

SERVALL LAUNDRY GROUNDWATER EXTRACTION AND TREATMENT SYSTEM STARTUP REPORT

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NYSDEC
Contract No. D003338

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To serve you well.

To continually improve that service.

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Maintain a standing Quality Improvement Team to ensure continuous improvement.

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Continually strive to improve our client relationships.


John A. DeFilippi, P.E.
Chairman

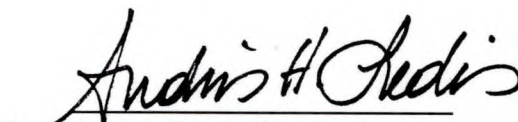

Andris H. Ledins, P.E.
President

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Section 1

Section 1



I. INTRODUCTION

This report details the performance of the Servall Laundry Groundwater Extraction and Treatment system during the start-up period which began March 26 and continued through April 9, 1998. The system prove-out started April 10, 1998. The intent of this report is to detail the actual operating experience and is not intended to be a design review.

Prior to the actual 24 hour per day operation, an initial equipment check was performed and minor adjustments made to allow the facility run continuously. The manufacturer's representative from Calgon Carbon performed the initial check of the UV/Oxidation system and all safety shut off alarms were verified. During the first week of operation, the PLC technician was on-site to assist in adjusting the control set points in the PLC and verify control settings.

The system start-up consisted of 24 hour per day manned operation for the first 14 days then followed by day shift coverage with unattended operation for the remainder of the day. On-site testing was performed by the operator with test kits provided for iron, manganese, turbidity, pH and peroxide residual. Analysis for VOC's were performed by a local certified laboratory, Ecotest labs. In general the treatment system performed as expected. It should be noted that the influent concentration for VOC's was very low. This is not unusual during the initial start-up of a new system and it is expected that contaminant levels will increase as more of the plume is drawn into the extraction well. After the first week of continuous operation a steady rise in influent VOC concentration was observed. A detailed discussion on the ability of the system to meet the treatment objectives is included in item 11.

Section 2

Section 2



II. FUNCTIONING OF SYSTEM COMPONENTS

This report contains a discussion on the startup performance of the following system components:

1. Extraction well pump
2. Tanks
3. Piping
4. Chemical feed pumps
5. UV/Oxidation system
6. Sand Filters
7. Process pumps
8. Sludge Filter Press
9. Instrumentation & Controls
10. Plant Utilities
11. Discussion of plants ability to meet treatment objectives

Following the discussion on the treatment system performance, laboratory analytical data are attached. A summary table of on-site and off-site analysis are provided with the actual lab reports and the results of the baseline monitoring well samples.

1. Extraction Well Pump

Equipment description

There is a single extraction well pump located southeast of the treatment facility at the intersection of Stein Drive and Walbridge Avenue. The submersible extraction pump is designed to deliver a minimum flow rate of 150 gpm @ 290 ft. TDH.

Start-up observations & experience:

During plant start-up procedures there were several problems encountered with the extraction well pump. An additional I/O card had to be installed on the main PLC to allow the operation of the well pump in automatic. This pump control panel utilizes a soft starter which requires 2 dry contact inputs from the PLC instead of one.

The second issue has to do with the pump capacity. The flow rate from the extraction well is regulated automatically by a flow control valve (FCV-103). In order to reduce the flow to the design rate of 150 gpm, the valve had to operate in the low end with the valve only open 12-14%. This caused a backpressure on the influent line to reach 115 psi. At this high line pressure, the plant floor sump is unable to overcome the head. The extraction well pump had to be shut off to pump down the sump. It should be noted that this problem will be addressed by installing a valve in the extraction well vault to reduce flow at the well head.

2. Tanks

Equipment description

There are five (5) process tanks and three (3) chemicals storage tanks at the treatment facility.

Process Tanks

Equalization tank
pH Adjust Tank
Sludge Separation Tank 12A
Sludge Separation Tank 12B
Sludge Storage Tank

Chemical tanks

Sulfuric Acid Tank
Hydrogen Peroxide Tank
Caustic Tank

All tanks were leak tested as part of the construction phase of the project. All of the tanks were filled with water prior to startup and all of them

passed the leak test. The chemical tanks were completely drained and dried prior to filling with the appropriate chemicals.

Start-up observation & experience:

During the two week start-up period all tanks functioned as designed and no leaks were encountered.

3. Piping

Equipment description

Each unit process at the facility is connected by process piping to direct the pumped extraction well water through each step of the process and discharge out the building to the reinjection well. Additional piping to provide various chemical feeds and compressed air are as also present. All piping in the treatment plant was pressure tested and approved prior to plant start-up.

Start-up observations & experience:

All piping appears to be sound, however, certain pipe flanges were missing washers and additional pipe supports were needed on the process piping. During the most recent downtime, these items have addressed. All pipe flanges are complete with the required washers and additional pipe supports have been added to secure the process piping.

4. Chemical Feed Pumps

Equipment description

The following chemical feed pumps are provided for the treatment process:

<u>Pump</u>	<u>Description</u>
Sulfuric acid (pump 3B1)	Provides acid feed to lower pH in the Equalization tank.
Hydrogen Peroxide (pump 8A)	Provides H ₂ O ₂ to the water prior to the UV/oxidation system.
Caustic (pump 9A)	Provides Caustic to pH adjust tank to raise pH level to within discharge limits.

Polymer feed (pump 3A1)	Pumps polymer to the pH adjust tank to aid in flocculation.
Polymer feed (pump 16A)	Pumps polymer to sludge separation tanks during backwash operation.
Polymer feed (pump 15A)	A manual pump to add polymer to the sludge storage tank to condition the sludge prior to dewatering with plate and frame sludge press.

Start-up observations & experience:

During the two week start-up period the chemical feed pumps operated properly as designed with the following minor exceptions.

Caustic Feed:	The caustic feed pump is working as designed however, at the design capacity of the pump the maximum pH set point at 150 gpm is approximately 7.0. If higher pH values are needed a larger pump will be required.
Polymer feed: pump 3A	The polymer feed pump 3A was replaced during Start-up with a polymer blending system. The original design did not allow for dilution of the stock polymer system. During the start-up period iron concentrations were very low and the polymer feed system was not needed to maintain effluent iron levels below permit limits. Since the start-up period we have been feeding a very weak polymer solution with good results. The new polymer feed system is capable of providing the necessary dose.

5. UV/Oxidation System

Equipment description

One (1) 90 kW Rayox UV/Oxidation system is provided to destroy the VOC's in the groundwater.

Start-up observation & experience:

A Calgon Carbon manufacturer's representative was on-site prior to startup to fully test the unit and provide training. All safety shut down and alarm signals were tested and found to be working properly. During the two week start-up test period the UV/oxidation system ran continuously without any problems. A power dip was experienced during a heavy storm which required the unit to be restarted. No other problems were encountered. Due to the very low level of VOC's in the influent we are unable to verify performance of the UV/oxidation system at higher concentrations.

6. **Sand Filters**

Equipment description

Four (4) sand filters are provided to filter out particles generated during the oxidation process. Water from the pH Adjust tank is pumped through the sand filters which are operating in parallel. Normal operation is to run all four sand filters in parallel. Periodically the sand filters are backwashed to remove excess solids buildup.

Start-up observations & Experience:

During the first week of start-up extra attention was given to the sandfilter backwash operation. The operators, along with the PLC technician, set the timing sequence for the backwash operation. The biggest change that occurred during the startup function was the control of the backwash flow rate. During a backwash cycle, the flow rate is reduced to 40 gpm in step 1 and increases to 120 gpm during step 3. Originally, the reduced flow rate during the backwash cycle was to be controlled by flow control valve FCV-103. Due to the high output of the extraction well pump, the flow rate could not be reduced to 40 gpm with valve FCV-103. Attempts to lower the flow rate below 75 gpm caused the well pump to trip off on high pressure. Modifications to the PLC were made to regulate the flow during backwash cycle with LCV-105, which is on the discharge line of the UV/Oxidation feed pumps. This change proved to be a better location to control the flow during backwash. Each filter was tested with manual backwash cycles. An automatic backwash cycle was also observed with no reported problems. During the startup period there were no pressure gauges on the filters. Since that time gauges have been installed. Recent differential pressure readings have

been 6- 10 psi before backwashing. After backwashing one sand filter, the observed differential pressure reduced to 2- 4 psi.

7. Process Pumps

Equipment description

The following process pumps are provided on the treatment system:

UV/Oxidation pumps 4A & 4B	Pump water from the EQ tank to the UV/Oxidation system. 150 gpm @ 60 ft TDH
Sand filter pumps 6A & 6B	Pump water from the pH adjust Tank through the sand filters. 165 gpm @ 100 ft TDH
Sludge Transfer pumps 12A1 & 12B1	Transfer contents of sludge separation tank to the sludge holding tank or the pH adjust tank.
Sludge Press Feed pump 13A	Pump conditioned sludge to the sludge Filter press for dewatering.
Sump pumps 10A & 10B	Building sump collects spilled fluids and floor washings. Water is pumped to the influent line prior to the cartridge filter. Sump pumps also transfer filtrate from the filter press to the head of the treatment process.

Start-up observations and experience:

Prior to start-up the pump manufacturer representatives were on-site to review installation and provide operator training. All pumps functioned as designed. One pump, UV/Oxidation feed pump 4A, failed during startup and had to be removed for servicing. The problem may have been due to small debris entering pump. An inspection of the pump was made by a pump repair shop and the system was returned to operation. After reinstalling the pump, it was thoroughly tested and put back to normal operation. In addition to the above mentioned pump 4A, the plant sump pumps, although meeting the design capacity at design pressure, could not overcome the high line pressure caused by the extraction well pump. In order to pump the sump down, the extraction well has to be shut off

for several minutes. To correct this problem the Consumers applied Technology was instructed to install a V-port valve at the extraction well to regulate the flow. This change has not been completed yet.

All of the centrifugal pumps operated within the pump curve. The following data was collected:

Pump 4A	25 psi @ 155 gpm
4B	26 psi @ 162 gpm
Pump 6A	34 psi @ 172 gpm
6B	36 psi @ 172 gpm

8. Sludge Filter Press

Equipment description

There is one plate and frame sludge filter press to dewater sludge collected in the sludge storage tank. The sludge press was tested prior to start-up with the manufacturer's representative. Tests included verifying the operation of the hydraulic ram which maintains the plates closed. Also tested was the operation of the plate shifter.

Start-up observation & experience:

Since the iron concentration had been so low, there was not enough sludge generated to test the sludge filter press under normal operation. Once a sufficient quantity of sludge has been generated, the performance of the filter press will be revisited.

9. Instrumentation and Control Components

Equipment description

The groundwater extraction and treatment system is controlled by the Master Control Panel (MCP). The MCP contains an Allen-Bradley PLC-5/20 programmable logic controller (PLC) with associated inputs and outputs (I/O). The MCP also contains three indicating chart recorders that are used for control. A local operator interface is supplied to access the PLC for filter backwash settings and for alarm status. PLC programming is performed using a potable notebook computer with Rockwell Software's AI Series On-line Ladder Logistics for PLC-5.

Start-up observation & experience:

Prior to and during the first week of start-up, the operator worked closely with the controls technician to fine tune the controls and limits in the PLC. During this time all alarm conditions were tested and found to be functioning properly. Alarm conditions at the plant fall into three categories; shut-down alarms, general alarms, and display only alarms. When a shut-down alarm occurs, the entire system shuts down and the autodailer sends a channel 1 alarm. General alarms will trigger the autodailer to send a channel 2 signal but will not shut the system down. Display only alarms will sound a horn and display on the operator interface but will not trigger a call out on the autodailer. All alarm points were reviewed and placed in the proper category. Training was also provided to access the PLC through the lap top computer provided for the facility.

In addition to the PLC controlled function, there are three chart recorders used for indicating, controlling, and/or recording flows, levels, and pH readings. The chart recorders were thoroughly tested during the start-up phase and found to be functioning properly. Output signal from the chart recorders are used to send signals to the chemical feed pumps and flow and level control valves. We were also able to fine tune the controls to set minimum and maximum limits on the level control valves. This enabled us to more accurately maintain the flow rate through the facility.

10. Plant Utilities

Equipment description

A breakdown of the utilities for the facility is listed below.

Electric Power	Electric power is supplied by LILCO. The main power draw at the facility is the UV/Oxidation system rated at 90 kW.
Natural Gas	Natural gas service is provided by LILCO and is used for the building heaters.
Water	Water is supplied by the Suffolk County Water Authority. Water is used for the restroom facilities, Emergency showers and eyewash station, and hose bib connections for general plant housekeeping.

