



INTERNATIONAL
TECHNOLOGY
CORPORATION

RESPONSIVE TO THE NEEDS OF ENVIRONMENTAL MANAGEMENT

JUN 89, JUL 89, AUG 89
QUARTER 1989
COMPLIANCE MONITORING REPORT
FOR THE ISDBs
NAVAL AIR STATION
JACKSONVILLE, FLORIDA

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FOR THE ISDBs
NAVAL AIR STATION
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PREPARED FOR

NAVAL FACILITIES ENGINEERING COMMAND
SOUTHERN DIVISION
CHARLESTON, SOUTH CAROLINA

PREPARED BY

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1.0 INTRODUCTION

IT Corporation (IT) has conducted Quarterly Compliance Monitoring at the Naval Air Station, Jacksonville (NAS-Jax). Specifically, monitoring wells at the Industrial Sludge Drying Beds (ISDB's) were sampled in accordance with the statement of work for Navy Contract N62467-88-C-0181. Presented in this report is a description of the sampling event conducted in July 1989 and a summary of the data obtained from the compliance monitoring.

2.0 GROUNDWATER SAMPLE COLLECTION

On July 17 through July 24, 1989, ground water samples were collected from 25 monitoring wells (Figures 1 and 2) at the ISDBs. Monitoring Well 4-9 is designated as the upgradient well (Figure 2). In addition three quality assurance samples (1-sample duplicate, 1-field blank, 1-trip blank) were collected. Sample collection was performed in accordance with IT's site specific Quality Assurance Project Plan (QAPP). All samples were analyzed for the list of parameters established in NAS-JAX Operation Permit No. H016-119108, Specific Condition 48. Analytical methods used were performed in accordance with Specific Condition 50 of the permit. Water level measurements were obtained from all wells (Table 1).

2.1 FILTERING FOR DISSOLVED METALS

The ISDBs operations permit (#H016-119108, Dated October 10, 1988) does not require the analysis for dissolved metal concentrations; however, IT's scope of work required the field filtering of groundwater samples to determine dissolved metal concentrations.

Because of the difficulty experienced in field filtering caused by excessive turbidity of samples, IT performed the following actions. Monitoring Wells 4-18, 4-18D, 4-20D, 4-20, 4-17, 4-17D, 4-19, 4-15, 4-13D, 4-12D, 4-4, 4-5, 4-10, and 4-11 were purged and allowed to stand at least 24 hours to allow sediment to settle out prior to sampling for dissolved metals. All other sample parameters were collected immediately after purging. Sediment in Monitoring

Wells 4-9, 4-13, and 4-16 did not settle out enough after 24 hours to allow for field filtering and these dissolved metals samples were sent to the laboratory unpreserved and unfiltered. The laboratory filtered and preserved the samples upon arrival.

3.0 SUMMARY OF WATER QUALITY DATA

All groundwater and quality assurance samples were analyzed by IT Analytical Services (ITAS) Middlebrook laboratory in Knoxville, Tennessee. The following field records were kept and are included in the following appendices:

- Field Activity Daily Logs (Appendix A)
- Sample Collection Logs (Appendix B)
- Field Equipment Calibration Records (Appendix C)
- Chain of Custody/Request for Analysis Records (Appendix D)

The analytical results are summarized in Table 2 and the Certificates of Analysis are in Appendix E.

3.1 ANALYTICAL RESULTS

Condition 56 of the permit establishes the Ground Water Protection Standards (GWPS) in accordance with 40 CFR 264.94 for constituents detected in the ground water sampled from the monitoring wells. The GWPS list in Table 2 reflects changes based on this analyses performed in July 1989.

Analytical results of ground water samples from upgradient Monitoring Well 4-9 are used to establish the GWPS background levels for the parameters of F006, FAC 17-4.246, 17-28.700 (Table 2). Background ground water quality levels for the drinking water supply parameters and zinc are set by the permit (Table 2). The background levels are defined by Specific Condition 54 of the permit to be the mean of each GWPS constituent determined in the four most recent sampling events of Monitoring Well 4-9.

To determine if the GWPS has been exceeded, the value of each GWPS constituent detected from the downgradient monitoring wells ground water was compared to that specific constituent's background ground water quality level. All GWPS constituents analyzed during the last four quarters in samples from Monitoring Well 4-9 (with the exception of sulfide and zinc) have been below analytical method detection limits. Therefore, for comparative purposes, the constituent levels detected in the downgradient monitoring wells greater than the method detection limits have exceeded the GWPS.

Inorganics (cadmium, chromium, nickel, barium, lead, mercury, zinc, cyanide, and vanadium) were detected above GWPS in varying concentrations in all wells except 4-13D and 4-21D. Organic compounds (phenol, o-cresol, 1,1,1-trichloroethane and methylene chloride) were detected in varying concentrations above the GWPS in Wells 4-4, 4-5, 4-10, 4-11, 4-15, 4-16, 4-20.

Table 1
 Ground Water Elevations
 ISDBs Monitoring Wells
 NAS, Jacksonville, Florida
 Project No. 453058

<u>Well No.</u>	<u>Top of Casing Elevation (ft) MSL¹</u>	<u>G.W. Levels Measured From TOC²</u>	<u>G.W. Elevations (ft) MSL</u>
4-4	21.28	7.35	13.93
4-5	20.62	6.55	14.07
4-9	23.52	9.99	13.53
4-10	20.75	6.78	13.97
4-11	20.63	6.69	13.94
4-12D	20.94	7.35	13.59
4-13	20.59	6.30	14.29
4-13D	20.70	6.55	14.15
4-14	20.57	6.23	14.34
4-15	20.46	6.80	13.66
4-16	20.69	6.25	14.44
4-17	20.93	7.63	13.30
4-17D	21.00	7.75	13.25
4-18	20.74	7.62	13.12
4-18D	20.76	7.80	12.96
4-19	20.29	7.05	13.24
4-19D	20.52	7.35	13.17
4-20	20.81	7.25	13.56
4-20D	20.67	7.17	13.50
4-21	20.45	7.15	13.30
4-21D	19.95	6.67	13.28
4-22	20.68	6.90	13.78
4-22D	20.59	6.88	13.71
4-23	20.66	6.90	13.76
4-23D	20.75	7.01	13.74

¹ Mean Sea Level

² TOC-Top of Casing

Table 2
 Summary
 Ground Water Sampling Analytical Results
 Industrial Sludge Drying Beds
 Naval Air Station
 Jacksonville, Florida
 Project No. 453058

Parameters	Permit Standards ²	Analytical Method Detection Limits	Background 4-9	MONITORING WELLS												
				4-4	4-5	4-10	4-11	4-12D	4-13	4-13D	4-14	4-15	Duplicate of 4-15	4-16	4-17	4-17D
<u>Indicator Parameters (40 CFR 264.98(a))</u>																
pH (Field)	6.5-8.5 ¹	NA	6.25	3.35	5.60	4.65	3.95	5.85	5.05	5.95	6.30	4.75	NA	8.80	4.95	7.85
Specific Conductance (Field) (umho/cm)	NA	NA	270	1850	1675	950	1100	180	150	170	360	600	NA	2650	50	230
Total Organic Carbon (mg/l)	NA	1	16	21	46	23	35	4	9	<1	<1	32	34	320	8	5
Total Organic Halogen (mg/l)	NA	.01	0.053	0.276	0.185	0.185	0.170	0.076	0.061	0.014	0.038	<0.010	0.069	0.123	0.031	0.016
<u>F006 Parameters (40 CFR 261 Appendix VII)</u>																
Cadmium (mg/l)	.005	.005	0.012	0.029	0.26	<0.005	<0.005	0.014	0.011	<0.005	<0.005	<0.005	0.011	<0.05 ³	<0.005	0.040
Cadmium, Dissolved (mg/l)	NA	.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.55	0.40	0.23	0.017
Chromium, Hexavalent (mg/l)	.02	.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chromium, Hexavalent Dissolved (mg/l)	NA	.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cyanide, Complexed (mg/l)	.01	.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel (mg/l)	.02	.02	<0.02	<0.15	1.2	0.21	1.9	<0.02	0.02	<0.02	<0.02	0.90	1.1	0.30	0.02	0.04
Nickel, Dissolved (mg/l)	NA	.02	<0.02	0.11	0.21	0.23	1.7	<0.02	<0.02	<0.02	<0.02	0.28	0.26	<0.02	<0.02	<0.02

¹ Florida Drinking Water Standard

² Background as defined by Specific Condition 54 of the Hazardous Waste Operation Permit for surface impoundment and a hazardous waste storage unit issued October 10, 1988.

³ Background is mean of last four sampling events of Well 4-9.

⁴ Elevated detection limits due to aluminum influences

⁴ Variances in detection limits are due to dilution factors.

NA - Not Applicable

BDL- Below Detection Limits

Table 2 (continued)
 Summary
 Ground Water Sampling Analytical Results
 Industrial Sludge Drying Beds
 Naval Air Station
 Jacksonville, Florida
 Project No. 453058

Parameters	Permit Standards ²	Analytical Method Detection Limits	Background 4-9	MONITORING WELLS											Duplicate of 4-15	4-16	4-17	4-17D
				4-4	4-5	4-10	4-11	4-12D	4-13	4-13D	4-14	4-15						
<u>Drinking Water Supply Parameters (40 CFR 264.94)</u>																		
Arsenic (mg/l)	0.05	.03	<0.03	<0.03	<0.03	<0.04	<0.03	<0.04	<0.03	<0.03	<0.03	<0.04	<0.04	<.3 ³	<0.04	<0.04		
Arsenic, Dissolved (mg/l)	NA	.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03		
Barium (mg/l)	1.0	.005	0.088	0.20	0.041	0.13	0.14	0.12	0.61	0.059	0.11	<0.2	0.32	2.8	0.34	0.30		
Barium, Dissolved (mg/l)	NA	.005	0.050	0.13	0.041	0.13	0.040	0.064	0.090	0.064	0.044	0.057	0.052	0.060	0.050	0.023		
Chromium, (mg/l)	0.05	.01	0.02	0.09	0.08	0.02	0.05	0.034	0.12	<0.01	0.06	0.09	0.12	1.2	<0.12	0.14		
Chromium, Dissolved (mg/l)	NA	.02	0.02	0.02	0.02	<.01	.02	<.01	<.01	.05	<.01	<.01	<.01	.07	<.01	<.01		
Lead (mg/l)	0.05	.002	0.04	0.10	0.07	<0.03	0.05	<0.03	0.06	<0.03	0.04	0.07	0.09	1.2	0.09	0.05		
Lead, Dissolved (mg/l)	NA	.002	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	<0.03	0.04	<0.03	<0.03		
Mercury (mg/l)	0.002	.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.005	<0.001	<0.001		
Mercury, Dissolved (mg/l)	NA	.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
Selenium (mg/l)	0.01	.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06 ³	<0.06	<0.06		
Selenium, Dissolved (mg/l)	NA	.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06		
Silver (mg/l)	0.05	.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
Silver, Dissolved (mg/l)	NA	.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		

¹ Florida Drinking Water Standard

² Background as defined by Specific Condition 54 of the Hazardous Waste Operation Permit for surface impoundment and a hazardous waste storage unit issued October 10, 1988.

³ Background is mean of last four sampling events of Well 4-9.

⁴ Elevated detection limits due to aluminum influences

⁵ Variances in detection limits are due to dilution factors.

NA - Not Applicable

BDL- Below Detection Limits

Table 2 (continued)
Summary
Ground Water Sampling Analytical Results
Industrial Sludge Drying Beds
Naval Air Station
Jacksonville, Florida
Project No. 453058

Parameters	Permit Standards ²	Analytical Method Detection Limits	Background 4-9	MONITORING WELLS										Duplicate of		
				4-4	4-5	4-10	4-11	4-12D	4-13	4-13D	4-14	4-15	4-15	4-16	4-17	4-17D
<u>FAC Ch. 17-28.700 and 17-4.246 Parameters</u>																
Benzene (ug/l)	5	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride (ug/l)	5	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methylene Chloride (ug/l)	5	5	<5	52	<5	140	94	<5	<5	<5	<5	<5	<5	<5	<5	<5
o-Cresol (ug/l)	5	5 ⁴	<10	32	17	26	45	<10	<10	<10	<10	<40	<40	<10	<10	<10
Phenol (ug/l)	5	5 ⁴	<10	410	15	780	970	<10	<10	<10	<10	11	43	<10	<10	<10
Tetrachloroethene (ug/l)	5	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethene (ug/l)	5	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vanadium (mg/l)	.04	.01	0.07	0.26	0.18	0.22	0.59	0.03	0.09	<0.01	0.05	0.15	0.20	0.98	0.16	0.12
Vanadium, Dissolved (mg/l)	NA	.01	0.05	0.15	0.03	0.21	0.47	<0.01	0.01	<0.01	0.02	0.04	0.04	0.08	<0.01	<0.01
Vinyl Chloride (ug/l)	10	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Zinc (mg/l)	.02	.02	0.025	0.19	0.092	0.020	0.27	0.089	0.084	0.025	0.058	0.74	0.24	0.76	0.097	0.18
Zinc, Dissolved (mg/l)	NA	.02	0.051	0.17	0.005	0.017	0.057	0.081	0.006	0.041	0.036	0.044	0.081	0.12	0.076	0.011
1,2-dichloropropane (ug/l)	5	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-dichloroethane (ug/l)	5	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-trichloroethane (ug/l)	5	5	<5	<5	<5	7	<5	<5	<5	<5	<5	<5	<5	8	<5	<5
1,2,3-trichloropropane (ug/l)	5	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

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⁴ Elevated detection limits due to aluminum influences

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NA - Not Applicable

RDI - Below Detection Limits

Table 2 (continued)
 Summary
 Ground Water Sampling Analytical Results
 Industrial Sludge Drying Beds
 Naval Air Station
 Jacksonville, Florida
 Project No. 453058

Parameters	Permit Standards ²	Analytical Method Detection Limits	Background 4-9	MONITORING WELLS												
				4-4	4-5	4-10	4-11	4-12D	4-13	4-13D	4-14	4-15	Duplicate of 4-15	4-16	4-17	4-17D
<u>PESTICIDES (40 CFR 264.94)</u>																
Lindane	0.004 mg/l	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Endrin	0.002 mg/l	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Methoxychlor	0.1 mg/l	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Toxaphene	0.005 mg/l	0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
2-4,D	0.1 mg/l	0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Silvex	0.01 mg/l	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

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NA - Not Applicable

BDL - Below Detection Limits

Table 2 (continued)
 Summary
 Ground Water Sampling Analytical Results
 Industrial Sludge Drying Beds
 Naval Air Station
 Jacksonville, Florida
 Project No. 453058

Parameters	Permit Standards ²	Analytical Method Detection Limits	MONITORING WELLS												TRIP	
			4-18	4-18D	4-19	4-19D	4-20	4-20D	4-21	4-21D	4-22	4-22D	4-23	4-23D	RINSATE	BLANK
<u>Indicator Parameters (40 CFR 264.98(a))</u>																
pH (Field)	NA	NA	5.60	10.05	5.05	6.20	5.23	6.25	6.30	12.25	7.25	6.95	5.25	6.9	NA	NA
Specific Conductance (Field)(umho/cm)	NA	NA	95	290	50	220	310	180	50	1800	140	270	120	290	NA	NA
Total Organic Carbon (mg/L)	NA	1	13	13	3	15	10	11	4	2	13	5	4	2	<1	<1
Total Organic Halogen	NA	.01	0.040	0.051	<0.010	0.021	0.053	0.053	0.015	0.012	0.042	<0.01	.01965	.02365	<0.01	<0.01
<u>F006 Parameters (40 CFR 261 Appendix VII)</u>																
Cadmium (mg/l)	.005	.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.011	<0.005
Cadmium, Dissolved (mg/l)	NA	.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.66	0.011
Chromium, Hexavalent (mg/l)	.02	.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chromium, Hexavalent Dissolved (mg/l)	NA	.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cyanide, Complexed (mg/l)	.01	.01	0.05	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel (mg/l)	.02	.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel, Dissolved (mg/l)	NA	.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.02	<0.02	<0.02	<0.02

¹ Florida Drinking Water Standard

² Background as defined by Specific Condition 54 of the Hazardous Waste Operation Permit for surface impoundment and a hazardous waste storage unit issued October 10, 1988. Background is mean of last four sampling events of Well 4-9.

³ Elevated detection limits due to aluminum influences

⁴ Variances in detection limits are due to dilution factors.

NA - Not Applicable

BDL- Below Detection Limits

Table 2 (continued)
 Summary
 Ground Water Sampling Analytical Results
 Industrial Sludge Drying Beds
 Naval Air Station
 Jacksonville, Florida
 Project No. 453058

Parameters	Permit Standards ²	Analytical Method Detection Limits	MONITORING WELLS												TRIP		
			4-18	4-18D	4-19	4-19D	4-20	4-20D	4-21	4-21D	4-22	4-22D	4-23	4-23D	RINSATE	BLANK	
<u>Drinking Water Supply Parameters (40 CFR 264.94)</u>																	
Arsenic (mg/l)	.05	.03	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.04	<0.04	0.06	<0.03	<0.04
Arsenic, Dissolved (mg/l)	NA	.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.03	<0.04
Barium (mg/l)	1.0	.002	0.066	0.080	0.17	0.27	0.25	0.22	0.15	0.17	0.12	0.03	0.22	0.082	<0.002	<0.002	
Barium, Dissolved (mg/l)	NA	.002	0.038	0.12	0.036	0.038	0.14	0.050	0.052	0.15	0.070	0.028	0.11	0.046	<0.002	<0.002	
Chromium (mg/l)	.05	.01	0.02	0.05	0.03	0.11	0.06	0.08	0.05	0.02	0.02	0.01	0.10	0.02	0.02	<0.01	
Chromium, Dissolved (mg/l)	NA	.01	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01	<0.01	
Lead (mg/l)	.05	.03	0.03	0.04	0.03	0.09	0.06	0.06	0.05	<0.03	<0.03	<0.03	0.06	<0.03	<0.03	<0.03	
Lead, Dissolved (mg/l)	NA	.03	<0.03	<0.03	<0.03	<0.03	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	
Mercury (mg/l)	.002	.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Mercury, Dissolved (mg/l)	NA	.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Selenium (mg/l)	.01	.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	
Selenium, Dissolved (mg/l)	NA	.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	
Silver (mg/l)	.05	.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Silver, Dissolved (mg/l)	NA	.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	

¹ Florida Drinking Water Standard

² Background as defined by Specific Condition 54 of the Hazardous Waste Operation Permit for surface impoundment and a hazardous waste storage unit issued October 10, 1988.

³ Background is mean of last four sampling events of Well 4-9.

⁴ Elevated detection limits due to aluminum influences

⁴ Variances in detection limits are due to dilution factors.

NA - Not Applicable

BDL- Below Detection Limits

Table 2 (continued)
 Summary
 Ground Water Sampling Analytical Results
 Industrial Sludge Drying Beds
 Naval Air Station
 Jacksonville, Florida
 Project No. 453058

Parameters	Permit Standards ²	Analytical Method Detection Limits	MONITORING WELLS													TRIP RINSATE BLANK
			4-18	4-18D	4-19	4-19D	4-20	4-20D	4-21	4-21D	4-22	4-22D	4-23	4-23D		
<u>FAC Ch. 17-28.700 and 17-4.246 Parameters</u>																
Benzene (ug/l)	5	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride (ug/l)	5	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methylene Chloride (ug/l)	5	5	<5	<5	<5	<5	17	<5	<5	<5	<5	<5	<5	<5	<5	<5
o-Cresol (ug/l)	5	5 ⁴	<5	<5	<10	<10	19	<10	<10	<10	<10	<10	<10	<10	<10	<10
Phenol (ug/l)	5	5 ⁴	<5	<5	<10	<10	65	<10	<10	<10	<10	<10	<10	<10	<10	<10
Tetrachloroethene (ug/l)	5	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethene (ug/l)	5	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vanadium (mg/l)	.04	.01	0.02	0.09	0.04	0.17	0.12	0.13	0.05	0.02	0.03	0.03	0.07	0.03	<0.01	<0.01
Vanadium, Dissolved (mg/l)	NA	.01	<0.01	0.03	<0.01	<0.01	0.06	<0.01	<0.01	0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01
Vinyl Chloride (ug/l)	10	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Zinc (mg/l)	.02	.02	0.047	0.056	0.041	0.20	0.033	0.17	0.024	0.031	0.052	0.09	0.14	0.087	0.025	0.016
Zinc, Dissolved (mg/l)	NA	.02	0.042	0.033	0.037	0.015	0.012	0.042	0.051	<0.005	0.083	0.025	0.12	0.032	0.076	0.022
1,2-dichloropropane (ug/l)	5	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-dichloroethane (ug/l)	5	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-trichloroethane (ug/l)	5	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,3-trichloropropane (ug/l)	5	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

¹ Florida Drinking Water Standard

² Background as defined by Specific Condition 54 of the Hazardous Waste Operation Permit for surface impoundment and a hazardous waste storage unit issued October 10, 1988.

³ Background is mean of last four sampling events of Well 4-9.

⁴ Elevated detection limits due to aluminum influences

⁴ Variances in detection limits are due to dilution factors.

NA - Not Applicable

BDL- Below Detection Limits

Table 2 (continued)
 Summary
 Ground Water Sampling Analytical Results
 Industrial Sludge Drying Beds
 Naval Air Station
 Jacksonville, Florida
 Project No. 453058

Parameters	Permit Standards ²	Analytical Method Detection Limits	MONITORING WELLS													TRIP	
			4-18	4-18D	4-19	4-19D	4-20	4-20D	4-21	4-21D	4-22	4-22D	4-23	4-23D	RINSATE	BLANK	
<u>PESTICIDES (40 CFR 264.94)</u>																	
Lindane	0.004 mg/l	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Endrin	0.002 mg/l	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Methoxychlor	0.1 mg/l	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Toxaphene	0.005 mg/l	0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	
2-4,D	0.1 mg/l	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Silvex	0.01 mg/l	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	

453058\P1SUMTAB.SM3

¹ Florida Drinking Water Standard
² Background as defined by Specific Condition 54 of the Hazardous Waste Operation Permit for surface impoundment and a hazardous waste storage unit issued October 10, 1988.
³ Background is mean of last four sampling events of Well 4-9.
⁴ Elevated detection limits due to aluminum influences
⁵ Variances in detection limits are due to dilution factors.
 NA - Not Applicable
 BDL- Below Detection Limits

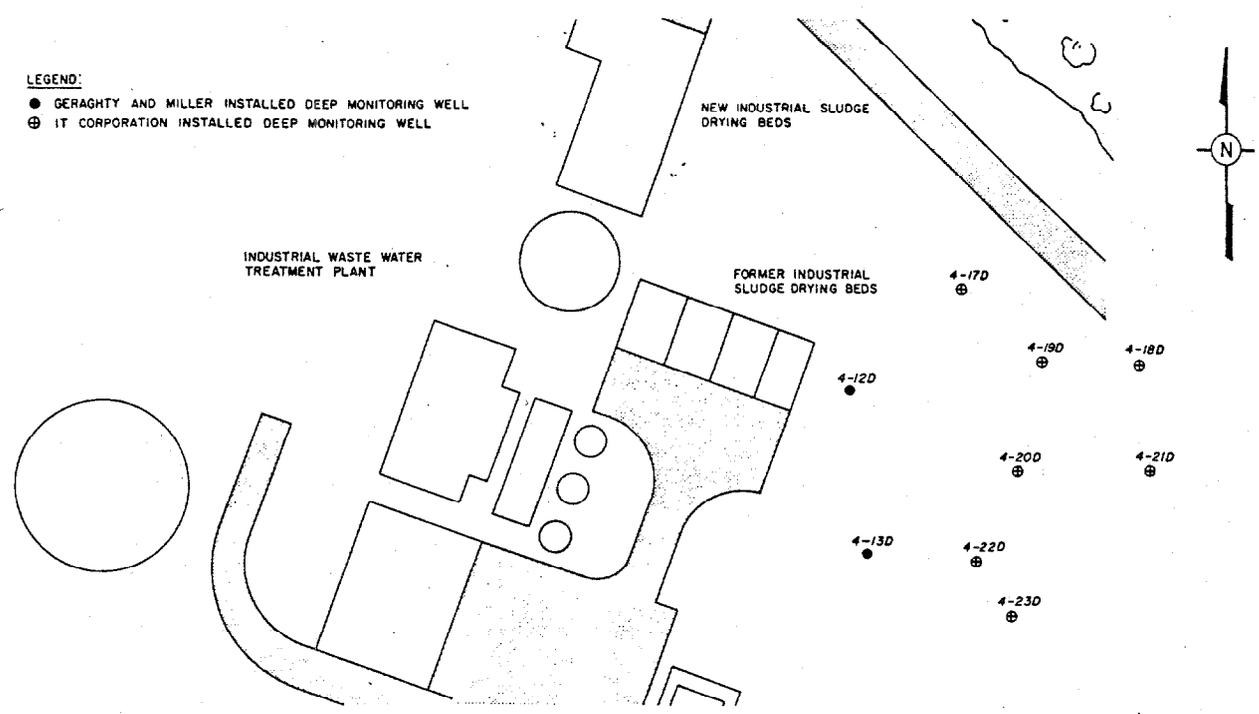


1

DRAWING NUMBER 45 3058-A1
 7-11-84
 7-14-84
 CHECKED BY [Signature]
 APPROVED BY [Signature]
 DRAWN BY [Signature]

LEGEND:

