		U		U					
Trichloroethene	5	ug/L		U	-			U		U		U					
Tetrachloroethene	5	ug/L		U	-		0.3	J	0.3	J	0.6						
1,1-Dichloroethane	5	ug/L	0.1	J	-			U		U		U					
Toluene	5	ug/L		U	-			U		U		U					
cis-1,2-Dichloroethene	5	ug/L		U	-			U		U		U					
trans-1,2-Dichloroethene	5	ug/L		U	-			U		U		U					
Methylene Chloride	N/A	ug/L		U	-			U		U		U					
1,1,1-Trichloroethane	N/A	ug/L	0.5		-		0.2	J	0.3	J	0.3	J					
Chloroform	N/A	ug/L	0.2	J	-			U		U		U					
Bromodichloromethane	N/A	ug/L		U	-			U		U		U					
Methyl tert-Butly Ether	N/A	ug/L		U	-			U		U		U					
Total VOCs	**N/A**	**ug/L**	**0.8**		-		**0.5**		**0.6**		**0.9**						
Iron (total)	600[4]	ug/L	100	U	-		130		35	U	35						
Manganese (total)	600[4]	ug/L	710		-		660		613		519						
Alkalinity	N/A	mg/L	18.5		-		24		30		2	U					
Total Suspended Solids	N/A	mg/L	10	U	-		10	U	10	U	10	U					
Total Solids	N/A	mg/L	160		-		126		157		138						

Notes:

1. Analytical data analyzed by STL Laboratories, February
2. (U) Undetected.
3. (J) Estimate value. Result is below sample practical qua instrument detection limit.
4. The combined effluent concentration of Iron and Manga
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%

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

Summary Report

Plant Operating Data	unit	Monthly Average	January-99	February-99	March-99	April-99	May-99	June-99	July-99
Flow Rate	gpm	85	63	109	123.29	116.65	125	51.08	48.57
Gallons processed	gallons	3,427,243	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	%	52%	20%	73%	82%	78%	84%	34%	36%
Influent VOC concentration	ug/L	124	-	19.5	144.1	373.7	275.3	114.8	73.5
Effluent VOC concentration	ug/L	1.51	-	2.3	3.5	1.8	1.8	1.4	0.8
VOC removal efficiency	%	97.5%	-	88.2%	97.6%	99.5%	99.3%	98.8%	98.9%
Pounds of VOCs Treated	lb	4.7	-	0.63	6.45	15.63	12.78	2.09	1.44
Influent Total Iron	ug/L	485	-	574	420	564	385	236	321
Influent Total Manganese	ug/L	577	-	629	565	496	517	492	719
Effluent Total Iron	ug/L	88	-	134	60.4	50	50	199	100
Effluent Total Manganese	ug/L	580	-	612	569	490	542	507	710
Total Iron removal efficiency	%	71.2%	-	76.7%	85.6%	91.1%	87.0%	15.7%	68.8%
Total Manganese removal efficiency	%	0.6%	-	2.7%	0.0%	1.2%	0.0%	0.0%	0.0%
Sodium hypochlorite (12%)	lb	755	510	1020	1020	1020	1020	1020	700
Polymer	lb	48	50	50	50	50	50	50	50
Hydrogen peroxide (50%)	lb	3618	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	$828	$0	$7,964	$0	$45	$0	$0	$0
Consumables cost	*$*	*$3,286*	*$1,341*	*$10,892*	*$2,928*	*$2,973*	*$2,928*	*$1,811*	*$1,757*
Sludge generated (20% dewatered)	gal	25	25	25	25	25	25	25	25
Sludge disposed of	gal	35	0	0	0	0	0	0	0
Sludge disposal cost	*$*	*$96.25*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*
Gas (estimated)	therms	903	980	980	935	935	935	935	935
Electricity (estimated)	kw hr	42320	21,200	61,320	61,320	51,560	38,720	38,720	38,720
Utilities cost	*$*	*$4,125*	*$2,251*	*$5,862*	*$5,846*	*$4,968*	*$3,812*	*$3,812*	*$3,812*
Compliance Sampling	at cost	$1,113.64	$0.00	$1,170.00	$1,560.00	$2,000.00	$2,695.00	$1,111.00	$1,111.00
Redevelopment	at cost	$3,909	$20,000	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Operator	Month	$11,066	$11,275	$11,275	$11,275	$11,275	$11,275	$11,275	$11,275
Management & Engineering	at cost	$4,107	$7,000	$4,000	$6,114	$3,750	$4,000	$4,500	$3,000
Services cost	*$*	*$20,196*	*$38,275*	*$16,445*	*$18,949*	*$17,025*	*$17,970*	*$16,886*	*$15,386*
Operating Cost	***$***	***$27,703***	***$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	Monthly Average	August-99	September-99	October-99	November-99	December-99	Total 1999
Flow Rate	gpm	85	23.88	57.34	81.02	135.39		-
Gallons processed	gallons	3,427,243	790,740	2,973,000	3,383,320	4,057,020		37,699,670
Percent of Time Operating	%	52%	12%	46%	51%	63%		-
Influent VOC concentration	ug/L	124	-	25.5	39.1	51.6		-
Effluent VOC concentration	ug/L	1.51	-	0.5	0.6	0.9		-
VOC removal efficiency	%	97.5%		98.0%	98.5%	98.3%		
Pounds of VOCs Treated	lb	4.7		0.62	1.09	1.72		42
Influent Total Iron	ug/L	485	-	172	979	716		-
Influent Total Manganese	ug/L	577	-	630	622	521		-
Effluent Total Iron	ug/L	88	-	130	35	35		-
Effluent Total Manganese	ug/L	580	-	660	613	519		-
Total Iron removal efficiency	%	71.2%		24.4%	96.4%	95.1%		-
Total Manganese removal efficiency	%	0.6%	0.0%	0.0%	1.4%	0.4%		-
Sodium hypochlorite (12%)	lb	755	500	500	500	500		8,310
Polymer	lb	48	50	50	50	25		525
Hydrogen peroxide (50%)	lb	3618	2267	4500	4500	4500		39,801
Caustic (50%)	lb	0	0	0	0	0		0
Hydrochloric Acid	lb	125	125	125	125	125		1,375
Cartridge Filters	ea	1	1	1	3	2		14
Spare Parts or other	at cost	$828	$0	$0	$0	$1,100		$9,109
Consumables cost	*$*	*$3,286*	*$1,723*	*$2,839*	*$3,079*	*$3,880*		*$36,150*
Sludge generated (20% dewatered)	gal	25	25	25	25	25		575
Sludge disposed of	gal	35	385	0	0	0		385
Sludge disposal cost	*$*	*$96.25*	*$1,058.75*	*$0.00*	*$0.00*	*$0.00*		*$1,058.75*
Gas (estimated)	therms	903	900	800	800	800		9935
Electricity (estimated)	kw hr	42320	38,720	38,720	38,720	37,800		465520
Utilities cost	*$*	*$4,125*	*$3,800*	*$3,765*	*$3,765*	*$3,682*		*$45,374*
Compliance Sampling	at cost	$1,113.64	$0.00	$800.00	$1,110.00	$693.00		$12,250
Redevelopment	at cost	$3,909	$23,000.00	$0.00	$0.00	$0.00		$43,000
Operator	Month	$11,066	$10,600	$10,600	$12,158.40	$9,441		$121,724
Management & Engineering	at cost	$4,107	$2,800	$3,200	$3,217.00	$3,600		$45,181
Services cost	*$*	*$20,196*	*$36,400*	*$14,600*	*$16,485*	*$13,734*		*$222,155*
Operating Cost	***$***	***$27,703***	***$42,981***	***$21,204***	***$23,329***	***$21,296***		***$304,738***