Start-up observations & experience:

During the two week startup phase all utilities were found to be functioning properly with no problems encountered. The heaters were running on cold mornings and all the emergency showers and eyewash stations were tested and found to be functioning properly.

11. Ability of Facility to Meet Treatment Objectives

Process Description

The system performance requirements for the facility reference two list of parameters and concentration levels. These two lists are similar with the exception of iron and manganese levels.

Parameter	Treatment Objective from section 01680 (ug/l)	Effluent Limitation Discharge Criteria (ug/l)
Chlorobenzene	5	5
1,1-Dichloroethene	5	5
1,2-(trans)Dichloroethene	5	5
1,2-(cis)Dichloroethene	5	5
Tetrachloroethene	5	5
Trichloroethene	5	5
Vinyl Chloride	2	2
Toluene	-	5
1,1-Dichloroethane	-	5
Iron, total	300	600*
Manganese, total	50	600*
pH (range)	-	5.5 - 8.5 units

* The combined conc. of iron & manganese shall not exceed 1000 ug/l

Startup observations & experience:

Process monitoring for the start-up period consists of on-site and off-site analysis. On-site analysis for the two week start-up period consisted of collecting VOC samples every 12 hours for the first 4 days and every 24 hours for the fifth through the fourteenth day. Analysis of the VOC samples were performed by a local certified laboratory. On-site testing for iron and manganese was performed daily by the operator utilizing test kits by HACH Co. pH levels were recorded continuously by the chart recorder with daily checks with a bench top pH meter. In addition to the on-site analytical testing, once per week samples were collected for off-site analysis to test for

all parameters listed for the effluent limitation discharge criteria. copies of all analytical results for the two week startup period are provided in section III treatment plant performance.

Results from the on-site & off-site analysis indicated that all VOC concentrations were below the effluent limitations. Very low influent VOC concentrations were experienced during the first week and a steady rise in the PCE concentration was observed during the second week. The level is expected to continue to rise as more of the contaminant plume is pulled towards the extraction well. Performance of the UV/Oxidation system at higher VOC concentrations has not been tested at this site.

Iron and manganese removal have not been as successful as anticipated. During the first week of startup, on-site test kits indicated very low levels of iron & manganese in the effluent. The first off-site results on the effluent samples indicated iron below the effluent limit and manganese above. Additional jar testing was performed to investigate the cause of the high manganese level. A series of samples were collected from the pH adjust tank and sent to an off-site lab for analysis. The laboratory was instructed to run manganese and iron tests on filtered and unfiltered samples. The filtered samples would determine whether the metals were dissolved or suspended. If suspended, they could be removed by filtration. Tests were performed on the current operating pH level of 7.0, as well as pH levels of 8.5 and 9.5. The results of this test confirmed suspicions that at the current pH setpoint of 7.0, the manganese remains dissolved in solution and therefore will not be removed by the sand filters. The pH level would have to be raised above the discharge limit of pH 8.5 to precipitate manganese. In regards to iron removal, the system was able to meet the effluent limitation discharge criteria of 0.6 ppm, however there was one sample which tested over the treatment objective concentration of 0.3 ppm with a reported value of 0.45 ppm. Based on the start-up experience the facility should be able to meet the 0.6 ppm limit but meeting the lower 0.3 ppm concentration may not occur 100% of the time. Iron precipitation and removal is based the ability to oxidize the iron out of solution and then flocculate the particles to enhance removal. Flocculation is difficult when there is very little particulates in the water. Some systems add chemicals such as alum to help form a precipitate which will settle.

Section 3

Section 3



III. TREATMENT PLANT PERFORMANCE

Quality Assurance

The objective of performance monitoring is to verify the groundwater treatment system is working efficiently and is able to meet the treatment objectives. To meet the objectives samples were collected for on-site and off-site analysis. Samples for off-site analysis were collected and sent to a NYS certified laboratory, Ecotest Laboratories. Off-site analysis consisted of those parameters listed in the discharge permit. Analytical methods used for off-site analysis are detailed in table 5-2 of the operation and maintenance plan. Samples collected for on-site analysis were analyzed by the operator using test kits. On-site analysis was restricted to pH, iron & manganese. VOC samples required during the initial tuning of the UV/Oxidation system were sent to Ecotest for same day analysis. The use of an on-site GC was determined to be problematic due to the harsh environment of the facility and the potential for contamination. The laboratories quality assurance program addresses the required calibrations of the analytical instrumentation. The bench top pH meter used by the operator on-site was calibrated to two buffers daily.

Operating Logs and Operator Checklists

An operating log is maintained on-site to record the events of the day. In addition to the operator logbook, an operation checklist was developed to record information on each unit process. The checklist is a good way to maintain consistency of information gather by each shift and to ensure critical operating data is not missed. The operator checklist for the Servall facility has changed since the startup to reflect changes in the system. The attached forms reflect the data collected during actual startup.

Personnel and Maintenance Records

Staffing for the start-up period of March 26, through April 9th consisted of 24 hour per day manned operation for the first 14 days followed by day shift coverage with unattended operation for the remainder of the day. The facility is equipped with an autodialer to notify the operator of alarm conditions when unattended. The plant was manned 24 hour per day during the start-up so emergency response was not needed since alarms were addressed by the on-site operator.

Maintenance during the start-up included daily inspection of each piece of equipment to check for proper operation leaks vibrations and any unusual

alternates which pump is allowed to run. Maintaining oil levels and drip rate
• checked lubrication of the air-operated equipment. Equipment includes the
sludge pumps and the lamp wipers associated with the UV/Oxidation system.
The influent cartridge filters were changed once during the startup. The dirty
cartridges had a distinct orange color indicating iron deposits. It is expected that
as the iron level in the influent increase, the filters will require more frequent
changes. The effluent cartridge filters did not require replacement during start-
up. Other minor maintenance performed during this time period included
repairing minor leaks in the peroxide piping and replacing a flexible coupling
on sand filter pump 6B. The sand filters were backwashed on a weekly basis.
Pressure gauges are needed to determine the proper frequency of backwashing.

Utilities

Electric usage:	1878 KWH
Gas usage:	480 CCF (approx)

Chemicals

Sulfuric Acid	143 gallons
Sodium Hydroxide	817 gallons
Hydrogen Peroxide	193 gallons

Water Quality Results

The attached sheets contain the water quality results for all sampling performed
for the facility. These results are broken up into the following categories:

- On-site testing
- Off-site testing
- Baseline monitoring well sampling

EQUIPMENT CHECKLISTS

Check into for
period 3/25 - 4/21

Servall Laundry Groundwater Treatment Facility
Operator Check List

Date		3/25/98	3/27/98	3/26/98	3/26/98	3/26/98	3/26/98	3/26/98
Time		3:30	7:00	12:15 PM	4:00 PM	8:55	1:06	6:45 PM
pH Adjust Tank								
Level (inches) (chart)		50.0	52.0	50.04	50.16	50.27	49.64	50
pH (transmitter on wall)		6.75	7.40	7.24	7.67	7.29	7.47	7.00
mixer (on/off)		ON	ON	ON	ON	ON	ON	ON
Caustic pump settings								
Speed / Stroke		EXT/100	EXT/100	EXT/100	EXT/100	EXT/100	EXT/100	EXT/100
Polmer feed settings								
Solution pump Speed/stroke		100	N/A	OFF	OFF	OFF	OFF	OFF
Dilution water rate		0.86	N/A	OFF	OFF	OFF	OFF	OFF
Sand filter feed pump in service		6A	6A	6A	6A	6A	6A	6A
Sand Filters								
Filter # 1 (on/off)		ON	ON	ON	ON	ON	ON	ON
Backwash (yes/no)		NO	NO	NO	NO			NO
Filter # 2 (on/off)		ON	ON	ON	ON			ON
Backwash (yes/no)		NO	NO	NO	NO			NO
Filter # 3 (on/off)		ON	ON	ON	ON			ON
Backwash (yes/no)		NO	NO	NO	NO			NO
Filter # 4 (on/off)		ON	ON	ON	ON		ON	ON
Backwash (yes/no)		NO	NO	NO	NO	NO	NO	NO
Effluent Flow Rate (GPM)		150	152.3	150	144.5	173	145.1	159.2
Effluent Filter in service		A	A	A	A	A	A	A
Inlet psi		9	9	8	0	10	5	4
Outlet psi		0	0	0	0	0	0	0
Reinjection Well Level (chart)		56.6	56.72	56.76	56.52	57.06	56.89	57.08
Chemical Storage Levels								
Caustic Level		52.9	52.8	52.6	52.5	52.2	52.0	51.8
Peroxide Level		63.5	63.4	63.2	63.2	63.1	63.1	62.9
Acid Level		62.8	62.4	64.1	62.7	62.8	62.9	62.3
Air Compressor (psi)		140	140	150	160	160	155	155
REFRIGERATION DRYER		ON	ON	ON	ON	ON	ON	ON

Servall Laundry Groundwater Treatment Facility Operator Check List

Date	3/26/98	3/27/98	3/27/98	3/27/98	3/27/98	3/27/98	3/27/98	3/28/98	3/28/98
Time	11:30 P	4:00 AM	8:00	9 AM	1:30	7:00 P	10:30 P	4:00 PM	8:00 AM
Extraction Well Level	55.7	55.7	55.7	55.7	55.7	55.7	55.7	55.7	55.7
Influent Flow rate (GPM)	151.5	151.7	151.8	151.6	151.9	151.6	151.5	151.4	151.6
Influent Filter in-service	A	A	A	A	A	A	A	A	A
Inlet psi	91	90	90	90	91	91	91	90	90
Outlet psi	76	75	75	75	74	74	74	70	75
Cartridge Filter Flow Rate (GPM)	157.0	157.3	157.2	157.5	157.8	157.0	157.4	157.2	157.6
Equalization Tank	51.63								
Level (inches)	51.63	52.01	52.09	52.03	51.95	52.01	52.22	52.04	52.00
pH	3.56	3.57	3.53	3.53	3.56	3.53	3.45	3.56	3.54
mixer (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Acid pump settings	1	1	1						
Speed / Stroke	EXT/60	60	60	EXT/60	EXT 60	EXT/60	EXT/60	EXT 60	EXT 60
UV/Oxidation pump in service	4A	4A	4A	4A	4A	4A	4A	4A	4A
UV/Oxidation Flow Rate (GPM)	162.6	164.9	157.8	160.8	163.62	163.2	161.4	163.2	163.5
UV/Oxidation Unit			PH 20						
Lamp # 1 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
KVA	2700	2700	2700	2650	2650	2650	2700	2700	2700
Amps	10.4	10.5	10.5	10.5	10.3	10.3	10.5	10.5	10.5
Lamp # 2 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
KVA	2700	2700	2700	2650	2670	2650	2700	2700	2700
Amps	9.6	9.5	9.5	9.6	9.0	9	10	10	9.9
Lamp # 3 (on/off)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
KVA	/		/	/	/	-	-	/	/
Amps	/		/	/	/	-	-	/	/
Peroxide Pump settings									
Speed / Stroke	EXT/100	EXT/100	100	EXT/100	EXT 100	EXT/100	EXT/100	EXT 100	EXT 100
peroxide residual				10-30	10-30	10	10	10-30	10

