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Reviewed 8/3/01 JRS.

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July 25, 2001

Chief, Central New York Remediation Section
Emergency and Remedial Response Division
United States EPA - Region II
290 Broadway - 20th Floor
New York, New York 10007

Attention: Project Coordinator (RPM) (2 copies)
Malta Rocket Fuel Area Site

Chief, New York/Caribbean Superfund Branch
Office of Regional Counsel
United States EPA - Region II
290 Broadway - 17th Floor
New York, New York 10007

Attention: Site Attorney (1 copy)
Malta Rocket Fuel Area Site

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
United States Department of Justice
P.O. Box 7611
Ben Franklin Station
Washington, D.C. 20044

Re: DOJ # (90-11-3-1575) (1 copy)

Subject: Semi-Annual OM&M Report, Remedial Work Elements I, II, and IV
Malta Rocket Fuel Area Site
Malta, New York

Dear Sir or Madam:

Enclosed please find the semi-annual OM&M report, discussing remedial work elements I, II, and IV at the referenced site. This report covers the period of December 22, 2000 through June 22, 2001 and is the seventh semi-annual report submitted pursuant to the Operation and Maintenance manuals for the site. Please do not hesitate to contact me at 518.862.2712 if you have any questions regarding this project.

Sincerely,

Lewis S. Streeter
Remedial Project Manager

Enclosure: Semi-annual Report

cc: Director, Division of Hazardous Waste Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

Attention: Project Manager (4 copies)
Malta Rocket Fuel Area Site

Chief, Environmental Defense Section
Environment and Natural Resources Division
United States Department of Justice
P.O. Box 23986
Washington, D.C. 20026-3986

Re: DJ # (90-11-6-57) (1 copy)

Hal Brodie, Esq., NYSERDA
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A Member of The IT Group

SEMI-ANNUAL O&M REPORT
REMEDIAL WORK ELEMENTS I, II AND IV

Reporting period December 22, 2000, through June 22, 2001

Malta Rocket Fuel Area Site
Malta, New York

Prepared for:

General Electric Company
Corporate Environmental Programs
320 Great Oaks Boulevard, Suite 323
Albany, New York 12203

July 27, 2001

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CERTIFICATION: This document has been reviewed and is prepared in accordance with the contract documents.

Grant V. Anderson
Project Manager

Brian Neumann, CPG
Project Hydrogeologist

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1.0 INTRODUCTION

This operations and maintenance (O&M) report documents on going O&M activities conducted at the Malta Rocket Fuel Area (MRFA) site, in the town of Malta, New York. This report has been prepared in accordance with the following documents:

- Operation and Maintenance Manual, Remedial Work Element I, Drinking Water, dated March 31, 1998 and prepared by ERM - Northeast, Inc.
- Operations and Maintenance Manual, Remedial Work Element II, Groundwater, dated December 11, 1997 and prepared by ERM - Northeast, Inc.
- Operation and Maintenance Manual, Remedial Work Element IV, Institutional Controls, dated September 9, 1999, revised September 27, 1999, prepared by IT Corporation, Inc.

This report covers all site activities performed at the site as required in each of the previously referenced documents, for the period from December 22, 2000 through June 22, 2001.

2.0 O&M OF REMEDIAL WORK ELEMENT I (Drinking Water)

Six monthly site visits were performed to check system operation, record system operating conditions, and to determine system treatment effectiveness by sampling of the drinking water process stream. These visits took place on January 31, February 28, March 8, April 30, May 15 and June 22, 2001. An additional visit was performed on May 25, 2001 as part of Work Element I to complete tasks associated with annual system maintenance.

System effectiveness sampling was performed during the February 28 and May 15 site visits to document adherence to treatment system discharge objectives. Analytical results from these sample events (including validated analytical results and chain of custody forms for the February 28 and May 15, 2001 samples), are provided in **Appendix A** and **Appendix B**, respectively. The validation summary for samples is included in **Appendix C**.

Based on the information gathered during this reporting period, it is evident that the ground water treatment system is operating as intended and is meeting the performance standards for the MRFA site. Both RW-1D and RW-2D have operated at an instantaneous flow rate of approximately 6 to 6.5 gallons per minute (gpm) each. This yields an instantaneous system flow of approximately 12 to 13 gpm. System design capacity is a maximum of 25 gpm.

System alarm conditions were received on two occasions from the system Remote Telemetry Unit (RTU) during the current reporting period. The first alarm was received on February 11, 2001 and indicated a high back pressure condition existed in the air stripper tower. Historic field measurements of the air stripper blower air flow have indicated adequate air flow through the tower packing despite high backpressure readings. It is believed the increased back pressure is probably attributable to partial icing of the tower packing in the upper section of the tower during periods of sub-freezing weather. Based upon water quality data from samples collected while the back pressure readings were elevated, there was no effect on the performance of the air stripper in removing volatile organic compounds (VOCs) from the process stream. Therefore, no action was taken for this alarm and system operation continued.

A second alarm was received on February 19, 2001 indicating a low blower pressure in the air stripper tower. IT Corporation erroneously believed this alarm to be an additional high backpressure situation and action was delayed until the regularly scheduled O&M visit for February.

IT Corporation personnel contacted the Malta Test Station on February 26, 2001 to notify them of the upcoming O&M visit on February 28, 2001. Test Station personnel advised IT Corporation that the treatment system had in fact been down for an indeterminate period of time. Subsequent to this conversation, the RTU was accessed remotely by IT personnel via a software link. It is believed that IT personnel then inadvertently disabled the low pressure alarm while reviewing system configurations, allowing the pumping system to restart without the operation of the air stripper blower. System operation continued periodically through February 28, 2001 without the operation of the blower unit. Approximately 14,080 gallons of water were processed through the treatment system without operation of the air stripper blower. When IT personnel inspected the system on February 28, 2001, a blown fuse was found on the air stripper blower. This fuse was replaced and the system was returned to normal service. The facility personnel were notified of this situation and they indicated that the water supply was not used for drinking by anyone at the test station. Complete details are provided in the correspondence included in **Appendix D**.

In addition to the normal water samples collected during the February 2001 site visit, influent, effluent and reservoir water samples were also analyzed per USEPA Method 8260 for quick turnaround, to insure drinking water standards were not being exceeded in the reservoir, and to assess current influent and effluent concentrations. The results of the analysis showed both effluent and reservoir samples below method detection limits for all analytes. Influent VOC concentrations were consistent with historical analysis of the extracted groundwater. Analytical results for the quick turn samples have been included in **Appendix D**.

All system interlocks were thoroughly checked during the March 8, 2001 O&M visit to insure all interlocks and alarms were functioning normally.

Air stripper blower pressure readings as well as effluent water quality indicate that the air stripper packing material is not in need of cleaning or replacement.

2.1 Remote Telemetry/Programmable Logic Controller

The RTU has successfully notified key personnel via facsimile and voice messaging of alarm conditions (high back pressure and low stripper pressure as previously discussed) during the current period. It is believed that the problems experienced in February 2001 were a result of operator error in configuring the alarm parameters. IT Corporation has had the RTU manufacturer (Dancer Communications) connect to the RTU remotely and confirm that all unit parameters are configured for proper system operation. All other system equipment is in good

repair and should continue to be inspected and repaired in accordance with the schedule provided in **Table 1**. Corrective action taken to avoid future configuration errors through remote access are discussed in **Section 2.2.1**.

2.2 Visual Inspection

2.2.1 System Inspection

Visual inspections were made of all accessible system components during monthly site visits in accordance with attached **Table 1**, *Maintenance Checklist*. Inspections were performed to check for signs of component wear, process piping leaks and general system integrity.

The system was found to be in good working order with the exception of operational problems experienced in late February 2001, as previously detailed. Corrective actions, including evaluation of additional interlocks for the treatment system and elimination of remotely adjusting system operating parameters through the RTU have been initiated. These actions will prevent future occurrences of recovery pumps operating without the blower functioning.

Maintenance activities included regular inspection of the air stripper blower intake for obstructions, inspection of all process valves and piping to prevent leakage of untreated groundwater, and inspection of the air stripper sight tube for sediment buildup. In addition, the settling tank sump exterior was cleaned monthly, and operation of the transfer sump pump and associated high level float was checked. The settling tank interior was also visually inspected for signs of sediment buildup or corrosion.

2.2.2 Recovery Pump Inspection

Recovery pumps were inspected during the May 25, 2001 site visit. IT Corporation personnel utilized confined space entry procedures to enter well vaults for RW-1D and RW-2D and disconnect pump supply piping. All system piping and electrical power supplies were locked and tagged out during maintenance/inspection activities. A mechanical hoist was utilized to extract the pump and associated down well pipe from the well casing. Each pump and its discharge piping was inspected for corrosion, loose or damaged parts and other signs of wear or damage that would indicate a potential for failure.

The pump in RW-1D is encased in a four inch diameter polyvinyl chloride (PVC) section of slotted well screen. After removal of this protective casing, the pump was inspected and found to be free of defects. A light coat of mineral scale had accumulated on the pump motor, likely the result of moderate heat buildup during pump operation. There was no buildup of any kind

around the pump intake screen. The pump was subsequently wiped down, the protective casing was reinstalled and the pump was reinstalled without modifications or changes to the system piping. This pump is currently installed with the pump intake at a depth of 53.50 feet below the top of casing. After reinstallation, the pump was restarted and the pump piping was inspected for leaks in the well vault - none were observed.

The recovery pump in RW-2D was also removed and inspected in the same manner as the RW-1D pump. This pump does not have a protective casing installed on the pump body. A light buildup of biological type growth was observed on the pump intake. Distilled water was utilized to flush the intake screen and remove any of the accumulated material. No other problems were observed with this recovery pump and the pump was subsequently reinstalled without incident. This pump is currently installed with the pump intake at a depth of 69.00 feet below the top of casing. After reinstallation, the pump was restarted and the pump piping was inspected for leaks in the well vault - none were observed. It was noted that the well casing for RW-2D is continuing to deteriorate (rust) near ground level. Small rusted pieces of the inner casing wall were observed to be sloughing off and falling into the well during activities associated with pump removal and redeployment. This deterioration should not interfere with system operation in the immediate future, however future repairs may be necessary.

2.2.3 100,000 Gallon Reservoir Inspection

The annual inspection of the 100,000 gallon reservoir was performed on May 25, 2001. One three inch centrifugal pump was utilized to reduce the level of water in the site reservoir to allow IT Corporation personnel access to the reservoir interior. A dedicated suction hose was utilized to avoid contamination of the potable water supply. The reservoir level was reduced by approximately five feet before IT Corporation personnel entered the interior of the structure. All confined space entry procedures, including air monitoring and the use of retrieval equipment, were followed for the duration of the reservoir inspection.

The visual inspection of the reservoir did not reveal any observed problems. A hand held one million candlepower spotlight was utilized to assist personnel in the inspection of the reservoir. The reservoir ceiling, sidewalls and floor appear to be in good condition. There were no signs of cracks in the concrete or any types of buildup or growth from biological activity. The standpipe which feeds the reservoir appeared rusty but otherwise in sound condition.

2.2.4 Air Stripper Tower Inspection

IT Corporation utilized a boom lift bucket truck to access the top section of the air stripper tower on May 25, 2001. The protective cover was removed to allow access to the tower demister and

spray nozzle. The demister pad appeared to be in good condition with no buildup of any material. The spray nozzle also appeared to be in good condition and did not require cleaning beyond a simple wipe down. The air stripper tower packing was also inspected at the top of the column and found to be in good condition. Packing was discolored but no evidence of clogging or significant mineral buildup was observed.

Visual observations of the air stripper tower packing, along with the documented efficiency of the air stripper tower, indicate the current packing is working properly and does not require change out at this time. Air stripper efficiency and packing condition will continue to be monitored regularly to anticipate future maintenance actions.

2.2.5 Settling Tank Inspection

The air stripper effluent settling tank was inspected during the annual maintenance visit on May 25, 2001. A wet/dry vacuum was utilized to remove accumulated fine sands from the bottom of the tank during the annual inspection performed the previous year in March 2000. There was minimal buildup of fine sands since the previous cleaning and subsequently no intrusive work was performed in the settling tank during the current period. No signs of corrosion or pitting in the tanks interior was noted. Operation of the settling tank transfer pump and high level float was checked and found to be in working order. No problems were observed with any component of the settling tank assembly.

2.3 Operating Measurements

2.3.1 Water Flow Measurements

Water flow measurements for wells RW-1D and RW-2D have been tabulated and are shown in **Table 3**, *Process Operating Report* for the reporting period. These readings indicate that the average water flow rates for the period from December 22, 2000 to June 22, 2001 are as follows:

Well RW-1D:	0.353 gpm
Well RW-2D:	0.370 gpm
System Avg:	0.723 gpm

Average daily water flow as recorded by the data logger are provided in **Appendix E**. This information provides more detailed influent water flow data than that reported in **Table 3**. Information obtained from the data logger indicates an average daily water flow rate of 0.726

gpm for the current reporting period. This is an increase from the average rate of 0.587 gpm for the reporting period ending December 21, 2000.

2.3.2 Blower Air Pressure

Measurements of the air stripper blower back pressure were recorded during monthly O&M site visits. Readings from the pressure gauge installed to monitor the air stripper back pressure are provided in **Table 3**. Pressure readings ranged from 3.2 to 3.8 inches of water column during the current period. As previously mentioned, elevated pressure readings were observed during February. It is believed that icing of the upper portion of the air stripper tower was responsible for the elevated readings. No effect on air stripper performance was noted as a result of the observed condition. Pressure readings will continue to be monitored for trends indicating tower packing fouling and the associated potential loss of efficiency for the treatment system.

2.4 Water Quality Data

Samples of the drinking water system influent and effluent were collected on February 28 and May 15, 2001. All samples were collected by IT Corporation personnel and directed to Columbia Analytical Laboratories, Incorporated in Rochester, New York for analysis. All samples were analyzed for volatile organic compounds (VOCs) using USEPA Method Contract Laboratory Program (CLP) OLC-02, modified to include hexachlorobutadiene, 1,2,3 trichlorobenzene and trichlorofluoromethane as summarized in **Table 4**. The validated analytical results and chain of custody forms for the February 28 and May 15, 2001 samples are provided in **Appendix A** and **Appendix B**, respectively. All validation was performed by Data Validation Services, Incorporated of North Creek, New York. Validation reports are included in **Appendix C**.

Carbon tetrachloride (Carbon Tet) and trichloroethene (TCE) concentrations are tracked to document treatment system effectiveness. Values for all analyzed compounds including Carbon Tet and TCE were reduced to below drinking water standards for all effluent samples.

Analyte	Date Sampled	Influent (ppb)	Effluent (ppb)	Performance Standard (ppb)
Carbon Tet	February 28, 2001	20.4	<1.0	5
	May 15, 2001	15.8	<1.0	5
TCE	February 28, 2001	17.2	<1.0	5
	May 15, 2001	13.1	<1.0	5

Effluent sampling results indicated that Carbon Tet and TCE were below detection limits for both monitoring events. Historical influent concentrations for Carbon Tet range from 12 ppb in October 1996 to 149 ppb in December 1990. Effluent concentrations range from below method detection limits to 4.0 ppb in April 1990. Historical influent concentrations for TCE vary from 16 ppb in April 1997 to 83 ppb in June 1992. Effluent concentrations have been observed from below method detection limits to 2.8 ppb in March 1987.

Chloroform was detected at a concentration of 2.8 ppb in the air stripper influent sample collected on February 28, 2001. Chloroform was also detected in the air stripper influent sample collected on May 15, 2001 at a concentration of 1.7 ppb. Chloroform was below detection limits in the effluent samples collected on both dates.

Effluent concentrations for VOCs indicate that the treated water meets the performance standards established for the site for use as a potable water supply.

3.0 O&M OF REMEDIAL WORK ELEMENT II (Groundwater)

3.1 Sample Collection

In accordance with the Operations and Maintenance Manual for Remedial Work Element II - Ground Water (O&M-GW) approved by the USEPA, groundwater samples were obtained and analyzed from wells DGC-3S, DGC-4S, 13S, M-27S, M-27D, M-33S, and M-33I. Surface water samples were obtained and analyzed from locations SW-A, SW-B, and SW-D (**Figure 1**). One trip blank and one blind duplicate sample (DUPA) from well M-27S were also obtained and analyzed.

Unfiltered samples were collected on May 15, 2001 and submitted to Columbia Analytical Services, Inc. in Rochester, New York. Samples from all monitoring wells (with the exception of 13S) and all surface water locations were analyzed for volatile organic compounds (VOCs) by USEPA Method OLC-02. Samples from wells 13S, M-27S, and M-27D, and surface water location SW-B were analyzed for unfiltered total matrix chromium following CLP procedures and unfiltered hexavalent chromium by SW-846 Method 7196 (Test Methods for Evaluating Solid Waste, 3rd Edition, November 1986).

Results of the May 2001 semi-annual sampling are summarized in **Table 5**. The laboratory reporting data sheets and a data validation report for this sampling event are also attached (**Appendix C**). A summary of analytical results from 1987 through the most recent round is provided in **Tables 6**, **7**, and **8** for sampling points presently included in the EWMS sampling program. The Sampling and Analysis Plan (SAP) as presented in the O&M-GW contains a complete table of historical EWMS analytical results through 1994.

Time-concentration plots for hexavalent chromium at well 13S (**Figure 2**) and carbon tetrachloride at well M-27D (**Figure 3**) are also included. Based on the May 2001 analytical results, the groundwater from this site does not appear to be impacting the Luther Forest Well Field or the water supply wells north of the Site.

3.2 Chromium Analytical Results

Results of the unfiltered total chromium analyses are as follows: well 13S contained 136 µg/l. For comparison purposes only, the New York State Ground Water Standard (NYSGWS) for total chromium is 50 µg/l .

The unfiltered hexavalent chromium analytical results were also "ND" at the detection limit of 10 µg/l for all groundwater samples and one surface water sample except well 13S which contained 12.3 µg/l. For comparison purposes only, the NYSGWS for hexavalent chromium is 50 µg/l.

The attached time-concentration plot for unfiltered hexavalent chromium in well 13S (**Figure 2**) indicates a significant decrease in the concentrations of hexavalent chromium after August 1993. Between November 1994 and May 1999, the hexavalent chromium concentrations in well 13S have been at or slightly above the NYSGWS. The past two semi-annual sampling event results have shown decreases and have been lower than the NYSGWS.

Neither total chromium nor unfiltered hexavalent chromium were detected in surface water location SW-B during this reporting period.

3.3 Volatile Analytical Results

Carbon tetrachloride was detected in well M-27D at 13.8 µg/l. The federal drinking water standard for carbon tetrachloride is 5 µg/l. The attached time-concentration plot for carbon tetrachloride in well M-27D (**Figure 3**) demonstrates that the May 2001 concentration remains relatively low and is decreasing with time. Chloroform was detected in well M-27D at 1.1 µg/l. The NYSGWS for chloroform is 7 µg/l. Trichloroethylene was detected in well M-27D at 19.4 µg/l. Trichlorofluoromethane was detected in well M-27D at 2.0 µg/l. For all the remaining monitoring wells, acetone was the only VOC detected. The third party validation identified the acetone detections as estimated based on low relative response factors in the laboratory calibration standards.

