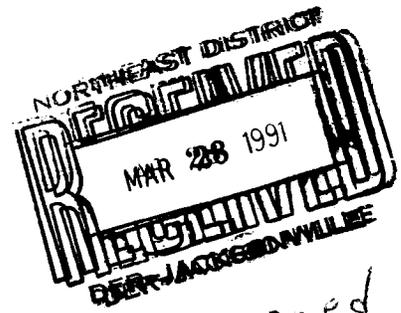


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QUARTERLY COMPLIANCE MONITORING OF POLISHING POND AND DOMESTIC
SLUDGE DRYING BEDS NAS JACKSONVILLE FL
1/1/1991
IT CORPORATION



**QUARTERLY COMPLIANCE MONITORING
OF POLISHING POND AND
DOMESTIC SLUDGE DRYING BEDS
SAMPLING DATE, NOVEMBER 1990
NAVAL AIR STATION, JACKSONVILLE
JACKSONVILLE, FLORIDA**

PREPARED FOR

**NAVAL FACILITIES ENGINEERING COMMAND
SOUTHERN DIVISION
NORTH CHARLESTON, SOUTH CAROLINA**

PREPARED BY

**IT CORPORATION
8600 HIDDEN RIVER PARKWAY
SUITE 100
TAMPA, FLORIDA 33637**

**PROJECT NO. 595411
JANUARY 1991**

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Executive Summary

IT Corporation (IT) mobilized a sampling team to sample the eleven (11) monitoring wells adjacent to the Domestic Sludge Drying Beds (DSDBs) and Polishing Pond (PP), at the Naval Air Station in Jacksonville, Florida (NAS-JAX), from November 6 to November 8, 1990. The sampling procedures followed were presented in the NAS-JAX Quality Assurance Project Plan (QAPP) Revision 1.0 submitted in December, 1990.

Groundwater in the vicinity of the DSDBs flows towards the northeast. In addition, groundwater flow around the PP is also towards the northeast. This general flow direction exists in both the shallow and deep aquifers.

Total metal concentrations and volatile organic constituents were detected above permit standards in the shallow and deep aquifers at the DSDBs. Also, dissolved organics were detected in the shallow aquifer. Values of pH up to 9.6 in MW41-4 were detected in the shallow aquifer. The deep aquifer showed a pH value of 5.6 in MW41-2. Organic constituents were not detected in the deep aquifer. Specific conductance values were consistently greater than the background standard. Statistical analysis of the available data showed the mean concentrations of certain parameters in monitoring wells 41-4, 41-5 and 41-6 were statistically significantly different than the concentrations in the background well.

Both monitored areas show contamination to be present. While the number of data points are limited by the relatively low number of wells, there is evidence to suggest that the contaminant plume is migrating in the direction of groundwater flow. The inorganic parameters appear to comprise the largest percentage of the plume, but several organic indicator parameters have been detected.

1.0 Introduction

IT has been retained by Southern Division Naval Facilities Engineering Command (SOUTHDIV), to conduct quarterly compliance sampling at the NAS-Jacksonville Domestic Sludge Drying Beds (DSDBs) and the Polishing Pond (PP). Specifically, the six (6) monitoring wells at the DSDBs and the five (5) monitoring wells at the PP were sampled in accordance with the statement of work for Navy Contract N62467-88-D-0181. The following report summarizes IT's program of monitoring well sampling, water level measurements, and the analytical results for this quarterly sampling event at the DSDBs and PP.

2.0 Scope of Work

2.1 Groundwater Sampling and Analysis

Groundwater samples were collected from November 6 to November 8, 1990, from the eleven (11) monitoring wells surrounding the DSDBs and PP. The locations of these wells are shown on Figure 1. All wells were purged by removing at least three, but not more than five well volumes by bailing prior to collecting the groundwater samples. Field stabilization parameters of pH, specific conductance, and temperature were collected for each well volume and purging was stopped when groundwater stability was deemed to have been achieved. Groundwater stability was determined to have been reached when consecutive measurements of pH, specific conductance, and temperature were less than 1/10 of a standard pH unit, 50 micro-mhos per centimeter (umho/cm), and 1/2° centigrade different, respectively. Wells 41-3 and 41-5 were not purged until all three parameters met the three stability criteria, but in each case the other two criteria were achieved. The pH meter and specific conductance meter were calibrated each morning before sampling started and checked again at the end of the day. The field activity daily logs are contained in Appendix A.

Groundwater samples were collected using a properly decontaminated teflon bailer. The samples were poured directly from the teflon bailer into the sample bottles or vials. Samples for volatile organic compounds (VOC) measurements were collected first to minimize volatile organic compound losses. All VOC samples were shipped to the lab in one cooler. Samples were then stored in a cooler with wet ice to preserve the sample. Sample collection logs are contained in Appendix B.

The samples were properly labeled and Request for Analysis Forms and Chain of Custody Forms were completed prior to shipping samples overnight via Federal Express to IT's Knoxville, Tennessee laboratory. The groundwater samples were packaged to prevent breakage in shipment and were then packed with fresh wet ice for the overnight trip. Request for Analysis and Chain of Custody forms are contained in Appendix C.

The sampling quality assurance requirements necessary for this program are identified in the NEESA, Naval Energy and Environmental Support Activity, document "Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program" dated June 1988. Based on the requirements of this document, IT collected six (6) QA/QC samples. These QA/QC samples were:

- Two trip blanks
 - Trip blanks are only analyzed for VOAs
- Two equipment rinsates
 - The Navy requirements as explained in NEESA, requires IT to analyze rinsate samples from every other day.
- One field blank
- One sample duplicate
 - Monitoring well 41-2

All samples were analyzed for the list of parameters established in NAS-JAX Draft Closure Permit No. HF 16-144281 Part II, Specific Condition 8 Analytical methods were performed in accordance with Part I Specific Condition 8 of the Permit.

Note that for analyses of metals, IT requested only total and not dissolved concentrations. IT did not perform field filtering of the groundwater samples.

2.2 Decontamination Procedures

Between each monitoring well, the teflon bailer was decontaminated by the following method:

- Rinse withalconox detergent and distilled water solution
- Rinse with distilled water
- Rinse with 1 to 1 nitric acid solution
- Rinse with distilled water
- Rinsed twice with isopropanol
- Allowed to air dry

2.3 Groundwater Level Measurements

Groundwater levels were obtained by using an electronic measuring device. Readings to the nearest 0.01 of a foot were measured from the north edge of the top of the well casing. Water level measurements were collected during the November 1990 sampling event (Table 1).

3.0 Hydrogeologic Setting

3.1 Horizontal Flow

Figures 2 and 3 are the groundwater elevation contour maps for both the shallow and deep aquifers (respectively) that underlie the DSDBs and PP areas. Figures 2 and 3 are based on water level data (Table 1) obtained during the November 1990 sampling event.

The overall general surficial groundwater flow (Figure 2) was towards the northeast to the Saint Johns River for both the DSDBs and PP.

The deeper lying aquifer potentiometric surface map (Figure 3) also depicts a general northeast direction of groundwater flow towards the Saint Johns River. Due to the lack of wells monitoring the deeper lying aquifer this northeast direction is an estimated general trend.

3.2 Vertical Flow

To assess the potential for vertical groundwater flow at the DSDBs and PP, the head differences between the shallow and deep monitoring wells were evaluated. By taking into account the variation in groundwater heads between well clusters, a vertical component can be calculated.

IT subtracted the deep monitoring well groundwater heads from the shallow monitoring well groundwater heads for the November 1990 event. The sign of the result will either be positive or negative (positive indicating a higher head in the shallow aquifer; negative indicating a higher head in the deeper aquifer). The signed values were averaged and the results will either be positive or negative depending upon the predominant flow direction (positive downward; negative upward). This result for the November event was positive indicating a higher average head in the shallow aquifer. This average head residual divided by the length of vertical separation between the shallow and deep wells yields an average downward vertical hydraulic gradient of 0.012 ft/ft for the DSDBs and 0.055 ft/ft for the PP. Wells 41-2 and 41-3 were used to calculate this gradient in the vicinity of the DSDBs; wells 42-5 and 42-6 were used in the Polishing Pond area.

4.0 Summary of Groundwater Analytical Results

For all monitoring wells associated with the DSDBs and PP, IT determined groundwater impacts to exist when the concentration of the contaminants in a monitoring well was above the groundwater protection permit standards. The permit standards consist of background conditions and the specified standards established in the Florida Department of Environmental Regulations (FDER), Permit Number HF16-144281, issued January 8, 1990, Part II, Specific Condition 13. Background conditions were defined as the mean of the value obtained in the four most recent sampling events for Well JAX-4-9 (see FDER Permit H016-119108). Specified permit standards have been established as the primary drinking water standards. There are several parameters where background standards and primary drinking water standards have not been established. Secondary drinking water standards were used, where available, to determine whether the groundwater was impacted.

Tables 2 and 3 present a summary of the compliance parameters analytical results. The certificates of analysis are contained in Appendix D.

4.1 Shallow Aquifer

The shallow aquifer system at the DSDBs and PP contains contaminants at levels that were equal to or above permit standards. The compounds and indicator parameters above permit standards were:

<u>DSDBs</u>	<u>PP</u>
• Specific Conductivity	• Specific Conductivity
• Total Organic Carbon	• Total Organic Carbon
• Total Organic Halides	• Total Organic Halides
• Nickel	• Cyanide
• Methylene Chloride	• Benzene
• Arsenic	• Arsenic
• Barium	• Barium
• Chromium	• Chromium
• Zinc	• Lead
• Iron	• Nitrate
• Manganese	• Zinc
• Sulfate	• Iron
• Vanadium	• Manganese
• Lead	• Sulfate
• Silver	• Silver
• Sodium	
• Carbon Disulfide*	
• Toluene*	
• Methyl Ethyl Ketone*	
• 1,1-Dichloroethene*	

* Permit standards have not been established. These parameters were detected in the samples above the method detection limit.

The pH values in the shallow aquifer flow system around the DSDBs ranged from 9.6 in monitoring well 41-4 to 4.6 in monitoring well 41-1. The pH values around the PP ranged from 6.3 in monitoring well 42-5 to 4.5 in monitoring well 42-7. Most of the monitoring wells have pH values near that of the background well. Well 41-4 appears to be an anomaly and not indicative of the pH of the entire plume. Specific conductance values varied considerably in the DSDB and PP area.

4.2 Deep Aquifer

The inorganic group contained several contaminants that were found to exceed the permit standards in the deeper lying aquifer. The compounds above the permit standards were:

<u>DSDBs</u>	<u>PP</u>
• Total Organic Halides	• Total Organic Halides
• Arsenic	• Arsenic
• Barium	• Barium
• Chromium	• Chromium
• Lead	• Lead
• Zinc	• Zinc
• Iron	• Iron
• Manganese	• Total Xylenes
• Carbon Disulfide*	
• Total Coliform*	

* Permit standards have not been established for these parameters. They were, however, detected in the samples at concentrations greater than the method detection limit.

The pH value in the deep aquifer around the DSDBs was 5.6 in monitoring well 41-2. The pH values around the PP ranged from 6.3 in monitoring well 42-9 to 4.8 in monitoring well 42-6. Specific conductance in the deep aquifer was within the background standard in both monitoring areas.

4.3 Statistical Analysis

To achieve the DSDBs and PP operating permits definition of groundwater impacts, IT performed a statistical analysis of the available monitoring well data for 4-9 and all compliance wells. These monitoring wells were specified for use in statistical analysis in the operating permit for the DSDBs and PP. All common parameters were subjected to the statistical analysis. The statistical analysis was performed using water quality data obtained by IT in October 1989, November 1989, December 1989, January 1990 and November 1990. Average sample concentrations are shown in Table 4, and the standard deviation is presented in Table 5. Below detection limit (BDL) concentrations were handled as having a concentration of one-half the detection limit.

The statistical analysis allowed a comparison of water quality data between the downgradient compliance monitoring wells and the upgradient background well. This comparison was used to determine if the water quality in the downgradient compliance monitoring wells was statistically different from the background well. To perform this comparison a t-test was used. A t-test uses a t-statistic which is the ratio of the mean of a set of values to the standard deviation of these values. The t-statistic is calculated as described below, and compared to a critical value of t. The critical t value represents the value of the t-statistic which corresponds to a probability of 95 percent that the means are different. If the calculated t-statistic is larger than the critical value of t, then the two water quality means are statistically different.

The test statistic for comparing two means is calculated from the sample means and pooled variance (δ^2) using the following equations.

$$t = \left| \frac{\bar{x}_1 - \bar{x}_2}{[\delta^2 (\frac{1}{n_1} + \frac{1}{n_2})]^{1/2}} \right|$$

Where: t = test statistic

\bar{x}_1 = mean of the background well

\bar{x}_2 = mean of the downgradient well

The absolute value is obtained in order to convert all values of the t-statistic to a positive value.

The pooled variance δ^2 is calculated using the equation:

$$\delta^2 = \frac{[(n_1 - 1) S_1^2 + (n_2 - 1) S_2^2]}{(n_1 + n_2 - 2)}$$

Where: n_1 = number of data points for the background well

n_2 = number of data points for the downgradient well

S_1 = standard deviation of background well

S_2 = standard deviation of downgradient well

The value of the t-statistic was then compared to the critical value for t, which was obtained from the Cochran and Cox approximation. The equation for the critical T is:

Where: t_1 = critical value of t for background well

$$T = \frac{W_1 t_1 + W_2 t_2}{W_1 + W_2}$$

t_2 = critical value of t for downgradient well

$$W_1 = S_1^2/n$$

$$W_2 = S_2^2/n_2$$

For the case where the level of significance (α) and degrees of freedom (n-1) are the same for the downgradient well as for the background well, $t_1 = t_2 = T$. The critical value of t was obtained from a student's T table for degrees of freedom of 4 and level of significance $\alpha = 0.025$. The resulting critical value of t was determined to be 2.776.

The calculated value of the t-statistic for determining if groundwater impacts had occurred are presented in Table 6. Please note that the parameter list is not the same for background well 4-9, and the compliance wells around the DSDBs and PP. In addition, certain parameter detection limits varied between 4-9 and the compliance wells; therefore, only the common parameters were analyzed via the statistical analysis student T-test.

Based upon the statistical analysis results the background concentrations of Barium, Chromium, Lead, Silver, Vanadium, Methylene Chloride, and Total Organic Carbon (TOC), were exceeded.

Monitor Well 41-4 had calculated values of the t-statistic for:

- Total Organic Carbon (TOC) of 7.550
- Methylene Chloride of 2.787
- Vanadium of 3.555

which were larger than the critical value of t.

Monitor Well 41-5 had a calculated value of the t-statistic for:

- Total Organic Carbon (TOC) of 3.452

which was larger than the critical value of t.

Monitor Well 41-6 had calculated values of the t-statistic for:

- Total Organic Carbon (TOC) of 3.666
- Barium of 3.673
- Chromium of 3.673
- Lead of 4.457
- Silver of 4.358

which were larger than the critical value of t.

This analysis was based upon five (5) sets of sampling data, and as more data becomes available for statistical analysis, the average concentrations may change. This may either reduce or increase their average concentration values possibly resulting in significant trends becoming more evident.

5.0 Contaminant Migration

5.1 Extent of Contamination - Shallow Aquifer at the DSDBs and PP

IT believes that a contaminant plume is present in the shallow aquifer system underlying the DSDBs and PP. The pH and specific conductance values in the shallow groundwater aquifer (Figure 4 and 5 respectively) illustrate the leading edges of the plumes. The two (2) areas (DSDBs and PP) each contain a plume emanating outward from the northeast corner of each respective unit.

Chromium concentrations, plotted and contoured on Figure 6 depict the DSDBs plume migrating from the PP. The lead concentration contours (Figure 7) illustrates both plumes, as does the nickel concentration contour map (Figure 8). The 1,1-dichloroethane concentration contour map (Figure 9) illustrates the organic component of the plume originating in the DSDBs. The geochemical patterns present at each of the two (2) areas, match the groundwater flow patterns very closely.

5.2 Extent of Contamination - Deep Aquifer at the DSDBs and PP

Deep aquifer conditions indicate that contaminant migration from the DSDBs is present in the one (1) deep monitoring well and the two (2) deep monitoring wells at the PP. The metals fraction is present at both locations, but due to the limited number of monitor wells present, no contour maps were developed.

No statistically significant organic constituents were present in the deep aquifer at either the DSDBs or PP. Due to the very limited number of available monitor wells, three (3) in total, a more detailed plume delineation profile is not possible at this point in time.

6.0 Summary

IT has conducted an interpretation of the available data (both groundwater level and analytical results) for this quarterly compliance report. Among the more important findings were:

- Groundwater flow in the shallow aquifer and in the deep aquifer is towards the northeast for both the DSDBs and PP.
- Two contaminant plumes are present at the site in the shallow aquifer system:
 - one originating from the DSDBs
 - one originating from the PP
- The wells that indicate statistically significant mean concentration different from background verify the contamination to be migrating north and east from the DSDBs.

**TABLE 2
SUMMARY
GROUNDWATER SAMPLING ANALYTICAL RESULTS
DOMESTIC SLUDGE DRYING BEDS
Naval Air Station
Jacksonville, Florida
IT Project No. 595411**

PARAMETERS	ANALYTICAL METHOD DETECTION LIMITS	PERMIT STANDARD	MONITORING WELLS									
			41-1	41-2	<DUP OF 41-2> 41-7	41-3	41-4	41-5	41-6	RINSATE 41-8	TRIP BLANK	FIELD BLANK 41-9
Indicator Parameters (40 CFR 264.98(a))												
pH (Field)	NA	5.64	4.6	5.6	5.6	5.8	9.6	5.8	6.7	NZ	NZ	NZ
Specific Conductance (Field) (umho/cm)	NA	248	1200	162	162	900	3690	900	500	NZ	NZ	NZ
Total Organic Carbon (mg/l)	1	15	19.2	4.21	3.52	55.7	537	130	55.9	2.45	NZ	1.99
Total Organic Halides (mg/l)	.01	0.053	0.062	0.019	0.20	0.183	3.12	0.306	0.282	0.021	NZ	0.015
F006 Parameters (40 CFR 261 Appendix VII)												
Cadmium (mg/l)	.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.012	<0.005	NZ	<0.005
Chromium, Hexavalent (mg/l)	.02	<0.02	<0.02	<0.02	<0.02	<0.02	<.25 ²	<0.05 ²	<0.02	<0.02	NZ	<0.02
Cyanide, Complexed (mg/l)	.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NZ	<0.01
Nickel (mg/l)	.02	<0.02	0.03	<0.02	<0.02	0.05	0.20	0.03	0.05	<0.02	NZ	<0.02
Carbon Disulfide (ug/l)	1	NA	1.5	4.0	1.7	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene (ug/l)	1	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

- ¹ Permit standard is mean of last four sampling events of Well 4-9 or Primary Drinking Water Standards.
² Elevated detection limits due to matrix influences.
³ Variances in detection limits are due to dilution factors.
 NA Not Applicable
 NZ Not Analyzed
 * Methods used do not result in detection of this parameter.
 ** Data not received from laboratory, will forward when available.

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			41-1	41-2	<DUP OF 41-2> 41-7	41-3	41-4	41-5	41-6	RINSATE 41-8	TRIP BLANK	FIELD BLANK 41-9	
1,1,2 Trichloroethane (ug/l)	1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2 Dichlorobenzene (ug/l)	1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene (ug/l)	1	NA	<1	<1	<1	<1	3.7	<1	<1	<1	<1	<1	<1
Pyridine (ug/l)	100	NA	<100	<100	<100	<100	<100	<100	<110 ³	<100	<100	<100	<100
Benzene (ug/l)	1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride (ug/l)	1	<5	<1	<1	<1	<1	19	<1	<1	<1	<1	<1	<1
1,1,1 Trichloroethane (ug/l)	1	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene (ug/l)	1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,2 Trifluoroethane (ug/l)	1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane (ug/l)	1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl Ethyl Ketone (ug/l)	2	NA	<2	<2	<2	<2	21	<2	<2	<2	<2	<2	<2
Isobutanol (ug/l)	500	NA	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500

¹ Permit standard is mean of last four sampling events of Well 4-9 or Primary Drinking Water Standards.

² Elevated detection limits due to matrix influences.

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			41-1	41-2	<DUP OF 41-2> 41-7	41-3	41-4	41-5	41-6	RINSATE 41-8	TRIP BLANK	FIELD BLANK 41-9	
2-Ethoxyethanol (ug/l)	*	*	*	*	*	*	*	*	*	*	*	*	*
2-Nitropropane (ug/l)	2	NA	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride (ug/l)	1	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Drinking Water Supply Parameters (40 CFR 264.94)													
Arsenic (mg/l)	0.002	0.002	0.005	0.004	0.002	0.006	0.034	0.004	0.006	<0.002	NZ	<0.002	
Barium (mg/l)	0.002	0.049	0.12	0.058	0.053	0.33	0.20	0.11	0.35	<0.002	NZ	<0.002	
Chromium (mg/l)	0.01	<0.01	0.01	0.02	0.01	0.05	0.11	0.02	0.27	<0.01	NZ	<0.01	
Lead (mg/l)	0.002	0.002	<0.002	0.005	0.003	0.022	0.017	<0.002	0.103	<0.002	NZ	0.002	
Mercury (mg/l)	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.001	<0.001	NZ	<0.001	
Selenium (mg/l)	0.002	<0.002	<0.002	<0.008 ²	<0.002	<0.008 ²	<0.10 ²	<0.002	0.008 ²	<.002	NZ	<0.002	
Silver (mg/l)	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.072	<0.005	NZ	<0.005	

1 Permit standard is mean of last four sampling events of Well 4-9 or Primary Drinking Water Standards.
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FAC Ch. 17-22.210 and Primary Drinking Water Standards FAC Ch. 17-28.700 and 17-4.246 Parameters												
Turbidity (ntu)	NA	NA	47	93	63	690	8.8	415	550	0.5	NZ	0.20
1,2 Dibromoethane (ug/l)	1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sodium (mg/l)	0.2	160	53.7	18.1	18.1	118	985	193	147	<0.2	NZ	<0.2
Total Coliform (colonies/100 ml)	0	NA	0	<10 ²	25	<50 ²	<100 ²	<50 ²	<100 ²	0	NZ	0
Chloroform (ug/l)	1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride (ug/l)	2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nitrate (as N) (mg/l)	0.05	10	<0.05	<0.05	0.08	1.4	<0.5 ²	<0.05	<0.25 ²	0.21	NZ	<0.05
Radium 226	NA	NA	**	**	**	**	**	**	**	**	**	**
Radium 228	NA	NA	**	**	**	**	**	**	**	**	**	**
Gross Alpha/Gross Beta (pCi/l) (Total)	NA	NA	**	**	**	**	**	**	**	**	**	**

- ¹ Permit standard is mean of last four sampling events of Well 4-9 or Primary Drinking Water Standards.
² Elevated detection limits due to matrix influences.
³ Variances in detection limits are due to dilution factors.
 NA Not Applicable
 NZ Not Analyzed
 * Methods used do not result in detection of this parameter.
 ** Data not received from laboratory, will forward when available.

**TABLE 2
SUMMARY
GROUNDWATER SAMPLING ANALYTICAL RESULTS
DOMESTIC SLUDGE DRYING BEDS
Naval Air Station
Jacksonville, Florida
IT Project No. 595411**

PARAMETERS	ANALYTICAL METHOD DETECTION LIMITS	PERMIT STANDARD	MONITORING WELLS									
			41-1	41-2	<DUP OF 41-2> 41-7	41-3	41-4	41-5	41-6	RINSATE 41-8	TRIP BLANK	FIELD BLANK 41-9
FAC 17.55.320 Secondary Drinking Water Standards												
Chloride (mg/l)	0.5	250	96	23	24	69	190	120	30	0.50	NZ	0.50
Copper (mg/l)	0.01	1	0.02	0.01	<0.01	0.02	<0.01	<0.01	0.17	<0.01	NZ	<0.01
Zinc (mg/l)	0.005	0.005	0.047	0.054	0.034	0.075	0.03	0.016	0.23	0.012	NZ	0.028
Iron (mg/l)	0.01	0.3	58.1	6.8	4.9	13.2	4.2	21.2	28.6	0.06	NZ	0.05
Fluoride (mg/l)	0.1	4	0.11	<0.1	<0.1	<0.1	2.1	0.12	0.15	<0.1	NZ	<0.1
Manganese (mg/l)	0.002	0.05	0.52	0.075	0.065	0.54	0.037	0.064	0.11	<0.002	NZ	<0.002
Sulfate (mg/l)	10	250	470	<10	<10	<210	120 ²	81	<50 ²	<10	NZ	<10
Previously Detected Appendix IX Parameters												
Phenols (ug/l)	10	<10	<10	<10	<10	<10	<10	<10	<11 ³	<10	NZ	<10
1,1 Dichloroethane (ug/l)	1	NA	10	<1	<1	3.1	5.2	3.6	<1	<1	<1	<1
Vanadium (mg/l)	0.01	0.05	0.01	<0.01	<0.01	0.06	0.50	0.04	0.13	<0.01	NZ	<0.01

¹ Permit standard is mean of last four sampling events of Well 4-9 or Primary Drinking Water Standards.

² Elevated detection limits due to matrix influences.

³ Variances in detection limits are due to dilution factors.

NA Not Applicable

NZ Not Analyzed

* Methods used do not result in detection of this parameter.

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**TABLE 2
SUMMARY
GROUNDWATER SAMPLING ANALYTICAL RESULTS
DOMESTIC SLUDGE DRYING BEDS
Naval Air Station
Jacksonville, Florida
IT Project No. 595411**

PARAMETERS	ANALYTICAL METHOD DETECTION LIMITS	PERMIT STANDARD	MONITORING WELLS										
			41-1	41-2	<DUP OF 41-2> 41-7	41-3	41-4	41-5	41-6	RINSATE 41-8	TRIP BLANK	FIELD BLANK 41-9	
Total Xylenes (ug/l)	1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2 Dichloroethane (ug/l)	1	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pesticides (40 CFR 264.94)													
Lindane (ug/l)	0.1	4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NZ	<0.1
Endrin (ug/l)	0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NZ	<0.1
Methoxychlor (ug/l)	0.2	100	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NZ	<0.4 ³
Toxaphene (ug/l)	0.8	5	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	NZ	<1.6 ³
2,4,D (ug/l)	0.2	100	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NZ	<0.2
Silvex (2,4,5-TP) (ug/l)	0.1	10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NZ	<0.1
1,1,2-trichloro-1,2,2-trifluoroethane (ug/l)	1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<
Cresylic Acid (ug/l)	10	NA	<10	<10	<10	<10	<30	<10	<11	<10	<10	NZ	<10
Nitrobenzene (ug/l)	10	NA	<10	<10	<10	<10	<10	<10	<11	<10	<10	NZ	<10

1 Permit standard is mean of last four sampling events of Well 4-9 or Primary Drinking Water Standards.
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3 Variances in detection limits are due to dilution factors.
NA Not Applicable
NZ Not Analyzed
* Methods used do not result in detection of this parameter.
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**TABLE 2
SUMMARY
GROUNDWATER SAMPLING ANALYTICAL RESULTS
DOMESTIC SLUDGE DRYING BEDS
Naval Air Station
Jacksonville, Florida
IT Project No. 595411**

PARAMETERS	ANALYTICAL METHOD DETECTION LIMITS	PERMIT STANDARD	MONITORING WELLS										
			41-1	41-2	<DUP OF 41-2> 41-7	41-3	41-4	41-5	41-8	RINSATE 41-8	TRIP BLANK	FIELD BLANK 41-9	
1,2-dichloropropane (ug/l)	1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane (ug/l)	1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene (ug/l)	1	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-cresol (ug/l)	10	NA	<10	<10	<10	<10	13	<10	<11	<10	NZ	<10	<10
m-cresol (ug/l)	10	NA	<10	<10	<10	<10	<10	<10	<11	<10	NZ	<10	<10
p-cresol (ug/l)	10	NA	<10	<10	<10	<10	17	<10	<11	<10	NZ	<10	<10

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**TABLE 3
SUMMARY
GROUNDWATER SAMPLING ANALYTICAL RESULTS
POLISHING POND
Naval Air Station
Jacksonville, Florida
IT Project No. 595411**

PARAMETERS	ANALYTICAL METHOD DETECTION LIMITS	PERMIT STANDARD	MONITORING WELLS					
			42-5	42-6	42-7	42-8	42-9	TRIP BLANK
Indicator Parameters (40 CFR 264.98(a))								
pH (Field)	NA	5.64	6.3	4.8	4.5	5.0	6.3	NZ
Specific Conductance (Field) (umho/cm)	NA	248	1800	100	2200	1590	72	NZ
Total Organic Carbon (mg/l)	1	15	36.8	6.06	24.7	88.8	5.16	NZ
Total Organic Halides (mg/l)	.01	0.053	0.154	0.20	0.013	0.145	<0.01	NZ
F006 Parameters (40 CFR 261 Appendix VII)								
Cadmium (mg/l)	.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NZ
Chromium, Hexavalent (mg/l)	.02	<0.02	<0.02	<0.02	<0.25 ²	<0.02	<0.02	NZ
Cyanide, Complexed (mg/l)	.01	<0.01	<0.01	<0.01	0.28	<0.01	<0.01	NZ
Nickel (mg/l)	.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	NZ
Carbon Disulfide (ug/l)	1	NA	<1	<1	<1	<1	<1	<1
Tetrachloroethene (ug/l)	1	1	<1	<1	<1	<1	<1	<1
1,1,2 Trichloroethane (ug/l)	1	3	<1	<1	<1	<1	<1	<1
1,2 Dichlorobenzene (ug/l)	1	NA	<1	<1	<1	<1	<1	<1
Toluene (ug/l)	1	NA	<1	<1	<1	<1	<1	<1

¹ Permit standard is mean of last four sampling events of Well 4-9 or Primary Drinking Water Standards.