**Servall Laundry Groundwater Treatment Facility
Operator Check List**

Date	3/26/98	3/27/98	3/27/98	3/27/98	3/27/98	3/27/98	3/27/98	3/28/98	3/28/98
Time	11:30 AM	4:00 AM	8:00 AM		1:40 PM	7:00 P.	10:30 P.	4:00 AM	8:00 AM
pH Adjust Tank	50.00								
Level (inches)	50.00	49.92	50.08	49.86	49.23	49.46	49.45	50.01	50.01
pH	6.94	7.01	6.96	6.92	7.50	7.07	7.11	6.95	6.95
mixer (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Caustic pump settings									
Speed / Stroke	EXT/100	EXT/100	EXT/100	EXT/100	EXT/100	EXT/100	EXT/100	EXT/100	EXT/100
Polmer feed settings	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Solution pump Speed/stroke	/	/	/	/	/	/	/	/	/
Dilution water rate	/	/	/	/	/	/	/	/	/
Sand filter feed pump in service				6B	6B	6B	6B	6B	6B
Sand Filters									
Filter # 1 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Backwash (yes/no)	NO	NO	NO	NO	NO	NO	NO	NO	NO
Filter # 2 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Backwash (yes/no)	NO	NO	NO	NO	NO	NO	NO	NO	NO
Filter # 3 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Backwash (yes/no)	NO	NO	NO	NO	NO	NO	NO	NO	NO
Filter # 4 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Backwash (yes/no)	NO	NO	NO	NO	NO	NO	NO	NO	NO
Effluent Flow Rate (GPM)	161.5	161.4	161.6	160.0	171.3	155.3	160.5	154.8	163.5
Effluent Filter in service	A	A	A	A	A	A	A	A	A
Inlet psi	9	9	0	9	9.5	9	9	9	9
Outlet psi	0	0	0	0	0	0	0	0	0
Reinjection Well Level	57.16	57.25	57.20	57.27	55.95	57.34	57.35	57.35	57.39
Chemical Storage Levels									
Caustic Level	51.8	51.5	51.2	51.2	51.0	50.8	50.4	50.5	50.5
Peroxide Level	63.0	63.1	63.1	63.1	63.1	63.0	62.8	62.8	62.7
Acid Level	62.7	62.3	62.3	62.2	63.4	63.8	63.8	63.2	63.0
Air Compressor (psi)	155	140	160	140	146	155	150	148	150
	PRYER	ON	ON	ON	ON	ON	ON	ON	ON

Servall Laundry Groundwater Treatment Facility Operator Check List

Date	2/28/07	2/28/08	2-28-98	2-28-98	2-29-98	2-19-98	2-24-98	2-24-98	2-29-98
Time	08:15	1:30pm	5:P	94)	4:06 PM	8:00 AM	9:00 AM	1:00 PM	5:P
Extraction Well Level	55.7	55.7	55.7	55.8	55.8	55.8	55.8	55.8	55.8
Influent Flow rate (GPM)	152.3	152.4	151.6	151.5	152.5	151.9	151.3	149.5	151.4
Influent Filter in service	A	A	A	A	A	A	A	A	A
Inlet psi	92	91	91	94	90	90	90	90	90
Outlet psi	75	74	75	79	75	75	75	75	75
Cartridge Filter Flow Rate (GPM)	157.4	156.46	156.6	153.6	157.7	158.1	157.6	157.42	157.0
Equalization Tank									
Level (inches)	52.03	51.90	52.11	51.99	52.04	52.02	52.03	52.12	52.1
pH	3.49	3.51	3.54	3.54	3.53	3.54	3.54	3.50	3.53
mixer (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Acid pump settings	* ext 60								
Speed / Stroke	ext 60	EXT 60	E.H 60	FXT 60	FXT 60	E-T 60	ext 60	ext 60	EXT 60
UV/Oxidation pump in service	4A	4A	4A	41	4A	4A	4A	4A	4A
UV/Oxidation Flow Rate (GPM)	158.35	160.17	162.3	162.0	162.2	163.2	162.3	162.77	162.0
UV/Oxidation Unit									
Lamp # 1 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
KVA Time 84.21	2700	2700	2700	2710	2700	2700	2700	2700	2700
Amps	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
Lamp # 2 (on/off)	ON	ON	ON	2700	ON	ON	ON	ON	ON
KVA Time 83.48	2700	2700	2700	10	2700	2700	2700	2700	2700
Amps	9.8	9.9	10	OFF	10	10	10	10	10
Lamp # 3 (on/off)	OFF	OFF	OFF	/	OF	OFF	OFF	OFF	OFF
KVA	-	-	/	/	/	/	=	=	/
Amps	-	-	/	/	/	/	=	=	/
Peroxide Pump settings	* EXT 100								
Speed / Stroke	ext 100	EXT 100	E-H 100	E-J-100	EXT 100	E-T 100	ext 100	ext 100	EXT 100
peroxide residual	10.80	10.30	10.30	16.07	20	20	10.30	10.30	20

Operator Check List

[illegible]

Servall Laundry Groundwater Treatment Facility

Operator Check List *AM CF*

Date	3/29/98	3/30/98	3/30	3/30	3/30/98	3/30	3/30	3/31	3/31
Time	9:10	9:00 AM	8:00	1300	1800	2000	2400	0600	1200
Extraction Well Level	58.8	55.8	55.8	55.9	55.8	55.9	55.9	55.9	55.9
Influent Flow rate (GPM)	151.7	151.2	151.8	150.1	149.90	155	156	144.3	144.4
Influent Filter in service	A	A	A	A	A	A	A	A	A
Inlet psi	90	90	90	95	*	98	95	98	95
Outlet psi	75	75	75	78	*	80	80	80	78
Cartridge Filter Flow Rate (GPM)	157.6	152.7	157.4	150.1	*	145	144	150.2	150.0
Equalization Tank	52.1								
Level (inches)	52.1	51.89	52.04	51.95	52.21	52.08	52.01	52.01	51.98
pH	3.54	3.53	3.55	3.57	3.53	3.54	3.55	3.53	3.55
mixer (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Acid pump settings	E								
Speed / Stroke	E+60	E+60	E+60	E+60	E+60	E+60	E+60	E+60	E+60
UV/Oxidation pump in service	4A	4A	4A	4A	4A	4A	4A	4A	4A
UV/Oxidation Flow Rate (GPM)	162.9	162.9	162.6	154.1	155.5	156.5	157.1	154.76	155.7
UV/Oxidation Unit									
Lamp # 1 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
KVA	2700	2700	2700	2700	2700	2650	2650	2700	2650
Amps	10.5	10.5	10.5	10	10.1	10.1	10.4	10.4	10.0
Lamp # 2 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
KVA	2700	2700	2700	2700	2700	2650	2700	2650	2650
Amps	9.5	9.5	9.5	9.5	9.5	9.4	9.6	9.6	9.4
Lamp # 3 (on/off)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
KVA	/	/	/	/	/	/	/	/	/
Amps	/	/	/	/	/	/	/	/	/
Peroxide Pump settings	E+100	E+100	E+100	E+100	E+100	E+100	E+100	E+100	E+100
Speed / Stroke	E+100	E+100	E+100	E+100	E+100	E+100	E+100	E+100	E+100
peroxide residual	20	20	20	±20	20±	20±	20±	20±	20±
TOTAL GALLONS PROCESSED						1,218,220	1,256,960	1,310,760	
From UV/OX									

* Flow is pulsing, Pressure is fluctuating a lot. max flow 150 min flow 137
 Pulsing stopped @ 18:20 max psi 105 min psi 90

Servall Laundry Groundwater Treatment Facility

Operator Check List

Date	3/29/18	3/30/18	3/30	3/30	3/30	3/30	3/30	3/31	3/31
Time	9D	40AM	8:00AM	1300	1800	2000	2400	0600	12N
pH Adjust Tank	49.92								
Level (inches)	49.92	50.14	49.95	50.04	52.13	50.01	50.01	50.62	50.00
pH	6.91	6.93	6.94	7.14	7.10	7.10	7.05	7.01	7.06
mixer (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Caustic pump settings	EXT/100	EXT/100	EXT/100	EXT/100	EXT/100	EXT/100	EXT/100	EXT/100	EXT/100
Speed / Stroke									
Polmer feed settings	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Solution pump Speed/stroke	1	1	1	1	1	1	1	1	1
Dilution water rate	1	1	1	1	1	1	1	1	1
Sand filter feed pump in service						GA	GA	GA	GA
Sand Filters									
Filter # 1 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Backwash (yes/no)	NO	NO	NO	NO	NO	NO			
Filter # 2 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Backwash (yes/no)	NO	NO	NO	NO	NO	NO			
Filter # 3 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Backwash (yes/no)	NO	NO	NO	NO	NO	NO			
Filter # 4 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Backwash (yes/no)	NO	NO	NO	NO	NO	NO			
Effluent Flow Rate (GPM)	157.7	159.9	160.9	153.8	*	156.4	158.3	152.97	150.3
Effluent Filter in service	A	A	A	A	A	A	A	A	A
Inlet psi	9	9	9	6	6	6	6	6	8
Outlet psi	0	0	0	0	0	0	0	0	0
Reinjection Well Level	57.47	57.51	57.52	57.49	57.41	57.45	57.45	57.42	57.48
Chemical Storage Levels									
Caustic Level	48.6	48.6	48.5	48.1	47.8	47.8	47.5	47.3	47.1
Peroxide Level	62.6	62.4	62.3	62.4	62.3	62.4	62.3	62.3	62.7
Acid Level	64.0	63.4	63.3	63.8	64.8	64.1	63.7	63.4	64.0
Air Compressor (psi)	155	150	150	140	150	145	140	145	

Dryer

ON ON ON ON ON ON ON ON ON ON

* Effluent flow is also pulsing 146-156

Servall Laundry Groundwater Treatment Facility

	CF	CF	Operator	Checklist	CF	CF	WM	CF	CF	WM
Date	3/31/98	4/1/98	4/1/98	4/1/98	4/2/98	4/2/98	4/2/98	4/2/98	4/2/98	4/2/98
Time	2000	0400	12:09	15:45	1:00 PM	3:00	0900	1420	1600	
Extraction Well Level	55.8	55.9	55.9	56.0	56.1	56.1	56.2	56.2	56.2	
Influent Flow rate (GPM) *	152.39	142.88	142.47	143.92	144.5	144.5	142.2	143.03	143.4	
Influent Filter in service	A	A	A	A	A	A	A	A	A	
Inlet psi	92	98	98	90	90	90	95	95	95	
Outlet psi	75	75	77	78	78	78	76	70	76	
Cartridge Filter Flow Rate (GPM)	157.3	149.47	145.9	150.7	150.4	150.2	151.3	150.2	150.2	
Equalization Tank										
Level (inches)	55.94	52.05	51.80	52.07	57.94	57.92	52.91	53.08	52.14	
pH	3.52	3.55	3.53	3.54	3.54	3.53	3.53	3.54	3.55	
mixer (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON	
Acid pump settings										
Speed / Stroke	EXT/60	EXT/60	EXT/60	EXT/60	EXT/60	EXT/60	EXT/60	EXT/60	EXT/60	
UV/Oxidation pump in service	4A	4A	4A	4A	4A	4A	4A	4A	4A	
UV/Oxidation Flow Rate (GPM)	156.9	155.4	149.7	155.7	155.4	153.3	151.0	154.22	155.0	
UV/Oxidation Unit										
Lamp # 1 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON	
KVA	2650	2650	2650	2675	2700	2700	2650	2650	2650	
Amps	10.2	10.5	10.0	10.05	10.5	10.5	10.3	10.2	10.2	
Lamp # 2 (on/off)	ON	ON	ON	ON	OFF	CF	ON	ON	ON	
KVA	2650	2650	2675	2675	/	/	2650	2650	2650	
Amps	9.5	9.7	9.4	9.4	/	/	9.4	9.4	9.5	
Lamp # 3 (on/off)	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF	
KVA	↓	↓	↓	↓	2700	2700	↓	↓	↓	
Amps	↓	↓	↓	↓	10	10	↓	↓	↓	
Peroxide Pump settings										
Speed / Stroke	EXT/100	EXT/100	EXT/100	EXT/100	EXT/100	EXT/100	EXT/100	EXT/100	EXT/100	
peroxide residual	20±		20±	20±	10±	20	20±	20±	±20	
TOTAL GALLONS PROCESSED	1,443,400	1,519,720	1,573,660	1,623,670	1,717,680	1,751,490	1,775,640	1,820,070	1,837,700	
FROM UV/OX										

Set Influent Valve to Manual @ 12% to slow pressure/flow fluctuation. Will try to return controller tonight.