- GERAGHTY AND MILLER INSTALLED DEEP MONITORING WELL
- ⊕ IT CORPORATION INSTALLED DEEP MONITORING WELL



SOURCE OF BASE MAP
GERAGHTY & MILLER, INC

FIGURE 1
MONITORING WELL LOCATIONS
DEEP AQUIFER
ISDB's/NAS JACKSONVILLE
JACKSONVILLE, FLORIDA

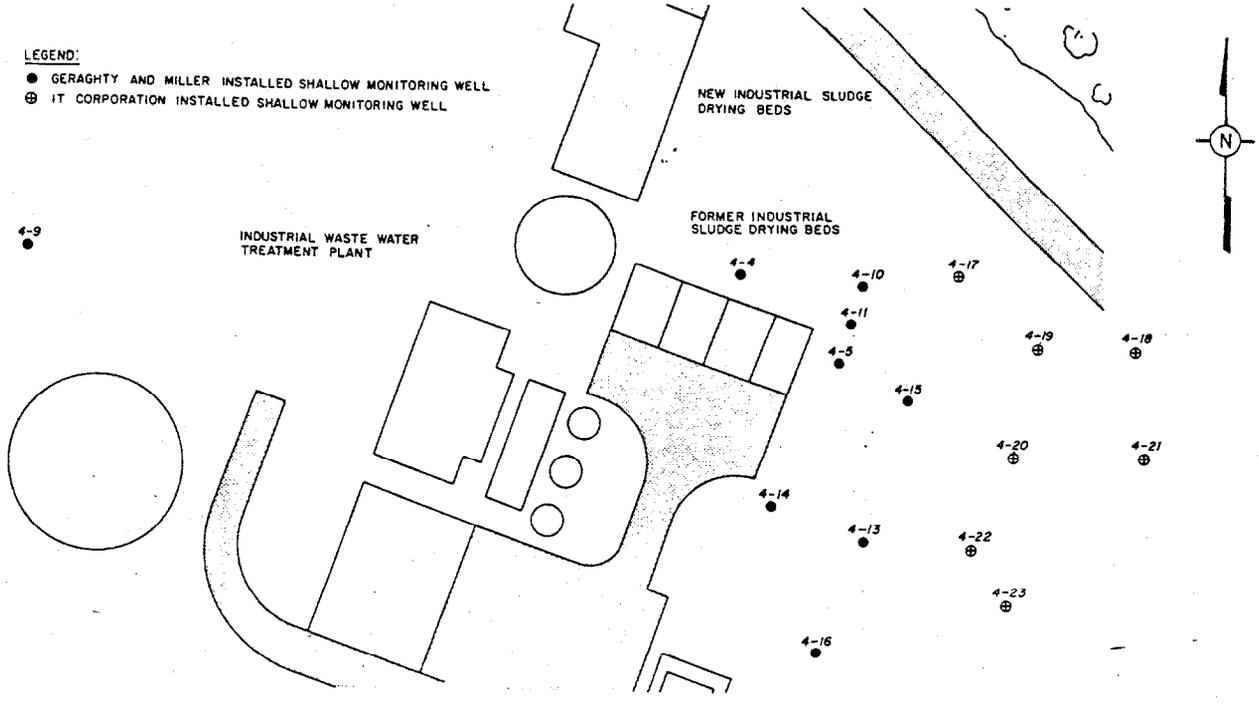
PREPARED FOR
NAVAL ENGINEERING COMMAND
SOUTHERN DIVISION



DRAWING NUMBER 453058-A2
 9-14-84
 6-11-84
 CHECKED BY [Signature]
 APPROVED BY [Signature]
 DRAWN BY [Signature]

LEGEND:

- GERAGHTY AND MILLER INSTALLED SHALLOW MONITORING WELL
- ⊕ IT CORPORATION INSTALLED SHALLOW MONITORING WELL



SOURCE OF BASE MAP
GERAGHTY & MILLER, INC

FIGURE 2
MONITORING WELL LOCATIONS
SHALLOW AQUIFER
ISDB's/NAS JACKSONVILLE
JACKSONVILLE, FLORIDA

PREPARED FOR
NAVAL ENGINEERING COMMAND
SOUTHERN DIVISION



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Do Not Scale This Drawing



APPENDIX A
FIELD ACTIVITY DAILY LOGS



FIELD ACTIVITY DAILY LOG

PROJECT NAME NAS JAX PROJECT NO. 453058

FIELD ACTIVITY SUBJECT: Ground Water Sampling

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

0700-0730 Pack Truck with Equipment-

0730-1100 Travel from Tampa to NAS

1100-1230 get passes - passes not ready had to get paperwork from PW - Took about 30mins longer than anticipated - had to get a Flight Line pass for vehicle - 20 min.

called IT 1230-1300 - move into Hotel room collect up coolers

1300-1500 - inventory coolers - begin labeling

3 Phenol ^{bottle} and 1 Pesticide (blank) bottle broken -

1500-1700 Label bottle - Get Dean Supplies

1700-1800 Dinner

1800-2000 Label bottle

2000-2100 due paperwork (Fed Ex - Chain of Custody and Request for Analysis forms)

VISITORS ON SITE: <u>NA</u>	CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS. <u>NA</u>
--------------------------------	---

WEATHER CONDITIONS: <u>Hot Sunny</u>	IMPORTANT TELEPHONE CALLS: <u>NA</u>
---	---

IT PERSONNEL ON SITE: Mike Jours Mike Lasko

SIGNATURE MJ Jours DATE: 5/18/89



FIELD ACTIVITY DAILY LOG

PROJECT NAME	NAS JAX	PROJECT NO.	453058
FIELD ACTIVITY SUBJECT: Ground water Sample			
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:			
7:00 - 7:15	Load truck		
7:15 - 7:30	Transit		
7:30 - 8:00	Setup decon area / sampling stations / Tailgate soft		
8:00 - 10:30	Sample 4-230		
10:30 - 13:00	sample 4-23 - 20 min intercept by Rain.		
13:00 - 15:15	sample 4-220 - called office - 40 min Delay by Rain		
15:15 - 16:45	sampled 4-22		
16:45 - 17:00	Clean up to go East		
17:00 - 18:00	East		
18:00 - 20:00 20:30	Pick-up supplies - package & ice samples - Deliver to Fed Ex		
VISITORS ON SITE:		CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS.	
NA		NA	
WEATHER CONDITIONS:		IMPORTANT TELEPHONE CALLS:	
Hot Sunny		NA	
IT PERSONNEL ON SITE: Mike Jones, Mike Laska			
SIGNATURE			DATE: 5/19/89



FIELD ACTIVITY DAILY LOG

PROJECT NAME NAS JAX PROJECT NO. 453058

FIELD ACTIVITY SUBJECT: Ground water Sampling

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

700 - 730 Load Truck - drive to NAS
 730 - 930 ^{at} Begin Sampling well 2A, set-up decor, equip, preservation areas, fill out daily paperwork
 930 - 1130 Sample Well 2A-D
 1130 - 1300 Sample wells 2D & 200 - Dissolved metals not taken
 1200 - 1330 Cleanup and prepare sample for shipment
 1330 - 1430 Lunch
 1430 - 1530 pickup more sampling materials
 1530 - 1600 decision made by Mark Hampton to not filter metals samples until after wells had set over night to let wells stabilize.
 1600 - 1640 waited out rain storm
 1640 - 1900 Sampled wells 18 & 180
 1900 - 2030 Packaged samples - fresh blue ice put in coolers

VISITORS ON SITE:

NONE

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

Filtred metal sample will be taken next day after turbid waters have a chance to settle.

WEATHER CONDITIONS:

Sunny

IMPORTANT TELEPHONE CALLS:

Mark Hampton

IT PERSONNEL ON SITE: Mike Jones, Mike Lasko

SIGNATURE

[Signature]

DATE: 5/25/89



FIELD ACTIVITY DAILY LOG

PROJECT NAME NAS JAY		PROJECT NO. 453058
FIELD ACTIVITY SUBJECT: Groundwater Sampling		
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:		
0700 - 0730	Loaded truck drive to NTS	
0730 - 0800	Tail safety MTC - setup area	
0800 - 0930	Sample well 4-190 and dissolved metals on well 4-200	
0930 - 1130	sampled well 4-19 and recovered ^{baiter} and rebailed (3w ³) from Well 4-20	
1130 - 1230	lunch MTC	
1230 - 1430	Sampled well 4-170 and collected dissolved metals on well 4-180 4-180	
1430 - 1530	Lunch	
1530 - 2000	Sampled 4-12, 4-15 and split 4-15 well 4-12 was a 4" well.	
2000 - 2200	packaged samples and completed paper work. Unable to make Fed Ex id time to ship sample out	
VISITORS ON SITE:		CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS.
NONE		missed Federal Express shipment due to long time on well 4-12
WEATHER CONDITIONS:		IMPORTANT TELEPHONE CALLS:
Hot, Sunny		NONE
IT PERSONNEL ON SITE:		DATE:
Mike Jones / Mike Laska		7/21/89
SIGNATURE <i>MJ Jones</i>		



FIELD ACTIVITY DAILY LOG

PROJECT NAME NAS-3AY PROJECT NO. 453058

FIELD ACTIVITY SUBJECT: Ground Water Sampling

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

0900-1000	Moved to site, Tail gate safety MTO, and set up sampling station
1000-1230	Sampled wells 4-16, 4-14, 4-10
1230-1600	Sampled wells 4-11, 4-5 and 4-4
1600-1700	Lunch
1700-2000	Sampled wells 4-13D, 4-13, 4-9
2000-2200	iced and packaged samples and prepared paperwork.

VISITORS ON SITE: <u>NONE</u>	CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS. <u>NONE</u>
----------------------------------	---

WEATHER CONDITIONS: <u>Hot / Sunny</u>	IMPORTANT TELEPHONE CALLS: <u>NONE</u>
---	---

IT PERSONNEL ON SITE: Mike Jones / Mike Lasko

SIGNATURE [Signature] DATE: 7/22/89



FIELD ACTIVITY DAILY LOG

PROJECT NAME WAS-JAV PROJECT NO. 453058

FIELD ACTIVITY SUBJECT: Ground water Sampling

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

1000 - 1100 Repack coolers with ice - load truck
go to base - Tail gate safety mtr

1100 - 1130³ setup dicon equipment

1130 - 1150 Sample 4-19, 4-20

1150 - 1240 Dicon start 4-19D, 4-15, 4-D

1240 - 1300 Delayed due to Rain

1300 - 1440 Moved to inside TERTP completed
4-15, 4-D, 4-19D

1440 - 1500⁵⁰ begin Dicon, 4-16 (very brown), ~~4-19D~~ mtr
called Robert on 4-16 and got
permission to send turbid samples
to lab for filtering

1500 - 2100 collected filtered samples from
wells 4-5, 4-4, 4-11, 4-10, 4-12
4-13D, 4-9, 4-17, 4-17D

2100 - 0200 packaged samples - re-iced - filled out
paperwork.

VISITORS ON SITE:

NONE

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

under able to Filter samples 4-16,
4-13, & 4-9

WEATHER CONDITIONS:

Hot Sunny

IMPORTANT TELEPHONE CALLS:

Informed Robert Stephens of problems
and received OK to send samples to
lab for filtering

IT PERSONNEL ON SITE: Mike Jones / Mkh. Lasko

SIGNATURE

MJ

DATE: 7/23/89



DAILY LOG	DATE	7	24	89
	NO.			7
	SHEET	1 OF 1		

FIELD ACTIVITY DAILY LOG

PROJECT NAME	NAS-JAX	PROJECT NO.	453058
FIELD ACTIVITY SUBJECT: Ground Water Sampling			
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:			
0700-0900 repackaged samples and packed with blue ice and ice-			
0900-0930 prepared for Fed Ex and moved to Holiday Inn main office for Fed Ex pickups.			
0930-1230- Truck ^{Truck} in for repairs - bad beltting			
1230-1700 Travel to Tampa with 30min for lunch stop.			
1700-1730 unload at Tampa			
VISITORS ON SITE:		CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS.	
NONE		NONE	
WEATHER CONDITIONS:		IMPORTANT TELEPHONE CALLS:	
Hot / Sunny		NONE	
IT PERSONNEL ON SITE:		DATE:	
Mike Lasko / Mike Jones		7/24/89	
SIGNATURE			

APPENDIX B
SAMPLE COLLECTION LOGS

SAMPLE COLLECTION LOG

PROJECT NAME NAS JAY

SAMPLE NO. 4-23 D - 7/89

SAMPLE LOCATION Well 4-23 D

SAMPLE TYPE water

COMPOSITE YES NO

COMPOSITE TYPE —

DEPTH OF SAMPLE —

WEATHER Sunny windy warm

CONTAINERS USED	AMOUNT COLLECTED
12 Amber (5)	Full
50ml Amber	"
40ml Vial (4)	"
12 Plastic (2)	"

COMMENTS:	WV = (.1705) (27.92) = 4.78 gal				
	PH	SC	T	OFF	
2	6.7	300	76°		
3	6.8	360	74°		
4	6.9	290	78°		
Water level reading 7.01'					
TOX Preserved with 50 drops H ₂ SO ₄ PH < 2					
Metals Preserved with 100 drops HNO ₃ (Total Dissolved) PH < 2					
CU Preserved with 100 drops NaOH PH > 12					
SAMPLE APPEARED TO BE SLIGHTLY TURBID WITH A GRAYISH TINT. ALSO, A RAPID RECHARGE WAS NOTICED.					

PREPARED BY: MDJ

COMMENTS:
(Continued)

N/A

DATE					
TIME					
PAGE	2	OF	8		
PAGE					2
PROJECT NO.					

PREPARED BY: *[Signature]*

LEGEND

1. A SAMPLE COLLECTION LOG IS TO BE COMPLETED FOR EACH SAMPLE.
2. ALWAYS COMPLETE BOTH SIDES. IF SECOND SIDE IS NOT USED, DRAW A LINE THROUGH IT AND MARK N/A. FILL IN CONTROL BLOCK AND PREPARED BY.
3. ALL ENTRIES ON LOG ARE TO BE COMPLETED. IF NOT APPLICABLE MARK N/A.
4. DATE: USE MONTH/DAY/YEAR: I.E., 10/30/85
5. TIME: USE 24-HOUR CLOCK; I.E., 1835 FOR 6:35 P.M.
6. PAGE: EACH SAMPLE TEAM SHOULD NUMBER PAGE _____ OF _____ FOR THE DAY'S ACTIVITIES FOR ALL SHEETS PREPARED ON A SINGLE DAY. I.E., IF THERE ARE A TOTAL OF 24 PAGES (INCLUDING FRONT AND BACK) NUMBER 1 OF 24, 2 OF 24, ETC.
7. SAMPLE LOCATION: USE BORING OR MONITORING WELL NUMBER, GRID LOCATION (TRANSECT), SAMPLING STATION I.D., OR COORDINATE TO PHYSICAL FEATURES WITH DISTANCES. INCLUDE SKETCH IN COMMENT SECTION IF NECESSARY.
8. SAMPLE TYPE: USE THE FOLLOWING - SOIL; WATER (SURFACE OR GROUND); AIR (FILTERS, TUBES, AMBIENT, PERSONNEL); SLUDGE; DRUM CONTENTS: OIL; VEGETATION; WIPE; SEDIMENT.
9. COMPOSITE TYPE: I.E., 24-HOUR, LIST SAMPLE NUMBERS IN COMPOSITE, SPATIAL COMPOSITE.
10. DEPTH OF SAMPLE: GIVE UNITS, WRITE OUT UNITS SUCH AS INCHES, FEET. DON'T USE ' OR ''.
11. WEATHER: APPROXIMATE TEMPERATURE, SUN AND MOISTURE CONDITIONS.
12. CONTAINERS USED: LIST EACH CONTAINER TYPE AS NUMBER, VOLUME, MATERIAL (E.G., 2 - 1L GLASS; 4 - 40 ML GLASS VIAL; 1 - 400 ML PLASTIC; 1 - 3 INCH STEEL TUBE; 1 - 8 OZ. GLASS JAR).
13. AMOUNT COLLECTED: VOLUME IN CONTAINERS (E.G. 1/2 FULL).

SAMPLE COLLECTION LOG

PROJECT NAME NAS JAX
 SAMPLE NO. 4-23-7/89
 SAMPLE LOCATION Well 4-23
 SAMPLE TYPE water
 COMPOSITE YES NO
 COMPOSITE TYPE —
 DEPTH OF SAMPLE —
 WEATHER Sunny Warm

CONTAINERS USED	AMOUNT COLLECTED
1L AMBER(5)	FULL
500ml AMBER(1)	L
40ml Vial (4)	
1L Plastic(3)	

COMMENTS: Water level = 6.90'
well Vol = (1.1705 gal/ft) (7.1') = 1.21 gal

WU	PH	SC	T ^o F
<u>2</u>	<u>5.15</u>	<u>120</u>	<u>78°F</u>
<u>3</u>	<u>5.25</u>	<u>120</u>	<u>79°F</u>

TOX preserved with 50 ^{drops} ml H₂SO₄ pH < 2
 Metals preserved with 50 ^{drops} ml HNO₃ pH < 2
 Cr⁻ preserved with 60 ^{drops} ml NaOH pH > 12
 Sample appeared to be heavily turbid with a dark grayish color.



DATE	071989
TIME	1500
PAGE	5 OF 28
PAGE	15005
PROJECT NO.	4530SP

SAMPLE COLLECTION LOG

PROJECT NAME NAS JAX

SAMPLE NO. 4-22D-7/89

SAMPLE LOCATION WEM-4-22D

SAMPLE TYPE water

CONTAINERS USED

AMOUNT COLLECTED

COMPOSITE YES X NO

COMPOSITE TYPE —

DEPTH OF SAMPLE —

WEATHER cloudy warm - scattered rain showers

1L Amber (5) FULL

500 ml Amber "

40ml Vial (4) "

COMMENTS:	WATER level = 6.88'		
	well vol = $(0.2705 \text{ gal/ft}) (28.12) = 4.79 \text{ gal}$		
WU	DH	SC	
2	7.00	270	78°
3	6.95	270	74°

TOX preserved w/ H₂SO₄ (40 ml) ± 2 (25)

METALS preserved w/ HNO₃ 40 ml to pH < 2

CN- preserved w/ NaOH 60 ml to pH > 12

Sample appears to be slightly turbid with a grayish tint.

PREPARED BY: MJL



DATE	07/19/89
TIME	1630
PAGE	7 OF 8
PAGE	7
PROJECT NO.	453058

SAMPLE COLLECTION LOG

PROJECT NAME UAS SAX

SAMPLE NO. 4-22-7/89

SAMPLE LOCATION Well 4-22

SAMPLE TYPE Water

COMPOSITE YES NO

COMPOSITE TYPE _____

DEPTH OF SAMPLE _____

WEATHER Sunny hot - scattered Rain Showers

CONTAINERS USED	AMOUNT COLLECTED
16 Amber (5)	full
50ml Amber	"
40 ml Vial (4)	"
16 Plastic	"

WV	PH	SC	T °F
2	7.15	140	75°
3	7.25	140	75°

COMMENTS: Water level 6.90
Well Volume (WV) = (.1705 gal/ft) (710) = 1.21 gal

added 30 drops H₂SO₄ to TOX PH < 2
added 50 drops NaOH to CN PH 512
added 60 drops HNO₃ to Metals PH 22

PREPARED BY: MM



DATE	07	20	89
TIME	09	30	
PAGE	1	OF	2
PAGE			9
PROJECT NO. 453058			

SAMPLE COLLECTION LOG

PROJECT NAME NAS JAY
 SAMPLE NO. 4-21-7/89
 SAMPLE LOCATION Well 4-21
 SAMPLE TYPE Water
 COMPOSITE YES NO
 COMPOSITE TYPE _____
 DEPTH OF SAMPLE _____
 WEATHER Warm Sunny

CONTAINERS USED	AMOUNT COLLECTED
1L Amber (5)	full
500ml Amber	full
40ml Uval (4)	"
1L Plastic (2)	"

COMMENTS:		Water Level	SC	T	F
		2.15			
		Water Volume	(.1705)(6.85) = 1.17 gal		
WV	PHT	SC	T	F	
2	5.90	50	76°		
3	5.45	70	77°		
4	6.48	95	76°		
5	6.30	50	76°		
<p>TOX preserved with 60 drops H₂SO₄ to pH < 2 Metals preserved with 60 drops HNO₃ to pH < 2 CNT preserved with 80 drops NaOH to pH > 12 Sample appeared to be a cloudy grayish color with a slow recharge rate.</p>					

PREPARED BY: MJ



INTERNATIONAL
TECHNOLOGY
CORPORATION

DATE	0	7	2	0	8	9
TIME	0	4	3	0		
PAGE	3			OF 12		
PAGE					1	1
PROJECT NO.	453054					

SAMPLE COLLECTION LOG

PROJECT NAME Nas JAX
 SAMPLE NO. 4-220-7/89
 SAMPLE LOCATION Well 4-220
 SAMPLE TYPE Water
 COMPOSITE YES NO
 COMPOSITE TYPE ---
 DEPTH OF SAMPLE ---
 WEATHER Sunny warm

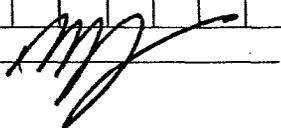
CONTAINERS USED	AMOUNT COLLECTED
1 Amber (5)	full
500ml Amber	full
40ml Amber (4)	"
1/2 Plastic (2)	"

COMMENTS:	Water level	6.67	38	4.15
	Well Volume	= (1705)	(6.67)	= 11457 gal
	PH	SC		
2	12.00	1800	76°	
3	12.25	1800	76°F	
60 drops NaOH to CU PH > 12				
60 drops HNO3 to Metal PH < 2				
60 drops H2SO4 to TOX PH < 2				

PREPARED BY: MMJ

COMMENTS:
(Continued)

DATE				
TIME				
PAGE	4	OF	12	
PAGE			12	
PROJECT NO.				

PREPARED BY: 

LEGEND

1. A SAMPLE COLLECTION LOG IS TO BE COMPLETED FOR EACH SAMPLE.
2. ALWAYS COMPLETE BOTH SIDES. IF SECOND SIDE IS NOT USED, DRAW A LINE THROUGH IT AND MARK N/A. FILL IN CONTROL BLOCK AND PREPARED BY.
3. ALL ENTRIES ON LOG ARE TO BE COMPLETED, IF NOT APPLICABLE MARK N/A.
4. DATE: USE MONTH/DAY/YEAR, I.E., 10/30/85
5. TIME: USE 24-HOUR CLOCK; I.E., 1835 FOR 6:35 P.M.
6. PAGE: EACH SAMPLE TEAM SHOULD NUMBER PAGE _____ OF _____ FOR THE DAY'S ACTIVITIES FOR ALL SHEETS PREPARED ON A SINGLE DAY, I.E., IF THERE ARE A TOTAL OF 24 PAGES (INCLUDING FRONT AND BACK) NUMBER 1 OF 24, 2 OF 24, ETC.
7. SAMPLE LOCATION: USE BORING OR MONITORING WELL NUMBER, GRID LOCATION (TRANSECT), SAMPLING STATION I.D., OR COORDINATE TO PHYSICAL FEATURES WITH DISTANCES. INCLUDE SKETCH IN COMMENT SECTION IF NECESSARY.
8. SAMPLE TYPE: USE THE FOLLOWING - SOIL; WATER (SURFACE OR GROUND); AIR (FILTERS, TUBES, AMBIENT, PERSONNEL); SLUDGE; DRUM CONTENTS: OIL; VEGETATION; WIPE; SEDIMENT.
9. COMPOSITE TYPE: I.E., 24-HOUR, LIST SAMPLE NUMBERS IN COMPOSITE, SPATIAL COMPOSITE.
10. DEPTH OF SAMPLE: GIVE UNITS, WRITE OUT UNITS SUCH AS INCHES, FEET. DON'T USE ' OR ''.
11. WEATHER: APPROXIMATE TEMPERATURE, SUN AND MOISTURE CONDITIONS.
12. CONTAINERS USED: LIST EACH CONTAINER TYPE AS NUMBER, VOLUME, MATERIAL (E.G., 2 - 1L GLASS; 4 - 40 ML GLASS VIAL; 1 - 400 ML PLASTIC; 1 - 3 INCH STEEL TUBE; 1 - 8 OZ. GLASS JAR).
13. AMOUNT COLLECTED: VOLUME IN CONTAINERS (E.G. 1/2 FULL).



DATE	07	20	89
TIME	13	00	
PAGE	5 OF 12		
PAGE			13
PROJECT NO.	453058		

SAMPLE COLLECTION LOG

PROJECT NAME NAS JAX
 SAMPLE NO. 4-20-7/89
 SAMPLE LOCATION Well 4-20
 SAMPLE TYPE Water
 COMPOSITE YES NO
 COMPOSITE TYPE —
 DEPTH OF SAMPLE —
 WEATHER Sunny Warm

CONTAINERS USED	AMOUNT COLLECTED
1L Amber (5)	full
50ml Amber	full
40ml Vial (4)	full
1L plastic	full

COMMENTS:	Water level = 7.25		
	WU	PH	SC
	2	5.25	—
	3	5.25	30
	Dissolved metals collected 11:54 7/23/89		
	60 drops NaOH	To	CN sample PH > 12
	60 drops HNO3	To	metals PH < 2
	60 drops H2S	To	TOX PH < 2

PREPARED BY: MJ

COMMENTS:
(Continued)

DATE				
TIME				
PAGE	6	OF	12	
PAGE				14
PROJECT NO.				