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**TABLE 3
SUMMARY
GROUNDWATER SAMPLING ANALYTICAL RESULTS
POLISHING POND
Naval Air Station
Jacksonville, Florida
IT Project No. 595411**

PARAMETERS	ANALYTICAL METHOD DETECTION LIMITS	PERMIT STANDARD	MONITORING WELLS					
			42-5	42-6	42-7	42-8	42-9	TRIP BLANK
Pyridine (ug/l)	100	NA	<100	<110 ³	<100	<110 ³	<110 ³	<100
Benzene (ug/l)	1	1	3.8	<1	<1	<1	<1	<1
Methylene Chloride (ug/l)	1	<5	<1	<1	<1	<1	<1	<1
1,1,1 Trichloroethane (ug/l)	1	200	<1	<1	<1	<1	<1	<1
Chlorobenzene (ug/l)	1	NA	<1	<1	<1	<1	<1	<1
1,2,2 Trifluoroethane (ug/l)	1	NA	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane (ug/l)	1	NA	<1	<1	<1	<1	<1	<
Methyl Ethyl Ketone (ug/l)	2	NA	<2	<2	<2	<2	<2	<2
Isobutanol (ug/l)	500	NA	<500	<500	<500	<500	<500	<500
2-Ethoxyethanol (ug/l)	*	*	*	*	*	*	*	*
2-Nitropropane (ug/l)	2	NA	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride (ug/l)	1	<5	<1	<1	<1	<1	<1	<1
Drinking Water Supply Parameters (40 CFR 264.94)								
Arsenic (mg/l)	0.002	0.002	0.051	0.009	0.003	0.008	0.012	NZ
Barium (mg/l)	0.002	0.049	0.30	0.056	0.11	0.29	0.080	NZ

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**TABLE 3
SUMMARY
GROUNDWATER SAMPLING ANALYTICAL RESULTS
POLISHING POND
Naval Air Station
Jacksonville, Florida
IT Project No. 595411**

PARAMETERS	ANALYTICAL METHOD DETECTION LIMITS	PERMIT STANDARD	MONITORING WELLS					
			42-5	42-6	42-7	42-8	42-9	TRIP BLANK
Chromium (mg/l)	0.01	<0.01	0.03	0.03	0.04	0.03	0.08	NZ
Lead (mg/l)	0.002	0.002	0.006	0.012	0.009	0.006	0.023	NZ
Mercury (mg/l)	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NZ
Selenium (mg/l)	0.002	<0.002	<0.002	<0.008 ²	<0.01 ²	0.002	<0.006 ²	NZ
Silver (mg/l)	0.005	<0.005	0.010	<0.005	<0.005	0.008	<0.005	NZ
FAC Ch. 17-22.210 and Primary Drinking Water Standards FAC Ch. 17-28.700 and 17-4.246 Parameters								
Turbidity (ntu)	NA	NA	152	150	700	280	440	NZ
1,2 Dibromoethane (ug/l)	1	NA	<1	<1	<1	<1	<1	<1
Sodium (mg/l)	0.2	160	42.4	8.5	86.8	63.2	7.9	NZ
Total Coliform (colonies/100 ml)	0	NA	<50 ²	<25 ²	<50 ²	<100 ²	<100 ²	NZ
Chloroform (ug/l)	1	NA	<1	<1	<1	<1	<1	<1
Vinyl Chloride (ug/l)	2	<10	<2	<2	<2	<2	<2	<2
Nitrate (as N) (mg/l)	0.05	10	0.13	<0.05	11	3.8	<0.05	NZ
Radium 226	NA	NA	**	**	**	**	**	**

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GROUNDWATER SAMPLING ANALYTICAL RESULTS
POLISHING POND
Naval Air Station
Jacksonville, Florida
IT Project No. 595411**

PARAMETERS	ANALYTICAL METHOD DETECTION LIMITS	PERMIT STANDARD	MONITORING WELLS					
			42-5	42-6	42-7	42-8	42-9	TRIP BLANK
Radium 228	NA	NA	**	**	**	**	**	**
Gross Alpha/Gross Beta (pCi/l) (Total)	NA	NA	**	**	**	**	**	**
FAC 17.55.320 Secondary Drinking Water Standards								
Chloride (mg/l)	0.5	250	29	12	67	43	7.5	NZ
Copper (mg/l)	0.01	1	<0.01	<0.01	0.02	<0.01	<0.01	NZ
Zinc (mg/l)	0.005	0.005	0.027	0.034	0.077	0.027	0.053	NZ
Iron (mg/l)	0.01	0.3	49.6	25.5	33.7	11.7	65.2	NZ
Fluoride (mg/l)	0.1	4	0.14	<0.1	<0.1	<0.1	<0.1	NZ
Manganese (mg/l)	0.002	0.05	0.41	0.022	0.44	0.28	.035	NZ
Sulfate (mg/l)	10	250	100	10	400	620	<50 ²	NZ
Previously Detected Appendix IX Parameters								
Phenols (ug/l)	10	<10	<10	<11	<10	<11 ³	<11 ³	NZ
1,1 Dichloroethane (ug/l)	1	1	<1	<1	<1	<1	<1	<1
Vanadium (mg/l)	0.01	0.05	0.02	0.03	0.04	0.02	0.08	NZ
Total Xylenes (ug/l)	1	1	1.4	<1	<1	<1	<1	<1

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GROUNDWATER SAMPLING ANALYTICAL RESULTS
POLISHING POND
Naval Air Station
Jacksonville, Florida
IT Project No. 595411**

PARAMETERS	ANALYTICAL METHOD DETECTION LIMITS	PERMIT STANDARD	MONITORING WELLS					
			42-5	42-6	42-7	42-8	42-9	TRIP BLANK
1,2 Dichloroethane (ug/l)	1	3	<1	<1	<1	<1	<1	<1
Pesticides (40 CFR 264.94)								
Lindane (ug/l)	0.1	4	<0.1	<0.1	<0.1	<0.1	<0.1	NZ
Endrin (ug/l)	0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	NZ
Methoxychlor (ug/l)	0.2	100	<0.4 ³	<0.2	<0.2	<0.2	<0.2	NZ
Toxaphene (ug/l)	0.8	5	<1.6 ³	<0.8	<0.8	<0.8	<0.8	NZ
2,4,D (ug/l)	0.2	100	<0.2	<0.2	<0.2	<0.2	<0.2	NZ
Silvex (2,4,5-TP) (ug/l)	0.1	10	<0.1	<0.1	<0.1	<0.1	<0.1	NZ
1,1,2-trichloro-1,2,2-trifluoroethane (ug/l)	1	NA	<1	<1	<1	<1	<1	<1
Cresols (ug/l)	10	NA	<10	<11	<10	<11	<11	NZ
Cresylic Acid (ug/l)	10	NA	<10	<11	<10	<11	<11	NZ
Nitrobenzene (ug/l)	10	NA	<10	<11	<10	<11	<11	NZ
1,2-dichloropropane (ug/l)	1	NA	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropene (ug/l)	1	NA	<1	<1	<1	<1	<1	<1
Trichloroethene (ug/l)	1	3	<1	<1	<1	<1	<1	<

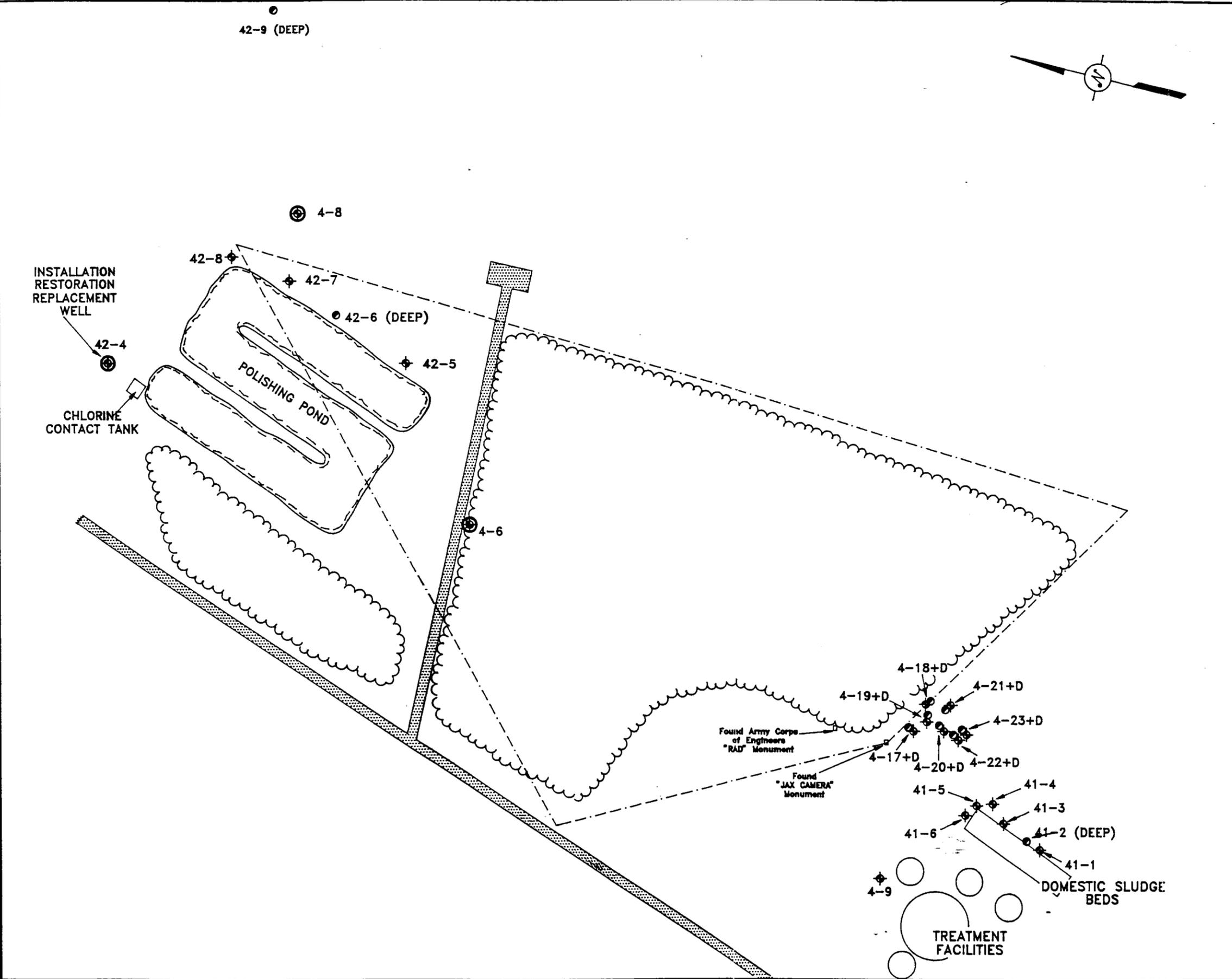
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GROUNDWATER SAMPLING ANALYTICAL RESULTS
POLISHING POND
Naval Air Station
Jacksonville, Florida
IT Project No. 595411**

PARAMETERS	ANALYTICAL METHOD DETECTION LIMITS	PERMIT STANDARD	MONITORING WELLS					
			42-5	42-6	42-7	42-8	42-9	TRIP BLANK
o-cresol (ug/l)	10	NA	<10	<11	<10	<11	<11	NZ
m-cresol (ug/l)	10	NA	<10	<11	<10	<11	<11	NZ
p-cresol (ug/l)	10	NA	<10	<11	<10	<11	<11	NZ

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STARTING DATE: 1/22/91
 DRAWN BY: JRELLIHYERS
 LAST REV DATE: 03/21/91
 DRAWN BY: KTruety
 CHECKED BY: jpe
 APPROVED BY:
 3-22-91
 INITIATOR: JCoarallo
 PROJ. MGR.: MHampton
 DRAWING NO.: A8200798
 PROJ. NO.: 898411
 STORED: SMVLAB/ACAD
 ARCHIVED: N/A



- LEGEND:**
- ◆ SHALLOW WELLS
 - DEEP WELLS
 - 4-21+D INDUSTRIAL SLUDGE BEDS
 - 42-9 POLISHING POND
 - 41-4 DOMESTIC SLUDGE BEDS
 - 4-9 BACKGROUND WELL
 - ▨ ASPHALT PAVING
 - SURVEYING POINTS OF REFERENCE
 - ~ APPROXIMATE EDGE OF WOODED AREA
 - ⊕ INSTALLATION RESTORATION WELLS 4-6, 4-8, 42-4

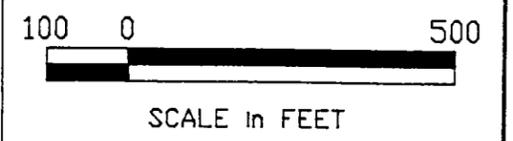
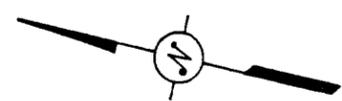
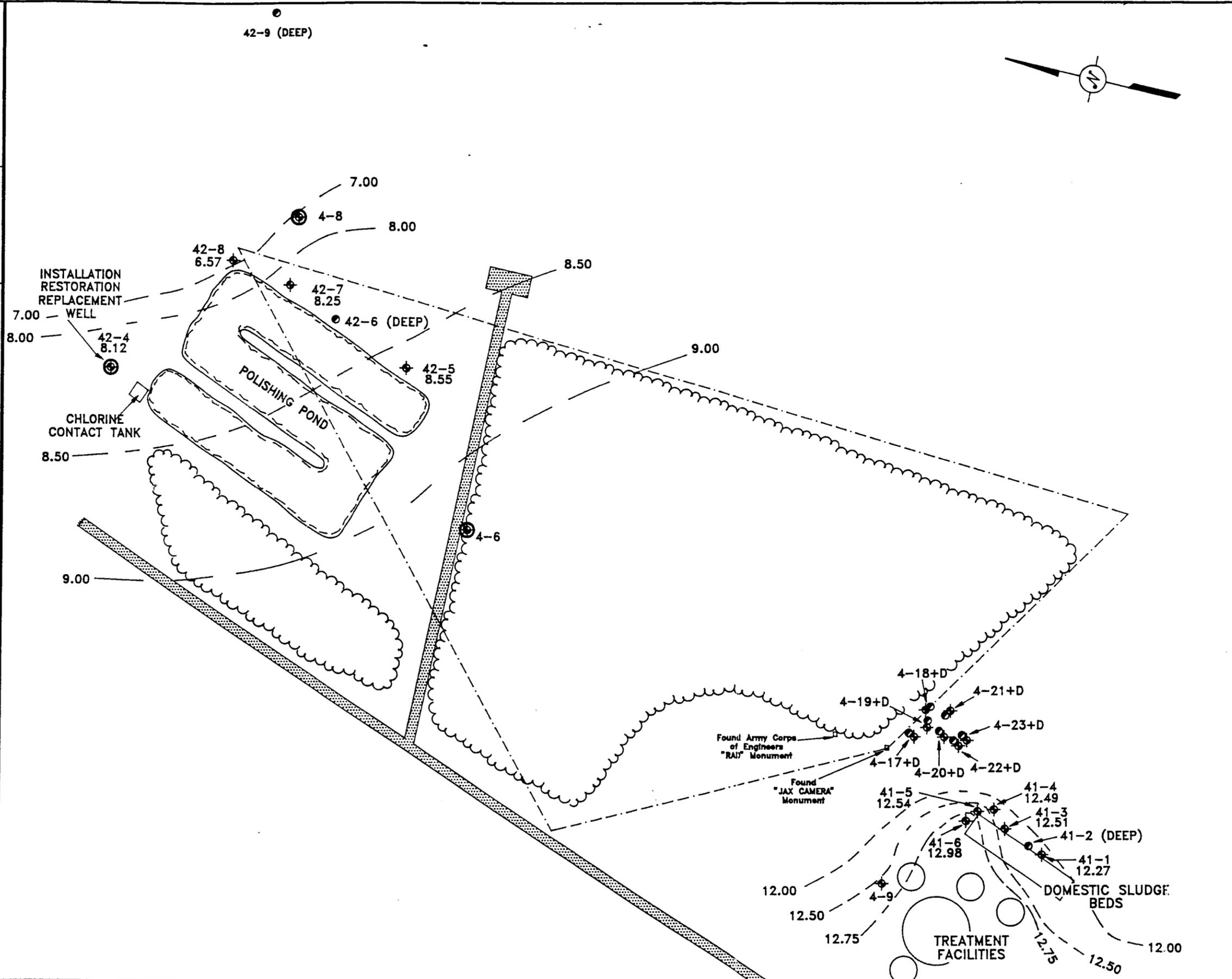


FIGURE 1
 MONITORING WELL
 LOCATION MAP
 NAS-JACKSONVILLE
 JACKSONVILLE, FLORIDA
 Prepared for:
 NAS JAX
 JACKSONVILLE, FLORIDA

STARTING DATE: 1/22/91
 DRAWN BY: JRELLIHYERS
 LAST REV DATE: 03/21/91
 DRAWN BY: KTrudy
 CHECKED BY: JPC
 APPROVED BY:
 3-22-91
 INITIATOR: JCoertse
 PROJ. MGR.: M.Hampton
 DRAWING NO.: AB200799
 PROJ. NO.: 896411
 STORED: JMR\AGI\ACAD
 ARCHIVED: N/A