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

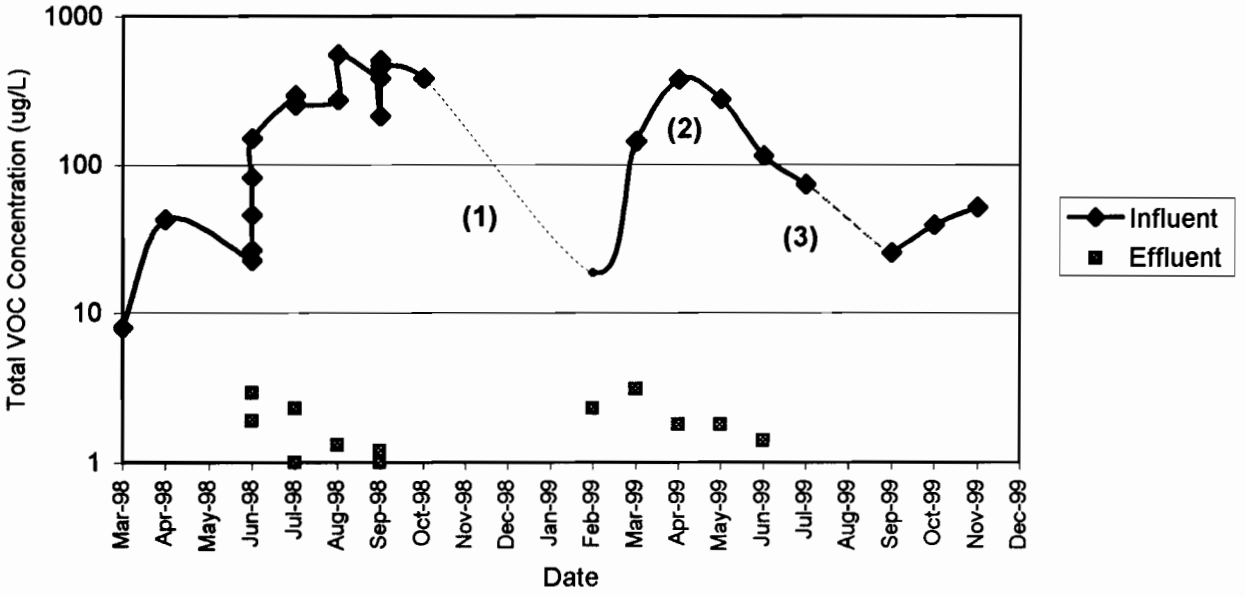

Figure 1 - Total Volatile Organic Compound (VOC) Influent and Effluent Trends

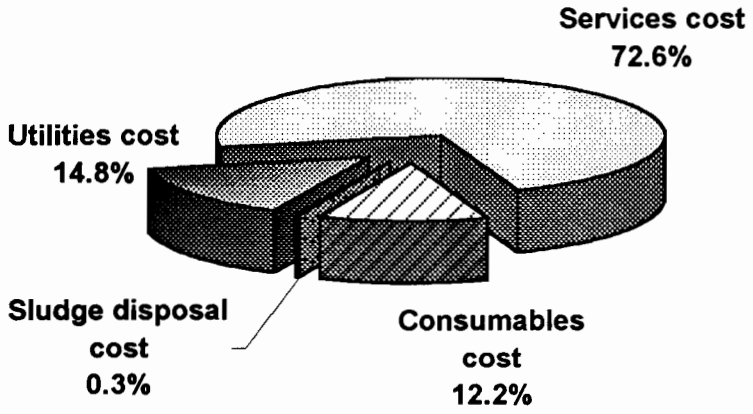

Figure 2 - Average Operating Cost Breakdown - 1999 monthly average to date is $27,813

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.