PREPARED BY: 

LEGEND

1. A SAMPLE COLLECTION LOG IS TO BE COMPLETED FOR EACH SAMPLE.
2. ALWAYS COMPLETE BOTH SIDES. IF SECOND SIDE IS NOT USED, DRAW A LINE THROUGH IT AND MARK N/A. FILL IN CONTROL BLOCK AND PREPARED BY.
3. ALL ENTRIES ON LOG ARE TO BE COMPLETED, IF NOT APPLICABLE MARK N/A.
4. DATE: USE MONTH/DAY/YEAR: I.E., 10/30/85
5. TIME: USE 24-HOUR CLOCK: I.E., 1835 FOR 6:35 P.M.
6. PAGE: EACH SAMPLE TEAM SHOULD NUMBER PAGE _____ OF _____ FOR THE DAY'S ACTIVITIES FOR ALL SHEETS PREPARED ON A SINGLE DAY, I.E., IF THERE ARE A TOTAL OF 24 PAGES (INCLUDING FRONT AND BACK) NUMBER 1 OF 24, 2 OF 24, ETC.
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8. SAMPLE TYPE: USE THE FOLLOWING - SOIL; WATER (SURFACE OR GROUND); AIR (FILTERS, TUBES, AMBIENT, PERSONNEL); SLUDGE; DRUM CONTENTS; OIL; VEGETATION; WIPE; SEDIMENT.
9. COMPOSITE TYPE: I.E., 24-HOUR, LIST SAMPLE NUMBERS IN COMPOSITE, SPATIAL COMPOSITE.
10. DEPTH OF SAMPLE: GIVE UNITS, WRITE OUT UNITS SUCH AS INCHES, FEET. DON'T USE ' OR ''.
11. WEATHER: APPROXIMATE TEMPERATURE, SUN AND MOISTURE CONDITIONS.
12. CONTAINERS USED: LIST EACH CONTAINER TYPE AS NUMBER, VOLUME, MATERIAL (E.G., 2 - 1L GLASS; 4 - 40 ML GLASS VIAL; 1 - 400 ML PLASTIC; 1 - 3 INCH STEEL TUBE; 1 - 8 OZ. GLASS JAR).
13. AMOUNT COLLECTED: VOLUME IN CONTAINERS (E.G. 1/2 FULL).



DATE	0	7	2	0	8	9
TIME	1	3	0	0		
PAGE	7 OF 12					
PAGE						15
PROJECT NO.	453058					

SAMPLE COLLECTION LOG

PROJECT NAME NAS SAY
 SAMPLE NO. 4-200-7/89
 SAMPLE LOCATION well 200
 SAMPLE TYPE Water
 COMPOSITE YES NO
 COMPOSITE TYPE —
 DEPTH OF SAMPLE —
 WEATHER Sunny intermittent Rain

CONTAINERS USED	AMOUNT COLLECTED
12 Amber (5)	full
500ml Amber	full
40ml vial	full
11 Plastic	full

COMMENTS:	Water Level 7.17			
	WV	PH	SC	T
	2	6.25		76°
	3	6.25	180	76°
Dissolved metals collected 0930 7/2/89				
60 drops NaOH to CN PH > 12				
140 drops HNO3 to Metals PH < 2				
60 drops H2SO4 to TOX PH < 2				

PREPARED BY: MMP



DATE	0	7	2	0	8	9
TIME	1	8	1	5		
PAGE	9 OF 12					
PAGE						1/1
PROJECT NO.	453058					

SAMPLE COLLECTION LOG

PROJECT NAME NAS JAY

SAMPLE NO. 4-~~18~~-7/89

SAMPLE LOCATION well 4-18

SAMPLE TYPE water

COMPOSITE YES NO

COMPOSITE TYPE —

DEPTH OF SAMPLE —

WEATHER Sunny Warm
intermittent Rain

CONTAINERS USED	AMOUNT COLLECTED
1L Amber (5)	full
500ml Amber	"
40ml Uval (4)	"
1L Plastic (2)	"

COMMENTS:				water level	7.62
				well volume (0.1005)	
WV	PH	SC	T		
2	5.55	80	74.5		
3	5.60	95	73		
Dissolved metals collected 1430 7/21/89					
60 drops H ₂ SO ₄ to TOX PH < 2					
150 drops HNO ₃ to Metal PH < 2					
60 drops NaOH to CN PH > 12					

PREPARED BY:



DATE	07	20	89
TIME	1	8	15
PAGE	11	OF	12
PAGE			19
PROJECT NO. 953050			

SAMPLE COLLECTION LOG

PROJECT NAME NAS-JAX
 SAMPLE NO. 4-18D-7/89
 SAMPLE LOCATION Well 18D
 SAMPLE TYPE Water
 CONTAINERS USED | AMOUNT COLLECTED
 COMPOSITE YES NO
 COMPOSITE TYPE _____
 DEPTH OF SAMPLE _____
 WEATHER Sunny, warm
intermittent showers
 12 Amber (5) | full
 500ml Amber | "
 40ml Uial (4) | "
 12 Plastic (2) | "

COMMENTS:	Water level 7.80		
	Well Volume = (27.20)(.1705) 24.64		
WD	PH	SC	T
2	10.15	330	76
3	10.05	290	76
Desolved Metals collected 13:45 7/21/89			
50 drops NaOH to CN PH >12			
60 drops H2SO4 to TOE PH <2			
100 drops NH4OH to Metal PH <2			

PREPARED BY: MM

COMMENTS:
(Continued)

[A large diagonal line is drawn across the grid from the top-left to the bottom-right. In the center of the grid, there are several scribbled-out lines and shapes.]

DATE				
TIME				
PAGE	12	OF	12	
PAGE				20
PROJECT NO.				

PREPARED BY: *[Signature]*

LEGEND

1. A SAMPLE COLLECTION LOG IS TO BE COMPLETED FOR EACH SAMPLE.
2. ALWAYS COMPLETE BOTH SIDES. IF SECOND SIDE IS NOT USED, DRAW A LINE THROUGH IT AND MARK N/A. FILL IN CONTROL BLOCK AND PREPARED BY.
3. ALL ENTRIES ON LOG ARE TO BE COMPLETED, IF NOT APPLICABLE MARK N/A.
4. DATE: USE MONTH/DAY/YEAR: I.E., 10/30/85
5. TIME: USE 24-HOUR CLOCK; I.E., 1835 FOR 6:35 P.M.
6. PAGE: EACH SAMPLE TEAM SHOULD NUMBER PAGE _____ OF _____ FOR THE DAY'S ACTIVITIES FOR ALL SHEETS PREPARED ON A SINGLE DAY, I.E., IF THERE ARE A TOTAL OF 24 PAGES (INCLUDING FRONT AND BACK) NUMBER 1 OF 24, 2 OF 24, ETC.
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8. SAMPLE TYPE: USE THE FOLLOWING - SOIL; WATER (SURFACE OR GROUND); AIR (FILTERS, TUBES, AMBIENT, PERSONNEL); SLUDGE; DRUM CONTENTS: OIL; VEGETATION; WIPE; SEDIMENT.
9. COMPOSITE TYPE: I.E., 24-HOUR, LIST SAMPLE NUMBERS IN COMPOSITE, SPATIAL COMPOSITE.
10. DEPTH OF SAMPLE: GIVE UNITS, WRITE OUT UNITS SUCH AS INCHES, FEET. DON'T USE ' OR ''.
11. WEATHER: APPROXIMATE TEMPERATURE, SUN AND MOISTURE CONDITIONS.
12. CONTAINERS USED: LIST EACH CONTAINER TYPE AS NUMBER, VOLUME, MATERIAL (E.G., 2 - IL GLASS; 4 - 40 ML GLASS VIAL; 1 - 400 ML PLASTIC; 1 - 3 INCH STEEL TUBE; 1 - 8 OZ. GLASS JAR).
13. AMOUNT COLLECTED: VOLUME IN CONTAINERS (E.G. 1/2 FULL).



INTERNATIONAL
TECHNOLOGY
CORPORATION

DATE	072189
TIME	0930
PAGE	1 OF 12
PAGE	21
PROJECT NO.	453058

SAMPLE COLLECTION LOG

PROJECT NAME NAS - JAY
 SAMPLE NO. 4-19D - 7/89
 SAMPLE LOCATION well 4-19D
 SAMPLE TYPE WATER
 COMPOSITE YES NO
 COMPOSITE TYPE ---
 DEPTH OF SAMPLE ---
 WEATHER water sunny 90°F

CONTAINERS USED	AMOUNT COLLECTED
(4) VIALS	40 ml full
1 l PLASTIC	100 ml full
(5) 1 l glass amber	100 ml full
500 ml glass amber	50 ml full

COMMENTS:		water level = 7.35		
		water volume (1705) (27.65) = 4.71 gals		
UV	PH	SC	T°F	
2	6.15	250	76°F	
3	6.20	220	76°F	
4				
5				

Dissolved Metals collected 1315 7/23/89

80 drops of NaOH for CN⁻ to PH 3.2
 60 drops of H₂SO₄ for TOX to PH 2.2
 60 drops of HNO₃ for metal to PH 2.2
 Sample appeared to be heavily turbid with a dark grayest color. a slight odor was noticed

PREPARED BY: MJL

COMMENTS: (Continued)	DATE						
	TIME						
	PAGE	2 OF 12					
	PAGE						22
	PROJECT NO.						

PREPARED BY: 

LEGEND

1. A SAMPLE COLLECTION LOG IS TO BE COMPLETED FOR EACH SAMPLE.
2. ALWAYS COMPLETE BOTH SIDES. IF SECOND SIDE IS NOT USED, DRAW A LINE THROUGH IT AND MARK N/A. FILL IN CONTROL BLOCK AND PREPARED BY.
3. ALL ENTRIES ON LOG ARE TO BE COMPLETED, IF NOT APPLICABLE MARK N/A.
4. DATE: USE MONTH/DAY/YEAR; I.E., 10/30/85
5. TIME: USE 24-HOUR CLOCK; I.E., 1835 FOR 6:35 P.M.
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8. SAMPLE TYPE: USE THE FOLLOWING - SOIL: WATER (SURFACE OR GROUND); AIR (FILTERS, TUBES, AMBIENT, PERSONNEL); SLUDGE; DRUM CONTENTS: OIL; VEGETATION; WIPE: SEDIMENT.
9. COMPOSITE TYPE: I.E., 24-HOUR, LIST SAMPLE NUMBERS IN COMPOSITE, SPATIAL COMPOSITE.
10. DEPTH OF SAMPLE: GIVE UNITS, WRITE OUT UNITS SUCH AS INCHES, FEET. DON'T USE ' OR ".
11. WEATHER: APPROXIMATE TEMPERATURE, SUN AND MOISTURE CONDITIONS.
12. CONTAINERS USED: LIST EACH CONTAINER TYPE AS NUMBER, VOLUME, MATERIAL (E.G., 2 - 1L GLASS; 4 - 40 ML GLASS VIAL; 1 - 400 ML PLASTIC; 1 - 3 INCH STEEL TUBE; 1 - 8 OZ. GLASS JAR).
13. AMOUNT COLLECTED: VOLUME IN CONTAINERS (E.G. 1/2 FULL).



DATE	072189
TIME	1130
PAGE	3 OF 12
PAGE	23
PROJECT NO.	453058

SAMPLE COLLECTION LOG

PROJECT NAME NAS JAX
 SAMPLE NO. 4-19-7-89
 SAMPLE LOCATION well 4-19
 SAMPLE TYPE WATER
 COMPOSITE YES NO
 COMPOSITE TYPE ---
 DEPTH OF SAMPLE ---
 WEATHER SUNNY HOT 90°F

CONTAINERS USED	AMOUNT COLLECTED
(5) 12 glass AMBER	FULL
1/2 LAMBER 3145	FULL
1 @ plastic	FULL
40ml VIALS	FULL

COMMENTS:			
		WATER LEVEL = 7.05	
		water vol (0.1705) x (6.95) = 1.18 gal	
W.V	PH	SC	T °F
2	5.15	50	77°F
3	5.05	50	78°F
Dissolved Metals collected 115g 7/23/89			
30 drops of NaOH to preserve CN to pH 12			
60 drops of H2SO4 to preserve H2SO4 to pH 12			
60 drops of HNO3 to prevent metals to pH 12			
Well appeared to be heavily turbid			
and darkest grey color. Most well is			
quite a while to recharge			

PREPARED BY: MJL



DATE	0	7	2	1	8	9
TIME	1	4	1	5		
PAGE	5 OF 12					
PAGE					2	5
PROJECT NO.	453058					

SAMPLE COLLECTION LOG

PROJECT NAME NAS - JAX
 SAMPLE NO. 4-17D - 7/89
 SAMPLE LOCATION WELL 4-17D
 SAMPLE TYPE WATER
 COMPOSITE YES NO
 COMPOSITE TYPE
 DEPTH OF SAMPLE
 WEATHER SUNNY HOT 95°F

CONTAINERS USED	AMOUNT COLLECTED
(5) 1/2 glass AMBER	FULL
1/2 glass AMBER	FULL
1 plastic	FULL
(4) 40ml VIALS	FULL

COMMENTS:	WATER LEVEL	PH	SC	T °F
WATER VOL (0.1705) x (27.25) = 4.65 gal	7.75'			
		8.00	250	79°F
		7.85	230	79°F
Dissolved metals collected 1630 7/23/89				
40 drops of NaOH to preserve CN ⁻ & PH ₄ ⁺				
80 drops of HNO ₃ to preserve meth to PA < 2				
80 drops of H ₂ SO ₄ to preserve TOY to PA < 2				

PREPARED BY: MJL

COMMENTS: (Continued)	DATE				
	TIME				
	PAGE	6	OF	12	
	PAGE				26
	PROJECT NO.				

PREPARED BY: 

LEGEND

1. A SAMPLE COLLECTION LOG IS TO BE COMPLETED FOR EACH SAMPLE.
2. ALWAYS COMPLETE BOTH SIDES. IF SECOND SIDE IS NOT USED, DRAW A LINE THROUGH IT AND MARK N/A. FILL IN CONTROL BLOCK AND PREPARED BY.
3. ALL ENTRIES ON LOG ARE TO BE COMPLETED, IF NOT APPLICABLE MARK N/A.
4. DATE: USE MONTH/DAY/YEAR; I.E., 10/30/85
5. TIME: USE 24-HOUR CLOCK; I.E., 1835 FOR 6:35 P.M.
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8. SAMPLE TYPE: USE THE FOLLOWING - SOIL: WATER (SURFACE OR GROUND); AIR (FILTERS, TUBES, AMBIENT, PERSONNEL); SLUDGE; DRUM CONTENTS; OIL; VEGETATION; WIPE: SEDIMENT.
9. COMPOSITE TYPE: I.E., 24-HOUR, LIST SAMPLE NUMBERS IN COMPOSITE. SPATIAL COMPOSITE.
10. DEPTH OF SAMPLE: GIVE UNITS, WRITE OUT UNITS SUCH AS INCHES, FEET. DON'T USE ' OR ".
11. WEATHER: APPROXIMATE TEMPERATURE, SUN AND MOISTURE CONDITIONS.
12. CONTAINERS USED: LIST EACH CONTAINER TYPE AS NUMBER, VOLUME, MATERIAL (E.G., 2 - 1L GLASS; 4 - 40 ML GLASS VIAL; 1 - 400 ML PLASTIC; 1 - 3 INCH STEEL TUBE; 1 - 8 OZ. GLASS JAR).
13. AMOUNT COLLECTED: VOLUME IN CONTAINERS (E.G. 1/2 FULL).



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DATE	072/89
TIME	1530
PAGE	7 OF 12
PAGE	27
PROJECT NO.	453058

SAMPLE COLLECTION LOG

PROJECT NAME NAS - JAX
 SAMPLE NO. 4-17-7/89
 SAMPLE LOCATION Well 4-17
 SAMPLE TYPE WATER
 COMPOSITE YES NO
 COMPOSITE TYPE _____
 DEPTH OF SAMPLE _____
 WEATHER SUNNY HCT 98°F

CONTAINERS USED	AMOUNT COLLECTED
(5) 12 AMBER GLASS	FULL
(1/2) AMBER GLASS	FULL
(4) VIALS 40ml	FULL
12 PLASTIC (2)	FULL

COMMENTS:	Water level 7.63		
	Well 60		
	PH	SC	T
2	4.95	50	78°F
3	4.95	50	78°F
Dissolved Metals Collected 1600 7/23/89			
Preserved sample with 30 drops of H ₂ SO ₄ for TOX			
Preserved sample with 30 drops of HNO ₃ for metals			
Preserved sample with 60 drops of NaOH for CR			
Sample to appeared to be turbid with a "concrete color". No odor noticed			

PREPARED BY: MJL

COMMENTS: (Continued)																					
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">DATE</td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> <tr> <td>TIME</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PAGE</td> <td style="text-align: center;">8</td> <td>OF</td> <td style="text-align: center;">12</td> </tr> <tr> <td>PAGE</td> <td></td> <td></td> <td style="text-align: center;">28</td> </tr> <tr> <td colspan="4">PROJECT NO.</td> </tr> </table>	DATE				TIME				PAGE	8	OF	12	PAGE			28	PROJECT NO.			
DATE																					
TIME																					
PAGE	8	OF	12																		
PAGE			28																		
PROJECT NO.																					

PREPARED BY:

LEGEND

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9. COMPOSITE TYPE: I.E., 24-HOUR, LIST SAMPLE NUMBERS IN COMPOSITE, SPATIAL COMPOSITE.
10. DEPTH OF SAMPLE: GIVE UNITS, WRITE OUT UNITS SUCH AS INCHES, FEET. DON'T USE ' OR ''.
11. WEATHER: APPROXIMATE TEMPERATURE, SUN AND MOISTURE CONDITIONS.
12. CONTAINERS USED: LIST EACH CONTAINER TYPE AS NUMBER, VOLUME, MATERIAL (E.G., 2 - 1L GLASS; 4 - 40 ML GLASS VIAL; 1 - 400 ML PLASTIC; 1 - 3 INCH STEEL TUBE; 1 - 8 OZ. GLASS JAR).
13. AMOUNT COLLECTED: VOLUME IN CONTAINERS (E.G. 1/2 FULL).



DATE	072189
TIME	1950
PAGE	9 OF 12
PAGE	29
PROJECT NO.	453058

SAMPLE COLLECTION LOG

PROJECT NAME NAS - JAX
 SAMPLE NO. 4-12D-7-89
 SAMPLE LOCATION Well 4-12D
 SAMPLE TYPE WATER
 COMPOSITE YES NO
 COMPOSITE TYPE
 DEPTH OF SAMPLE
 WEATHER cloudy HOT 85°F

CONTAINERS USED	AMOUNT COLLECTED
12 Amber (5)	full
500 ml Amber	full
40 ml Vial	full
11 plastic (2)	full

COMMENTS:	DEPTH	PH	SK	Temp
	7.35'			
	(0.1705) (27.65) = 4.7120			
				X4 = 18.8%
WV				
2	5.85	190	74°F	
3	5.85	180	74°F	
Dissolved metals collected 1830 7/23/89				
Sample appeared to be heavily turbid and having a dark grayish color. A slight odor was noticed.				

PREPARED BY: MSU

COMMENTS:
(Continued)

[A large diagonal line is drawn across the grid from the top-left to the bottom-right. In the center of the grid, there are several scribbled-out marks.]

DATE					
TIME					
PAGE	<u>10</u>	OF	<u>12</u>		
PAGE				<u>30</u>	
PROJECT NO.					

PREPARED BY: *[Signature]*

LEGEND

1. A SAMPLE COLLECTION LOG IS TO BE COMPLETED FOR EACH SAMPLE.
2. ALWAYS COMPLETE BOTH SIDES. IF SECOND SIDE IS NOT USED, DRAW A LINE THROUGH IT AND MARK N/A. FILL IN CONTROL BLOCK AND PREPARED BY.
3. ALL ENTRIES ON LOG ARE TO BE COMPLETED, IF NOT APPLICABLE MARK N/A.
4. DATE: USE MONTH/DAY/YEAR; I.E., 10/30/85
5. TIME: USE 24-HOUR CLOCK; I.E., 1835 FOR 6:35 P.M.
6. PAGE: EACH SAMPLE TEAM SHOULD NUMBER PAGE _____ OF _____ FOR THE DAY'S ACTIVITIES FOR ALL SHEETS PREPARED ON A SINGLE DAY, I.E., IF THERE ARE A TOTAL OF 24 PAGES (INCLUDING FRONT AND BACK) NUMBER 1 OF 24, 2 OF 24, ETC.
7. SAMPLE LOCATION: USE BORING OR MONITORING WELL NUMBER, GRID LOCATION (TRANSECT), SAMPLING STATION I.D., OR COORDINATE TO PHYSICAL FEATURES WITH DISTANCES. INCLUDE SKETCH IN COMMENT SECTION IF NECESSARY.
8. SAMPLE TYPE: USE THE FOLLOWING - SOIL: WATER (SURFACE OR GROUND); AIR (FILTERS, TUBES, AMBIENT, PERSONNEL); SLUDGE; DRUM CONTENTS: OIL; VEGETATION; WIPE: SEDIMENT.
9. COMPOSITE TYPE: I.E., 24-HOUR, LIST SAMPLE NUMBERS IN COMPOSITE, SPATIAL COMPOSITE.
10. DEPTH OF SAMPLE: GIVE UNITS, WRITE OUT UNITS SUCH AS INCHES, FEET. DON'T USE ' OR ''.
11. WEATHER: APPROXIMATE TEMPERATURE, SUN AND MOISTURE CONDITIONS.
12. CONTAINERS USED: LIST EACH CONTAINER TYPE AS NUMBER, VOLUME, MATERIAL (E.G., 2 - 1L GLASS; 4 - 40 ML GLASS VIAL; 1 - 400 ML PLASTIC; 1 - 3 INCH STEEL TUBE; 1 - 8 OZ. GLASS JAR).
13. AMOUNT COLLECTED: VOLUME IN CONTAINERS (E.G. 1/2 FULL).



INTERNATIONAL
TECHNOLOGY
CORPORATION

DATE	0	7	2	2	8	9
TIME	1	1	3	0		
PAGE	1 OF 18					
PAGE						3.9
PROJECT NO.						

SAMPLE COLLECTION LOG

PROJECT NAME NAS - JAX

SAMPLE NO. 4-16-7/89

SAMPLE LOCATION Well 4-16

SAMPLE TYPE WATER

COMPOSITE YES NO

COMPOSITE TYPE —

DEPTH OF SAMPLE —

WEATHER SUNNY HOT! 98°F

CONTAINERS USED	AMOUNT COLLECTED
12 Amber (5)	full
500ml Amber	full
40ml Uial (4)	full
12 plastic	full

COMMENTS:		DEPTH - 6.25'	
W	PM	SC	Temp °F
2	8.95	2700	79°F
3	8.80	2650	80°F
<p>Samples collect for Dissolved metals but send to lab because of Turbidity - 1550 7/23/89</p> <p>WATER APPEARS to be EXTREMELY muddy with a dark brown color. A slight odor was noticed</p>			

PREPARED BY: MJC

COMMENTS:
(Continued)

[A large diagonal line is drawn across the grid from the top-left to the bottom-right. In the center of the grid, there are several scribbled-out handwritten marks.]

DATE					
TIME					
PAGE	2	OF	18		
PAGE				34	
PROJECT NO.					