- LEGEND:**
- ◆ SHALLOW WELLS
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 - 4-21+D INDUSTRIAL SLUDGE BEDS
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 - 41-4 DOMESTIC SLUDGE BEDS
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 - ▨ ASPHALT PAVING
 - SURVEYING POINTS OF REFERENCE
 - ~~~~~ APPROXIMATE EDGE OF WOODED AREA
 - ⊕ INSTALLATION RESTORATION WELLS 4-6, 4-8, 42-4

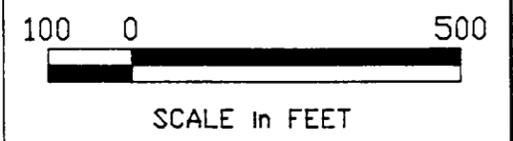
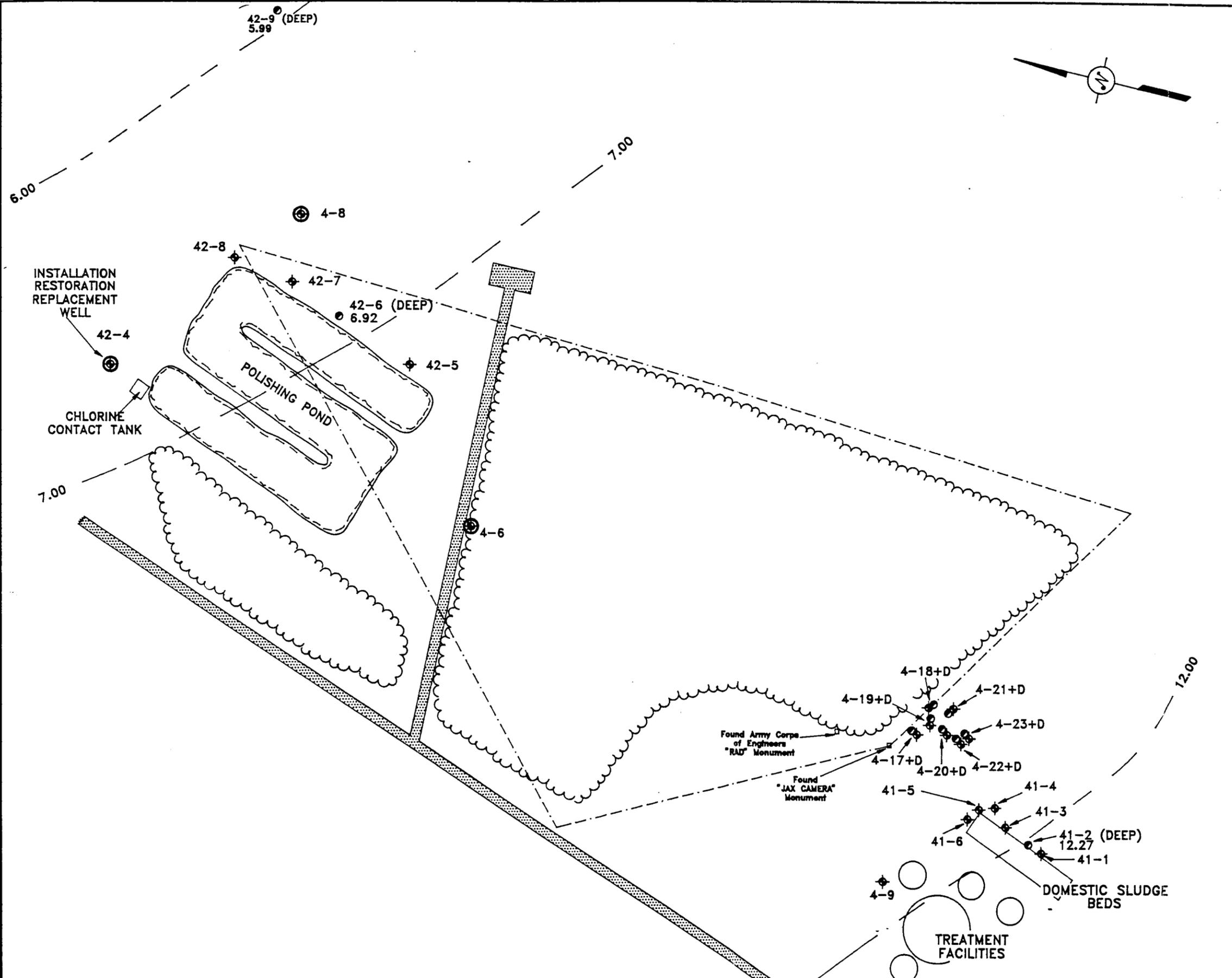


FIGURE 2
 GROUND WATER ELEVATION
 CONTOURS -
 SHALLOW AQUIFER
 DSDB's & PP / NOV 90
 NAS-JACKSONVILLE
 JACKSONVILLE, FLORIDA
 Prepared for:
 NAS JAX
 JACKSONVILLE, FLORIDA



STARTING DATE: 1/22/91
 DRAWING NO.: A9200600
 PROJECT NO.: 595411
 INITIATOR: JCoastello
 PROJECT MGR.: MHampton
 CHECKED BY: [Signature]
 APPROVED BY: [Signature]
 LAST REV DATE: 03/21/91
 DRAWN BY: KTruety
 STORED: JMR/VAB/ACAD
 ARCHIVED: N/A



- LEGEND:**
- ◆ SHALLOW WELLS
 - DEEP WELLS
 - 4-21+D INDUSTRIAL SLUDGE BEDS
 - 42-9 POLISHING POND
 - 41-4 DOMESTIC SLUDGE BEDS
 - 4-9 BACKGROUND WELL
 - ▨ ASPHALT PAVING
 - SURVEYING POINTS OF REFERENCE
 - ~ APPROXIMATE EDGE OF WOODED AREA
 - ⊕ INSTALLATION RESTORATION WELLS 4-6, 4-8, 42-4

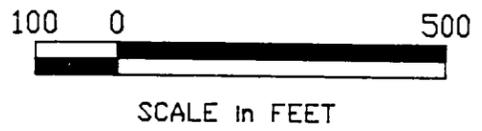
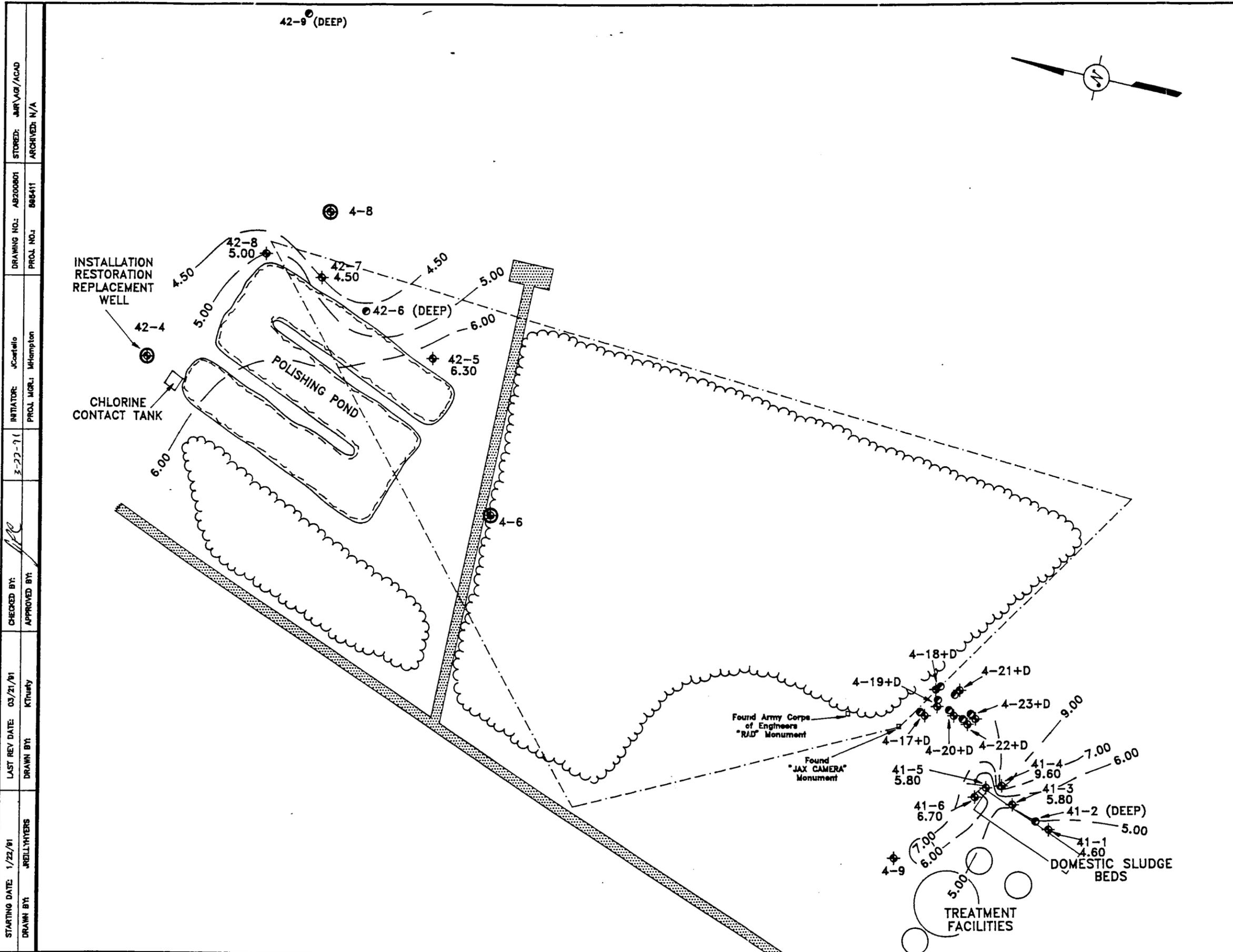


FIGURE 3
 GROUND WATER ELEVATION
 CONTOURS -
 DEEP AQUIFER
 DSDB's & PP / NOV 90
 NAS-JACKSONVILLE
 JACKSONVILLE, FLORIDA
 Prepared for:
 NAS JAX
 JACKSONVILLE, FLORIDA



- LEGEND:**
- ◆ SHALLOW WELLS
 - DEEP WELLS
 - 4-21+D INDUSTRIAL SLUDGE BEDS
 - 42-9 POLISHING POND
 - 41-4 DOMESTIC SLUDGE BEDS
 - 4-9 BACKGROUND WELL
 - ▨ ASPHALT PAVING
 - └ SURVEYING POINTS OF REFERENCE
 - ~ APPROXIMATE EDGE OF WOODED AREA
 - ⊕ INSTALLATION RESTORATION WELLS 4-6, 4-8, 42-4

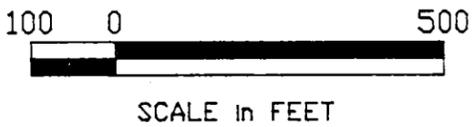


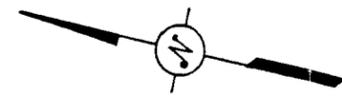
FIGURE 4
 pH CONTOURS -
 SHALLOW AQUIFER
 DSDB's & PP / NOV 90
 NAS-JACKSONVILLE
 JACKSONVILLE, FLORIDA
 Prepared for:
 NAS JAX
 JACKSONVILLE, FLORIDA



STARTING DATE: 1/22/91	DRAWN BY: JRELLIHYERS	LAST REV DATE: 03/21/91	DRAWN BY: KTruhy	CHECKED BY: [Signature]	APPROVED BY: [Signature]	INITIATOR: JCastello	PROJ. MGR.: MHampton	DRAWING NO.: AB200801	PROJ. NO.: 88411	STORER: JWR/VAG/ACAD	ARCHIVED: N/A
------------------------	-----------------------	-------------------------	------------------	-------------------------	--------------------------	----------------------	----------------------	-----------------------	------------------	----------------------	---------------

STARTING DATE: 1/22/91
 DRAWN BY: JRELLIHYERS
 LAST REV DATE: 03/21/91
 DRAWN BY: KTruery
 CHECKED BY: [Signature]
 APPROVED BY: [Signature]
 3-22-91
 INITIATOR: JCoetello
 PROJ. MGR.: MHampton
 DRAWING NO.: AB200602
 PROJ. NO.: 895411
 STORED: JMR\AGI/ACAD
 ARCHIVED: N/A

42-9 (DEEP)



LEGEND:

- ◆ SHALLOW WELLS
- DEEP WELLS
- 4-21+D INDUSTRIAL SLUDGE BEDS
- 42-9 POLISHING POND
- 41-4 DOMESTIC SLUDGE BEDS
- 4-9 BACKGROUND WELL
- ▨ ASPHALT PAVING
- └ SURVEYING POINTS OF REFERENCE
- ~ APPROXIMATE EDGE OF WOODED AREA
- ⊕ INSTALLATION RESTORATION WELLS 4-6, 4-8, 42-4

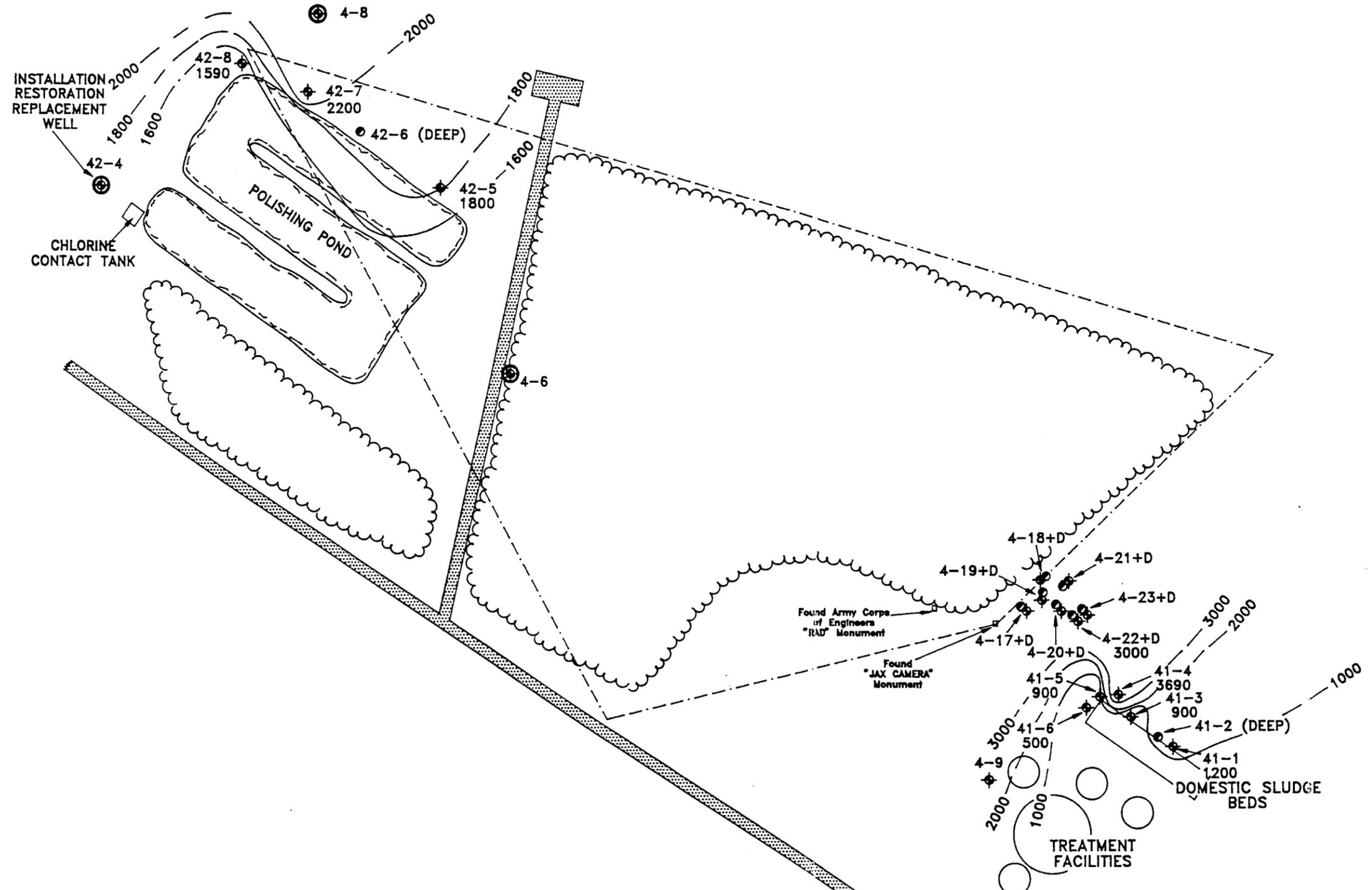
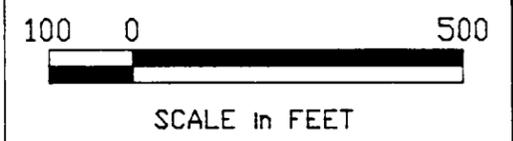
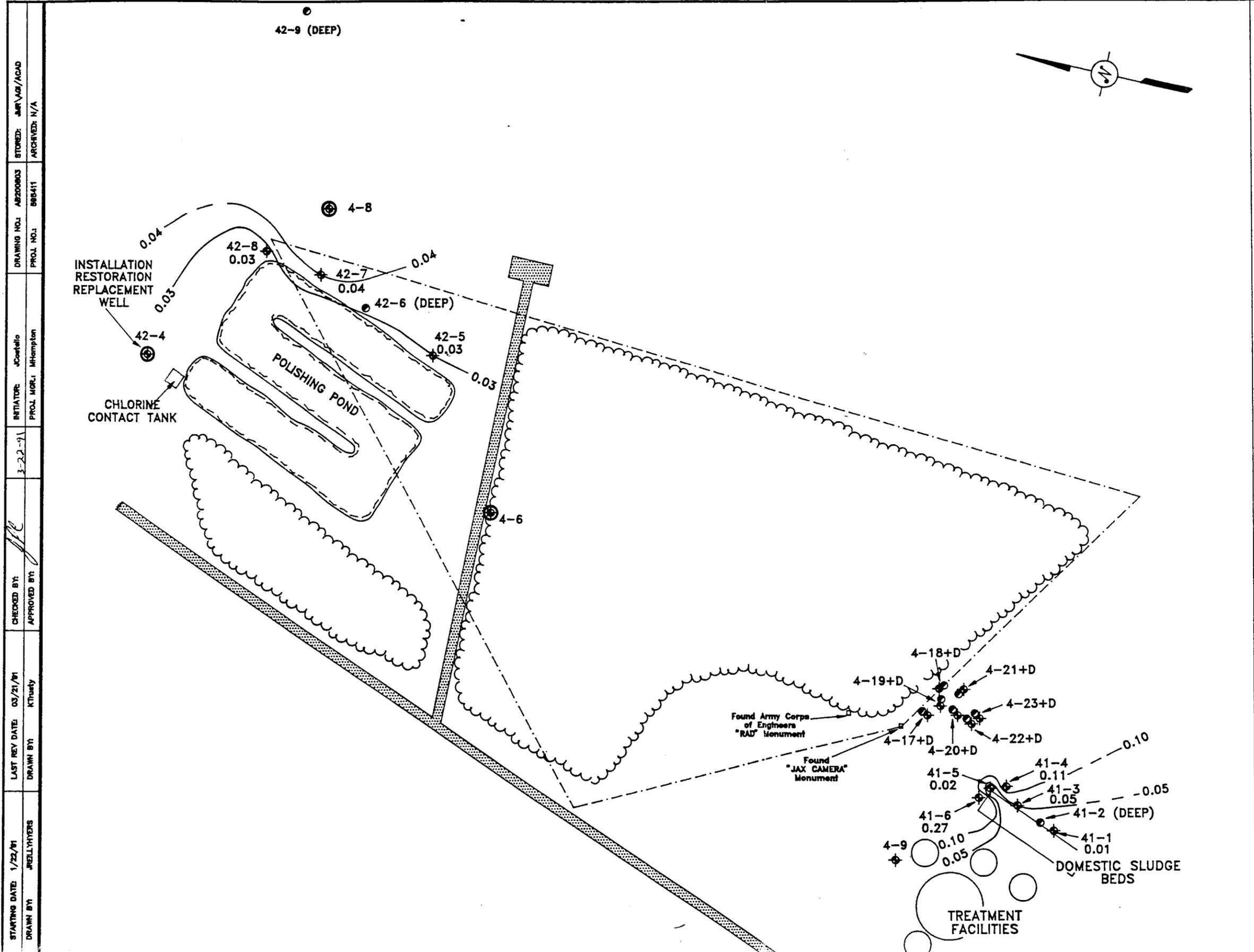


FIGURE 5
 SPECIFIC CONDUCTANCE
 CONTOURS -
 SHALLOW AQUIFER
 DSDB's & PP / NOV 90
 NAS-JACKSONVILLE
 JACKSONVILLE, FLORIDA
 Prepared for:
 NAS JAX
 JACKSONVILLE, FLORIDA





- LEGEND:**
- ◆ SHALLOW WELLS
 - DEEP WELLS
 - 4-21+D INDUSTRIAL SLUDGE BEDS
 - 42-9 POLISHING POND
 - 41-4 DOMESTIC SLUDGE BEDS
 - 4-9 BACKGROUND WELL
 - ▨ ASPHALT PAVING
 - SURVEYING POINTS OF REFERENCE
 - ~ APPROXIMATE EDGE OF WOODED AREA
 - ⊕ INSTALLATION RESTORATION WELLS 4-6, 4-8, 42-4

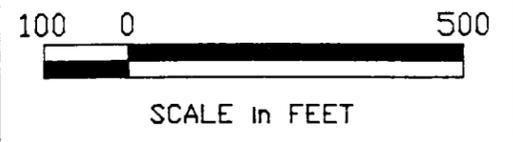
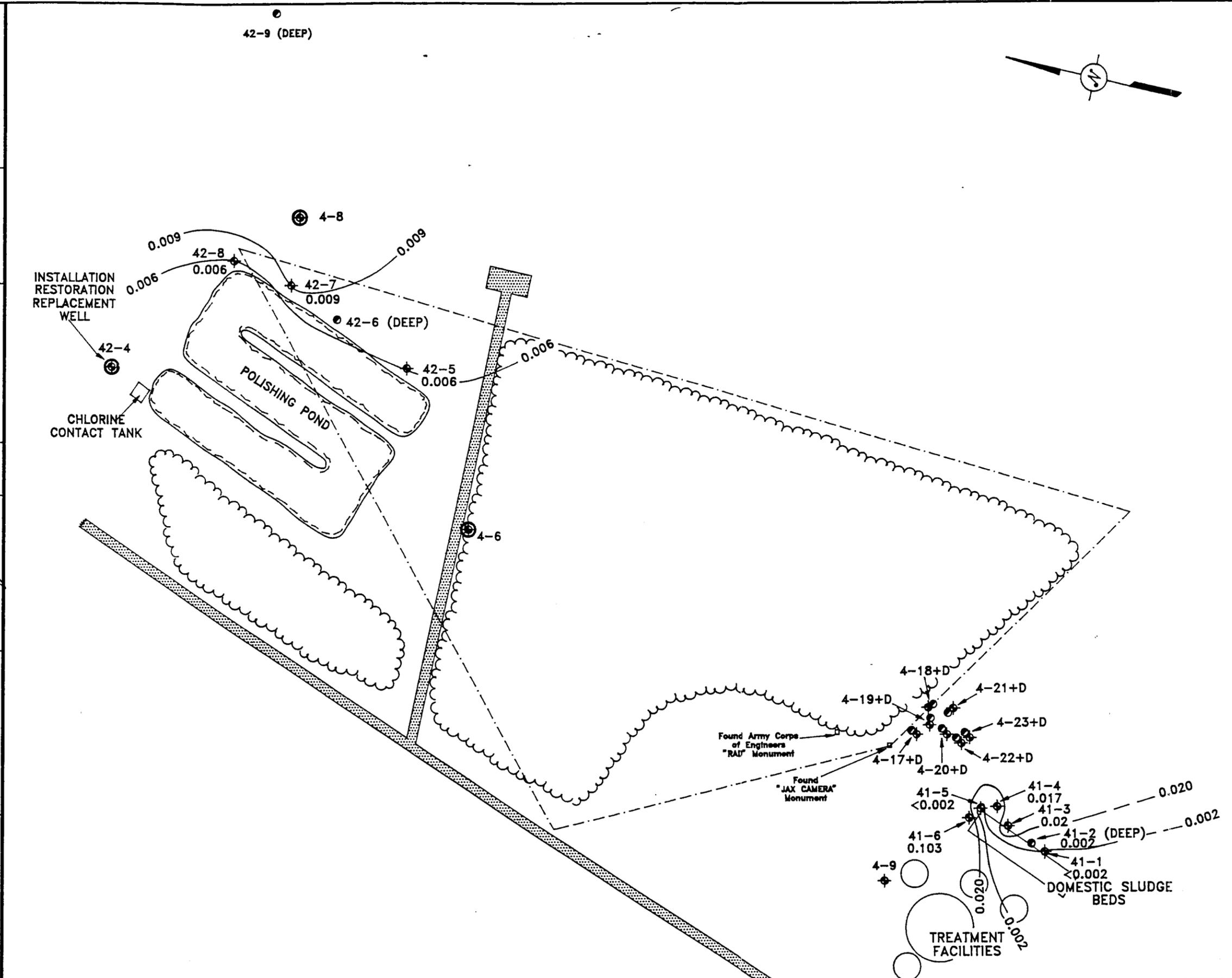


FIGURE 6
 TOTAL CHROMIUM
 CONCENTRATION CONTOURS—
 SHALLOW AQUIFER
 DSDB's & PP / NOV 90
 NAS—JACKSONVILLE
 JACKSONVILLE, FLORIDA
 Prepared for:
 NAS JAX
 JACKSONVILLE, FLORIDA



STARTING DATE: 1/22/91	DRAWN BY: JRELL/HTERS	LAST REV DATE: 03/21/91	DRAWN BY: KThurty	CHECKED BY: [Signature]	APPROVED BY: [Signature]	INITIATOR: JCastello	PROJ. MGR.: MHampton	DRAWING NO.: AB200603	PROJ. NO.: 888411	STORER: JWR/VAG/ACAD	ARCHIVED: N/A
------------------------	-----------------------	-------------------------	-------------------	-------------------------	--------------------------	----------------------	----------------------	-----------------------	-------------------	----------------------	---------------

STARTING DATE: 1/22/91
 DRAWN BY: JRELL/MTYERS
 LAST REV DATE: 03/21/91
 DRAWN BY: KTruby
 CHECKED BY: [Signature]
 APPROVED BY: [Signature]
 3-22-91
 INITIATOR: JCoertelo
 PROJ MGR: MHampton
 DRAWING NO.: AB200804
 PROJ NO.: 888411
 STORED: J:\M\A\ACAD
 ARCHIVED: N/A



- LEGEND:**
- ◆ SHALLOW WELLS
 - DEEP WELLS
 - 4-21+D INDUSTRIAL SLUDGE BEDS
 - 42-9 POLISHING POND
 - 41-4 DOMESTIC SLUDGE BEDS
 - 4-9 BACKGROUND WELL
 - ▨ ASPHALT PAVING
 - └── SURVEYING POINTS OF REFERENCE
 - ~ APPROXIMATE EDGE OF WOODED AREA
 - ⊕ INSTALLATION RESTORATION WELLS 4-6, 4-8, 42-4

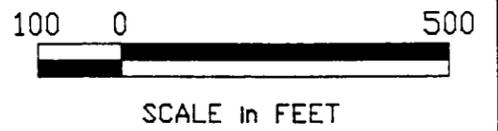
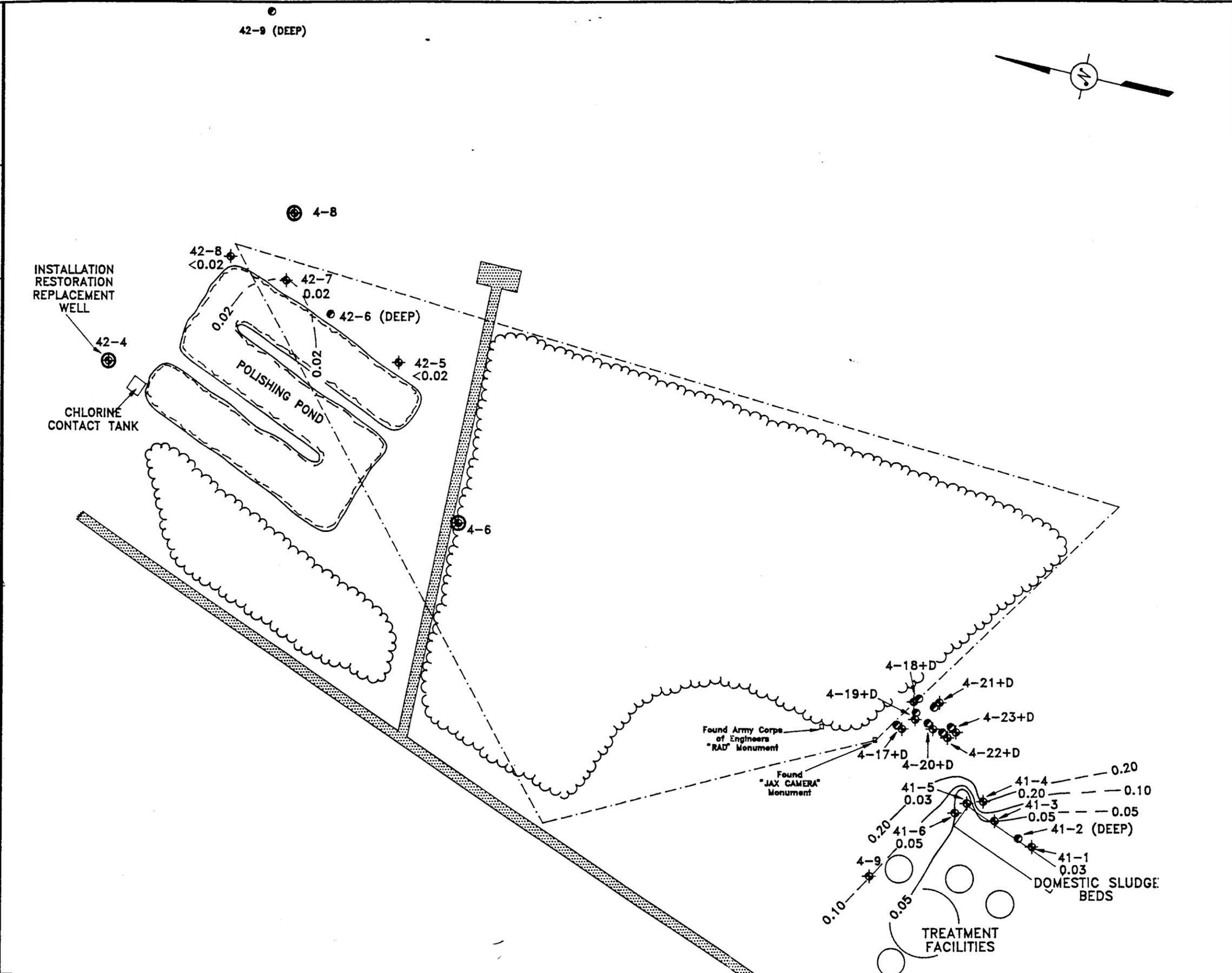


FIGURE 7
 LEAD CONCENTRATION
 CONTOURS -
 SHALLOW AQUIFER
 DSDB's & PP / NOV 90
 NAS-JACKSONVILLE
 JACKSONVILLE, FLORIDA
 Prepared for:
 NAS JAX
 JACKSONVILLE, FLORIDA

IT INTERNATIONAL
 TECHNOLOGY
 CORPORATION

STARTING DATE: 1/22/91
 DRAWING NO.: AS200808
 STORED: JMW/JAG/ACAD
 ARCHIVED: N/A
 PROJ. NO.: 888411
 INITIATOR: JCoetello
 PROJ. MGR.: MHampton
 CHECKED BY: [Signature]
 APPROVED BY: [Signature]
 LAST REV DATE: 03/21/91
 DRAWN BY: KTruety
 3 22-41



- LEGEND:**
- ◆ SHALLOW WELLS
 - DEEP WELLS
 - 4-21+D INDUSTRIAL SLUDGE BEDS
 - 42-9 POLISHING POND
 - 41-4 DOMESTIC SLUDGE BEDS
 - 4-9 BACKGROUND WELL
 - ▨ ASPHALT PAVING
 - └── SURVEYING POINTS OF REFERENCE
 - ~ APPROXIMATE EDGE OF WOODED AREA
 - ⊕ INSTALLATION RESTORATION WELLS 4-6, 4-8, 42-4

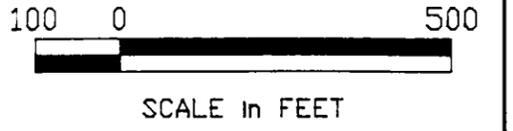
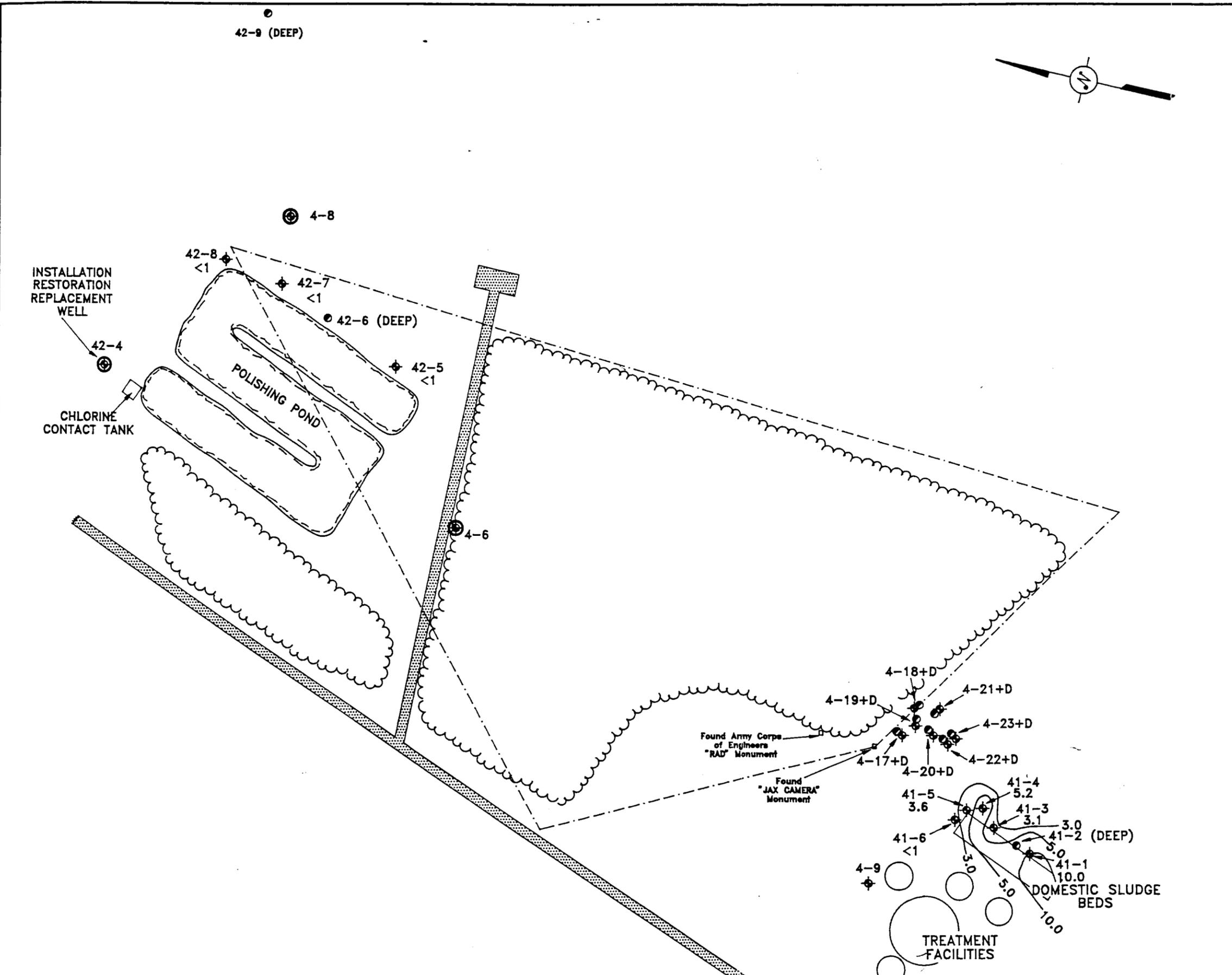


FIGURE 8
 NICKEL CONCENTRATION
 CONTOURS -
 SHALLOW AQUIFER
 DSDB's & PP / NOV 90
 NAS-JACKSONVILLE
 JACKSONVILLE, FLORIDA
 Prepared for:
 NAS JAX
 JACKSONVILLE, FLORIDA



STARTING DATE: 1/22/91
 DRAWN BY: JRELLIHYERS
 LAST REV DATE: 03/21/91
 DRAWN BY: KTruety
 CHECKED BY: [Signature]
 APPROVED BY: [Signature]
 2-23-91
 INITIATOR: JCoaffee
 PROJ. MGR.: MHampton
 DRAWING NO.: AB200808
 PROJ. NO.: 898411
 STORED: JAW/AGI/ACAD
 ARCHIVED: N/A



- LEGEND:**
- ◆ SHALLOW WELLS
 - DEEP WELLS
 - 4-21+D INDUSTRIAL SLUDGE BEDS
 - 42-9 POLISHING POND
 - 41-4 DOMESTIC SLUDGE BEDS
 - 4-9 BACKGROUND WELL
 - ▨ ASPHALT PAVING
 - └─┘ SURVEYING POINTS OF REFERENCE
 - ~ APPROXIMATE EDGE OF WOODED AREA
 - ⊕ INSTALLATION RESTORATION WELLS 4-6, 4-8, 42-4

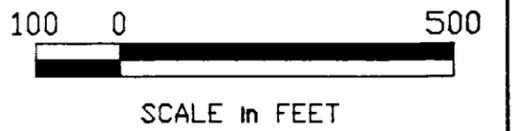


FIGURE 9
 1,1 dichloroethane
 CONCENTRATION CONTOURS—
 SHALLOW AQUIFER
 DSDB's & PP / NOV 90
 NAS—JACKSONVILLE
 JACKSONVILLE, FLORIDA
 Prepared for:
 NAS JAX
 JACKSONVILLE, FLORIDA



Appendix A
Field Activity Daily Logs



FIELD ACTIVITY DAILY LOG

DAILY LOG	DATE	11	6	90
	NO.			
	SHEET	1	OF	6

PROJECT NAME NAS Jax PROJECT NO. 595410

FIELD ACTIVITY SUBJECT: Sampling monitor wells

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

Arrived at NAS at 9:15 with Mark Nampton. He showed us where all the wells were well be sampling. Took water levels & depths on ~~the~~ wells first. Deconned ~~the~~ water level ind. after each well. Mark has gone to go get Jerry Wallmeyer. Calibrated pH & conductivity meter on site. Denise is deconnng ~~the~~ bailers to start sampling 41-1. Strong sulfur odor in well. Well went dry after 3 gallons. Let well recover & then sampled. We then moved to well # 41-2. Well had good recovery. No odor. Took a duplicate sample of this well labeled 41-7. Deconned bailers again before starting next 2 wells. Checked calibration on pH meter again with pH-7 standard. Cal. ok. Started purging 41-3. No odor in well. ~~the~~ ~~the~~ Started purging 41-4. pH was high on this well. Water was tea color but not turbid. ~~the~~ ~~the~~ Top of water was sudsy. Could not remove bubbles from vials. Deconned bailers again before sampling next 2 wells. After deconnng we did an equipment rinse labeled 41-8. Started then to purge 41-5. Well went dry after 2 gallons. Well let recover & sample. Sampled at 3:30. Left site at 4:00.

VISITORS ON SITE:

CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS.
Well # 41-1 had no cap on well.

WEATHER CONDITIONS:

IMPORTANT TELEPHONE CALLS:

IT PERSONNEL ON SITE: K. Reed D. Bozzano

SIGNATURE Karen Reed

DATE: 11-6-90



Cont'd.

DAILY LOG	DATE	11	6	90
	NO.			
	SHEET	2	OF	46

FIELD ACTIVITY DAILY LOG

PROJECT NAME <u>NAS Jax</u>	PROJECT NO. <u>595410</u>
-----------------------------	---------------------------

FIELD ACTIVITY SUBJECT: <u>Sampling</u>

DESCRIPTION ON DAILY ACTIVITIES AND EVENTS:
 Went back to motel & put preservatives in bottles & filled out chain of custody. Finished at 6:00 & took coolers to lobby to be shipped to IT Knoxville.

11-7-90 - Arrived on site to finish Site 41 at 8:00. Decorned teflon bailers & calibrated pH & conductivity meters. Set up a field blank while purging well. There is a bailer stuck down this well from previous sampling. Field blank is labeled 41-9. After finishing 41-6, we had to go get clearance from Jim Schraeder to cross the runway to sample 42-9. Jim came out with us to make sure we could cross. He left & we started purging 42-9. No problems sampling. We then moved over to 42-8. Decorned bailers to purge 42-8 & 42-7. Only 2' of water in well. Bailer keeps filling up w/ sand. Bailed well dry. Will let recover & sample. After sampling 42-8 we

VISITORS ON SITE:	CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS. Only able to collect 1 reading for pH & cond. due to bad recovery from 428
-------------------	--

WEATHER CONDITIONS: <u>warm, breezy</u>	IMPORTANT TELEPHONE CALLS:
--	----------------------------

IT PERSONNEL ON SITE: <u>K. Reed D. Rozzano</u> <u>Karen Reed</u>	(FIELD ENGINEER) DATE <u>11-7-90</u>
--	--------------------------------------



cont'd.

DAILY LOG	DATE	11	7	90
	NO.			
	SHEET	3	OF	6

FIELD ACTIVITY DAILY LOG

PROJECT NAME	NAS Jar	PROJECT NO.	595410
--------------	---------	-------------	--------

FIELD ACTIVITY SUBJECT:	Sampling
-------------------------	----------

DESCRIPTION ON DAILY ACTIVITIES AND EVENTS:

Moved to 42-7. There is no cap on well. Cob webs inside well. Collected 2 bailers & well went dry. Second bailer only 1/2 full. Well is extremely slow in recovering. Only able to sample 1 small jar at a time (VOA's TOX, total coll) while Denise was trying to fill up 1 litre jars & deconned a bailer & started purging 42-6. Denise is unable to purge anymore than 1" of water from well, even after waiting for well to recover. It took approx 1/2 hr to fill 1 1 litre jar. She came over to help me sample 42-6 & after sampling she returned to try to get another sample from 42-7. Unable to purge anymore water from well. At this point we have collected VOA, TOC, TOX, total coll. and BNA's. We then put ~~alum~~ foil over the top of the well & closed it up. Moved over to 42-5. There is no cap on this well. Recovery is slow but we were able to fill all jars. Deconned both bailers & did an equip. rinse. Labeled 42-10. Left site at 6:15 to

VISITORS ON SITE:	CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS.
-------------------	--

WEATHER CONDITIONS: warm, windy	IMPORTANT TELEPHONE CALLS:
------------------------------------	----------------------------

IT PERSONNEL ON SITE:	
Karen Reed	(FIELD ENGINEER) DATE



cont'd

DAILY LOG	DATE	11	7	90
	NO.			
	SHEET	4	OF	16

FIELD ACTIVITY DAILY LOG

PROJECT NAME	NAS-Jax	PROJECT NO.	595410
--------------	---------	-------------	--------

FIELD ACTIVITY SUBJECT:	Sampling.
-------------------------	-----------

DESCRIPTION ON DAILY ACTIVITIES AND EVENTS:

return to motel to put preservatives in jars & ship coolers. We called Mark Hampton to let him know 42-7 did not get all of the jars filled. He told us to go out the next morning & fill up metals & Cyanide bottles if possible. We did not ship the cooler for that well. we will wait until 11-8 to ship the entire kit. He said he would call Jerry Wallmeyer & let him know. We took the kits to Federal Express because we were running late & couldn't get them in the lobby in time. Went to Fed Ex at 8:00 PM.

11-8 - Before arriving on site we went to get 3 PVC caps for wells 41-1, 42-5, & 42-7. When we arrived on site we took a complete set of water levels from all the wells that had been sampled. 2 of the 3 (IR) wells had different locks on them. Went up to Jim Schraeders office to get the key & they couldn't find it, so Denise & I asked if we could cut the locks off & put 0641 locks on them. They

VISITORS ON SITE:	CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS.
-------------------	--

WEATHER CONDITIONS: Cool, breezy	IMPORTANT TELEPHONE CALLS:
-------------------------------------	----------------------------

IT PERSONNEL ON SITE:	K. Reed (FIELD ENGINEER)	D. Bozzano	DATE	11-8-90
	Karen Reed			



cont'd

FIELD ACTIVITY DAILY LOG

DAILY LOG	DATE	11	8	90
	NO.			
	SHEET	5	OF	6

595410

PROJECT NAME NAS Jax PROJECT NO. ~~595410~~

FIELD ACTIVITY SUBJECT: Sampling Monitor wells.

DESCRIPTION ON DAILY ACTIVITIES AND EVENTS:

said that was fine. We left them a set of keys for the locks & changed the locks on those two wells. Then we went back to 42-7 and collected the samples for cyanide & metals. We did not purge any water 1st Well was practically dry after filling these 2 bottles. Left site at 10:00 to return to motel to ship cooler. Put preservatives in bottles & took cooler to ~~FED EX~~ to be shipped. ~~Call~~ ~~coolers~~ called J. Wallmeyer to let him know status on well #42-7.

All coolers were packed with ice & bubble wrap prior to shipping.

Placed new PVC caps on 41-1, 42-5, & 42-7.

Also attached 2 pg. list of parameters that Mark gave me on site, to each chain of custody.

VISITORS ON SITE:

CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS.

WEATHER CONDITIONS:
cool - breezy

IMPORTANT TELEPHONE CALLS:
Jenny Wallmeyer
Mark Hampton

IT PERSONNEL ON SITE: K. Reed D. Rozzano
Karen Reed (FIELD ENGINEER) DATE 11-8-90



FIELD ACTIVITY DAILY LOG

DAILY LOG	DATE	11	8	90
	NO.			
	SHEET	6	OF	6

PROJECT NAME NAS Jay PROJECT NO. 595410

FIELD ACTIVITY SUBJECT: Water levels

DESCRIPTION ON DAILY ACTIVITIES AND EVENTS:

Water Levels -

41-1 7.33 Replaced cap
 41-2 7.40
 41-3 7.60
 41-4 8.22
 41-5 7.33
 41-6 7.35

42-5 10.03 - Replaced cap & lock
 42-6 11.24 -
 42-7 10.59 - New cap
 42-8 11.55
 42-9 6.02 - New lock

IR-well next to treatment fac. - DTW - 7.12 (#42-4)
 IR well (NAS 4-6) off driveway DTW - 10.65 - New lock
 IR well next to taxiway - DTW - 7.45. - Entire top of ~~case~~ above ground protection is broken off.

VISITORS ON SITE:	CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS.
-------------------	--

WEATHER CONDITIONS: cool -	IMPORTANT TELEPHONE CALLS:
-----------------------------------	----------------------------

IT PERSONNEL ON SITE: K. Reed D. Rozzano
Karen Reed (FIELD ENGINEER) DATE 11-8-90

Appendix B
Sample Collection Logs

WATER QUALITY FIELD COLLECTION REPORT

PROJECT NAME WAS JAX
 PROJECT NUMBER 595410
 DATE COLLECTED 11-6-90
 TIME COLLECTED 10:50
 COLLECTED BY DR-KR
 DATE RECEIVED BY LAB _____
 RECEIVED BY _____

SAMPLE DESCRIPTION
 SAMPLE NUMBER 41-1
 SAMPLE TYPE water
 CHEM. _____ BACT. _____
 METALS _____ D.O. _____
 RAD _____ ORGANIC _____
 NUTRIENTS _____

SAMPLING INFORMATION

AIR TEMPERATURE _____
 WATER TEMPERATURE _____
 DEPTH OF SAMPLE top of water

FIELD READINGS 1g 2g 3g

	READ 1	READ 2	READ 3
pH	4.6	4.5	4.6
Spec. Cond. μ MHOS/cm @ 25°C	500	1210	1200
D.O. ^{temp} MGT	25.0	24.5	24.5

LOCATION SKETCH

DTW - 7.25
 DTB - 15.24
 3 vol = 4.07 gallons
 No cap on well
 Strong sulfur odor
 Well went dry after 3 gallons - will let recover
 + sample

METER CALIBRATION

pH TEMP.	pH STD.	pH STD.	D.O. TEMP.	D.O. @O	D.O. @STD	SPEC. COND. TEMP	SPEC. COND. LOW	SPEC. COND. HIGH
OK ✓			OK ✓			OK ✓		

REDOX:

SAMPLE _____ mv @ _____ °C ZOBEL _____ mv @ _____ °C

SAMPLE LOCATION _____

WEATHER CONDITIONS cloudy - breezy cool

ADDITIONAL REMARKS water was slightly turbid

TEST EQUIPMENT LIST

EQUIPMENT NUMBER	EQUIPMENT NAME
PH5-4523-299	PH meter
model 33	YSI model 33 SCT meter

WATER QUALITY FIELD COLLECTION REPORT

PROJECT NAME NAS JAX
 PROJECT NUMBER 595410
 DATE COLLECTED 11-6-90
 TIME COLLECTED 11:40
 COLLECTED BY DR-KR
 DATE RECEIVED BY LAB _____
 RECEIVED BY _____

SAMPLE DESCRIPTION
 SAMPLE NUMBER 41-2
 SAMPLE TYPE water
 CHEM. _____ BACT. _____
 METALS _____ DO. _____
 RAD _____ ORGANIC _____
 NUTRIENTS _____

SAMPLING INFORMATION

AIR TEMPERATURE _____
 WATER TEMPERATURE _____
 DEPTH OF SAMPLE top of water

FIELD READINGS Int 10g 13g

	READ 1	READ 2	READ 3
pH	5.5	5.7	5.4
Spec. Cond. μ MHOS/cm @ 25°C	170	165	162
D.O. MET temp	26.5	25.0	25.0

LOCATION SKETCH

DTW - 7.29
 DTB - 34.06
 3 vol = 13.6 gal

 No odor

METER CALIBRATION

pH TEMP.	pH STD.	pH STD.	D.O. TEMP.	D.O. @O	D.O. @STD	SPEC. COND. TEMP	SPEC. COND. LOW	SPEC. COND. HIGH
OK ✓			OK ✓			OK ✓		

REDOX:

SAMPLE _____ mv @ _____ °C ZOBEL _____ mv @ _____ °C

SAMPLE LOCATION monitor well

WEATHER CONDITIONS warm-cloudy

ADDITIONAL REMARKS Duplicated this well - labeled 41-7
water was slightly turbid

TEST EQUIPMENT LIST

EQUIPMENT NUMBER	EQUIPMENT NAME
<u>PH 5-4523-299</u>	<u>PH meter</u>
<u>model 33</u>	<u>YSI SCT meter</u>

WATER QUALITY FIELD COLLECTION REPORT

PROJECT NAME NAS JAY
 PROJECT NUMBER 595410
 DATE COLLECTED 11- -90
 TIME COLLECTED 11:45
 COLLECTED BY DR-KR
 DATE RECEIVED BY LAB _____
 RECEIVED BY _____

SAMPLE DESCRIPTION (41-7) = 2
 SAMPLE NUMBER DUP-(41-2)
 SAMPLE TYPE water
 CHEM. _____ BACT. _____
 METALS _____ D.O. _____
 RAD _____ ORGANIC _____
 NUTRIENTS _____

SAMPLING INFORMATION

AIR TEMPERATURE _____
 WATER TEMPERATURE _____
 DEPTH OF SAMPLE top of water

LOCATION SKETCH

same as 41-2

FIELD READINGS

	READ 1	READ 2	READ 3
pH	same AS		
Spec. Cond. μMHOS/cm @ 25°C			
D.O. MG/L			

METER CALIBRATION

pH TEMP.	pH STD.	pH STD.	D.O. TEMP.	D.O. @0	D.O. @STD	SPEC. COND. TEMP	SPEC. COND. LOW	SPEC. COND. HIGH
OK ✓			OK ✓			OK ✓		

REDOX:

SAMPLE _____ mv @ _____ °C ZOBEL _____ mv @ _____ °C
 SAMPLE LOCATION monitor well
 WEATHER CONDITIONS warm-cloudy
 ADDITIONAL REMARKS _____

TEST EQUIPMENT LIST

EQUIPMENT NUMBER	EQUIPMENT NAME
<u>PH5-4523-299</u>	<u>PH meter</u>
<u>model 33</u>	<u>SET meter</u>

WATER QUALITY FIELD COLLECTION REPORT

2717
Jerry

PROJECT NAME NAS JAX
 PROJECT NUMBER 595410
 DATE COLLECTED 11-6-90
 TIME COLLECTED 1:45
 COLLECTED BY DR-KR
 DATE RECEIVED BY LAB _____
 RECEIVED BY _____

SAMPLE DESCRIPTION

SAMPLE NUMBER 41-3
 SAMPLE TYPE Water
 CHEM. _____ BACT. _____
 METALS _____ D.O. _____
 RAD _____ ORGANIC _____
 NUTRIENTS _____

SAMPLING INFORMATION

AIR TEMPERATURE _____
 WATER TEMPERATURE _____
 DEPTH OF SAMPLE top of water

LOCATION SKETCH

DTW - 7.58
 DTB - 13.90
 3 vol = 3.22 gal

 No odor in well

FIELD READINGS

	READ 1	READ 2	READ 3
pH	5.2 5.2	5.3	5.8
Spec. Cond. μ MHOS/cm @ 25°C	890	890	900
D.O. MG/L temp	27.5	26.9	26.5

METER CALIBRATION

pH TEMP.	pH STD.	pH STD.	D.O. TEMP.	D.O. @O	D.O. @STD	SPEC. COND. TEMP	SPEC. COND. LOW	SPEC. COND. HIGH
OK ✓			OK ✓			OK ✓		

REDOX:

SAMPLE _____ mv @ _____ °C ZOBEL _____ mv @ _____ °C

SAMPLE LOCATION

WEATHER CONDITIONS Warm - sunny -

ADDITIONAL REMARKS Slightly turbid - Lt br. in color
Checked calibration on pH meter - read 7.0

TEST EQUIPMENT LIST

EQUIPMENT NUMBER	EQUIPMENT NAME
<u>P45-4523-299</u>	<u>pH meter</u>
<u>Model 33</u>	<u>SCT meter</u>

WATER QUALITY FIELD COLLECTION REPORT

PROJECT NAME NAS JAX
 PROJECT NUMBER 595410
 DATE COLLECTED 11-6-90
 TIME COLLECTED 2:45
 COLLECTED BY DR-KR
 DATE RECEIVED BY LAB _____
 RECEIVED BY _____

SAMPLE DESCRIPTION
 SAMPLE NUMBER 41-4
 SAMPLE TYPE Water
 CHEM. _____ BACT. _____
 METALS _____ D.O. _____
 RAD _____ ORGANIC _____
 NUTRIENTS _____

SAMPLING INFORMATION

AIR TEMPERATURE _____
 WATER TEMPERATURE _____
 DEPTH OF SAMPLE top of water

LOCATION SKETCH

DTW - 8.15
 DTB - 15.83
 3rol = 3.91 gal

FIELD READINGS 1st 3g 4g

	READ 1	READ 2	READ 3
pH	9.5	9.6	9.6
Spec. Cond. μ MHOS/cm @ 25°C	3500	3680	3690
D.O. ^{temp} MG/L	27.0	26.5	26.5

METER CALIBRATION

pH TEMP.	pH STD.	pH STD.	D.O. TEMP.	D.O. @O	D.O. @STD	SPEC. COND. TEMP	SPEC. COND. LOW	SPEC. COND. HIGH
OK ✓			OK ✓			OK ✓		

REDOX:

SAMPLE _____ mv @ _____ °C ZOBEL _____ mv @ _____ °C

SAMPLE LOCATION _____

WEATHER CONDITIONS sunny/hot

ADDITIONAL REMARKS NO turbidity - but water is color of tea & very sudsy. Could not get bubbles out of TOC vials

TEST EQUIPMENT LIST

EQUIPMENT NUMBER	EQUIPMENT NAME
<u>PH5-4523-299</u>	<u>pH meter</u>
<u>model 33</u>	<u>SCT meter</u>

WATER QUALITY FIELD COLLECTION REPORT

PROJECT NAME NAS JAX
 PROJECT NUMBER 595410
 DATE COLLECTED 11-6-90
 TIME COLLECTED 3:00
 COLLECTED BY DR-KR
 DATE RECEIVED BY LAB _____
 RECEIVED BY _____

SAMPLE DESCRIPTION
 SAMPLE NUMBER (41-8) Equip Bl.
 SAMPLE TYPE water
 CHEM. _____ BACT. _____
 METALS _____ D.O. _____
 RAD _____ ORGANIC _____
 NUTRIENTS _____

SAMPLING INFORMATION

AIR TEMPERATURE _____
 WATER TEMPERATURE _____
 DEPTH OF SAMPLE _____

LOCATION SKETCH

Equip Rinse

FIELD READINGS

	READ 1	READ 2	READ 3
pH			
Spec. Cond. μ MHOS/cm @ 25°C			
D.O. MG/L			

METER CALIBRATION

pH TEMP.	pH STD.	pH STD.	D.O. TEMP.	D.O. @O	D.O. @STD	SPEC. COND. TEMP	SPEC. COND. LOW	SPEC. COND. HIGH
OK ✓			OK ✓			OK ✓		

REDOX:

SAMPLE _____ mv @ _____ °C ZOBEL _____ mv @ _____ °C

SAMPLE LOCATION _____

WEATHER CONDITIONS _____

ADDITIONAL REMARKS _____

TEST EQUIPMENT LIST

EQUIPMENT NUMBER	EQUIPMENT NAME
<u>PH5-4523-299</u>	<u>PH meter</u>
<u>Model 33</u>	<u>SCT meter</u>

WATER QUALITY FIELD COLLECTION REPORT

PROJECT NAME NAS JAX
 PROJECT NUMBER 595410
 DATE COLLECTED 11-6-90
 TIME COLLECTED 3:30
 COLLECTED BY DR-KR
 DATE RECEIVED BY LAB _____
 RECEIVED BY _____

SAMPLE DESCRIPTION
 SAMPLE NUMBER 41-5
 SAMPLE TYPE Water
 CHEM. _____ BACT. _____
 METALS _____ D.O. _____
 RAD _____ ORGANIC _____
 NUTRIENTS _____

SAMPLING INFORMATION

AIR TEMPERATURE _____
 WATER TEMPERATURE _____
 DEPTH OF SAMPLE _____

FIELD READINGS Int 3g 4g

	READ 1	READ 2	READ 3
pH	5.7	5.8	—
Spec. Cond. μ MHOS/cm @ 25°C	900	900	—
D.O. <u>Temp</u> MGL	28.0	26.5	—

LOCATION SKETCH

DTW - 7.27
 DTB - 15.17
 3 vol - 4.0 gal
 Lt. yellow in color

METER CALIBRATION

pH TEMP.	pH STD.	pH STD.	D.O. TEMP.	D.O. @O	D.O. @STD	SPEC. COND. TEMP	SPEC. COND. LOW	SPEC. COND. HIGH
OK ✓			OK ✓			OK ✓		

REDOX:

SAMPLE _____ mv @ _____ °C ZOBEL _____ mv @ _____ °C

SAMPLE LOCATION _____

WEATHER CONDITIONS hot - sunny

ADDITIONAL REMARKS Well went dry after 2 gallons - well took second let recover + sample - sl. turbid - yellow
Reading after sampling

TEST EQUIPMENT LIST

EQUIPMENT NUMBER	EQUIPMENT NAME
<u>PH5-4523-299</u>	<u>PH meter</u>
<u>model 33</u>	<u>SCT meter</u>

WATER QUALITY FIELD COLLECTION REPORT

PROJECT NAME NAS JAX
 PROJECT NUMBER 595410
 DATE COLLECTED 11-16-90
 TIME COLLECTED 10:05
 COLLECTED BY DR-KR
 DATE RECEIVED BY LAB _____
 RECEIVED BY _____

SAMPLE DESCRIPTION
 SAMPLE NUMBER 41-6
 SAMPLE TYPE water
 CHEM. _____ BACT. _____
 METALS _____ D.O. _____
 RAD _____ ORGANIC _____
 NUTRIENTS _____

SAMPLING INFORMATION

AIR TEMPERATURE _____
 WATER TEMPERATURE _____
 DEPTH OF SAMPLE top of water

LOCATION SKETCH

DTB - 15.09
 DTW - 7.27
 3 vol = 3.98 gal

FIELD READINGS

	READ 1	READ 2	READ 3
pH	7.3	6.8	6.7
Spec. Cond. μMHOS/cm @ 25°C	499	500	500
D.O. MG/L temp	26.5	26.0	26.0

METER CALIBRATION

pH TEMP.	pH STD.	pH STD.	D.O. TEMP.	D.O. @0	D.O. @STD	SPEC. COND. TEMP	SPEC. COND. LOW	SPEC. COND. HIGH
OK ✓			OK ✓			OK ✓		

REDOX:

SAMPLE _____ mv @ _____ °C ZOBEL _____ mv @ _____ °C

SAMPLE LOCATION monitor well

WEATHER CONDITIONS cool-sunny

ADDITIONAL REMARKS water very slightly turbid -
bailes stuck down well from previous sampling

TEST EQUIPMENT LIST No other sampling

EQUIPMENT NUMBER	EQUIPMENT NAME
<u>PH5-4523-299</u>	<u>PH meter</u>
<u>model 33</u>	<u>SCT meter</u>

WATER QUALITY FIELD COLLECTION REPORT

PROJECT NAME NAS JAX
 PROJECT NUMBER 595410
 DATE COLLECTED 11-7-90
 TIME COLLECTED 10:05
 COLLECTED BY DR-KR
 DATE RECEIVED BY LAB _____
 RECEIVED BY _____

SAMPLE DESCRIPTION
 SAMPLE NUMBER Field (41-9)
 SAMPLE TYPE Water
 CHEM. _____ BACT. _____
 METALS _____ D.O. _____
 RAD _____ ORGANIC _____
 NUTRIENTS _____

SAMPLING INFORMATION

AIR TEMPERATURE _____
 WATER TEMPERATURE _____
 DEPTH OF SAMPLE _____