With the exception of acetone, no VOCs were detected in surface water samples SW-A, SW-B and SW-D collected and analyzed during the May 2001 sampling event. The third party

validation identified the acetone detections as estimated based on low relative response factors in the laboratory calibration standards.

3.4 Comparison of Observed VOC Concentrations to Simulation Results

As described in the O&M-GW report, the carbon tetrachloride and trichloroethylene concentrations observed during the semi-annual monitoring are to be compared to the results from the contaminant fate and transport modeling reported in Appendix A of the O&M-GW. This comparison was performed for carbon tetrachloride in monitoring well M-27D (**Figure 4**) and for trichloroethylene in monitoring well M-33S (**Figure 5**) during the May 2001 sampling event. The starting point for the simulation reported in the O&M-GW report was the carbon tetrachloride spatial distribution as measured in June 1992. As shown in **Figure 4**, the simulated carbon tetrachloride results are much higher than the observed concentrations. As shown in **Figures 5** and **6**, there were no observed concentrations of TCE in monitoring wells M-33S and M-33I as predicted by the simulations.

4.0 INSTITUTIONAL CONTROLS

O & M activities, for remedial Work Element IV, Institutional Controls, are conducted on an annual basis. IT Corporation conducts these activities, visual inspection and environmental easement restriction interviews during the second semi-annual reporting period. No Institutional control activities were conducted during the first semi-annual (December 2000 through June 2001) event. These activities will be conducted and reported during the next event.

5.0 SUMMARY

5.1 Drinking Water

The ground water treatment system is operating as intended and is meeting the performance standards for the MRFA site. All effluent samples collected and analyzed during the current period revealed concentrations below project discharge objectives. Treatment equipment continues to operate satisfactorily, with the only maintenance required being typical of components in use at the facility. It is believed that all problems have been addressed with the treatment system RTU. System equipment will continue to be monitored as necessary to ensure continued operation of all components and to maintain a reliable source of potable water for the Test Station.

5.2 Groundwater

In summary, only well M-27D had detectable concentrations of carbon tetrachloride above federal drinking water standards. Chromium was detected at a concentration of 136 µg/l, and hexavalent chromium was detected at a concentration of 12.3 µg/l in well 13S. Carbon tetrachloride was not detected in the monitoring wells adjacent to the Luther Forest Well Field. Based on the current analytical results, the ground water from the MRFA Site does not appear to be impacting the Luther Forest Well Field or the water supply wells north of the site.

Comparison of the observed carbon tetrachloride concentrations to simulated carbon tetrachloride concentrations at selected EWMS monitoring well locations shows that the simulated concentrations are higher than the observed concentrations. The simulated TCE concentrations are also higher than the observed TCE concentrations in M-27S and M-27D. TCE was not detected in M-33S or M-33I. Future comparisons will continue to help assess the natural attenuation and degradation of VOCs in ground water at the MRFA Site.

TABLES

TABLE 1
MAINTENANCE CHECKLIST
OPERATION AND MAINTENANCE PLAN
TEST STATION WATER SUPPLY AND TREATMENT SYSTEM
MALTA ROCKET FUEL AREA SITE

Equipment Name	Item	Action	Frequency	Comments
Well Pump 1D	Pump bowls	Check for signs of iron fouling & impeller wear	Annually	More frequently as problems occur
Well Pump 2D	Pump bowls	Check for signs of iron fouling & impeller wear	Annually	More frequently as problems occur
Control Valves	Miscellaneous	Inspect for leaks	Monthly	Adjust frequency depending on operating experience
Air Stripper Sight Tube		Inspect for siltation and biofouling	Monthly	Adjust frequency depending on operating experience
Air Stripper Spray Nozzle		Inspect for fouling	Annually	No required routine maintenance
Air Stripper Blower	Intake	Inspect and clean	Quarterly	Adjust frequency depending on operating experience
Air Stripper Blower	Motor & bearings	Check and lubricate	Annually	More frequently as problems occur
Air Stripper Unit	Packing	Clean or replace	Every 5 years	Adjust frequency depending on operating experience

Equipment Name	Item	Action	Frequency	Comments
Mist Eliminator	Mesh screen	Clean or replace	Annually	Adjust frequency depending on operating experience
Settling Tank		Inspect for siltation	Monthly	Adjust frequency depending on operating experience
100K Gallon Reservoir		Inspect for siltation, debris, etc.	Annually	Adjust frequency depending on operating experience
Level Sensor	Probe	Manually check start-up/shutdown. Check probe float for free range of motion. Remove and inspect for buildup of minerals if resistance is detected.	Monthly	Adjust frequency depending on operating experience
Misc. Guys, Hardware etc.		Inspect	Annually	Adjust frequency depending on operating experience

TABLE 2
EQUIPMENT LOG
AIR STRIPPER MAINTENANCE
MALTA ROCKET FUEL AREA SITE

Date	Operator	Operational Status of System	Work Performed
1/31/01	Grant Anderson	OK	Checked settling tank sump, light buildup of sand in bottom. No leaks or other problems noted with any system components.
2/28/00	Grant Anderson	OK after replacement of air stripper blower fuse.	Blower found inoperative on arrival. Found blown fuse in blower supply circuit. Observed system may have operated for limited time without proper operation of blower. Collected influent, effluent and reservoir samples for standard analysis as well as quick turn reporting. Performed regular checks of system controls and piping. No other problems observed. Blower fuse was replaced and system is operating normally.
3/8/01	Grant Anderson	OK.	System operating normally on arrival. Checked settling tank high level float, reservoir level probe and inspected all system process lines. Tested operation of all system alarms and interlocks - all are operating properly. No problems were noted.
4/30/01	Grant Anderson	OK	Inspected system piping and valves. Checked settling tank and associated high level float. Checked air stripper blower intake. Cycled system and took water flow readings. No problems observed.
5/15/01	Brian Neumann Karl Ladner	OK	Collected influent and effluent samples from air stripper for laboratory analysis. Inspected system process piping and valves. Checked settling tank pump and sump. No problems observed with system operation.
5/25/01	Grant Anderson Robert Hyde	OK	Performed annual inspection of reservoir, air stripper tower and settling tank. Lowered level of reservoir approximately five feet for visual inspection. Inspected condition of recovery pumps in RW-1D and RW-2D. No problems were observed with system equipment.
6/22/01	Grant Anderson	OK	Inspected system piping and valves. Checked settling tank and associated high level float. Checked air stripper blower intake. Cycled system and took water flow readings. No problems observed.

TABLE 3 - SHEET 1/2
PROCESS OPERATING REPORT
WATER TREATMENT SYSTEM
MALTA ROCKET FUEL AREA SITE

1	2	3					4					5
DATE	TIME	WATER FLOW – LINE 1D					WATER FLOW – LINE 2D					PROBLEMS OR COMMENTS
		1D LINE FLOW METER RDG(GPM)	1D LINE TOTALIZER RDG(GAL)	ELAPSED TIME (DAYS)	TOTAL FLOW THIS PERIOD (GAL)	AVG FLOW THIS PERIOD (GPM)	2D LINE FLOW METER RDG(GPM)	2D LINE TOTALIZER RDG(GAL)	ELAPSED TIME (DAYS)	TOTAL FLOW THIS PERIOD (GAL)	AVG FLOW THIS PERIOD (GPM)	
1/31/01	8:15	6.1	695,917	41	14,185	0.24	6.5	686,508	41	14,865	0.25	No problems noted.
2/28/01	8:45	6.6	706,800	28	10,883	0.27	6.2	698,010	28	11,502	0.29	Found blown fuse in air stripper blower on arrival. Fuse was replaced and the blower was returned to service. System appears to have operated without blower for previous two days.
3/8/01	8:30	6.2	711,010	8	4,210	0.37	6.3	702,360	8	4,350	0.38	No problems noted.
4/30/01	8:25	6.1	728,920	53	17,910	0.23	6.4	720,900	53	18,540	0.24	No problems noted.
5/15/01	13:30	6.5	738,200	15	9,280	0.43	6.4	730,700	15	9,800	0.45	No problems noted.
5/25/01	10:00	6.1	741,470	10	3,270	0.23	6.5	734,380	10	3,680	0.26	No problems noted. Performed annual system inspection.
6/22/01	8:20	6.1	774,710	28	33,240	0.82	6.6	769,230	28	34,850	0.86	No problems noted.
Summary				183	92,978	0.3528			183	97,587	0.3703	

NR = Not Recorded

NA = Not Applicable

TABLE 3 - SHEET 2/2
PROCESS OPERATING REPORT
WATER TREATMENT SYSTEM
MALTA ROCKET FUEL AREA SITE

1	2	3			4	5
DATE	TIME	STANDPIPE LEVEL (FT)	LEVEL PROBE OK?	SAMPLES TAKEN?	AIR BLOWER PRESSURE OK?	PROBLEMS OR COMMENTS
1/31/01	8:15	12.75	OK	No	3.19	No problems noted
2/28/01	8:45	12.70	OK	Yes	3.75	Collected system samples including Influent, Effluent, Duplicate, Matrix Spike, Matrix Spike Duplicate and Trip Blank. Also collected sample from reservoir. Analyzed Influent, Effluent and Reservoir samples for quick turn analysis.
3/8/01	8:30	12.75	OK	No	3.80	Checked all system alarms and interlocks. System operating normally.
4/30/01	8:25	12.75	OK	Yes	3.60	No problems noted.
5/15/01	13:30	12.75	OK	No	3.40	No problems noted. Collected influent and effluent samples.
5/25/01	10:00	12.75	OK	No	3.50	No problems noted.
6/22/01	8:15	12.70	OK	No	3.40	No problems noted.

TABLE 4
SUMMARY OF DRINKING WATER SAMPLING PROGRAM, PRESERVATIVES, HOLDING TIMES AND CONTAINERS
MALTA ROCKET FUEL AREA SITE

Sample	Sampling Frequency	Sample Matrix	Analytical Parameters	Analytical Method Reference[1]	Sample Preservation	Holding Times[2]	Containers
Influent	1 per quarter	Water	CLP OLC VOCs	USEPA CLP OLCO2	Hcl, Cool, <4°C	14 days	3 - 40 ml glass vials with teflon septa and plastic screw caps
Effluent	1 per quarter	Water	CLP OLC VOCs	USEPA CLP OLCO2	Hcl, Cool, <4°C	14 days	3 - 40 ml glass vials with teflon septa and plastic screw caps

Notes:

1. *USEPA CLP OLCO2 analysis modified to include hexachlorobutadiene, 1,2,3 trichlorobenzene and trichlorofluoromethane to match the EWMS ground water analyses.*
2. *Holding times begin at the time of sample collection.*

TABLE 5
MAY 2001 WATER QUALITY ANALYTICAL RESULTS
SEMI-ANNUAL SAMPLING

Compound	Remedial Action Objective	DGC-3S	DGC-4S	13S	M-27S	DUPA (27S)	M-27D	M-33S	M-33I	Trip Blank
Acetone	50	5.1 J	50.1 J	NA	5.0 UJ	5.0 UJ	5.0 UJ	8.0 J	4.1 J	5.0 UJ
Carbon Disulfide	None*	1 U	1 U	NA	1 U	1 U	1U	1 U	1 U	1 U
Carbon Tetrachloride	5	1 U	1 U	NA	1 U	1 U	13,.8	1 U	1 U	1 U
Chloroform	7	1 U	1 U	NA	1 U	1 U	1.1	1 U	1 U	1 U
Trichloroethylene	5	1 U	1 U	NA	1 U	1 U	19.4	1 U	1 U	1 U
Trichlorofluoromethane	5*	1 U	1 U	NA	1 U	1 U	2.0	1 U	1 U	1 U
Chromium	50*	NA	NA	136	2.4 U	2.4 U	2.4 U	NA	NA	NA
Hexavalent Chromium	50*	NA	NA	12.3	10 U	10 U	10 U	NA	NA	NA
Field Parameters										
pH	-	6.13,	8.00	7.52	7.84	7.84	7.71	8.48	8.10	-
Temperature (celsius)	-	8.52	12.69	11.77	9.86	9.86	9.31	10.03	9.67	-
Conductivity (umhos/cm)	-	66	276	366	266	266	340	166	266	-
Dissolved Oxygen	-	9.14	7.50	10.40	11.26	11.26	8.62	8.43	5.83	-
Turbidity (NTUs)	-	20.7	1.2	3.55	7.15	7.15	2.2	4.8	1.65	-
Depth To Water (feet)	-	9.95	7.41	33.09	40.38	40.38	39.55	15.93	31.14	-
Ground Water Elevation (feet)	-	205.33	198.39	295.82	282.72	282.72	283.55	288.34	272.55	-

Notes:

1. All analytical concentrations are in µg/l (micrograms per liter (ppb)).
2. Only compounds detected at one or more sampling points are listed.
3. NA - not analyzed for.
4. U - analyte was not detected, and value shown is the detection limit.
5. J - estimated value due to data validation requirements or concentration less than CRQL (organics only).
6. B - The reported value is less than the CRDL but greater than the IDL (inorganics only).

* Based on NYSDEC Final Combined Regulatory Impact and Environmental Impact Statement (Title 6, Chapter X, Parts 700-706, 1998), identified for comparison purposes only.

7. D - Indentifies all compounds analyzed at a secondary dilution factor.
8. NM - Not measured due to equipment malfunction.

TABLE 5 (Continued)
MAY 2001 WATER QUALITY ANALYTICAL RESULTS
SEMI-ANNUAL SAMPLING

Parameter	Remedial Action Objective	SW-A	SW-B	SW-D
Acetone	50	5.0 UJ	5.0 UJ	5.0 UJ
Carbon Disulfide	None*	1 U	1 U	1 U
Carbon Tetrachloride	5	1 U	1 U	1 U
Chloroform	7	1 U	1 U	1 U
Trichloroethylene	5	1 U	1 U	1 U
Chromium	50*	NA	2.4 U	NA
Hexavalent Chromium	50*	NA	10 U	NA
Field Parameters				
pH	-	8.02	8.01	8.08
Temperature (celsius)	-	8.86	10.4	10.16
Conductivity (umhos/cm)	-	254	313	380
Dissolved Oxygen	-	11.05	11.26	10.34
Turbidity (NTUs)	-	1.90	1.40	3.40
Depth To Water (feet)	-	-	-	-
Ground Water Elevation (feet)	-	-	-	-

Notes:

1. All analytical concentrations are in µg/l (micrograms per liter (ppb)).
2. Only parameters detected in one or more sampling points are listed.
3. NA - not analyzed for.
4. U - analyte was not detected, and value shown was the detection limit.
5. J - estimated value due to data validation requirements or concentration less than CRQL (organics only).
6. B - The reported value is less than the CRDL but greater than the IDL (inorganics only).

* Based on NYSDEC Final Combined Regulatory Impact and Environmental Impact Statement (Title 6, Chapter X, Parts 700-706, 1998), identified for comparison purposes only.

7. NM - Not measured due to equipment malfunction.

TABLE 6 (MONITORING WELLS DGC-3S, DGC-4S, 13S)
SUMMARY OF WATER QUALITY ANALYTICAL RESULTS
JUNE 1987 - MAY 2001
SEMI-ANNUAL SAMPLING

Wells / Compounds	Remedial Action Objective	6/29-7/1/87	7/31/87	11/5/87	1/19-1/20/88	4/18-4/19/88	7/20-7/21/88	10/11-10/12/88	1/19-1/20/89
DGC-3S									
Benzene	0.7*	ND	NA	ND	ND	ND	ND	ND	ND
Carbon Disulfide	None*	ND	NA	ND	ND	ND	ND	ND	NA
Aluminum	100*	0.48	NA	NA	NA	NA	NA	NA	NA
Lead	25*	NA	NA	NA	NA	<0.005 mg/L	NA	NA	NA
Chromium	50*	NA	NA	NA	NA	NA	NA	NA	NA
Hexavalent Chromium	50*	no data	no data	no data	no data	no data	no data	no data	no data
DGC-4S									
Carbon Disulfide	None*	--	--	--	--	--	--	--	--
Chromium	50*	--	--	--	--	--	--	--	--
13S									
Benzene	0.7*	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	None*	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	5	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	7	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethylene	5	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	50*	NA	NA	NA	NA	NA	NA	NA	NA
Hexavalent Chromium	50*	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Units are µg/l (ppb) unless otherwise stated.

Only detected compounds are listed.

NA = Not analyzed.

ND = Not detected.

B = The reported value is less than the CRQL/CRDL but greater than the IDL.

dp = Duplicate sample.

E = Estimated concentration: due to interference.

D = Concentration determined from a sample dilution.

J = Estimated concentration.

V = Estimated concentration: due to variance to quality control limits.

- - = Not sampled: well installed in December, 1990.

* Based on NYSDEC Final Combined Regulatory Impact and Environmental Impact Statement (Title 6, Chapter X, Parts 700-706, 1998), identified for comparison purposes only.

** = Filtered Sample.

TABLE 6 (MONITORING WELLS DGC-3S, DGC-4S, 13S)
SUMMARY OF WATER QUALITY ANALYTICAL RESULTS
JUNE 1987 - MAY 2001
SEMI-ANNUAL SAMPLING

Wells / Compounds	Remedial Action Objective	4/10/89	7/12/89	8/15/89	11/30/89	5/30/90	8/28/90	12/6/90	4/8-4/10/91
DGC-3S									
Benzene	0.7*	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	None*	ND	ND	ND	ND	ND	ND	NA	8 V / 7 Vdp
Aluminum	100*	NA	NA	NA	NA	NA	NA	NA	NA
Lead	25*	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	50*	NA	NA	NA	NA	NA	NA	NA	NA
Hexavalent Chromium	50*	no data	no data	no data	no data	NA	NA	NA	NA
DGC-4S									
Carbon Disulfide	None*	--	--	--	--	--	--	--	ND/0.5Vdp
Chromium	50*	--	--	--	--	--	--	--	NA
13S									
Benzene	0.7*	NA	NA	NA	NA	NA	NA	NA	2
Carbon Disulfide	None*	NA	NA	NA	NA	NA	NA	NA	60 D
Carbon Tetrachloride	5	NA	NA	NA	NA	18/16 dp	6.4	4.4	8
Chloroform	7	NA	NA	NA	NA	ND	ND	ND	ND
Trichloroethylene	5	NA	NA	NA	NA	ND	ND	ND	ND
Trichlorofluoromethane	5*	NA	NA	NA	NA	ND	ND	ND	ND
Chromium	50*	NA	NA	NA	NA	NA	NA	NA	336 V
Hexavalent Chromium	50*	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Units are µg/l (ppb) unless otherwise stated.
Only detected compounds are listed.
NA = Not analyzed.
ND = Not detected.
B = The reported value is less than the CRQL/CRDL but greater than the IDL.
dp = Duplicate sample.
E = Estimated concentration: due to interference.
D = Concentration determined from a sample dilution.
J = Estimated concentration.
V = Estimated concentration: due to variance to quality control limits.
- - = Not sampled: well installed in December, 1990.
* Based on NYSDEC Final Combined Regulatory Impact and Environmental Impact Statement (Title 6, Chapter X, Parts 700-706, 1998), identified for comparison purposes only.
** = Filtered Sample.