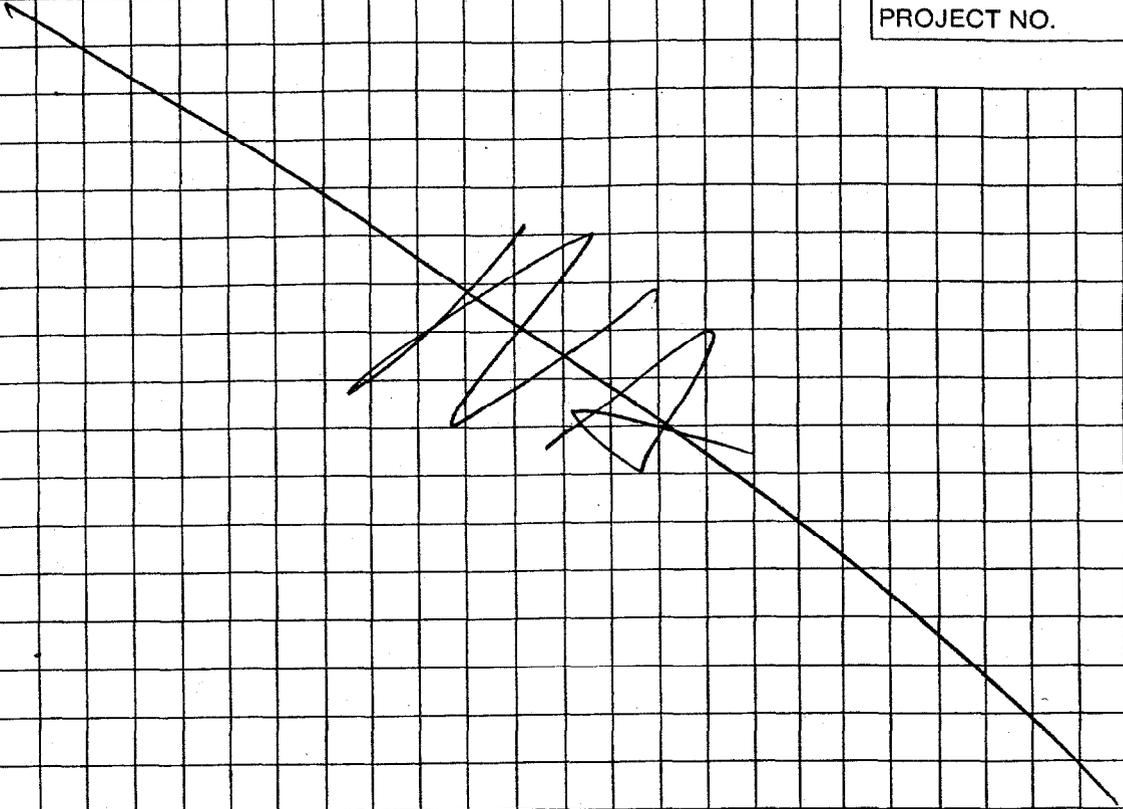
PREPARED BY: *[Handwritten signature]*

LEGEND

1. A SAMPLE COLLECTION LOG IS TO BE COMPLETED FOR EACH SAMPLE.
2. ALWAYS COMPLETE BOTH SIDES. IF SECOND SIDE IS NOT USED, DRAW A LINE THROUGH IT AND MARK N/A. FILL IN CONTROL BLOCK AND PREPARED BY.
3. ALL ENTRIES ON LOG ARE TO BE COMPLETED, IF NOT APPLICABLE MARK N/A.
4. DATE: USE MONTH/DAY/YEAR; I.E., 10/30/85
5. TIME: USE 24-HOUR CLOCK; I.E., 1835 FOR 6:35 P.M.
6. PAGE: EACH SAMPLE TEAM SHOULD NUMBER PAGE _____ OF _____ FOR THE DAY'S ACTIVITIES FOR ALL SHEETS PREPARED ON A SINGLE DAY, I.E., IF THERE ARE A TOTAL OF 24 PAGES (INCLUDING FRONT AND BACK) NUMBER 1 OF 24, 2 OF 24, ETC.
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8. SAMPLE TYPE: USE THE FOLLOWING - SOIL; WATER (SURFACE OR GROUND); AIR (FILTERS, TUBES, AMBIENT, PERSONNEL); SLUDGE; DRUM CONTENTS; OIL; VEGETATION; WIPE; SEDIMENT.
9. COMPOSITE TYPE: I.E., 24-HOUR, LIST SAMPLE NUMBERS IN COMPOSITE, SPATIAL COMPOSITE.
10. DEPTH OF SAMPLE: GIVE UNITS, WRITE OUT UNITS SUCH AS INCHES, FEET. DON'T USE ' OR ''.
11. WEATHER: APPROXIMATE TEMPERATURE, SUN AND MOISTURE CONDITIONS.
12. CONTAINERS USED: LIST EACH CONTAINER TYPE AS NUMBER, VOLUME, MATERIAL (E.G., 2 - 1L GLASS; 4 - 40 ML GLASS VIAL; 1 - 400 ML PLASTIC; 1 - 3 INCH STEEL TUBE; 1 - 8 OZ. GLASS JAR).
13. AMOUNT COLLECTED: VOLUME IN CONTAINERS (E.G. 1/2 FULL).

COMMENTS:
(Continued)

DATE				
TIME				
PAGE	9	OF	18	
PAGE			38	
PROJECT NO.				



PREPARED BY: *[Signature]*

LEGEND

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13. AMOUNT COLLECTED: VOLUME IN CONTAINERS (E.G. 1/2 FULL).



DATE	6	7	22	87
TIME	1	2	3	0
PAGE	5 OF 18			
PAGE				38
PROJECT NO.	453087			

SAMPLE COLLECTION LOG

PROJECT NAME NAS JAW
 SAMPLE NO. 4-10-7/89
 SAMPLE LOCATION Well 4-10
 SAMPLE TYPE Water
 COMPOSITE YES YES NO
 COMPOSITE TYPE nk
 DEPTH OF SAMPLE NA
 WEATHER Sunny Hot

CONTAINERS USED	AMOUNT COLLECTED
2 amber (5)	full
500ml amber	"
40ml vial	"
1L Polyester (2)	"

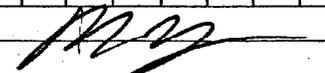
COMMENTS:	Water level		6.78
8			
400	PH	SC	7
2	4.65	950	80
Water dark gray - rotten egg smell and Turbid			
Dissolved metals collected A30 7/23/89			

PREPARED BY: MP

COMMENTS:
(Continued)

DATE					
TIME					
PAGE	6	OF	18		
PAGE				38	
PROJECT NO.					

The grid area is mostly empty, with a diagonal line drawn from the top-left corner towards the bottom-right. In the center of the grid, there are several scribbled-out lines of text that are illegible.

PREPARED BY: 

LEGEND

1. A SAMPLE COLLECTION LOG IS TO BE COMPLETED FOR EACH SAMPLE.
2. ALWAYS COMPLETE BOTH SIDES. IF SECOND SIDE IS NOT USED, DRAW A LINE THROUGH IT AND MARK N/A. FILL IN CONTROL BLOCK AND PREPARED BY.
3. ALL ENTRIES ON LOG ARE TO BE COMPLETED, IF NOT APPLICABLE MARK N/A.
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9. COMPOSITE TYPE: I.E., 24-HOUR, LIST SAMPLE NUMBERS IN COMPOSITE, SPATIAL COMPOSITE.
10. DEPTH OF SAMPLE: GIVE UNITS, WRITE OUT UNITS SUCH AS INCHES, FEET. DON'T USE ' OR ''.
11. WEATHER: APPROXIMATE TEMPERATURE, SUN AND MOISTURE CONDITIONS.
12. CONTAINERS USED: LIST EACH CONTAINER TYPE AS NUMBER, VOLUME, MATERIAL (E.G., 2 - 1L GLASS; 4 - 40 ML GLASS VIAL; 1 - 400 ML PLASTIC; 1 - 3 INCH STEEL TUBE; 1 - 8 OZ. GLASS JAR).
13. AMOUNT COLLECTED: VOLUME IN CONTAINERS (E.G. 1/2 FULL).



INTERNATIONAL
TECHNOLOGY
CORPORATION

DATE	07	22	89
TIME	1	34	5
PAGE	2 OF 18		
PAGE			39
PROJECT NO. 453058			

SAMPLE COLLECTION LOG

PROJECT NAME NAS JAK
 SAMPLE NO. 4-11-7/89
 SAMPLE LOCATION well 4-11
 SAMPLE TYPE Water
 COMPOSITE YES NO
 COMPOSITE TYPE —
 DEPTH OF SAMPLE —
 WEATHER Sunny Hot

CONTAINERS USED	AMOUNT COLLECTED
1l Amber (5)	full
500ml Amber	"
40ml Kials (4)	"
1l Plastic (4)	"

COMMENTS:		water level		6.69	
WV	PH	SC	T		
2	3.85	1120	80		
3	3.95	1100	79.5		
Dissolved Metals collected		19:03		7/23/89	

PREPARED BY: MM

COMMENTS: (Continued)	
	DATE
	TIME
	PAGE <u>8</u> OF <u>18</u>
	PAGE <u>40</u>
	PROJECT NO.

PREPARED BY: *[Signature]*

LEGEND

1. A SAMPLE COLLECTION LOG IS TO BE COMPLETED FOR EACH SAMPLE.
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10. DEPTH OF SAMPLE: GIVE UNITS. WRITE OUT UNITS SUCH AS INCHES, FEET. DON'T USE ' OR ''.
11. WEATHER: APPROXIMATE TEMPERATURE, SUN AND MOISTURE CONDITIONS.
12. CONTAINERS USED: LIST EACH CONTAINER TYPE AS NUMBER, VOLUME, MATERIAL (E.G., 2 - 1L GLASS; 4 - 40 ML GLASS VIAL; 1 - 400 ML PLASTIC; 1 - 3 INCH STEEL TUBE; 1 - 8 OZ. GLASS JAR).
13. AMOUNT COLLECTED: VOLUME IN CONTAINERS (E.G. 1/2 FULL).

COMMENTS: (Continued)	
	DATE
	TIME
	PAGE <u>10</u> OF <u>18</u>
	PAGE <u>42</u>
	PROJECT NO.

PREPARED BY: *[Signature]*

LEGEND

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11. WEATHER: APPROXIMATE TEMPERATURE, SUN AND MOISTURE CONDITIONS.
12. CONTAINERS USED: LIST EACH CONTAINER TYPE AS NUMBER, VOLUME, MATERIAL (E.G., 2 - 1L GLASS; 4 - 40 ML GLASS VIAL; 1 - 400 ML PLASTIC; 1 - 3 INCH STEEL TUBE; 1 - 8 OZ. GLASS JAR).
13. AMOUNT COLLECTED: VOLUME IN CONTAINERS (E.G. 1/2 FULL).



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TECHNOLOGY
CORPORATION

DATE	0	7	2	2	8	9
TIME	1	5	5	5		
PAGE	11 OF 18					
PAGE				4	3	
PROJECT NO.	453058					

SAMPLE COLLECTION LOG

PROJECT NAME NAS / JAX

SAMPLE NO. 4-4-7/89

SAMPLE LOCATION Well 4-4

SAMPLE TYPE Water

COMPOSITE YES YES NO

COMPOSITE TYPE _____

DEPTH OF SAMPLE _____

WEATHER Sunny Hot 95°F

CONTAINERS USED	AMOUNT COLLECTED
1L Amber (5)	full
500ml Amber	"
40ml Vial (4)	"
1L Polyester (1)	"

COMMENTS: Water level 7.35

WD	PH	SC	T
2	3.50	1800	81°F
3	3.35	1850	81°F

Well appeared to be cloudy and heavily turbid with a noticeable odor.

Dissolved Metals collected 2000 7/23/89

PREPARED BY: MJP

COMMENTS: (Continued)	
	DATE
	TIME
	PAGE <u>12</u> OF <u>18</u>
	PAGE <u>44</u>
	PROJECT NO.

PREPARED BY: *[Signature]*

LEGEND

1. A SAMPLE COLLECTION LOG IS TO BE COMPLETED FOR EACH SAMPLE.
2. ALWAYS COMPLETE BOTH SIDES. IF SECOND SIDE IS NOT USED, DRAW A LINE THROUGH IT AND MARK N/A. FILL IN CONTROL BLOCK AND PREPARED BY.
3. ALL ENTRIES ON LOG ARE TO BE COMPLETED, IF NOT APPLICABLE MARK N/A.
4. DATE: USE MONTH/DAY/YEAR; I.E., 10/30/85
5. TIME: USE 24-HOUR CLOCK; I.E., 1835 FOR 6:35 P.M.
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9. COMPOSITE TYPE: I.E., 24-HOUR, LIST SAMPLE NUMBERS IN COMPOSITE, SPATIAL COMPOSITE.
10. DEPTH OF SAMPLE: GIVE UNITS, WRITE OUT UNITS SUCH AS INCHES, FEET. DON'T USE ' OR ".
11. WEATHER: APPROXIMATE TEMPERATURE, SUN AND MOISTURE CONDITIONS.
12. CONTAINERS USED: LIST EACH CONTAINER TYPE AS NUMBER, VOLUME, MATERIAL (E.G., 2 - 1L GLASS; 4 - 40 ML GLASS VIAL; 1 - 400 ML PLASTIC; 1 - 3 INCH STEEL TUBE; 1 - 8 OZ. GLASS JAR).
13. AMOUNT COLLECTED: VOLUME IN CONTAINERS (E.G. 1/2 FULL).



DATE	0	7	2	2	8	9
TIME	1	9	0	0		
PAGE	13 OF 18					
PAGE					4	5
PROJECT NO.	453058					

SAMPLE COLLECTION LOG

PROJECT NAME NAS / JAX

SAMPLE NO. W4-13D 7/89

SAMPLE LOCATION WELL 4-13D

SAMPLE TYPE WATER

COMPOSITE YES Y NO

COMPOSITE TYPE —

DEPTH OF SAMPLE —

WEATHER SUNNY HOT 90°F

CONTAINERS USED	AMOUNT COLLECTED
1L Amber (5)	field
500ml Amber	"
40 ml Vial (4)	"
1L Plastic (2)	"

COMMENTS:		water level = 6.55			
WV	PH	SC	TEMP °F		
2	5.85	170	23°		
3	5.95	170	23°		
Disolved metal collected 1800 7/23/89					

PREPARED BY: MJ

COMMENTS:
(Continued)

DATE				
TIME				
PAGE	17	OF	18	
PAGE				46
PROJECT NO.				

PREPARED BY: *[Signature]*

LEGEND

1. A SAMPLE COLLECTION LOG IS TO BE COMPLETED FOR EACH SAMPLE.
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10. DEPTH OF SAMPLE: GIVE UNITS, WRITE OUT UNITS SUCH AS INCHES, FEET. DON'T USE ' OR ''.
11. WEATHER: APPROXIMATE TEMPERATURE, SUN AND MOISTURE CONDITIONS.
12. CONTAINERS USED: LIST EACH CONTAINER TYPE AS NUMBER, VOLUME, MATERIAL (E.G., 2 - 1L GLASS; 4 - 40 ML GLASS VIAL; 1 - 400 ML PLASTIC; 1 - 3 INCH STEEL TUBE; 1 - 8 OZ. GLASS JAR).
13. AMOUNT COLLECTED: VOLUME IN CONTAINERS (E.G. 1/2 FULL).



DATE	07	22	89
TIME	7	9	00
PAGE	15 OF 18		
PAGE			47
PROJECT NO.	453058		

SAMPLE COLLECTION LOG

PROJECT NAME NAS/JAX
 SAMPLE NO. W 4-13-7/89
 SAMPLE LOCATION Well 4/13
 SAMPLE TYPE WATER
 COMPOSITE YES NO
 COMPOSITE TYPE _____
 DEPTH OF SAMPLE _____
 WEATHER SUNNY MGT 90°F

CONTAINERS USED	AMOUNT COLLECTED
1l Amber	full
50ml Amber	"
40ml Vial	"
1l Plastic	"

COMMENTS: water level = 6.30

WV	PH	SC	Tem °F
<u>2</u>	<u>5.05</u>	<u>140</u>	<u>79°F</u>
<u>3</u>	<u>5.05</u>	<u>150</u>	<u>80°F</u>

Dissolved metals collected 1700 7/23/89 but send to lab for filtering

PREPARED BY: MMJ



SAMPLE COLLECTION LOG

PROJECT NAME NAS-JAX
 SAMPLE NO. 4-19-7/89
 SAMPLE LOCATION Wed 4-9
 SAMPLE TYPE Water
 COMPOSITE YES NO
 COMPOSITE TYPE NA
 DEPTH OF SAMPLE NA
 WEATHER Hot / Sunny

CONTAINERS USED	AMOUNT COLLECTED
12 Amber (57)	full
500 ml Amber	"
40 ml Vial (4)	"
12 Plastic (2)	"

COMMENTS:		Water level 9.99	
WU	PH	SC	T
2	6.3	270	78°F
3	6.25	270	79°F
Dissolved metals collected 1900 7/23/89 but sent to lab for filtering			

PREPARED BY: MM

COMMENTS:
(Continued)

DATE					
TIME					
PAGE	18		OF	18	
PAGE				50	
PROJECT NO.					

PREPARED BY: 

LEGEND

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13. AMOUNT COLLECTED: VOLUME IN CONTAINERS (E.G. 1/2 FULL).

APPENDIX C

FIELD EQUIPMENT CALIBRATION RECORDS



FIELD EQUIPMENT CALIBRATION RECORD⁽¹⁾

PROJECT NAME NAVY DATE 7.18.89
PROJECT NUMBER 453058 PERSONNEL MICHAEL LASKO

EQUIPMENT IDENTIFICATION 002 - B
EQUIPMENT NAME ORION RESEARCH Model 201 DIGITAL PH METER
REQUIRED CALIBRATION PERIOD DAILY

CALIBRATION TECHNIQUE⁽²⁾ METER WAS CALIBRATED TO PH 7,
THE N ADJUSTED TO PH 10 AND PH 4 WITH STANDARDS.

<u>PH 10</u>	<u>PH 4</u>
<u>9.85</u>	<u>4.30</u>

REMARKS _____

NOTES: (1) THIS RECORD SHALL BE COMPLETED FOR ALL EQUIPMENT CALIBRATED IN THE FIELD.
(2) IF APPLICABLE, CITE REFERENCE



FIELD EQUIPMENT CALIBRATION RECORD⁽¹⁾

PROJECT NAME NAVY DATE 7.19.89
PROJECT NUMBER 453058 PERSONNEL Michael LASKO

EQUIPMENT IDENTIFICATION IT # 008382
EQUIPMENT NAME YSI MODEL 93 S-C-T METER
REQUIRED CALIBRATION PERIOD DAILY

CALIBRATION TECHNIQUE⁽²⁾ Meter was RED LINED THEN
ADJUSTED AND ZEROED. Needle sticks meter must
be held slanting upside down

REMARKS _____

- NOTES: (1) THIS RECORD SHALL BE COMPLETED FOR ALL EQUIPMENT CALIBRATED IN THE FIELD.
(2) IF APPLICABLE, CITE REFERENCE



FIELD EQUIPMENT CALIBRATION RECORD⁽¹⁾

PROJECT NAME NAS 3 AX DATE 7/20/89
PROJECT NUMBER 453058 PERSONNEL mjj

EQUIPMENT IDENTIFICATION 002-B
EQUIPMENT NAME Orion Research Model 201 Digital PH Meter
REQUIRED CALIBRATION PERIOD Daily

CALIBRATION TECHNIQUE⁽²⁾ Meter was calibrated to PH7
then checked at PH10 and PH4

<u>PH10</u>	<u>PH4</u>
<u>9.25</u>	<u>4.40</u>

REMARKS _____

NOTES: (1) THIS RECORD SHALL BE COMPLETED FOR ALL EQUIPMENT CALIBRATED IN THE FIELD.
(2) IF APPLICABLE, CITE REFERENCE



FIELD EQUIPMENT CALIBRATION RECORD⁽¹⁾

PROJECT NAME NAS 3AX DATE 7/20/89
PROJECT NUMBER 453058 PERSONNEL MJ

EQUIPMENT IDENTIFICATION IT # 008382
EQUIPMENT NAME VSI Model 33 S-C-T Meter
REQUIRED CALIBRATION PERIOD Daily

CALIBRATION TECHNIQUE⁽²⁾ Meter was zeroed and adjusted to Red line - Needle sticks meter must be held slanting upside down

REMARKS _____

NOTES: (1) THIS RECORD SHALL BE COMPLETED FOR ALL EQUIPMENT CALIBRATED IN THE FIELD.

(2) IF APPLICABLE, CITE REFERENCE



FIELD EQUIPMENT CALIBRATION RECORD⁽¹⁾

PROJECT NAME MAS JAY DATE 7-21-89
 PROJECT NUMBER 453058 PERSONNEL MJC

EQUIPMENT IDENTIFICATION MODEL 33 Serial 11352
 EQUIPMENT NAME YSI MODEL 33 S-L-T meter
 REQUIRED CALIBRATION PERIOD DAILY

CALIBRATION TECHNIQUE⁽²⁾ ADJUSTED meter to
Red LINE, then calibrated meter with
TWO STANDARDS 1,000 $\mu\text{m/s}$ and 10,000 $\mu\text{m/s}$
1000 $\mu\text{m/s}$ 850 10000 $\mu\text{m/s}$ 8000

REMARKS _____

- NOTES: (1) THIS RECORD SHALL BE COMPLETED FOR ALL EQUIPMENT CALIBRATED IN THE FIELD.
 (2) IF APPLICABLE, CITE REFERENCE



FIELD EQUIPMENT CALIBRATION RECORD⁽¹⁾

PROJECT NAME NAS JAY
PROJECT NUMBER 453058

DATE 7/21/89
PERSONNEL MJC

EQUIPMENT IDENTIFICATION 002-B
EQUIPMENT NAME ORION Research Model 201 DIGITAL PH METER
REQUIRED CALIBRATION PERIOD DAILY

CALIBRATION TECHNIQUE⁽²⁾ Meter was calibrated to pH 7 then checked at pH 10 and pH 4

<u>pH 10</u>	<u>pH 4</u>
<u>9.20</u>	<u>4.45</u>

REMARKS _____

- NOTES: (1) THIS RECORD SHALL BE COMPLETED FOR ALL EQUIPMENT CALIBRATED IN THE FIELD.
- (2) IF APPLICABLE, CITE REFERENCE



FIELD EQUIPMENT CALIBRATION RECORD⁽¹⁾

PROJECT NAME NAS/JAX DATE 7/22/89
 PROJECT NUMBER 453058 PERSONNEL MJL

EQUIPMENT IDENTIFICATION 002-B
 EQUIPMENT NAME ORION RESEARCH Model 201/DIGITAL PH meter
 REQUIRED CALIBRATION PERIOD DAILY

CALIBRATION TECHNIQUE⁽²⁾ ADJUSTED meter to a PH 7, then read PH 4 AND PH 10.

	PH 4	PH 7	PH 10
	4.25		9.30
End of Day	4.25	7.10	9.55

REMARKS _____

- NOTES: (1) THIS RECORD SHALL BE COMPLETED FOR ALL EQUIPMENT CALIBRATED IN THE FIELD.
 (2) IF APPLICABLE, CITE REFERENCE



FIELD EQUIPMENT CALIBRATION RECORD⁽¹⁾

PROJECT NAME NAS/JAY DATE 7/22/89
 PROJECT NUMBER 453058 PERSONNEL MJL

EQUIPMENT IDENTIFICATION MODEL 33 Serial 11352
 EQUIPMENT NAME YSI MODEL 33 S-C-T METER
 REQUIRED CALIBRATION PERIOD DAILY

CALIBRATION TECHNIQUE⁽²⁾ ADJUSTED METER TO RED
LINE the calibrated with 10,000 ^{MICROMHS}/cm, while
meter was in solution, figure read 9,000
^{MICROMHS}/cm

REMARKS _____

- NOTES: (1) THIS RECORD SHALL BE COMPLETED FOR ALL EQUIPMENT CALIBRATED IN THE FIELD.
 (2) IF APPLICABLE, CITE REFERENCE

APPENDIX D

**CHAIN OF CUSTODY
REQUEST FOR ANALYSIS**



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 10,421
C/C Control No. 130267

PROJECT NAME/NUMBER NAS JAX/453058 LAB DESTINATION KNOXVILLE LAB
SAMPLE TEAM MEMBERS MIKE LASKO / MIKE JONES CARRIER/WAYBILL NO. 1036393094

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
4-9-7/89	Well 4-9	4/22/89 @ 19:50	WATER	(5) 1L AMBER GLASS	Cold & CONTACT PATH 7-25-89 ↓	
"	"	"	"	500ml AMBER GLASS		
"	"	"	"	(4) 40ml VIALS		
"	"	"	"	1L PLASTIC		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: [Signature] 7/24/89 0800
Received By: Beth Jones ITAS 7/24/89 (83)

3. Relinquished By: _____
Received by: _____

2. Relinquished By: _____
Received By: _____

4. Relinquished By: _____
Received By: _____

WHITE - To accompany samples
YELLOW - Field copy



REQUEST FOR ANALYSIS

R/A Control No. 10944C/C Control No. 130x67PROJECT NAME NAS / JAXDATE SAMPLES SHIPPED 7/24/89PROJECT NUMBER 453058LAB DESTINATION KNOXVILLE LABSPROJECT MANAGER A. STEPHENSLABORATORY CONTACT BETH MONROE

BILL TO _____

SEND LAB REPORT TO I.T. TAMPA

PURCHASE ORDER NO. _____

DATE REPORT REQUIRED _____

PROJECT CONTACT M. JONESPROJECT CONTACT PHONE NO. 813 622 7174302 HWY 301N S# 1000
TAMPA, FL 33619

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
4-9-7/89	WATER	12 GLASS AMBER (5)	MeOH, NONE	CN, Phenol, PESTICIDES	
"	"	500ml glass AMBER	H2SO4	TOX	
"	"	(4) 40ml VIALS	HCl, NONE	VQA, TOC	
"	"	12 PLASTIC	HNO3	METALS	

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 Beth MonroeDate/Time 7-25-89, 6:30WHITE - Original, to accompany samples
YELLOW - Field copy

TEST 43790



INTERNATIONAL
TECHNOLOGY
CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 10, 1189

C/C Control No. 130260

PROJECT NAME/NUMBER NAS / JAX - 453058

LAB DESTINATION KNOXVILLE LAB

SAMPLE TEAM MEMBERS MIKE LASIKO / MIKE JONES

CARRIER/WAYBILL NO. 1036393190

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
4-4-7/89	WELL 4-4	7/22/89 @ 15:55	WATER	(5) 1L AMBER	cold contact BHT 7/25/89 ↓	
"	"	"	"	500ml AMBER		
"	"	"	"	(4) 40ml VIALS		
"	"	"	"	1L PLASTIC		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: M Jones ITT 7/24/89 0800

Received By: Beth Monroe, ITAS, 7/25/89, 0830

3. Relinquished By: _____

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



REQUEST FOR ANALYSIS

R/A Control No. 11013
C/C Control No. 130260

PROJECT NAME NAS JAX
PROJECT NUMBER 453058
PROJECT MANAGER R. STEPHENS
BILL TO _____

DATE SAMPLES SHIPPED 7/24/89
LAB DESTINATION KNOXVILLE LAB
LABORATORY CONTACT BETH MONROE
SEND LAB REPORT TO J.T. TAMPA

3012 HWY 301N S# 1000
TAMPA, FL 33619

PURCHASE ORDER NO. _____

DATE REPORT REQUIRED _____
PROJECT CONTACT M. JONES
PROJECT CONTACT PHONE NO. 813 622 7174

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
<u>4-4-7/89</u>	<u>WATER</u>	<u>(5) 1L AMBER</u>	<u>NaOH, NONE</u>	<u>CN-, Phenol, PESTICIDES</u>	
<u>"</u>	<u>"</u>	<u>500ML AMBER</u>	<u>H2SO4</u>	<u>TOX</u>	
<u>"</u>	<u>"</u>	<u>1L PLASTIC</u>	<u>HNO3</u>	<u>METALS</u>	
<u>"</u>	<u>"</u>	<u>(4) 40ML VIALS</u>	<u>HCL, NONE</u>	<u>VOA, TOC</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 Beth Monroe Date/Time 7-25-89 0830