LOCATION SKETCH

field blank

FIELD READINGS

	READ 1	READ 2	READ 3
pH			
Spec. Cond. μMHOS/cm @ 25°C			
D.O. MG/L			

METER CALIBRATION

pH TEMP	pH STD.	pH STD.	D.O. TEMP.	D.O. @O	D.O. @STD	SPEC. COND. TEMP	SPEC. COND. LOW	SPEC. COND. HIGH
OK ✓			OK ✓			OK ✓		

REDOX:

SAMPLE _____ mv @ _____ °C ZOBEL _____ mv @ _____ °C

SAMPLE LOCATION _____

WEATHER CONDITIONS COOL Sunny

ADDITIONAL REMARKS _____

TEST EQUIPMENT LIST

EQUIPMENT NUMBER	EQUIPMENT NAME
1	

WATER QUALITY FIELD COLLECTION REPORT

PROJECT NAME NAS JAX
 PROJECT NUMBER 595410
 DATE COLLECTED 11-7-90
 TIME COLLECTED 12:45
 COLLECTED BY DR-KR
 DATE RECEIVED BY LAB _____
 RECEIVED BY _____

SAMPLE DESCRIPTION
 SAMPLE NUMBER 42-9
 SAMPLE TYPE water
 CHEM. _____ BACT. _____
 METALS _____ D.O. _____
 RAD _____ ORGANIC _____
 NUTRIENTS _____

SAMPLING INFORMATION

AIR TEMPERATURE _____
 WATER TEMPERATURE _____
 DEPTH OF SAMPLE top of water

LOCATION SKETCH

DTW - 5.94
 DTB - 36.5
 3 vol - 16 gal

FIELD READINGS

	READ 1	READ 2	READ 3
pH	6.5	6.3	6.3
Spec. Cond. μ MHOS/cm @ 25°C	248	78	72
^{Temp} D.O. MG/L	27.0	24.0	24.0

METER CALIBRATION

pH TEMP.	pH STD.	pH STD.	D.O. TEMP.	D.O. @0	D.O. @STD	SPEC. COND. TEMP	SPEC. COND. LOW	SPEC. COND. HIGH
OK ✓			OK ✓			OK ✓		

REDOX:

SAMPLE _____ mv @ _____ °C ZOBEL _____ mv @ _____ °C

SAMPLE LOCATION monitor well

WEATHER CONDITIONS ☀ warm-breezy

ADDITIONAL REMARKS water yellowish in color - slightly turbid
NO odor

TEST EQUIPMENT LIST

EQUIPMENT NUMBER	EQUIPMENT NAME
<u>PH5-4523-299</u>	<u>PH meter</u>
<u>model 33</u>	<u>SCT meter</u>

WATER QUALITY FIELD COLLECTION REPORT

PROJECT NAME NAD JAX
 PROJECT NUMBER 593410
 DATE COLLECTED 11-7-90
 TIME COLLECTED 1:40
 COLLECTED BY DR-KR
 DATE RECEIVED BY LAB _____
 RECEIVED BY _____

SAMPLE DESCRIPTION
 SAMPLE NUMBER 42-8
 SAMPLE TYPE water
 CHEM. _____ BACT. _____
 METALS _____ D.O. _____
 RAD _____ ORGANIC _____
 NUTRIENTS _____

SAMPLING INFORMATION

AIR TEMPERATURE _____
 WATER TEMPERATURE _____
 DEPTH OF SAMPLE _____

FIELD READINGS Int 19

	READ 1	READ 2	READ 3
pH	5.0		
Spec. Cond. μ MHOS/cm @ 25°C	1590		
D.O. MGT temp	14.0		

LOCATION SKETCH

DTW - 11.49
 DTB - 13.95
 3 vol - 1.2 gal
 Well went dry - will let recover & sample

METER CALIBRATION

pH TEMP.	pH STD.	pH STD.	D.O. TEMP.	D.O. @O	D.O. @STD	SPEC. COND. TEMP	SPEC. COND. LOW	SPEC. COND. HIGH
OK ✓			OK ✓			OK ✓		

REDOX:

SAMPLE _____ mv @ _____ °C ZOBEL _____ mv @ _____ °C
 SAMPLE LOCATION monitor well
 WEATHER CONDITIONS warm windy
 ADDITIONAL REMARKS Only 2 feet of water in well. ~~Water~~ Bailer keeps filling up w/sand No work

TEST EQUIPMENT LIST

EQUIPMENT NUMBER	EQUIPMENT NAME
<u>PH5-4523-299</u>	<u>PH meter</u>
<u>model 33</u>	<u>SCT meter</u>

WATER QUALITY FIELD COLLECTION REPORT

PROJECT NAME WAS JAX
 PROJECT NUMBER 595410
 DATE COLLECTED 11-7-90
 TIME COLLECTED 2:50
 COLLECTED BY DR-KR
 DATE RECEIVED BY LAB _____
 RECEIVED BY _____

SAMPLE DESCRIPTION
 SAMPLE NUMBER 42-7
 SAMPLE TYPE water
 CHEM. _____ BACT. _____
 METALS _____ D.O. _____
 RAD _____ ORGANIC _____
 NUTRIENTS _____

SAMPLING INFORMATION

AIR TEMPERATURE _____
 WATER TEMPERATURE _____
 DEPTH OF SAMPLE top of water

FIELD READINGS

Int

	READ 1	READ 2	READ 3
pH	4.5		
Spec. Cond. μ MHOS/cm @ 25°C	2200	/	/
D.O. MG/L Temp	25.0		

LOCATION SKETCH

DTW-9.94
 DTB-13.05
 301-
 No cap-Well is not recovering-Only sampled for BNA's, TOC, VOA, Total Coll + T₀

METER CALIBRATION

pH TEMP.	pH STD.	pH STD.	D.O. TEMP.	D.O. @O	D.O. @STD	SPEC. COND. TEMP	SPEC. COND. LOW	SPEC. COND. HIGH
OK ✓			OK ✓			OK ✓		

REDOX:

SAMPLE _____ mv @ _____ °C ZOBEL _____ mv @ _____ °C
 SAMPLE LOCATION monitor well
 WEATHER CONDITIONS warm-sunny
 ADDITIONAL REMARKS Well went dry after 2 bailers of water

Very slow recovery-Will let recover a little at a time & sample.

TEST EQUIPMENT LIST

EQUIPMENT NUMBER	EQUIPMENT NAME
PH5-4523-299	PH meter
model 33	SCT meter

WATER QUALITY FIELD COLLECTION REPORT

PROJECT NAME NAS JAX
 PROJECT NUMBER 595410
 DATE COLLECTED 11-7-90
 TIME COLLECTED 3:30
 COLLECTED BY DR-KR
 DATE RECEIVED BY LAB _____
 RECEIVED BY _____

SAMPLE DESCRIPTION
 SAMPLE NUMBER 42-6
 SAMPLE TYPE water
 CHEM. _____ BACT. _____
 METALS _____ D.O. _____
 RAD _____ ORGANIC _____
 NUTRIENTS _____

SAMPLING INFORMATION

AIR TEMPERATURE _____
 WATER TEMPERATURE _____
 DEPTH OF SAMPLE top of water

LOCATION SKETCH

DTW - 11.26
 DTB - 34.67
 3 vol = 12 gal

FIELD READINGS

	READ 1	READ 2	READ 3
pH	4.7	4.8	4.8
Spec. Cond. μMHOS/cm @ 25°C	112	101	100
temp	22.9	22.5	22.5

METER CALIBRATION

pH TEMP.	pH STD.	pH STD.	D.O. TEMP.	D.O. @O	D.O. @STD	SPEC. COND. TEMP	SPEC. COND. LOW	SPEC. COND. HIGH
OK ✓			OK ✓			OK ✓		

REDOX:

SAMPLE _____ mv @ _____ °C ZOBEL _____ mv @ _____ °C

SAMPLE LOCATION _____

WEATHER CONDITIONS _____

ADDITIONAL REMARKS Water clear - No odor

TEST EQUIPMENT LIST

EQUIPMENT NUMBER	EQUIPMENT NAME
<u>PH5-4523-299</u>	<u>PH meter</u>
<u>model 33</u>	<u>SCT meter</u>

WATER QUALITY FIELD COLLECTION REPORT

PROJECT NAME NAS JAX
 PROJECT NUMBER 595410
 DATE COLLECTED 11-7-90
 TIME COLLECTED 4:20
 COLLECTED BY DR-KR
 DATE RECEIVED BY LAB _____
 RECEIVED BY _____

SAMPLE DESCRIPTION
 SAMPLE NUMBER 42-5
 SAMPLE TYPE water
 CHEM. _____ BACT. _____
 METALS _____ D.O. _____
 RAD _____ ORGANIC _____
 NUTRIENTS _____

SAMPLING INFORMATION

AIR TEMPERATURE _____
 WATER TEMPERATURE _____
 DEPTH OF SAMPLE top of water

FIELD READINGS 1st 1gal

	READ 1	READ 2	READ 3
pH	<u>6.3</u>		
Spec. Cond. μ MHOS/cm @ 25°C	<u>1800</u>		
D.O. MGT temp	<u>25.0</u>		

LOCATION SKETCH

DTW - 10.02
 DTB - 13.38
 3001 - 1.7 gal

 No well cap
 Unable to get 2nd reading
 for pH + cond. due to
 recovery

METER CALIBRATION

pH TEMP.	pH STD.	pH STD.	D.O. TEMP.	D.O. @O	D.O. @STD	SPEC. COND. TEMP	SPEC. COND. LOW	SPEC. COND. HIGH
OK ✓			OK ✓			OK ✓		

REDOX:

SAMPLE _____ mv @ _____ °C ZOBEL _____ mv @ _____ °C

SAMPLE LOCATION _____

WEATHER CONDITIONS WARM-SUNNY

ADDITIONAL REMARKS water is slightly turbid-yellow
in color - ~~blue~~ color of sulfur
slow recovery

TEST EQUIPMENT LIST

EQUIPMENT NUMBER	EQUIPMENT NAME
<u>PH5-4523-299</u>	<u>PH meter</u>
<u>Model 33</u>	<u>SCT meter</u>

WATER QUALITY FIELD COLLECTION REPORT

PROJECT NAME NAS - JAX
 PROJECT NUMBER 593410
 DATE COLLECTED 11-7-90
 TIME COLLECTED 2:00
 COLLECTED BY DR - KR
 DATE RECEIVED BY LAB _____
 RECEIVED BY _____

SAMPLE DESCRIPTION
 SAMPLE NUMBER (42-10) - Equip B1
 SAMPLE TYPE water
 CHEM. _____ BACT. _____
 METALS _____ D.O. _____
 RAD _____ ORGANIC _____
 NUTRIENTS _____

SAMPLING INFORMATION

AIR TEMPERATURE _____
 WATER TEMPERATURE _____
 DEPTH OF SAMPLE _____

LOCATION SKETCH

*Equip Blank
labeled 42-10*

FIELD READINGS

	READ 1	READ 2	READ 3
pH			
Spec. Cond. μMHOS/cm @ 25°C	/	/	/
D.O. MG/L			

METER CALIBRATION

pH TEMP.	pH STD.	pH STD.	D.O. TEMP.	D.O. @O	D.O. @STD	SPEC. COND. TEMP	SPEC. COND. LOW	SPEC. COND. HIGH
OK ✓			OK ✓			OK ✓		

REDOX:

SAMPLE _____ mv @ _____ °C ZOBEL _____ mv @ _____ °C

SAMPLE LOCATION _____

WEATHER CONDITIONS _____

ADDITIONAL REMARKS _____

TEST EQUIPMENT LIST

EQUIPMENT NUMBER	EQUIPMENT NAME

Appendix C
Chain of Custody and Request for Analysis Forms



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. 231414
C/C Control No. 195453

PROJECT NAME NAS Jay
PROJECT NUMBER 595410
PROFIT CENTER NUMBER 2885
PROJECT MANAGER Mark Hampton
BILL TO IT Tampa

DATE SAMPLES SHIPPED 11-6-90
LAB DESTINATION IT Knoxville
LABORATORY CONTACT _____
SEND LAB REPORT TO Mark Hampton
IT Tampa

PURCHASE ORDER NO. _____

DATE REPORT REQUIRED _____
PROJECT CONTACT Mark Hampton
PROJECT CONTACT PHONE NO. 813-971-2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
41-1	Water	2x 1L gl.	NONE	HERB	See
		2x 1L gl.	NONE	PEST	
		1x 1L gl.	H ₂ SO ₄	Phenols	Attached
		1x 1L gl.	NONE	BNA's	
		1x 1L pl.	NaOH	CN	List
		1x 1L pl.	HNO ₃	Metals	
		1x 1L pl.	NONE	Turbidity, Cl, F, SO ₄	
		1x 1L pl.	HNO ₃	NO ₃	
		1x 250ml gl.	H ₂ SO ₄	TOX	
		1x 500ml pl.	NONE	Total Coll.	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.) QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
 Normal Rush _____ (Subject to rush surcharge.) I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and / or suspected to contain high levels of hazardous substances.)
 Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
 Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
 Received by _____ Date/Time _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. 231413
C/C Control No. 195452

PROJECT NAME NAS Vax
PROJECT NUMBER 595-110
PROFIT CENTER NUMBER 2285
PROJECT MANAGER Mark Hampton
BILL TO IT Tampa

DATE SAMPLES SHIPPED 11/6-90
LAB DESTINATION IT Knoxville
LABORATORY CONTACT Scott Harris
SEND LAB REPORT TO Mark Hampton
IT Tampa

PURCHASE ORDER NO. _____

DATE REPORT REQUIRED _____
PROJECT CONTACT Mark Hampton
PROJECT CONTACT PHONE NO. 813-971-2701

Cont-

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
<u>411-1</u>	<u>Water</u>	<u>2 x 40 ml</u>	<u>HCL</u>	<u>VOM'S</u>	<u>See</u>
	<u>↓</u>	<u>2 x 40 ml</u>	<u>H₂SO₄</u>	<u>TOC</u>	<u>Attached</u>
	<u>↓</u>	<u>1 x 1 gal</u>	<u>HNO₃</u>	<u>RAD</u>	
					<u>List</u>

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.) QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
 Normal Rush _____ (Subject to rush surcharge.) I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
 Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
 Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY

Received by _____ Date/Time _____



CHAIN-OF-CUSTODY RECORD

R/A Control No. 231414

C/C Control No. 195453

PROJECT NAME/NUMBER NAS Jay 595410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS K. Reed D. Rozzano

CARRIER/WAYBILL NO. 7771319135

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
41-1	monitor well	11/6 10:50	water	2x1L gl.		
↓		↓	↓	2x1L gl.		
				1x1L gl.		
				1x1L gl.		
				1x1L pl.		
				1x1L pl.		
				1x1L pl.		
				1x1L pl.		
				1x250ml gl.		
				1x500ml gl.		

Special Instructions: See attached list

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Dennis Rozzano 11/6 10:00

3. Relinquished By: _____

Received By: _____

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 231413

C/C Control No. 195452

PROJECT NAME/NUMBER NAS Jax 595410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS K. Reed D. Rozzano

CARRIER/WAYBILL NO. 7771319135

CONF -

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
41-1	monitor well	11/6 10:50	water	2x40ml		
				2x40ml		
				1x 1gal		

Special Instructions: See attached list

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Dennis Rozzano 11/6 6:00

3. Relinquished By: _____

Received By: _____

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. 231420
C/C Control No. 195459

PROJECT NAME NAS Jax
PROJECT NUMBER 595410
PROFIT CENTER NUMBER 2285
PROJECT MANAGER Mark Hampton
BILL TO IT Tampa

PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED 11/6/90
LAB DESTINATION IT Knoxville
LABORATORY CONTACT Scott Harris
SEND LAB REPORT TO Mark Hampton
IT Tampa

DATE REPORT REQUIRED _____
PROJECT CONTACT Mark Hampton
PROJECT CONTACT PHONE NO. 813-971-2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
211-2	Water	2x1L gl.	NONE	HERB	See Attached List
		2x1L gl.	NONE	PEST	
		1x1L gl.	H ₂ SO ₄	Pherols	
		1x1L gl.	NONE	BNA's	
		1x1L pl.	NaOH	CN	
		1x1L pl.	HNO ₃	Metals	
		1x1L pl.	NONE	Turbidity, Cl ⁻ , F ⁻ , SO ₄	
		1x1L pl.	HNO ₃	NO ₃	
		1x250 ml	H ₂ SO ₄	TOX	
		1x500 ml	NONE	Total Coll.	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
 Normal Rush _____ (Subject to rush surcharge.)
 QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
 I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
 Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
 Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
 Received by _____ Date/Time _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. 231419
C/C Control No. 195458

PROJECT NAME NAS Jax
PROJECT NUMBER 595410
PROFIT CENTER NUMBER 2085
PROJECT MANAGER Mark Hampton
BILL TO IT Tampa

DATE SAMPLES SHIPPED 11-6-90
LAB DESTINATION IT Knoxville
LABORATORY CONTACT Scott Harris
SEND LAB REPORT TO IT Tampa

PURCHASE ORDER NO. _____

DATE REPORT REQUIRED _____
PROJECT CONTACT Mark Hampton
PROJECT CONTACT PHONE NO. 813-971-2701

Cont -

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
<u>211-2</u>	<u>water</u>	<u>2x40 ml</u>	<u>HCL</u>	<u>VOA's</u>	
<u>↓</u>	<u>↓</u>	<u>2x40ml</u>	<u>H₂SO₄</u>	<u>TDC</u>	<u>See</u>
<u>↓</u>		<u>1x 1gal</u>	<u>HNO₃</u>	<u>RAD</u>	<u>attached</u>
					<u>list</u>

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
 Normal Rush _____ (Subject to rush surcharge.)
 QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
 I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
 Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____
 (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
 Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
 Received by _____ Date / Time _____



CHAIN-OF-CUSTODY RECORD

R/A Control No. 231420

C/C Control No. 195459

PROJECT NAME/NUMBER NAs Jax 595410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS K. Reed D. Rozzard

CARRIER/WAYBILL NO. 7771319135

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
41-2	monitor well	11/6 11:40	water	2x1L gl.		
				2x1L gl.		
				1x1L gl.		
				1x1L gl.		
				1x1L pl.		
				1x1L pl.		
				1x1L pl.		
				1x1L pl.		
				1x250ml		
				1x500ml		

Special Instructions: See attached list

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Denise Rozzard 11/6 8:00

3. Relinquished By:

Received By:

Received by:

2. Relinquished By:

4. Relinquished By:

Received By:

Received By:



CHAIN-OF-CUSTODY RECORD

R/A Control No. 231419

C/C Control No. 195458

PROJECT NAME/NUMBER NAS Sax 595410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS K Reed D Rozzano

CARRIER/WAYBILL NO. 7771319135

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
41-2	monitor well	11/6 11:40	water	2x40ml		
↓	↓	↓	↓	2x40ml		
				1x1gal		

Special Instructions: See attached list

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Denise Rozzano 11/6 12:00

Received By:

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 231407

C/C Control No. 195447

PROJECT NAME/NUMBER NAS Nav 595410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS K Reed D. Rozzano

CARRIER/WAYBILL NO. 7771319135

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
41-3	mon for well	11/6 1:45	water	2x40ml		
↓	↓	↓	↓	2x40ml		
				1x1gal		

Special Instructions: See attached list

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)
 1. Relinquished By: Denise Rozzano 11/6 6:00

3. Relinquished By: _____

Received By: _____

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



CHAIN-OF-CUSTODY RECORD

R/A Control No. 231408

C/C Control No. 195446

PROJECT NAME/NUMBER NAS Jax 595410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS K. Reed D. Rozzano

CARRIER/WAYBILL NO. 7771319135

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
41-3	Monitor well	11/6 1:45	Water	2x 1L gl		
				2x 1L gl		
				1x 1L gl		
				1x 1L gl		
				1x 1L pl		
				1x 1L pl.		
				1x 1L pl		
				1x 1L pl		
				1x 250ml		
				1x 500ml		

Special Instructions: See attached list

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: D. Rozzano 11/6 10:00

2. Relinquished By: _____

3. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received by: _____

Received By: _____

Received By: _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. 231407
C/C Control No. 195447

PROJECT NAME NAS Jax
PROJECT NUMBER 595410
PROFIT CENTER NUMBER 2085
PROJECT MANAGER Mark Hampton
BILL TO IT Tampa

DATE SAMPLES SHIPPED 11-6-90
LAB DESTINATION IT Knoxville
LABORATORY CONTACT Scott Harris
SEND LAB REPORT TO IT Tampa

PURCHASE ORDER NO. _____

DATE REPORT REQUIRED _____
PROJECT CONTACT Mark Hampton
PROJECT CONTACT PHONE NO. 813 971-2701

Confid

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
41-3	Water	2x40 ml	HCL	VOA's	See
↓	↓	2x40 ml	H ₂ SO ₄	TDC	attached
↓	↓	1x1 gal	HNO ₃	RAD	
					list

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.) QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
Normal Rush _____ (Subject to rush surcharge.) I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
Received by _____ Date/Time _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. 231408
C/C Control No. 195446

PROJECT NAME NAS Jax
PROJECT NUMBER 595410
PROFIT CENTER NUMBER 2285
PROJECT MANAGER Mark Hampton
BILL TO IT Tampa
n
PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED 11/6/90
LAB DESTINATION IT Knoxville
LABORATORY CONTACT Scott Harris
SEND LAB REPORT TO IT Tampa
DATE REPORT REQUIRED _____
PROJECT CONTACT Mark Hampton
PROJECT CONTACT PHONE NO. 813-971-2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
41-3 ↓	Water ↓	2x1L gl.	none	HERB	see attached list
		2x1L gl.	none	PEST	
		1x1L gl.	H ₂ SO ₄	Phenols	
		1x1L gl.	none	BNA's	
		1x1L pl.	NaOH	CN	
		1x1L pl.	HNO ₃	Metals	
		1x1L pl.	none	Turbidity, Cl ⁻ , F ⁻ , SO ₄	
		1x1L pl.	HNO ₃	ND ₃	
		1x250ml	H ₂ SO ₄	TOX	
		1x500ml	none	Total Coll.	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.) QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
 Normal Rush _____ (Subject to rush surcharge.) I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
 Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY

Received by _____ Date/Time _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 230974

C/C Control No. 195406

PROJECT NAME/NUMBER NAS Van 595410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS K. Reed D. Bozzano
cont'd

CARRIER/WAYBILL NO. 7771319135

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
41-4	monitor well	11/6 2:45	water	2x40ml		
↓	↓	↓	↓	2x40ml		
				1x1 gal		

Special Instructions: See attached list

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Denise Bozzano 11/6 6:00

3. Relinquished By: _____

Received By: _____

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. 230975

C/C Control No. 195407

PROJECT NAME NAS Jax
 PROJECT NUMBER 595410
 PROFIT CENTER NUMBER 2285
 PROJECT MANAGER Mark Hampton
 BILL TO IT Tampa

DATE SAMPLES SHIPPED 11-6-90
 LAB DESTINATION IT Knoxville
 LABORATORY CONTACT Scott Harris
 SEND LAB REPORT TO IT Tampa

PURCHASE ORDER NO. _____

DATE REPORT REQUIRED _____
 PROJECT CONTACT Mark Hampton
 PROJECT CONTACT PHONE NO. 813-971-2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
41-4 ↓	Water ↓	2x 1L gl	none	HERB	See attached
		2x 1L gl	none	PEST	
		1x 1L gl	H ₂ SO ₄	Phenols	List
		1x 1L gl	none	BNA's	
		1x 1L pl	NaOH	CN	
		1x 1L pl	HNO ₃	Metals	
		1x 1L pl	none	Turbidity, Cl ⁻ , F ⁻ , SO ₄	
		1x 1L pl	HNO ₃	NO ₃	
		1x 250ml	H ₂ SO ₄	TOX	
		1x 500ml	none	Total Coll.	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.) QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
 Normal Rush _____ (Subject to rush surcharge.) I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
 Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
 Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
 Received by _____ Date/Time _____



REQUEST FOR ANALYSIS

R/A Control No. 230974
C/C Control No. 195406

PROJECT NAME NAS Wax
PROJECT NUMBER 595410
PROFIT CENTER NUMBER 2285
PROJECT MANAGER Mark Hampton
BILL TO IT Tampa

DATE SAMPLES SHIPPED 11-6-90
LAB DESTINATION IT Knoxville
LABORATORY CONTACT Scott Harris
SEND LAB REPORT TO IT Tampa

PURCHASE ORDER NO. _____

DATE REPORT REQUIRED _____
PROJECT CONTACT Mark Hampton
PROJECT CONTACT PHONE NO. 813-971-2701

cont'd

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
<u>41-4</u>	<u>Water</u>	<u>2x40ml</u>	<u>HCL</u>	<u>VOA'S</u>	<u>See</u>
<u>↓</u>	<u>↓</u>	<u>2x40ml</u>	<u>H₂SO₄</u>	<u>TOC</u>	<u>attached</u>
<u>↓</u>		<u>1x1gal</u>	<u>HND₃</u>	<u>RAD</u>	<u>list</u>

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.) QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
Normal Rush _____ (Subject to rush surcharge.) I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
Received by _____ Date/Time _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 230975

C/C Control No. 195407

PROJECT NAME/NUMBER WAS Jax 595410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS K. Reed D. Rozzano

CARRIER/WAYBILL NO. 7771319135

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
41-4	monitor well	11/6 2:45	water	2x1L gl		
				2x1L gl		
				1x1L gl		
				1x1L gl		
				1x1L pl.		
				1x1L pl.		
				1x1L pl.		
				1x1L pl.		
				1x250ml		
				1x500ml		

Special Instructions: See attached list

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Dennis Rozzano 11/6 6:00

3. Relinquished By: _____

Received By: _____

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. **231416**

C/C Control No. **195455**

PROJECT NAME NAS Jax
 PROJECT NUMBER 595410
 PROFIT CENTER NUMBER 2285
 PROJECT MANAGER Mark Hampton
 BILL TO IT Tampa

DATE SAMPLES SHIPPED _____
 LAB DESTINATION IT Knoxville
 LABORATORY CONTACT Scott Harris
 SEND LAB REPORT TO IT Tampa

PURCHASE ORDER NO. _____

DATE REPORT REQUIRED _____
 PROJECT CONTACT Mark Hampton
 PROJECT CONTACT PHONE NO. 813-971-2701

cont'd

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
41-5	water	2x40ml	HCL	NOA'S	See
↓	↓	2x40ml	H ₂ SO ₄	TOC	attached list
↓	↓	1x1 gal	HNO ₃	RAD	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
 Normal Rush _____ (Subject to rush surcharge.)
 QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
 I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
 Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY

Received by _____ Date/Time _____



CHAIN-OF-CUSTODY RECORD

R/A Control No. 231415

C/C Control No. 195454

PROJECT NAME/NUMBER NAS Jax 595410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS K. Reed D. Rozzaro

CARRIER/WAYBILL NO. 7771319135

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
41-5	monitor well	11/6 3:30	water	2x1L gl		
↓	↓	↓	↓	2x1L gl		
↓	↓	↓	↓	1x1L gl		
↓	↓	↓	↓	1x1L gl.		
↓	↓	↓	↓	1x1L pl.		
↓	↓	↓	↓	1x1L pl.		
↓	↓	↓	↓	1x1L pl.		
↓	↓	↓	↓	1x1L pl.		
↓	↓	↓	↓	1x250ml		
↓	↓	↓	↓	1x500ml		

Special Instructions: See Attached list

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Denise Rozzaro 11/6 6:00

3. Relinquished By:

Received By:

Received by:

2. Relinquished By:

4. Relinquished By:

Received By:

Received By:



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 231416

C/C Control No. 195455

PROJECT NAME/NUMBER NAS Jax 595410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS B. Reed D Rozzano

CARRIER/WAYBILL NO. 7771319135

confid

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
415	monitor well	11/6 3:30	water	2x40ml		
↓	↓	↓	↓	2x40ml		
↓	↓	↓	↓	1x1 gal		

Special Instructions: See attached list

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Denise Rozzano 11/6 6:00

3. Relinquished By: _____

Received By: _____

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. **231415**

C/C Control No. **A5454**

11-6-90

PROJECT NAME NAS Jax
 PROJECT NUMBER 595410
 PROFIT CENTER NUMBER 2285
 PROJECT MANAGER Mark Hampton
 BILL TO IT Tampa

DATE SAMPLES SHIPPED _____
 LAB DESTINATION IT Knoxville
 LABORATORY CONTACT Scott Harris
 SEND LAB REPORT TO IT Tampa

PURCHASE ORDER NO. _____

DATE REPORT REQUIRED _____
 PROJECT CONTACT Mark Hampton
 PROJECT CONTACT PHONE NO. 813-971-2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
41-5	water	2x1L gl.	none	HERB	
		2x1L gl.	none	PEST	See
		1x1L gl.	H ₂ SO ₄	Phenols	attached
		1x1L gl.	none	BNA's	Sheet
		1x1L pl.	NaOH	CN	
		1x1L pl.	HNO ₃	Metals	
		1x1L pl.	none	Turbidity Cl ⁻ F ⁻ SO ₄	
		1x1L pl.	HNO ₃	NO ₃	
		1x250 ml	H ₂ SO ₄	TOX	
		1x500 ml	none	Total Coll	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.) QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

Normal Rush _____ (Subject to rush surcharge.) I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY

Received by _____ Date/Time _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. 231412
C/C Control No. 195451

PROJECT NAME NAS Jax
PROJECT NUMBER 595410
PROFIT CENTER NUMBER 2285
PROJECT MANAGER Mark Hampton
BILL TO IT Tampa

PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED 11-7-90
LAB DESTINATION IT Knoxville
LABORATORY CONTACT Scott Harris
SEND LAB REPORT TO IT Tampa

DATE REPORT REQUIRED _____
PROJECT CONTACT Mark Hampton
PROJECT CONTACT PHONE NO. 813-911-2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
<u>41-6</u>	<u>water</u>	<u>2x 40 ml</u>	<u>HCL</u>	<u>VOA'S</u>	<u>See Attached Sheet</u>
<u>↓</u>	<u>↓</u>	<u>2x 40 ml</u>	<u>H₂SO₄</u>	<u>TDC</u>	
		<u>1x 1 gal</u>	<u>HNO₃</u>	<u>RAD</u>	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