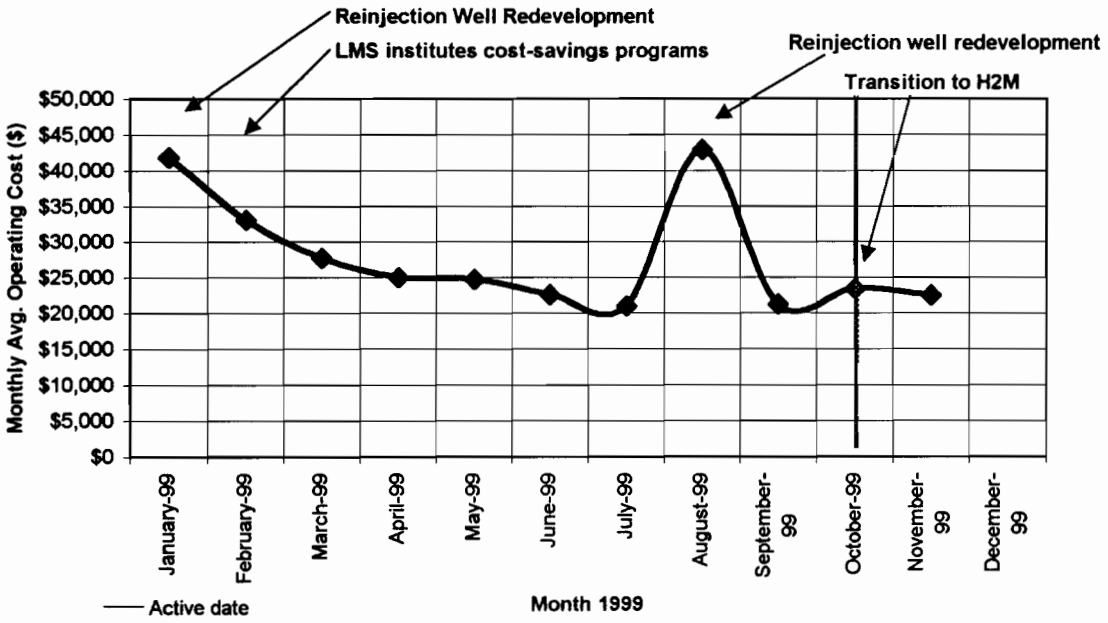

Figure 3 - Average Operating Cost Trends

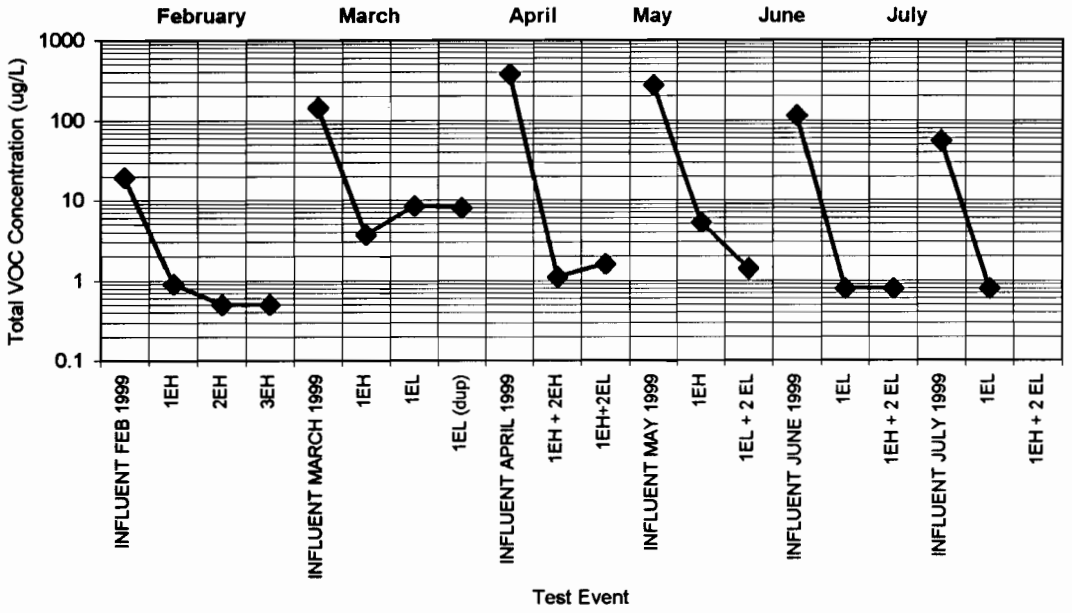

Figure 4 - UV Treatability Testing

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	Polymer feed system off line due to fouling in circuit. Improvement in reinjection performance noted.	LMS and H2M to monitor performance of reinjection in the absence of polymer until circuit repaired.	None
December			

H2MGROUP

Holzmacher, McLendon & Murrell, P.C. • H2M Associates, Inc.
H2M Construction Management, Inc. • H2M Labs, Inc.

ACEC Member
Supporting Excellence
In Engineering

575 Broad Hollow Road, Melville, NY 11747-5076
(516) 756-8000 • Fax: (516) 694-4122

December 9, 1999

Mr. Robert DeGiorgio
Lawler, Matusky & Skelly Engineers LLP
One Blue Hill Plaza
Pearl River, NY 10965

Re: Servall Laundry QWETP,
Bay Shore, New York
November 1999 Operations Report

Dear Mr. DeGiorgio:

As you are aware, Holzmacher, McLendon & Murrell, P.C. (H2M) has sucessfully adopted the daily operation and maintenance duties for the above referenced site from EnviroClean beginning November 1, 1999. A summary of effort performed with respect to the groundwater extraction and treatment plant for the month of November, 1999 is provided below:

Overview

Equipment necessary for plant operation and maintenance was purchased which included necessary tools, lamps, extension cords, drum transfer pump, and pH meter. Consumables were purchased which included Hach chemistry test supplies, cartridge filters, and chart recorder pens. The PLC autodialer was reprogrammed to alert H2M personnel in the event of plant alarms. Routine equipment maintenance was performed and daily process equipment readings were collected during the month. In efforts to eliminate the on-site bulk storage of sulfuric acid and sodium hydroxide, the gradual pumping of these products into the process stream was initiated, as requested by LMS.

AS REQUESTED BY NYS DEC
RJD 12.15.99

Event Schedule

The following timeline represents specific tasks completed during the November period.

- 11/5/99 Filter press cleaned of residual sludge cake.