TABLE 6 (MONITORING WELLS DGC-3S, DGC-4S, 13S)
SUMMARY OF WATER QUALITY ANALYTICAL RESULTS
JUNE 1987 - MAY 2001
SEMI-ANNUAL SAMPLING

Wells / Compounds	Remedial Action Objective	6/12-6/13/91	9/23-9/24/91	12/26-12/27/91	2/10-2/11/92	6/1-6/2/92	9/28-9/29/92	11/18-11/19/92	3/17-3/18/93
DGC-3S									
Benzene	0.7*	ND	0.2 J	ND	ND/NDdp	ND	ND	ND	ND
Carbon Disulfide	None*	4	ND	ND	ND/NDdp	ND	ND	ND	ND
Aluminum	100*	NA	NA	NA	NA	NA	NA	NA	NA
Lead	25*	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	50*	NA	6.1	62.2E/70.3Edp	6.2/ND*, 14.6/ND*d	25.2/ND*	ND	33.6/ND*	18.5
Hexavalent Chromium	50*	NA	NA	NA	ND/4*/ND dp	NA	NA	NA	NA
DGC-4S									
Carbon Disulfide	None*	ND	ND	ND	ND	ND	ND/ND dp	4 V	ND
Chromium	50*	NA	15.9	11.9 E	ND/ND*	ND/ND*	ND/ND dp	8.6 B	48.1/ND*
13S									
Benzene	0.7*	0.7/0.6 Jdp	1	ND	ND	ND	ND	0.4 JV	ND
Carbon Disulfide	None*	0.6	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	24 J/24 Jdp	8	12	9	6 J	9	16 V	15
Chloroform	7	0.8/0.9 Jdp	ND	0.4 J	0.3 J	ND	ND	0.6 V	0.6
Trichloroethylene	5	ND	0.4 J	0.9	0.6	ND	0.6	1 V	2
Trichlorofluoromethane	5*	ND	ND	ND	ND	ND	0.5	0.9 V	2
Chromium	50*	NA	269/261**	316 E/562 E**	282/498**	504/512**	179/172**	585/576**	746/614**
Hexavalent Chromium	50*	NA	280	486/302**	260/310**	NA	287	493	663

Notes:

Units are µg/l (ppb) unless otherwise stated.

Only detected compounds are listed.

NA = Not analyzed.

ND = Not detected.

B = The reported value is less than the CRQL/CRDL but greater than the IDL.

dp = Duplicate sample.

E = Estimated concentration: due to interference.

D = Concentration determined from a sample dilution.

J = Estimated concentration.

V = Estimated concentration: due to variance to quality control limits.

- - = Not sampled: well installed in December, 1990.

* Based on NYSDEC Final Combined Regulatory Impact and Environmental Impact Statement (Title 6, Chapter X, Parts 700-706, 1998), identified for comparison purposes only.

** = Filtered Sample.

TABLE 6 (MONITORING WELLS DGC-3S, DGC-4S, 13S)
SUMMARY OF WATER QUALITY ANALYTICAL RESULTS
JUNE 1987 - MAY 2001
SEMI-ANNUAL SAMPLING

Wells / Compounds	Remedial Action Objective	5/25-5/26/93	8/24-8/25/93	11/8-11/9/93	2/22-2/23/94	5/18-5/19/94	8/24-8/25/94	11/15-11/16/94	5/23/95
DGC-3S									
Benzene	0.7*	ND	ND	ND	ND	ND V	ND	ND	ND
Carbon Disulfide	None*	ND	0.8	ND	ND	ND V	ND	ND	ND
Aluminum	100*	NA	NA	NA	NA	NA	NA	NA	NA
Lead	25*	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	50*	4.3 B	4.7B	19.4	23.9	4.5 B	9.9 B	11.1	NA
Hexavalent Chromium	50*	NA	NA	NA	NA	NA	NA	NA	NA
DGC-4S									
Carbon Disulfide	None*	0.3 J	0.2J	ND	ND	ND V/ND V dp	ND	ND	ND
Chromium	50*	ND	3.3B	ND	31.2/ND*	ND/ND dp	5.6 B	ND	NA
13S									
Benzene	0.7*	ND	ND	ND	ND/ND dp	ND	ND	ND	NA
Carbon Disulfide	None*	ND	ND	ND	ND/ND dp	ND	ND	ND	NA
Carbon Tetrachloride	5	10	17	18	20/9 dp	9	9	9	NA
Chloroform	7	0.4 J	0.6	0.7	ND/ND dp	0.4 J	0.3 J	ND	NA
Trichloroethylene	5	0.6	ND	2	2/1 dp	0.8	1	0.9	NA
Trichlorofluoromethane	5*	0.5	ND	2	2/1 dp	0.9	1	ND	NA
Chromium	50*	198/609**	787/716**	572/610**	580/357** 567/357** dp	406/434**	133 V/157 V**	44.2 V/95.8 V**	140 J
Hexavalent Chromium	50*	460	800	560	530/540 dp	340	101	36	150

Notes:

Units are µg/l (ppb) unless otherwise stated.

Only detected compounds are listed.

NA = Not analyzed.

ND = Not detected.

B = The reported value is less than the CRQL/CRDL but greater than the IDL.

dp = Duplicate sample.

E = Estimated concentration: due to interference.

D = Concentration determined from a sample dilution.

J = Estimated concentration.

V = Estimated concentration: due to variance to quality control limits.

- - = Not sampled: well installed in December, 1990.

* Based on NYSDEC Final Combined Regulatory Impact and Environmental Impact Statement (Title 6, Chapter X, Parts 700-706, 1998), identified for comparison purposes only.

** = Filtered Sample.

TABLE 6 (MONITORING WELLS DGC-3S, DGC-4S, 13S)
SUMMARY OF WATER QUALITY ANALYTICAL RESULTS
JUNE 1987 - MAY 2001
SEMI-ANNUAL SAMPLING

Wells / Compounds	Remedial Action Objective	10/17/95	5/14/96	10/23/96	6/2/97	10/14/97	5/28/98	10/29/98	5/11/99
DGC-3S									
Benzene	0.7*	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	None*	ND	ND	ND	ND	ND	ND	ND	ND
Aluminum	100*	NA	NA	NA	NA	NA	NA	NA	NA
Lead	25*	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	50*	NA	NA	NA	NA	NA	NA	NA	NA
Hexavalent Chromium	50*	NA	NA	NA	NA	NA	NA	NA	NA
DGC-4S									
Carbon Disulfide	None*	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	50*	NA	NA	NA	NA	NA	NA	NA	NA
13S									
Benzene	0.7*	NA	NA	NA	1U	1U	NA	NA	NA
Carbon Disulfide	None*	NA	NA	NA	1U	1U	NA	NA	NA
Carbon Tetrachloride	5	NA	NA	NA	1U	8	NA	NA	NA
Chloroform	7	NA	NA	NA	1U	1U	NA	NA	NA
Trichloroethylene	5	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	50*	52.7 J	44.8	46.4	90.7/90.9**	71.4	71.2	98.6 J	72.4
Hexavalent Chromium	50*	48	47	47	97	67	51	54.0 J	71.0

Notes:

Units are µg/l (ppb) unless otherwise stated.

Only detected compounds are listed.

NA = Not analyzed.

ND = Not detected.

B = The reported value is less than the CRQL/CRDL but greater than the IDL.

dp = Duplicate sample.

E = Estimated concentration: due to interference.

D = Concentration determined from a sample dilution.

J = Estimated concentration.

V = Estimated concentration: due to variance to quality control limits.

- - = Not sampled: well installed in December, 1990.

* Based on NYSDEC Final Combined Regulatory Impact and Environmental Impact Statement (Title 6, Chapter X, Parts 700-706, 1998), identified for comparison purposes only.

** = Filtered Sample.

TABLE 6 (MONITORING WELLS DGC-3S, DGC-4S, 13S)
SUMMARY OF WATER QUALITY ANALYTICAL RESULTS
JUNE 1987 - MAY 2001
SEMI-ANNUAL SAMPLING

Wells / Compounds	Remedial Action Objective	10/26/99	5/22/00	10/24/00	5/15/01
DGC-3S					
Benzene	0.7*	ND	ND	ND	ND
Carbon Disulfide	None*	ND	ND	ND	ND
Aluminum	100*	NA	NA	NA	NA
Lead	25*	NA	NA	NA	NA
Chromium	50*	NA	NA	NA	NA
Hexavalent Chromium	50*	NA	NA	NA	NA
DGC-4S					
Carbon Disulfide	None*	ND	ND	ND	ND
Chromium	50*	NA	NA	NA	NA
13S					
Benzene	0.7*	NA	NA	NA	NA
Carbon Disulfide	None*	NA	NA	NA	NA
Carbon Tetrachloride	5	NA	NA	NA	NA
Chloroform	7	NA	NA	NA	NA
Trichloroethylene	5	NA	NA	NA	NA
Trichlorofluoromethane	5*	NA	NA	NA	NA
Chromium	50*	169	249	29.9	136
Hexavalent Chromium	50*	178	262	41	12.3

Notes:

Units are µg/l (ppb) unless otherwise stated.
Only detected compounds are listed.
NA = Not analyzed.
ND = Not detected.
B = The reported value is less than the CRQL/CRDL but greater than the IDL.
dp = Duplicate sample.
E = Estimated concentration: due to interference.
D = Concentration determined from a sample dilution.
J = Estimated concentration.
V = Estimated concentration: due to variance to quality control limits.
- - = Not sampled: well installed in December, 1990.
* Based on NYSDEC Final Combined Regulatory Impact and Environmental Impact Statement (Title 6, Chapter X, Parts 700-706, 1998), identified for comparison purposes only.
** = Filtered Sample.

TABLE 7 (MONITORING WELLS M-27, M-27D, M-33S, M-33I)
SUMMARY OF WATER QUALITY ANALYTICAL RESULTS
JUNE 1992 - MAY 2001
SEMI-ANNUAL SAMPLING

M-27S	Remedial Action Objective	6/5/92	11/11/92	3/14/94	5/23/95	10/17/95	5/14/96	10/23/96	6/2/97	10/14/97
Carbon Disulfide	None*	ND	ND	not sampled	ND	ND	ND	ND	ND	ND
Chloromethane	5	40	ND	not sampled	ND	ND	ND	ND	ND	ND
Chromium	50*	8.4 B/ND**	57.4/ND**	not sampled	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	50*	NA	NA	not sampled	ND	ND	ND	ND	ND	ND
M-27D										
Carbon Tetrachloride	5	75/62 dp	23	not sampled	33/42 dp	56	31	28	26	22
Chloroform	7	ND	3	not sampled	4/4 dp	5	3	3	3	2
Chloromethane	5	4 J/28 dp	ND	not sampled	ND/ND dp	ND	ND	ND	ND	ND
Trichloroethylene	5									
Trichlorofluoromethane	5*	no data	no data	not sampled	no data	no data	no data	no data	no data	no data
Chromium	50*	2.0 B/ND** 2.0 B/ND** dp	19.8/ND**	not sampled	ND/ND dp	ND	ND	ND	ND	1.2B
Hexavalent Chromium	50*	NA	NA	not sampled	ND/ND dp	ND	ND	ND	ND	ND
M-33S										
VOCs	-	not sampled	not sampled	ND	ND	ND	ND	ND	ND	ND
M-33I										
VOCs	-	not sampled	not sampled	ND	ND	ND	ND	ND	ND	ND

Notes:

Units are ug/l (ppb) unless otherwise stated.

Only detected compounds are listed.

NA = Not analyzed.

ND = Not detected.

J = Estimated concentration.

dp = Duplicate sample.

B = The reported value is less than the CRQL/CRDL but greater than the IDL.

* Based on NYSDEC Final Combined Regulatory Impact and Environmental Impact Statement (Title 6, Chapter X, Parts 700-706, 1998), identified for comparison purposes only.

** = Filtered Sample.

TABLE 7 (MONITORING WELLS M-27, M-27D, M-33S, M-33I)
SUMMARY OF WATER QUALITY ANALYTICAL RESULTS
JUNE 1992 - MAY 2001
SEMI-ANNUAL SAMPLING

M-27S	Remedial Action Objective	5/28/98	10/29/98	5/11/99	10/26/99	5/22/00	10/24/00	5/15/01
Carbon Disulfide	None*	ND	ND	0.85 J	ND / ND dp	ND	ND	ND / ND dp
Chloromethane	5	ND	ND	ND	ND / ND dp	ND	ND	ND / ND dp
Chromium	50*	ND	3.2 BJ	0.98B	0.85B/0.90b dp	1.1B	1.2B	ND / ND dp
Hexavalent Chromium	50*	ND	ND	ND	ND / ND dp	ND	ND	ND / ND dp
M-27D								
Carbon Tetrachloride	5	27	26 / 27 dp	20.3 / 20.1 dp	22.3	26.7D/28.9D dp	19.2/19.8 dp	13,.8
Chloroform	7	3	2 / 2 dp	1.8 / 1.8 dp	1.8	ND / ND dp	1.7J /1.3 dp	1.1
Chloromethane	5	ND	ND / ND	ND / ND dp	ND	ND / ND dp	ND / ND dp	ND
Trichloroethylene	5		ND/ND dp	4.1/4.1 dp	10.7	12.8 / 12.1 dp	26.4 /26.5D dp	19.4
Trichlorofluoromethane	5*	no data	0.3 J / 0.3 J dp	0.92J / 0.99J dp	1.4	1.9 / 1.8 dp	2.9 / 2.9 dp	2.0
Chromium	50*	ND	4.6 BJ / 4.8 BJ dp	1.4 B / 1.3 B dp	0.81B	2B/1.8B dp	1.2B/1.2B dp	ND
Hexavalent Chromium	50*	ND	ND / ND dp	ND / ND dp	ND	ND/ND dp	ND/ND dp	ND
M-33S								
VOCs	-	ND	ND	ND	ND	ND	ND	8.0 J
M-33I								
VOCs	-	ND	ND	ND	ND	ND	ND	4.1 J

Notes:

Units are ug/l (ppb) unless otherwise stated.

Only detected compounds are listed.

NA = Not analyzed.

ND = Not detected.

J = Estimated concentration.

dp = Duplicate sample.

B = The reported value is less than the CRQL/CRDL but greater than the IDL.

D = Indentifies compound analyzed at a secondary dilution factor.

* Based on NYSDEC Final Combined Regulatory Impact and Environmental Impact Statement (Title 6, Chapter X, Parts 700-706, 1998), identified for comparison purposes only.

** = Filtered Sample.

TABLE 8 (SURFACE WATER)
SUMMARY OF WATER QUALITY ANALYTICAL RESULTS
JUNE 1987 - MAY 2001
SEMI-ANNUAL SAMPLING

Surface Water Points / Compounds	Cleanup	6/29-			1/19-	4/18-	7/20-	10/11-	1/19-			
SW-A	**Standard**	**7/1/87**	**7/31/87**	**11/5/87**	**1/20/88**	**4/19/88**	**7/21/88**	**10/12/88**	**1/20/89**	**4/10/89**	**7/12/89**	**8/15/89**
Carbon Disulfide	None*	ND	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA
Aluminum	100*	0.12 mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	25*	NA	NA	NA	NA	0.02 mg/L	NA	NA	NA	NA	NA	NA
Chromium	50*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW-B												
Carbon Disulfide	None*	ND	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA
Carbon Tetrachloride	5	ND	NA	ND	ND	ND	ND	ND	1.1/1.1dp	ND	ND	ND
Chloroform	7	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene	5	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	5*	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Aluminum	100*	0.21 mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	25*	NA	NA	NA	NA	<0.01 mg/L	NA	NA	NA	NA	NA	NA
Chromium	50*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW-D												
Acetone	5*	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Bromochloromethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	None*	ND	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA
Carbon Tetrachloride	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.6*	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Methylene Chloride	5*	ND	ND	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	5*	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Aluminum	100*	0.50 mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	25*	NA	NA	NA	NA	<0.005 mg/L	NA	NA	NA	NA	NA	NA
Chromium	50*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Units are µg/l (ppb) unless otherwise stated.
Only detected compounds are listed.
NA = Not analyzed.
ND = Not detected.
dp = Duplicate sample.
B = The reported value is less than the CRQL/CRDL but greater than the IDL.
D = Concentration determined from a sample dilution.
E = Estimated concentration : due to interference.
J = Estimated concentration.
V = Estimated concentration: due to variance to quality control limits.
R = Rejected during data validation.
* Based on NYSDEC Final Combined Regulatory Impact and Environmental Impact Statement (Title 6, Chapter X, Parts 700-706, 1998), identified for comparison purposes only.
** = Filtered Sample.

TABLE 8 (SURFACE WATER)
SUMMARY OF WATER QUALITY ANALYTICAL RESULTS
JUNE 1987 - MAY 2001
SEMI-ANNUAL SAMPLING

Surface Water Points / Compounds	Cleanup Standard	11/30/89	12/27/89	2/22/90	5/30/90	8/28/90	12/6/90	4/8-4/10/91	6/12-6/13/91	9/23-9/24/91	12/26-12/27/91	2/10-2/11/92
SW-A												
Carbon Disulfide	None*	NA	NA	NA	NA	NA	NA	0.5 V	ND	ND	ND	ND
Aluminum	100*	NA	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Lead	25*	NA	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Chromium	50*	NA	NA	NA	NA	NA	NA	NA	NA	6.6	ND	ND
SW-B												
Carbon Disulfide	None*	NA	NA	NA	NA	NA	NA	ND	0.2 J	ND	ND	ND
Carbon Tetrachloride	5	0.9	NA	0.88	ND	ND	1	0.4 J	0.6 J	0.4 J	0.8	0.8
Chloroform	7	ND	ND	ND	ND	ND	ND	ND	0.2 J	ND	ND	ND
Trichloroethylene	5	ND	ND	ND	ND	ND	ND	ND	0.3 J	ND	0.2 J	ND
Trichlorofluoromethane	5*	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Aluminum	100*	NA	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Lead	25*	NA	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Chromium	50*	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND
SW-D												
Acetone	5*	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Bromochloromethane	5*	1.7, ND dp	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Carbon Disulfide	None*	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND
1,2-Dichloroethane	0.6*	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Methylene Chloride	5*	ND	NA	NA	NA	NA	NA	NA	NA	ND	6.3 BE	ND
1,2,3-Trichlorobenzene	5*	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Aluminum	100*	NA	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Lead	25*	NA	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Chromium	50*	NA	NA	NA	NA	NA	NA	ND	2	ND	ND	ND

Notes:

Units are µg/l (ppb) unless otherwise stated.
Only detected compounds are listed.
NA = Not analyzed.
ND = Not detected.
dp = Duplicate sample.
B = The reported value is less than the CRQL/CRDL but greater than the IDL.
D = Concentration determined from a sample dilution.
E = Estimated concentration : due to interference.
J = Estimated concentration.
V = Estimated concentration: due to variance to quality control limits.
R = Rejected during data validation.
* Based on NYSDEC Final Combined Regulatory Impact and Environmental Impact Statement (Title 6, Chapter X, Parts 700-706, 1998), identified for comparison purposes only.
** = Filtered Sample.