 Normal Rush _____ (Subject to rush surcharge.)
 QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
 I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
 Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
 Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
 Received by _____ Date/Time _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 831-411

C/C Control No. 195450

PROJECT NAME/NUMBER NAS Jax 595410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS K Reed D. Rozzano

CARRIER/WAYBILL NO. 7771319146

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
41-6	monitoring well	11/7 10:15	water	2x 1L gl		
				2x 1L gl		
				1x 1L gl		
				1x 1L gl		
				1x 1L gl		
				1x 1L pl		
				1x 1L pl		
				1x 250 ml		
				1x 500ml		

Special Instructions: See attached list

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Denise Rozzano 11/7 19:00

3. Relinquished By: _____

Received By: _____

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. 231411
C/C Control No. 195450

PROJECT NAME NAS Jax
PROJECT NUMBER 595410
PROFIT CENTER NUMBER 2285
PROJECT MANAGER Mark Hampton
BILL TO IT Tampa

PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED 11-7-90
LAB DESTINATION IT Knoxville
LABORATORY CONTACT Scott Harris
SEND LAB REPORT TO IT Tampa

DATE REPORT REQUIRED _____
PROJECT CONTACT Mark Hampton
PROJECT CONTACT PHONE NO. 813-971-2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
41-6	water	2x 1L gL	none	Herb	See Attached sheet
		2x 1L gL	none	Pest	
		1x 1L gL	H ₂ SO ₄	Phenols	
		1x 1L gL	none	BNA's	
		1x 1L PL	NaOH	CN	
		1x 1L PL	HNO ₃	metals	
		1x 1L PL	none	Turbidity Cl ⁻ , F ⁻ , SO ₄	
		1x 1L PL	HNO₃ H ₂ SO ₄	NO ₃	
		1x 250 mL	H ₂ SO ₄	Tox	
		1x 500 mL	none	Total Coll.	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.) QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

Normal Rush _____ (Subject to rush surcharge.) I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY

Received by _____ Date/Time _____



CHAIN-OF-CUSTODY RECORD

R/A Control No. 231412

C/C Control No. 195451

PROJECT NAME/NUMBER NAs Jay 595410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS K Reed D. Rozzano
CONT

CARRIER/WAYBILL NO. 7771319146

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
41-6	monitoring well	11/7 10:15	water	2x40ml		
↓	↓	↓	↓	2x40ml		
				1x1gal		

Special Instructions: See attached list

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Denise Rozzano 11/7 19:00

3. Relinquished By:

Received By:

Received by:

2. Relinquished By:

4. Relinquished By:

Received By:

Received By:

WHITE - To accompany samples
YELLOW - Field copy



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 231423

C/C Control No. 195462

PROJECT NAME/NUMBER WAS Sax 5954110

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS K. Reed D. Rozzano

CARRIER/WAYBILL NO. 7771319135

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
41-7	monitor well	11/6 11:45	water	2x1L gl		
↓	↓	↓	↓	2x1L gl.		
↓	↓	↓	↓	1x1L gl.		
↓	↓	↓	↓	1x1L gl.		
↓	↓	↓	↓	1x1L pl.		
↓	↓	↓	↓	1x1L pl.		
↓	↓	↓	↓	1x1L pl.		
↓	↓	↓	↓	1x1L pl.		
↓	↓	↓	↓	1x250ml		
↓	↓	↓	↓	1x500ml		

Special Instructions: See Attached List

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Donna Rozzano 11/6 6:00

Received By: _____

2. Relinquished By: _____

Received By: _____

3. Relinquished By: _____

Received by: _____

4. Relinquished By: _____

Received By: _____



CHAIN-OF-CUSTODY RECORD

R/A Control No. 231422
C/C Control No. 195461

PROJECT NAME/NUMBER NAS Jax 595410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS K. Reed D. Rozzano

CARRIER/WAYBILL NO. 7771319135

Cont'd

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
41-7	monitor well	11/6 11:45	water	2x40ml		
↓	↓	↓	↓	2x40ml		
↓	↓	↓	↓	1x1gal		

Special Instructions: See attached list

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Donna Rozzano 11/6/90 6:00

Received By: _____

2. Relinquished By: _____

Received By: _____

3. Relinquished By: _____

Received by: _____

4. Relinquished By: _____

Received By: _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. 231423
C/C Control No. 195462

PROJECT NAME NAS Jax
PROJECT NUMBER 595410
PROFIT CENTER NUMBER 2285
PROJECT MANAGER Mark Hampton
BILL TO IT Tampa

PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED 11/6/90
LAB DESTINATION IT Knoxville
LABORATORY CONTACT Scott Harris
SEND LAB REPORT TO IT Tampa

DATE REPORT REQUIRED _____
PROJECT CONTACT Mark Hampton
PROJECT CONTACT PHONE NO. 813-971-2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
41-7	Water	2 x 1L gl.	None	HERB.	See
		2 x 1L gl.	None	PEST.	
		1 x 1L gl.	H ₂ SO ₄	Phenols	attached
		1 x 1L gl.	None	BNA's	
		1 x 1L pl.	NaOH	CN	list
		1 x 1L pl.	HNO ₃	Metals	
		1 x 1L pl.	None	Turbidity, Cl ⁻ , F ⁻ , SO ₄	
		1 x 1L pl.	HNO ₃	NO ₃	
		1 x 250 ml	H ₂ SO ₄	TOX	
		1 x 500 ml	None	Total Coll.	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
 Normal Rush _____ (Subject to rush surcharge.)
 QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
 I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
 Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____
 (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
 Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY

Received by _____ Date / Time _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. 231422
C/C Control No. 195461

PROJECT NAME NAS Jax
PROJECT NUMBER 595410
PROFIT CENTER NUMBER 2285
PROJECT MANAGER Mark Nampton
BILL TO IT Tampa

DATE SAMPLES SHIPPED 11-6-90
LAB DESTINATION IT Knoxville
LABORATORY CONTACT Scott Harris
SEND LAB REPORT TO IT Tampa

PURCHASE ORDER NO. _____

DATE REPORT REQUIRED _____
PROJECT CONTACT Mark Nampton
PROJECT CONTACT PHONE NO. 813-971-2701

cont -

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
<u>41-7</u>	<u>Water</u>	<u>2x40ml</u>	<u>HCL</u>	<u>UOA'S</u>	<u>See</u>
<u>↓</u>	<u>↓</u>	<u>2x40ml</u>	<u>H₂SO₄</u>	<u>TOC</u>	<u>Attached</u>
<u>↓</u>	<u>↓</u>	<u>1x1gal</u>	<u>HNO₃</u>	<u>RAD</u>	<u>Sheet</u>

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.) **QC LEVEL:** (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
 Normal Rush _____ (Subject to rush surcharge.) I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
 Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
 Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
 Received by _____ Date/Time _____



REQUEST FOR ANALYSIS

R/A Control No. 231406
C/C Control No. 195420

PROJECT NAME NAS Wax
PROJECT NUMBER 595410
PROFIT CENTER NUMBER 2285
PROJECT MANAGER Mark Hampton
BILL TO IT Tampa

DATE SAMPLES SHIPPED 11/6-90
LAB DESTINATION IT Knoxville
LABORATORY CONTACT Scott Harris
SEND LAB REPORT TO IT Tampa

PURCHASE ORDER NO. _____
cont'd

DATE REPORT REQUIRED _____
PROJECT CONTACT Mark Hampton
PROJECT CONTACT PHONE NO. 813-971-2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
<u>H1-8</u>	<u>Water</u>	<u>2x40ml</u>	<u>HCL</u>	<u>VOA's</u>	<u>See</u>
<u>↓</u>	<u>↓</u>	<u>2x40ml</u>	<u>H2SO4</u>	<u>TOC</u>	<u>attached</u>
<u>↓</u>	<u>↓</u>	<u>1x1gal</u>	<u>HND3</u>	<u>RAD</u>	<u>list</u>

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal Rush _____ (Subject to rush surcharge.)
QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____
(Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
Received by _____ Date/Time _____



CHAIN-OF-CUSTODY RECORD

R/A Control No. 231405

C/C Control No. 195421

PROJECT NAME/NUMBER NAS Nav 595410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS K. Reed D. Rozzano

CARRIER/WAYBILL NO. 7771319135

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
41-8	mon for well	11/6 3:00	water	2x 1L gl.		
↓	↓	↓	↓	2x 1L gl.		
↓	↓	↓	↓	1x 1L gl.		
↓	↓	↓	↓	1x 1L gl.		
↓	↓	↓	↓	1x 1L pl.		
↓	↓	↓	↓	1x 1L pl.		
↓	↓	↓	↓	1x 1L pl.		
↓	↓	↓	↓	1x 1L pl.		
↓	↓	↓	↓	1x 250ml		
↓	↓	↓	↓	1x 500ml		

Special Instructions: see attached list

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Denise Rozzano 11/6 6:00

Received By:

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. **231405**

C/C Control No. **195421**

PROJECT NAME NAS Jax

DATE SAMPLES SHIPPED 11/6-90

PROJECT NUMBER 595410

LAB DESTINATION IT Knoxville

PROFIT CENTER NUMBER 2285

LABORATORY CONTACT Scott Harris

PROJECT MANAGER Mark Hampton

SEND LAB REPORT TO IT Tampa

BILL TO IT Tampa

DATE REPORT REQUIRED _____

PURCHASE ORDER NO. _____

PROJECT CONTACT Mark Hampton

PROJECT CONTACT PHONE NO. 813-971-2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
41-8	Water	2x 1L gl	none	HERB.	See attached list
		2x 1L gl	none	PEST.	
		1x 1L gl	H ₂ SO ₄	Phenols	
		1x 1L gl	none	BNA's	
		1x 1L pl.	NaOH	CW	
		1x 1L pl.	HNO ₃	Metals	
		1x 1L pl.	none	Turbidity, Cl ⁻ , F ⁻ , SO ₄	
		1x 1L pl.	HNO ₃	NO ₃	
		1x 250 ml	H ₂ SO ₄	TOX	
		1x 500 ml	none	Total Coll.	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

Normal Rush _____ (Subject to rush surcharge.)

I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY

Received by _____

Date/Time _____



CHAIN-OF-CUSTODY RECORD

R/A Control No. 231406

C/C Control No. 195420

PROJECT NAME/NUMBER NAS Job 595410

LAB DESTINATION 17 Knoxville

SAMPLE TEAM MEMBERS K Reed D Rozzaro

CARRIER/WAYBILL NO. 7771319135

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
41-8	mon for well	11/6 3:00	Water	2x40ml		
↓	↓	↓	↓	2x40ml		
				1x1gal		

Special Instructions: See attached list

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Dennis Rozzaro 11/6 6:00

Received By: _____

2. Relinquished By: _____

Received By: _____

3. Relinquished By: _____

Received by: _____

4. Relinquished By: _____

Received By: _____

WHITE - To accompany samples
YELLOW - Field copy



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. **232937**

C/C Control No. **142192**

PROJECT NAME NAS JAX
 PROJECT NUMBER 593410
 PROFIT CENTER NUMBER 2285
 PROJECT MANAGER MARK Hampton
 BILL TO I.T. Corp
Tampa
 PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED 11-7-90
 LAB DESTINATION I.T. Knoxville
 LABORATORY CONTACT SCOTT HARRIS
 SEND LAB REPORT TO I.T. Corp
Tampa
 DATE REPORT REQUIRED _____
 PROJECT CONTACT Mark Hampton
 PROJECT CONTACT PHONE NO. 813 971 2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
19 42 47	Water	2 x 1L gal	None	Herb	
		2 x 1L gal	None	Pest	
		1 x 1L gal	H ₂ SO ₄	Phenols	See
		1 x 1L gal	None	BIWA'S	Attached
		1 x 1L gal	NaOH	CN	
		1 x 1L gal	HNO ₃	Metals	Sheet
		1 x 1L gal	None	Turbidity-CL, F, SO ₄	
		1 x 1L gal	HNO₃ H ₂ SO ₄	NO ₃	
		1 x 250 ml	H ₂ SO ₄	TOX	
		1 x 500 ml	None	TOTAL COLL	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.) QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
 Normal Rush _____ (Subject to rush surcharge.) I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
 Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
 Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
 Received by _____ Date / Time _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 238936

C/C Control No. 142191

PROJECT NAME/NUMBER NAS JAX 595410

LAB DESTINATION I.T. Knoxville

SAMPLE TEAM MEMBERS D. Rozzano K. Reed

CARRIER/WAYBILL NO. 7771319146

cont

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
942-11	monitoring well	11/7 10:05	water	2x40mL		
↓	↓	↓	↓	2x40mL		
				1x1gal		

COPY

Special Instructions: See Attached LSA

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Debbie Rozzano 11/7 19:00

3. Relinquished By: _____

Received By: _____

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. 232936

C/C Control No. 142191

PROJECT NAME NAS JAX
 PROJECT NUMBER 595410
 PROFIT CENTER NUMBER 2285
 PROJECT MANAGER Mark Hampton
 BILL TO I.T. Corp
Tampa
 PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED 11-7-90
 LAB DESTINATION I.T. Knoxville
 LABORATORY CONTACT Scott Harris
 SEND LAB REPORT TO I.T. Corp
Tampa
 DATE REPORT REQUIRED _____
 PROJECT CONTACT Mark Hampton
 PROJECT CONTACT PHONE NO. 813 971 2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
19-42-11	water	2 x 40 mL	HCL	VOA	See Attached List
↓	↓	2 x 40 mL	H ₂ SO ₄	TOC	
↓	↓	1 x 1 gal	HNO ₃	RAO	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.) QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
 Normal Rush _____ (Subject to rush surcharge.) I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
 Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
 Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
 Received by _____ Date / Time _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 232937

C/C Control No. 142192

PROJECT NAME/NUMBER NAS JAY 595410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS D. RAZZANO K. Keed

CARRIER/WAYBILL NO. 7771319146

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1.9 1.9	monitoring well	11/7 10:05	water	2x 1L gl		
				2x 1L gl		
				1x 1L gl		
				1x 1L gl		
				1x 1L gl		
				1x 1L gl		
				1x 1L gl		
				1x 250ml		
				1x 500ml		

Special Instructions: See Attached List

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: D. RAZZANO 11/7 19:00

3. Relinquished By: _____

2. Received By: _____

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. 230978

C/C Control No. 195410

PROJECT NAME NAS JAX

DATE SAMPLES SHIPPED

11-7-90

PROJECT NUMBER 595410

LAB DESTINATION

IT Knoxville

PROFIT CENTER NUMBER 2285

LABORATORY CONTACT

Scott Harris

PROJECT MANAGER Mark Hampton

SEND LAB REPORT TO

I.T. Corp

BILL TO I.T. Corp.

I.T. Corp.

Tampa

Tampa

PURCHASE ORDER NO.

DATE REPORT REQUIRED

PROJECT CONTACT

Mark Hampton

PROJECT CONTACT PHONE NO.

813 471 2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
412-5	water	2x 1L gl	none	Herb	
		2x 1L gl	none	Pest	See
		1x 1L gl	H ₂ SO ₄	Phenols	
		1x 1L gl	none	BNA'S	Attached
		1x 1L gl	NaOH	CA	
		1x 1L gl	HNO ₃	metals	test
		1x 1L gl	none	Turbidity CL, F, SO ₄	
		1x 1L gl	H ₂ NO ₃ H ₂ SO ₄	NO ₃	
		1x 250 mL	H ₂ SO ₄	TOX	
		1x 500 mL	none	total coll	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

Normal Rush (Subject to rush surcharge.)

I II III Project Specific

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard Flammable Skin Irritant Highly Toxic Other (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client Disposal by Lab Archive (Indicate number of months.)

FOR LAB USE ONLY

Received by _____

Date / Time _____

WHITE - Original, to accompany samples
YELLOW - Field copy



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. 230977

C/C Control No. 195409

11-7-90

PROJECT NAME NAS JAY

DATE SAMPLES SHIPPED

PROJECT NUMBER 5952/10

LAB DESTINATION

PROFIT CENTER NUMBER 2285

LABORATORY CONTACT

PROJECT MANAGER Mark Hampton

SEND LAB REPORT TO

BILL TO IT Corp.

Tampa

DATE REPORT REQUIRED

PROJECT CONTACT

PURCHASE ORDER NO. _____

PROJECT CONTACT PHONE NO.

Mark Hampton

813 971 2701

cont

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
<u>42-5</u>	<u>water</u>	<u>2x40ml</u>	<u>HCL</u>	<u>VOA'S</u>	<u>See</u>
<u>↓</u>	<u>↓</u>	<u>2x40ml</u>	<u>H2SO4</u>	<u>TOC</u>	<u>Attached</u>
<u>↓</u>	<u>↓</u>	<u>1x1gal</u>	<u>HNO3</u>	<u>RAD</u>	<u>list</u>

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.) QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

Normal X Rush _____ (Subject to rush surcharge.) I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard X Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

FOR LAB USE ONLY

Received by _____ Date / Time _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 230977

C/C Control No. **195409**

PROJECT NAME/NUMBER NAS JAY 595410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS D. Rozzano - K Reed

CARRIER/WAYBILL NO. 7771319146

Cont

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
42-5	Monitoring Well	11/7 4:20	water	2x40ml		
↓	↓	↓	↓	2x40ml		
				1x1gal		

Special Instructions: See Attached List

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)
 1. Relinquished By: Denise Rozzano 11/7 19:00

3. Relinquished By: _____

Received By: _____

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 230978

C/C Control No. 195410

PROJECT NAME/NUMBER NIS JAY 593410

LAB DESTINATION I.T. Knoxville

SAMPLE TEAM MEMBERS D. Rozzano & Reed

CARRIER/WAYBILL NO. 7771319146

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
425	Monitoring Well	11/7 4:20	Water	2x 1Lg		
↓	↓	↓	↓	2x 1Lg		
↓	↓	↓	↓	1x 1Lg		
↓	↓	↓	↓	1x 1Lg		
↓	↓	↓	↓	1x 1L PL		
↓	↓	↓	↓	1x 1L PL		
↓	↓	↓	↓	1x 1L PL		
↓	↓	↓	↓	1x 250ml		
↓	↓	↓	↓	1x 500ml		

Special Instructions: See Attached List

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Denise Rozzano 11/7 19:00

3. Relinquished By: _____

Received By: _____

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. **231409**
C/C Control No. **195418**

PROJECT NAME NAS JAX
PROJECT NUMBER 595410
PROFIT CENTER NUMBER 2285
PROJECT MANAGER Mark Hampton
BILL TO I.T. Corp.
Tampa

PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED 11-7-90
LAB DESTINATION I.T. Knoxville
LABORATORY CONTACT Scott Harris
SEND LAB REPORT TO I.T. Corp.
Tampa

DATE REPORT REQUIRED _____
PROJECT CONTACT Mark Hampton
PROJECT CONTACT PHONE NO. 813 971 2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
42.6	water	2 x 40ml	HCL	VOA'S	See Attached Sheet
↓	↓	2 x 40ml	H ₂ SO ₄	TDC	
↓	↓	1 x 1 gal	HNO ₃	RAO	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
 Normal Rush _____ (Subject to rush surcharge.)
 QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
 I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
 Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____
 (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
 Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
 Received by _____ Date/Time _____

WHITE - Original, to accompany samples
 YELLOW - Field copy



REQUEST FOR ANALYSIS

R/A Control No. **231410**
 C/C Control No. 175-149
11-7-90

PROJECT NAME NH3 JHY
 PROJECT NUMBER 543410
 PROFIT CENTER NUMBER 2285
 PROJECT MANAGER Mark Hampton
 BILL TO I.T. Corp.
Tampa
 PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED _____
 LAB DESTINATION I.T. Knoxville
 LABORATORY CONTACT Scott Harris
 SEND LAB REPORT TO I.T. Corp.
Tampa
 DATE REPORT REQUIRED _____
 PROJECT CONTACT Mark Hampton
 PROJECT CONTACT PHONE NO. 813 971 2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
42-6	water	2x 1L gal	none	Herb	See Attached Sheet
		2x 1L gal	none	pest	
		1x 1L gal	H2SO4	Phenols	
		1x 1L gal	none	BOM'S	
		1x 1L gal	NaOH	CW	
		1x 1L gal	NaNO3	metals	
		1x 1L gal	none	Turbidity, CL, F-SO4	
		1x 1L gal	NaNO3 H2SO4	NO3	
		1x 250 mL	H2SO4	TDX	
		1x 500 mL	none	total coll.	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
 Normal Rush _____ (Subject to rush surcharge.)
 QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
 I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
 Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
 Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
 Received by _____ Date/Time _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 231409

C/C Control No. 195448

PROJECT NAME/NUMBER NHS JAY 595410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS D. Rozzano K Reed

CARRIER/WAYBILL NO. 7771319146

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
42-6	Monitoring Well	11/7 3:30	Water	2x40ml		
↓	↓	↓	↓	2x40ml		
				1x1gal		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Denise Rozzano 11/7 19:00

3. Relinquished By: _____

Received By: _____

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____

WHITE - To accompany samples
YELLOW - Field copy



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 231410

C/C Control No. 195449

PROJECT NAME/NUMBER NAS JAY

LAB DESTINATION I.T. E Knoxville

SAMPLE TEAM MEMBERS D. Rozzano K Reed

CARRIER/WAYBILL NO. 7771319146

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
42-6	monitoring well	11/7 3:30	water	2x1L gl		
↓		↓	↓	2x1L gl		
				1x1L gl		
				1x1L gl		
				1x1L pl		
				1x1L pl		
				1x1L pl		
				1x1L pl		
				1x250 ml		
				1x500 ml		

Special Instructions: See Attached List

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)
 1. Relinquished By: Dennis Rozzano 11/7 19.00

3. Relinquished By: _____

Received By: _____

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



REQUEST FOR ANALYSIS

R/A Control No. 123559
C/C Control No. 142184

PROJECT NAME NAS Jax
PROJECT NUMBER 595410
PROJECT MANAGER Mark Hampton
BILL TO IT Tampa

DATE SAMPLES SHIPPED 11-8-90
LAB DESTINATION IT Knoxville
LABORATORY CONTACT Scott Harris
SEND LAB REPORT TO IT Tampa

PURCHASE ORDER NO. _____

DATE REPORT REQUIRED _____
PROJECT CONTACT Mark Hampton
PROJECT CONTACT PHONE NO. 813-971-2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
<u>427</u>	<u>Water</u>	<u>2x 40 ml</u>	<u>HCL</u>	<u>VOA's</u>	
		<u>2x 40 ml</u>	<u>H₂SO₄</u>	<u>TDC</u>	<u>See</u>
		<u>1x 250 ml</u>	<u>H₂SO₄</u>	<u>TDX</u>	<u>attached</u>
		<u>1x 500 ml</u>	<u>none</u>	<u>Total Cell</u>	<u>list</u>
		<u>1x 1L gl</u>	<u>none</u>	<u>BNA's</u>	
		<u>1x 1L pl</u>	<u>HNO₃</u>	<u>Metals</u>	
		<u>1x 1L pl</u>	<u>NaOH</u>	<u>CN</u>	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)
Normal Rush _____ (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)
Nonhazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)
Return to Client _____ Disposal by Lab

FOR LAB USE ONLY
Received By _____ Date/Time _____

WHITE - Original, to accompany samples
YELLOW - Field copy



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 123553

C/C Control No. 142184

PROJECT NAME/NUMBER NAS Jan 595410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS R. Reed D. Pozziano

CARRIER/WAYBILL NO. _____

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
42-7	monitor well	11/7 2:50	water	2x40ml		
				2x40ml		
				1x50ml		
				1x500ml		
				1x1L gal		
		11/8 10:50		1x1L pl.		
		11/8 10:50		1x1L pl.		

Special Instructions: see attached list

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: R. Reed 11/8 11:30

3. Relinquished By: _____

Received By: _____

Received by: _____

Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. 231418
C/C Control No. 175456

PROJECT NAME NAS JAY
PROJECT NUMBER 595410
PROFIT CENTER NUMBER 2285
PROJECT MANAGER Mark Hampton
BILL TO I.T. Corp
Tampa

PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED 11-7-90
LAB DESTINATION I.T. Knoxville
LABORATORY CONTACT Scott Harris
SEND LAB REPORT TO I.T. Corp
Tampa

DATE REPORT REQUIRED _____
PROJECT CONTACT Mark Hampton
PROJECT CONTACT PHONE NO. 813 971 2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
<u>42-8</u>	<u>water</u>	<u>2 x 40ml</u>	<u>HCL</u>	<u>VOA</u>	<u>See Attached Sheet</u>
<u>↓</u>	<u>↓</u>	<u>2 x 40ml</u>	<u>H₂SO₄</u>	<u>TAC</u>	
<u>↓</u>	<u>↓</u>	<u>1 x 1gal</u>	<u>HNO₃</u>	<u>RAD</u>	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
 Normal Rush _____ (Subject to rush surcharge.)
 QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
 I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
 Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
 Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
 Received by _____ Date / Time _____



REQUEST FOR ANALYSIS

R/A Control No. **231417**
 C/C Control No. 193457
11-7-90
I.T. Knoxville
Scott Harris
I.T. Corp
Tampa

PROJECT NAME NHS JHX
 PROJECT NUMBER 593410
 PROFIT CENTER NUMBER 2285
 PROJECT MANAGER Mark Hampton
 BILL TO I.T. Corp
Tampa
 PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED _____
 LAB DESTINATION _____
 LABORATORY CONTACT _____
 SEND LAB REPORT TO _____
 DATE REPORT REQUIRED _____
 PROJECT CONTACT Mark Hampton
 PROJECT CONTACT PHONE NO. 813 971 2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
412-8	water	2 x 1L gal	none	Herb	
		2 x 1L gal	none	pest	See Attached List
		1 x 1L gal	H ₂ SO ₄	phenols	
		1 x 1L gal	none	BNA's	
		1 x 1L gal	NaOH	CN	
		1 x 1L gal	NaN ₃	metals	
		1 x 1L gal	none	Turbidity, Cl, F, SO ₄	
		1 x 1L gal	HAH₃ H ₂ SO ₄	NO ₃	
		1 x 250 ml	H ₂ SO ₄	TOX	
		1 x 500 ml	none	total cell	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.) QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
 Normal Rush _____ (Subject to rush surcharge.) I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
 Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY

Received by _____ Date/Time _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 231718

C/C Control No. 195456

PROJECT NAME/NUMBER NAS JAX 593410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS D. Rozzano K Reed

CARRIER/WAYBILL NO. 7771319146

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
42-8	Monitoring well	11/7 1:40	Water	2x 40ml		
↓	↓	↓	↓	2x 40ml		
				1x 1gal		

Special Instructions: See Attached Sheet

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)
 1. Relinquished By: Denise Rozzano 11/7 19:00