- 11/19/99 Michael Fagan of U.S. Peroxide was on-site to inspect hydrogen peroxide storage and delivery system prior to initial delivery. Iron residual was cleaned from exterior of Peroxide storage tank upon U.S.P. request, Sludge was removed from plant sump. Chlorine metering pump was disassembled and cleaned.

- 11/22/99 Monthly Compliance samples for November were collected and shipped to Severn-Trent Laboratories via Federal Express, overnight delivery.

- 11/24/99 Sludge Transfer pump 12A was inoperative upon arrival. Pump was disassembled, cleaned and reassembled.

- 11/29/99 Hydrogen peroxide metering pump check valve inspected and found to be fouled, preventing appropriate process stream dosage. Cleaned and returned to service.

- 11/30/99 Sulfuric Acid Metering Pump Cleaned and started. Sodium Hydroxide Metering pump disassembled, cleaned, and started.

Plant Performance

During the month of November, the treatment plant discharged 4,057,020 gallons of treated water during a period of 30 days. The average operational flowrate of the UV/Oxidation system was 135.39 gallons per minute. Operational data and daily chemistry records for the respective monitoring period has been included as an attachment to this report.

The plant experienced electrical shutdown of equipment on several occasions during the month. One particular shutdown on 11/16/99 resulted in an overdosing of polymer to the system due to an inoperative polymer cutoff circuit (pH adjustment tank). Due to residual polymer in the reinjection well over the next several days, plant performance was reduced. The inoperative polymer metering pump shutdown circuit has been diagnosed. Plant operation has since returned to prior performance levels and the polymer pump has been temporarily removed from service. As discussed in conversations with your office, we have noted an improvement in reinjection well performance related to the absence of polymer in the flowstream. We will continue to evaluate the effectiveness of the absence of polymer addition in the upcoming compliance sampling event. If deemed appropriate, the polymer feed system will returned to service once the circuit has been repaired.

Waste Disposal
There has been no waste shipped off-site during the reporting period.