WHITE - Original, to accompany samples
YELLOW - Field copy



INTERNATIONAL
TECHNOLOGY
CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. B 9281

C/C Control No. 130265

PROJECT NAME/NUMBER NAS JAX/ 453058

LAB DESTINATION KNOXVILLE LAB

SAMPLE TEAM MEMBERS MIKE LASKO / MIKE JONES

CARRIER/WAYBILL NO. 1036393245

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
H-5-7/89	WELL 4-5	7/22/89 @ 14:30	WATER	(5) 12 AMBER glass	cold & intact BHM 7-25-89 ↓	
"	"	"	"	500ml AMBER glass		
"	"	"	"	12 PLASTIC		
"	"	"	"	(4) 40ml VIALS		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: M Jones IT 7/24/89 0800
 Received By: Beth Mervet, ITB, 7-25-89, 0830

3. Relinquished By: _____
 Received by: _____

2. Relinquished By: _____
 Received By: _____

4. Relinquished By: _____
 Received By: _____

WHITE - To accompany samples
 YELLOW - Field copy

IT&T 43790



REQUEST FOR ANALYSIS

R/A Control No. B 30931
 C/C Control No. 130265
7/24/89
KNOXVILLE LAB
BETH MONROE
I.T. TAMPA
3012 HWY. 301N S^B 1000
TAMPA, FL 33619

PROJECT NAME NAS JAX
 PROJECT NUMBER 453058
 PROJECT MANAGER R. STEPHENS
 BILL TO _____
 PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED _____
 LAB DESTINATION _____
 LABORATORY CONTACT _____
 SEND LAB REPORT TO _____
 DATE REPORT REQUIRED _____
 PROJECT CONTACT M. JONES
 PROJECT CONTACT PHONE NO. 813 622 7174

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
<u>4-5-7/89</u>	<u>WATER</u>	<u>(5) 12 GLASS AMBA</u>	<u>NaOH, NONE</u>	<u>CN⁻, PHEM, PESTICIDES</u>	
<u>11</u>	<u>11</u>	<u>500 ml glass</u>	<u>H2SO4</u>	<u>TOX</u>	
<u>11</u>	<u>11</u>	<u>(4) 40 ml VIALS</u>	<u>HCl, NONE</u>	<u>CN⁻, TOC</u>	
<u>11</u>	<u>11</u>	<u>12 PLASTIC</u>	<u>HNO3</u>	<u>METALS</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 Beth Monroe Date/Time 7-25-89, 0830



CHAIN-OF-CUSTODY RECORD

R/A Control No. 112424

C/C Control No. 112425

PROJECT NAME/NUMBER NAS-TAX

LAB DESTINATION ITAS Knoxville

SAMPLE TEAM MEMBERS Mike Jones / Mikolusko

CARRIER/WAYBILL NO. 2437X3192

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
410-159	WCC 4-10	1/22/89 1230	Water	1C (Imp. 15)	COOL CHACK BHM 1-24-89 ↓	
"	"	"	"	Grant Amber		
"	"	"	"	Wool (100%)		
"	"	"	"	1C plastic		

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: [Signature] 2/2/89 1500
Received By: Beth Monroe, ITAS, 724.89, 0831

3. Relinquished By: _____
Received by: _____

2. Relinquished By: _____
Received By: _____

4. Relinquished By: _____
Received By: _____

WHITE - To accompany samples
YELLOW - Field copy



NATIONAL
TECHNOLOGY
CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 10024
C/C Control No. 112425

PROJECT NAME NAS-TAN
PROJECT NUMBER 953058
PROJECT MANAGER Robert Stephens
BILL TO _____
PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED 7/22/89
LAB DESTINATION TTAS Knoxville
LABORATORY CONTACT Beth Monroe
SEND LAB REPORT TO IT
3012 Hwy 3012, #1100
Tampa, FL 33619
DATE REPORT REQUIRED _____
PROJECT CONTACT Mike Jones
PROJECT CONTACT PHONE NO. (813) 622-7174

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
4-10-7/89	water	16 Amber (5)	NaOH, None	CN, Phenols, Pesticide	
"	"	50ml Amber	H ₂ SO ₄	TOX	
"	"	40ml Vial	HCl, None	UA, TOC	
"	"	14 Plastic	HNO ₃	Metals Total -	

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)
 Nonhazardous _____ 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 Beth Monroe Date/Time 7-24-89, 0830

WHITE - Original, to accompany samples
 YELLOW - Field copy

IT&T 12,780



CHAIN-OF-CUSTODY RECORD

R/A Control No. 107423

C/C Control No. 130258

PROJECT NAME/NUMBER NAS JAY/453058

LAB DESTINATION ITAS Knoxville

SAMPLE TEAM MEMBERS Mike Jones/Mike Lasko

CARRIER/WAYBILL NO. 2437703085

Table with 7 columns: Sample Number, Sample Location and Description, Date and Time Collected, Sample Type, Container Type, Condition on Receipt (Name and Date), Disposal Record No. Includes handwritten entries for well 4-11, water, and various container types.

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: [Signature] IT, 5/22/89 1700

3. Relinquished By: Received by:

2. Relinquished By: Received By:

4. Relinquished By: Received By:



REQUEST FOR ANALYSIS

R/A Control No. 1019
C/C Control No. 130258

PROJECT NAME NAS JAX
PROJECT NUMBER 453058
PROJECT MANAGER Robert Stephens
BILL TO _____
PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED 7/22/89
LAB DESTINATION ITAS Knoxville
LABORATORY CONTACT Beth Monroe
SEND LAB REPORT TO IT
3012 Hwy 301 W #1000
Tampa FL 33619
DATE REPORT REQUIRED _____
PROJECT CONTACT Mike Jones
PROJECT CONTACT PHONE NO. (813) 622 9174

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
<u>4-11-7/89</u>	<u>Water</u>	<u>1 l Amber (5)</u>	<u>NaOH, None</u>	<u>CN, Phenols, Pesticides</u>	
<u>"</u>	<u>"</u>	<u>500ml Amber</u>	<u>H₂SO₄</u>	<u>TOX</u>	
<u>"</u>	<u>"</u>	<u>40ml Vial(4)</u>	<u>HCl, None</u>	<u>VOA, TOC</u>	
<u>"</u>	<u>"</u>	<u>1 l Plastic</u>	<u>Metals To H₂O₂</u> <u>IND</u>	<u>Metals Total</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. 10,915
C/C Control No. 130263

PROJECT NAME/NUMBER NAS JAX / 453058 LAB DESTINATION FTAS KNOXVILLE

SAMPLE TEAM MEMBERS MIKE JONES / MIKE LASKO CARRIER/WAYBILL NO. 2437703100

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
4-12D 7/89	WELL 4-12D	7.21.89 19:50	WATER	(5) 1L GLASS AMBER	COOL + CONTACT PHT 7-24-89 ↓	
"	"	"	"	1L PLASTIC		
"	"	"	"	500ml glass AMBER		
"	"	"	"	(4) 40ml VIALS		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: MJ Jones 19 7/22/89 1500

3. Relinquished By: _____

Received By: Beth Monroe, ITAS, 7-24-89, 0830

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____

WHITE - To accompany samples
YELLOW - Field copy



INTERNATIONAL
TECHNOLOGY
CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 100010

C/C Control No. 150263

PROJECT NAME NAS JAX
PROJECT NUMBER 453058
PROJECT MANAGER R. STEPHENS
BILL TO _____

DATE SAMPLES SHIPPED 7/22/89
LAB DESTINATION ITAS KNOXVILLE
LABORATORY CONTACT BETH MONROE
SEND LAB REPORT TO IT TAMPA
3012 Hwy 301N #1000
TAMPA, FL 33619

PURCHASE ORDER NO. _____

DATE REPORT REQUIRED _____
PROJECT CONTACT MIKE JONES
PROJECT CONTACT PHONE NO. (813) 622-7174

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
4-12D 7/89	WATER	(5) 12 glass AMBER	NaOH, NONE	CN ⁻ , PHENOLS, Pesticides	
"	"	500ml glass AMBER	H2SO4	TOX	
"	"	(4) 40ml vials	HCl, NONE	VOA, TOC	
"	"	1-2 PLASTIC	HNO3	METALS	

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 Beth Monroe

Date/Time 7-24-89, 0830

WHITE - Original, to accompany samples
YELLOW - Field copy

ITAT 4.3780



INTERNATIONAL
TECHNOLOGY
CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 10127

C/C Control No. 130268

PROJECT NAME/NUMBER NAS JAX / 453058

LAB DESTINATION KNOXVILLE LABS

SAMPLE TEAM MEMBERS MIKE JONES / MIKE LASKO

CARRIER/WAYBILL NO. 2437703251

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
4.13.7/37	Well 4.13	4.23.89 @ 14:20	WATER	(5) 12 GLASS AMBER	cold contact with 7-25-89 ↓	
"	"	"	"	500ml GLASS AMBER		
"	"	"	"	(4) 40ml VIALS		
"	"	"	"	12 PLASTIC		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: M Jones IT 7/24/89 0800

3. Relinquished By: _____

Received By: Beth Monroe, ITAS, 7-25-89, 0830

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____

WHITE - To accompany samples
YELLOW - Field copy



INTERNATIONAL
TECHNOLOGY
CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 11 321

C/C Control No. 130268

PROJECT NAME NAS JAY

DATE SAMPLES SHIPPED

7/24/89

PROJECT NUMBER 453058

LAB DESTINATION

KNOXVILLE LABS

PROJECT MANAGER R. STEPHENS

LABORATORY CONTACT

BETH MONROE

BILL TO _____

SEND LAB REPORT TO

I.T. TAMPA

PURCHASE ORDER NO. _____

DATE REPORT REQUIRED

3012 Hwy 301N S 1000

PROJECT CONTACT

Tampa, FL 33619

PROJECT CONTACT PHONE NO.

M. JONES

813 622 7174

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
413.7/89	WATER	(5) 1L GLASS AMBER	NaOH, NONE	CM-, PHENOL, PESTICIDES	
"	"	500ml GLASS AMBER	H2SO4	TOX	
"	"	(4) 40ml VIALS	HCL, NONE	VOA, TOC	
"	"	1L PLASTIC	HNO3	METALS	

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 Beth Monroe

Date/Time 7-25 89, 0830

WHITE - Original, to accompany samples
YELLOW - Field copy

I.T. 43790



CHAIN-OF-CUSTODY RECORD

R/A Control No. 10, 126
C/C Control No. 130271

PROJECT NAME/NUMBER NAS JAX / 453058

LAB DESTINATION KNOXVILLE LABS

SAMPLE TEAM MEMBERS MIKE LASKO / MIKE JONES

CARRIER/WAYBILL NO. 1036393083

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
4-130-7/89	well -13D	7/22/89 @ 19:00	WATER	(5) 1L AMBER GLASS	Cold J. Jack BHM 7-25-89 ↓	
"	"	"	"	1L PLASTIC		
"	"	"	"	500ml AMBER GLASS		
"	"	"	"	(4) 40ml VIALS		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: M. Jones ITT 7/24/89 0800
Received By: Beth Monroe, ITAS 7-25-89, 0830

3. Relinquished By: _____
Received by: _____

2. Relinquished By: _____
Received By: _____

4. Relinquished By: _____
Received By: _____



REQUEST FOR ANALYSIS

R/A Control No. 10020
 C/C Control No. 130271
7/24/89
KNOXVILLE LAB
BETH MONROE
FT TAMPA
3012 Hwy 301N S 1000
TAMPA, FL 33619

PROJECT NAME NAS JAX
 PROJECT NUMBER 453058
 PROJECT MANAGER R. STEPHENS
 BILL TO _____

 PURCHASE ORDER NO. _____

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

 DATE REPORT REQUIRED _____
 PROJECT CONTACT M. JONES
 PROJECT CONTACT PHONE NO. 813 622 7174

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
4-13D 7/89	WATER	(5) 1L GLASS BBER	NaOH, NONE	CN ⁻ , PHENOL, PESTICIDES	
"	"	500 ML Glass Amber	H ₂ SO ₄	TOX	
"	"	(4) 40ml VIALS	HCl, NONE	TOC, VOA	
"	"	1L PLASTIC	HNO ₃	METALS	

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 Beth Monroe Date/Time 7-25-89, 0830

WHITE - Original, to accompany samples
 YELLOW - Field copy

1787 43790



CHAIN-OF-CUSTODY RECORD

R/A Control No. 10,31

C/C Control No. 112569

PROJECT NAME/NUMBER NAS JAY / 453058

LAB DESTINATION ITAS Knoxville

SAMPLE TEAM MEMBERS MIKE LASKO / MIKE JONES

CARRIER/WAYBILL NO. 243 7703225

Table with 7 columns: Sample Number, Sample Location and Description, Date and Time Collected, Sample Type, Container Type, Condition on Receipt (Name and Date), Disposal Record No. Handwritten entries include '4.14.7/89', 'WELL 4.14', '7/22/89 @ 12:00', 'WATER', '(5) 12 GLASS AMP', '500ml AMBIC', '(4) 40ml VIALS', '1-2 PLASTIC', and 'cold intact path 7-25-89'.

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: MJ Jones IT 7/24/89 0800
Received By: [Signature] ITAS, 7-25-89, 0830

3. Relinquished By:
Received by:

2. Relinquished By:
Received By:

4. Relinquished By:
Received By:



INTERNATIONAL
TECHNOLOGY
CORPORATION

REQUEST FOR ANALYSIS

PROJECT NAME NAS JAX
 PROJECT NUMBER 453058
 PROJECT MANAGER R. STEPHENS
 BILL TO _____

 PURCHASE ORDER NO. _____

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

R/A Control No. 112069
 C/C Control No. 7/24/89

B ITAS Knoxville
Beth Monroe
IT TAMPA
3012 US HWY 301 N S#1000
TAMPA, FL 33619

DATE REPORT REQUIRED _____
 PROJECT CONTACT M JONES
 PROJECT CONTACT PHONE NO. 813 622 7174

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
4-14-7/89	WATER	(5) 1 L AMBER	NaOH, NONE	CN ⁻ , Phenols, Pesticides	
"	"	500ml AMBER	H ₂ SO ₄	TOX	
"	"	(4) 40ml VIALS	HCl, NONE	VOA, TOC	
"	"	1 L PLASTIC	HNO ₃	METALS	

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 Beth Monroe

Date/Time 7-25-89, 0830

WHITE - Original, to accompany samples
 YELLOW - Field copy

ITC 43790



CHAIN-OF-CUSTODY RECORD

R/A Control No. 0-0003

C/C Control No. 130257

PROJECT NAME/NUMBER NAS JAY/453058

LAB DESTINATION ITAS Knoxville

SAMPLE TEAM MEMBERS Mike Jones / Mike Laska

CARRIER/WAYBILL NO. 243703096

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
4-15-7/89	WELL 4-15	1989 7-21-89	WATER	(5) 1L glass AMBER	(10) 1L glass AMBER (10) 1L PLASTIC (4) 40ml VIALS (5) 1L glass AMBER (6) 40ml VIALS CONTACT 7-24-89	
"	"	"	"	1L PLASTIC		
"	"	"	"	500ml glass AMBER		
"	"	"	"	(4) 40ml VIALS		
4-D-7/89	WELL 4-D	"	"	(5) 1L glass AMBER		
"	"	"	"	1L PLASTIC		
"	"	"	"	500ml glass AMBER		
"	"	"	"	(6) 40ml VIALS		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: MJ Jones IT, 7/22/89 1500

3. Relinquished By: _____

Received By: Beth Monroe, ITAS, 7-24-89, 0830

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



INTERNATIONAL
TECHNOLOGY
CORPORATION

REQUEST FOR ANALYSIS

PROJECT NAME NAS J44
PROJECT NUMBER 453058
PROJECT MANAGER Robert Stephens
BILL TO _____

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

R/A Control No. 10510
C/C Control No. 789170 **130257**
7/22/89
ITAS Knoxville
Beth Monroe
IT Tampa
3012 Hwy 301N St 1000
Tampa FL 33619

PURCHASE ORDER NO. _____

DATE REPORT REQUIRED _____
PROJECT CONTACT Mike Jones
PROJECT CONTACT PHONE NO. (813) 622 7174

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
4-15-7/89	WATER	(5) 1L glass AMBER	NaOH, NONE	CN ⁻ , Phenols, Pesticides	
"	"	1L PLASTIC	HNO ₃	TOTAL METALS	
"	"	(4) 40ml VIALS	HCl, NONE	VDA, TOC	
"	"	500ml AMBER	H ₂ SO ₄	TOX	
4-D-7/89	"	(5) 1L glass AMBER	NaOH, NONE	CN ⁻ , Phenols, Pesticides	
"	"	1L PLASTIC	HNO ₃	TOTAL METALS	
"	"	(4) 40ml VIALS	HCl, NONE	VDA, TOC	
"	"	500ml AMBER	H ₂ SO ₄	TOX	

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 Beth Monroe

Date/Time 7-21-89, 0830

WHITE - Original, to accompany samples
YELLOW - Field copy

ITS 12700



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 101932

C/C Control No. 112471

PROJECT NAME/NUMBER NAS JAX / 453058

LAB DESTINATION KNOXVILLE LAB

SAMPLE TEAM MEMBERS MIKE JONES / MIKE LASKO

CARRIER/WAYBILL NO. 2437703240

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
4.16-7/89	well 4.16	7/22/89 @ 10:30	WATER	1L AMBER	Cold intact BHM 7-25-89 ↓	
"	"	"	"	500ml AMBER		
"	"	"	"	40ml VIALS		
"	"	"	"	1L PLASTIC		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: M Jones ITT 7/24/89 0800
 Received By: Mike Jones, ITAS 7-25-89, 0830

3. Relinquished By: _____
 Received by: _____

2. Relinquished By: _____
 Received By: _____

4. Relinquished By: _____
 Received By: _____

WHITE - To accompany samples
 YELLOW - Field copy



INTERNATIONAL
TECHNOLOGY
CORPORATION

REQUEST FOR ANALYSIS

PROJECT NAME NAS JAX
 PROJECT NUMBER 453058
 PROJECT MANAGER R. STEPHENS
 BILL TO _____

 PURCHASE ORDER NO. _____

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

DATE REPORT REQUIRED _____
 PROJECT CONTACT _____
 PROJECT CONTACT PHONE NO. _____

R/A Control No. 10 302
 C/C Control No. 112471
7/24/89
ITAS KNOXVILLE
BETH MONROE
I.T. TAMPA
3012 US HWY 301N S# 1000
TAMPA, FL 33619
M. JONES
813 622-7174

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
416.7/89	WATER	12 AMBER (5)	NaOH, NONE	CN ⁻ , Pesticides, Pesticides	
"	"	500ml AMBER	H ₂ SO ₄	TOX	
"	"	40 ml VIALS (4)	HCl, NONE	VOA, TOC	
"	"	12 PLASTIC	HNO ₃	METALS	

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 Beth Monroe

Date/Time 7-25-89 0830

WHITE - Original, to accompany samples
 YELLOW - Field copy

IT&T 13790



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

CHAIN-OF-CUSTODY RECORD

R/A Control No. 107912

C/C Control No. 130262

PROJECT NAME/NUMBER ITAS 547/453058

LAB DESTINATION ITAS Kansas City

SAMPLE TEAM MEMBERS Mike Jones / Mike Losko

CARRIER/WAYBILL NO. 243710311

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
4-170 7/89	well 11D	7/21/89 1410	Water	1L Amber (5)	Cost Impact 7-27-89	
"	"	"	"	500ml Amber		
"	"	"	"	400ml (via 1/4)		
"	"	"	"	1L Plastic		
4-17 7/89	Well 11	7/21/89 1530	Water	1L Amber (2)	↓	
"	"	"	"	500ml Amber		
"	"	"	"	400ml (via 1/4)		
"	"	"	"	1L Plastic		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: [Signature] 7/22/89 1500
Received By: Beth Vance, ITAS, 7-21-89, 0830

3. Relinquished By: _____
Received by: _____

2. Relinquished By: _____
Received By: _____

4. Relinquished By: _____
Received By: _____



REQUEST FOR ANALYSIS

ITC Control No. 110012
 C/C Control No. 150262
 DATE SAMPLES SHIPPED 7/22/89
 LAB DESTINATION ITAS Knoxville
 LABORATORY CONTACT Beth Monroe
 SEND LAB REPORT TO IT Tampa
3012 Hwy 3010 3rd floor
Tampa FL 33619

PROJECT NAME NAS JAY
 PROJECT NUMBER 453058
 PROJECT MANAGER Robert Stephens
 BILL TO _____
 PURCHASE ORDER NO. _____

DATE REPORT REQUIRED _____
 PROJECT CONTACT Mike Jones
 PROJECT CONTACT PHONE NO. (813) 622-7174

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
4-170 7/89	water	1P Amber (5)	NaOH, None	CN, Phenols, Pesticides	
"	"	500ml Amber	H ₂ SO ₄	TOX	
"	"	40ml Vial (4)	HCl, None	VOA, TOC	
"	"	1P Plastic	HNO ₃	Metals Total	
4-17 7/89	water	1P Amber (5)	NaOH, None	CN, Phenols, Pesticides	
"	"	500ml Amber	H ₂ SO ₄	TOX	
"	"	40ml Vial (4)	HCl, None	VOA, TOC	
"	"	1P Plastic	HNO ₃	Metals Total	

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 Beth Monroe Date/Time 7-24-89, 0830

WHITE - Original, to accompany samples
 YELLOW - Field copy

ITC 43780



CHAIN-OF-CUSTODY RECORD

R/A Control No. 101917

C/C Control No. A 87173

PROJECT NAME/NUMBER IAS/JAX/453058

LAB DESTINATION ITAS Knoxville

SAMPLE TEAM MEMBERS Mike Jones / Mike Lasko

CARRIER/WAYBILL NO. 2437703/33

Table with 7 columns: Sample Number, Sample Location and Description, Date and Time Collected, Sample Type, Container Type, Condition on Receipt (Name and Date), Disposal Record No. Rows include Well 4-18 and Well 4-18D with various container types like Amber and Plastic.

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: [Signature] IT Corp 7/20/89 2000 3. Relinquished By:

Received By: [Signature] ITAS 7-21-89 OREC. Received by:

2. Relinquished By: 4. Relinquished By:

Received By: Received By:



INTERNATIONAL
TECHNOLOGY
CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. IL 811
C/C Control No. A 8773

PROJECT NAME NIS 5-1x
PROJECT NUMBER 453058
PROJECT MANAGER Robert Stephens
BILL TO _____
PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED _____
LAB DESTINATION ITAS Knoxville
LABORATORY CONTACT Beth Monroe
SEND LAB REPORT TO IT Tampa
3012 Hwy 301N #1000
Tampa, FL 33619
DATE REPORT REQUIRED _____
PROJECT CONTACT Mike Jones
PROJECT CONTACT PHONE NO. (813) 622 7174

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
4-18-8/89	Water	12 Amber (5)	NaOH, None	CN, Pesticides, Phenols	
"	"	500ml Amber	H ₂ SO ₄	TOX	
"	"	40ml Vial	HCl, None	VOA, TOC	
"	"	12 Plastic	HNO ₃	Metals Total	
4-18-7/89	Water	12 Amber (5)	NaOH, None	CN, Pesticides, Phenols	
"	"	500ml Amber	H ₂ SO ₄	TOX	
"	"	40ml Vial	HCl, None	VOA, TOC	
"	"	12 Amber Plastic	HNO ₃	Metals Total	

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. S. Harris ITAS

Date/Time 7-21-89 0900

WHITE - Original, to accompany samples
YELLOW - Field copy

ITET 43774



INTERNATIONAL
TECHNOLOGY
CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 109159

C/C Control No. A 87166

PROJECT NAME/NUMBER NAS JAX / 453058

LAB DESTINATION FTAS KNOXVILLE

SAMPLE TEAM MEMBERS MIKE JONES / MIKE LASKO

CARRIER/WAYBILL NO. 2437703122

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
4-19-7/89	WELL 4-19	7/21/89 @ 11 ³⁰	WATER	(5) 1L GLASS AMBER	↓ NO JTS BTH 7-21-89	
"	"	"	"	1L PLASTIC		
"	"	"	"	500ml GLASS AMBER		
"	"	"	"	(4) 40ml VIALS		
4-19D-7/89	WELL 4-19D	7/21/89 @ 9 ³⁰	"	(5) 1L GLASS AMBER		
"	"	"	"	1L PLASTIC		
"	"	"	"	500ml GLASS AMBER		
"	"	"	"	(4) 40ml VIALS		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Mike Jones, ITT, 7/22/89 1500

3. Relinquished By: _____

Received By: Beth France, FTAS 7-21-89, 1830

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



REQUEST FOR ANALYSIS

DATE SAMPLES SHIPPED

1/23/89

LAB DESTINATION

453058

LABORATORY CONTACT

ROBERT STEPHENS

SEND LAB REPORT TO

DATE REPORT REQUIRED

PROJECT CONTACT

PROJECT CONTACT PHONE NO.

PURCHASE ORDER NO.