3. Relinquished By: _____

Received By: _____

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____

WHITE - To accompany samples
 YELLOW - Field copy



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 231417

C/C Control No. 195457

PROJECT NAME/NUMBER NASJAY 595410

LAB DESTINATION I.T. Knoxville

SAMPLE TEAM MEMBERS D. ROZZANO K. REED

CARRIER/WAYBILL NO. 7771319146

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
412-8	monitoring well	11/7 1:40	water	2x1Lgc		
				2x1Lsl		
				1x1Lsl		
				1x1Lsl		
				1x1Lpl		
				1x1Lpl		
				1x1Lpl		
				1x250ml		
				1x500ml		

Special Instructions: See Attached USI

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)
 1. Relinquished By: Dennis Rozzano 11/7 19:00

3. Relinquished By: _____

Received By: _____

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



CHAIN-OF-CUSTODY RECORD

R/A Control No. 231-102

C/C Control No. 195417

PROJECT NAME/NUMBER NAS JAY 595410

LAB DESTINATION IT Knoxville

SAMPLE TEAM MEMBERS D. ROZZANO K. REED

CARRIER/WAYBILL NO. 7771319146

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
42-9	monitoring well	11/7 12:45	water	2x 1L gl		
				2x 1L gl		
				1x 1L gl		
				1x 1L gl		
				1x 1L pl		
				1x 1L pl		
				1x 1L pl		
				1x 1L pl		
				1x 250 ml		
				1x 500 ml		

Special Instructions: See Attached List

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)
1. Relinquished By: Denise Rozzano 11/7 19:00

3. Relinquished By:

Received By:

Received by:

2. Relinquished By:

4. Relinquished By:

Received By:

Received By:

WHITE - To accompany samples
YELLOW - Field copy



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 231101

C/C Control No. **195416**

PROJECT NAME/NUMBER NAS JAX

LAB DESTINATION IT Knoxville, TN

SAMPLE TEAM MEMBERS D. Rozzano K. Reed

CARRIER/WAYBILL NO. 7771319146

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
42.9	monitoring well	11/7 12:45	water	2x40ml		
↓	↓	↓	↓	2x40ml		
				1x1gal		

Special Instructions: See Attached List

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Dennis Rozzano 11/7 19:00

3. Relinquished By: _____

Received By: _____

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



REQUEST FOR ANALYSIS

R/A Control No. **231401**
 C/C Control No. 195-116

PROJECT NAME: NAS JAX
 PROJECT NUMBER: 595410
 PROFIT CENTER NUMBER: 2285
 PROJECT MANAGER: Mark Hampton
 BILL TO: I.T. Corp
Tampa
 PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED: 11-7-90
 LAB DESTINATION: I.T. Knoxville
 LABORATORY CONTACT: Scott Harris
 SEND LAB REPORT TO: I.T. Corp
Tampa
 DATE REPORT REQUIRED: _____
 PROJECT CONTACT: Mark Hampton
 PROJECT CONTACT PHONE NO.: 813 971 2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
42-9	water	2x40ml	HCL	VOA	See Attached Sheet
↓	↓	2x40ml	H ₂ SO ₄	TOC	
↓	↓	1x1gal	HNO ₃	RAO	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
 Normal Rush _____ (Subject to rush surcharge.)
 QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
 I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
 Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____
 (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
 Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
 Received by _____ Date/Time _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. 231402
C/C Control No. 145-117
11-7-90

PROJECT NAME NHS JAX
PROJECT NUMBER 593410
PROFIT CENTER NUMBER 2285
PROJECT MANAGER Mark Hampton
BILL TO I.T. Corp
Tampa

PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED _____
LAB DESTINATION I.T. Knoxville
LABORATORY CONTACT Scott Harris
SEND LAB REPORT TO I.T. Corp
Tampa

DATE REPORT REQUIRED _____
PROJECT CONTACT Mark Hampton
PROJECT CONTACT PHONE NO. 813 971 2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
<u>42-9</u>	<u>water</u>	<u>2 x 1L gl</u>	<u>none</u>	<u>Herb</u>	
<u>↓</u>	<u>↓</u>	<u>2 x 1L gl</u>	<u>none</u>	<u>Rest</u>	<u>See</u>
<u>↓</u>	<u>↓</u>	<u>1 x 1L gl</u>	<u>H₂SO₄</u>	<u>Phenols</u>	<u>Attached</u>
<u>↓</u>	<u>↓</u>	<u>1 x 1L gl</u>	<u>none</u>	<u>BNA's</u>	
<u>↓</u>	<u>↓</u>	<u>1 x 1L pl</u>	<u>NaOH</u>	<u>CN</u>	<u>LIST</u>
<u>↓</u>	<u>↓</u>	<u>1 x 1L pl</u>	<u>HNO₃</u>	<u>metals</u>	
<u>↓</u>	<u>↓</u>	<u>1 x 1L pl</u>	<u>none</u>	<u>Turbidity Cl, F, SO₄</u>	
<u>↓</u>	<u>↓</u>	<u>1 x 1L pl</u>	<u>HNO₃-H₂SO₄</u>	<u>NO₃</u>	
<u>↓</u>	<u>↓</u>	<u>1 x 250 ml</u>	<u>H₂SO₄</u>	<u>TDX</u>	
<u>↓</u>	<u>↓</u>	<u>1 x 500 ml</u>	<u>none</u>	<u>total coll</u>	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
 Normal Rush _____ (Subject to rush surcharge.)
 QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
 I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
 Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____
 (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
 Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
 Received by _____ Date / Time _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. 230981

C/C Control No. 195412

PROJECT NAME NAS JAX
 PROJECT NUMBER 595410
 PROFIT CENTER NUMBER 2285
 PROJECT MANAGER Mark Hampton
 BILL TO I.T. Corp.
Tampa
 PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED 11-7-90
 LAB DESTINATION I.T. Knoxville
 LABORATORY CONTACT Scott Harris
 SEND LAB REPORT TO I.T. Corp
Tampa
 DATE REPORT REQUIRED _____
 PROJECT CONTACT Mark Hampton
 PROJECT CONTACT PHONE NO. 813 971 2701

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
<u>42-10</u>	<u>Water</u>	<u>2x40 mL</u>	<u>HCL</u>	<u>VOA</u>	<u>See</u>
<u>↓</u>	<u>↓</u>	<u>2x40ml</u>	<u>H₂SO₄</u>	<u>TOC</u>	<u>Attached</u>
		<u>1x1 gal</u>	<u>HNO₃</u>	<u>RAD</u>	<u>Sheet</u>
<u>Extract + Hold</u>					

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.) QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

Normal Rush _____ (Subject to rush surcharge.) I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY Received by _____ Date/Time _____



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

REQUEST FOR ANALYSIS

R/A Control No. 230980
 C/C Control No. 195413
11-7-90
J.T. Knoxville
Scott Harris
T.T. Corp
Tampa

PROJECT NAME NAS JAY
 PROJECT NUMBER 595410
 PROFIT CENTER NUMBER 2285
 PROJECT MANAGER Mark Hampton
 BILL TO E.T. Corp.
Tampa

DATE SAMPLES SHIPPED _____
 LAB DESTINATION _____
 LABORATORY CONTACT _____
 SEND LAB REPORT TO _____

PURCHASE ORDER NO. _____
Extract + Hold

DATE REPORT REQUIRED _____
 PROJECT CONTACT Mark Hampton
 PROJECT CONTACT PHONE NO. (813) 971 2701

Sample No.	Sample type	Sample volume	Preservative	Requested Testing Program	Special Instructions
<u>42-10</u>	<u>water</u>	<u>2 x 1L gal</u>	<u>none</u>	<u>Herb</u>	
		<u>2 x 1L gal</u>	<u>none</u>	<u>Rest</u>	
		<u>1 x 1L gal</u>	<u>H₂SO₄</u>	<u>Phenols</u>	<u>see</u>
		<u>1 x 1L gal</u>	<u>none</u>	<u>BVA'S</u>	<u>Attached</u>
		<u>1 x 1L gal</u>	<u>NaOH₁₀₀</u>	<u>CN</u>	<u>Sheet</u>
		<u>1 x 1L gal</u>	<u>HNO₃</u>	<u>metals</u>	
		<u>1 x 1L gal</u>	<u>none</u>	<u>Turbidity Cl-F; SO₄</u>	
		<u>1 x 1L gal</u>	<u>HNO₃ H₂SO₄</u>	<u>NO₃</u>	
		<u>1 x 250ml</u>	<u>H₂SO₄</u>	<u>TOX</u>	
		<u>1 x 500 ml</u>	<u>none</u>	<u>total Co U</u>	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
 Normal Rush _____ (Subject to rush surcharge.)
 QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
 I _____ II _____ III _____ Project Specific _____

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
 Non-hazard Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
 Return to Client _____ Disposal by Lab Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
 Received by _____ Date/Time _____

Appendix D
ITAS Certificates of Analysis



INTERNATIONAL
TECHNOLOGY
CORPORATION

ANALYTICAL SERVICES

RECEIVED

NOV 16 1991

I.T. CORPORATION
TAMPA, FLORIDA

CERTIFICATE OF ANALYSIS

IT Corporation
8600 Hidden River Parkway, Suite 100
Tampa, FL 33637
ATTN: Mark Hampton

January 15, 1991

Job Number: ITCY 47092

P.O. Number: 595411.01

This is the Certificate of Analysis for the following sample:

Client Project ID: NAS JAX
Date Received by Lab: 11/09/90
Number of Samples: One (1)
Sample Type: Water

I. Introduction

On 11/09/90, one (1) water sample arrived at the ITAS-Knoxville, Tennessee, laboratory from IT-Tampa, Florida in support of the NAS JAX project. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

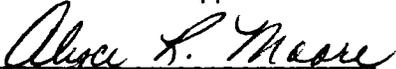
II. Analytical Results/Methodology

The analytical results for this report are presented by analytical test. Each set of data will include sample identification information and the analytical results. Please note that all data are blank corrected, i.e., if any compound is found in the corresponding laboratory blank, it is subtracted from the analytical result before it is reported.

The total organic halide (TOX) and total organic carbon (TOC) analyses were performed at the IT-Mixed Waste Laboratory (MWL) in Oak Ridge, Tennessee. A copy of that report is included.

The sample was analyzed for the requested volatile organic compounds by gas chromatography/mass spectroscopy (GC/MS) based on EPA SW-846 method 8240.

Reviewed and Approved:


Alyce R. Moore
Laboratory Manager

American Council of Independent Laboratories
International Association of Environmental Testing Laboratories
American Association for Laboratory Accreditation

IT Corporation
January 15, 1991

Client Project ID: NAS JAX

Job Number: ITCY 47092

II. Analytical Results/Methodology (continued)

The sample was analyzed for the requested semivolatile organic compounds by GC/MS based on EPA SW-846 method 8270.

The sample was analyzed for the requested metals by cold vapor atomic absorption spectroscopy (CVAA), graphite furnace atomic absorption spectroscopy (GFAA) and inductively coupled plasma spectroscopy (ICP) based on EPA SW-846 methods 3010, 3020, 7060, 7421, 7740, 7470 and 6010.

The total coliform bacterial density was determined using the membrane filter technique described in method 909A, Standard Methods for the Examination of Water and Wastewater, 16th edition, 1985.

The sample was analyzed for cyanide by manual distillation/colorimetric determination using EPA method 335.2.

The sample was analyzed for hexavalent chromium according to method 312B, Standard Methods for the Examination of Water and Wastewater, 16th edition, 1985.

III. Quality Control

Routine laboratory level I QC was followed.

The volatiles analyses were performed on 11/13/90 by purge and trap with a J&W DB-624 megabore column on a Finnigan OWA GC/MS/DS. The volatiles sample run generally went well. Initial and continuing calibration standards were run for all requested analytes except isobutanol and 2-ethoxyethanol. The latter compound was evidently not amenable to purge and trap on a DB-624 column: we ran a 20,000 µg/liter standard as a check and saw nothing, except perhaps chromatographic baseline disruption; some alternate method development was needed here, but has not been specifically undertaken during the analytical time frame. The isobutanol tends to carry over and cause false positives if run before the samples: it was evaluated based on its known spectrum and retention time from previous standard data. The 25 ml purge allowed us to reach a practical quantitation limit of 1-2 µg/liter, or 1/5 that ordinarily is seen in method 8240 analyses. The isobutanol had a higher limit because of its known poor response.

The semivolatiles analyses were performed on 11/15 and 11/16/90 by direct injection of sample extract on a Restek RTX-5 capillary column on a Finnigan 4500 GC/MS/DS. The semivolatiles runs went well. Initial and continuing calibrations were performed for all specific compounds, except for m-cresol and pyridine, which were evaluated based on earlier data from standard runs. Cresylic acid was evaluated based on peak search for any C1-C3 alkyl substituted phenols, in addition to comparisons with the cresols and one xylenol standard. Based on earlier extraction studies, the pyridine quantitation limit was higher than for other species. The cresylic acid quantitation limit was the practical limit for any single peak; the result reported was the sum of all detected peaks, including the cresols.

III. Quality Control (continued)

There were no other problems seen in final review of the data for either the volatiles or semivolatiles fraction. The 2-ethoxyethanol analyte was undetected in the volatiles samples, but no quantitation limit was available, pending further study.

The sample was digested on 11/20/90 for ICP and GFAA. The sample for mercury analysis was prepared just prior to analysis. The CVAA analysis for mercury was performed on 11/14/90; the GFAA analyses for arsenic, lead and selenium were performed from 11/24 to 11/27/90; the remaining metals were analyzed by ICP on 11/30/90. All run QC was acceptable. No problems were encountered.

The total coliform analysis was performed on 11/09/90. An elevated detection limit was reported for the sample due to sample turbidity. The samples had exceeded the method prescribed analysis holding time by one (1) day at the time of receipt. No other problems were encountered.

The cyanide analysis was performed on 11/20/90. No problems were encountered.

The hexavalent chromium analysis was performed on 11/09/90. An elevated detection limit was reported for the sample due to sample turbidity. No other problems were encountered.

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47092

VOLATILE ORGANIC ANALYSIS

Results in µg/liter (ppb)

Sample Matrix: Water

Client Sample ID: Method Blank
Lab Sample ID: EB11132

benzene	1	U	2-nitropropane	2	U
chlorobenzene	1	U	1,2-dichlorobenzene	1	U
carbon tetrachloride	1	U	trichlorofluoromethane	1	U
carbon disulfide	1	U	1,1,2-trichloro-		
chloroform	0.9	J	1,2,2-trifluoroethane	1	U
1,2-dibromoethane	1	U	tetrachloroethene	1	U
1,1-dichloroethane	1	U	trichloroethene	1	U
1,2-dichloroethane	1	U	1,1,1-trichloroethane	1	U
1,2-dichloropropane	1	U	1,1,2-trichloroethane	1	U
2-ethoxyethanol	*		1,2,3-trichloropropane	1	U
isobutanol	500	U	toluene	1	U
methylene chloride	0.9	J	vinyl chloride	2	U
methyl ethyl ketone	2	U	xylene (total)	1	U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/13/90

Client Project ID: NAS JAX

Job Number: ITCY 47092

VOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 42-7
Lab Sample ID: PP1953

benzene	0.6	J	2-nitropropane	2	U
chlorobenzene	1	U	1,2-dichlorobenzene	1	U
carbon tetrachloride	1	U	trichlorofluoromethane	1	U
carbon disulfide	1	U	1,1,2-trichloro-		
chloroform	1	U	1,2,2-trifluoroethane	1	U
1,2-dibromoethane	1	U	tetrachloroethene	1	U
1,1-dichloroethane	1	U	trichloroethene	1	U
1,2-dichloroethane	1	U	1,1,1-trichloroethane	1	U
1,2-dichloropropane	1	U	1,1,2-trichloroethane	1	U
2-ethoxyethanol	*		1,2,3-trichloropropane	1	U
isobutanol	500	U	toluene	1	U
methylene chloride	1	U	vinyl chloride	2	U
methyl ethyl ketone	2	U	xylene (total)	1	U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/13/90

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47092

WATER SURROGATE PERCENT RECOVERY SUMMARY

<u>Sample No.</u>	<u>VOLATILE</u>		
	<u>Toluene-D8</u> <u>(88-110%)*</u>	<u>BFB</u> <u>(86-115%)*</u>	<u>1,2 Dichloroethane-D4</u> <u>(76-114%)*</u>
42-7	100	104	91
Method Blank	100	100	93

* - Values in parenthesis represent USEPA contract required QC limits.

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47092

SEMIVOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: Method Blank
Lab Sample ID: BLA1964

o-cresol	10 U
m-cresol	10 U
p-cresol	10 U
nitrobenzene	10 U
phenol	10 U
pyridine	100 U
cresylic acid	10 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/12/90
Date of Analysis: 11/15/90

Client Project ID: NAS JAX

Job Number: ITCY 47092

SEMIVOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 42-7
Lab Sample ID: PP1959

o-cresol	10 U
m-cresol	10 U
p-cresol	10 U
nitrobenzene	10 U
phenol	10 U
pyridine	100 U
cresylic acid	10 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/12/90
Date of Analysis: 11/16/90

WATER SURROGATE PERCENT RECOVERY SUMMARY

Sample No.	SEMI-VOLATILE					
	Nitro- Benzene-D5 (35-114%)*	2-Fluoro- Biphenyl (43-116%)*	Terphenyl- D14 (33-141%)*	Phenol-D5 (10-94%)*	2-Fluoro- Phenol (21-100%)*	2,4,6 Tribromo- Phenol (10-123%)*
42-7	95	85	106	32	50	91
Method Blank	98	81	105	31	56	88

* - Values in parenthesis represent USEPA contract required QC limits.

METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID:	Method Blank	42-7
Lab Sample ID:	<u>PBWC3811/C3818</u>	<u>PP1958</u>
arsenic	0.002 U	0.003
barium	0.002 U	0.11
cadmium	0.005 U	0.005 U
chromium	0.01 U	0.04
copper	0.01 U	0.02
iron	0.02	33.7
lead	0.002 U	0.009
manganese	0.002 U	0.44
nickel	0.02 U	0.02
selenium	0.002 U	0.010 U*
silver	0.005 U	0.005 U
sodium	0.2 U	86.8
vanadium	0.01 U	0.04
zinc	0.016	0.077
mercury	NR	0.001 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

* - Detection limit higher than normal due to sample matrix interferences.

NR - Not required

Date of Digestion: 11/20/90

Date of Analysis: 11/30/90 (ICP), 11/14/90 (CVAA), 11/24-27/90 (GFAA)

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47092

CLASSICAL PARAMETERS ANALYSIS

Result in mg/liter (ppm) unless otherwise stated

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank <u>-</u>	42-7 <u>PP1956-58</u>	Analysis <u>Date</u>
total coliform (colonies/100 ml)	0	50 U*	11/09/90
cyanide	0.01 U	0.28	11/20/90
hexavalent chromium	0.02 U	0.25 U*	11/09/90

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

* - Elevated detection limit due to sample turbidity.

CERTIFICATE OF ANALYSIS

IT Corporation - Analytical Services
5815 Middlebrook Pike
Knoxville, TN 37921
Attn: John Bauer

Date: December 11, 1990

Job Number: ITAB 36430

P.O Number: 486000.04

This is the Certificate of Analysis for the following:

Client Project ID: ITET 47063, ITET 47075, and ITET 47092,
Date Received by Lab: 11/20/90
Number of Samples: Fifteen (15)
Sample Type: Water

I. INTRODUCTION

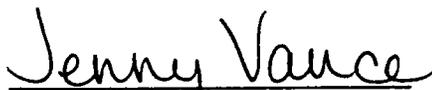
On November 20, 1990, fifteen (15) water samples were received at the ITAS Oak Ridge, Tennessee laboratory from ITAS-Knoxville, Tennessee. The list of analytical tests performed, as well as date of analysis, can be found in the attached report.

Data are reported with the qualifier "U" if the compound was analyzed for but not detected.

II. ANALYTICAL RESULTS/METHODOLOGY

The analytical results for this report are presented by analytical tests. Each set of data will include sample identification information, the analytical results, and the appropriate preparation/analysis dates.

Reviewed and Approved:



Jenny Vance
Project Manager

jlw

IT Corporation-Analytical Services
Date: December 11, 1990

Page 2 of 2
Job Number: ITAB 36430

II. ANALYTICAL RESULTS/METHODOLOGY (Continued)

Total Organic Carbon (TOC) was analyzed using EPA SW-846, 3rd edition, Method 9060.

III. QUALITY CONTROL

A Matrix Spike (MS) was performed on samples PP1501 (41-1).

Preparation and analyses for Total Organic Carbon was completed on 11/23/90.

Samples PP1504 (41-4) was improperly preserved and had a pH of 7.

TOTAL ORGANIC CARBON

Concentration Units: MG/L except for MS & MSD, which are % Recovery

<u>Client ID</u>	<u>Lab ID</u>	<u>MWL ID</u>	<u>Analysis Date</u>	<u>Result</u>	<u>%Recovery</u>
		BLANK	11/23/90	1.0 U	
41-1	PP1501	FF3380	11/23/90	19.2	
41-1MS	PP1501	FF3381	11/23/90		104
41-2	PP1502	FF3383	11/23/90	4.21	
41-3	PP1503	FF3384	11/23/90	55.7	
41-4	PP1504	FF3385	11/23/90	537	
41-5	PP1505	FF3386	11/23/90	130	
41-7	PP1506	FF3387	11/23/90	3.52	
41-8	PP1507	FF3388	11/23/90	2.45	
41-6	PP1714	FF3390	11/23/90	55.9	
41-9	PP1715	FF3391	11/23/90	1.99	
42-5	PP1716	FF3392	11/23/90	36.8	
42-6	PP1717	FF3393	11/23/90	6.06	
42-8	PP1718	FF3394	11/23/90	88.8	
42-9	PP1719	FF3395	11/23/90	5.16	
42-7	PP1954	FF3396	11/23/90	24.7	

U - Compound was analyzed for but not detected. The value is the detection limit for the sample

MS - Matrix Spike

CERTIFICATE OF ANALYSIS

IT Corporation - Analytical Services
5815 Middlebrook Pike
Knoxville, TN 37921
Attn: Kim Laisy

Date: December 5, 1990

Job Number: ITAB 36411

P.O Number: 486000.04

This is the Certificate of Analysis for the following:

Client Project ID: ITET 47092
Date Received by Lab: 11/12/90
Number of Samples: One (1)
Sample Type: Water

I. INTRODUCTION

On November 12, 1990, one (1) water sample was received at the ITAS Oak Ridge, Tennessee laboratory from ITAS-Knoxville, Tennessee. The list of analytical tests performed, as well as date of analysis, can be found in the attached report.

Data are reported with the qualifier "U" if the compound was analyzed for but not detected.

II. ANALYTICAL RESULTS/METHODOLOGY

The analytical results for this report are presented by analytical tests. Each set of data will include sample identification information, the analytical results, and the appropriate preparation/analysis dates.

Reviewed and Approved:

Jenny Vance

Jenny Vance
Project Manager

jlw

IT Corporation - Analytical Services
Client Project ID: ITET 47092
Date: December 5, 1990

IT ANALYTICAL SERVICES
OAK RIDGE, TN
Page 2 of 2
Job Number: ITAB 36411

II. ANALYTICAL RESULTS/METHODOLOGY (Continued)

Total Organic Halides (TOX) was analyzed using EPA SW-846, 3rd edition, Method 9020.

III. QUALITY CONTROL

A Matrix Spike (MS) and Matrix Spike Duplicate (MSD) were performed on sample PP1508 (41-1), ITAS Job Number ITAB 36400, submitted separately.

Preparation and analyses for Total Organic Halides was performed on 11/21/90.

TOTAL ORGANIC HALIDES

Concentration Units: MG/L

<u>Client ID</u>	<u>Lab ID</u>	<u>MWL ID</u>	<u>Analysis Date</u>	<u>Result</u>
42-7	PP1955	BLANK	11/21/90	0.010 U
		FF3224	11/21/90	0.013

U - Compound was analyzed for but not detected. The value is the detection limit for the sample

CERTIFICATE OF ANALYSIS

IT Corporation - Analytical Services
5815 Middlebrook Pike
Knoxville, TN 37921
Attn: Kim Laisy

Date: December 5, 1990

Job Number: ITAB 36400

P.O Number: 486000.04

This is the Certificate of Analysis for the following:

Client Project ID: ITET 47063 and ITET 47075
Date Received by Lab: 11/08/90
Number of Samples: Thirteen (13)
Sample Type: Water

I. INTRODUCTION

On November 8, 1990, thirteen (13) water samples were received at the ITAS Oak Ridge, Tennessee laboratory from ITAS-Knoxville, Tennessee. The list of analytical tests performed, as well as date of analysis, can be found in the attached report.

Data are reported with the qualifier "U" if the compound was analyzed for but not detected.

II. ANALYTICAL RESULTS/METHODOLOGY

The analytical results for this report are presented by analytical tests. Each set of data will include sample identification information, the analytical results, and the appropriate preparation/analysis dates.

Reviewed and Approved:

Jenny Vance

Jenny Vance
Project Manager

jlv

IT Corporation - Analytical Services
Client Project ID: ITET 47063 & ITET 47075
Date: December 5, 1990

IT ANALYTICAL SERVICES
OAK RIDGE, TN
Page 2 of 2
Job Number: ITAB 36400

II. ANALYTICAL RESULTS/METHODOLOGY (Continued)

Total Organic Halides (TOX) was analyzed using EPA SW-846, 3rd edition, Method 9020.

III. QUALITY CONTROL

A Matrix Spike (MS) and Matrix Spike Duplicate (MSD) were performed on sample PP1508 (41-1).

Preparation and analyses for Total Organic Halides completed on 11/21/90.

TOTAL ORGANIC HALIDES

Concentration Units: MG/L except for MS & MSD, which are % Recovery

<u>Client ID</u>	<u>Lab ID</u>	<u>MWL ID</u>	<u>Analysis Date</u>	<u>Result</u>	<u>%Recovery</u>
		BLANK	11/16/90	0.010 U	
41-1	PP1508	FF3007	11/16/90	0.062	
41-1MS	PP1508	FF3008	11/16/90		89
41-1MSD	PP1508	FF3009	11/16/90		108
41-2	PP1509	FF3010	11/16/90	0.019	
41-3	PP1510	FF3011	11/16/90	0.183	
41-4	PP1511	FF3012	11/16/90	3.12	
41-5	PP1512	FF3013	11/16/90	0.306	
41-7	PP1513	FF3014	11/16/90	0.020	
		BLANK	11/19/90	0.010 U	
41-8	PP1514	FF3015	11/19/90	0.021	
41-6	PP1721	FF3016	11/19/90	0.282	
41-9	PP1722	FF3017	11/19/90	0.015	
42-5	PP1723	FF3018	11/19/90	0.154	
42-6	PP1724	FF3019	11/19/90	0.020	
42-8	PP1725	FF3020	11/19/90	0.145	
		BLANK	11/20/90	0.010 U	
42-9	PP1726	FF3021	11/20/90	0.010 U	

U - Compound was analyzed for but not detected. The value is the detection limit for the sample

MS - Matrix Spike

MSD - Matrix Spike Duplicate

CERTIFICATE OF ANALYSIS

IT Corporation
8600 Hidden River Parkway, Suite 100
Tampa, FL 33637
ATTN: Mark Hampton

January 15, 1991

Job Number: ITCY 47075

P.O. Number: 595411.01

This is the Certificate of Analysis for the following samples:

Client Project ID: NAS JAX
Date Received by Lab: 11/08/90
Number of Samples: Nine (9)
Sample Type: Water-seven (7), Trip Blanks-two (2)