If you should have any questions or require additional information, please contact the undersigned at (516) 756-8000, Extension 1623.

Very truly yours,

HOLZMACHER, McLENDON & MURRELL, P.C.

Philip J. Schade, P.E.
Project Manager

j:\1999jobs\decs9901\monthly\11-99.doc

Daily Operation Check List

Servall Laundry

11/3

Day	FRIDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	MONDAY
Date	10/29	11/1/99	11/2/99	11/3/99	11/4/99	11/5/99	11/8/99
Time	10:30	10:00	12:00	11:30	11:35	10:15	10:30
Extraction Well Level	59.4	56.1	56.2	56.7	56.4	56.5	62.2
Influent Flow Rate	122.1	139.33	139.97	140.1	139.97	143.7	141.26
Influent Filter In Service	—	—	—	—	—	—	—
Inlet psi	20	20	19	19	20	9	15
Outlet psi	19	19	17	17	18	8	10
Cartridge Filter Flow Rate (GPM)	121.1	121.9	122.2	121.9	122.0	125.6	122.6
EQ Tank Level (inches)	51.9	51.9	51.95	52.00	51.97	52.62	52.65
EQ Tank Mixer	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Acid Pump: Speed/Stroke	OFF	OFF	OFF	OFF	OFF	OFF	OFF
UV/OX Pump in Service	4A	4A	4A	4A	4A	4A	4A
UV/OX Flow Rate	128.7	128.4	130.2	135.6	129.9	142.5	138.9
UV/OX Unit							
Lamp # 1 (on/off)	ON	ON	ON	ON	ON	ON	ON
KV	256	255	253	255	255	255	255
Amps	8.0	7.8	7.8	7.7	8.1	7.8	7.8
Time	7918.64	7991.01	8016.88	8026.05	8050.12	8077.98	8144.08
Lamp # 2 (on/off)	OFF	OFF	OFF	OFF	OFF	OFF	OFF
KV	—						
Amps	—						
Time	—					5984.86	5984.86
Lamp # 3 (on/off)	ON	ON	ON	ON	ON	ON	ON
KV	252	255	260	258	260	255	255
Amps	7.0	7.0	6.9	6.9	7.2	6.9	6.8
Time	6346.17	6418.53	6444.40	6453.57	6477.63	6500.49	6571.58
Peroxide Pump: Speed/Stroke	50/50	50/50	50/50	50/50	50/50	50/50	50/50
Peroxide Residual		50 mg/l	5 mg/l	37 mg/l	3 mg/l		
pH Adjust Tank Level (inches)	50.00	50.36	49.92	50.1	50.02	49.62	50.01
pH	5.54	5.52	5.51	5.50	5.50	5.49	5.46

Daily Operation Check List

Servall Laundry

		11/1/99	11/2/99		11/4/99		
Mixer (on/off)	ON	ON	ON	ON	ON	ON	ON
Totalizer reading	61768320	62327390	62526360	62598180	62782710	62959900	63510290
Caustic Pump: Speed/Stroke	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Polymer Feed Settings	~~10/50~~						
Solution Pump: Speed/Stroke	10/50	10/50	10/50	10/50	10/50	20/50	10/60
Dilution Water Rate	10	10	11	11	10	10	11 #
Polymer Bucket Wt.	13#	11#	11#	11#	11#	11#	11#
Sand Filter Pump In Service	6B	6B	6B	6B	6B	6B	6B
Sand Filters							
Filter #1 Inlet psi	18	21	19	20	19	20	17
Filter #1 Outlet psi	15	17	15	16	16	16	15
Filter #2 Inlet psi	17	20	18	20	18	17	15
Filter #2 Outlet psi	13	16	15	16	15	14	14
Filter #3 Inlet psi	17	19	17	20	17	15	17
Filter #3 Outlet psi	15	18	15	16	16	15	17
Filter #4 Inlet psi	18	21	21	22	18	18	20
Filter #4 Outlet psi	15	18	15	15	16	15	15
Effluent Flow Rate	~~12.60~~	~~121.9~~ 138	125.3	125.4	126.84	118.27	118.11
Effluent Filter in Service	YES	YES	YES	YES	YES	YES	YES
Inlet psi	11	12	12	11	12	11	12
Outlet psi	9	8	9	10	10	9	10
Reinjection Well level	65.49	66.28	~~67.1~~ 64.20	64.2	64.77	69.05	69.73
Chemical Storage Levels	~~72.3~~	8	8				
NaOH (caustic) Level	72.3	82.6	67.1	87.8	67.1	67.1	82.6
H_2O_2 (peroxide) Level	58.3	58.3	58.3	58.3	58.3	58.3	58.3
H_2SO_4 (acid) Level	60.1	58.9	58.6	58.2	59.1	58.4	58.2
Air Compressor (psi)	155	155	148	155	160	145	153
Compressed Air Dryer	ON	ON	ON	ON	ON	ON	ON
Chlorine Pump: Speed/Stroke	2.180	80/80	80/80	80/80	80/80	80/80	80/80
Chlorine Residual		0.3 mg/l		0.2 mg/l	0.1 mg/l	0.0 mg/l	0.0 mg/l