PROJECT NUMBER

PROJECT NAME

NAS SAK

BILL TO

PROJECT MANAGER

R/A Control No. 11038

C/C Control No. A8716

1/23/89

ITAS KNOXVILLE

BETH MONROE

I.T. TAMPA

3012 Hwy 301N S 1000

TAMPA, FL 33610

MIKE JONES

(813) 622-7124

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
4-19-7/89	WATER	1 Amber(5)	None, None	CN, Pesticides, Metals	
	"	500 Amber	H2SO4	TDX	
	"	40ml vial(4)	HCL, None	VOA, TOC	
	"	1 Amber	None	Metals Total	
4-19-7/89	WATER	1 Amber(5)	NaOH, Nickel	CN, Pesticides, Metals	
	"	500 Amber	H2SO4	TDX	
	"	40ml vial(4)	HCL, None	VOA, TOC	
	"	1 Amber	None	Metals Total	
	"	500 Amber	H2SO4	TDX	
	"	40ml vial(4)	HCL, None	VOA, TOC	
	"	1 Amber	None	Metals Total	
	"	500 Amber	H2SO4	TDX	
	"	40ml vial(4)	HCL, None	VOA, TOC	
	"	1 Amber	None	Metals Total	
	"	500 Amber	H2SO4	TDX	
	"	40ml vial(4)	HCL, None	VOA, TOC	
	"	1 Amber	None	Metals Total	

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)

Nonhazardous 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 Beth Jones

Date/Time 1-27/89 (83)



CHAIN-OF-CUSTODY RECORD

R/A Control No. 10 113

C/C Control No. 112429

PROJECT NAME/NUMBER 453058/NAS SAX

LAB DESTINATION ITAS Knoxville

SAMPLE TEAM MEMBERS Michael Soxes, Mike Laska

CARRIER/WAYBILL NO. 2437703166

Table with 7 columns: Sample Number, Sample Location and Description, Date and Time Collected, Sample Type, Container Type, Condition on Receipt (Name and Date), Disposal Record No. Handwritten entries include sample numbers 4-20-7/89 and 4-20-D-7/89, locations 'NAS JAX WELL 4-20', and container types like '1L AMBER (4)', '500 ml AMBER', '40 ml VIAL (4)', and '1L PLASTIC (1)'. A vertical arrow indicates a sequence of samples.

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Michael J. Laska I.T. 7/20/89 3:00 PM

3. Relinquished By: _____

Received By: J. Harris ITAS 7-21-89 0900

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____

WHITE - To accompany samples
YELLOW - Field copy

ITET 413774



REQUEST FOR ANALYSIS

R/A Control No. IL 915
C/C Control No. 112429

PROJECT NAME NAS JAX
PROJECT NUMBER 453058
PROJECT MANAGER Robert Stephens
BILL TO _____
PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED _____
LAB DESTINATION ITAS Knoxville
LABORATORY CONTACT Beth Monroe
SEND LAB REPORT TO IT Tampa
3012 Hwy 301N S#1000
Tampa, FL 33619
DATE REPORT REQUIRED _____
PROJECT CONTACT Mike Jones
PROJECT CONTACT PHONE NO. (813) 622-7174

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
4-20-7/89	water	1L Amber (5)	H₂SO₄ NaOH, NONE	CN, Phenols, Pesticides	
"	"	500 ml Amber	H ₂ SO ₄	TOX	
"	"	40ml Vial (4)	HCl, NONE	VOA, TOC ^W	
"	"	1L Plastic (2)	HNO ₃	metals (Asbestos , Total)	
4-20-7/89	WATER	1L AMBER (5)	NaOH, NONE	CN, Phenols, Pesticides	
"	"	500 ml AMBER	H ₂ SO ₄	TOX	
"	"	40ml Vial (4)	HCl, NONE	VOA, TOC ^W	
"	"	1L Plastic (2)	HNO ₃	METALS (Asbestos , TOTAL)	

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 S Harris ITAS

Date/Time 7-21-89 0900

WHITE - Original, to accompany samples
YELLOW - Field copy

ITET 43774



CHAIN-OF-CUSTODY RECORD

R/A Control No. 10, 11

C/C Control No. 112428

PROJECT NAME/NUMBER WAS 54X / 453058

LAB DESTINATION ITAS Knoxville

SAMPLE TEAM MEMBERS Mike Jones, Mike Lasko

CARRIER/WAYBILL NO. 2437703155

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
4-21-7/89	Well 4-291	7/20/89 0930	water	1L Amber (4)	OK SQW 7-21-89	
"	"	"	"	500ml Amber		
"	"	"	"	40ml vial (4)		
"	"	"	"	1L Plastic (2)		
4-210-7/89	Well 4-210	7/20/89 11:50A	water	1L Amber (4)		
"	"	"	"	500 ml Amber	V	
"	"	"	"	40ml vial (4)		
"	"	"	"	1L Amber (2)		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Michael J. Jones IT, 7/20/89 3:42pm

3. Relinquished By: _____

Received By: J. Harris ITAS 7-21-89 0900

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



REQUEST FOR ANALYSIS

R/A Control No. 10 311
C/C Control No. 112725

PROJECT NAME NAS JAX
PROJECT NUMBER 453058
PROJECT MANAGER Robert Stephens
BILL TO _____
PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED _____
LAB DESTINATION ITAS Knoxville
LABORATORY CONTACT _____
SEND LAB REPORT TO IT Tampa
3012 Hwy 301 W St 1000
Tampa, FL 33619
DATE REPORT REQUIRED _____
PROJECT CONTACT MIKE SOLES
PROJECT CONTACT PHONE NO. (813) 622 7174

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
<u>4-20-7/89</u>	<u>Water</u>	<u>1L Amber (5)</u>	<u>NaOH, None</u>	<u>CN, Phenols, Pesticides</u>	
<u>"</u>	<u>"</u>	<u>500ml Amber</u>	<u>H2SO4</u>	<u>TOX</u>	
<u>"</u>	<u>"</u>	<u>40ml Vials(4)</u>	<u>HCl, None</u>	<u>VDA, TOC</u>	
<u>"</u>	<u>"</u>	<u>1ml plastic (2)</u>	<u>HNO3</u>	<u>metals (Total, Dissolved)</u>	
<u>4-20-7/89</u>	<u>Water</u>	<u>1L Amber (5)</u>	<u>NaOH, None</u>	<u>CN, Phenols, Pesticides</u>	
<u>"</u>	<u>"</u>	<u>500ml Amber</u>	<u>H2SO4</u>	<u>TOX</u>	
<u>"</u>	<u>"</u>	<u>40ml Vial</u>	<u>HCl, None</u>	<u>VDA, TOC</u>	
<u>"</u>	<u>"</u>	<u>1ml plastic (2)</u>	<u>HNO3</u>	<u>metals (Total, Dissolved)</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 S. Harris ITAS

Date/Time 7-21-89 6:00

WHITE - Original, to accompany samples
YELLOW - Field copy

17ET 43774



INTERNATIONAL
TECHNOLOGY
CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 167909
C/C Control No. 112427

PROJECT NAME/NUMBER NAS JAX/453058
SAMPLE TEAM MEMBERS Mike Jones / Mike Lasko

LAB DESTINATION IT AS Knoxville
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.
4-22-7/89	water Well 4-22	7/19/89 15:00	water	1L Amber (5)	1-1L amber broken	
"	"	"	"	500ml Amber	Warm & intact, sub, 7/20/89	
"	"	"	"	40ml Vial (4)	↓	
"	"	"	"	1L Plastic (2)		
4-22-7/89	(Well 4-221)	7/19/89 16:50	Water	1L Amber (5)		
"	"	"	"	500ml Amber		
"	"	"	"	40ml Vial (4)		
"	"	"	"	1L Plastic (2)		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Michael J. Lasko I.T. 7/19/89 6:30 PM
Received By: SA Kennedy, ITHS, 7/20/89 0900

2. Relinquished By: _____
Received By: _____

3. Relinquished By: _____
Received by: _____

4. Relinquished By: _____
Received By: _____



REQUEST FOR ANALYSIS

R/A Control No. 10 109
C/C Control No. 112427

PROJECT NAME NAS JAX
PROJECT NUMBER 453058
PROJECT MANAGER Robert Stephens
BILL TO _____
PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED _____
LAB DESTINATION ITAS Knoxville
LABORATORY CONTACT Beth Monroe
SEND LAB REPORT TO IT Tampa
3012 Hwy 301 N #1000
Tampa FL 33619
DATE REPORT REQUIRED _____
PROJECT CONTACT Mike Jones
PROJECT CONTACT PHONE NO. (813) 6227174

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
4-22-7/89	Water	1L Amber (5)	^{W/NaOH} H ₂ SO ₄ , NONE	CN, Phenols, Pesticides	
"	"	500ml Amber	H ₂ SO ₄	TOX	
"	"	40ml Vial (4)	HCL, NONE	VOA, TOC	
"	"	1L Plastic (2)	^{W/NaOH} H ₂ NO ₃	Metals	
4-20-7/89	Water	1L Amber (5)	NaOH, NONE	CN, Phenols, Pesticides	
"	"	500ml Amber	H ₂ SO ₄	TOX	
"	"	40ml Vial (4)	HCL, NONE	VOA, TOC	
"	"	1L Plastic (2)	H ₂ NO ₃	Metals	
			^{W/NaOH}		

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 SA Kennedy Date/Time 7/20/89 1400

WHITE - Original, to accompany samples
YELLOW - Field copy

112427



CHAIN-OF-CUSTODY RECORD

R/A Control No. 101908

C/C Control No. 112426

PROJECT NAME/NUMBER ~~IT~~ NAS JAX / 453058

LAB DESTINATION ITAS Knoxville

SAMPLE TEAM MEMBERS Mike Jones / Mike Lasko

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.
4-23-7/89	well 4-23	7/19/89 1800	Water	1L Amber (5)	1-1L amber broken	
"	"	"	"	500 ML Amber	warm & intact, Sak, 7/20/89	
"	"	"	"	40 ML Vials (4)	↓	
"	"	"	"	1L Plastic (2)		
4-230-7/89	well 4-23D	7/19/89 1000	water	1L Amber (5)		
"	"	"	"	500 ML Amber		
"	"	"	"	40 ML Vials (4)		
"	"	"	"	1L Plastic (2)		

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Michael J. Shuff I.T. 7/19/89 6:30 PM

3. Relinquished By:

Received By: SA Kennedy ITAS 7/20/89 0900

Received by:

2. Relinquished By:

4. Relinquished By:

Received By:

Received By:



INTERNATIONAL
TECHNOLOGY
CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 107503
C/C Control No. ~~104908~~
112426

PROJECT NAME NAS JAX
PROJECT NUMBER 453058
PROJECT MANAGER Robert Stephens
BILL TO _____
PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED _____
LAB DESTINATION ITAS Knoxville
LABORATORY CONTACT Beth Monroe
SEND LAB REPORT TO IT Tampa
3012 Hwy 301 N Ste 1000
Tampa, FL
DATE REPORT REQUIRED _____
PROJECT CONTACT Mike Jones
PROJECT CONTACT PHONE NO. (813) 622-7174

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
4-28-7/89	water	1L Amber (5)	HNO3 , NaOH, NONE	CN, Phenol, Pesticides	
"	"	500ml Amber	H2SO4	TOX	
"	"	40 ml vials (4)	HCL, NONE	VOA, TOX	
"	"	1L Plastic (2)	HNO3	Metals, metal	
4-28-7/89	water	1L Amber (5)	NaOH, NONE	CN, Phenol, Pesticides	
"	"	500ml Amber	H2SO4	TOX	
"	"	40ml vials (4)	HCL, NONE	VOA, TOX	
"	"	1L Plastic	HNO3	Metals	

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 _____

FOR LAB USE ONLY
Received By SA [Signature] Date/Time 11/22/89 9:00

WHITE - Original, to accompany samples
YELLOW - Field copy

ITET 43761



CHAIN-OF-CUSTODY RECORD

R/A Control No. 101918
C/C Control No. 130259

PROJECT NAME/NUMBER NAS JAX / 453058
SAMPLE TEAM MEMBERS MIKE LASKO / MIKE JONES

LAB DESTINATION KNOXVILLE LAB
CARRIER/WAYBILL NO. 2437703144

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
4-R-7/89	WELL RINSE	7/23/89 @ 20:50	WATER	(5) 12 AMBER	add info: BETH 7-25-89 ↓	
11	11	11	11	500ml AMBER		
11	11	11	11	(3) 40ml VIALS		
11	11	11	11	12 PLASTIC		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: MJ Jones ITT 7/24/89 0800
Received By: Beth Jones ITT, 7-25-89, 0830

3. Relinquished By: _____
Received by: _____

2. Relinquished By: _____
Received By: _____

4. Relinquished By: _____
Received By: _____



REQUEST FOR ANALYSIS

R/A Control No. 10 818C/C Control No. 130259PROJECT NAME NAS / JAXDATE SAMPLES SHIPPED 7/24/89PROJECT NUMBER 453058LAB DESTINATION KNOXVILLE LABPROJECT MANAGER R. STEPHENSLABORATORY CONTACT Beth Monroe

BILL TO _____

SEND LAB REPORT TO I.T. TAMPA

PURCHASE ORDER NO. _____

DATE REPORT REQUIRED _____

PROJECT CONTACT M. JONESPROJECT CONTACT PHONE NO. (813) 622-71743012 Hwy 301N s#1000
TAMPA, FL 33619

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
<u>H-R-7/89</u>	<u>WATER</u>	<u>1000 ml (5)</u>	<u>NaOH, NONE</u>	<u>CN-, PHENOL, PESTICIDES</u>	
<u>"</u>	<u>"</u>	<u>500 ml (1)</u>	<u>H2SO4</u>	<u>TOX</u>	
<u>"</u>	<u>"</u>	<u>VIALS (3)</u>	<u>HCL, NONE</u>	<u>TDS, VOA, TOC</u>	
<u>"</u>	<u>"</u>	<u>1000 ml</u>	<u>HNO3</u>	<u>METALS</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 Beth MonroeDate/Time 7-25-89, 0830WHITE - Original, to accompany samples
YELLOW - Field copy179.7 43790



INTERNATIONAL
TECHNOLOGY
CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 10 725

C/C Control No. 130264

PROJECT NAME/NUMBER NAS JAX / 453058

LAB DESTINATION KNOXVILLE ITAS

SAMPLE TEAM MEMBERS MIKE JONES, MIKE LASKO

CARRIER/WAYBILL NO. 2437103074

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
Trip Blank	Trip BLANK	7/22/89 1500	WATER	1L PLASTIC		
"	"	" "	"	(5) 1L AMBER	cool & pack with 7-21-89 ↓	
"	"	" "	"	500ml AMBER		
"	"	" "	"	(4) 40ml VIALS		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: MI Jones IT 7/22/89 1500

3. Relinquished By: _____

Received By: Beth Monroe, ITAS, 7-21-89, 0830

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



REQUEST FOR ANALYSIS

R/A Control No. 11320
C/C Control No. 130264

PROJECT NAME NAS/JAX
PROJECT NUMBER 453058
PROJECT MANAGER R. Stephens
BILL TO _____

DATE SAMPLES SHIPPED 7/22/89
LAB DESTINATION KNOXVILLE ITAS
LABORATORY CONTACT Beth MONROE
SEND LAB REPORT TO IT TAMPA
3012 Hwy 301N ^{SW} 1000
TAMPA, FL 33619

PURCHASE ORDER NO. _____

DATE REPORT REQUIRED _____
PROJECT CONTACT MIKE JONES
PROJECT CONTACT PHONE NO. 813 622 7174

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
TRIP BLANK	WATER	(5) 1L AMBER		Meth. CN, Pesticides	
"	"	500ml AMBER		TOX	
"	"	(4) 40ml VIALS		TOL. UOA	
"	"	1L PLASTIC		HNO ₃	

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 Beth Monroe

Date/Time 7-24-89, 0830

WHITE - Original, to accompany samples
YELLOW - Field copy

1767 42780



CHAIN-OF-CUSTODY RECORD

R/A Control No. 10 130
C/C Control No. 112568

PROJECT NAME/NUMBER NAS JAX / 453058 LAB DESTINATION KNOXVILLE
SAMPLE TEAM MEMBERS MIKE LASKO / MIKE JONES CARRIER/WAYBILL NO. 2437703214

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
4.13.7/89	WELL 4.13	7/23/89 @ 17:00	WATER	12 PLASTIC	Cold Contact BUT 7-25-89	
4.10.7/89	WELL 4.10	7/23/89 @ 19:30	"	"		
4.17.7/89	WELL 4-17	7/23/89 @ 16:00	"	"		
Well 4.4.7/89	WELL 4-4	7/23/89 @ 20:00	"	"		
Well 4.11.7/89	WELL 4-11	7/23/89 @ 19:03	"	"		
Well 4.14.7/89	WELL 4.14	7/23/89 @ 16:30	"	"		
4.15.7/89	WELL 4.15	7/23/89 @ 19:40	"	"		
4.16.7/89	WELL 4.16	7/23/89 @ 15:50	"	"		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: MJ Jones IT 7/24/89 0800
Received By: Beth Monroe, ITAS, 7.25.89, 0830

3. Relinquished By: _____
Received by: _____

2. Relinquished By: _____
Received By: _____

4. Relinquished By: _____
Received By: _____

WHITE - To accompany samples
YELLOW - Field copy



REQUEST FOR ANALYSIS

R/A Control No. 112568
 C/C Control No. 112568
7/24/89
KNOXVILLE LAB
BETH MONROE
I.T. TAMPA
3012 HWY 301N S#1000
TAMPA, FL 33619
M. JONES
813 622 7174

PROJECT NAME NAS JAX
 PROJECT NUMBER 453058
 PROJECT MANAGER R. STEPHENS
 BILL TO _____
 PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED _____
 LAB DESTINATION _____
 LABORATORY CONTACT _____
 SEND LAB REPORT TO _____
 DATE REPORT REQUIRED _____
 PROJECT CONTACT _____
 PROJECT CONTACT PHONE NO. _____

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
✓ 4.13. 7/89	WATER	12 PLASTIC	HNO3	DISSOLVED METALS	UPON ARRIVAL FILTER + PRESERVE
✓ 4.10. 7/89	"	"	" HNO2	"	
✓ 4.17. 7/89	"	"	"	"	
✓ 4.14. 7/89	"	"	"	"	
✓ 4.11. 7/89	"	"	"	"	
✓ 4.4. 7/89	"	"	"	"	
✓ 4.15. 7/89	"	"	"	"	
✓ 4.16. 7/89	"	"	---	"	
					UPON ARRIVAL FILTER + PRESERVE

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)
 Nonhazardous 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 Beth Monroe Date/Time 7-25-89 0830



INTERNATIONAL
TECHNOLOGY
CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 107.28

C/C Control No. 130270

PROJECT NAME/NUMBER NAS JAX / 453058

LAB DESTINATION KNOXVILLE LAB

SAMPLE TEAM MEMBERS MIKE LASKO / MIKE JONES

CARRIER/WAYBILL NO. 2437703214

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
4-19-7/81	WELL 4-19	7/23/89 @ 11:50	WATER	IR PLASTIC	Cold + contact BHT 7-25-89	
4-19D-7/81	WELL 4-19D	7/23/89 @ 11:15	"	"		
4-20-7/81	WELL 4-20	7/23/89 @ 11:54	"	"		
4-5-7/81	WELL 4-5	7/23/89 @ 18:30	"	"		
4-12D-7/81	WELL 4-12D	7/23/89 @ 18:30	"	"		
4-13D-7/81	WELL 4-13D	7/23/89 @ 18:00	"	"		
4-9-7/81	WELL 4-9	7/23/89 @ 19:00	"	"		
4-D-7/81	WELL 4-D	7/23/89 @ 14:40	"	"		
4-17D-7/81	WELL - 17D	7/23/89 @ 4:30	"	"		
4-R-7/81	RINSE	7/23/89 @ 20:30	"	"		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: [Signature] 7/24/89 0800
 Received By: Beth Gomez, IATS, 7-25-89, 0830

3. Relinquished By: _____
 Received by: _____

2. Relinquished By: _____
 Received By: _____

4. Relinquished By: _____
 Received By: _____



REQUEST FOR ANALYSIS

R/A Control No. 10020
C/C Control No. 130270

PROJECT NAME NAS JAY
PROJECT NUMBER 453058
PROJECT MANAGER R. STEPHENS
BILL TO _____
PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED 7/24/89
LAB DESTINATION BETH MONROE KNOXVILLE
LABORATORY CONTACT BETH MONROE
SEND LAB REPORT TO IT TAMPA
3012 Hwy 301N S#1000
TAMPA, FL 33619
DATE REPORT REQUIRED _____
PROJECT CONTACT M. JONES
PROJECT CONTACT PHONE NO. 813 622 7174

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
✓ 4-19-7/89	WATER	1R PLASTIC	HNO3	DISSOLVED METALS	
✓ 4-19D-7/89	"	"	"	"	
✓ 4-20-7/89	"	"	"	"	
✓ 4-5-7/89	"	"	"	"	
✓ 4-12D-7/89	"	"	"	"	
✓ 4-13D-7/89	"	"	"	"	
✓ 4-9-7/89	"	"	---	"	UPON ARRIVAL, FILTERS PRESERVE
✓ 4-D-7/89	"	"	"	"	
✓ 4-17D-7/89	"	"	"	"	
✓ 4-R-7/89	"	"	"	"	

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 Beth Monroe

Date/Time 7-25 89, 0830

WHITE - Original, to accompany samples
YELLOW - Field copy



CHAIN-OF-CUSTODY RECORD

R/A Control No. 10,936

C/C Control No. 112472

PROJECT NAME/NUMBER NAS/JAX - 453058

LAB DESTINATION ITAS KNOXVILLE

SAMPLE TEAM MEMBERS MIKE LASKO / MIKE JONES

CARRIER/WAYBILL NO. 2437703236

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
4-11-7/24	WELL 4-11	7/22/89 @ 13:45	WATER	12 AMBER (5)	cold & intact BETA 7-25-89	
"	"	"	"	500 ml AMBER		
"	"	"	"	(4) 40 ml VIALS		
"	"	"	"	1 L PLASTIC		
200 7/24	WELL - 4-20D	7/21/89 @ 4:30	"	"		
4.18 7/24	WELL 4-18	7/21/89 @ 14:30	"	"		
4.18D 7/24	WELL 4-18D	7/21/89 @ 13:45	"	"		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: M. Jones IT 7/24/89 0800

3. Relinquished By: _____

Received By: Beth Momoze, ITAS, 7-25-89, (83)

Received by: _____

2. Relinquished By: _____

4. Relinquished By: _____

Received By: _____

Received By: _____



INTERNATIONAL
TECHNOLOGY
CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 10353
C/C Control No. 112472

PROJECT NAME NAS JAX
PROJECT NUMBER 453058
PROJECT MANAGER R. STEPHENS
BILL TO _____
PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED 7/24/89
LAB DESTINATION ITAS KNOXVILLE
LABORATORY CONTACT BETH MONROE
SEND LAB REPORT TO ITAS ^{TAMPA} ~~KNOXVILLE~~
3012 HWY 301N S 1000
TAMPA, FL 33619
DATE REPORT REQUIRED _____
PROJECT CONTACT M. JONES
PROJECT CONTACT PHONE NO. 813 622 7174

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
4-11-7/89	WATER	1L AMBER (5)	NaOH, NONE	CN-, P, end, Pesticides	
"	"	500ml AMBER	H ₂ SO ₄	TOX	
"	"	40ml VIALS (4)	HCl, NONE	VOA, TOC	
"	"	1L PLASTIC	HNO ₃	METALS	
4-200-7/89	"	"	"	"	
4-18-7/89	"	"	"	"	
4-18D-7/89	"	"	"	"	

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 Beth Monroe

Date/Time 7-25-89, 0830

WHITE - Original, to accompany samples
YELLOW - Field copy

ITET 43790

APPENDIX E
CERTIFICATES OF ANALYSIS

CERTIFICATE OF ANALYSIS

IT Corporation
3012 Highway 301 N., Suite 1000
Tampa, Florida 33619
ATTN: Mike Jones

August 22, 1989

Job Number: ITET 43774

P.O. Number: 453058

This is the Certificate of Analysis for the following samples:

Client Project ID: NAS JAX
Date Received by Lab: 07/21/89
Number of Samples: Six (6)
Sample Type: Water

I. Introduction

On 07/21/89, six (6) water samples arrived at the ITAS-Knoxville, Tennessee laboratory from the NAS JAX project via the IT-Tampa office. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

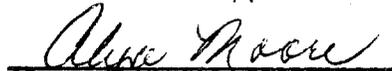
II. Analytical Results/Methodology

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) analyses were performed at the IT-Mixed Waste Laboratory (MWL) in Oak Ridge, Tennessee. A copy of that report will follow.

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

Reviewed and Approved:


Alyce Moore
Laboratory Manager

IT Corporation
August 22, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43774

II. Analytical Results/Methodology (continued)

The samples were analyzed for the requested semivolatile compounds (o-cresol and phenol) by GC/MS according to SW-846 method 8270.

The samples were analyzed for drinking water pesticides and herbicides by gas chromatography/electron capture detection (GC-ECD) based on EPA method 608 and Standard Methods 509B, respectively.

The samples were analyzed for total organic carbon (TOC) by chemical wet oxidation/infrared detection using EPA method 415.1.

The samples were analyzed for the requested total and dissolved metals by Cold Vapor Atomic Absorption Spectroscopy (CVAA), Graphite Furnace Atomic Absorption Spectroscopy (GFAA) and Inductively Coupled Plasma Spectroscopy (ICP) using SW-846 methods 3010, 3020, 7421, 7740, 7470 and 6010.