05 05 Operator Check List

AIR DRYER

Operator Check List

TOTAL GALS. PROCESSED
FROM UV/OX PANEL

Servall Laundry Groundwater Treatment Facility Operator Check List

[illegible]

Servall Laundry Groundwater Treatment Facility

Operator Check List

Date	4/4/98	4/4/98	4/4/98	4/4/98	4/5/98	4/5/98	4/5/98	4/5/98	4/5/98
Time	0830 Jay Jackson	1000P	630P	10:00	4:00AM	8:00	10:00	1:00PM	530P
Extraction Well Level	56.2	56.3	56.2	56.3	56.3	56.3	56.3	56.3	56.3
Influent Flow rate (GPM)	142.62	142.47	155.8	162.3	144.9	144.7	143.28	143.03	144.3
Influent Filter in service	A	A	A	A	A	A	A	A	A
Inlet psi	95	95	95	95	95	95	95	95	95
Outlet psi	75	75	75	75	75	75	75	75	75
Cartridge Filter Flow Rate (GPM)	150.29	150.26	133.9	146.8	151.3	151.1	150.9	150.41	151.3
Equalization Tank									
Level (inches)	54.76	55.70	56.60	56.00	53.33	53.60	53.43	54.04	54.21
pH	3.53	3.50	3.56	3.54	3.56	3.59	3.56	3.50	3.51
mixer (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Acid pump settings									
Speed / Stroke	EXT60	EXT60	EXT60	EXT60	EXT60	EXT60	EXT60	EXT60	EXT60
UV/Oxidation pump in service	4A	4A	4A	4A	4A	4A	4A	4A	4A
UV/Oxidation Flow Rate (GPM)	154.28	154.55	155.4	155.7	155.4	155.1	155.8	154.85	155.4
UV/Oxidation Unit									
Lamp # 1 (on/off)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
KVA	---	---	---	---	---	---	---	---	---
Amps	---	---	---	---	---	---	---	---	---
Lamp # 2 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
KVA	2700	2700	2650	2650	2700	2700	2700	2700	2700
Amps	8.5	9.0	9.5	9.5	9.5	9.5	9.5	9.5	9.5
Lamp # 3 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
KVA	2650	2650	2650	2650	2700	2700	2700	2700	2700
Amps	10	10	10	10	10	10	10	10	10
Peroxide Pump settings	EXT100	EXT100	EXT100	EXT100	EXT100	EXT100	EXT100	EXT100	EXT100
Speed / Stroke									
peroxide residual	20+	20+	20	20	20	20	20	20+	10-20
226210	24453	226431	230258	233494	2411590	24956	243557	2490470	2507030

**Servall Laundry Groundwater Treatment Facility
Operator Check List**

Date	4/4/98	4/4/98	4/4/98	4/4/98	4/5/98	4/5/98	4/5/98	4/5/98	4/5/98
Time	0845	1:00PM	6:30P	10P	4:00AM	8:00	10:00	1:00PM	5:30P
pH Adjust Tank									
Level (inches)	49.98	49.95	49.46	50.02	50.01	50.06	50.03	50.05	50.03
pH	6.92	6.96	7.06	7.07	6.95	6.94	6.89	6.93	6.91
mixer (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Caustic pump settings	EXT100	EXT100	EXT100	EXT100	EXT100	EXT100	EXT100	EXT100	EXT100
Speed / Stroke									
Polmer feed settings	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Solution pump Speed/stroke			/	/	/	/			/
Dilution water rate			/	/	/	/			/
Sand filter feed pump in service	6A	6B	6B	6B	6B	6B	6B	6B	6B
Sand Filters									
Filter # 1 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Backwash (yes/no)	NO	NO	NO	NO	NO	NO	NO	NO	NO
Filter # 2 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Backwash (yes/no)	NO	NO	NO	NO	NO	NO	NO	NO	NO
Filter # 3 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Backwash (yes/no)	NO	NO	NO	NO	NO	NO	NO	NO	NO
Filter # 4 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Backwash (yes/no)	NO	NO	NO	NO	NO	NO	NO	NO	NO
Effluent Flow Rate (GPM)	151.43	152.49	154.4	154.2	154.9	160.1	159.2	152.48	155.6
Effluent Filter in service	A	A	A	A	A	A	A	A	A
Inlet psi	8	9	8	8	8	8	8	8	8
Outlet psi	0	0	0	0	0	0	0	0	0
Reinjection Well Level	57.91	58.01	58.05	58.06	58.14	58.16	58.23	58.25	58.27
Chemical Storage Levels									
Caustic Level	42.8	42.6	42.1	42.1	41.5	41.5	41.3	41.4	40.9
Peroxide Level	61.7	61.7	61.4	61.4	61.6	61.6	61.4	61.4	61.4
Acid Level	62.0	61.9	62.7	62.7	61.9	61.9	61.7	61.2	62.0
Air Compressor (psi)	145	151	155	150	150	150	150	150	150

RTTR

ON ON ON ON ON ON ON ON ON ON

Servall Laundry Groundwater Treatment Facility
Operator Check List

Date	4/5/98	4/6/98	4/6/98	4/6/98	4/6/98	4/6/98	4/6/98	4/7/98	4/7/98
Time	9:00	4:10 AM	8:00 AM	12:00	16:00	19:00	20:00	04:00	07:45
Extraction Well Level	56.3	56.3	56.4	56.4	56.4	56.4	56.4	56.4	56.4
Influent Flow rate (GPM)	140.6	144.2	144.4	142.98	143.11	142.75	143.06	143.05	143.12
Influent Filter in service	A	A	A	A	A	A	A	A	A
Inlet psi	95	95	95	96	96	96	96	96	95
Outlet psi	80	80	80	70	70	72	72	70	70
Cartridge Filter Flow Rate (GPM)	154.8	151.4	151.1	150.2	156.1	151.6	150.36	150.30	150.43
Equalization Tank	52.32								
Level (inches)	52.32	56.75	54.33	54.32	53.11		52.57	53.92	54.67
pH	3.52	3.56	3.55	3.53	3.55	3.53	3.53	3.51	3.51
mixer (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Acid pump settings	EXT 60	EXT 60	EXT 60						
Speed / Stroke				EX-60	EX 60	EX 60	EXT/60	EXT/60	EXT/60
UV/Oxidation pump in service	4A	4A	4A	4A	4A	4D	4A	4A	4A
UV/Oxidation Flow Rate (GPM)	155.1	155.7	155.7	154.7	155.4	155.7	154.53	155.4	154.37
UV/Oxidation Unit									
Lamp # 1 (on/off)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
KVA	1	1	1	1	1			↓	↓
Amps	1	1	1	1	1				
Lamp # 2 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
KVA	2700	2700	2700	2700	2700	2700	2700	2650	2650
Amps	9.5	9.5	9.5	9.4	9.4	9.6	9.6	9.4	9.0
Lamp # 3 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
KVA	2700	2700	2700	2700	2700	2700	2700	2700	2650
Amps	10	10	10	10.1	10.1	10.5	10.5	10.1	9.6
Peroxide Pump settings	EXT 100	EXT 100	EXT 100		EXT 100	EXT 100			
Speed / Stroke				EX-100			EXT/100	EXT/100	EXT/100
peroxide residual	10-20	10	10	20±	3-10	10	3-10	3-10	3-10
Total GAT from UV panel	259520	260430	2636560	2679580	2717970	2744800		2831880	
							2773870		2862820

Operator Check List

[illegible]

Servall Laundry Groundwater Treatment Facility

Operator Check List CF

Date	4/7/98	4/7/98	4/8/98	4/8/98	4/9/98	4/9	4/10/98	4/10/98	4/11/98
Time	7:15 pm	10:30 P	4 AM	3 PM	8 AM	3:30 P	9 AM	4 PM	7:30 A
Extraction Well Level	56.3	56.3	56.3	56.3	56.3	56.5	56.7	57.1	58.1
Influent Flow rate (GPM)	142.80	143.71	142.71	142.82	143.06	138.7	138.99	140.2	139.34
Influent Filter in service	A		A	A	A	A	A	A	A
Inlet psi	89.5	96	95	95	95	100	100	98	98
Outlet psi	70	70	68	70	65	70	65	62	55
Cartridge Filter Flow Rate (GPM)	151.3	151.5	150.21	150.18	150.59	146.50	146.11	147.33	146.66
Equalization Tank									
Level (inches)		52.78	51.95	55.43	57.42	51.90	52.08	52.13	52.07
pH	3.55	3.49	3.52	3.53	3.51	3.50	3.47	3.53	3.48
mixer (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
Acid pump settings	60								
Speed / Stroke		EXT/60	EXT/60	EXT/60	EXT/60	EXT/60	EXT/60	EXT/60	EXT/60
UV/Oxidation pump in service		4A	4A	4B	4B	4B	4B	4B	4B
UV/Oxidation Flow Rate (GPM)	155.76	155.2	153.3	152.4	153.3	149.1	153.9	151.8	154.5
UV/Oxidation Unit									
Lamp # 1 (on/off)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
KVA	1	↓	↓	↓	↓	↓	↓	↓	↓
Amps	1	↓	↓	↓	↓	↓	↓	↓	↓
Lamp # 2 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
KVA	2700	2700	2650	2700	2650	2650	2650	2650	2650
Amps	9	9.6	9.1	9.5	9.1	9.4	9.5	9.6	9.4
Lamp # 3 (on/off)	ON	ON	ON	ON	ON	ON	ON	ON	ON
KVA	2650	2700	2650	2700	2650	2650	2650	2650	2650
Amps	10.5	10.5	9.8	10.4	9.8	10.2	10.3	10.6	10.2
Peroxide Pump settings	100							EXT/30	
Speed / Stroke		EXT/100	EXT/100	EXT/10	EXT/100	EXT/100	EXT/100	EXT/100	EXT/30
peroxide residual		3-10	3-10	10-30	10-30	10-30	30	30	30
Total Gal. from UV	2971670		3074000		3297430		3500510		3711650
		3001220		3136060		3347270		3563540	

Servall Laundry Groundwater Treatment Facility Operator Check List

[illegible]

Servall Laundry Groundwater Treatment Facility

Operator Check List

Date	4/11/98	4/12/98	4/13/98	4/14/98	4/21/98	6/9/98		
Time	2:10 PM	11:40	12:30A	2 PM	4 PM	11 AM		
Extraction Well Level	56.9	58.9	65.3	57.6	58.5	59.7		
Influent Flow rate (GPM)	145	139.01		99.1	103	149.8		
Influent Filter in service	B	B	B		B	B		
Inlet psi	98	98	96		130	95		
Outlet psi	85	90	85		+100	80		
Cartridge Filter Flow Rate (GPM)	153	144.08	147.32	103.6	90.43	118.6		
Equalization Tank								
Level (inches)	52.35	52.04	52.05	59.02	58.79	57.95		
pH	3.49	3.54	3.49	3.52	3.52	6.37		
mixer (on/off)	ON	ON	ON	ON	ON	ON		
Acid pump settings	EXT/60	EXT/60	EXT/60		EXT/60	OFF		
Speed / Stroke						OFF		
UV/Oxidation pump in service	4B	4B	4B	4B	4B	4B		
UV/Oxidation Flow Rate (GPM)	152.7	152.4	152.5	92.1	95.8	156.3		
UV/Oxidation Unit								
Lamp # 1 (on/off)	OFF	OFF	OFF	OFF	OFF	ON		
KVA	↓	↓	↓	↓	↓	2650		
Amps	↓	↓	↓	↓	↓	7.6		
Lamp # 2 (on/off)	ON	ON	ON	ON	ON	ON		
KVA	2650	2700	2650	2650	2650	2700		
Amps	9.8	9.6	9.3	9.3	9.3	7.2		
Lamp # 3 (on/off)	ON	ON	ON	ON	ON	ON		
KVA	2650	2700	2650	2650	2650	2500		
Amps	10.8	10.5	10.0	10.0	10.0	7.0		
Peroxide Pump settings						OFF		
Speed / Stroke	EXT/30	EXT/30	EXT/30		EXT/30			
peroxide residual	30	30		30	30	9		
UX/CX			4178790		4448100	4480950		
TOTALZER	3763830	3795920		4367560				

Most probably instrument error
 tightened sensor wire connections later
 in day. Reading dropped back to 57-58

Servall Laundry Groundwater Treatment Facility

Operator Check List

Date	4/11/98	4/12/98	4/13/98	4/14/98	4/21/98	6/9/98		
Time	2:10 PM	11:40	10:30	2 PM	4 PM	11 AM		
pH Adjust Tank								
Level (inches)	50.04	50.10	50.08	46.06	53.97	56.06		
pH	6.87	6.93	6.86	7.68	7.34	6.42		
mixer (on/off)	ON	ON	ON	ON	ON	ON		
Caustic pump settings						OFF		
Speed / Stroke	EXT/100	EXT/100	EXT/100	EXT/100	EXT/100			
Polmer feed settings	OFF	OFF	OFF	OFF	OFF	OFF		
Solution pump Speed/stroke	↓	↓	↓	↓	↓			
Dilution water rate	↓	↓	↓	↓	↓			
Sand filter feed pump in service	6B	6B	6B	6B	6B	6B		
Sand Filters								
Filter # 1 (on/off)	ON	ON	ON	ON	ON	ON		
Backwash (yes/no)								
Filter # 2 (on/off)	ON	ON	ON	ON	ON	ON		
Backwash (yes/no)								
Filter # 3 (on/off)	ON	ON	ON	ON	ON	ON		
Backwash (yes/no)								
Filter # 4 (on/off)	ON	ON	ON	ON	ON	ON		
Backwash (yes/no)								
Effluent Flow Rate (GPM)	147.5	148.14	150.4	91.2	91.85	146.46		
Effluent Filter in service	A	A	A	A	A	A		
Inlet psi	8	8	10	4	8	28		
Outlet psi	0	0	0	0	0	18		
Reinjection Well Level	63.96	65.99	69.01	69.31	69.84	57.41		
Chemical Storage Levels								
Caustic Level	34.3	33.4	32.3	31.4	31	31.1		
Peroxide Level	60.0	59.6	59.3	59.0	58.9	58.9		
Acid Level	60.1	59.7	59.6	60.1	60.2	60.2		
Air Compressor (psi)	155	150	150	150		150		
DRYER	ON	ON	ON	ON		ON		