TABLE 8 (SURFACE WATER)
SUMMARY OF WATER QUALITY ANALYTICAL RESULTS
JUNE 1987 - MAY 2001
SEMI-ANNUAL SAMPLING

Surface Water Points / Compounds	Cleanup Standard	6/1-6/2/92	9/28-9/29/92	11/18-11/19/92	3/17-3/18/93	5/25-5/26/93	8/24-8/25/93	11/8-11/9/93	2/22-2/23/94	5/18-5/19/94	8/24-8/25/94	11/15-11/16/94
SW-A												
Carbon Disulfide	None*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aluminum	100*	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Lead	25*	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Chromium	50*	ND	ND	ND	6.1 B	ND	3.2B	ND	ND	ND	ND	ND
SW-B												
Carbon Disulfide	None*	ND	ND	ND	ND	ND	ND	ND	ND/ND dp	ND	ND	ND
Carbon Tetrachloride	5	0.7	0.3 J	0.6 V	ND	ND	0.3 J	0.7	0.4 J/0.4 J dp	0.4 J	0.2 JV	ND
Chloroform	7	0.2 J	ND	ND	ND	ND	ND	0.3 J	ND/ND dp	ND	ND	ND
Trichloroethylene	5	0.3 J	ND	ND	ND	ND	ND	0.2 J	ND/ND dp	ND	ND	ND
Trichlorofluoromethane	5*	no data	ND	ND	2	ND	ND	ND	ND/ND dp	ND	ND V	ND
Aluminum	100*	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Lead	25*	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Chromium	50*	ND	ND	ND	ND	ND	ND	ND	ND/ND dp	ND	ND	ND
SW-D												
Acetone	5*	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Bromochloromethane	5*	no data	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	None*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	ND	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
1,2-Dichloroethane	0.6*	no data	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	5*	ND	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
1,2,3-Trichlorobenzene	5*	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Aluminum	100*	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Lead	25*	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Chromium	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

Units are µg/l (ppb) unless otherwise stated.
Only detected compounds are listed.
NA = Not analyzed.
ND = Not detected.
dp = Duplicate sample.
B = The reported value is less than the CRQL/CRDL but greater than the IDL.
D = Concentration determined from a sample dilution.
E = Estimated concentration : due to interference.
J = Estimated concentration.
V = Estimated concentration: due to variance to quality control limits.
R = Rejected during data validation.
* Based on NYSDEC Final Combined Regulatory Impact and Environmental Impact Statement (Title 6, Chapter X, Parts 700-706, 1998), identified for comparison purposes only.
** = Filtered Sample.

TABLE 8 (SURFACE WATER)
SUMMARY OF WATER QUALITY ANALYTICAL RESULTS
JUNE 1987 - MAY 2001
SEMI-ANNUAL SAMPLING

Surface Water Points / Compounds	Cleanup Standard	5/23/95	10/17/95	5/14/96	10/23/96	6/2/97	10/14/97	5/28/98	10/29/98	5/11/99	10/26/99	5/22/00
SW-A												
Carbon Disulfide	None*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aluminum	100*	no data	no data	no data	no data	no data	no data	no data	NA	NA	NA	NA
Lead	25*	no data	no data	no data	no data	no data	no data	no data	NA	NA	NA	NA
Chromium	50*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW-B												
Carbon Disulfide	None*	ND	ND/ND dp	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	ND	0.7 J/0.6 J dp	ND	0.6J	ND	ND	0.3J	ND	ND	ND	ND
Chloroform	7	ND	ND/ND dp	ND	ND	ND	ND	0.1J	ND	ND	ND	ND
Trichloroethylene	5	ND	ND/ND dp	ND	ND	ND	ND	0.2J	ND	ND	ND	ND
Trichlorofluoromethane	5*	ND	ND/ND dp	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aluminum	100*	no data	no data	no data	no data	no data	no data	no data	NA	NA	NA	NA
Lead	25*	no data	no data	no data	no data	no data	no data	no data	NA	NA	NA	NA
Chromium	50*	ND	ND/ND dp	ND	ND	NA	ND	ND	3.1 BJ	0.44 B	ND	0.9B
SW-D												
Acetone	5*	no data	no data	no data	no data	no data	no data	43 J	R	ND	ND	ND
Bromochloromethane	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	None*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	no data	no data	ND	ND	no data	no data	ND	0.2 J	ND	ND	ND
1,2-Dichloroethane	0.6*	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	5*	no data	no data	ND	ND	no data	no data	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	5*	no data	no data	no data	no data	no data	no data	0.1 J	ND	ND	ND	ND
Aluminum	100*	no data	no data	no data	no data	no data	no data	no data	NA	NA	NA	NA
Lead	25*	no data	no data	no data	no data	no data	no data	no data	NA	NA	NA	NA
Chromium	50*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Units are µg/l (ppb) unless otherwise stated.
Only detected compounds are listed.
NA = Not analyzed.
ND = Not detected.
dp = Duplicate sample.
B = The reported value is less than the CRQL/CRDL but greater than the IDL.
D = Concentration determined from a sample dilution.
E = Estimated concentration : due to interference.
J = Estimated concentration.
V = Estimated concentration: due to variance to quality control limits.
R = Rejected during data validation.
* Based on NYSDEC Final Combined Regulatory Impact and Environmental Impact Statement (Title 6, Chapter X, Parts 700-706, 1998), identified for comparison purposes only.
** = Filtered Sample.

TABLE 8 (SURFACE WATER)
SUMMARY OF WATER QUALITY ANALYTICAL RESULTS
JUNE 1987 - MAY 2001
SEMI-ANNUAL SAMPLING

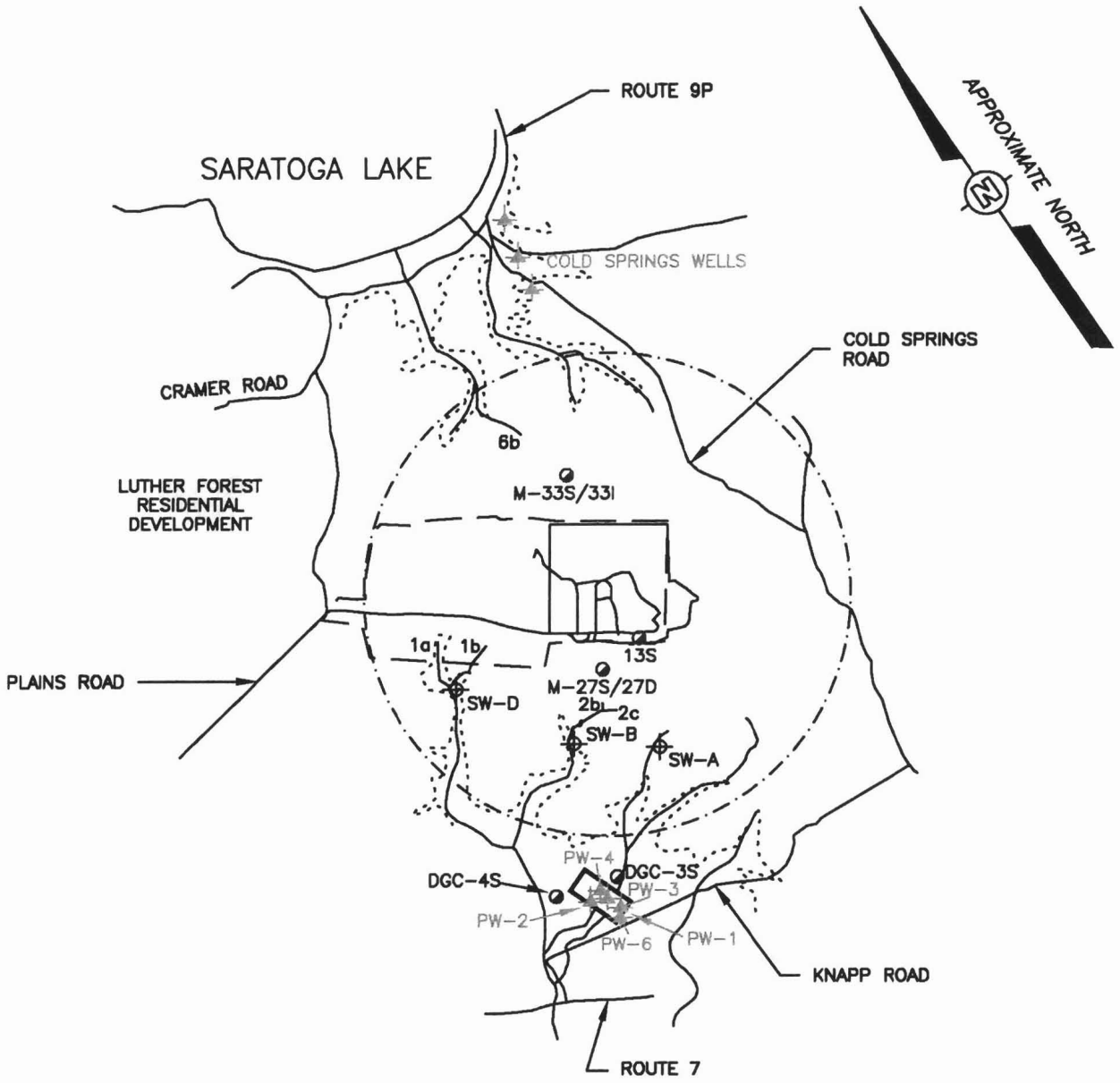
Surface Water Points / Compounds	Cleanup Standard	10/24/00	5/15/01
SW-A			
Carbon Disulfide	None*	ND	ND
Aluminum	100*	NA	NA
Lead	25*	NA	NA
Chromium	50*	NA	NA
SW-B			
Carbon Disulfide	None*	ND	ND
Carbon Tetrachloride	5	0.54J	ND
Chloroform	7	ND	ND
Trichloroethylene	5	ND	ND
Trichlorofluoromethane	5*	ND	ND
Aluminum	100*	NA	NA
Lead	25*	NA	NA
Chromium	50*	0.75B	ND
SW-D			
Acetone	5*	ND	ND
Bromochloromethane	5*	ND	ND
Carbon Disulfide	None*	ND	ND
Carbon Tetrachloride	5	ND	ND
1,2-Dichloroethane	0.6*	ND	ND
Methylene Chloride	5*	ND	ND
1,2,3-Trichlorobenzene	5*	ND	ND
Aluminum	100*	NA	NA
Lead	25*	NA	NA
Chromium	50*	NA	NA

Notes:

Units are µg/l (ppb) unless otherwise stated.
Only detected compounds are listed.
NA = Not analyzed.
ND = Not detected.
dp = Duplicate sample.
B = The reported value is less than the CRQL/CRDL but greater than the IDL.
D = Concentration determined from a sample dilution.
E = Estimated concentration : due to interference.
J = Estimated concentration.
V = Estimated concentration: due to variance to quality control limits.
R = Rejected during data validation.
* Based on NYSDEC Final Combined Regulatory Impact and Environmental Impact Statement (Title 6, Chapter X, Parts 700-706, 1998), identified for comparison purposes only.
** = Filtered Sample.

FIGURES

IMAGE	X-REF	OFFICE	DRAWN BY		CHECKED BY	APPROVED BY	DRAWING NUMBER
---	---	ALB	SSH	6-21-99			1707-STE



LEGEND

- DGC-4S WELL PAIR LOCATION & ID#
- PW-2 PUMPING WELL LOCATION & ID#
- LUTHER FOREST WELL FIELD
- SW-D SURFACE WATER SAMPLE LOCATION & ID#
- 6b RAVINE LOCATION & ID#
- — — APPROXIMATE MRFA SITE BOUNDARY
- —·— APPROXIMATE ONE MILE EASEMENT BOUNDARY
- ------ 250' GROUND SURFACE CONTOUR LINE

APPROXIMATE

SCALE

0 3600 7200 FEET

REFERENCE:

REFERENCE DRAWING:
ERM – SEPTEMBER, 1998.