I. Introduction

On 11/08/90, seven (7) water samples and two (2) trip blanks arrived at the ITAS-Knoxville, Tennessee, laboratory from IT-Tampa, Florida in support of the NAS JAX project. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

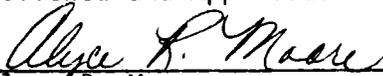
II. Analytical Results/Methodology

The analytical results for this report are presented by analytical test. Each set of data will include sample identification information and the analytical results. Please note that all data are blank corrected, i.e., if any compound is found in the corresponding laboratory blank, it is subtracted from the analytical result before it is reported.

The total organic halide (TOX) and total organic carbon (TOC) analyses were performed at the IT-Mixed Waste Laboratory (MWL) in Oak Ridge, Tennessee. A copy of that report was submitted under separate cover.

The samples were analyzed for radiological parameters at the IT-Radiological Services Laboratory (IT-RSL). A copy of that laboratory report will follow.

Reviewed and Approved:



Alyce R. Moore
Laboratory Manager

American Council of Independent Laboratories
International Association of Environmental Testing Laboratories
American Association for Laboratory Accreditation

IT Corporation
January 15, 1991

Client Project ID: NAS JAX

Job Number: ITCY 47075

II. Analytical Results/Methodology (continued)

The samples were analyzed for the requested volatile organic compounds by gas chromatography/mass spectroscopy (GC/MS) based on EPA SW-846 method 8240.

The samples were analyzed for the requested semivolatile organic compounds by GC/MS based on EPA SW-846 method 8270.

The samples were analyzed for the requested pesticides and herbicides by gas chromatography/electron capture detection (GC/ECD) based on EPA method 608 and Standard Methods for the Examination of Water and Wastewater, 16th edition, 1985, method 509B.

The samples were analyzed for the requested metals by cold vapor atomic absorption spectroscopy (CVAA), graphite furnace atomic absorption spectroscopy (GFAA) and inductively coupled plasma spectroscopy (ICP) based on EPA SW-846 methods 3010, 3020, 7060, 7421, 7740, 7470 and 6010.

The samples were analyzed for turbidity according to EPA method 180.1.

The samples were analyzed for nitrate and sulfate by colorimetric determination based on EPA methods 353.3 and 375.4, respectively.

The samples were analyzed for chloride by titration according to EPA method 325.3.

The samples were analyzed for fluoride according to EPA method 340.2.

The total coliform bacterial density was determined using the membrane filter technique described in method 909A, Standard Methods for the Examination of Water and Wastewater, 16th edition, 1985.

The samples were analyzed for cyanide by manual distillation/colorimetric determination using EPA method 335.2.

The samples were analyzed for hexavalent chromium according to method 312B, Standard Methods for the Examination of Water and Wastewater, 16th edition, 1985.

III. Quality Control

Routine laboratory level I QC was followed.

The volatiles analyses were performed on 11/15, 11/16 and 11/19/90 by purge and trap with a J&W DB-624 megabore column on a Finnigan OWA GC/MS/DS. The volatiles sample runs generally went well. Initial and continuing calibration standards were run for all requested analytes except isobutanol and 2-ethoxyethanol. The latter compound

IT Corporation
January 15, 1991

Client Project ID: NAS JAX

Job Number: ITCY 47075

III. Quality Control (continued)

was evidently not amenable to purge and trap on a DB-624 column: we ran a 20,000 µg/liter standard as a check and saw nothing, except perhaps chromatographic baseline disruption; some alternate method development was needed here, but could not be done within the holding time for analytes in general. The isobutanol tends to carry over and cause false positives if run before the samples: it was evaluated based on its known spectrum and retention time from previous standard data. The 25 ml purge allowed us to reach a practical quantitation limit of 1-2 µg/liter, or 1/5 that ordinarily is seen in method 8240 analyses. The isobutanol had a higher limit because of its known poor response. Sample 42-6 showed moderate deviation in an internal standard, then a surrogate, in duplicate runs: both run data were reported; the variants did not appear significant to the sample results.

The semivolatiles analyses were performed on 11/20, 11/21 and 11/22/90 by direct injection of sample extract on a Restek RTX-5 capillary column on a Finnigan 4500 GC/MS/DS. The semivolatiles runs went well. Initial and continuing calibrations were performed for all specific compounds, except a single standard was used for m-cresol and pyridine. Cresylic acid was evaluated based on peak search for any C1-C3 alkyl substituted phenols, in addition to comparisons with the cresols and one xylene standard. Based on earlier extraction studies, the pyridine quantitation limit was higher than for other species. The cresylic acid quantitation limit was the practical limit for any single peak; the result reported was the sum of all detected peaks, including the cresols.

There were no other problems seen in final review of the data for either the volatiles or semivolatiles fraction. The 2-ethoxyethanol analyte was undetected in the volatiles samples, but no quantitation limit was available, pending further study.

The samples were extracted for pesticides and herbicides on 11/09 and 11/14/90, respectively. The extracts were analyzed from 11/19 to 11/21/90. No problems were encountered.

The samples were digested on 11/16/90 for ICP and GFAA. The samples for mercury analysis were prepared just prior to analysis. The CVAA analysis for mercury was performed on 11/12/90; the GFAA analyses for arsenic, lead and selenium were performed from 11/19 to 11/26/90; the remaining metals were analyzed by ICP on 11/20/90. All run QC was acceptable. No problems were encountered.

The turbidity of the samples was measured on 11/09/90. No problems were encountered.

The nitrate, sulfate, chloride and fluoride analyses were performed on 11/30, 12/04, 11/26 and 12/01/90, respectively. Elevated detection limits were reported for nitrate for samples 41-6 and 42-9 due to sample turbidity. No other problems were encountered.

IT Corporation
January 15, 1991

**IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN**

Client Project ID: NAS JAX

Job Number: ITCY 47075

III. Quality Control (continued)

The total coliform analysis was performed on 11/08/90. The samples had exceeded the method prescribed analysis holding time by one (1) day at the time of receipt. Elevated detection limits were reported for samples 41-6, 42-5, 42-6, 42-8 and 42-9 due to sample turbidity. No other problems were encountered.

The cyanide analysis was performed on 11/15/90. No problems were encountered.

The hexavalent chromium analysis was performed on 11/08/90. No problems were encountered.

IT Corporation
 January 15, 1991

Client Project ID: NAS JAX

Job Number: ITCY 47075

VOLATILE ORGANIC ANALYSIS

Results in µg/liter (ppb)

Sample Matrix: Water

Client Sample ID: Method Blank 1

Lab Sample ID: EB1116

benzene	1	U	2-nitropropane	2	U
chlorobenzene	1	U	1,2-dichlorobenzene	1	U
carbon tetrachloride	1	U	trichlorofluoromethane	1	U
carbon disulfide	1	U	1,1,2-trichloro-		
chloroform	0.9	J	1,2,2-trifluoroethane	1	U
1,2-dibromoethane	1	U	tetrachloroethene	1	U
1,1-dichloroethane	1	U	trichloroethene	1	U
1,2-dichloroethane	1	U	1,1,1-trichloroethane	1	U
1,2-dichloropropane	1	U	1,1,2-trichloroethane	1	U
2-ethoxyethanol	*		1,2,3-trichloropropane	1	U
isobutanol	500	U	toluene	1	U
methylene chloride	0.7	J	vinyl chloride	2	U
methyl ethyl ketone	2	U	xylene (total)	1	U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/16/90

This method blank applies to the following samples: 41-9, 42-6, 42-6 RE, Trip Blank 1 and Trip Blank 2.

RE - Reanalyzed

IT Corporation
January 15, 1991

Client Project ID: NAS JAX

Job Number: ITCY 47075

VOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: Trip Blank 1
Lab Sample ID: PP1705

benzene	1 U	2-nitropropane	2 U
chlorobenzene	1 U	1,2-dichlorobenzene	1 U
carbon tetrachloride	1 U	trichlorofluoromethane	1 U
carbon disulfide	1 U	1,1,2-trichloro-	
chloroform	1 U	1,2,2-trifluoroethane	1 U
1,2-dibromoethane	1 U	tetrachloroethene	1 U
1,1-dichloroethane	1 U	trichloroethene	1 U
1,2-dichloroethane	1 U	1,1,1-trichloroethane	1 U
1,2-dichloropropane	1 U	1,1,2-trichloroethane	1 U
2-ethoxyethanol	*	1,2,3-trichloropropane	1 U
isobutanol	500 U	toluene	1 U
methylene chloride	1 U	vinyl chloride	2 U
methyl ethyl ketone	2 U	xylene (total)	1 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/16/90

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47075

VOLATILE ORGANIC ANALYSIS

Results in µg/liter (ppb)

Sample Matrix: Water

Client Sample ID: Trip Blank 2
Lab Sample ID: PP1706

benzene	1 U	2-nitropropane	2 U
chlorobenzene	1 U	1,2-dichlorobenzene	1 U
carbon tetrachloride	1 U	trichlorofluoromethane	1 U
carbon disulfide	1 U	1,1,2-trichloro-	
chloroform	1 U	1,2,2-trifluoroethane	1 U
1,2-dibromoethane	1 U	tetrachloroethene	1 U
1,1-dichloroethane	1 U	trichloroethene	1 U
1,2-dichloroethane	1 U	1,1,1-trichloroethane	1 U
1,2-dichloropropane	1 U	1,1,2-trichloroethane	1 U
2-ethoxyethanol	*	1,2,3-trichloropropane	1 U
isobutanol	500 U	toluene	1 U
methylene chloride	1 U	vinyl chloride	2 U
methyl ethyl ketone	2 U	xylene (total)	1 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/16/90

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47075

VOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 41-9
Lab Sample ID: PP1708

benzene	1	U	2-nitropropane	2	U
chlorobenzene	1	U	1,2-dichlorobenzene	1	U
carbon tetrachloride	1	U	trichlorofluoromethane	1	U
carbon disulfide	1	U	1,1,2-trichloro-		
chloroform	1	U	1,2,2-trifluoroethane	1	U
1,2-dibromoethane	1	U	tetrachloroethene	1	U
1,1-dichloroethane	1	U	trichloroethene	1	U
1,2-dichloroethane	1	U	1,1,1-trichloroethane	1	U
1,2-dichloropropane	1	U	1,1,2-trichloroethane	1	U
2-ethoxyethanol	*		1,2,3-trichloropropane	1	U
isobutanol	500	U	toluene	1	U
methylene chloride	0.9	J	vinyl chloride	2	U
methyl ethyl ketone	2	U	xylene (total)	1	U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/16/90

Client Project ID: NAS JAX

Job Number: ITCY 47075

VOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 42-6
Lab Sample ID: PP1710

benzene	1 U	2-nitropropane	2 U
chlorobenzene	1 U	1,2-dichlorobenzene	1 U
carbon tetrachloride	1 U	trichlorofluoromethane	1 U
carbon disulfide	1 U	1,1,2-trichloro-	
chloroform	1 U	1,2,2-trifluoroethane	1 U
1,2-dibromoethane	1 U	tetrachloroethene	1 U
1,1-dichloroethane	1 U	trichloroethene	1 U
1,2-dichloroethane	1 U	1,1,1-trichloroethane	1 U
1,2-dichloropropane	1 U	1,1,2-trichloroethane	1 U
2-ethoxyethanol	*	1,2,3-trichloropropane	1 U
isobutanol	500 U	toluene	1 U
methylene chloride	1 U	vinyl chloride	2 U
methyl ethyl ketone	2 U	xylene (total)	1 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/16/90

IT Corporation
January 15, 1991

Client Project ID: NAS JAX

Job Number: ITCY 47075

VOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 42-6 RE
Lab Sample ID: PP1710R

benzene	1 U	2-nitropropane	2 U
chlorobenzene	1 U	1,2-dichlorobenzene	1 U
carbon tetrachloride	1 U	trichlorofluoromethane	1 U
carbon disulfide	1 U	1,1,2-trichloro-	
chloroform	1 U	1,2,2-trifluoroethane	1 U
1,2-dibromoethane	1 U	tetrachloroethene	1 U
1,1-dichloroethane	1 U	trichloroethene	1 U
1,2-dichloroethane	1 U	1,1,1-trichloroethane	1 U
1,2-dichloropropane	1 U	1,1,2-trichloroethane	1 U
2-ethoxyethanol	*	1,2,3-trichloropropane	1 U
isobutanol	500 U	toluene	1 U
methylene chloride	1 U	vinyl chloride	2 U
methyl ethyl ketone	2 U	xylene (total)	1 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/16/90

IT Corporation
 January 15, 1991

Client Project ID: NAS JAX

Job Number: ITCY 47075

VOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: Method Blank 2
 Lab Sample ID: EB1119

benzene	1	U	2-nitropropane	2	U
chlorobenzene	1	U	1,2-dichlorobenzene	1	
carbon tetrachloride	1	U	trichlorofluoromethane	1	U
carbon disulfide	1	U	1,1,2-trichloro-		
chloroform	1	U	1,2,2-trifluoroethane	1	U
1,2-dibromoethane	1	U	tetrachloroethene	1	U
1,1-dichloroethane	1	U	trichloroethene	1	U
1,2-dichloroethane	1	U	1,1,1-trichloroethane	1	U
1,2-dichloropropane	1	U	1,1,2-trichloroethane	1	U
2-ethoxyethanol	*		1,2,3-trichloropropane	1	U
isobutanol	500	U	toluene	1	U
methylene chloride	0.96	J	vinyl chloride	2	U
methyl ethyl ketone	2	U	xylene (total)	1	U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/19/90

This method blank applies to the following samples: 41-6, 42-5, 42-8 and 42-9.

Client Project ID: NAS JAX

Job Number: ITCY 47075

VOLATILE ORGANIC ANALYSIS

Results in µg/liter (ppb)

Sample Matrix: Water

Client Sample ID: 41-6
Lab Sample ID: PP1707

benzene	1	U	2-nitropropane	2	U
chlorobenzene	1	U	1,2-dichlorobenzene	1	U
carbon tetrachloride	1	U	trichlorofluoromethane	1	U
carbon disulfide	0.5	J	1,1,2-trichloro-		
chloroform	1	U	1,2,2-trifluoroethane	1	U
1,2-dibromoethane	1	U	tetrachloroethene	1	U
1,1-dichloroethane	1	U	trichloroethene	1	U
1,2-dichloroethane	1	U	1,1,1-trichloroethane	1	U
1,2-dichloropropane	1	U	1,1,2-trichloroethane	1	U
2-ethoxyethanol	*		1,2,3-trichloropropane	1	U
isobutanol	500	U	toluene	1	U
methylene chloride	1	U	vinyl chloride	2	U
methyl ethyl ketone	2	U	xylene (total)	1	U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/19/90

VOLATILE ORGANIC ANALYSIS

Results in µg/liter (ppb)

Sample Matrix: Water

Client Sample ID: 42-5
Lab Sample ID: PP1709

benzene	3.8		2-nitropropane	2	U
chlorobenzene	1	U	1,2-dichlorobenzene	1	U
carbon tetrachloride	1	U	trichlorofluoromethane	1	U
carbon disulfide	1	U	1,1,2-trichloro-		
chloroform	1	U	1,2,2-trifluoroethane	1	U
1,2-dibromoethane	1	U	tetrachloroethene	1	U
1,1-dichloroethane	1	U	trichloroethene	1	U
1,2-dichloroethane	1	U	1,1,1-trichloroethane	1	U
1,2-dichloropropane	1	U	1,1,2-trichloroethane	1	U
2-ethoxyethanol	*		1,2,3-trichloropropane	1	U
isobutanol	500	U	toluene	1	U
methylene chloride	1	U	vinyl chloride	2	U
methyl ethyl ketone	2	U	xylene (total)	1.4	

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/19/90

IT Corporation
 January 15, 1991

Client Project ID: NAS JAX

Job Number: ITCY 47075

VOLATILE ORGANIC ANALYSIS

Results in µg/liter (ppb)

Sample Matrix: Water

Client Sample ID: 42-8
 Lab Sample ID: PP1711

benzene	1	U	2-nitropropane	2	U
chlorobenzene	1	U	1,2-dichlorobenzene	1	U
carbon tetrachloride	1	U	trichlorofluoromethane	1	U
carbon disulfide	0.5	J	1,1,2-trichloro-		
chloroform	1	U	1,2,2-trifluoroethane	1	U
1,2-dibromoethane	1	U	tetrachloroethene	1	U
1,1-dichloroethane	1	U	trichloroethene	1	U
1,2-dichloroethane	1	U	1,1,1-trichloroethane	1	U
1,2-dichloropropane	1	U	1,1,2-trichloroethane	1	U
2-ethoxyethanol	*		1,2,3-trichloropropane	1	U
isobutanol	500	U	toluene	1	U
methylene chloride	1	U	vinyl chloride	2	U
methyl ethyl ketone	2	U	xylene (total)	1	U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/19/90

IT Corporation
January 15, 1991

Client Project ID: NAS JAX

Job Number: ITCY 47075

VOLATILE ORGANIC ANALYSIS

Results in µg/liter (ppb)

Sample Matrix: Water

Client Sample ID: 42-9
Lab Sample ID: PP1712

benzene	1 U	2-nitropropane	2 U
chlorobenzene	1 U	1,2-dichlorobenzene	1 U
carbon tetrachloride	1 U	trichlorofluoromethane	1 U
carbon disulfide	1 U	1,1,2-trichloro-	
chloroform	1 U	1,2,2-trifluoroethane	1 U
1,2-dibromoethane	1 U	tetrachloroethene	1 U
1,1-dichloroethane	1 U	trichloroethene	1 U
1,2-dichloroethane	1 U	1,1,1-trichloroethane	1 U
1,2-dichloropropane	1 U	1,1,2-trichloroethane	1 U
2-ethoxyethanol	*	1,2,3-trichloropropane	1 U
isobutanol	500 U	toluene	1 U
methylene chloride	1 U	vinyl chloride	2 U
methyl ethyl ketone	2 U	xylene (total)	1 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/19/90

WATER SURROGATE PERCENT RECOVERY SUMMARY

Sample No.	VOLATILE		
	Toluene-D8 (88-110%)*	BFB (86-115%)*	1,2 Dichloroethane-D4 (76-114%)*
41-6	92	98	91
41-9	103	106	81
42-5	91	98	89
42-6	103	107	79
42-6 RE	97	104	75 **
42-8	91	102	91
42-9	99	103	99
Trip Blank 1	98	99	83
Trip Blank 2	104	105	82
Method Blank 1	107	107	93
Method Blank 2	99	97	98

* - Values in parenthesis represent USEPA contract required QC limits.

** - Values are outside of contract required QC limits.

RE = Reanalyzed

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47075

SEMIVOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: Method Blank
Lab Sample ID: BLA1991

o-cresol	10 U
m-cresol	10 U
p-cresol	10 U
nitrobenzene	10 U
phenol	10 U
pyridine	100 U
cresylic acid	10 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/14/90
Date of Analysis: 11/20/90

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47075

SEMIVOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 41-6
Lab Sample ID: PP1777

o-cresol	11 U
m-cresol	11 U
p-cresol	11 U
nitrobenzene	11 U
phenol	11 U
pyridine	110 U
creylic acid	11 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/14/90
Date of Analysis: 11/20/90

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47075

SEMIVOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 41-9
Lab Sample ID: PP1778

o-cresol	10 U
m-cresol	10 U
p-cresol	10 U
nitrobenzene	10 U
phenol	10 U
pyridine	100 U
cresylic acid	10 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/14/90
Date of Analysis: 11/20/90

IT Corporation
January 15, 1991

Client Project ID: NAS JAX

Job Number: ITCY 47075

SEMIVOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 42-5
Lab Sample ID: PP1779

o-cresol	10 U
m-cresol	10 U
p-cresol	10 U
nitrobenzene	10 U
phenol	10 U
pyridine	100 U
cresylic acid	10 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/14/90
Date of Analysis: 11/20/90

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47075

SEMIVOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 42-6
Lab Sample ID: PP1780

o-cresol	11 U
m-cresol	11 U
p-cresol	11 U
nitrobenzene	11 U
phenol	11 U
pyridine	110 U
cresylic acid	11 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/14/90
Date of Analysis: 11/21/90

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47075

SEMIVOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 42-8
Lab Sample ID: PP1781

o-cresol	11 U
m-cresol	11 U
p-cresol	11 U
nitrobenzene	11 U
phenol	11 U
pyridine	110 U
creylic acid	11 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/14/90
Date of Analysis: 11/22/90

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47075

SEMIVOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 42-9
Lab Sample ID: PP1782

o-cresol	11 U
m-cresol	11 U
p-cresol	11 U
nitrobenzene	11 U
phenol	11 U
pyridine	110 U
cresylic acid	11 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/14/90
Date of Analysis: 11/22/90

WATER SURROGATE PERCENT RECOVERY SUMMARY

Sample No.	SEMI-VOLATILE					
	Nitro-Benzene-D5 (35-114%)*	2-Fluoro-Biphenyl (43-116%)*	Terphenyl-D14 (33-141%)*	Phenol-D5 (10-94%)*	2-Fluoro-Phenol (21-100%)*	2,4,6-Tribromo-Phenol (10-123%)*
41-6	89	82	99	28	49	70
41-9	99	89	114	35	63	96
42-5	99	85	84	35	60	98
42-6	104	99	97	42	66	110
42-8	102	94	94	48	68	96
42-9	113	103	103	45	67	90
Method Blank	101	83	107	34	62	83

* - Values in parenthesis represent USEPA contract required QC limits.

IT Corporation
January 15, 1991

Client Project ID: NAS JAX

Job Number: ITCY 47075

PESTICIDE AND HERBICIDE ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank <u>BLA1955/BLA1977</u>	41-6 <u>PP1777</u>	41-9 <u>PP1778</u>	42-5 <u>PP1779</u>
endrin	0.1 U	0.1 U	0.1 U	0.1 U
lindane	0.1 U	0.1 U	0.1 U	0.1 U
methoxychlor	0.2 U	0.2 U	0.4 U	0.4 U
toxaphene	0.8 U	0.8 U	1.6 U	1.6 U
2,4-D	0.2 U	0.2 U	0.2 U	0.2 U
2,4,5-TP Silvex	0.1 U	0.1 U	0.1 U	0.1 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/09/90 (Pesticides) 11/14/90 (Herbicides)

Date of Analysis: 11/20 and 11/21/90

IT Corporation
January 15, 1991

Client Project ID: NAS JAX

Job Number: ITCY 47075

PESTICIDE AND HERBICIDE ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID:	42-6	42-8	42-9
Lab Sample ID:	<u>PP1780</u>	<u>PP1781</u>	<u>PP1782</u>
endrin	0.1 U	0.1 U	0.1 U
lindane	0.1 U	0.1 U	0.1 U
methoxychlor	0.2 U	0.2 U	0.2 U
toxaphene	0.8 U	0.8 U	0.8 U
2,4-D	0.2 U	0.2 U	0.2 U
2,4,5-TP Silvex	0.1 U	0.1 U	0.1 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/09/90 (Pesticides) 11/14/90 (Herbicides)

Date of Analysis: 11/20, 11/21/90

IT Corporation
 January 15, 1991

Client Project ID: NAS JAX

Job Number: ITCY 47075

METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID:	Method Blank	41-6	41-9	42-5
Lab Sample ID:	<u>PBWC3781/C3786</u>	<u>PP1770</u>	<u>PP1771</u>	<u>PP1772</u>
arsenic	0.002 U	0.006	0.002 U	0.051
barium	0.002 U	0.35	0.002 U	0.30
cadmium	0.005 U	0.012	0.005 U	0.005 U
chromium	0.01 U	0.27	0.01 U	0.03
copper	0.01 U	0.17	0.01 U	0.01 U
iron	0.01 U	28.6	0.05	49.6
lead	0.002 U	0.103	0.002	0.006
manganese	0.002 U	0.11	0.002 U	0.41
nickel	0.02 U	0.05	0.02 U	0.02 U
selenium	0.002 U	0.008 U*	0.002 U	0.002 U
silver	0.005 U	0.072	0.005 U	0.010
sodium	0.2 U	147	0.2 U	42.4
vanadium	0.01 U	0.13	0.01 U	0.02
zinc	0.006	0.23	0.028	0.027
mercury	NR	0.001	0.001 U	0.001 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

* - Detection limit higher than normal due to sample matrix interferences.

NR - Not required

Date of Digestion: 11/16/90

Date of Analysis: 11/20/90 (ICP), 11/12/90 (CVAA), 11/19-26/90 (GFAA)

METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID:	42-6	42-8	42-9	42-10
ab Sample ID:	<u>PP1773</u>	<u>PP1774</u>	<u>PP1775</u>	<u>PP1776</u>
arsenic	0.009	0.008	0.012	0.002 U
barium	0.056	0.29	0.080	0.002 U
cadmium	0.005 U	0.005 U	0.005 U	0.005 U
chromium	0.03	0.03	0.08	0.01
copper	0.01 U	0.01 U	0.01	0.01 U
iron	25.5	11.7	65.2	0.07
lead	0.012	0.006	0.023	0.002 U
manganese	0.022	0.28	0.035	0.002 U
nickel	0.02 U	0.02 U	0.02 U	0.02 U
selenium	0.008 U*	0.002	0.006 U*	0.002 U
silver	0.005 U	0.008	0.005 U	0.005 U
sodium	8.5	63.2	7.9	0.2 U
vanadium	0.03	0.02	0.08	0.01 U
zinc	0.034	0.027	0.053	0.012
mercury	0.001 U	0.001 U	0.001 U	0.001 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

* - Detection limit higher than normal due to sample matrix interferences.

Date of Digestion: 11/16/90

Date of Analysis: 11/20/90 (ICP), 11/12/90 (CVAA), 11/19-26/90 (GFAA)

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47075

TURBIDITY ANALYSIS

Results in NTU's

Sample Matrix: Water

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Result</u>
Method Blank	P1726	0.1
41-6	PP1742	550
41-9	PP1743	0.2
42-5	PP1744	152
42-6	PP1745	150
42-8	PP1746	280
42-9	PP1747	440

Date of Analysis: 11/09/90

Client Project ID: NAS JAX

Job Number: ITCY 47075

CLASSICAL PARAMETERS ANALYSIS

Result in mg/liter (ppm)

Sample Matrix: Water

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Chloride</u>	<u>Fluoride</u>	<u>Sulfate</u>
Method Blank	-	0.50	0.10 U	10 U
41-6	PP1742	30	0.15	50 U*
41-9	PP1743	0.50	0.10 U	10 U
42-5	PP1744	29	0.14	100
42-6	PP1745	12	0.10 U	10
42-8	PP1746	43	0.10 U	620
42-9	PP1747	7.5	0.10 U	50 U*
Date of Analysis:		11/26/90	12/01/90	12/04/90

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

* - Elevated detection limit due to sample turbidity.

Client Project ID: NAS JAX

Job Number: ITCY 47075

NITRATE, AS N, ANALYSIS
Results in mg/liter (ppm)
Sample Matrix: Water

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Result</u>
Method Blank	P1798	0.05 U
41-6	PP1749	0.25 U*
41-9	PP1750	0.05 U
42-5	PP1751	0.13
42-6	PP1752	0.05 U
42-8	PP1753	3.8
42-9	PP1754	0.05 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

* - Elevated detection limit due to sample turbidity.

Date of Analysis: 11/30/90

TOTAL COLIFORM ANALYSIS
Results in colonies/100 ml
Sample Matrix: Water

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Result</u>
Method Blank	P1715	0
41-6	PP1728	100 U*
41-9	PP1729	0
42-5	PP1730	50 U*
42-6	PP1731	25 U*
42-8	PP1732	100 U*
42-9	PP1733	100 U*

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

* - Dilutions necessary due to sample turbidity.

Date of Analysis: 11/08/90

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47075

CYANIDE ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Result</u>
Method Blank	P1750	0.01 U
41-6	PP1756	0.01 U
41-9	PP1757	0.01 U
42-5	PP1758	0.01 U
42-6	PP1759	0.01 U
42-8	PP1760	0.01 U
42-9	PP1761	0.01 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

Date of Analysis: 11/15/90

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47075

HEXAVALENT CHROMIUM ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Result</u>