WATER QUALITY RESULTS

OFF-SITE ANALYSIS

SERVALL LAUNDRY OFF-SITE ANALYSIS

INFLUENT

Date	3/30/98	4/6/98						
Time	8am	8am						
Permit limit (ug/l)								
Chlorobenzene	5	<0.5	<0.5					
1,1-Dichloroethylene	5	<0.5	<0.5					
1,2-(trans)-Dichloroethylene	5	<0.5	<0.5					
1,2-(cis)-Dichloroethylene	5	<0.5	1					
Tetrachloroethylene	5	7	40					
Toluene	5	<0.5	<0.5					
Trichloroethylene	5	1	1.5					
Vinyl Chloride	2	<0.5	<0.5					
1,1-Dichloroethane	5	<0.5	<0.5					
Iron, total (ppm)	0.6ppm	0.19	0.98					
Manganese, total (ppm)	0.6ppm	0.73	1					
pH	5.5 - 8.5	5.95	5.91					
Alkalinity (ppm)	n/a	24	26					
Total Suspended Solids	n/a	<3	<3					

EFFLUENT

Date	3/30/98	4/6/98						
Time	8am	8am						
Permit limit (ug/l)								
Chlorobenzene	5	<0.5	<0.5					
1,1-Dichloroethylene	5	<0.5	<0.5					
1,2-(trans)-Dichloroethylene	5	<0.5	<0.5					
1,2-(cis)-Dichloroethylene	5	<0.5	<0.5					
Tetrachloroethylene	5	<0.5	<0.5					
Toluene	5	<0.5	<0.5					
Trichloroethylene	5	<0.5	<0.5					
Vinyl Chloride	2	<0.5	<0.5					
1,1-Dichloroethane	5	<0.5	<0.5					
Iron, total (ppm)	0.6ppm	0.1	0.45					
Manganese, total (ppm)	0.6ppm	0.66	0.87					
pH	5.5 - 8.5	7.06	6.97					
Alkalinity (ppm)	n/a	62	68					
Total Suspended Solids	n/a	<3	<3					

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981221.01

04/06/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:03/30/98 RECEIVED:03/30/98

SAMPLE: Wastewater sample, Influent-0, 0800

ANALYTICAL PARAMETERS

Chlorobenzene	ug/L	<0.5
Vinyl Chloride	ug/L	<0.5
1,1 Dichloroethene	ug/L	<0.5
Trichloroethylene	ug/L	1
Tetrachloroethene	ug/L	7
1,1 Dichloroethane	ug/L	<0.5
Toluene	ug/L	<0.5
c-1,2-Dichloroethene	ug/L	<0.5
t-1,2-Dichloroethene	ug/L	<0.5

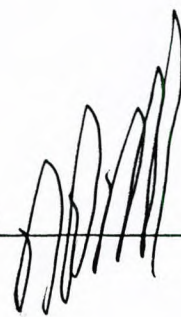
ANALYTICAL PARAMETERS

Tot Suspended Solids	mg/L	<3
Alkalinity tot CaCo3	mg/L	24
Iron as Fe	mg/L	0.19
Manganese as Mn	mg/L	0.73

cc:

REMARKS:

DIRECTOR



rn=

6987

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981221.02

04/06/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site
COLLECTED BY: Client DATE COL'D:03/30/98 RECEIVED:03/30/98

SAMPLE: Wastewater sample, UV/Oxidation-0, 0800

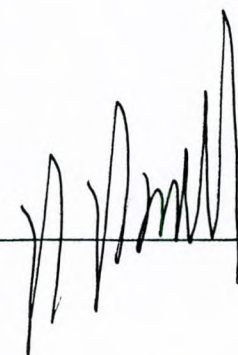
ANALYTICAL PARAMETERS
Tot Suspended Solids mg/L <3

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR



rn=

6988

NYSDOH ID# 10320

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981221.03

04/06/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:03/30/98 RECEIVED:03/30/98

SAMPLE: Wastewater sample, Effluent-0, 0800

ANALYTICAL PARAMETERS

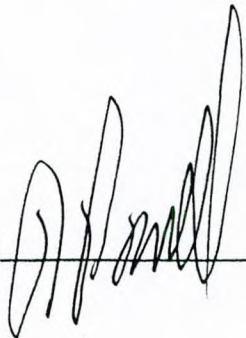
Chlorobenzene	ug/L	<0.5
Vinyl Chloride	ug/L	<0.5
1,1 Dichloroethene	ug/L	<0.5
Trichloroethylene	ug/L	<0.5
Tetrachloroethene	ug/L	<0.5
1,1 Dichloroethane	ug/L	<0.5
Toluene	ug/L	<0.5
c-1,2-Dichloroethene	ug/L	<0.5
t-1,2-Dichloroethene	ug/L	<0.5

ANALYTICAL PARAMETERS

Tot Suspended Solids	mg/L	<3
Alkalinity tot CaCo3	mg/L	62
Iron as Fe	mg/L	0.10
Manganese as Mn	mg/L	0.66

cc:

REMARKS:

DIRECTOR 

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981317.01

04/13/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:04/06/98 RECEIVED:04/06/98

SAMPLE: Wastewater sample, Influent-0

ANALYTICAL PARAMETERS

Chlorobenzene	ug/L	<0.5
Vinyl Chloride	ug/L	<0.5
1,1 Dichloroethene	ug/L	<0.5
Trichloroethylene	ug/L	1.5
Tetrachloroethene	ug/L	40
1,1 Dichloroethane	ug/L	<0.5
Toluene	ug/L	<0.5
c-1,2-Dichloroethene	ug/L	1.0
t-1,2-Dichloroethene	ug/L	<0.5

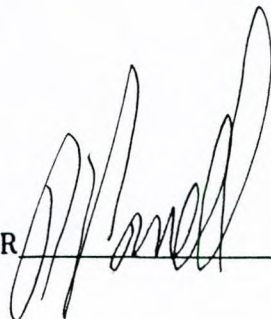
ANALYTICAL PARAMETERS

Tot Suspended Solids	mg/L	<3
Alkalinity tot CaCo3	mg/L	26
Iron as Fe	mg/L	0.98
Manganese as Mn	mg/L	1.0

cc:

REMARKS: EPA Method 524.
Sample was collected at

DIRECTOR



rn=

7447

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981317.02

04/13/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:04/06/98 RECEIVED:04/06/98

SAMPLE: Wastewater sample, UV/Oxidation-0

ANALYTICAL PARAMETERS

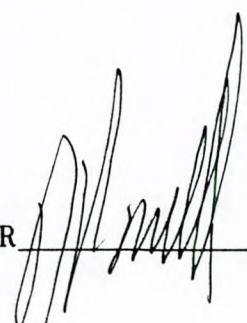
Tot Suspended Solids mg/L <3

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR



rn=

7448

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981317.03

04/13/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:04/06/98 RECEIVED:04/06/98

SAMPLE: Wastewater sample, Effluent-0

ANALYTICAL PARAMETERS

Chlorobenzene	ug/L	<0.5
Vinyl Chloride	ug/L	<0.5
1,1 Dichloroethene	ug/L	<0.5
Trichloroethylene	ug/L	<0.5
Tetrachloroethene	ug/L	<0.5
1,1 Dichloroethane	ug/L	<0.5
Toluene	ug/L	<0.5
c-1,2-Dichloroethene	ug/L	<0.5
t-1,2-Dichloroethene	ug/L	<0.5

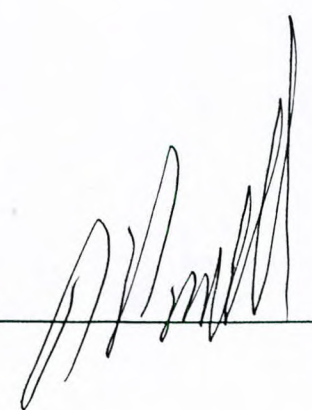
ANALYTICAL PARAMETERS

Tot Suspended Solids	mg/L	<3
Alkalinity tot CaCo3	mg/L	68
Iron as Fe	mg/L	0.45
Manganese as Mn	mg/L	0.87

cc:

REMARKS: EPA Method 524.
Sample was collected at

DIRECTOR



rn=

7449

NYSDOH ID# 10320

WATER QUALITY RESULTS

ON-SITE ANALYSIS

SERVALL LAUNDRY
ON-SITE ANALYSIS[illegible]

**SERVALL LAUNDRY
ON-SITE ANALYSIS**

Date	4/2/98	4/3/98	4/4/98	4/5/98	4/6/98	4/7/98	4/8/98	4/12/98	4/14/98		
Time	8:00 AM	8:30 AM	9:00 AM	9:00 AM	7:00 AM	8:00 AM	8:30 AM	11:45 AM	1:30 PM		
Influent											
flow rate (gpm)	155.00	156.00	142.25	155.00	155.00	155.00	143.00	139.00	99.00		
pH	5.73	5.77	5.87	5.73	5.91	5.94	6.15	6.12	5.77		
Iron (ppm)	0.50	0.80	0.70	0.70	1.10	1.20	1.20	1.50	1.60		
Manganese (ppm)	0.30	0.30	0.30	0.30	0.20	0.20	0.20	0.20	0.30		
1,2-DCE (ppb)	<1	<1	<1	<1	<1	<1					
PCE (ppb)	12.00	18.00	23.00	33.00	40.00	63.00					
VC (ppb)	<1	<1	<1	<1	<1	<1					
TCE (ppb)	2.00	2.00	2.00	2.00	2.00	2.00					
Equalization tank											
pH	3.25	3.29	3.32	3.28	3.27	3.35	3.38	3.32	3.31		
UV/oxidation											
pH	3.27	3.22	3.23	3.27	3.20	3.27	3.30	3.17	3.31		
Turbidity	0.47	0.33	0.48	0.38	0.21	0.64	0.28	0.33	1.03		
1,2-DCE (ppb)	<1	<1	<1	<1	<1	<1					
PCE (ppb)	<1	<1	<1	<1	<1	<1					
VC (ppb)	<1	<1	<1	<1	<1	<1					
TCE (ppb)	<1	<1	<1	<1	<1	<1					
pH Adjust Tank											
pH	6.82	7.02	6.95	7.68	7.68	6.65	6.95	6.71	6.96		
Final Effluent											
pH	6.74	6.99	6.94	6.99	6.99	7.05	6.87	6.9	6.87		
Iron (ppm)	<.2	<.2	0.3	0.3	0.6	0.6	0.5	0.35	0.2		
Manganese (ppm)	0.3	0.4	0.4	0.4	0.2	0.2	0.2	0.2	0.2		
1,2-DCE (ppb)	<1	<1	<1	<1	<1	<1					
PCE (ppb)	<1	<1	<1	<1	<1	<1					
VC (ppb)	<1	<1	<1	<1	<1	<1					
TCE (ppb)	<1	<1	<1	<1	<1	<1					

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981165.01

03/30/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:03/25/98 RECEIVED:03/26/98

SAMPLE: Water sample, Influent-B, 6:00 pm

ANALYTICAL PARAMETERS

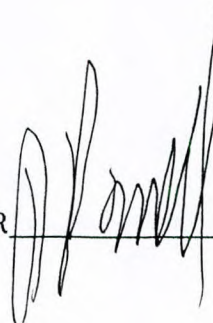
1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	5
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR



rn=

6711

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981165.02

03/30/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:03/25/98 RECEIVED:03/26/98