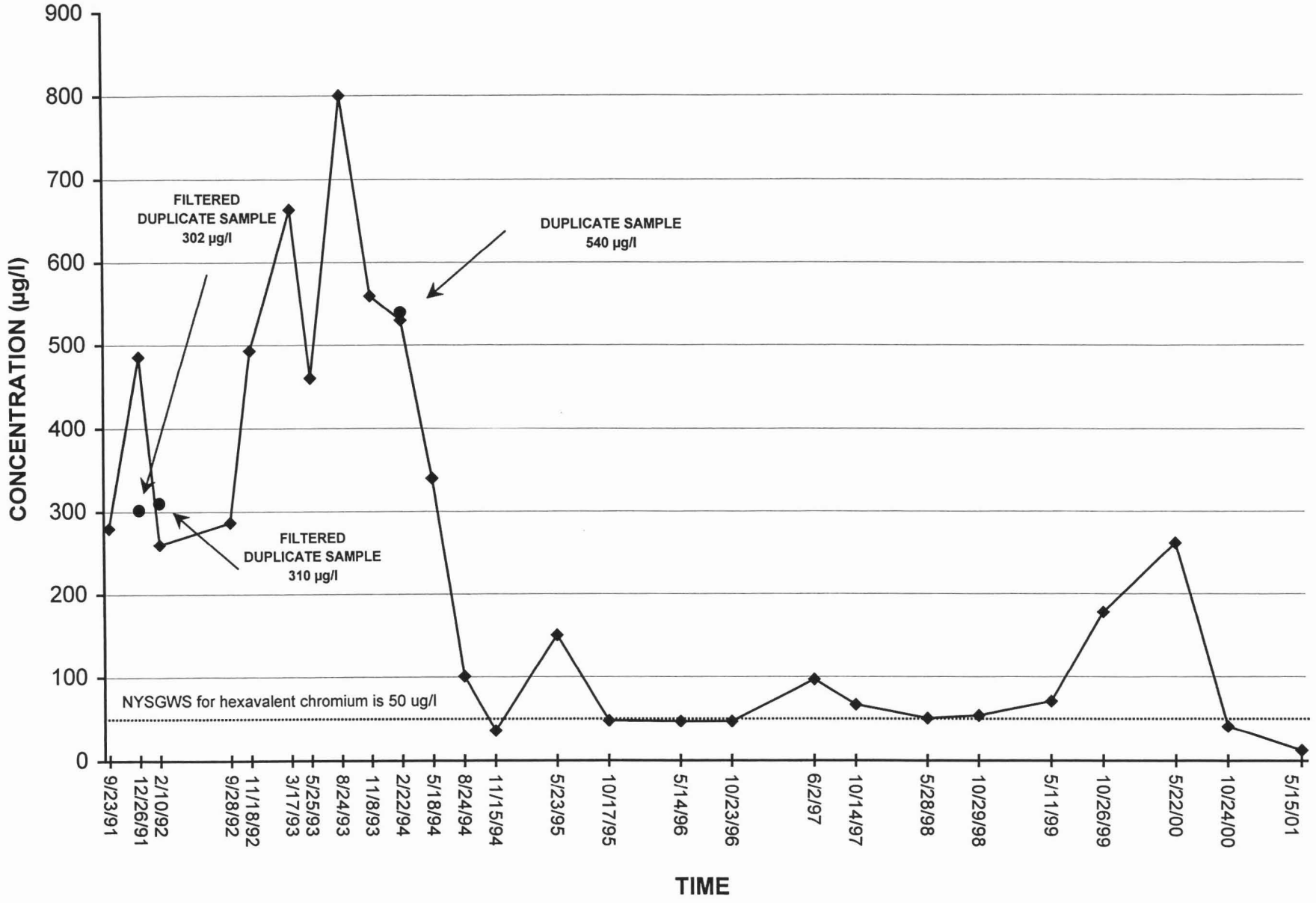
IT CORPORATION

MRFA – MALTA

FIGURE 1

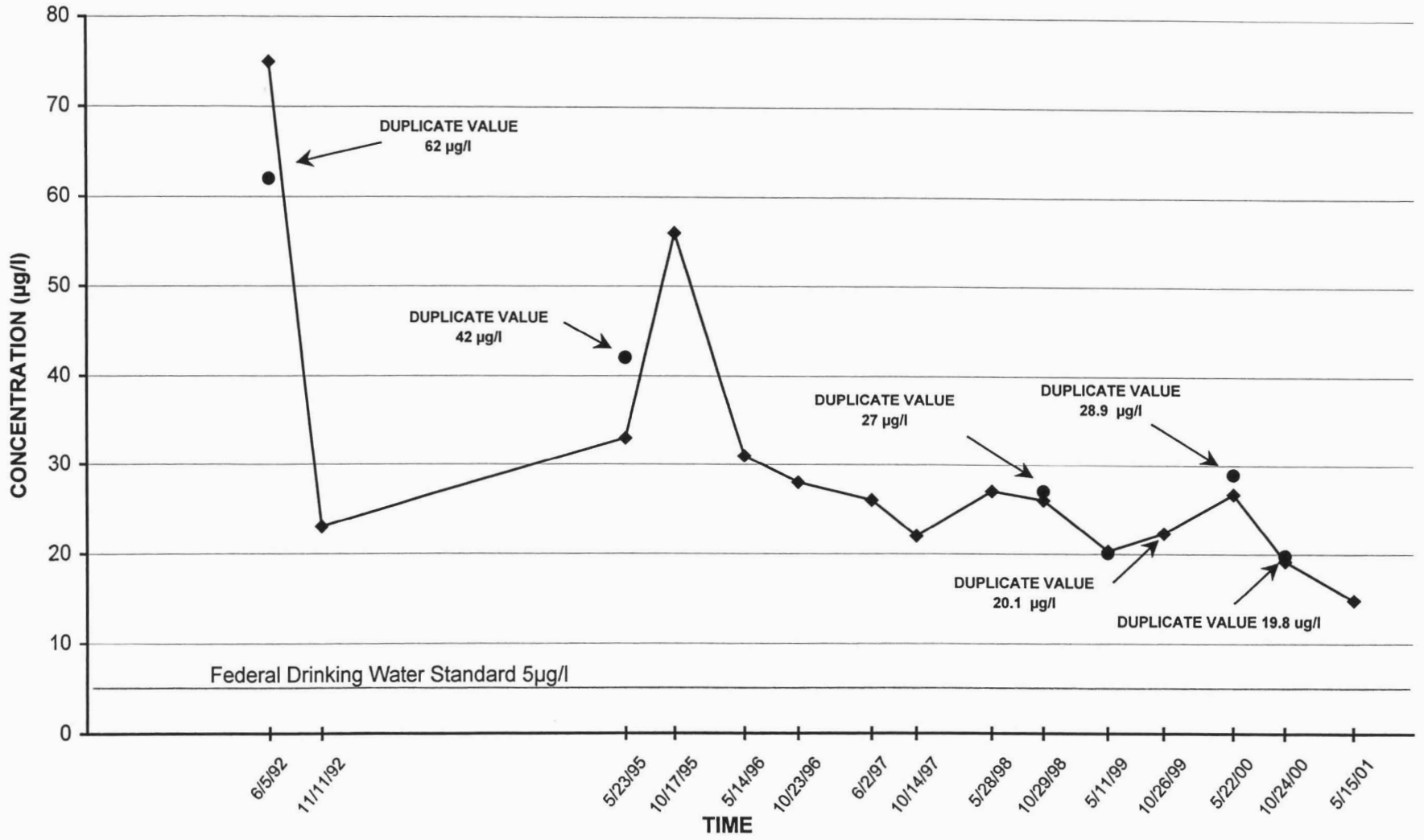
SITE LOCATION MAP
MALTA ROCKET FUEL AREA SITE
MALTA, NEW YORK

FIGURE 2
WELL 13S HEXAVALENT CHROMIUM CONCENTRATIONS



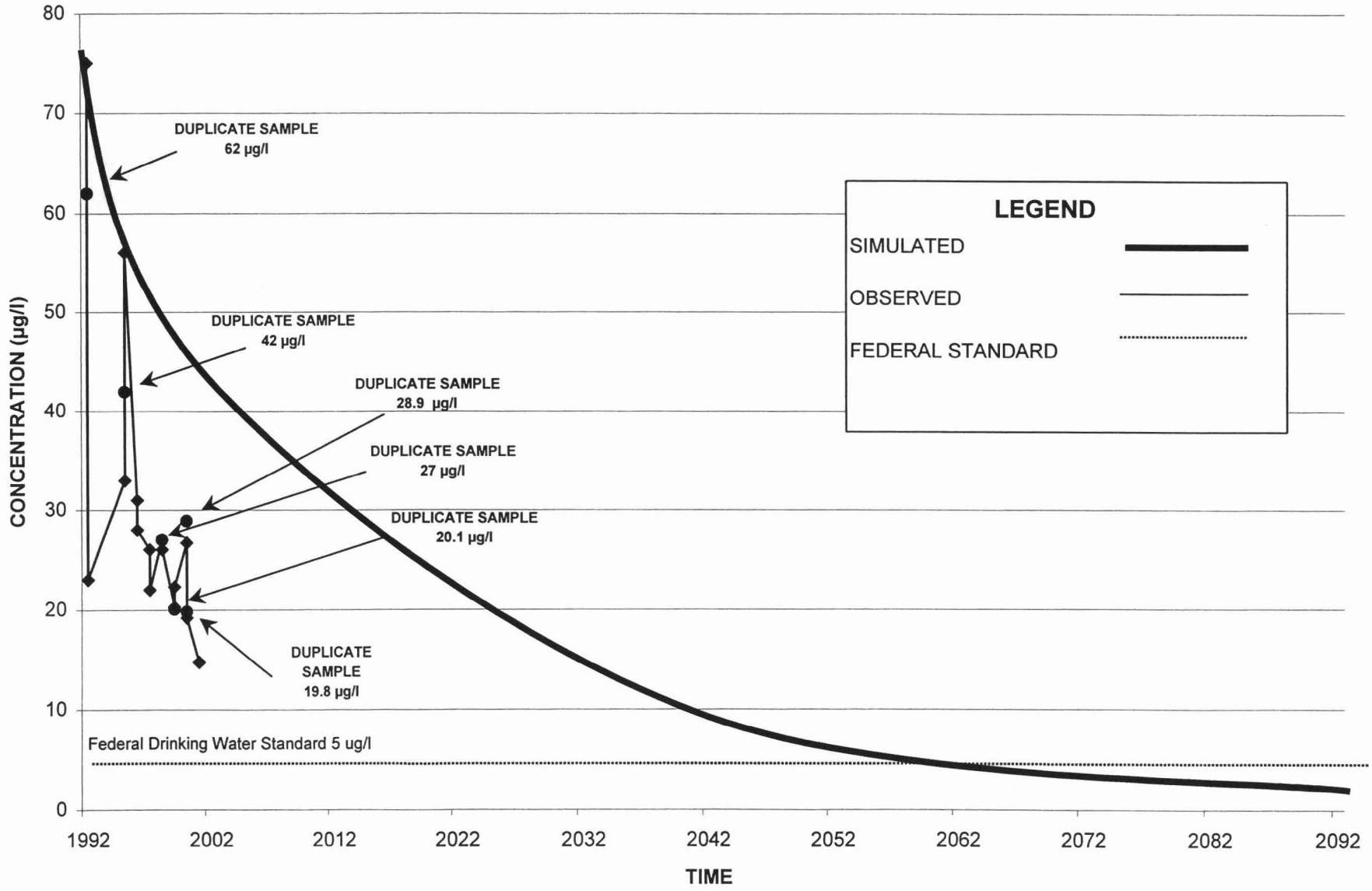
M:/188reps/MRFA_GE FigureData

FIGURE 3
WELL M-27D CARBON TETRACHLORIDE CONCENTRATIONS



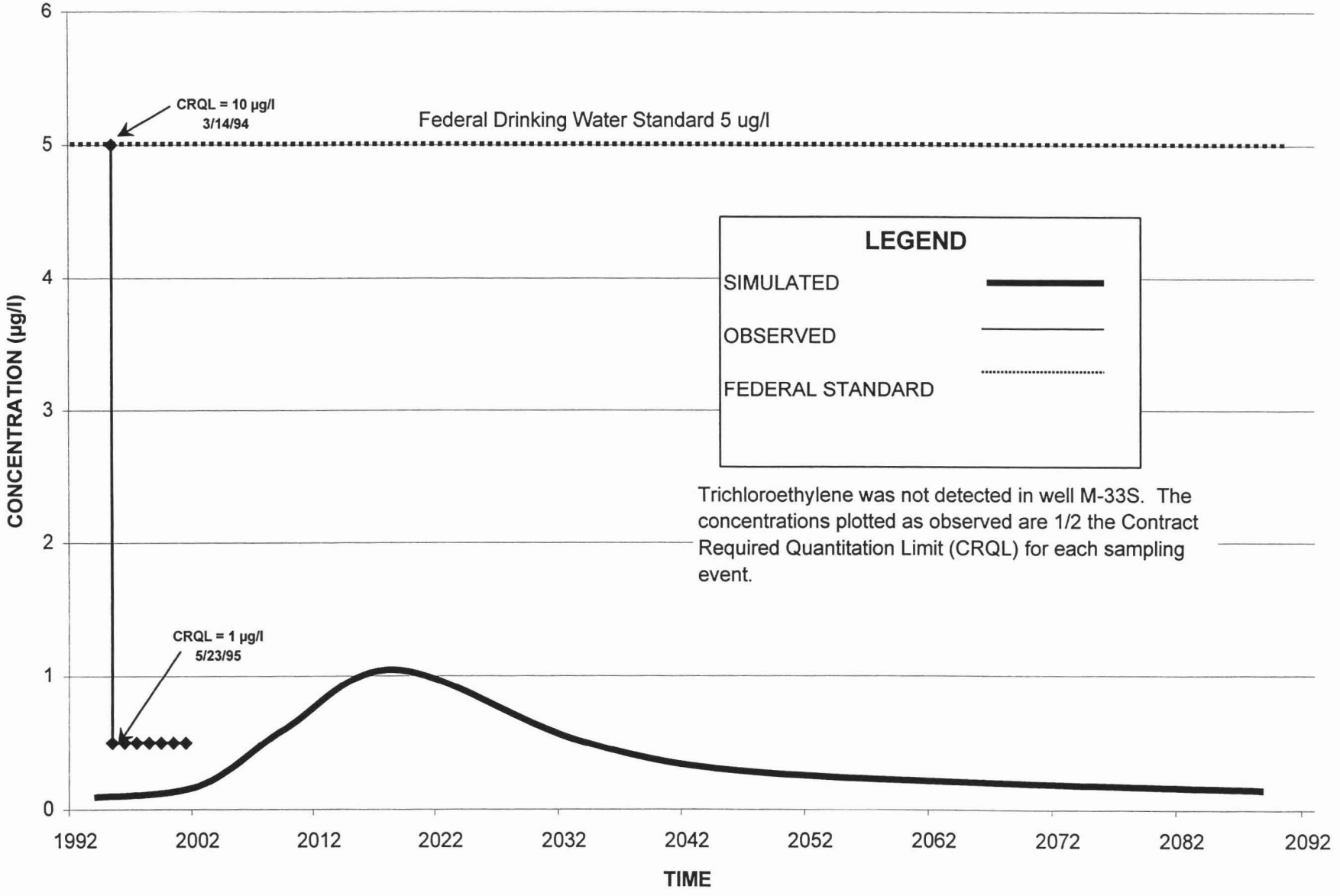
M:/188reps/MRFA/GE FigureData

FIGURE 4
SIMULATED VERSUS OBSERVED (MAY 2001) CARBON TETRACHLORIDE CONCENTRATIONS AT WELL M-27D



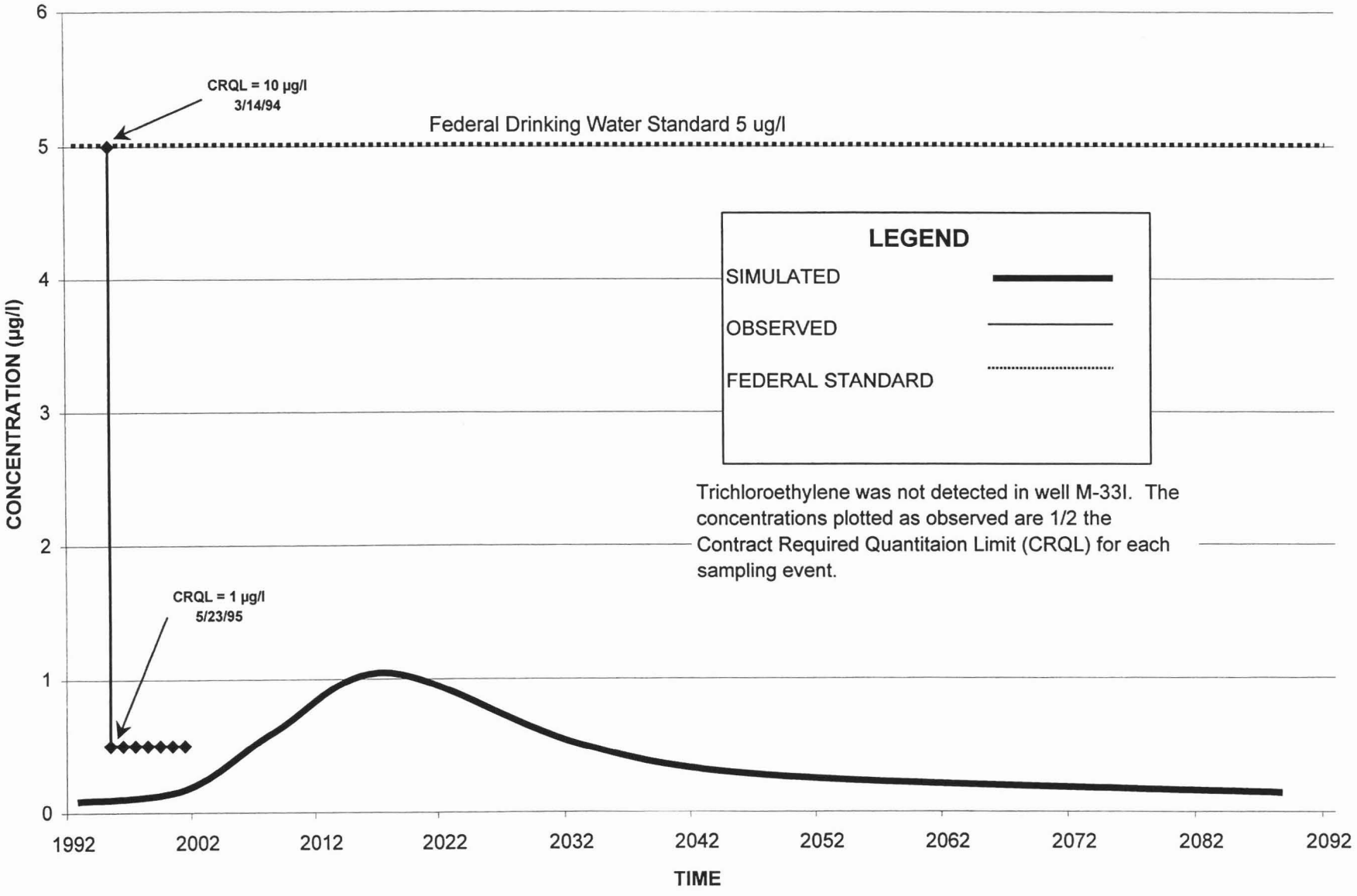
M:/188reps/MRFA/GE FigureData

FIGURE 5
SIMULATED VERSUS OBSERVED (MAY 2001) TRICHLOROETHYLENE CONCENTRATIONS AT WELL M-33S



M:/188reps/MRFA/GE FigureData

FIGURE 6
SIMULATED VERSUS OBSERVED (MAY 2001)
TRICHLOROETHYLENE CONCENTRATIONS
AT WELL M-33I



M:/188reps/MRFA/GE FigureData

IT Corporation
A Member of The IT Group

APPENDIX A

INFLUENT/EFFLUENT WATER QUALITY DATA - FEBRUARY 28, 2001

Data Step Boxed.
JMS.

Proj: MRFA
File Code: 8A

April 5, 2001

Columbia Analytical Services INC.
An Employee-Owned Company

Mr. Lew Streeter
IT Corporation
13 British American Blvd.
Latham, NY 12110

Re: MRFA
Submission # R2006003
SDG # Effluent

Dear Mr. Streeter:

Enclosed is the analytical data report for the above referenced facility. A total of four samples were received by our laboratory on March 1, 2001.

Any problems encountered with this project are addressed in a case narrative section which is presented later in this report.

This report consists of two (2) packages: the sample data package and the sample data summary package. Both packages have been mailed to Judy Harry at your request, with only a copy of the summary package being mailed to IT. All data presented in this package has been reviewed prior to report submission. If you should have any questions or concerns, please contact me at (716) 288-5380.

Thank you for your continued use of our services.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Janice M. Jaeger
Project Chemist

enc.

cc: Ms. Judy Harry
Data Validation Services
120 Cobblecreek Road
North Creek, NY 12853

Columbia Analytical Services inc.

1 Mustard ST.
Suite 250
Rochester, NY 14609

THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : IT Corporation
Project Reference: MRFA
Lab Submission # : R2106003
Reported : 03/30/01

Report Contains a total of 39 pages

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal.

CASE NARRATIVE

COMPANY: IT Corporation
MRFA
SUBMISSION #: R2006003

IT water samples were collected on 02/28/01 and received at CAS on 03/01/01 in good condition at a cooler temperature of 1 C.

VOLATILE ORGANICS

Three water samples and one trip blank were analyzed for a Site Specific List of Volatiles by Low Level CLP.

All Tuning criteria for BFB were within limits.

The initial and continuing calibration criteria were met for all analytes.

All internal standard areas were within limits.

All surrogate standard recoveries were within limits.

All samples were analyzed within required holding times.

Site specific QC was performed on Effluent. All MS/MSD and Blank spike recoveries were within limits. All RPD's were within limits.

Carbon Tetrachloride for Influent has been flagged with an "E" as being an estimated value. The compound was outside the calibration range of the instrument and the sample was repeated at a dilution and both sets of data have been reported out.

The Laboratory Blanks associated with these samples was free of contamination.

No other analytical or QC problems were encountered.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in the hard copy package has been authorized by the Laboratory Manager or his designee, as verified by the following signature;

SDG #: EFFLUENT	BATCH COMPLETE: __yes_____	DATE REVISED:	
SUBMISSION R2106003	DISKETTE REQUESTED: Y___ N__x__	DATE DUE: 03/29/01	
CLIENT: IT Corporation	DATE: 03/01/01	PROTOCOL: CLP	
CLIENT REP: Janice Jaeger	CUSTODY SEAL: PRESENT/ABSENT:	SHIPPING No.:	
PROJECT: MRFA	CHAIN OF CUSTODY: PRESENT/ABSENT:		

CAS JOB #	CLIENT/EPA ID	MATRIX	REQUESTED PARAMETERS	DATE SAMPLED	DATE RECEIVED	pH (SOLIDS)	% SOLIDS	REMARKS SAMPLE CONDITION
445073QC	EFFLUENT	WATER	LOW LEVEL CLP VOA'S	2/28/01	3/1/01			
445074	DUPLICATE	WATER	LOW LEVEL CLP VOA'S	2/28/01	3/1/01			
445075	INFLUENT	WATER	LOW LEVEL CLP VOA'S	2/28/01	3/1/01			
~~445076~~	~~RESERVOIR~~ cancelled	WATER	LOW LEVEL CLP VOA'S	2/28/01	3/1/01			
445077	TRIP BLANK	WATER	LOW LEVEL CLP VOA'S	2/28/01	3/1/01			
445113	Cooler Blank	"	"	"	"			

ORGANIC QUALIFIERS

U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. The flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.

P - This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a "P".

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and ALL concentration values reported on that Form I are flagged with the "D" flag.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

X - As specified in Case Narrative.

10/95

Columbia Analytical Services, Inc.
An Employee-Owned Company

1 Mustard St., Suite 250, Rochester, NY 14609-69245
(716) 288-5380 • FAX (716) 288-8475

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

DATE 2/28/01 PAGE 1 OF 1

PROJECT NAME MRFA
PROJECT MANAGER/CONTACT Lew Streeter
COMPANY/ADDRESS IT Corporation
13 British American Blvd, Latham, NY
TEL (518) 783-1996 FAX (518) 783-8397
SAMPLER'S SIGNATURE (GvA)

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB I.D.	SAMPLE MATRIX	# OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624 ☐ 95-1	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ 95-2	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES/PCB's ☐ 8081 ☐ 608 ☐ 95-3	STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	EPA OLCO2 VOCs + extra compounds							PRESERVATION pH < 2.0	PRESERVATION pH > 12	PRESERVATION Other
Stripper Effluent	2/28/01	1045	44568,073	Water	3											3							X		
Stripper Effluent MS		1045	↓	↓	3											3							X		
Stripper Effluent MSD		1045			3											3							X		
Duplicate		—	74		3											3							X		
Stripper Influent		1055	44571,75		3											3							X		
Reservoir	↓	1450	44572,76	↓	3											3							X		
Trip Blank	2/28/01	—	77	Water	3											3									
			Reservoir sample cancelled as per Grant Anderson for CLP VOA's JMJ 3/5/01																						

per grant wilson/Grant Anderson JMJ 3/1/01

RELINQUISHED BY:
Signature
Printed Name Grant V Anderson
Firm IT Corporation
Date/Time 2/28/01 @ 1600

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name Esteban Collazo
Firm CAS
Date/Time 3/1/01 1630

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
__ Standard (10-15 working days)
__ Provide Verbal Preliminary Results
✓ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
__ 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
✓ 5. NY ASP/CLP Deliverables
✓ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To: IT Corp Latham, NY

SAMPLE RECEIPT:
Shipping Via: Fedex
Shipping #:
Temperature: 1
Submission No: R2-6035

SPECIAL INSTRUCTIONS/COMMENTS:
METALS do quick TAT by 8260-LL (TCL list) & repeat by OLCO2 w/ extra cpds
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☒ Special List Also analyze samples for: Hexachlorobutadiene, 1,2,3 Trichlorobenzene & Trichlorofluoromethane. Please analyze Stripper Influent, Stripper Effluent & Reservoir samples with 24 hour TAT. All other samples are standard turnaround.