11/3/99 Air Compressor was tripped, shutting off system

Daily Operation Check List

Servall Laundry

Day	Tuesday	Wednesday	Thursday	FRIDAY	MONDAY	TUESDAY	WED
Date	11/9/99	11/10/99	11/11/99	11/12/99	11/15/99	11/16	11/17
Time	8:20	10:15	7:15	11:00	11:15	9:00	
Extraction Well Level	59.5	57.2	62.4	63.0	61.8	62.7	
Influent Flow Rate	144.39	144.07	141.36	144.31	144.22	143.95	
Influent Filter In Service	NO	NO	NO	NO	NO	NO	
Inlet psi	10	7	5	6	7	6	
Outlet psi	9	5	5	3	3	2	
Cartridge Filter Flow Rate (GPM)	125.9	124.67	126.4	126.3	124.24	124.45	
EQ Tank Level (inches)	53.40	52.06	54.84	51.99	52.08	51.98	
EQ Tank Mixer	OFF	OFF	OFF	OFF	OFF	OFF	
Acid Pump: Speed/Stroke	OFF	OFF	OFF	OFF	OFF	OFF	
UV/OX Pump in Service	4A	4A	4A	4A	4A	4A	
UV/OX Flow Rate	139.8	133.2	141.36	132.9	139.86	131.1	
UV/OX Unit							
Lamp # 1 (on/off)	ON	ON	ON	ON	ON	ON	
KV	255	255	255	255	258	255	
Amps	7.8	7.8	7.8	8.0	7.8	7.9	
Time	8156.49	8182.32	8204.06	8232.57	8253.51	8275.13	
Lamp # 2 (on/off)	OFF	OFF	OFF	OFF	OFF	OFF	
KV	-	-	-	-			
Amps	-	-	-	-			
Time	-	-	-	-			
Lamp # 3 (on/off)	ON	ON	ON	ON	ON	ON	
KV	255	258	255	260	259	258	
Amps	6.8	6.8	6.8	7.1	6.9	6.9	
Time	6583.99	6609.81	6631.55	6660.06	6681.00	6702.62	
Peroxide Pump: Speed/Stroke	50/50	50/50	50/50	50/50	50/50	50/50	
Peroxide Residual	38 mg/l	5 mg/l	31 mg/l	19 mg/l	4 mg/l	3 mg/l	
pH Adjust Tank Level (inches)	49.96	54.28	50.09	49.97	51.45	49.99	
pH	5.42	5.47	5.46	5.46	5.39	5.43	

* 11/10 Auto dialer programmed & tested
* 11/15 SYSTEM DOWN - SAT AM Due to low air press, low flow, UV/ox sys trouble. Air compressor & Extraction WELL Breakers were tripped upon ~~system~~ arrival.

Daily Operation Check List

Servall Laundry

	11/9/99	11/10/99					
Mixer (on/off)	ON	ON	ON	ON	ON	ON	
Totalizer reading	63607100	63813110	63986120	64213590	64380220	64553480	
Caustic Pump: Speed/Stroke	OFF	OFF	OFF	OFF	OFF	OFF	
Polymer Feed Settings							
Solution Pump: Speed/Stroke	10/60	10/60	20/70	75/50	OFF - NOT OPERATING	25/50	
Dilution Water Rate	10	11	11	10		11	
Polymer Bucket Wt.	11	11#	11#	11#		19 #	
Sand Filter Pump In Service	6B	6B	6B	6B	6B	6B	
Sand Filters							
Filter #1 Inlet psi	19	23	21	21	23	25	
Filter #1 Outlet psi	18	19	19	18	21	21	
Filter #2 Inlet psi	18	22	22	21	23	24	
Filter #2 Outlet psi	16	18	20	20	20	20	
Filter #3 Inlet psi	18	22	20	21	22	24	
Filter #3 Outlet psi	17	20	20	20	22	22	
Filter #4 Inlet psi	18	23	23	22	26	26	
Filter #4 Outlet psi	17	20	20	18	21	21	
Effluent Flow Rate	129.94	134.89	132.5	129.0	130.5	126.5	
Effluent Filter in Service	Yes	YES	YES	YES	YES	YES	
Inlet psi	12	17	17	18	18	18	
Outlet psi	10	10	9	10	10	10	
Reinjection Well level	64.60	66.02	65.56	65.17	66.48	66.34	
Chemical Storage Levels							
NaOH (caustic) Level	87.8	67.1	62.0	82.6	56.8	93.0	
H_2O_2 (peroxide) Level	58.3	58.3	58.3	58.3	58.3	58.3	
H_2SO_4 (acid) Level	58.2	58.4	58.3	58.0	57.8	58.1	
Air Compressor (psi)	155	145	150	148	148	153	
Compressed Air Dryer	ON	ON	ON	ON	ON	ON	
Chlorine Pump: Speed/Stroke	80/80	80/80	80/80	80/80	80/80	80/80	
Chlorine Residual	0.2 mg/l	0.0 mg/l	0.3 mg/l	0.25 mg/l	0.0 mg/l		