SAMPLE: Water sample, UV/Oxidation-B, 6:00 pm

ANALYTICAL PARAMETERS

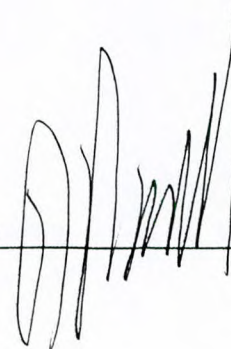
1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR



rn=

6712

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981165.03

03/30/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:03/25/98 RECEIVED:03/26/98

SAMPLE: Water sample, Effluent-B, 6:00 pm

ANALYTICAL PARAMETERS

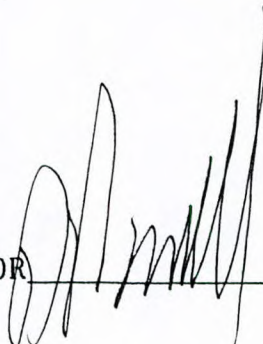
1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR



rn=

6713

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981165.04

03/30/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site
COLLECTED BY: Client DATE COL'D:03/26/98 RECEIVED:03/26/98

SAMPLE: Water sample, Influent-A, 8:00 am

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	5
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR



rn=

6714

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981165.05

03/30/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:03/26/98 RECEIVED:03/26/98

SAMPLE: Water sample, UV/Oxidation-A, 8:00 am

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR

rn=

6715

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981165.06

03/30/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:03/26/98 RECEIVED:03/26/98

SAMPLE: Water sample, Effluent-A, 8:00 am

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR



rn=

6716

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981190.01

03/31/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:03/26/98 RECEIVED:03/27/98

SAMPLE: Wastewater sample, Influent-B, 8:00 pm

ANALYTICAL PARAMETERS

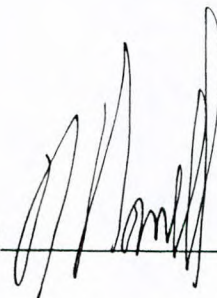
1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	6
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	1

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR



rn=

6819

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981190.02

03/31/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:03/26/98 RECEIVED:03/27/98

SAMPLE: Wastewater sample,UV/Oxidation-B,8:00 pm

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR

rn=

6820

NYSDOH ID# 10320

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981190.03

03/31/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:03/26/98 RECEIVED:03/27/98

SAMPLE: Wastewater sample, Effluent-B, 8:00 pm

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR 

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981190.04

03/31/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:03/27/98 RECEIVED:03/27/98

SAMPLE: Wastewater sample, Influent-A, 8:25 am

ANALYTICAL PARAMETERS

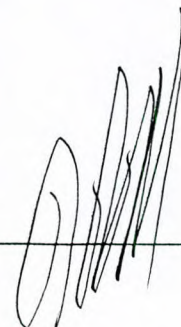
1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	6
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	1

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR



rn=

6822

NYSDOH ID# 10320

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981190.05

03/31/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:03/27/98 RECEIVED:03/27/98

SAMPLE: Wastewater sample,UV/Oxidation-B,8:25 am

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR 

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981190.06

03/31/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:03/27/98 RECEIVED:03/27/98

SAMPLE: Wastewater sample, Effluent-A, 8:25 am

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR



rn=

6824

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981222.01

04/01/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site
COLLECTED BY: Client DATE COL'D:03/27/98 RECEIVED:03/30/98

SAMPLE: Wastewater sample, Influent-B

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	6
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:00 pm.

DIRECTOR



rn=

6990

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981222.02

04/01/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:03/27/98 RECEIVED:03/30/98

SAMPLE: Wastewater sample, UV/Oxidation-B

ANALYTICAL PARAMETERS

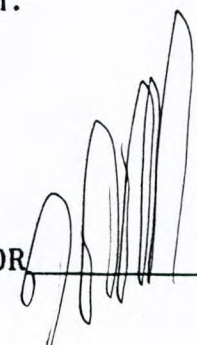
1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:00 pm.

DIRECTOR



rn=

6991

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981222.03

04/01/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:03/27/98 RECEIVED:03/30/98

SAMPLE: Wastewater sample, Effluent-B

ANALYTICAL PARAMETERS

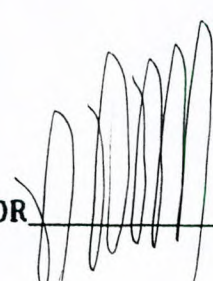
1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:00 pm.

DIRECTOR



rn=

6992

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981222.04

04/01/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:03/28/98 RECEIVED:03/30/98

SAMPLE: Wastewater sample, Influent-A

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	5
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:30 am.

DIRECTOR



rn=

6993

NYSDOH ID# 10320

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981222.05

04/01/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site
COLLECTED BY: Client DATE COL'D:03/28/98 RECEIVED:03/30/98

SAMPLE: Wastewater sample, UV/Oxidation-A

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:30 am.

DIRECTOR



ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981222.06

04/01/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:03/28/98 RECEIVED:03/30/98

SAMPLE: Wastewater sample, Effluent-A

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:30 am.

DIRECTOR



rn=

6995

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981222.07

04/01/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:03/28/98 RECEIVED:03/30/98

SAMPLE: Wastewater sample, Influent-B

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	7
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:00 pm.

DIRECTOR



rn=

6996

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981222.08

04/01/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:03/28/98 RECEIVED:03/30/98

SAMPLE: Wastewater sample, UV/Oxidation-B

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:00 pm.

DIRECTOR



rn=

6997

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981222.09

04/01/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:03/28/98 RECEIVED:03/30/98

SAMPLE: Wastewater sample, Effluent-B

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:00 pm.

DIRECTOR



rn=

6998

NYSDOH ID# 10320

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981222.10

04/01/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:03/29/98 RECEIVED:03/30/98

SAMPLE: Wastewater sample, Influent

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	6
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 10:30 am.

DIRECTOR



ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981222.11

04/01/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:03/29/98 RECEIVED:03/30/98

SAMPLE: Wastewater sample, UV/Oxidation

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	6
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 10:30 am.

DIRECTOR



rn=

7000

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981222.12

04/01/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:03/29/98 RECEIVED:03/30/98

SAMPLE: Wastewater sample, Effluent

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 10:30 am.

DIRECTOR

rn=

7001

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981222.13

04/01/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:03/30/98 RECEIVED:03/30/98

SAMPLE: Wastewater sample, Influent

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	6
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:00 am.

DIRECTOR

rn=

7002

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981222.14

04/01/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:03/30/98 RECEIVED:03/30/98

SAMPLE: Wastewater sample, UV/Oxidation

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:00 am.

DIRECTOR



rn=

7003

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981222.15

04/01/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:03/30/98 RECEIVED:03/30/98

SAMPLE: Wastewater sample, Effluent

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:00 am.

DIRECTOR



rn=

7004

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981249.01

04/01/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:03/31/98 RECEIVED:03/31/98

SAMPLE: Wastewater sample, Influent

ANALYTICAL PARAMETERS

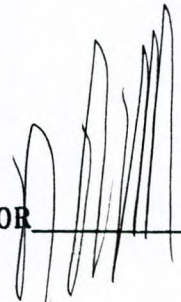
1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	6
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:30 am.

DIRECTOR



rn=

7107

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981249.02

04/01/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:03/31/98 RECEIVED:03/31/98

SAMPLE: Wastewater sample, UV/Oxidation

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:30 am.

DIRECTOR



rn=

7108

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981249.03

04/01/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:03/31/98 RECEIVED:03/31/98

SAMPLE: Wastewater sample, Effluent

ANALYTICAL PARAMETERS

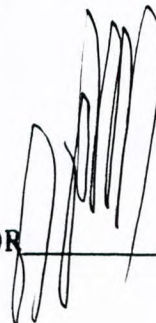
1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:30 am.

DIRECTOR



rn=

7109

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981263.01

04/02/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site
COLLECTED BY: Client DATE COL'D:04/01/98 RECEIVED:04/01/98

SAMPLE: Wastewater sample, Influent

ANALYTICAL PARAMETERS

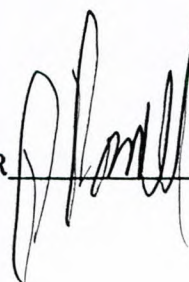
1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	7
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	1

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR



rn=

7188

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981263.02

04/02/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:04/01/98 RECEIVED:04/01/98

SAMPLE: Wastewater sample, UV/Oxidation

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR

rn=

7189

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981263.03

04/02/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:04/01/98 RECEIVED:04/01/98

SAMPLE: Wastewater sample, Effluent

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR

rn=

7190

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981279.01

04/03/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site
COLLECTED BY: Client DATE COL'D:04/02/98 RECEIVED:04/02/98

SAMPLE: Wastewater sample, Influent

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	12
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	2

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:00 am.

DIRECTOR

rn=

7278

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981279.02

04/03/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:04/02/98 RECEIVED:04/02/98

SAMPLE: Wastewater sample, UV/Oxidation

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:00 am.

DIRECTOR



rn=

7279

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981279.03

04/03/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client

DATE COL'D:04/02/98 RECEIVED:04/02/98

SAMPLE: Wastewater sample, Effluent

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:00 am.

DIRECTOR

rn=

7280

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981298.01

04/29/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site
COLLECTED BY: Client DATE COL'D:04/03/98 RECEIVED:04/03/98

SAMPLE: Wastewater sample, Influent

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	18
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	2

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:30 am.

DIRECTOR



rn=

7383

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981298.02

04/29/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site
COLLECTED BY: Client DATE COL'D:04/03/98 RECEIVED:04/03/98

SAMPLE: Wastewater sample, UV/Oxidation

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:30 am.

DIRECTOR



rn=

7384

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981298.03

04/29/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site
COLLECTED BY: Client DATE COL'D:04/03/98 RECEIVED:04/03/98

SAMPLE: Wastewater sample, Effluent

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 8:30 am.

DIRECTOR

rn=

7385

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981315.01

04/08/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:04/04/98 RECEIVED:04/06/98

SAMPLE: Wastewater sample, Influent

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	23
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	2

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 9:00 am.

DIRECTOR



rn=

7438

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981315.02

04/08/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site
COLLECTED BY: Client DATE COL'D:04/04/98 RECEIVED:04/06/98

SAMPLE: Wastewater sample, UV/Oxidation

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 9:00 am.

DIRECTOR



rn=

7439

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981315.03

04/08/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:04/04/98 RECEIVED:04/06/98

SAMPLE: Wastewater sample, Effluent

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 9:00 am.

DIRECTOR



rn=

7440

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981315.04

04/08/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:04/05/98 RECEIVED:04/06/98

SAMPLE: Wastewater sample, Influent

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	33
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	2

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 9:00 am.

DIRECTOR



rn=

7441

NYSDOH ID# 10320

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981315.05

04/08/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site
COLLECTED BY: Client DATE COL'D:04/05/98 RECEIVED:04/06/98

SAMPLE: Wastewater sample, UV/Oxidation

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 9:00 am.

DIRECTOR 

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981315.06

04/08/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:04/05/98 RECEIVED:04/06/98

SAMPLE: Wastewater sample, Effluent

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 9:00 am.

DIRECTOR



rn=

7443

NYSDOH ID# 10320

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981316.01

04/08/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site
COLLECTED BY: Client DATE COL'D:04/06/98 RECEIVED:04/06/98

SAMPLE: Wastewater sample, Influent

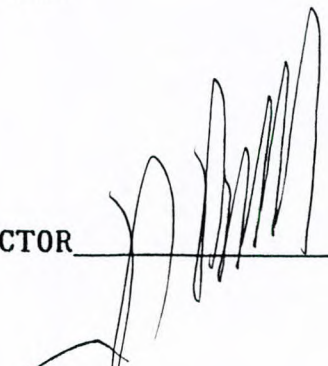
ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	40
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	2

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 7:00 am.

DIRECTOR 

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981316.02

04/08/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site
COLLECTED BY: Client DATE COL'D:04/06/98 RECEIVED:04/06/98

SAMPLE: Wastewater sample, UV/Oxidation

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 7:00 am.

DIRECTOR



rn=

7445

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981316.03

04/08/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site
COLLECTED BY: Client DATE COL'D:04/06/98 RECEIVED:04/06/98

SAMPLE: Wastewater sample, Effluent

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS: Sample was collected at 7:00 am.