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Check Form

Project/Client IT Submission Number 6003

Cooler received on 3/1/01 by: [illegible] COURIER: CAS UPS FEDEX CD&L CLIENT

1.	Were custody seals on outside of cooler?	YES / NO
2.	Were custody papers properly filled out (ink, signed, etc.)?	YES NO
3.	Did all bottles arrive in good condition (unbroken)?	YES NO
4.	Did any VOA vials have significant air bubbles?	YES NO N/A
5.	Were Ice or Ice packs present?	YES NO
6.	Where did the bottles originate?	CAS/ROC, CLIENT
7.	Temperature of cooler(s) upon receipt:	1

Is the temperature within 0° - 6° C?:	Yes ☒	Yes ☐	Yes ☐	Yes ☐	Yes ☐
If No, Explain Below	No ☐	No ☐	No ☐	No ☐	No ☐

Date/Time Temperatures Taken: 3/1/01 1035

Thermometer ID: _____ Temp Blank Sample Bottle Cooler Temp. IR Gun

If out of Temperature, Client Approval to Run Samples _____

Cooler Breakdown: Date: 3/1/01 by: [signature]

1.	Were all bottle labels complete (i.e. analysis, preservation, etc.)?	YES NO
2.	Did all bottle labels and tags agree with custody papers?	YES NO
3.	Were correct containers used for the tests indicated?	YES NO
4.	Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated	N/A

Explain any discrepancies: _____

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO_3					
2	H_2SO_4					
Residual Chlorine (+/-)	for TCN & Phenol					
5-9*	P/PCBs (608 only)					

YES = All samples OK NO = Samples were preserved at lab as listed PC OK to adjust pH _____

*If pH adjustment is required, use NaOH and/or H_2SO_4

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

INTERNAL CH NS

:ENT NAME: IT Corporation

G#: SUBMISSION: R2106003 DATE REC'D: 03/01/01 10:30

	ORDER #	# OF CONTAINERS	RELINQUISHED BY	RECEIVED BY	DATE	TIME	PH	STORAGE LOCATION	SCHEDULED LTS DATE
LOW LEVEL CLP VOA	445073 QC	9			3/1/01	12:30	4.2	C1	03/31/01
LOW LEVEL CLP VOA	445074	3							03/31/01
LOW LEVEL CLP VOA	445075	3							03/31/01
LOW LEVEL CLP VOA	445076	3							03/31/01
LOW LEVEL CLP VOA	445077	3							03/31/01
" Cooler Blank	445113	3							

07

APPENDIX B

INFLUENT/EFFLUENT WATER QUALITY DATA - MAY 15, 2001

Raw Data
Stop Boxes
JKS.

June 20, 2001

Columbia Analytical Services INC.
An Employee-Owned Company

Mr. Lew Streeter
IT Corporation
13 British American Blvd.
Latham, NY 12110

Re: MRFA
Submission # R2106956
SDG # M-27S

Dear Mr. Streeter:

Enclosed is the analytical data report for the above referenced facility. A total of thirteen samples were received by our laboratory on May 16, 2001.

Any problems encountered with this project are addressed in a case narrative section which is presented later in this report.

This report consists of two (2) packages: the sample data package and the sample data summary package. Both packages have been mailed to Judy Harry at your request, with only a copy of the summary package being mailed to IT. All data presented in this package has been reviewed prior to report submission. If you should have any questions or concerns, please contact me at (716) 288-5380.

Thank you for your continued use of our services.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Janice M. Jaeger
Project Chemist

enc.

cc: Ms. Judy Harry
Data Validation Services
120 Cobblecreek Road
North Creek, NY 12853

Columbia Analytical Services Inc.

1 Mustard ST.
Suite 250
Rochester, NY 14609

THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : IT Corporation
Project Reference: MRFA
Lab Submission # : R2106956
Reported : 06/19/01

Report Contains a total of 86 pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal. Michael K. Perry

CASE NARRATIVE

COMPANY: IT Corporation
MRFA
SUBMISSION #: R2106956

IT water samples were collected on 5/15/01 and received at CAS on 5/16/01 in good condition at a cooler temperature of 0 C.

INORGAINCS

Five water samples were analyzed for Total Chromium by CLP methodology and Hexavalent Chromium by method 7196A.

Matrix Spike/Duplicate was performed on M-27S as requested. All MS recoveries were within limits. All RPD's were within limits.

Hexavalent Chromium was analyzed within the 24 hour holding time of VTSR.

No other analytical or QC problems were encountered

VOLATILE ORGANICS

Twelve water samples and one trip blank were analyzed for a Site Specific List of Volatiles by Low Level CLP.

All Tuning criteria for BFB were within limits.

The initial and continuing calibration criteria were met for all analytes.

All internal standard areas were within limits.

All surrogate standard recoveries were within limits.

All samples were analyzed within required holding times.

Site specific QC was performed on M-27S. All MS/MSD recoveries were within limits. All Blank Spike recoveries were within limits. All outlying RPD's have been flagged with an "*".

The Laboratory Blanks associated with these samples was free of contamination.

No other analytical or QC problems were encountered.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in the hard copy package has been authorized by the Laboratory Manager or his designee, as verified by the following signature;

SDG #: M-27S
SUBMISSION R2106956
CLIENT: IT Corporation
CLIENT REP: Janice Jaeger
PROJECT: MRFA

BATCH COMPLETE: __yes_____
DISKETTE REQUESTED: Y___ N__x__
DATE: 05/16/01
CUSTODY SEAL: PRESENT/ABSENT:
CHAIN OF CUSTODY: PRESENT/ABSENT:

DATE REVISED: 5/29/01
DATE DUE: 06/13/01
PROTOCOL: CLP
SHIPPING No.:

CAS JOB #	CLIENT/EPA ID	MATRIX	REQUESTED PARAMETERS	DATE SAMPLED	DATE RECEIVED	pH (SOLIDS)	% SOLIDS	REMARKS SAMPLE CONDITION
463427	M-27S	WATER	QC CLPVOC's/Cr/Cr+6	5/15/01	5/16/01			
463428	DUPA	WATER	CLPVOC's/Cr/Cr+6	5/15/01	5/16/01			
463429	M-27D	WATER	CLPVOC's/Cr/Cr+6	5/15/01	5/16/01			
463430	SW-B	WATER	CLPVOC's/Cr/Cr+6	5/15/01	5/16/01			
463431	13S	WATER	Cr/Cr+6	5/15/01	5/16/01			
463432	TRIP BLANK	WATER	CLPVOC's	5/15/01	5/16/01			
463433	SW-A	WATER	CLPVOC's	5/15/01	5/16/01			
463434	STRIPPER EFFLUENT	WATER	CLPVOC's	5/15/01	5/16/01			
463435	STRIPPER INFLUENT	WATER	CLPVOC's	5/15/01	5/16/01			
463436	SW-D	WATER	CLPVOC's	5/15/01	5/16/01			
463437	M-33S	WATER	CLPVOC's	5/15/01	5/16/01			
463438	M-33I	WATER	CLPVOC's	5/15/01	5/16/01			
463439	DGC-3S	WATER	CLPVOC's	5/15/01	5/16/01			
463440	DGC-4S	WATER	CLPVOC's	5/15/01	5/16/01			
463496	COOLER BLANK	WATER	CLPVOC's	5/15/01	5/16/01			

03

INORGANIC QUALIFIERS

C (Concentration) qualifier - Enter "B" if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but was greater than or equal to the Instrument Detection Limit (IDL). If the analyte was analyzed for, but not detected, a "U" must be entered.

Q qualifier - Specified entries and their meanings are as follows:

E - The reported value is estimated because of the presence of interference.

M - Duplicate injection precision not met.

N - Spiked sample recovery not within control limits.

S - The reported value was determined by the Method of Standard Additions (MSA).

W - Post-digestion spike for Furnace AA Analysis is out of control limits (85-115), while sample absorbance is less than 50% of spike absorbance.

* - Duplicate analysis not within control limits.

+ - Correlation coefficient for the MSA is less than 0.995.

M (Method) qualifier - Enter:

- "P" for ICP
- "A" for Flame AA
- "F" for Furnace AA
- "PM" for ICP when Microwave Digestion is used
- "AM" for Flame AA when Microwave Digestion is used
- "FM" for Furnace M when Microwave Digestion is used
- "CV" for Manual Cold Vapor AA
- "AV" for Automated Cold Vapor AA
- "CA" for Midi-Distillation Spectrophotometric
- "AS" for Semi-Automated Spectrophotometric
- "C" for Manual Spectrophotometric
- "T" for Titrimetric
- " " where no data has been entered
- "NR" if the analyte is not required to be analyzed

Columbia Analytical Services Inc.

Effective 04/01/96

CAS LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

U - Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. For further explanation see case narrative / cover letter.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

N - Spiked sample recovery not within control limits.
(Flag the entire batch - Inorganic analysis only)

* - Duplicate analysis not within control limits.
(Flag the entire batch - Inorganic analysis only)

- Also used to qualify Organics QC data outside limits.

D - Spike diluted out.

S - Reported value determined by Method of Standard Additions. (MSA)

X - As specified in the case narrative.

CAS Lab ID # for State Certifications

NY ID # in Rochester:	10145	NJ ID # in Rochester:	73004
CT ID # in Rochester:	PH0556	RI ID # in Rochester:	158
MA ID # in Rochester:	M-NY032	NH ID # in Rochester:	294198-A
AIHA # in Rochester:	7889		

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An Employee-Owned Company
www.caslab.com

[redacted]AIN [redacted]F [redacted]/LA[redacted]ORA[redacted]ORY [redacted]NAL[redacted]SIS [redacted]QU[redacted]T [redacted]ORM [redacted]

One Mustard St., Suite 250 • Rochester, NY 14609-0859 • (716) 288-5380 • 800-695-7222 x[redacted] FAX (716) 288-8475

S[redacted]

CAS Contact [redacted]

Project Name: MRFA	Project Number:
Project Manager: GRANT ANDERSON	Report CC:
Company/Address: IT CORPORATION, 13 BRITISH AMERICAN BLVD, LATHAM, NY 12110	
Phone #: 518-783-1996	FAX#: 518 783-8397
Sampler's Signature: [signature]	Sampler's Printed Name: BRIAN NEUMANN

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624 ☐ CLP	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ CLP	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES/PCB's ☐ 8081 ☐ 608 ☐ CLP ☐ 8082	STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ VOA's ☐ SVOA's ☐ METALS ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	EPA OLC02 VOA's + ⊛ COMPOUNDS	TOTAL Cr	HEX Cr		REMARKS/ ALTERNATE DESCRIPTION
PRESERVATIVE																HCl	HNO3			
M-27S		5/15/01	1615	WATER	5											3	1	1		
M-27S MS/MSD		↓	1615	↓	5											3	1	1		
DUPA		↓	0820	↓	5											3	1	1		
TRIP BLANK		↓	X	↓	3											3				
M-27D		↓	1645	↓	5											3	1	1		
SW-A		↓	1500	↓	3											3				
SW-B		↓	1525	↓	5											3	1	1		
13S		↓	1430	↓	2												1	1		
STRIPPER EFFLUENT		↓	1347	↓	3											3				
STRIPPER INFLUENT		↓	1345	↓	3											3				

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other ______

SPECIAL INSTRUCTIONS/COMMENTS
Metals

Grab collected on 5/15/01

⊛ Hexachlorobutadiene, 123-Trichlorobenzene, Trichlorofluoromethane

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 24 hr ____ 48 hr ____ 5 day
X STANDARD
REQUESTED FAX DATE ____________
REQUESTED REPORT DATE ____________

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
____ V. Specialized Forms / Custom Report
Edata ____ Yes ____ No

INVOICE INFORMATION
PO#
BILL TO: G. ANDERSON
SUBMISSION #:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: ________ CUSTODY SEALS: Y N

	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	[signature]					
Printed Name	BRIAN NEUMANN					
Firm	IT CORP.					
Date/Time	5/15/01 1715					

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An Employee-Owned Co[redacted]y
www.caslab.com

[redacted]AIN[redacted]F C[redacted]TO[redacted]/LA[redacted]DRA[redacted]RY[redacted]NA[redacted]SIS[redacted]QU[redacted]T F[redacted]RM[redacted]

SP[redacted]

One Mustard St., Suite 250 • Rochester, NY 14609-0859 • (716) 288-5380 • 800-695-7222 x[redacted]AX (716) 288-8475 PAGE 2 OF 2

CAS Contact [redacted]

Project Name: MRFA	Project Number:
Project Manager: GRANT ANDERSON	Report CC:
Company/Address: IT CORP. 13 BRITISH AMERICAN BLVD LATHAM NY 12110	
Phone #: 518-783-1996	FAX#: 518-783-8397
Sampler's Signature: [signature]	Sampler's Printed Name: BRIAN NEUMANN

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624 ☐ CLP	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ CLP	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES/ PCB's ☐ 8081 ☐ 608 ☐ CLP ☐ 8082	STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	EPA 8260 VOAs (TCL compounds*)				REMARKS/ ALTERNATE DESCRIPTION
PRESERVATIVE																	HCl			
SW-D		5/15/01	1225	WATER	3											3				
M-33S		↓	1150	↓	3											3				
M-33I		↓	1120	↓	3											3				
DGC-3S		↓	1005	↓	3											3				
DGC-4S		↓	0910	↓	3											3				
~~TRIP BLANK~~ (BN)																				

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other ______

SPECIAL INSTRUCTIONS/COMMENTS
Metals

Cr+6 collected on 5/15/01!

(*) Hexachlorobutadiene, 1,2,3-trichlorobenzene & trichlorofluoromethane

See QAPP ☐

TURNAROUND REQUIREMENTS
______ RUSH (SURCHARGES APPLY)
____ 24 hr ____ 48 hr ____ 5 day
X STANDARD
REQUESTED FAX DATE
____
REQUESTED REPORT DATE
____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
____ V. Speicalized Forms / Custom Report
Edata ____ Yes ____ No

INVOICE INFORMATION
PO#
BILL TO: G. ANDERSON
SUBMISSION #:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: ________ CUSTODY SEALS: Y N

	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	[signature]					
Printed Name	BRIAN NEUMANN					
Firm	IT CORP					
Date/Time	5/15/01 1745					

Distribution: White - Return to Originator; Yellow - Lab Copy; Pink - Retained by Client

SCOC-0101-08

APPENDIX C

DATA VALIDATION REPORT

Data Validation Services

120 Cobble Creek Road P. O. Box 208
North Creek, N. Y. 12853
Phone 518-251-4429
Facsimile 518-251-4428

June 27, 2001

Grant Anderson
IT Corporation
13 British American Blvd.
Latham, NY 12110

RE: Validation of MRFA Malta Site Data Packages
CAS Sub Nos. R2006003 and R2106956

Dear Mr. Anderson:

Review has been completed for the data packages generated by Columbia Analytical Services (CAS), pertaining to samples collected at the MRFA Malta Site in February and May of 2001. Fifteen aqueous samples, and cooler and trip blanks, were processed by CAS for low level volatiles; Four of these and an additional sample, were also analysed for total and hexavalent chromium. Methodologies utilized are those of the USEPA OLC02/SW846.

Data validation was performed with guidance from the most current editions of the USEPA CLP National Functional Guidelines for Organic and Inorganic Data Review and the USEPA SOPs HW-2 and HW-6. The following items were reviewed:

* Data Completeness
* Custody Documentation
* Holding Times
* Surrogate and Internal Standard Recoveries
* Matrix Spike Recoveries/Duplicate Correlations
* Field Duplicate Correlations
* Preparation/Calibration Blanks
* Control Spike/Laboratory Control Samples
* Instrumental Tunes
* Calibration Standards
* Instrument IDLs
* Method Compliance
* Sample Result Verification

Those items showing deficiencies are discussed in the following sections of this report. All others were found to be acceptable as outlined in the above-mentioned validation procedures, and as applicable for the methodology. Unless noted specifically in the following text, reported results are substantiated by the raw data, and generated in compliance with protocol requirements.

In summary, sample processing was conducted with compliance to protocol requirements and with adherance to quality criteria, and results are usable as reported, or with minor qualification as estimated. These are discussed in the following analytical sections.

Copies of laboratory case narratives are attached to this narrative, and should be reviewed in conjunction with this narrative.

Data Completeness

Data packages were complete as received, and no resubmissions were required.

Low Level Volatile Analyses

Results for analytes whose values which are initially reported with the "E" qualifier should be derived from the dilution ("-DL") analyses. All other analyte values can be used from the initial analyses.

Due to the low relative response factors (RRFs) in the calibration standards, the reporting limits for acetone and 1,2-dibromo-3-chloropropane in all of the project samples, and 2-butanone in those collected in May, should be considered estimated ("UJ" qualifier), possibly biased low.

Matrix spikes of Effluent and MW27S showed acceptable accuracy and precision, with the exception of a few elevated duplicate correlation values in MW27S for analytes not detected in the samples. Spiked blanks also showed acceptable recoveries.

Field duplicate correlations for Effluent/DUPLICATE and MW27S/DUPA were acceptable.

Blanks showed no contamination. Sample reported results are substantiated by the raw data.

Total Chromium Analyses

Accuracy and precision of MW27S were good. The ICP serial dilution correlation for MW27S was acceptable. Field duplicate correlation for MW27S and DUPA was acceptable.

Reported results are substantiated by the raw data, and generated in compliance with required protocols.

Hexavalent Chromium Analyses

Accuracy and precision of MW27S, and the field duplicate correlation of MW27S and DUPA were acceptable.

Processing was compliant with protocol requirements.

Please do not hesitate to contact me if questions or comments arise during your review of this report.

Very truly yours,

Judy Harry

CAS ASP/CLP BATCHING FORM / LOGIN SHEET

SDG #: EFFLUENT	BATCH COMPLETE: __yes_____	DATE REVISED:
SUBMISSION R2106003	DISKETTE REQUESTED: Y___ N__x__	DATE DUE: 03/29/01
CLIENT: IT Corporation	DATE: 03/01/01	PROTOCOL: CLP
CLIENT REP: Janice Jaeger	CUSTODY SEAL: PRESENT/ABSENT:	SHIPPING No.:
PROJECT: MRFA	CHAIN OF CUSTODY: PRESENT/ABSENT:	

CAS JOB #	CLIENT/EPA ID	MATRIX	REQUESTED PARAMETERS	DATE SAMPLED	DATE RECEIVED	pH (SOLIDS)	% SOLIDS	REMARKS SAMPLE CONDITION
445073QC	EFFLUENT	WATER	LOW LEVEL CLP VOA'S	2/28/01	3/1/01			
445074	DUPLICATE	WATER	LOW LEVEL CLP VOA'S	2/28/01	3/1/01			
445075	INFLUENT	WATER	LOW LEVEL CLP VOA'S	2/28/01	3/1/01			
~~445076~~	~~RESERVOIR~~ cancelled	WATER	LOW LEVEL CLP VOA'S	2/28/01	3/1/01			
445077	TRIP BLANK	WATER	LOW LEVEL CLP VOA'S	2/28/01	3/1/01			
445113	Cooler Blank	"	"	"	"			

CAS ASP/CLP BATCHING FORM / LOGIN SHEET

SDG #: M-27B S
SUBMISSION R2106956
CLIENT: IT Corporation
CLIENT REP: Janice Jaeger
PROJECT: MRFA

BATCH COMPLETE: __yes_____
DISKETTE REQUESTED: Y___ N__x__
DATE: 05/16/01
CUSTODY SEAL: (PRESENT)/ABSENT:
CHAIN OF CUSTODY: (PRESENT)/ABSENT:

DATE REVISED: 5/29/01
DATE DUE: 06/13/01
PROTOCOL: CLP
SHIPPING No.:

CAS JOB #	CLIENT/EPA ID	MATRIX	REQUESTED PARAMETERS	DATE SAMPLED	DATE RECEIVED	pH (SOLIDS)	% SOLIDS	REMARKS SAMPLE CONDITION
463427	M-27B S	WATER	**QC** CLPVOC's/Cr/Cr+6	5/15/01	5/16/01			
463428	DUPA	WATER	CLPVOC's/Cr/Cr+6	5/15/01	5/16/01			
463429	M-27D	WATER	CLPVOC's/Cr/Cr+6	5/15/01	5/16/01			
463430	SW-B	WATER	CLPVOC's/Cr/Cr+6	5/15/01	5/16/01			
463431	13S	WATER	Cr/Cr+6	5/15/01	5/16/01			
463432	TRIP BLANK	WATER	CLPVOC's	5/15/01	5/16/01			
463433	SW-A	WATER	CLPVOC's	5/15/01	5/16/01			
463434	STRIPPER EFFLUENT	WATER	CLPVOC's	5/15/01	5/16/01			
463435	STRIPPER INFLUENT	WATER	CLPVOC's	5/15/01	5/16/01			
463436	SW-D	WATER	CLPVOC's	5/15/01	5/16/01			
463437	M-33S	WATER	CLPVOC's	5/15/01	5/16/01			
463438	M-33I	WATER	CLPVOC's	5/15/01	5/16/01			
463439	DGC-3S	WATER	CLPVOC's	5/15/01	5/16/01			
463440	DGC-4S	WATER	CLPVOC's	5/15/01	5/16/01			
463496	COOLER BLANK	WATER	CLPVOC's	5/15/01	5/16/01			

03

CASE NARRATIVE

COMPANY: IT Corporation
MRFA
SUBMISSION #: R2006003

IT water samples were collected on 02/28/01 and received at CAS on 03/01/01 in good condition at a cooler temperature of 1 C.