SYSTEM OFF + CLEAN

Daily Operation Check List

Servall Laundry

Day	FRIDAY	MONDAY	TUESDAY	WEDNESDAY	MONDAY THURSDAY	TUESDAY	WEDNESDAY
Date	11/19/99	11/22/99	11/23/99	11/24/99	11/29/99	11/30/99	12/1/99
Time	4:00 PM	9:30 AM	9:45 AM	3:30 PM	10:00 AM	12:50 PM	10:30 AM
Extraction Well Level	63.0	56.1	55.9	56.2	57.6	57.8	57.4
Influent Flow Rate	109.97	141.18	152.14	150.04	149.94	150.11	149.92
Influent Filter In Service	NO	NO	NO	NO	NO	NO	NO
Inlet psi	70	8	9	18	17	16	17
Outlet psi	70	3	3	10	10	10	10
Cartridge Filter Flow Rate (GPM)	102.5	124.5	134.3	132.6	132.7	132.5	132.8
EQ Tank Level (inches)	51.96	51.97	53.67	51.95	52.09	51.94	51.91
EQ Tank Mixer	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Acid Pump: Speed/Stroke	OFF	OFF	OFF	OFF	OFF	30/50	10/40
UV/OX Pump in Service	4A	4A	4A	4A	4A	4A	4A
UV/OX Flow Rate	103.5	133.5	140.1	142.8	146.7	146.7	
UV/OX Unit							
Lamp # 1 (on/off)	ON	ON	ON	ON	ON	ON	
KV	255	253	255	255	255	255	
Amps	7.8	7.7	7.6	7.9	7.9	7.8	
Time	8284.91	8350.76	8325.45	8403.32	8518.41	8546.03	
Lamp # 2 (on/off)	OFF	OFF	OFF	OFF	OFF	OFF	
KV							
Amps							
Time							
Lamp # 3 (on/off)	ON	ON	ON	ON	ON	ON	
KV	258	256	257	258	258	258	
Amps	7.0	6.8	6.8	7.0	7.0	6.9	
Time	6712.36	6778.20	6802.87	6830.76	6945.85	6973.47	
Peroxide Pump: Speed/Stroke	50/50	50/50	50/50	50/50	50/50	50/50	
Peroxide Residual	~~50.0~~ 3	25	23	21	4	5	
pH Adjust Tank Level (inches)	50.01	49.95	49.90	50.00	50.01	50.09	
pH					5.38	5.97	

* 11/24 SLUDGE TRANSFER PUMP DISASSEMBLED, CLEANED. SOLIDS TRAPPED, PREVENTING OPERATION

* 11/19 U.S PEROXIDE (MIKE FAGAN) ON SITE TO INSPECT H_2O_2 STORAGE TANK. TANK WASHED DOWN

Daily Operation Check List

Servall Laundry

Mixer (on/off)	ON	ON	ON OFF	OFF	OFF	OFF	
Totalizer reading	64612990	64983860	65178790	65411250	66384410	66617790	
Caustic Pump: Speed/Stroke	OFF	OFF	OFF	OFF	OFF	20/50	
Polymer Feed Settings	OFF	OFF	OFF	OFF	OFF	OFF	
Solution Pump: Speed/Stroke							
Dilution Water Rate							
Polymer Bucket Wt.							
Sand Filter Pump In Service	6B	6B	6B	6B	6B	6B	
Sand Filters	1	1					
Filter #1 Inlet psi	20	20	20	20	23	20	
Filter #1 Outlet psi	15	18	19	19	20	19	
Filter #2 Inlet psi	19	18	19	20	22	20	
Filter #2 Outlet psi	14	17	16	18	20	18	
Filter #3 Inlet psi	18	19	18	18	21	20	
Filter #3 Outlet psi	16	19	18	18	21	20	
Filter #4 Inlet psi	22	21	21	22	23	24	
Filter #4 Outlet psi	16	16	19	19	20	22	
Effluent Flow Rate	94.13	125.0	131.6	134.2	135.5	131.6	
Effluent Filter in Service	YES	YES	YES	YES	YES	YES	
Inlet psi	13	14	14	15	16	19	
Outlet psi	10	10	10	10	10	10	
Reinjection Well level	67.67	66.26	65.43	64.86	64.73	66.42	
Chemical Storage Levels							
NaOH (caustic) Level	67.1	67.1	67.1	87.8	82.6	36.1	
H_2O_2 (peroxide) Level	58.3	58.3	58.3	58.3	58.3	58.3	
H_2SO_4 (acid) Level	59.2	58.2	58.3	58.8	58.2	58.6	
Air Compressor (psi)	154	150	148	145	152	148	
Compressed Air Dryer	ON	ON	ON	ON	ON	ON	
Chlorine Pump: Speed/Stroke	100/100	OFF-LINE	80/80	80/80	80/80	80/80	
Chlorine Residual	0.5 mg/L		0.8	0.4	0.1	0.2	