DIRECTOR



rn=

7446

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981350.01

04/08/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site
COLLECTED BY: Client DATE COL'D:04/07/98 RECEIVED:04/07/98

SAMPLE: Wastewater sample, Influent

ANALYTICAL PARAMETERS

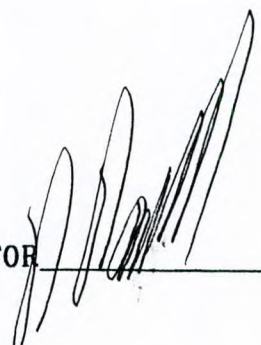
1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	63
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	2

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR



rn=

7640

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981350.02

04/08/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site
COLLECTED BY: Client DATE COL'D:04/07/98 RECEIVED:04/07/98

SAMPLE: Wastewater sample, UV/Oxidation

ANALYTICAL PARAMETERS

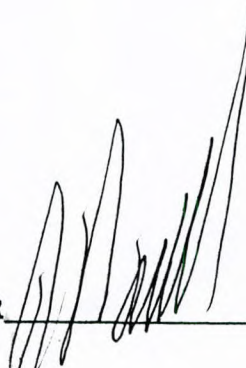
1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR



rn=

7641

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981350.03

04/08/98

Enviroclean N.E.
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Thomas Varley

SOURCE OF SAMPLE: Servall Laundry Site

COLLECTED BY: Client DATE COL'D:04/07/98 RECEIVED:04/07/98

SAMPLE: Wastewater sample, Effluent

ANALYTICAL PARAMETERS

1,2 Dichloroethene	ug/L	<1
Tetrachloroethene	ug/L	<1
Vinyl Chloride	ug/L	<1
Trichloroethylene	ug/L	<1

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR



rn=

7642

NYSDOH ID# 10320

WATER QUALITY RESULTS

BASELINE GROUNDWATER MONITORING WELL SAMPLING

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981135.03

03/31/98

ERM Northeast
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site, EC233.002
COLLECTED BY: Client DATE COL'D:03/24/98 RECEIVED:03/24/98

SAMPLE: Water sample, MW#1

ANALYTICAL PARAMETERS

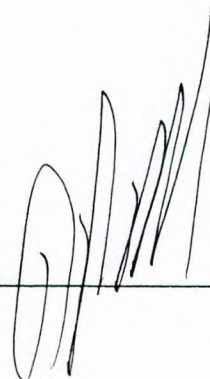
Chlorobenzene	ug/L	<0.5
Vinyl Chloride	ug/L	<0.5
1,1 Dichloroethene	ug/L	<0.5
Trichloroethylene	ug/L	1.2
Tetrachloroethene	ug/L	38
1,1 Dichloroethane	ug/L	<0.5
Toluene	ug/L	<0.5
c-1,2-Dichloroethene	ug/L	1.1
t-1,2-Dichloroethene	ug/L	<0.5

ANALYTICAL PARAMETERS

cc:

REMARKS: EPA Method 524.

DIRECTOR



rn=

6561

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981135.02

03/31/98

ERM Northeast
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site, EC233.002

COLLECTED BY: Client DATE COL'D:03/24/98 RECEIVED:03/24/98

SAMPLE: Water sample, MW#6A

ANALYTICAL PARAMETERS

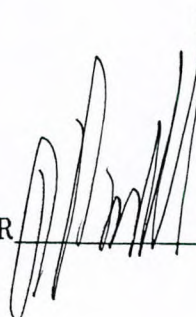
Chlorobenzene	ug/L	<0.5
Vinyl Chloride	ug/L	<0.5
1,1 Dichloroethene	ug/L	<0.5
Trichloroethylene	ug/L	<0.5
Tetrachloroethene	ug/L	4.5
1,1 Dichloroethane	ug/L	<0.5
Toluene	ug/L	<0.5
c-1,2-Dichloroethene	ug/L	<0.5
t-1,2-Dichloroethene	ug/L	<0.5

ANALYTICAL PARAMETERS

cc:

REMARKS: EPA Method 524.

DIRECTOR



rn=

6560

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981135.01

03/31/98

ERM Northeast
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site, EC233.002

COLLECTED BY: Client DATE COL'D:03/24/98 RECEIVED:03/24/98

SAMPLE: Water sample, MW#6B

ANALYTICAL PARAMETERS

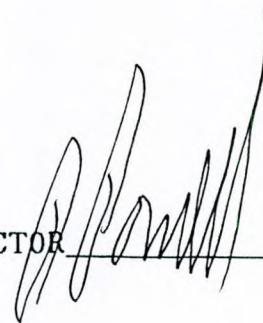
Chlorobenzene	ug/L	<0.5
Vinyl Chloride	ug/L	<0.5
1,1 Dichloroethene	ug/L	<0.5
Trichloroethylene	ug/L	0.6
Tetrachloroethene	ug/L	1.4
1,1 Dichloroethane	ug/L	<0.5
Toluene	ug/L	<0.5
c-1,2-Dichloroethene	ug/L	<0.5
t-1,2-Dichloroethene	ug/L	<0.5

ANALYTICAL PARAMETERS

cc:

REMARKS: EPA Method 524.

DIRECTOR



rn=

6559

NYSDOH ID# 10320

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981135.06

03/31/98

ERM Northeast
175 Froehlich Farm Boulevard
Woodbury, NY 11797

ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site, EC233.002

COLLECTED BY: Client DATE COL'D:03/24/98 RECEIVED:03/24/98

SAMPLE: Water sample, MW#3B

ANALYTICAL PARAMETERS

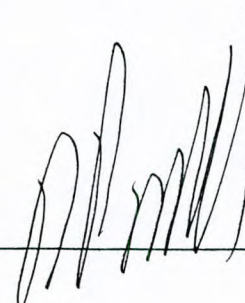
Chlorobenzene	ug/L	<0.5
Vinyl Chloride	ug/L	<0.5
1,1 Dichloroethene	ug/L	<0.5
Trichloroethylene	ug/L	0.8
Tetrachloroethene	ug/L	<0.5
1,1 Dichloroethane	ug/L	0.7
Toluene	ug/L	<0.5
c-1,2-Dichloroethene	ug/L	3.2
t-1,2-Dichloroethene	ug/L	<0.5

ANALYTICAL PARAMETERS

cc:

REMARKS: EPA Method 524.

DIRECTOR



ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981135.07

03/31/98

ERM Northeast
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site, EC233.002
COLLECTED BY: Client DATE COL'D:03/24/98 RECEIVED:03/24/98

SAMPLE: Water sample, MW#3A

ANALYTICAL PARAMETERS

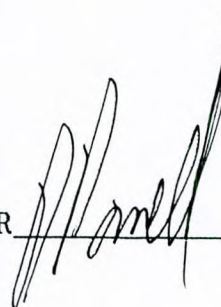
Chlorobenzene	ug/L	<0.5
Vinyl Chloride	ug/L	<0.5
1,1 Dichloroethene	ug/L	<0.5
Trichloroethylene	ug/L	<0.5
Tetrachloroethene	ug/L	<0.5
1,1 Dichloroethane	ug/L	<0.5
Toluene	ug/L	<0.5
c-1,2-Dichloroethene	ug/L	<0.5
t-1,2-Dichloroethene	ug/L	<0.5

ANALYTICAL PARAMETERS

cc:

REMARKS: EPA Method 524.

DIRECTOR



rn=

6565

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981135.08

03/31/98

ERM Northeast
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site, EC233.002
COLLECTED BY: Client DATE COL'D:03/24/98 RECEIVED:03/24/98

SAMPLE: Water sample, Field Blank

ANALYTICAL PARAMETERS

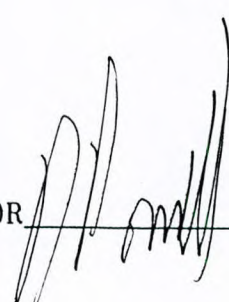
Chlorobenzene	ug/L	<0.5
Vinyl Chloride	ug/L	<0.5
1,1 Dichloroethene	ug/L	<0.5
Trichloroethylene	ug/L	<0.5
Tetrachloroethene	ug/L	<0.5
1,1 Dichloroethane	ug/L	<0.5
Toluene	ug/L	<0.5
c-1,2-Dichloroethene	ug/L	<0.5
t-1,2-Dichloroethene	ug/L	<0.5

ANALYTICAL PARAMETERS

cc:

REMARKS: EPA Method 524.

DIRECTOR



rn=

6566

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981135.09

03/31/98

ERM Northeast
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site, EC233.002
COLLECTED BY: Client DATE COL'D:03/24/98 RECEIVED:03/24/98

SAMPLE: Water sample, Trip Blank

ANALYTICAL PARAMETERS

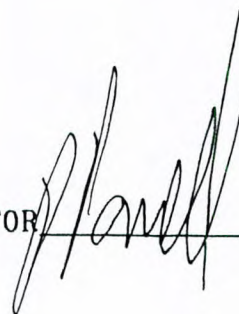
Chlorobenzene	ug/L	<0.5
Vinyl Chloride	ug/L	<0.5
1,1 Dichloroethene	ug/L	<0.5
Trichloroethylene	ug/L	<0.5
Tetrachloroethene	ug/L	<0.5
1,1 Dichloroethane	ug/L	<0.5
Toluene	ug/L	<0.5
c-1,2-Dichloroethene	ug/L	<0.5
t-1,2-Dichloroethene	ug/L	<0.5

ANALYTICAL PARAMETERS

cc:

REMARKS: EPA Method 524.

DIRECTOR



rn=

6567

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981135.10

03/31/98

ERM Northeast
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site, EC233.002
COLLECTED BY: Client DATE COL'D:03/24/98 RECEIVED:03/24/98

SAMPLE: Water sample, Duplicate

ANALYTICAL PARAMETERS

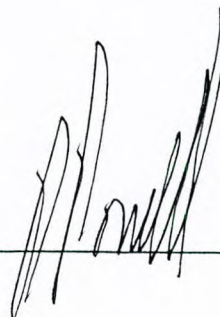
Chlorobenzene	ug/L	<0.5
Vinyl Chloride	ug/L	<0.5
1,1 Dichloroethene	ug/L	<0.5
Trichloroethylene	ug/L	1.3
Tetrachloroethene	ug/L	38
1,1 Dichloroethane	ug/L	<0.5
Toluene	ug/L	<0.5
c-1,2-Dichloroethene	ug/L	1.2
t-1,2-Dichloroethene	ug/L	<0.5

ANALYTICAL PARAMETERS

cc:

REMARKS: EPA Method 524.

DIRECTOR



rn=

6568

NYSDOH ID# 10320

Matix Spike and Matrix Spike Duplicate Recoveries.

EcoTest Labs

377 Sheffield Ave.

N. Babylon, NY 11703

516-422-5777

*

fax 516-422-5779

Client - ERM-Northeast

Lab #981135.03,04,05

water sample - ug/L

Spike amt - 10ug/L

Servall Laundry Site, EC233.002- MW#1

Compound Name	981135.03	981135.04	%REC	981135.05	%REC
	SMP	MS		MSD	
vinyl chloride	ND	10.8	108	11.1	111
1,1-dichloroethene	ND	11.4	114	11.5	115
trans-1,2-dichloroethene	ND	11.1	111	11.1	111
1,1-dichloroethane	ND	11.8	118	12.1	121
cis-1,2-dichloroethene	1.1	11.5	104	11.6	105
trichloroethene	1.2	11.5	103	11.8	106
toluene	ND	10.3	103	10.6	106
tetrachloroethene	38.3	47.6	93	47.1	88
chlorobenzene	ND	10.3	103	10.3	103

ND = Not Detected

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.981135.04

03/31/98

ERM Northeast
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site, EC233.002
COLLECTED BY: Client DATE COL'D:03/24/98 RECEIVED:03/24/98

SAMPLE: Water sample, MW#1 MATRIX SPIKE*

ANALYTICAL PARAMETERS

Chlorobenzene	ug/L	10.3
Vinyl Chloride	ug/L	10.8
1,1 Dichloroethene	ug/L	11.4
Trichloroethylene	ug/L	11.5
Tetrachloroethene	ug/L	47.6
1,1 Dichloroethane	ug/L	11.8
Toluene	ug/L	10.3
c-1,2-Dichloroethene	ug/L	11.5
t-1,2-Dichloroethene	ug/L	11.1

ANALYTICAL PARAMETERS

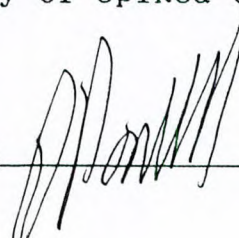
cc:

REMARKS: EPA Method 524.

* Sample was spiked by EcoTest.

All compounds were spiked at 10 ug/L.