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

The samples were analyzed for hexavalent chromium according to Standard Methods 312B.

III. Quality Control

Routine laboratory level I QC was followed.

The volatiles analyses were performed on 08/03/89 by purge and trap with J&W DB-624 Megabore column on a Finnigan OWA GC/MS/DS. The semivolatiles analyses were performed on 07/31, 08/01 and 8/09/89 by direct injection of sample extract on a Restek RTX-5 capillary column on a Finnigan 4500 GC/MS/DS. The volatiles runs went well; all surrogate and internal standard recoveries were within QC limits. There were some non-target peaks seen early in the chromatogram that were not characterized. The semivolatiles runs also went well, except that the extract for sample 4-20D showed poor surrogate recoveries. The sample was reextracted (beyond the RCRA holding time) using a portion of the sample preserved with sodium hydroxide (NaOH) for cyanide analysis. The recoveries for the reextraction were good: both original and reextraction results were reported. The semivolatiles were extracted by acid-neutral extraction, which allowed for generally lower quantitation limits than usual; however, some extracts were diluted prior to analysis due to their appearance. There were no other problems, QC or otherwise, seen in final data review.

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43774

III. Quality Control (continued)

The samples were extracted for drinking water pesticides and herbicides on 07/25-27/89 and analyzed on 08/01-03/89. No problems were encountered.

The samples were analyzed for TOC on 07/25/89. No problems were encountered.

The samples were digested on 07/28/89 for ICP. The samples for mercury analysis were prepared just prior to analysis. The CVAA analysis for mercury was performed on 07/24/89; the remaining metals were analyzed by ICP on 07/31/89. All run QC was acceptable.

The samples were analyzed for complexed cyanide on 08/01/89 and for hexavalent chromium on 07/21/89. No problems were encountered with either analysis.

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43774

VOLATILE ORGANIC ANALYSIS

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

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank <u>VB0803</u>	4-18-7/89 <u>JJ3113</u>	4-18D-7/89 <u>JJ3114</u>
benzene	5 U	5 U	5 U
carbon tetrachloride	5 U	5 U	5 U
1,2-dichloroethane	5 U	5 U	5 U
1,2-dichloropropane	5 U	5 U	5 U
methylene chloride	3 J	5 U	5 U
tetrachloroethene	5 U	5 U	5 U
1,1,1-trichloroethane	5 U	2 J	2 J
trichloroethene	5 U	5 U	5 U
vinyl chloride	10 U	10 U	10 U
1,2,3-trichloropropane	5 U	5 U	5 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 Analysis: 08/03/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43774

VOLATILE ORGANIC ANALYSIS

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

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-20-7/89</u> <u>JJ3115</u>	<u>4-20D-7/89</u> <u>JJ3116</u>	<u>4-21-7/89</u> <u>JJ3117</u>	<u>4-21D-7/89</u> <u>JJ3118</u>
benzene	5 U	5 U	5 U	5 U
carbon tetrachloride	5 U	5 U	5 U	5 U
1,2-dichloroethane	5 U	5 U	5 U	5 U
1,2-dichloropropane	5 U	5 U	5 U	5 U
methylene chloride	17	5 U	5 U	5 U
tetrachloroethene	5 U	5 U	5 U	5 U
1,1,1-trichloroethane	5 U	5 U	5 U	5 U
trichloroethene	1 J	5 U	5 U	5 U
vinyl chloride	10 U	10 U	10 U	10 U
1,2,3-trichloropropane	5 U	5 U	5 U	5 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 Analysis: 08/03/89

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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43774

WATER SURROGATE PERCENT RECOVERY SUMMARY

Sample No.	VOLATILE		
	Toluene-D8 (88-110%)*	BFB (86-115%)*	1,2 Dichloroethane-D4 (76-114%)*
Method Blank	91	90	88
4-18-7/89	92	89	90
4-18D-7/89	99	96	93
4-20-7/89	95	94	88
4-20D-7/89	96	95	91
4-21-7/89	97	96	90
4-21D-7/89	90	90	85

*Values in parenthesis represent USEPA contract required QC limits.

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Client Project ID: NAS JAX

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN
Job Number: ITET 43774

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: Method Blank 1
Lab Sample ID: BL4538

Compound

Concentration

Phenol

5 U

o-Cresol

5 U

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

Date Extracted: 07/26/89
Date Analyzed: 07/31/89

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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43774

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-18-7/89
Lab Sample ID: JJ3131

<u>Compound</u>	<u>Concentration</u>
Phenol	5 U
o-Cresol	5 U

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

Date Extracted: 07/26/89
Date Analyzed: 07/31/89

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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43774

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-18D-7/89
Lab Sample ID: JJ3132

<u>Compound</u>	<u>Concentration</u>
Phenol	5 U
o-Cresol	5 U

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

Date Extracted: 07/26/89
Date Analyzed: 07/31/89

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IT ANALYTICAL SERVICES
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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43774

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-20-7/89
Lab Sample ID: JJ3133

<u>Compound</u>	<u>Concentration</u>
Phenol	65
o-Cresol	19

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

Date Extracted: 07/26/89
Date Analyzed: 08/01/89

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IT ANALYTICAL SERVICES
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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43774

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-20D-7/89
Lab Sample ID: JJ3134

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date Extracted: 07/26/89
Date Analyzed: 08/01/89

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IT ANALYTICAL SERVICES
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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43774

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-21-7/89
Lab Sample ID: JJ3135

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date Extracted: 07/26/89
Date Analyzed: 08/01/89

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SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-21D-7/89
Lab Sample ID: JJ3136

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date Extracted: 07/26/89
Date Analyzed: 08/01/89

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Client Project ID: NAS JAX

Job Number: ITET 43774

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: Method Blank 2
Lab Sample ID: BL4622

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date Extracted: 08/07/89
Date Analyzed: 08/09/89

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Job Number: ITET 43774

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-20D-7/89R
Lab Sample ID: JJ3140

<u>Compound</u>	<u>Concentration</u>
Phenol	20 U
o-Cresol	20 U

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

Date Extracted: 08/07/89
Date Analyzed: 08/09/89

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IT ANALYTICAL SERVICES
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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43774

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%)*
4-18-7/89	72	64	69	28	38	88
4-18D-7/89	78	68	73	28	41	93
4-20-7/89	77	73	83	33	46	91
4-20D-7/89	29 **	25 **	31 **	9 **	14 **	39
4-21-7/89	67	69	66	28	43	73
4-21D-7/89	65	63	92	26	41	85
Method Blank 1	71	59	77	24	39	80
4-20D-7/89R	55	50	78	29	38	77
Method Blank 2	64	58	90	21	35	90

*Values in parenthesis represent USEPA contract required QC limits.
**Values are outside of contract required QC limits.

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IT ANALYTICAL SERVICES
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KNOXVILLE, TN

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Job Number: ITET 43774

DRINKING WATER PESTICIDES AND HERBICIDES ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-18-7/89</u> <u>JJ3143</u>	<u>4-18D-7/89</u> <u>JJ3144</u>	<u>4-20-7/89</u> <u>JJ3145</u>	<u>4-20D-7/89</u> <u>JJ3146</u>
Lindane	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Endrin	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Methoxychlor	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Toxaphene	0.0004 U	0.0004 U	0.0004 U	0.0004 U
2,4-D	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Silvex	0.0001 U	0.0001 U	0.0001 U	0.0001 U

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

Date of Extraction: 07/25/89 - 07/27/89
Date of Analysis: 08/01/89 - 08/03/89

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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43774

DRINKING WATER PESTICIDES AND HERBICIDES ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-21-7/89</u> <u>JJ3147</u>	<u>4-21D-7/89</u> <u>JJ3148</u>	<u>Method Blank</u> <u>BL4531/BL4550</u>
Lindane	0.0001 U	0.0001 U	0.0001 U
Endrin	0.0001 U	0.0001 U	0.0001 U
Methoxychlor	0.0001 U	0.0001 U	0.0001 U
Toxaphene	0.0004 U	0.0004 U	0.0004 U
2,4-D	0.0002 U	0.0002 U	0.0002 U
Silvex	0.0001 U	0.0001 U	0.0001 U

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

Date of Extraction: 07/25/89 - 07/27/89

Date of Analysis: 08/01/89 - 08/03/89

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IT ANALYTICAL SERVICES
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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43774

TOTAL ORGANIC CARBON ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Result</u>
4-18-7/89	JJ3119	13
4-18D-7/89	JJ3120	13
4-20-7/89	JJ3121	10
4-20D-7/89	JJ3122	11
4-21-7/89	JJ3123	4
4-21D-7/89	JJ3124	2
Method Blank	D0141	1 U

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

Date of Analysis: 07/25/89

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IT ANALYTICAL SERVICES
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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43774

TOTAL METALS ANALYSIS
Results in mg/liter (ppm)
Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank PBWC0369
Arsenic	0.04 U
Barium	0.002 U
Cadmium	0.005 U
Chromium	0.01 U
Lead	0.03 U
Nickel	0.02 U
Selenium	0.06 U
Silver	0.005 U
Vanadium	0.01 U
Zinc	0.020
Mercury	NR

U = Compound was analyzed for but not detected. The number is the detection limit for the sample.
NR = Not required.

Date Digested: 07/28/89
Date Analyzed: CVAA - 07/24/89
ICP - 07/31/89

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IT ANALYTICAL SERVICES
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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43774

TOTAL METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-18-7/89</u> <u>JJ3149</u>	<u>4-18D-7/89</u> <u>JJ3150</u>	<u>4-20-7/89</u> <u>JJ3151</u>	<u>4-20D-7/89</u> <u>JJ3152</u>
Arsenic	0.04 U	0.04 U	0.04 U	0.04 U
Barium	0.066	0.080	0.25	0.22
Cadmium	0.005 U	0.005 U	0.005 U	0.005 U
Chromium	0.02	0.05	0.06	0.08
Lead	0.03	0.04	0.06	0.06
Nickel	0.02 U	0.02 U	0.02 U	0.02 U
Selenium	0.06 U	0.06 U	0.06 U	0.06 U
Silver	0.005 U	0.005 U	0.005 U	0.005 U
Vanadium	0.02	0.09	0.12	0.13
Zinc	0.047	0.056	0.033	0.17
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.

Date Digested: 07/28/89
Date Analyzed: CVAA - 07/24/89
ICP - 07/31/89

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KNOXVILLE, TN

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Job Number: ITET 43774

TOTAL METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-21-7/89</u> <u>JJ3153</u>	<u>4-21D-7/89</u> <u>JJ3154</u>
Arsenic	0.04 U	0.04 U
Barium	0.15	0.17
Cadmium	0.005 U	0.005 U
Chromium	0.05	0.02
Lead	0.05	0.03 U
Nickel	0.02 U	0.02 U
Selenium	0.06 U	0.06 U
Silver	0.005 U	0.005 U
Vanadium	0.05	0.02
Zinc	0.024	0.031
Mercury	0.001 U	0.001 U

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

Date Digested: 07/28/89
Date Analyzed: CVAA - 07/24/89
ICP - 07/31/89

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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43774

DISSOLVED METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank <u>PBWC0369</u>
Arsenic	0.04 U
Barium	0.002 U
Cadmium	0.005 U
Chromium	0.01 U
Lead	0.03 U
Nickel	0.02 U
Selenium	0.06 U
Silver	0.005 U
Vanadium	0.01 U
Zinc	0.020
Mercury	NR

U = Compound was analyzed for but not detected. The number is the detection limit for the sample.
NR = Not required.

Date Digested: 07/28/89
Date Analyzed: CVAA - 07/24/89
ICP - 07/31/89

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IT ANALYTICAL SERVICES
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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43774

DISSOLVED METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-21-7/89, Filtered JJ3155</u>	<u>4-21D-7/89, Filtered JJ3156</u>
Arsenic	0.04 U	0.04 U
Barium	0.052	0.15
Cadmium	0.005 U	0.005 U
Chromium	0.01	0.01 U
Lead	0.03 U	0.03 U
Nickel	0.02 U	0.02 U
Selenium	0.06 U	0.06 U
Silver	0.005 U	0.005 U
Vanadium	0.01 U	0.01
Zinc	0.051	0.005 U
Mercury	0.001 U	0.001 U

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

Date Digested: 07/28/89
Date Analyzed: CVAA - 07/24/89
ICP - 07/31/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43774

COMPLEXED 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	P0270	0.01 U
4-18-7/89	JJ3137	0.05
4-18D-7/89	JJ3138	0.01 U
4-20-7/89	JJ3139	0.01
4-20D-7/89	JJ3140	0.01 U
4-21-7/89	JJ3141	0.01 U
4-21D-7/89	JJ3142	0.01 U

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

Date Analyzed: 08/01/89

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August 22, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43774

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	P0251	0.02 U
4-18-7/89	JJ3149	0.02 U
4-18D-7/89	JJ3150	0.02 U
4-20-7/89	JJ3151	0.02 U
4-20D-7/89	JJ3152	0.02 U
4-21-7/89	JJ3153	0.02 U
4-21D-7/89	JJ3154	0.02 U
4-21-7/89, Filtered	JJ3155	0.02 U
4-21D-7/89, Filtered	JJ3156	0.02 U

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

Date Analyzed: 07/21/89



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AUG 28 1989

CERTIFICATE OF ANALYSIS

TAMPA, FLORIDA

IT Corporation
3012 Highway 301 N., Suite 1000
Tampa, Florida 33619
ATTN: Mike Jones

August 24, 1989

Job Number: ITET 43761

P.O. Number: 453058

This is the Certificate of Analysis for the following samples:

Client Project ID: NAS JAX
Date Received by Lab: 07/20/89
Number of Samples: Four (4)
Sample Type: Water

I. Introduction

On 07/20/89, four (4) water samples arrived at the ITAS-Knoxville, Tennessee Laboratory from the NAS/JAX project via the IT-Tampa office. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

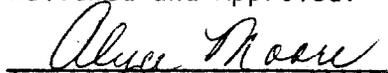
II. Analytical Results/Methodology

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.

Sample 4-23-7/89 for cyanide analysis was received broken. Per client's instructions, a portion of that sample (unpreserved) for semivolatile analysis was used to analyze for cyanide.

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

Reviewed and Approved:


Alyce Moore
Laboratory Manager

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

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

II. Analytical Results/Methodology (continued)

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

The samples were analyzed for the requested semivolatile compounds (o-cresol and phenol) by GC/MS according to SW-846 method 8270.

The samples were analyzed for drinking water pesticides and herbicides by gas chromatography/electron capture detection (GC/ECD) based on EPA method 608 and Standard Methods 509B, respectively.

The samples were analyzed for total organic carbon (TOC) by chemical wet oxidation/infrared detection using EPA method 415.1.

The samples were analyzed for the requested total and dissolved metals by Cold Vapor Atomic Absorption Spectroscopy (CVAA), Graphite Furnace Atomic Absorption Spectroscopy (GFAA) and Inductively Coupled Plasma Spectroscopy (ICP) using SW-846 methods 3010, 3020, 7421, 7740, 7470 and 6010.

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

The samples were analyzed for hexavalent chromium according to Standard Methods 312B.

III. Quality Control

Routine laboratory level I QC was followed.

The volatiles analyses were performed on 08/02/89 by purge and trap with J&W DB-624 Megabore column on a Finnigan OWA GC/MS/DS. The semivolatiles analyses were performed on 07/31 and 08/01/89 by direct injection of sample extract on a Restek RTX-5 capillary column on a Finnigan 4500 GC/MS/DS. There were no other problems, QC or otherwise, seen in final data review.

The samples were extracted for drinking water pesticides and herbicides on 07/24 and 07/26/89 and analyzed on 08/01 and 08/02/89. No problems were encountered.

The samples were analyzed for TOC on 07/25/89. No problems were encountered.

The samples were digested on 08/01/89 for ICP. The samples for mercury analysis were prepared just prior to analysis. The CVAA analysis for mercury was performed on 07/24/89; the remaining metals were analyzed by ICP on 08/03/89. All run QC was acceptable.

The samples were analyzed for complexed cyanide on 08/01/89 and for hexavalent chromium on 07/20/89. No problems were encountered.

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

VOLATILE ORGANIC ANALYSIS

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

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank <u>VB0801</u>	4-22-7/89 <u>JJ2941</u>	4-22D-7/89 <u>JJ2942</u>
benzene	5 U	5 U	5 U
carbon tetrachloride	5 U	5 U	5 U
1,2-dichloroethane	5 U	5 U	5 U
1,2-dichloropropane	5 U	5 U	5 U
methylene chloride	3 J	5 U	5 U
tetrachloroethene	5 U	5 U	5 U
1,1,1-trichloroethane	5 U	5 U	5 U
trichloroethene	5 U	5 U	5 U
vinyl chloride	10 U	10 U	10 U
1,2,3-trichloropropane	5 U	5 U	5 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 Analysis: 08/02/89

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

VOLATILE ORGANIC ANALYSIS

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

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-23-7/89</u> <u>JJ2943</u>	<u>4-23D-7/89</u> <u>JJ2944</u>
benzene	5 U	5 U
carbon tetrachloride	5 U	5 U
1,2-dichloroethane	5 U	5 U
1,2-dichloropropane	5 U	5 U
methylene chloride	5 U	5 U
tetrachloroethene	5 U	5 U
1,1,1-trichloroethane	5 U	5 U
trichloroethene	5 U	5 U
vinyl chloride	10 U	10 U
1,2,3-trichloropropane	5 U	5 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 Analysis: 08/02/89

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

WATER SURROGATE PERCENT RECOVERY SUMMARY

Sample No.	VOLATILE		
	Toluene-D8 (88-110%)*	BFB (86-115%)*	1,2 Dichloroethane-D4 (76-114%)*
Method Blank	98	98	98
4-22-7/89	94	95	91
4-22D-7/89	94	95	92
4-23-7/89	96	98	95
4-23D-7/89	97	97	97

*Values in parenthesis represent USEPA contract required QC limits.

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: Method Blank
Lab Sample ID: BL4516

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date Extracted: 07/21/89
Date Analyzed: 07/31/89

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-22-7/89
Lab Sample ID: JJ2961

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date Extracted: 07/21/89
Date Analyzed: 07/31/89

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-22D-7/89

Lab Sample ID: JJ2962

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date Extracted: 07/21/89

Date Analyzed: 07/31/89

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-23-7/89
Lab Sample ID: JJ2963

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date Extracted: 07/21/89
Date Analyzed: 07/31/89

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-23D-7/89
Lab Sample ID: JJ2964

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date Extracted: 07/21/89
Date Analyzed: 07/31/89

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

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%)*
4-22D-7/89	78	66	88	24	36	87
4-22-7/89	69	69	90	26	41	80
4-23-7/89	83	79	90	32	49	86
4-23D-7/89	85	74	107	31	46	100
Method Blank	56	54	71	20	32	61

*Values in parenthesis represent USEPA contract required QC limits.

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

DRINKING WATER PESTICIDES AND HERBICIDES ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank <u>BL4543/4513</u>
Lindane	0.0001 U
Endrin	0.0001 U
Methoxychlor	0.0001 U
Toxaphene	0.0004 U
2,4-D	0.0002 U
Silvex	0.0001 U

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

Date of Extraction: 07/24/89 and 07/26/89
Date of Analysis: 08/01/89 and 08/02/89

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

DRINKING WATER PESTICIDES AND HERBICIDES ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-22-7/89</u> <u>JJ2968</u>	<u>4-22D-7/89</u> <u>JJ2969</u>	<u>4-23-7/89</u> <u>JJ2970</u>	<u>4-23D-7/89</u> <u>JJ2971</u>
Lindane	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Endrin	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Methoxychlor	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Toxaphene	0.0004 U	0.0004 U	0.0004 U	0.0004 U
2,4-D	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Silvex	0.0001 U	0.0001 U	0.0001 U	0.0001 U

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

Date of Extraction: 07/24/89 and 07/26/89
Date of Analysis: 08/01/89 and 08/02/89

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

TOTAL ORGANIC CARBON ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Result</u>
4-22-7/89	JJ2945	13
4-22D-7/89	JJ2946	5
4-23-7/89	JJ2947	4
4-23D-7/89	JJ2948	2
Method Blank	D0141	1 U

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

Date of Analysis: 07/25/89

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

TOTAL METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank <u>PBWC0380</u>
Arsenic	0.04 U
Barium	0.002 U
Cadmium	0.005 U
Chromium	0.01 U
Lead	0.03 U
Nickel	0.02 U
Selenium	0.06 U
Silver	0.005 U
Vanadium	0.01 U
Zinc	0.020
Mercury	NR

U = Compound was analyzed for but not detected. The number is the detection limit for the sample.
NR = Not required.

Date Digested: 08/01/89
Date Analyzed: CVAA - 07/24/89
ICP - 08/03/89

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

TOTAL METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-22-7/89</u> <u>JJ2953</u>	<u>4-22D-7/89</u> <u>JJ2954</u>	<u>4-23-7/89</u> <u>JJ2955</u>	<u>4-23D-7/89</u> <u>JJ2956</u>
Arsenic	0.04 U	0.04	0.04 U	0.06
Barium	0.12	0.030	0.22	0.082
Cadmium	0.005 U	0.005 U	0.005 U	0.005 U
Chromium	0.02	0.01	0.10	0.02
Lead	0.03 U	0.03 U	0.06	0.03 U
Nickel	0.02 U	0.02 U	0.02 U	0.02 U
Selenium	0.06 U	0.06 U	0.06 U	0.06 U
Silver	0.005 U	0.005 U	0.005 U	0.005 U
Vanadium	0.03	0.03	0.07	0.03
Zinc	0.052	0.090	0.14	0.087
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.

Date Digested: 08/01/89
Date Analyzed: CVAA - 07/24/89
ICP - 08/03/89

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

DISSOLVED METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank PBWC0380
Arsenic	0.04 U
Barium	0.002 U
Cadmium	0.005 U
Chromium	0.01 U
Lead	0.03 U
Nickel	0.02 U
Selenium	0.06 U
Silver	0.005 U
Vanadium	0.01 U
Zinc	0.020
Mercury	NR

U = Compound was analyzed for but not detected. The number is the detection limit for the sample.
NR = Not required.

Date Digested: 08/01/89
Date Analyzed: CVAA - 07/24/89
ICP - 08/03/89

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

DISSOLVED METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-22-7/89</u> <u>JJ2957</u>	<u>4-22D-7/89</u> <u>JJ2958</u>	<u>4-23-7/89</u> <u>JJ2959</u>	<u>4-23D-7/89</u> <u>JJ2960</u>
Arsenic	0.04 U	0.04	0.04 U	0.04 U
Barium	0.070	0.028	0.11	0.046
Cadmium	0.005 U	0.005 U	0.005 U	0.005 U
Chromium	0.01 U	0.01 U	0.05	0.01 U
Lead	0.03 U	0.03 U	0.03 U	0.03 U
Nickel	0.02 U	0.02 U	0.02 U	0.02 U
Selenium	0.06 U	0.06 U	0.06 U	0.06 U
Silver	0.005 U	0.005 U	0.005 U	0.005 U
Vanadium	0.01 U	0.02	0.01 U	0.01 U
Zinc	0.083	0.025	0.12	0.032
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.

Date Digested: 08/01/89
Date Analyzed: CVAA - 07/24/89
ICP - 08/03/89

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

COMPLEXED 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	P0270	0.01 U
4-22-7/89	JJ2965	0.02 U
4-22D-7/89	JJ2966	0.01 U
4-23-7/89	JJ2963	0.01 U
4-23D-7/89	JJ2967	0.01 U

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

Date Analyzed: 08/01/89

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

TOTAL 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	P0249	0.02 U
4-22-7/89	JJ2953	0.02 U
4-22D-7/89	JJ2954	0.02 U
4-23-7/89	JJ2955	0.02 U
4-23D-7/89	JJ2956	0.02 U

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

Date Analyzed: 07/20/89

IT Corporation
August 24, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43761

DISSOLVED 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	P0249	0.02 U
4-22-7/89	JJ2957	0.02 U
4-22D-7/89	JJ2958	0.02 U
4-23-7/89	JJ2959	0.02 U
4-23D-7/89	JJ2960	0.02 U

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

Date Analyzed: 07/20/89



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ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

International Technology Corp.
ITAS-Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Attn: Mary Tyler

Date: August 25, 1989

ITMWL Job Number: ITET 35524
ITSTU Job Number: ITET 43761

This is the Certificate of Analysis for the following samples:

Client Project ID: ITET 43761
Date Received by Lab: 07/21/89
Number of Samples: Four (4)
Sample Type: Water

I. Introduction

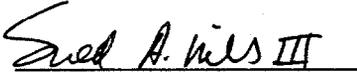
On July 21, 1989, four (4) water samples arrived at the ITAS Oak Ridge, Tennessee laboratory from ITAS-Knoxville, Knoxville, Tennessee. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

Data are reported with the qualifier "U" if the compound was analyzed for but not detected. Lists with concentration unit code and lab and client suffix code definitions are attached.

II. Analytical Results/Methodology

The samples were analyzed for Total Organic Halides. Results are presented in the following report and were determined using Method 9020, Test Methods for Evaluating Solid Waste, USEPA SW-846, 3rd edition, 1986.