Method Blank	P1717	0.02 U
41-6	PP1770	0.02 U
41-9	PP1771	0.02 U
42-5	PP1772	0.02 U
42-6	PP1773	0.02 U
42-8	PP1774	0.02 U
42-9	PP1775	0.02 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

Date of Analysis: 11/08/90



CERTIFICATE OF ANALYSIS

IT Corporation
8600 Hidden River Parkway, Suite 100
Tampa, FL 33637
ATTN: Mark Hampton

January 15, 1991

Job Number: ITCY 47063

P.O. Number: 595411.01

This is the Certificate of Analysis for the following samples:

Client Project ID: NAS JAX
Date Received by Lab: 11/07/90
Number of Samples: Seven (7)
Sample Type: Water

I. Introduction

On 11/07/90, seven (7) water samples arrived at the ITAS-Knoxville, Tennessee, laboratory from IT-Tampa, Florida in support of the NAS JAX project. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

II. Analytical Results/Methodology

The analytical results for this report are presented by analytical test. Each set of data will include sample identification information and the analytical results. Please note that all data are blank corrected, i.e., if any compound is found in the corresponding laboratory blank, it is subtracted from the analytical result before it is reported.

The total organic halide (TOX) and total organic carbon (TOC) analyses were performed at the IT-Mixed Waste Laboratory (MWL) in Oak Ridge, Tennessee. A copy of that report is included.

The samples were analyzed for radiological parameters at the IT-Radiological Services Laboratory (IT-RSL). A copy of that laboratory report will follow.

Reviewed and Approved:


Alyce R. Moore
Laboratory Manager

American Council of Independent Laboratories
International Association of Environmental Testing Laboratories
American Association for Laboratory Accreditation

II. Analytical Results/Methodology (continued)

The samples were analyzed for the requested volatile organic compounds by gas chromatography/mass spectroscopy (GC/MS) based on EPA SW-846 method 8240.

The samples were analyzed for the requested semivolatile organic compounds by GC/MS based on EPA SW-846 method 8270.

The samples were analyzed for the requested pesticides and herbicides by gas chromatography/electron capture detection (GC/ECD) based on EPA method 608 and Standard Methods for the Examination of Water and Wastewater, 16th edition, 1985, method 509B.

The samples were analyzed for the requested metals by cold vapor atomic absorption spectroscopy (CVAA), graphite furnace atomic absorption spectroscopy (GFAA) and inductively coupled plasma spectroscopy (ICP) based on EPA SW-846 methods 3010, 3020, 7060, 7421, 7740, 7470 and 6010.

The samples were analyzed for turbidity according to EPA method 180.1.

The samples were analyzed for nitrate and sulfate by colorimetric determination based on EPA methods 353.3 and 375.4, respectively.

The samples were analyzed for chloride by titration according to EPA method 325.3.

The samples were analyzed for fluoride using EPA method 340.2.

The total coliform bacterial density was determined using the membrane filter technique described in method 909A, Standard Methods for the Examination of Water and Wastewater, 16th edition, 1985.

The samples were analyzed for cyanide by manual distillation/colorimetric determination using EPA method 335.2.

The samples were analyzed for hexavalent chromium according to method 312B, Standard Methods for the Examination of Water and Wastewater, 16th edition, 1985.

III. Quality Control

Routine laboratory level I QC was followed.

The volatiles analyses were performed on 11/14 and 11/15/90 by purge and trap with a J&W DB-624 megabore column on a Finnigan OWA GC/MS/DS. The sample runs generally went well. Two 3-point calibrations, and continuing calibration standards, were run for all requested analytes except isobutanol and 2-ethoxyethanol. The latter compound was evidently not amenable to purge and trap on a DB-624 column: we ran a

III. Quality Control (continued)

20,000 µg/liter standard as a check and saw nothing, except perhaps chromatographic baseline disruption; some alternate method development was needed here, but could not be done within the holding time for analytes in general. The isobutanol tends to carry over and cause false positives if run before the samples: it was evaluated based on its known spectrum and retention time from previous standard data. The 25 ml purge allowed us to reach a practical quantitation limit of 1-2 µg/liter, or 1/5 that ordinarily is seen in method 8240 analyses. The isobutanol had a higher limit because of its known poor response. Sample 41-5 was seen to have one slightly high surrogate recovery, and was rerun, but the reanalysis showed further surrogate problems and apparent system degradation; the original run data were reported after evaluation of the results, which showed no significant impact from the one surrogate deviation.

The semivolatiles analyses were performed on 11/15 and 11/16/90 by direct injection of sample extract on a Restek RTX-5 capillary column on a Finnigan 4500 GC/MS/DS. The semivolatiles runs went well. Phenol, nitrobenzene, cresols, and one xylenol standard were run, and cresylic acid, as any C1-C3 alkyl substituted phenols, was searched for by spectral ions. Pyridine was also standardized for. Based on earlier extraction studies, the pyridine quantitation limit was higher than for other species. The cresylic acid quantitation limit was the practical limit for any single peak; the result reported was the sum of all detected peaks, including the cresols. It was noted that m- and p-cresol elute at the same retention time: spectral comparison was used to judge the p- isomer to be present in sample 41-4, but it could not be ruled out that the peak may have had a m- component; the total amount, however, would be essentially unchanged.

There were no other problems seen in final review of the data for either the volatiles or semivolatiles fraction. The 2-ethoxyethanol analyte was undetected in the volatiles samples, but no quantitation limit was available, pending further study.

The samples were extracted for pesticides and herbicides on 11/09 and 11/12/90, respectively. The extracts were analyzed from 11/19 to 11/21/90. No problems were encountered.

The samples were digested on 11/16/90 for ICP and GFAA. The samples for mercury analysis were prepared just prior to analysis. The CVAA analysis for mercury was performed on 11/12/90; the GFAA analyses for arsenic, lead and selenium were performed on 11/19 and 11/20/90; the remaining metals were analyzed by ICP on 11/20/90. All run QC was acceptable. Matrix interferences were encountered in the GFAA analysis for selenium for samples 41-2, 41-3 and 41-4. These interferences resulted in elevated detection limits in these instances. No other problems were encountered.

III. Quality Control (continued)

The turbidity of the samples was measured on 11/08/90. No problems were encountered.

The nitrate, sulfate, chloride and fluoride analyses were performed on 11/28, 12/04, 11/26 and 12/01/90, respectively. Elevated detection limits were reported for nitrate and sulfate for sample 41-4 due to sample turbidity. No other problems were encountered.

The total coliform analysis was performed on 11/07/90. The samples had exceeded the method prescribed analysis holding time by one (1) day at the time of receipt. Elevated detection limits were reported for samples 41-2, 41-3, 41-4 and 41-5 due to sample turbidity. No other problems were encountered.

The cyanide analysis was performed on 11/14/90. No problems were encountered.

The hexavalent chromium analysis was performed on 11/07/90. Elevated detection limits were reported for samples 41-4 and 41-5 due to sample turbidity. No other problems were encountered.

Client Project ID: NAS JAX

Job Number: ITCY 47063

VOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: Method Blank 1

Lab Sample ID: EB1114

benzene	1	U	2-nitropropane	2	U
chlorobenzene	1	U	1,2-dichlorobenzene	1	U
carbon tetrachloride	1	U	trichlorofluoromethane	1	U
carbon disulfide	1	U	1,1,2-trichloro-		
chloroform	0.8	J	1,2,2-trifluoroethane	1	U
1,2-dibromoethane	1	U	tetrachloroethene	1	U
1,1-dichloroethane	1	U	trichloroethene	1	U
1,2-dichloroethane	1	U	1,1,1-trichloroethane	1	U
1,2-dichloropropane	1	U	1,1,2-trichloroethane	1	U
2-ethoxyethanol	*		1,2,3-trichloropropane	1	U
isobutanol	500	U	toluene	1	U
methylene chloride	0.6	J	vinyl chloride	2	U
methyl ethyl ketone	2	U	xylene (total)	1	U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/14/90

This method blank applies to the following samples: 41-1, 41-2, 41-3 and 41-5.

IT Corporation
 January 15, 1991

Client Project ID: NAS JAX

Job Number: ITCY 47063

VOLATILE ORGANIC ANALYSIS

Results in µg/liter (ppb)

Sample Matrix: Water

Client Sample ID: 41-1
 Lab Sample ID: PP1494

benzene	1	U	2-nitropropane	2	U
chlorobenzene	1	U	1,2-dichlorobenzene	1	U
carbon tetrachloride	1	U	trichlorofluoromethane	1	U
carbon disulfide	1.5		1,1,2-trichloro-		
chloroform	1	U	1,2,2-trifluoroethane	1	U
1,2-dibromoethane	1	U	tetrachloroethene	1	U
1,1-dichloroethane	10		trichloroethene	1	U
1,2-dichloroethane	1	U	1,1,1-trichloroethane	1	U
1,2-dichloropropane	1	U	1,1,2-trichloroethane	1	U
2-ethoxyethanol	*		1,2,3-trichloropropane	1	U
isobutanol	500	U	toluene	1	U
methylene chloride	1	U	vinyl chloride	2	U
methyl ethyl ketone	2	U	xylene (total)	1	U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/14/90

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47063

VOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 41-2
Lab Sample ID: PP1495

benzene	1	U	2-nitropropane	2	U
chlorobenzene	1	U	1,2-dichlorobenzene	1	U
carbon tetrachloride	1	U	trichlorofluoromethane	1	U
carbon disulfide	4.0		1,1,2-trichloro-		
chloroform	1	U	1,2,2-trifluoroethane	1	U
1,2-dibromoethane	1	U	tetrachloroethene	1	U
1,1-dichloroethane	1	U	trichloroethene	0.8	J
1,2-dichloroethane	1	U	1,1,1-trichloroethane	1	U
1,2-dichloropropane	1	U	1,1,2-trichloroethane	1	U
2-ethoxyethanol	*		1,2,3-trichloropropane	1	U
isobutanol	500	U	toluene	1	U
methylene chloride	1	U	vinyl chloride	2	U
methyl ethyl ketone	2	U	xylene (total)	1	U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/14/90

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47063

VOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 41-3
Lab Sample ID: PP1496

benzene	1	U	2-nitropropane	2	U
chlorobenzene	1	U	1,2-dichlorobenzene	0.5	J
carbon tetrachloride	1	U	trichlorofluoromethane	1	U
carbon disulfide	1	U	1,1,2-trichloro-		
chloroform	1	U	1,2,2-trifluoroethane	1	U
1,2-dibromoethane	1	U	tetrachloroethene	1	U
1,1-dichloroethane	3.1		trichloroethene	1	U
1,2-dichloroethane	1	U	1,1,1-trichloroethane	1	U
1,2-dichloropropane	1	U	1,1,2-trichloroethane	1	U
2-ethoxyethanol	*		1,2,3-trichloropropane	1	U
isobutanol	500	U	toluene	1	U
methylene chloride	1	U	vinyl chloride	2	U
methyl ethyl ketone	2	U	xylene (total)	1	U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/14/90

Client Project ID: NAS JAX

Job Number: ITCY 47063

VOLATILE ORGANIC ANALYSIS

Results in µg/liter (ppb)

Sample Matrix: Water

Client Sample ID: 41-5
Lab Sample ID: PP1498

benzene	1	U	2-nitropropane	2	U
chlorobenzene	1	U	1,2-dichlorobenzene	1	U
carbon tetrachloride	1	U	trichlorofluoromethane	1	U
carbon disulfide	1	U	1,1,2-trichloro-		
chloroform	1	U	1,2,2-trifluoroethane	1	U
1,2-dibromoethane	1	U	tetrachloroethene	1	U
1,1-dichloroethane	3.6		trichloroethene	1	U
1,2-dichloroethane	1	U	1,1,1-trichloroethane	1	U
1,2-dichloropropane	1	U	1,1,2-trichloroethane	1	U
2-ethoxyethanol	*		1,2,3-trichloropropane	1	U
isobutanol	500	U	toluene	1	U
methylene chloride	1	U	vinyl chloride	2	U
methyl ethyl ketone	2	U	xylene (total)	1	U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/14/90

Client Project ID: NAS JAX

Job Number: ITCY 47063

VOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: Method Blank 2
Lab Sample ID: EB1115

benzene	1	U	2-nitropropane	2	U
chlorobenzene	1	U	1,2-dichlorobenzene	1	U
carbon tetrachloride	1	U	trichlorofluoromethane	1	U
carbon disulfide	1	U	1,1,2-trichloro-		
chloroform	0.97	J	1,2,2-trifluoroethane	1	U
1,2-dibromoethane	1	U	tetrachloroethene	1	U
1,1-dichloroethane	1	U	trichloroethene	1	U
1,2-dichloroethane	1	U	1,1,1-trichloroethane	1	U
1,2-dichloropropane	1	U	1,1,2-trichloroethane	1	U
2-ethoxyethanol	*		1,2,3-trichloropropane	1	U
isobutanol	500	U	toluene	1	U
methylene chloride	0.9	J	vinyl chloride	2	U
methyl ethyl ketone	2	U	xylene (total)	1	U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/15/90

This method blank applies to the following samples: 41-4, 41-7 and 41-8.

Client Project ID: NAS JAX

Job Number: ITCY 47063

VOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 41-4
Lab Sample ID: PP1497

benzene	1	U	2-nitropropane	2	U
chlorobenzene	1	U	1,2-dichlorobenzene	1	U
carbon tetrachloride	1	U	trichlorofluoromethane	1	U
carbon disulfide	0.98	J	1,1,2-trichloro-		
chloroform	1	U	1,2,2-trifluoroethane	1	U
1,2-dibromoethane	1	U	tetrachloroethene	1	U
1,1-dichloroethane	5.2		trichloroethene	1	U
1,2-dichloroethane	1	U	1,1,1-trichloroethane	1	U
1,2-dichloropropane	1	U	1,1,2-trichloroethane	1	U
2-ethoxyethanol	*		1,2,3-trichloropropane	1	U
isobutanol	500	U	toluene	3.7	
methylene chloride	19		vinyl chloride	2	U
methyl ethyl ketone	21		xylene (total)	1	U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/15/90

IT Corporation
 January 15, 1991

Client Project ID: NAS JAX

Job Number: ITCY 47063

VOLATILE ORGANIC ANALYSIS

Results in µg/liter (ppb)

Sample Matrix: Water

Client Sample ID: 41-7
 Lab Sample ID: PP1499

benzene	1	U	2-nitropropane	2	U
chlorobenzene	1	U	1,2-dichlorobenzene	1	U
carbon tetrachloride	1	U	trichlorofluoromethane	1	U
carbon disulfide	1.7		1,1,2-trichloro-		
chloroform	1	U	1,2,2-trifluoroethane	1	U
1,2-dibromoethane	1	U	tetrachloroethene	1	U
1,1-dichloroethane	1	U	trichloroethene	1	U
1,2-dichloroethane	1	U	1,1,1-trichloroethane	1	U
1,2-dichloropropane	1	U	1,1,2-trichloroethane	1	U
2-ethoxyethanol	*		1,2,3-trichloropropane	1	U
isobutanol	500	U	toluene	1	U
methylene chloride	1	U	vinyl chloride	2	U
methyl ethyl ketone	2	U	xylene (total)	1	U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/15/90

Client Project ID: NAS JAX

Job Number: ITCY 47063

VOLATILE ORGANIC ANALYSIS

Results in µg/liter (ppb)

Sample Matrix: Water

Client Sample ID: 41-8
Lab Sample ID: PP1500

benzene	1 U	2-nitropropane	2 U
chlorobenzene	1 U	1,2-dichlorobenzene	1 U
carbon tetrachloride	1 U	trichlorofluoromethane	1 U
carbon disulfide	1 U	1,1,2-trichloro-	
chloroform	1 U	1,2,2-trifluoroethane	1 U
1,2-dibromoethane	1 U	tetrachloroethene	1 U
1,1-dichloroethane	1 U	trichloroethene	1 U
1,2-dichloroethane	1 U	1,1,1-trichloroethane	1 U
1,2-dichloropropane	1 U	1,1,2-trichloroethane	1 U
2-ethoxyethanol	*	1,2,3-trichloropropane	1 U
isobutanol	500 U	toluene	1 U
methylene chloride	1 U	vinyl chloride	2 U
methyl ethyl ketone	2 U	xylene (total)	1 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

* - Not amenable to the method used.

Analysis Date: 11/15/90

WATER SURROGATE PERCENT RECOVERY SUMMARY

Sample No.	VOLATILE		
	Toluene-D8 (88-110%)*	BFB (86-115%)*	1,2 Dichloroethane-D4 (76-114%)*
41-1	99	103	84
41-2	95	98	79
41-3	98	105	79
41-4	100	99	91
41-5	137 **	98	81
41-7	98	102	92
41-8	100	104	89
Method Blank 1	94	92	85
Method Blank 2	101	102	92

* - Values in parenthesis represent USEPA contract required QC limits.

** - Values are outside of contract required QC limits.

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47063

SEMIVOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: Method Blank
Lab Sample ID: BLA1964

o-cresol	10 U
m-cresol	10 U
p-cresol	10 U
nitrobenzene	10 U
phenol	10 U
pyridine	100 U
cresylic acid	10 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/12/90
Date of Analysis: 11/15/90

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47063

SEMIVOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 41-1
Lab Sample ID: PP1564

o-cresol	10 U
m-cresol	10 U
p-cresol	10 U
nitrobenzene	10 U
phenol	10 U
pyridine	100 U
cresylic acid	10 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/12/90
Date of Analysis: 11/16/90

Client Project ID: NAS JAX

Job Number: ITCY 47063

SEMIVOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 41-2
Lab Sample ID: PP1565

o-cresol	10 U
m-cresol	10 U
p-cresol	10 U
nitrobenzene	10 U
phenol	10 U
pyridine	100 U
cresylic acid	10 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/12/90
Date of Analysis: 11/16/90

IT Corporation
January 15, 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITCY 47063

SEMIVOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 41-3
Lab Sample ID: PP1566

o-cresol	10 U
m-cresol	10 U
p-cresol	10 U
nitrobenzene	10 U
phenol	10 U
pyridine	100 U
cresylic acid	10 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/12/90
Date of Analysis: 11/16/90

Client Project ID: NAS JAX

Job Number: ITCY 47063

SEMIVOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 41-4
Lab Sample ID: PP1567

o-cresol	13
m-cresol	10 U
p-cresol	17
nitrobenzene	10 U
phenol	10 U
pyridine	100 U
cresylic acid	30 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/12/90
Date of Analysis: 11/16/90

Client Project ID: NAS JAX

Job Number: ITCY 47063

SEMIVOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 41-5
Lab Sample ID: PP1568

o-cresol	10 U
m-cresol	10 U
p-cresol	10 U
nitrobenzene	10 U
phenol	10 U
pyridine	100 U
cresylic acid	10 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/12/90
Date of Analysis: 11/16/90

IT Corporation
January 15, 1991

Client Project ID: NAS JAX

Job Number: ITCY 47063

SEMIVOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 41-7
Lab Sample ID: PP1569

o-cresol	10 U
m-cresol	10 U
p-cresol	10 U
nitrobenzene	10 U
phenol	10 U
pyridine	100 U
cresylic acid	10 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/12/90
Date of Analysis: 11/16/90

Client Project ID: NAS JAX

Job Number: ITCY 47063

SEMIVOLATILE ORGANIC ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID: 41-8
Lab Sample ID: PP1570

o-cresol	10 U
m-cresol	10 U
p-cresol	10 U
nitrobenzene	10 U
phenol	10 U
pyridine	100 U
cresylic acid	10 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/12/90
Date of Analysis: 11/16/90

WATER SURROGATE PERCENT RECOVERY SUMMARY

Sample No.	SEMI-VOLATILE					
	Nitro-Benzene-D5 (35-114%)*	2-Fluoro-Biphenyl (43-116%)*	Terphenyl-D14 (33-141%)*	Phenol-D5 (10-94%)*	2-Fluoro-Phenol (21-100%)*	2,4,6-Tribromo-Phenol (10-123%)*
41-1	80	78	88	32	46	90
41-2	80	73	87	27	41	80
41-3	91	79	98	38	57	87
41-4	84	79	61	25	39	54
41-5	95	86	102	31	48	87
41-7	81	71	101	30	45	84
41-8	92	81	104	30	50	94
Method Blank	98	81	105	31	56	88

* - Values in parenthesis represent USEPA contract required QC limits.

IT Corporation
 January 15, 1991

Client Project ID: NAS JAX

Job Number: ITCY 47063

PESTICIDE AND HERBICIDE ANALYSIS

Results in µg/liter (ppb)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank <u>BLA1954/BLA1970</u>	41-1 <u>PP1564</u>	41-2 <u>PP1565</u>	41-3 <u>PP1566</u>
endrin	0.1 U	0.1 U	0.1 U	0.1 U
lindane	0.1 U	0.1 U	0.1 U	0.1 U
methoxychlor	0.2 U	0.2 U	0.2 U	0.2 U
toxaphene	0.8 U	0.8 U	0.8 U	0.8 U
2,4-D	0.2 U	0.2 U	0.2 U	0.2 U
2,4,5-TP Silvex	0.1 U	0.1 U	0.1 U	0.1 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/09/90 (Pesticides) 11/12/90 (Herbicides)

Date of Analysis: 11/20 and 21/90

Client Project ID: NAS JAX

Job Number: ITCY 47063

PESTICIDE AND HERBICIDE ANALYSIS

Results in $\mu\text{g/liter}$ (ppb)

Sample Matrix: Water

Client Sample ID:	41-4	41-5	41-7	41-8
Lab Sample ID:	<u>PP1567</u>	<u>PP1568</u>	<u>PP1569</u>	<u>PP1570</u>
endrin	0.1 U	0.1 U	0.1 U	0.1 U
lindane	0.1 U	0.1 U	0.1 U	0.1 U
methoxychlor	0.2 U	0.2 U	0.2 U	0.2 U
toxaphene	0.8 U	0.8 U	0.8 U	0.8 U
2,4-D	0.2 U	0.2 U	0.2 U	0.2 U
2,4,5-TP Silvex	0.1 U	0.1 U	0.1 U	0.1 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

J - Indicates an estimated value less than the detection limit.

Date of Extraction: 11/09/90 (Pesticides) 11/12/90 (Herbicides)

Date of Analysis: 11/20 and 21/90

IT Corporation
January 22, 1991

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JAN 23 1991

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

I.T. CORPORATION
TAMPA, FLORIDA

Job Number: ITCY 47063
(Corrected Certificate)

METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank <u>PBWC3781/C3786</u>	41-1 <u>PP1550</u>	41-2 <u>PP1551</u>	41-3 <u>PP1552</u>
arsenic	0.002 U	0.005	0.004	0.006
barium	0.002 U	0.12	0.058	0.33
cadmium	0.005 U	0.005 U	0.005 U	0.005 U
chromium	0.01 U	0.01	0.02	0.05
copper	0.01 U	0.02	0.01	0.02
iron	0.01 U	58.1	6.8	13.2
lead	0.002 U	0.002 U	0.005	0.022
manganese	0.002 U	0.52	0.075	0.54
nickel	0.02 U	0.03	0.02 U	0.05
selenium	0.002 U	0.002 U	0.008 U*	0.008 U*
silver	0.005 U	0.005 U	0.005 U	0.005 U
sodium	0.2 U	53.7	18.1	118
vanadium	0.01 U	0.01	0.01 U	0.06
zinc	0.006	0.047	0.054	0.075
mercury	NR	0.001 U	0.001 U	0.001 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

* - Detection limit higher than normal due to sample matrix interferences.

NR - Not required

Date of Digestion: 11/16/90

Date of Analysis: 11/20/90 (ICP), 11/12/90 (CVAA), 11/19-20/90 (GFAA)

Client Project ID: NAS JAX

Job Number: ITCY 47063

METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID:	41-4	41-5	41-7	41-8
Lab Sample ID:	<u>PP1553</u>	<u>PP1554</u>	<u>PP1555</u>	<u>PP1556</u>
arsenic	0.034	0.004	0.002	0.002 U
barium	0.20	0.11	0.053	0.002 U
cadmium	0.005 U	0.005 U	0.005 U	0.005 U
chromium	0.11	0.02	0.01	0.01 U
copper	0.01 U	0.01 U	0.01 U	0.01 U
iron	4.2	21.2	4.9	0.06
lead	0.017	0.002 U	0.003	0.002 U
manganese	0.037	0.064	0.065	0.002 U
nickel	0.20	0.03	0.02 U	0.02 U
selenium	0.010 U*	0.002 U	0.002 U	0.002 U
silver	0.005 U	0.005 U	0.005 U	0.005 U
sodium	985	193	18.1	0.2 U
vanadium	0.50	0.04	0.01 U	0.01 U
zinc	0.030	0.016	0.034	0.012
mercury	0.001	0.001 U	0.001 U	0.001 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

* - Detection limit higher than normal due to sample matrix interferences.

Date of Digestion: 11/16/90

Date of Analysis: 11/20/90 (ICP), 11/12/90 (CVAA), 11/19-20/90 (GFAA)

Client Project ID: NAS JAX

Job Number: ITCY 47063

TURBIDITY ANALYSIS

Results in NTU's

Sample Matrix: Water

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Result</u>
Method Blank	P1718	0.2
41-1	PP1529	47
41-2	PP1530	93
41-3	PP1531	690
41-4	PP1532	8.8
41-5	PP1533	415
41-7	PP1534	63
41-8	PP1535	0.5

Date of Analysis: 11/08/90

CLASSICAL PARAMETERS ANALYSIS

Result in mg/liter (ppm)

Sample Matrix: Water

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Chloride</u>	<u>Fluoride</u>	<u>Sulfate</u>
Method Blank	-	0.50	0.10 U	10 U
41-1	PP1529	96	0.11	470
41-2	PP1530	23	0.10 U	10 U
41-3	PP1531	69	0.10 U	210
41-4	PP1532	190	2.1	120 U*
41-5	PP1533	120	0.12	81
41-7	PP1534	24	0.10 U	10 U
41-8	PP1535	0.50	0.10 U	10 U
Date of Analysis:		11/26/90	12/01/90	12/04/90

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

* - Elevated detection limit due to sample turbidity.

Client Project ID: NAS JAX

Job Number: ITCY 47063

NITRATE, AS N, ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Result</u>
Method Blank	P1789	0.05 U
41-1	PP1522	0.05 U
41-2	PP1523	0.05 U
41-3	PP1524	1.4
41-4	PP1525	0.50 U*
41-5	PP1526	0.05 U
41-7	PP1527	0.08
41-8	PP1528	0.21

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

* - Elevated detection limit due to sample turbidity.

Date of Analysis: 11/28/90

TOTAL COLIFORM ANALYSIS
Results in colonies/100 ml
Sample Matrix: Water

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Result</u>
Method Blank	P1714	0
41-1	PP1515	0
41-2	PP1516	10 U*
41-3	PP1517	50 U*
41-4	PP1518	100 U*
41-5	PP1519	50 U*
41-7	PP1520	25
41-8	PP1521	0

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

* - Dilutions necessary due to sample turbidity.

Date of Analysis: 11/07/90

Client Project ID: NAS JAX

Job Number: ITCY 47063

CYANIDE ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Result</u>
Method Blank	P1739	0.01 U
41-1	PP1543	0.01 U
41-2	PP1544	0.01 U
41-3	PP1545	0.01 U
41-4	PP1546	0.01 U
41-5	PP1547	0.01 U
41-7	PP1548	0.01 U
41-8	PP1549	0.01 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

Date of Analysis: 11/14/90

Client Project ID: NAS JAX

Job Number: ITCY 47063

HEXAVALENT CHROMIUM ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Result</u>
Method Blank	P1709	0.02 U
41-1	PP1550	0.02 U
41-2	PP1551	0.02 U
41-3	PP1552	0.02 U
41-4	PP1553	0.25 U*
41-5	PP1554	0.05 U*
41-7	PP1555	0.02 U
41-8	PP1556	0.02 U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

* - Elevated detection limit due to sample turbidity.

Date of Analysis: 11/07/90