Gervall Laundry Process Control Samples

Date	11/1/99	11/2/99	11/3/99	11/4/99	11/5/99	11/8/99	11/9/99	11/10/99	11/11/99	11/12/99	11/15	11/16
Time	10:50	12:10	12:10	12:05	10:30	10:45	9:00	10:45	7:15	11:15	11:30	8:00
Influent												
Flow	139.33	139.97	140.1	139.97	143.7	141.26	144.39	144.07	191.36	144.31	144.22	143.95
pH	N/A	N/A	5.60	5.06	5.03	5.05	5.05	5.06	5.26	5.43	5.50	5.38
Iron	0.4	0.5	0.4	0.3	0.5	1.0	1.1	0.5	0.5	0.7	N/A	N/A
UVOX												
Peroxide Residual	50 mg/l	5 mg/l	37 mg/l	3 mg/l	3 mg/l	3 mg/l	38 mg/l	5 mg/l	3 mg/l	19 mg/l	4 mg/l	3 mg/l
pH	N/A	N/A	5.48	5.24	4.85	5.06	5.30	5.29	5.28	5.59	5.78	5.74
Effluent												
pH	N/A	N/A	5.62	5.41	5.14	5.24	5.32	5.37	5.45	5.74	5.96	5.92
Iron	0.0	0.2	0.1	0.1	0.1	0.3	0.4	0.4	0.2	0.0	N/A	N/A
Chlorine	0.3	0.0	0.2	0.1	0.1	0.0	0.2	0.0	0.3	0.25	0.0	0.0

Date	11/19/99	11/22/99	11/23/99	11/24/99	11/29/99	11/30/99	12/2/99	12/3/99				
Time	4:30	10:00	10:15	3:40	10:45	1:00	11:00	10:30				
Influent												
Flow	109.97	141.18	152.14	150.09	149.94	150.11	149.80					
pH	5.50	5.62	5.51	5.54	5.57	5.34	5.49	5.38				
Iron	N/A	N/A	N/A	0.4	0.5	0.3	0.5	0.4				
UVOX												
Peroxide Residual	3 mg/l	25 mg/l	23 mg/l	21 mg/l	4 mg/l	5 mg/l	18 mg/l	6 mg/l				
pH	5.74	5.66	5.70	6.58	5.64	2.50	3.52	3.56				
Effluent												
pH	6.03	5.91	5.94	5.95	5.89	2.63	5.07	4.81				
Iron	N/A	N/A	N/A	0.0	0.0	5.0	0.0	0.0				
Chlorine	0.5	N/A (0.0)	0.8	0.4	0.1	0.2	0.2	0.3				

SUFFOLK COUNTY WATER AUTHORITY
260 Motor Parkway, Hauppauge, NY 11788

SUMMARY FOR ACCOUNT

03 2 561 100355 4

Balance Forward	.00
Water Charge	69.05

NYSDEC ATT-~~B KNIZEK~~ CARL Hoffman
DIV OF ENV REMEDIAT
50 WOLF RD ROOM ~~267~~ 266A
ALBANY, NY 12233-~~0001~~ 7010

P.O. BOX 1234
HICKSVILLE, NY 11802-1234

Total Amount Due $69.05

Please Pay By Dec. 17, 1999

03256110035545000069054

PLEASE DETACH THE TOP PORTION OF THIS BILL AND ENCLOSE IT WITH YOUR CHECK MADE PAYABLE TO "SCWA

Billing Information for service at 8 DRAYTON AVE / APROX 200' E/O 5TH

Nov. 22, 1999	1072 Actual Reading	
Aug. 23, 1999	1014 Actual Reading	
Water Use	58 CCF X 750	43,500 Gallons

Previous Transactions

Balance	Mar. 17, 1999	30.00	
Billing	May. 25, 1999	39.25	
Payment	Jun. 16, 1999	69.25CR	
Billing	Aug. 24, 1999	54.95	
Payment	Sep. 27, 1999	54.95CR	
Balance Forward			.00

Current Charges

Basic Service for 5/8" Meter	12.93	
43,500 Gallons @ 1.2900 per 1000 Gallons	56.12	
Water Charge		69.05

Total Amount Due **69.05**

Serviall Laundry #1520;

MERCH RECD BY/DATE: CARL Hoffman 12/23/99

INV DATE: 11/22/99 **INV RECD:** 11/29

DEC 9 1999

FEDERAL ID#: 116002552

BUREAU CHIEF: CRH 12/7/99 TR 12/7/99

COST CENTER: 778726 94

DID YOU KNOW ...

New York State's water quality standards for public tap water are the most stringent in the nation and are stricter than those for bottled water sold in New York State.

11/23/99	03 2 561 100355 4	37	14641641	582-2211	665-0663
Date	Account Number	Cycle	Security Code	Questions?	Emergency Service (After Business Hours)