See attached table for % recovery of spiked compounds.

DIRECTOR 

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LAB NO.981135.05

03/31/98

ERM Northeast
175 Froehlich Farm Boulevard
Woodbury, NY 11797
ATTN: Tom Varley

SOURCE OF SAMPLE: Servall Laundry Site, EC233.002
COLLECTED BY: Client DATE COL'D:03/24/98 RECEIVED:03/24/98

SAMPLE: Water sample, MW#1 MATRIX SPIKE DUP*

ANALYTICAL PARAMETERS

Chlorobenzene	ug/L	10.3
Vinyl Chloride	ug/L	11.1
1,1 Dichloroethene	ug/L	11.5
Trichloroethylene	ug/L	11.8
Tetrachloroethene	ug/L	47.1
1,1 Dichloroethane	ug/L	12.1
Toluene	ug/L	10.6
c-1,2-Dichloroethene	ug/L	11.6
t-1,2-Dichloroethene	ug/L	11.1

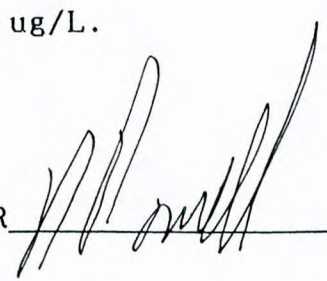
ANALYTICAL PARAMETERS

cc:

REMARKS: EPA Method 524.

* Sample was spiked by EcoTest.

All compounds were spiked at 10 ug/L.

DIRECTOR 

Section 4

IV . CAPTURE ZONE DATA AND INFORMATION

During the startup period, daily groundwater levels were measured in the following wells:

PZ-100R, PZ-101R, PZ-102R, PZ-103R, PZ104R, PZ-105, PZ-106R, PZ-107R, PZ-108, PZ-109, PZ-4, PZ-5, MW-4, MW-6A, and MW-6B.

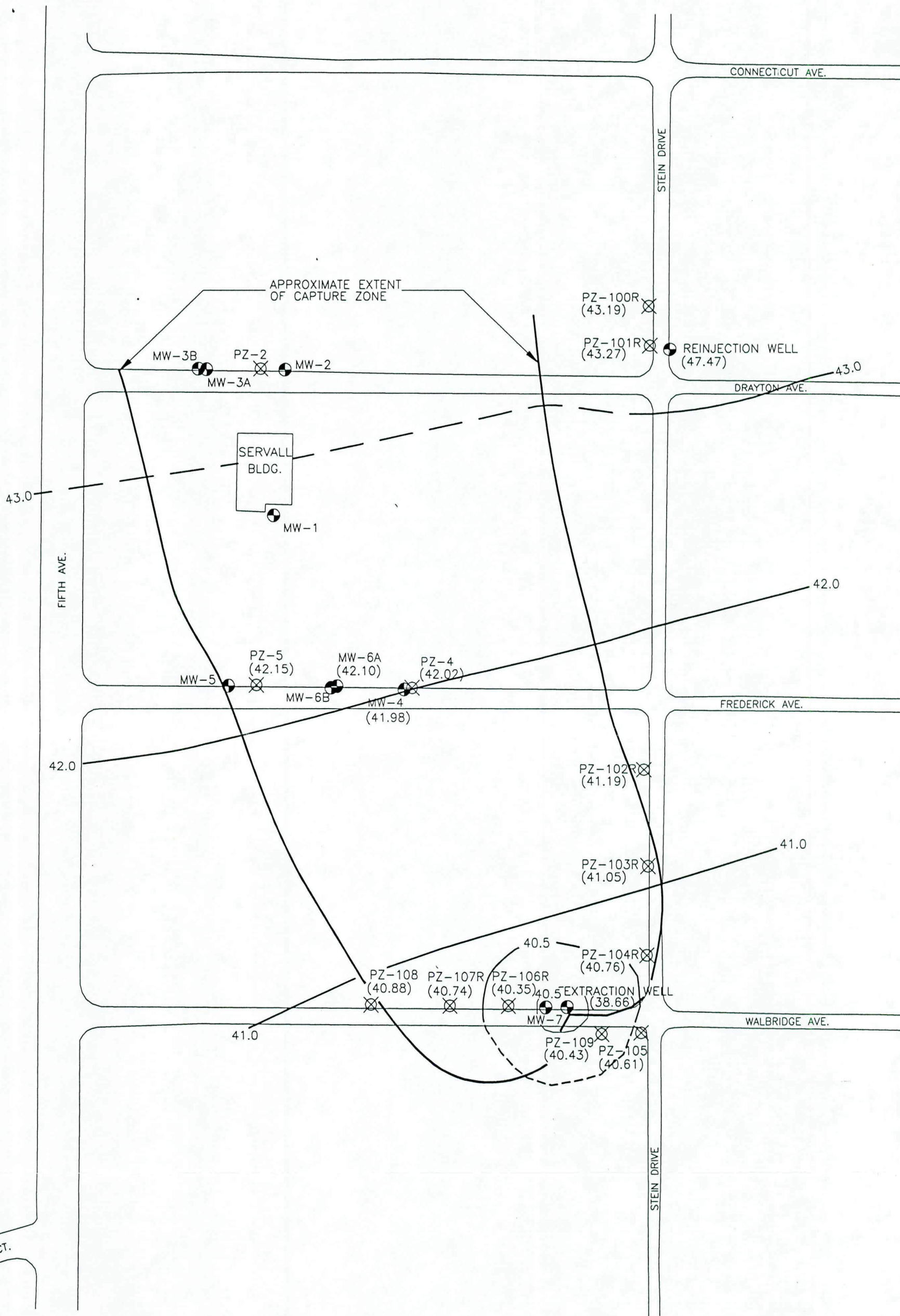
(Note: MW-7 was not found)

Each well was surveyed and the water elevations plotted on a map to determine capture zone. Attached are the depth to water measurements and capture zone data and map prepared by our geologist. At the time of this report we were unable to secure a map of showing the aerial extent of the dissolved groundwater plume. The capture zone can be superimposed on the groundwater plume to make the evaluation as to whether or not this plume is being captured. Based on the general configuration of the capture zone and the increased level of VOCs in the influent it appears the extraction well is drawing water from a contaminated area.

*Capture Zone Data
Serve-All Laundry Site
Bay Shore, NY*

Well	MP Elev.	DTW - 4/5/98	WT Elev. 4/5/98
PZ-100R	64.50	21.31	43.19
PZ-101R	64.14	20.87	43.27
PZ-102R	61.42	20.23	41.19
PZ-103R	59.98	18.93	41.05
PZ-104R	60.08	19.32	40.76
PZ-105	60.66	20.05	40.61
PZ-106R	60.39	20.04	40.35
PZ-107R	61.05	20.31	40.74
PZ-108	61.47	20.59	40.88
PZ-109	60.86	20.43	40.43
PZ-4	63.36	21.34	42.02
PZ-5	64.00	21.85	42.15
MW-4	63.14	21.16	41.98
MW-6A	63.91	21.81	42.10
MW-6B	63.86	21.78	42.08

Well	Transducer Elev.	Transducer Head - 4/5/98	WT Elev. 4/5/98
Injection	-10.69	58.16	47.47
Extraction	-17.64	56.30	38.66



LEGEND

- PZ-100R PIEZOMETER LOCATIONS
- MW-7 MONITORING WELL LOCATIONS
- (40.61) WATER TABLE ELEVATION (IN FEET MSR)
- 42.0 — WATER TABLE ELEVATION ISO CONTOUR LINE

TITLE			
SERVALL LAUNDRY SITE RECOVERY WELL CAPTURE ZONE			
PREPARED FOR			
NEW YORK STATE D.E.C.			
 ERM-Northeast Environmental Resources Management		SCALE 1"=150'	FIGURE 1
DRAWN: C.G.O./G.G.	JOB NO.: 400.173	FILE NAME: 40000003	DATE 8/4/98

CAPTURE ZONE DATA AND INFORMATION

Daily Piezometer Readings

SERVALL LAUNDRY
GROUNWATER MONITORING - Depth to water measurements

Date	3/25/98	3/26/98	3/27/98	3/28/98	3/29/98	3/30/98	3/31/98	4/1/98	4/2/98	4/3/98	4/4/98	4/5/98
PZ-100R	22.16	21.82	21.64	21.79	21.69	21.5	21.49	21.44	21.36	21.28	21.29	21.31
PZ-101R	21.91	21.52	21.3	21.46	21.38	20.88	21.1	21.06	20.96	20.91	20.88	20.87
PZ-102R	20.35	20.42	20.46	20.42	20.43	20.36	20.34	20.34	20.22	20.18	20.19	20.23
PZ-103R	19.05	19.52	19.2	19.29	19.31	19.14	19.11	19.04	18.98	18.95	18.91	18.93
PZ-104R	19.3	19.45	19.52	19.56	19.52	19.48	19.47	19.46	19.18	19.28	19.31	19.32
PZ-105	20.2	20.18	20.29	20.23	20.26	20.25	20.25	20.26	20.08	20.07	20	20.05
PZ-106R	19.62	19.85	20.11	20.08	20.09	20.11	20.08	20.1	19.95	19.92	20.05	20.04
PZ-107R	20.2	20.35	20.48	20.41	20.44	20.44	20.42	20.41	20.3	20.26	20.38	20.31
PZ-108	20.54	20.65	20.71	20.73	20.74	20.75	20.67	20.71	20.55	20.52	20.58	20.59
PZ-109	20.19	20.39	20.57	20.58	20.57	20.53	20.52	20.51	20.38	20.36	20.41	20.43
PZ-4	21.63	21.59	21.61	21.6	21.61	21.6	21.47	21.56	21.38	21.3	21.36	21.34
PZ-5	NR	22.05	22.06	22.04	22.02	21.98	21.97	22.01	21.86	21.78	21.82	21.85
MW-4	21.48	21.39	21.39	21.4	21.41	21.39	21.27	21.25	21.39	21.11	21.18	21.16
MW-6A	22.1	22.08	22.06	22.04	22.04	22.03	21.97	21.96	21.88	21.69	21.79	21.81
MW-6B	22.05	22.01	22	22	22	22	21.9	21.89	21.5	21.73	21.97	21.78
MW-7	not found											
reiniecton well transducer reading	56.6	57.06	57.27	57.39	57.49	57.52	57.42	57.54	57.71	57.81	57.96	58.16
Extraction well transducer reading	55.7	55.7	55.7	55.7	55.8	55.9	55.9	56	56.1	56.2	56.2	56.3

SERVALL LAUNDRY
GROUNDWATER MONITORING - Depth to water measurements

Date	4/6/98	4/7/98	4/8/98	4/9/98	4/10/98	4/11/98	4/12/98	4/13/98				
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PZ-100R	21.16	21.18						20.92				
PZ-101R	20.79	20.9										
PZ-102R	20.11	20.1										
PZ-103R	18.9	18.85										
PZ-104R	19.25	19.19										
PZ-105	20.05	20						19.75				
PZ-106R	19.86	19.85						18.55				
PZ-107R	20.2	20.17										
PZ-108	20.45	20.49										
PZ-109	20.3	20.29						20.22				
PZ-4	21.2	21.2										
PZ-5	NR	NR										
MW-4	21.02	20.99										
MW-6A	21.68	21.68										
MW-6B	21.63	21.91										
MW-7	not found											

reiniecton well

transducer reading	58.43	59.16	59.84	60.95	62.51	63.49	65.99	69.01
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Extraction well

transducer reading	56.4	56.3	56.5	57.1	58.1	58.9	error	57.6
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Section 5

Section 5



V. CONCLUSIONS

The start-up period for any new facility is intended to fully test each piece of equipment in actual operating conditions. Failures due to poor installation and faulty equipment are usually discovered during the first weeks of operation. The start-up period also allows the system as a whole to be evaluated to determine if it is capable of meeting the discharge limits as designed. The startup for the Servall facility accomplished these goals. Each component was fully tested and the system successfully treated the waste for two complete weeks. All effluent discharge parameters were met with the exception of manganese. It should be noted that the NYSDEC is considering raising the effluent discharge limit for this parameter. In regards to removal of VOC's, the facility met the limits however the influent concentration was still very low during startup. To evaluate the effectiveness of the facility to remediate the plume, a capture zone map was developed based on actual water level readings. Based on the capture zone map and the increased level of VOCs in the influent over time it appears that the extraction well is drawing water from the plume area. Continued monitoring of the system over time will determine long term effectiveness of the facility.