VOLATILE ORGANICS

Three water samples and one trip blank were analyzed for a Site Specific List of Volatiles by Low Level CLP.

All Tuning criteria for BFB were within limits.

The initial and continuing calibration criteria were met for all analytes.

All internal standard areas were within limits.

All surrogate standard recoveries were within limits.

All samples were analyzed within required holding times.

Site specific QC was performed on Effluent. All MS/MSD and Blank spike recoveries were within limits. All RPD's were within limits.

Carbon Tetrachloride for Influent has been flagged with an "E" as being an estimated value. The compound was outside the calibration range of the instrument and the sample was repeated at a dilution and both sets of data have been reported out.

The Laboratory Blanks associated with these samples was free of contamination.

No other analytical or QC problems were encountered.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in the hard copy package has been authorized by the Laboratory Manager or his designee, as verified by the following signature;

1 Mustard Street, Suite 250 ▪ Rochester, NY 14609-6925 ▪ Telephone (716) 288-5380 ▪ Fax (716) 288-8475

CASE NARRATIVE

COMPANY: IT Corporation
MRFA
SUBMISSION #: R2106956

IT water samples were collected on 5/15/01 and received at CAS on 5/16/01 in good condition at a cooler temperature of 0 C.

INORGAINCS

Five water samples were analyzed for Total Chromium by CLP methodology and Hexavalent Chromium by method 7196A.

Matrix Spike/Duplicate was performed on M-27S as requested. All MS recoveries were within limits. All RPD's were within limits.

Hexavalent Chromium was analyzed within the 24 hour holding time of VTSR.

No other analytical or QC problems were encountered

VOLATILE ORGANICS

Twelve water samples and one trip blank were analyzed for a Site Specific List of Volatiles by Low Level CLP.

All Tuning criteria for BFB were within limits.

The initial and continuing calibration criteria were met for all analytes.

All internal standard areas were within limits.

All surrogate standard recoveries were within limits.

All samples were analyzed within required holding times.

Site specific QC was performed on M-27S. All MS/MSD recoveries were within limits. All Blank Spike recoveries were within limits. All outlying RPD's have been flagged with an "*".

The Laboratory Blanks associated with these samples was free of contamination.

No other analytical or QC problems were encountered.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in the hard copy package has been authorized by the Laboratory Manager or his designee, as verified by the following signature;

1 Mustard Street, Suite 250 ▪ Rochester, NY 14609-6925 ▪ Telephone (716) 288-5380 ▪ Fax (716) 288-8475

APPENDIX D

INFLUENT/EFFLUENT/RESERVOIR WATER QUALITY DATA (EPA 8260 QUICK TURN ANALYSIS) FEBRUARY 28, 2001 WITH GENERAL ELECTRIC CORRESPONDENCE TO USEPA

Columbia Analytical Services inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

March 6, 2001

Mr. Lew Streeter
IT Corporation
13 British American Blvd.
Latham, NY 12110

PROJECT:MRFA
Submission #:R2106002

Dear Mr. Streeter:

Enclosed are the analytical results of the analyses requested. The analytical data was provided to you on 03/01/01 per a Facsimile transmittal. All data has been reviewed prior to report submission.

Should you have any questions please contact me at (716) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Janice Jaeger
Project Chemist

Enc.

1 Mustard St. • Suite 250 • Rochester, NY 14609 • Tele:(716)288-5380 • Fax:(716)288-8475

Columbia Analytical Services inc.

1 Mustard ST.
Suite 250
Rochester, NY 14609

THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : IT Corporation
Project Reference: MRFA
Lab Submission # : R2106002
Reported : 03/06/01

Report Contains a total of 10 pages

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal.

Columbia Analytical Services inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2106002

Lab ID	Client ID
445068	EFFLUENT
445071	INFLUENT
445072	RESERVOIR

All samples were received in good condition.

All samples have been analyzed by the approved methods cited on the analytical results pages.

All holding times and associated QC were within limits.

No analytical or QC problems were encountered.

Columbia Analytical Services inc.

Effective 04/01/96

CAS LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

U - Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. For further explanation see case narrative / cover letter.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

N - Spiked sample recovery not within control limits.
(Flag the entire batch - Inorganic analysis only)

* - Duplicate analysis not within control limits.
(Flag the entire batch - Inorganic analysis only)

- Also used to qualify Organics QC data outside limits.

D - Spike diluted out.

S - Reported value determined by Method of Standard Additions. (MSA)

X - As specified in the case narrative.

CAS Lab ID # for State Certifications

NY ID # in Rochester:	10145	NJ ID # in Rochester:	73004
CT ID # in Rochester:	PH0556	RI ID # in Rochester:	158
MA ID # in Rochester:	M-NY032	NH ID # in Rochester:	294198-A
AIHA # in Rochester:	7889		

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 03/06/01

IT Corporation
Project Reference: MRFA
Client Sample ID : EFFLUENT

Date Sampled : 02/28/01 10:45 **Order #:** 445068 **Sample Matrix:** WATER
Date Received: 03/01/01 **Submission #:** R2106002 **Analytical Run** 61317

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 03/01/01			
ANALYTICAL DILUTION: 1.00			
ACETONE	10	10 U	UG/L
BENZENE	1.0	1.0 U	UG/L
BROMODICHLOROMETHANE	1.0	1.0 U	UG/L
BROMOFORM	1.0	1.0 U	UG/L
BROMOMETHANE	1.0	1.0 U	UG/L
2-BUTANONE (MEK)	5.0	5.0 U	UG/L
CARBON DISULFIDE	5.0	5.0 U	UG/L
CARBON TETRACHLORIDE	1.0	1.0 U	UG/L
CHLOROBENZENE	1.0	1.0 U	UG/L
CHLOROETHANE	1.0	1.0 U	UG/L
CHLOROFORM	1.0	1.0 U	UG/L
CHLOROMETHANE	1.0	1.0 U	UG/L
DIBROMOCHLOROMETHANE	1.0	1.0 U	UG/L
1,1-DICHLOROETHANE	1.0	1.0 U	UG/L
1,2-DICHLOROETHANE	1.0	1.0 U	UG/L
1,1-DICHLOROETHENE	1.0	1.0 U	UG/L
CIS-1,2-DICHLOROETHENE	1.0	1.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	1.0	1.0 U	UG/L
1,2-DICHLOROPROPANE	1.0	1.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	1.0	1.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	1.0	1.0 U	UG/L
ETHYLBENZENE	1.0	1.0 U	UG/L
2-HEXANONE	5.0	5.0 U	UG/L
METHYLENE CHLORIDE	1.0	1.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	5.0	5.0 U	UG/L
STYRENE	1.0	1.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	1.0	1.0 U	UG/L
TETRACHLOROETHENE	1.0	1.0 U	UG/L
TOLUENE	1.0	1.0 U	UG/L
1,1,1-TRICHLOROETHANE	1.0	1.0 U	UG/L
1,1,2-TRICHLOROETHANE	1.0	1.0 U	UG/L
TRICHLOROETHENE	1.0	1.0 U	UG/L
VINYL CHLORIDE	1.0	1.0 U	UG/L
O-XYLENE	1.0	1.0 U	UG/L
M+P-XYLENE	1.0	1.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
BROMOFLUOROBENZENE	(86 - 115 %)	98	%
TOLUENE-D8	(88 - 110 %)	102	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	96	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 03/06/01

IT Corporation
Project Reference: MRFA
Client Sample ID : INFLUENT

Date Sampled : 02/28/01 10:55 **Order #:** 445071 **Sample Matrix:** WATER
Date Received: 03/01/01 **Submission #:** R2106002 **Analytical Run** 61317

DATE ANALYZED : 03/01/01
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
ACETONE	10	10 U	UG/L
BENZENE	1.0	1.0 U	UG/L
BROMODICHLOROMETHANE	1.0	1.0 U	UG/L
BROMOFORM	1.0	1.0 U	UG/L
BROMOMETHANE	1.0	1.0 U	UG/L
2-BUTANONE (MEK)	5.0	5.0 U	UG/L
CARBON DISULFIDE	5.0	5.0 U	UG/L
CARBON TETRACHLORIDE	1.0	22	UG/L
CHLOROBENZENE	1.0	1.0 U	UG/L
CHLOROETHANE	1.0	1.0 U	UG/L
CHLOROFORM	1.0	2.3	UG/L
CHLOROMETHANE	1.0	1.0 U	UG/L
DIBROMOCHLOROMETHANE	1.0	1.0 U	UG/L
1,1-DICHLOROETHANE	1.0	1.0 U	UG/L
1,2-DICHLOROETHANE	1.0	1.0 U	UG/L
1,1-DICHLOROETHENE	1.0	1.0 U	UG/L
CIS-1,2-DICHLOROETHENE	1.0	1.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	1.0	1.0 U	UG/L
1,2-DICHLOROPROPANE	1.0	1.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	1.0	1.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	1.0	1.0 U	UG/L
ETHYLBENZENE	1.0	1.0 U	UG/L
2-HEXANONE	5.0	5.0 U	UG/L
METHYLENE CHLORIDE	1.0	1.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	5.0	5.0 U	UG/L
STYRENE	1.0	1.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	1.0	1.0 U	UG/L
TETRACHLOROETHENE	1.0	1.0 U	UG/L
TOLUENE	1.0	1.0 U	UG/L
1,1,1-TRICHLOROETHANE	1.0	1.0 U	UG/L
1,1,2-TRICHLOROETHANE	1.0	1.0 U	UG/L
TRICHLOROETHENE	1.0	19	UG/L
VINYL CHLORIDE	1.0	1.0 U	UG/L
O-XYLENE	1.0	1.0 U	UG/L
M+P-XYLENE	1.0	1.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115 %)	96	%
TOLUENE-D8	(88 - 110 %)	103	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	96	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 03/06/01

IT Corporation
Project Reference: MRFA
Client Sample ID : RESERVOIR

Date Sampled : 02/28/01 14:50 **Order #:** 445072 **Sample Matrix:** WATER
Date Received: 03/01/01 **Submission #:** R2106002 **Analytical Run** 61317

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 03/01/01			
ANALYTICAL DILUTION: 1.00			
ACETONE	10	10 U	UG/L
BENZENE	1.0	1.0 U	UG/L
BROMODICHLOROMETHANE	1.0	1.0 U	UG/L
BROMOFORM	1.0	1.0 U	UG/L
BROMOMETHANE	1.0	1.0 U	UG/L
2-BUTANONE (MEK)	5.0	5.0 U	UG/L
CARBON DISULFIDE	5.0	5.0 U	UG/L
CARBON TETRACHLORIDE	1.0	1.0 U	UG/L
CHLOROBENZENE	1.0	1.0 U	UG/L
CHLOROETHANE	1.0	1.0 U	UG/L
CHLOROFORM	1.0	1.0 U	UG/L
CHLOROMETHANE	1.0	1.0 U	UG/L
DIBROMOCHLOROMETHANE	1.0	1.0 U	UG/L
1,2-DICHLOROETHANE	1.0	1.0 U	UG/L
1,2-DICHLOROETHANE	1.0	1.0 U	UG/L
1,1-DICHLOROETHENE	1.0	1.0 U	UG/L
CIS-1,2-DICHLOROETHENE	1.0	1.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	1.0	1.0 U	UG/L
1,2-DICHLOROPROPANE	1.0	1.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	1.0	1.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	1.0	1.0 U	UG/L
ETHYLBENZENE	1.0	1.0 U	UG/L
2-HEXANONE	5.0	5.0 U	UG/L
METHYLENE CHLORIDE	1.0	1.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	5.0	5.0 U	UG/L
STYRENE	1.0	1.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	1.0	1.0 U	UG/L
TETRACHLOROETHENE	1.0	1.0 U	UG/L
TOLUENE	1.0	1.0 U	UG/L
1,1,1-TRICHLOROETHANE	1.0	1.0 U	UG/L
1,1,2-TRICHLOROETHANE	1.0	1.0 U	UG/L
TRICHLOROETHENE	1.0	1.0 U	UG/L
VINYL CHLORIDE	1.0	1.0 U	UG/L
O-XYLENE	1.0	1.0 U	UG/L
M+P-XYLENE	1.0	1.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
BROMOFLUOROBENZENE	(86 - 115 %)	98	%
TOLUENE-D8	(88 - 110 %)	101	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	96	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 03/06/01

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 445175 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 61317

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 03/01/01			
ANALYTICAL DILUTION: 1.00			
ACETONE	10	10 U	UG/L
BENZENE	1.0	1.0 U	UG/L
BROMODICHLOROMETHANE	1.0	1.0 U	UG/L
BROMOFORM	1.0	1.0 U	UG/L
BROMOMETHANE	1.0	1.0 U	UG/L
2-BUTANONE (MEK)	5.0	5.0 U	UG/L
CARBON DISULFIDE	5.0	5.0 U	UG/L
CARBON TETRACHLORIDE	1.0	1.0 U	UG/L
CHLOROBENZENE	1.0	1.0 U	UG/L
CHLOROETHANE	1.0	1.0 U	UG/L
CHLOROFORM	1.0	1.0 U	UG/L
CHLOROMETHANE	1.0	1.0 U	UG/L
DIBROMOCHLOROMETHANE	1.0	1.0 U	UG/L
1,1-DICHLOROETHANE	1.0	1.0 U	UG/L
1,2-DICHLOROETHANE	1.0	1.0 U	UG/L
1,1-DICHLOROETHENE	1.0	1.0 U	UG/L
CIS-1,2-DICHLOROETHENE	1.0	1.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	1.0	1.0 U	UG/L
1,2-DICHLOROPROPANE	1.0	1.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	1.0	1.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	1.0	1.0 U	UG/L
ETHYLBENZENE	1.0	1.0 U	UG/L
2-HEXANONE	5.0	5.0 U	UG/L
METHYLENE CHLORIDE	1.0	1.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	5.0	5.0 U	UG/L
STYRENE	1.0	1.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	1.0	1.0 U	UG/L
TETRACHLOROETHENE	1.0	1.0 U	UG/L
TOLUENE	1.0	1.0 U	UG/L
1,1,1-TRICHLOROETHANE	1.0	1.0 U	UG/L
1,1,2-TRICHLOROETHANE	1.0	1.0 U	UG/L
TRICHLOROETHENE	1.0	1.0 U	UG/L
VINYL CHLORIDE	1.0	1.0 U	UG/L
O-XYLENE	1.0	1.0 U	UG/L
M+P-XYLENE	1.0	1.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115 %)	98	%
TOLUENE-D8	(88 - 110 %)	102	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	97	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD: 8260B TCL

LABORATORY REFERENCE SPIKE SUMMARY

REFERENCE ORDER #: 445176 ANALYTICAL RUN # : 61317

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
DATE ANALYZED : 03/01/01			
ANALYTICAL DILUTION: 1.0			
ACETONE	20.0	102	21 - 165
BENZENE	20.0	100	37 - 151
BROMODICHLOROMETHANE	20.0	96	35 - 155
BROMOFORM	20.0	93	45 - 169
BROMOMETHANE	20.0	87	10 - 242
2-BUTANONE (MEK)	20.0	103	25 - 162
CARBON DISULFIDE	20.0	86	45 - 148
CARBON TETRACHLORIDE	20.0	89	70 - 140
CHLOROBENZENE	20.0	100	37 - 160
CHLOROETHANE	20.0	105	53 - 149
CHLOROFORM	20.0	97	51 - 138
CHLOROMETHANE	20.0	108	10 - 273
DIBROMOCHLOROMETHANE	20.0	95	53 - 149
1,1-DICHLOROETHANE	20.0	108	59 - 155
1,2-DICHLOROETHANE	20.0	96	49 - 155
1,1-DICHLOROETHENE	20.0	94	10 - 234
CIS-1,2-DICHLOROETHENE	20.0	105	54 - 156
TRANS-1,2-DICHLOROETHENE	20.0	103	54 - 156
1,2-DICHLOROPROPANE	20.0	104	10 - 210
CIS-1,3-DICHLOROPROPENE	20.0	101	10 - 227
TRANS-1,3-DICHLOROPROPENE	20.0	102	17 - 183
ETHYLBENZENE	20.0	100	37 - 162
2-HEXANONE	20.0	96	22 - 155
METHYLENE CHLORIDE	20.0	101	10 - 221
4-METHYL-2-PENTANONE (MIBK)	20.0	99	46 - 157
STYRENE	20.0	101	66 - 144
1,1,2,2-TETRACHLOROETHANE	20.0	99	46 - 157
TETRACHLOROETHENE	20.0	94	64 - 148
TOLUENE	20.0	98	47 - 150
1,1,1-TRICHLOROETHANE	20.0	91	52 - 162
1,1,2-TRICHLOROETHANE	20.0	100	52 - 150
TRICHLOROETHENE	20.0	96	71 - 157
VINYL CHLORIDE	20.0	93	10 - 251
O-XYLENE	20.0	101	71 - 135
M+P-XYLENE	40.0	99	71 - 135

Columbia Analytical Services INC.
An Employee-Owned Company

1 Mustard St., Suite 250, Rochester, NY 14609-69245
(716) 288-5380 • FAX (716) 288-8475

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

DATE 2/28/01 PAGE 1 OF 1

PROJECT NAME MRFA
PROJECT MANAGER/CONTACT Lew Streeter
COMPANY/ADDRESS IT Corporation
13 British American Blvd, Latham, NY
TEL (518) 783-1996 FAX (518) 783-8397
SAMPLER'S SIGNATURE (GvA)

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB I.D.	SAMPLE MATRIX	# OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624 ☐ 95-1	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ 95-2	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES/PCB's ☐ 8081 ☐ 608 ☐ 95-3	STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	EPA OLCO2 VOCs + extra compounds							PRESERVATION pH < 2.0	PRESERVATION pH > 12	PRESERVATION Other
Stripper Effluent	2/28/01	1045	44506B,07A	water	3											3							X		
Stripper Effluent MS		1045			3											3							X		
Stripper Effluent MSD		1045			3											3							X		
Duplicate		—	74		3											3							X		
Stripper Influent		1055	44507,75		3											3							X		
Reservoir	↓	1450	44507,76	↓	3											3							X		
Trip Blank	2/28/01	—	77	water	3											3									

RELINQUISHED BY:
Signature
Printed Name Grant V Anderson
Firm IT Corporation
Date/Time 2/28/01 @ 1600

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm 3/1/01 1030
Date/Time

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
__ Standard (10-15 working days)
__ Provide Verbal Preliminary Results
✓ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
__ 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
✓ 5. NY ASP/CLP Deliverables
✓ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To: IT Corp Latham, NY

SAMPLE RECEIPT:
Shipping Via: Fedex
Shipping #:
Temperature: 1
Submission No:

SPECIAL INSTRUCTIONS/COMMENTS:
METALS do quick TAT by 8260-LL & repeat by OLCO2 w/ extra cpds - TCL list
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☒ Special List Also analyze samples for: Hexachlorobutadiene, 1,2,3 Trichlorobenzene & Trichlorofluoromethane. Please analyze Stripper Influent, Stripper Effluent & Reservoir samples with 24 hour TAT.
All other samples are standard turnaround.

as per Mark Wilson/Grant Anderson 3/1/01

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Check Form

Project/Client IT Submission Number 6002

Cooler received on 3/1/01 by: [illegible] COURIER: CAS UPS FEDEX CD&L CLIENT

1.	Were custody seals on outside of cooler?	YES / NO				
2.	Were custody papers properly filled out (ink, signed, etc.)?	YES NO				
3.	Did all bottles arrive in good condition (unbroken)?	YES NO				
4.	Did any VOA vials have significant air bubbles?	YES NO N/A				
5.	Were **Ice** or **Ice packs** present?	YES NO				
6.	Where did the bottles originate?	CAS/ROC, CLIENT				
7.	Temperature of cooler(s) upon receipt:	1				
	Is the temperature within 0° - 6° C?:	Yes ☒	Yes ☐	Yes ☐	Yes ☐	Yes ☐
	If No, Explain Below	No ☐	No ☐	No ☐	No ☐	No ☐

Date/Time Temperatures Taken: 3/1/01 1035

Thermometer ID: _____ Temp Blank Sample Bottle Cooler Temp. IR Gun

If out of Temperature, Client Approval to Run Samples _____

Cooler Breakdown: Date: 3/1/01 by: [illegible]

1.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	YES NO
2.	Did all bottle labels and tags agree with custody papers?	YES NO
3.	Were correct containers used for the tests indicated?	YES NO
4.	Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated	N/A

Explain any discrepancies: _____

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO_3					
2	H_2SO_4					
Residual Chlorine (+/-)	for TCN & Phenol					
5-9*	P/PCBs (608 only)					

YES = All samples OK NO = Samples were preserved at lab as listed PC OK to adjust pH _____

*If pH adjustment is required, use NaOH and/or H_2SO_4

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

Other Comments:

John M. Uruskyj
Remedial Project Manager

Corporate Environmental Programs
General Electric Company
320 Great Oaks Office Park, Suite 323
Albany, New York 12203
Phone: (518) 862-2717; Fax: (518) 862-2702

March 19, 2001

Patricia Simmons, RPM
Central New York Remediation Section
United States Environmental Protection Agency - Region II
290 Broadway - 20th Floor
New York, New York 10007-1866

Subject: Drinking Water System Operations
Malta Rocket Fuel Area Site
Malta, New York

Dear Patricia:

As you requested in our telephone conversation of February 28, 2001, I have prepared this letter outlining the details of the operational problem at the above referenced site. As you recall, representatives of the supervising contractor, IT Corporation (IT), discovered a blown fuse in one of the electrical circuits supplying power to the air stripper blower unit on February 28. This condition resulted in the incomplete treatment of approximately 14,000 gallons of water pumped by the system over the February 26-28 time period. The system was repaired on February 28 and placed back into operation by IT on that day.

As you are aware, the water supply treatment system at the MRFA consists of two groundwater extraction wells, an air stripper, a settling tank and a 100,000-gallon water storage tank. Groundwater from the two wells is pumped into the air stripper and then flows by gravity into a 450-gallon stainless steel transfer/settling tank. The treated water is then pumped from the settling tank into a 100,000-gallon underground concrete reservoir. The water is then pumped into the water distribution system at the MRFA.

On February 26, 2001, IT personnel notified the Test Station site staff that a monthly O&M visit would be conducted on February 28. At that time, IT was informed by a Wright-Malta representative that the pumping system was down. The remote telemetry unit (RTU) was accessed remotely by IT personnel via a software link. It is believed that IT personnel inadvertently disabled the low pressure alarm while reviewing the system configuration, thereby allowing the pumping system to re-start without the air blower operating. System operation continued periodically until IT came to the site on February 28th, replaced the blown fuse and returned the system to full operational status. Based on system records,

approximately 14,000 gallons of water was pumped from the wells and treated in the air stripper while the blower was not operating.

Following the discovery of the faulty system operation on February 28th, Test Station personnel were advised of the problem and were offered bottled water for their use. Mr. R.P. Kazyaka, the Test Station manager, indicated that bottled water was not necessary and that the water supply was not used for drinking by anyone at the Test Station. I then contacted you to let you know of the problem. In order to determine the potential impact to the Test Station water supply, calculations were performed to estimate the maximum potential concentrations of trichloroethylene and carbon tetrachloride in the site reservoir. Calculations showed that the maximum potential concentrations were below federal maximum contaminant levels (MCLs). In order to confirm the calculations, a sample of the Test Station Water supply was taken by IT on February 28 for 24-hour laboratory turnaround by EPA Test Method 8260B. Laboratory results are attached and show that no VOCs were detected in the Test Station water supply.

Following repairs to the system, an operations engineer from the RTU manufacturer (Dancer/GEMS systems) remotely checked the system to confirm that all parameters were configured for proper system operation. A field visit was also performed by IT to verify the proper operation of all alarms and set points associated with the system. All system alarms and interlocks were documented to be operating properly.

In order to prevent the future occurrence of similar operational problems, IT is making preparations to install a fail-safe sensor for the air stripper blower. This sensor would monitor the electrical current in the motor circuit. In the event that no blower motor amperage was detected in the circuit, the groundwater pumps would be disabled until the cause could be corrected. Until such a modification can be effected, IT personnel will verify the proper operation of all alarms and interlocks via a physical visit to the site whenever there is an alarm condition or adjustments are made to the RTU.

If you have any questions, please contact me at your convenience.

Sincerely,

John M. Uruskyj, C.P.G.
Remedial Project Manager

enclosure

JMU/jmu

APPENDIX E

AIR STRIPPER FLOW DATA

APPENDIX E
MALTA ROCKET FUEL AREA SITE
AIR STRIPPER FLOW DATA

Date	Well #2 Flow (gal)	Well #1 Flow (gal)	Well #2 Average Flow (gpm)	Well #1 Average Flow (gpm)	Total Daily Average Flow (gpm)
06/22/2001 Total	200	190	0.14	0.13	0.27
06/21/2001 Total	570	540	0.40	0.38	0.77
06/20/2001 Total	310	300	0.22	0.21	0.42
06/19/2001 Total	420	390	0.29	0.27	0.56
06/18/2001 Total	460	440	0.32	0.31	0.63
06/17/2001 Total	360	340	0.25	0.24	0.49
06/16/2001 Total	420	390	0.29	0.27	0.56
06/15/2001 Total	460	440	0.32	0.31	0.63
06/14/2001 Total	480	450	0.33	0.31	0.65
06/13/2001 Total	510	490	0.35	0.34	0.69
06/12/2001 Total	4160	3890	2.89	2.70	5.59
06/11/2001 Total	310	300	0.22	0.21	0.42
06/10/2001 Total	150	150	0.10	0.10	0.21
06/09/2001 Total	320	290	0.22	0.20	0.42
06/08/2001 Total	310	300	0.22	0.21	0.42
06/07/2001 Total	420	390	0.29	0.27	0.56
06/06/2001 Total	310	300	0.22	0.21	0.42
06/05/2001 Total	530	490	0.37	0.34	0.71
06/04/2001 Total	310	300	0.22	0.21	0.42
06/03/2001 Total	320	290	0.22	0.20	0.42
06/02/2001 Total	310	300	0.22	0.21	0.42
06/01/2001 Total	420	390	0.29	0.27	0.56
05/31/2001 Total	320	300	0.22	0.21	0.43
05/30/2001 Total	520	490	0.36	0.34	0.70
05/29/2001 Total	570	540	0.40	0.38	0.77
05/28/2001 Total	630	590	0.44	0.41	0.85
05/27/2001 Total	8400	7920	5.83	5.50	11.33
05/26/2001 Total	9220	8670	6.40	6.02	12.42
05/25/2001 Total	3650	3580	2.53	2.49	5.02
05/24/2001 Total	420	390	0.29	0.27	0.56
05/23/2001 Total	260	250	0.18	0.17	0.35
05/22/2001 Total	310	290	0.22	0.20	0.42
05/21/2001 Total	420	400	0.29	0.28	0.57
05/20/2001 Total	250	240	0.17	0.17	0.34
05/19/2001 Total	310	300	0.22	0.21	0.42
05/18/2001 Total	370	350	0.26	0.24	0.50
05/17/2001 Total	360	340	0.25	0.24	0.49
05/16/2001 Total	410	400	0.28	0.28	0.56
05/15/2001 Total	420	400	0.29	0.28	0.57
05/14/2001 Total	420	400	0.29	0.28	0.57
05/13/2001 Total	310	290	0.22	0.20	0.42
05/12/2001 Total	260	250	0.18	0.17	0.35
05/11/2001 Total	310	300	0.22	0.21	0.42
05/10/2001 Total	310	290	0.22	0.20	0.42
05/09/2001 Total	360	350	0.25	0.24	0.49
05/08/2001 Total	320	300	0.22	0.21	0.43
05/07/2001 Total	360	340	0.25	0.24	0.49
05/06/2001 Total	320	300	0.22	0.21	0.43
05/05/2001 Total	260	250	0.18	0.17	0.35
05/04/2001 Total	1900	1820	1.32	1.26	2.58
05/03/2001 Total	3420	3250	2.38	2.26	4.63

APPENDIX E
MALTA ROCKET FUEL AREA SITE
AIR STRIPPER FLOW DATA

Date	Well #2 Flow (gal)	Well #1 Flow (gal)	Well #2 Average Flow (gpm)	Well #1 Average Flow (gpm)	Total Daily Average Flow (gpm)
05/02/2001 Total	360	350	0.25	0.24	0.49
05/01/2001 Total	310	300	0.22	0.21	0.42
04/30/2001 Total	470	450	0.33	0.31	0.64
04/29/2001 Total	210	200	0.15	0.14	0.28
04/28/2001 Total	320	300	0.22	0.21	0.43
04/27/2001 Total	310	300	0.22	0.21	0.42
04/26/2001 Total	400	390	0.28	0.27	0.55
04/25/2001 Total	340	330	0.24	0.23	0.47
04/24/2001 Total	320	310	0.22	0.22	0.44
04/23/2001 Total	570	540	0.40	0.38	0.77
04/22/2001 Total	270	250	0.19	0.17	0.36
04/21/2001 Total	310	300	0.22	0.21	0.42
04/20/2001 Total	320	310	0.22	0.22	0.44
04/19/2001 Total	370	360	0.26	0.25	0.51
04/18/2001 Total	380	360	0.26	0.25	0.51
04/17/2001 Total	430	410	0.30	0.28	0.58
04/16/2001 Total	320	310	0.22	0.22	0.44
04/15/2001 Total	270	260	0.19	0.18	0.37
04/14/2001 Total	370	360	0.26	0.25	0.51
04/13/2001 Total	320	310	0.22	0.22	0.44
04/12/2001 Total	490	460	0.34	0.32	0.66
04/11/2001 Total	380	360	0.26	0.25	0.51
04/10/2001 Total	320	310	0.22	0.22	0.44
04/09/2001 Total	420	400	0.29	0.28	0.57
04/08/2001 Total	280	270	0.19	0.19	0.38
04/07/2001 Total	320	310	0.22	0.22	0.44
04/06/2001 Total	320	310	0.22	0.22	0.44
04/05/2001 Total	320	310	0.22	0.22	0.44
04/04/2001 Total	470	460	0.33	0.32	0.65
04/03/2001 Total	330	330	0.23	0.23	0.46
04/02/2001 Total	380	360	0.26	0.25	0.51
04/01/2001 Total	270	260	0.19	0.18	0.37
03/31/2001 Total	370	370	0.26	0.26	0.51
03/30/2001 Total	330	310	0.23	0.22	0.44
03/29/2001 Total	320	320	0.22	0.22	0.44
03/28/2001 Total	430	410	0.30	0.28	0.58
03/27/2001 Total	420	420	0.29	0.29	0.58
03/26/2001 Total	330	310	0.23	0.22	0.44
03/25/2001 Total	370	360	0.26	0.25	0.51
03/24/2001 Total	270	260	0.19	0.18	0.37
03/23/2001 Total	370	360	0.26	0.25	0.51
03/22/2001 Total	420	410	0.29	0.28	0.58
03/21/2001 Total	370	360	0.26	0.25	0.51
03/20/2001 Total	320	310	0.22	0.22	0.44
03/19/2001 Total	370	360	0.26	0.25	0.51
03/18/2001 Total	270	260	0.19	0.18	0.37
03/17/2001 Total	370	360	0.26	0.25	0.51
03/16/2001 Total	370	360	0.26	0.25	0.51
03/15/2001 Total	320	310	0.22	0.22	0.44
03/14/2001 Total	370	360	0.26	0.25	0.51
03/13/2001 Total	370	360	0.26	0.25	0.51

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MALTA ROCKET FUEL AREA SITE
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Date	Well #2 Flow (gal)	Well #1 Flow (gal)	Well #2 Average Flow (gpm)	Well #1 Average Flow (gpm)	Total Daily Average Flow (gpm)
03/12/2001 Total	320	310	0.22	0.22	0.44
03/11/2001 Total	260	250	0.18	0.17	0.35
03/10/2001 Total	260	260	0.18	0.18	0.36
03/09/2001 Total	370	350	0.26	0.24	0.50
03/08/2001 Total	440	420	0.31	0.29	0.60
03/07/2001 Total	710	690	0.49	0.48	0.97
03/06/2001 Total	370	360	0.26	0.25	0.51
03/05/2001 Total	420	410	0.29	0.28	0.58
03/04/2001 Total	370	360	0.26	0.25	0.51
03/03/2001 Total	370	360	0.26	0.25	0.51
03/02/2001 Total	580	560	0.40	0.39	0.79
03/01/2001 Total	690	660	0.48	0.46	0.94
02/28/2001 Total	1050	1010	0.73	0.70	1.43
02/27/2001 Total	2650	2470	1.84	1.72	3.56
02/26/2001 Total	4310	4050	2.99	2.81	5.81
02/25/2001 Total	0	0	0.00	0.00	0.00
02/24/2001 Total	0	0	0.00	0.00	0.00
02/23/2001 Total	0	0	0.00	0.00	0.00
02/22/2001 Total	0	0	0.00	0.00	0.00
02/21/2001 Total	0	0	0.00	0.00	0.00
02/20/2001 Total	0	0	0.00	0.00	0.00
02/19/2001 Total	30	30	0.02	0.02	0.04
02/18/2001 Total	0	0	0.00	0.00	0.00
02/17/2001 Total	0	0	0.00	0.00	0.00
02/16/2001 Total	0	0	0.00	0.00	0.00
02/15/2001 Total	0	0	0.00	0.00	0.00
02/14/2001 Total	0	0	0.00	0.00	0.00
02/13/2001 Total	0	0	0.00	0.00	0.00
02/12/2001 Total	30	30	0.02	0.02	0.04
02/11/2001 Total	320	320	0.22	0.22	0.44
02/10/2001 Total	270	250	0.19	0.17	0.36
02/09/2001 Total	420	410	0.29	0.28	0.58
02/08/2001 Total	260	250	0.18	0.17	0.35
02/07/2001 Total	480	450	0.33	0.31	0.65
02/06/2001 Total	310	310	0.22	0.22	0.43
02/05/2001 Total	370	350	0.26	0.24	0.50
02/04/2001 Total	330	310	0.23	0.22	0.44
02/03/2001 Total	270	260	0.19	0.18	0.37
02/02/2001 Total	310	300	0.22	0.21	0.42
02/01/2001 Total	480	460	0.33	0.32	0.65
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01/30/2001 Total	370	350	0.26	0.24	0.50
01/29/2001 Total	370	350	0.26	0.24	0.50
01/28/2001 Total	260	260	0.18	0.18	0.36
01/27/2001 Total	270	250	0.19	0.17	0.36
01/26/2001 Total	420	400	0.29	0.28	0.57
01/25/2001 Total	330	320	0.23	0.22	0.45
01/24/2001 Total	400	390	0.28	0.27	0.55
01/23/2001 Total	430	400	0.30	0.28	0.58
01/22/2001 Total	420	410	0.29	0.28	0.58
01/21/2001 Total	270	260	0.19	0.18	0.37

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01/20/2001 Total	370	350	0.26	0.24	0.50
01/19/2001 Total	250	240	0.17	0.17	0.34
01/18/2001 Total	430	410	0.30	0.28	0.58
01/17/2001 Total	370	350	0.26	0.24	0.50
01/16/2001 Total	420	410	0.29	0.28	0.58
01/15/2001 Total	370	350	0.26	0.24	0.50
01/14/2001 Total	270	250	0.19	0.17	0.36
01/13/2001 Total	370	360	0.26	0.25	0.51
01/12/2001 Total	370	350	0.26	0.24	0.50
01/11/2001 Total	320	310	0.22	0.22	0.44
01/10/2001 Total	690	660	0.48	0.46	0.94
01/09/2001 Total	320	310	0.22	0.22	0.44
01/08/2001 Total	420	400	0.29	0.28	0.57
01/07/2001 Total	270	250	0.19	0.17	0.36
01/06/2001 Total	310	300	0.22	0.21	0.42
01/05/2001 Total	480	460	0.33	0.32	0.65
01/04/2001 Total	260	250	0.18	0.17	0.35
01/03/2001 Total	430	400	0.30	0.28	0.58
01/02/2001 Total	410	400	0.28	0.28	0.56
01/01/2001 Total	270	260	0.19	0.18	0.37
12/31/2000 Total	320	300	0.22	0.21	0.43
12/30/2000 Total	370	350	0.26	0.24	0.50
12/29/2000 Total	320	300	0.22	0.21	0.43
12/28/2000 Total	370	350	0.26	0.24	0.50
12/27/2000 Total	420	410	0.29	0.28	0.58
12/26/2000 Total	270	250	0.19	0.17	0.36
12/25/2000 Total	380	360	0.26	0.25	0.51
12/24/2000 Total	260	250	0.18	0.17	0.35
12/23/2000 Total	370	360	0.26	0.25	0.51
12/22/2000 Total	480	450	0.33	0.31	0.65
Grand Total	**97390**	**92800**	**0.37**	**0.35**	**0.726**