Reviewed and Approved


Snell A. Mills III
Laboratory Manager

SAM/rdj

RECEIVED

AUG 30 1989

I.T. CORPORATION
TAMPA, FLORIDA

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

IT ANALYTICAL SERVICES
OAK RIDGE, TN

ITAS-Knoxville
ATTN: Mary Tyler
Date: August 25, 1989

Job Number: ITET 35524

Date Received: 07/21/89

Sample Description: Water

Concentration Units: mg/L

Client ID: 4-22-7/89, 4-22D-7/89, 4-23-7/89, 4-23D-7/89
IT-MWL ID: CC8596, CC8597, CC8598, CC8599, BLANK
IT-STU ID: JJ2949, JJ2950, JJ2951, JJ2952

Prep and Anal Date: 07/21/89

T O X

Client ID:	<u>4-22-7/89</u>	<u>4-22D-7/89</u>	<u>4-23-7/89</u>	<u>4-23D-7/89</u>	<u>BLANK</u>
Average Result:	0.042	<0.01	0.01965	0.02365	<0.01

CERTIFICATE OF ANALYSIS

International Technology Corp.
ITAS-Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Attn: Mary Tyler

Date: August 25, 1989

ITMWL Job Number: ITET 35530
ITSTU Job Number: ITET 43774

This is the Certificate of Analysis for the following samples:

Client Project ID: ITET 43774
Date Received by Lab: 07/24/89
Number of Samples: Six (6)
Sample Type: Water

I. Introduction

On July 24, 1989, six (6) water samples arrived at the ITAS Oak Ridge, Tennessee laboratory from ITAS-Knoxville, Knoxville, Tennessee. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

Data are reported with the qualifier "U" if the compound was analyzed for but not detected. Lists with concentration unit code and lab and client suffix code definitions are attached.

II. Analytical Results/Methodology

The samples were analyzed for Total Organic Halides. Results are presented in the following report and were determined using Method 9060, Test Methods for Evaluating Solid Waste, USEPA SW-846, 3rd edition, 1986.

Reviewed and Approved

Snell A. Mills III
Snell A. Mills III
Laboratory Manager

SAM/rdj

IT ANALYTICAL SERVICES
OAK RIDGE, TN

ITAS-Knoxville
ATTN: Mary Tyler
Date: August 25, 1989

Job Number: ITET 35530

Date Received: 07/24/89

Sample Description: Water

Concentration Units: mg/L

Client ID: 4-18-7/89, 4-18D-7/89, 4-20-7/89, 4-20D-7/89, 4-21-7/89, 4-21D-7/89
IT-MWL ID: CC8737, CC8738, CC8739, CC8740, CC8741, CC8742, BLANK
IT-STU ID: JJ3125, JJ3126, JJ3127, JJ3128, JJ3129, JJ3130,

Prep and Anal Date: 07/25/89
07/26/89 - CC8742

T O X

CLIENT ID:	<u>4-18-7/89</u>	<u>4-18D-7/89</u>	<u>4-20-7/89</u>	<u>4-20D-7/89</u>	<u>4-21-7/89</u>
AVERAGE RESULT:	0.040	0.051	0.053	0.053	0.015

CLIENT ID:	<u>4-21D-7/89</u>	<u>BLANK</u>
AVERAGE RESULT:	0.012	<0.010 (07/25/89) <0.010 (07/26/89)



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CERTIFICATE OF ANALYSIS

International Technology Corp.
ITAS-Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Attn: Mary Tyler

Date: August 28, 1989

ITMWL Job Number: ITET 35530
ITSTU Job Number: ITET 43780

This is the Certificate of Analysis for the following samples:

Client Project ID: ITET 43780
Date Received by Lab: 07/24/89
Number of Samples: Nine (9)
Sample Type: Water

I. Introduction

On July 24, 1989, nine (9) water samples arrived at the ITAS Oak Ridge, Tennessee laboratory from ITAS-Knoxville, Knoxville, Tennessee. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

Data are reported with the qualifier "U" if the compound was analyzed for but not detected. Lists with concentration unit code and lab and client suffix code definitions are attached.

II. Analytical Results/Methodology

The samples were analyzed for Total Organic Halides. Results are presented in the following report and were determined using Method 9060, Test Methods for Evaluating Solid Waste, USEPA SW-846, 3rd edition, 1986.

Reviewed and Approved


Snell A. Mills III
Laboratory Manager

SAM/rdj

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

ITAS-Knoxville
ATTN: Mary Tyler
Date: August 28, 1989

IT ANALYTICAL SERVICES
OAK RIDGE, TN

Job Number: ITET 35530

Date Received: 07/24/89

Sample Description: Water

Concentration Units: mg/L

Client ID: 4-10-7/89, 4-12-7/89, 4-15-7/89, 4-D-7/89, 4-17-7/89, 4-17D-7/89,
IT-MWL ID: CC8744, CC8745, CC8746, CC8747, CC8748, CC8749,
IT-STU ID: JJ3201, JJ3202, JJ3203, JJ3204, JJ3205, JJ3206,

Client ID: 4-19-7/89, 4-19D-7/89, TRIP BLANK
IT-MWL ID: CC8750, CC8751, CC8752
IT-STU ID: JJ3207, JJ3208, JJ3209

Prep and Anal Date: 07/25/89 - CC8744
07/26/89 - CC8745, 46, 47
07/27/89 - CC8748-52

T O X

CLIENT ID:	<u>4-10-7/89</u>	<u>4-12D-7/89</u>	<u>4-15-7/89</u>	<u>4-15D-7/89</u>	<u>4-17-7/89</u>
AVERAGE RESULT:	0.185	0.076	<0.010	0.069	0.031

CLIENT ID:	<u>4-17D-7/89</u>	<u>4-19-7/89</u>	<u>4-19D-7/89</u>	<u>TRIP BLANK</u>	<u>BLANK</u>
AVERAGE RESULT:	0.016	<0.010	0.021	<0.010	<0.010 (07/25/89) <0.010 (07/26/89) <0.010 (07/27/89)



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ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

International Technology Corp.
ITAS-Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Attn: Mary Tyler

Date: August 28, 1989

ITMWL Job Number: ITET 35533
ITSTU Job Number: ITET 43790

This is the Certificate of Analysis for the following samples:

Client Project ID: ITET 43790
Date Received by Lab: 07/25/89
Number of Samples: Nine (9)
Sample Type: Water

I. Introduction

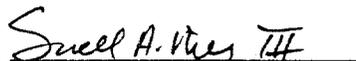
On July 25, 1989, nine (9) water samples arrived at the ITAS Oak Ridge, Tennessee laboratory from ITAS-Knoxville, Knoxville, Tennessee. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

Data are reported with the qualifier "U" if the compound was analyzed for but not detected. Lists with concentration unit code and lab and client suffix code definitions are attached.

II. Analytical Results/Methodology

The samples were analyzed for Total Organic Halides. Results are presented in the following report and were determined using Method 9060, Test Methods for Evaluating Solid Waste, USEPA SW-846, 3rd edition, 1986.

Reviewed and Approved



Snell A. Mills III
Laboratory Manager

SAM/rdj

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

IT ANALYTICAL SERVICES
OAK RIDGE, TN

ITAS-Knoxville
ATTN: Mary Tyler
Date: August 28, 1989

Job Number: ITET 35533

Date Received: 07/25/89

Sample Description: Water Concentration Units: mg/L

Client ID: 4-4-7/89, 4-5-7/89, 4-9-7/89, 4-11-7/89, 4-13-7/89, 4-13D-7/89, 4-14-7/89,
IT-MWL ID: CC8860, CC8861, CC8862, CC8863, CC8864, CC8865, CC8866,
IT-STU ID: JJ3303, JJ3304, JJ3305, JJ3306, JJ3307, JJ3308, JJ3309,

Client ID: 4-R-7/89, 4-16-7/89, BLANK
IT-MWL ID: CC8867, CC8868
IT-STU ID: JJ3310, JJ3311

Prep and Anal Date: 07/28/89 - CC8860 - 63
07/31/89 - CC8864 - 68

T O X

Client ID: 4-4-7/89 4-5-7/89 4-9-7/89 4-11D-7/89 4-13-7/89 4-13D-7/89

Average
Result: 0.276 0.185 0.053 0.170 0.061 0.014

4-14-7/89 4-R-7/89 4-16-7/89 BLANK
0.038 <0.010 0.123 <0.010 (7/28/89)
<0.010 (7/31/89)

CERTIFICATE OF ANALYSIS

IT Corporation
3012 Highway 301 N., Suite 1000
Tampa, Florida 33619
ATTN: Mike Jones

August 29, 1989

Job Number: ITET 43780

P.O. Number: 453058

This is the Certificate of Analysis for the following samples:

Client Project ID: NAS JAX
Date Received by Lab: 07/24/89
Number of Samples: Nine (9)
Sample Type: Water-eight, Trip Blank-one (1)

I. Introduction

On 07/24/89, eight (8) water samples and one (1) trip blank arrived at the ITAS-Knoxville, Tennessee laboratory from the NAS JAX project via the IT-Tampa office. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

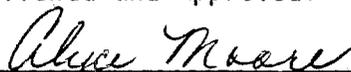
II. Analytical Results/Methodology

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) analyses were performed at the IT-Mixed Waste Laboratory (MWL) in Oak Ridge, Tennessee. A copy of that report will follow.

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

Reviewed and Approved:


Alyce Moore
Alyce Moore
Laboratory Manager

IT Corporation
August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

II. Analytical Results/Methodology (continued)

The samples were analyzed for the requested semivolatile compounds (o-cresol and phenol) by GC/MS according to SW-846 method 8270.

The samples were analyzed for drinking water pesticides and herbicides by gas chromatography/electron capture detection (GC-ECD) based on EPA method 608 and Standard Methods 509B, respectively.

The samples were analyzed for total organic carbon (TOC) by chemical wet oxidation/infrared detection using EPA method 415.1.

The samples were analyzed for the requested total and dissolved metals by Cold Vapor Atomic Absorption Spectroscopy (CVAA), Graphite Furnace Atomic Absorption Spectroscopy (GFAA) and Inductively Coupled Plasma Spectroscopy (ICP) using SW-846 methods 3010, 3020, 7421, 7740, 7470 and 6010.

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

The samples were analyzed for hexavalent chromium according to Standard Methods 312B.

III. Quality Control

Routine laboratory level I QC was followed.

The volatiles analyses were performed on 08/03/89 by purge and trap with J&W DB-624 Megabore column on a Finnigan OWA GC/MS/DS. The semivolatiles analyses were performed on 08/01, and 08/02/89 by direct injection of sample extract on a Restek RTX-5 capillary column on a Finnigan 4500 GC/MS/DS. Both volatiles and semivolatiles runs went well. Semivolatiles sample 4-15-7/89 extract was diluted due to its appearance. Run after a trip blank, it showed a trace of phenol. A more concentrated solution was not attempted. There were other compounds, not requested, detected in the samples. No other problems were seen in data review. QC looked good for both fractions.

The samples were extracted for drinking water pesticides and herbicides on 07/27,28/89 and from 08/01/89 through 08/15/89. No problems were encountered.

The samples were analyzed for TOC on 07/25/89 and 08/03/89 for sample 4-19D-7/89 reproducibility has a problem. The sample was analyzed on two days with similar results. The value reported (from 08/03/89) had a relative standard deviation of 18%. This was felt to be the best value for TOC for the sample. No other problems were encountered.

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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

III. Quality Control (continued)

The samples were digested on 08/01/89 for ICP. The samples for mercury analysis were prepared just prior to analysis. The CVAA analysis for mercury was performed on 07/31/89; the remaining metals were analyzed by ICP on 08/03/89. All run QC was acceptable. The samples for ICAP analysis were originally digested on 07/23/89. Due to unacceptable levels of lead and zinc in the method blank, the samples were redigested on 08/01/89. Lead and zinc levels were acceptable; therefore, this data was reported. The trip blank shows 11 ppb cadmium. The sample was analyzed twice for confirmation. No other problems were encountered.

The samples were analyzed for complexed cyanide on 08/03/89 and for hexavalent chromium on 07/25/89. No problems were encountered with either analysis.

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August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

VOLATILE ORGANIC ANALYSIS

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

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>Method Blank 1</u> <u>VB0803</u>	<u>4-10-7/89</u> <u>JJ3210</u>	<u>4-12D-7/89</u> <u>JJ3211</u>
benzene	5 U	5 U	5 U
carbon tetrachloride	5 U	5 U	5 U
1,2-dichloroethane	5 U	5 U	5 U
1,2-dichloropropane	5 U	5 U	5 U
methylene chloride	3 J	140	5 U
tetrachloroethene	5 U	2 J	5 U
1,1,1-trichloroethane	5 U	7	5 U
trichloroethene	5 U	2 J	5 U
vinyl chloride	10 U	10 U	10 U
1,2,3-trichloropropane	5 U	5 U	5 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 Analysis: 08/03/89

IT Corporation
August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

VOLATILE ORGANIC ANALYSIS

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

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-15-7/89</u> <u>JJ3212</u>	<u>4-D-7/89</u> <u>JJ3213</u>	<u>4-17-7/89</u> <u>JJ3214</u>	<u>4-17D-7/89</u> <u>JJ3215</u>
benzene	5 U	5 U	5 U	5 U
carbon tetrachloride	5 U	5 U	5 U	5 U
1,2-dichloroethane	5 U	5 U	5 U	5 U
1,2-dichloropropane	5 U	5 U	5 U	5 U
methylene chloride	5 U	5 U	5 U	5 U
tetrachloroethene	5 U	5 U	5 U	5 U
1,1,1-trichloroethane	5 U	5 U	5 U	5 U
trichloroethene	5 U	5 U	5 U	5 U
vinyl chloride	10 U	10 U	10 U	10 U
1,2,3-trichloropropane	5 U	5 U	5 U	5 U

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

Date of Analysis: 08/03/89

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August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

VOLATILE ORGANIC ANALYSIS

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

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-19-7/89</u> <u>JJ3216</u>	<u>4-19D-7/89</u> <u>JJ3217</u>	<u>Method Blank 2</u> <u>WASH0807</u>	<u>Trip Blank</u> <u>JJ3218</u>
benzene	5 U	5 U	5 U	5 U
carbon tetrachloride	5 U	5 U	5 U	5 U
1,2-dichloroethane	5 U	5 U	5 U	5 U
1,2-dichloropropane	5 U	5 U	5 U	5 U
methylene chloride	5 U	5 U	3 J	5 U
tetrachloroethene	5 U	5 U	5 U	5 U
1,1,1-trichloroethane	5 U	5 U	5 U	5 U
trichloroethene	5 U	5 U	5 U	5 U
vinyl chloride	10 U	10 U	10 U	10 U
1,2,3-trichloropropane	5 U	5 U	5 U	5 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 Analysis: 08/03/89

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August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

WATER SURROGATE PERCENT RECOVERY SUMMARY

Sample No.	VOLATILE		
	Toluene-D8 (88-110%)*	BFB (86-115%)*	1,2 Dichloroethane-D4 (76-114%)*
Method Blank 1	91	90	88
4-10-7/89	97	96	89
4-12D-7/89	95	93	88
4-15-7/89	101	99	93
4-D-7/89	95	95	87
4-17-7/89	97	98	93
4-17D-7/89	93	92	87
4-19-7/89	100	99	94
4-19D-7/89	92	91	86
Method Blank 2	99	99	103
Trip Blank	93	92	93

*Values in parenthesis represent USEPA contract required QC limits.

IT Corporation
August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: Method Blank
Lab Sample ID: BL4560

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date of Extraction: 07/27/89
Date of Analysis: 08/01/89

IT Corporation
August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-10-7/89
Lab Sample ID: JJ3256

<u>Compound</u>	<u>Concentration</u>
Phenol	780 D
o-Cresol	26

D = Compound was analyzed at a secondary dilution factor.

Date of Extraction: 07/27/89
Date of Analysis: 08/01/89

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IT ANALYTICAL SERVICES
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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-12D-7/89

Lab Sample ID: JJ3257

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date of Extraction: 07/27/89

Date of Analysis: 08/01/89

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IT ANALYTICAL SERVICES
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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-15-7/89
Lab Sample ID: JJ3258

<u>Compound</u>	<u>Concentration</u>
Phenol	11 J
o-Cresol	40 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: 07/27/89
Date of Analysis: 08/02/89

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August 29, 1989

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5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-D-7/89
Lab Sample ID: JJ3259

<u>Compound</u>	<u>Concentration</u>
Phenol	43
o-Cresol	40 U

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

Date of Extraction: 07/27/89
Date of Analysis: 08/02/89

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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-17-7/89
Lab Sample ID: JJ3260

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date of Extraction: 07/27/89
Date of Analysis: 08/02/89

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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-17D-7/89

Lab Sample ID: JJ3261

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date of Extraction: 07/27/89

Date of Analysis: 08/02/89

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August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-19-7/89
Lab Sample ID: JJ3262

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date of Extraction: 07/27/89
Date of Analysis: 08/02/89

IT Corporation
August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-19D-7/89
Lab Sample ID: JJ3263

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date of Extraction: 07/27/89
Date of Analysis: 08/02/89

IT Corporation
August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: Trip Blank
Lab Sample ID: JJ3264

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date of Extraction: 07/27/89
Date of Analysis: 08/02/89

IT Corporation
August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

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%)*
4-10-7/89	44	44	47	18	27	55
4-10-7/89 DL	64	62	67	27	35	85
4-12D-7/89	58	55	76	19	27	85
4-15-7/89	78	79	98	33	57	102
4-17-7/89	64	60	79	31	47	81
4-17D-7/89	66	60	70	25	42	80
4-19-7/89	63	64	72	27	48	81
4-19D-7/89	55	54	65	20	35	63
4-D-7/89	80	83	97	33	52	100
Trip Blank	64	62	90	30	51	74
Method Blank	76	73	99	30	44	96

* = Values in parenthesis represent USEPA contract required QC limits.
DL = Dilution

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August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

DRINKING WATER PESTICIDES AND HERBICIDES ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank <u>BL4550/4567</u>	4-10-7/89 <u>JJ3247</u>	4-12D-7/89 <u>JJ3248</u>	4-15-7/89 <u>JJ3249</u>
Lindane	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Endrin	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Methoxychlor	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Toxaphene	0.0004 U	0.0004 U	0.0004 U	0.0004 U
2,4-D	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Silvex	0.0001 U	0.0001 U	0.0001 U	0.0001 U

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

Dates of Extraction: 07/27/89 - 07/28/89
Date of Analysis: 08/15/89

IT Corporation
August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

DRINKING WATER PESTICIDES AND HERBICIDES ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-D-7/89</u> <u>JJ3250</u>	<u>4-17-7/89</u> <u>JJ3251</u>	<u>4-17D-7/89</u> <u>JJ3252</u>	<u>4-19-7/89</u> <u>JJ3253</u>
Lindane	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Endrin	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Methoxychlor	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Toxaphene	0.0004 U	0.0004 U	0.0004 U	0.0004 U
2,4-D	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Silvex	0.0001 U	0.0001 U	0.0001 U	0.0001 U

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

Dates of Extraction: 07/27/89 - 07/28/89
Date of Analysis: 08/15/89

IT Corporation
August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

DRINKING WATER PESTICIDES AND HERBICIDES ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID:	4-19D-7/89	Trip Blank
Lab Sample ID:	<u>JJ3254</u>	<u>JJ3255</u>
Lindane	0.0001 U	0.0001 U
Endrin	0.0001 U	0.0001 U
Methoxychlor	0.0001 U	0.0001 U
Toxaphene	0.0004 U	0.0004 U
2,4-D	0.0002 U	0.0002 U
Silvex	0.0001 U	0.0001 U

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

Dates of Extraction: 07/27/89 - 07/28/89
Date of Analysis: 08/15/89

IT Corporation
August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

TOTAL ORGANIC CARBON ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Result</u>
4-10-7/89	JJ3219	23
4-12D-7/89	JJ3220	4
4-15-7/89	JJ3221	32
4-D-7/89	JJ3222	34
4-17-7/89	JJ3223	8
4-17D-7/89	JJ3224	5
4-19-7/89	JJ3225	3
4-19D-7/89	JJ3226	15
Trip Blank	JJ3227	1 U
Method Blank	D0141/D0150	1 U

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

Dates of Analysis: 07/25/89 and 08/03/89

IT Corporation
August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

TOTAL METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank <u>PBWC0380</u>
Arsenic	0.04 U
Barium	0.002 U
Cadmium	0.005 U
Chromium	0.01 U
Lead	0.03 U
Mercury	NR
Nickel	0.02 U
Selenium	0.06 U
Silver	0.005 U
Vanadium	0.01 U
Zinc	0.020

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

NR = Not required.

Date Digested: 08/01/89
Date Analyzed: 08/03/89
Hg - 07/31/89

IT Corporation
August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

TOTAL METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-10-7/89</u> <u>JJ3237</u>	<u>4-12D-7/89</u> <u>JJ3238</u>	<u>4-15-7/89</u> <u>JJ3239</u>	<u>4-D-7/89</u> <u>JJ3240</u>
Arsenic	0.04 U	0.04 U	0.04 U	0.04 U
Barium	0.13	0.12	0.2 U	0.32
Cadmium	0.005 U	0.014	0.005 U	0.011
Chromium	0.02	0.034	0.09	0.12
Lead	0.03 U	0.03 U	0.07	0.09
Mercury	0.001 U	0.001 U	0.001 U	0.001 U
Nickel	0.21	0.02 U	0.90	1.1
Selenium	0.06 U	0.06 U	0.06 U	0.06 U
Silver	0.005 U	0.005 U	0.005 U	0.005 U
Vanadium	0.22	0.03	0.15	0.20
Zinc	0.020	0.089	0.74	0.24

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

Date Digested: 08/01/89
Date Analyzed: 08/03/89
Hg - 07/31/89

IT Corporation
August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

TOTAL METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-17-7/89</u> <u>JJ3241</u>	<u>4-17D-7/89</u> <u>JJ3242</u>
Arsenic	0.04 U	0.04 U
Barium	0.34	0.30
Cadmium	0.005 U	0.040
Chromium	0.12	0.14
Lead	0.09	0.05
Mercury	0.001 U	0.001 U
Nickel	0.02	0.04
Selenium	0.06 U	0.06 U
Silver	0.005 U	0.005 U
Vanadium	0.16	0.12
Zinc	0.097	0.18

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

Date Digested: 08/01/89
Date Analyzed: 08/03/89
Hg - 07/31/89

IT Corporation
August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

TOTAL METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank <u>PBWC0381</u>
Arsenic	0.04 U
Barium	0.002 U
Cadmium	0.005 U
Chromium	0.01 U
Lead	0.03 U
Mercury	NR
Nickel	0.02 U
Selenium	0.06 U
Silver	0.005 U
Vanadium	0.01 U
Zinc	0.015

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

NR = Not required.

Date Digested: 08/01/89
Date Analyzed: 08/03/89
Hg - 07/31/89

IT Corporation
August 29, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

TOTAL METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID:	4-19-7/89	4-19D-7/89	Trip Blank
Lab Sample ID:	<u>JJ3243</u>	<u>JJ3244</u>	<u>JJ3245</u>
Arsenic	0.04 U	0.04 U	0.04 U
Barium	0.17	0.27	0.002 U
Cadmium	0.005 U	0.005 U	0.005 U
Chromium	0.03	0.11	0.01 U
Lead	0.03	0.09	0.03 U
Mercury	0.001 U	0.001 U	0.001 U
Nickel	0.02 U	0.04	0.02 U
Selenium	0.06 U	0.06 U	0.06 U
Silver	0.005 U	0.005 U	0.005 U
Vanadium	0.04	0.17	0.01 U
Zinc	0.041	0.20	0.016

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

Date Digested: 08/01/89
Date Analyzed: 08/03/89
Hg - 07/31/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

DISSOLVED METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank <u>PBWC0381</u>	Trip Blank <u>JJ3246</u>
Arsenic	0.04 U	0.04 U
Barium	0.002 U	0.002 U
Cadmium	0.005 U	0.011
Chromium	0.01 U	0.01 U
Lead	0.03 U	0.03 U
Mercury	NR	0.001 U
Nickel	0.02 U	0.02 U
Selenium	0.06 U	0.06 U
Silver	0.005 U	0.005 U
Vanadium	0.01 U	0.01 U
Zinc	0.015	0.022

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

NR = Not required.

Date Digested: 08/01/89
Date Analyzed: 08/03/89
Hg - 07/31/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

COMPLEXED 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	P0277	0.01 U
4-10-7/89	JJ3228	0.01
4-12D-7/89	JJ3229	0.01 U
4-15-7/89	JJ3230	0.01 U
4-D-7/89	JJ3231	0.01 U
4-17-7/89	JJ3232	0.01 U
4-17D-7/89	JJ3233	0.01 U
4-19-7/89	JJ3234	0.01 U
4-19D-7/89	JJ3235	0.01 U
Trip Blank	JJ3236	0.01 U

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

Date Analyzed: 08/03/89

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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

TOTAL 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	P0256	0.02 U
4-10-7/89	JJ3237	0.02 U
4-12D-7/89	JJ3238	0.02 U
4-15-7/89	JJ3239	0.02 U
4-D-7/89	JJ3240	0.02 U
4-17-7/89	JJ3241	0.02 U
4-17D-7/89	JJ3242	0.02 U
4-19-7/89	JJ3243	0.02 U
4-19D-7/89	JJ3244	0.02 U
Trip Blank	JJ3245	0.02 U

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

Date Analyzed: 07/25/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43780

DISSOLVED HEXAVALENT CHROMIUM ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Result</u>
Trip Blank	JJ3246	0.02 U

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

Date Analyzed: 07/25/89

SEP 5 1989

CERTIFICATE OF ANALYSIS

I.T. CORPORATION
TAMPA, FLORIDA

IT Corporation
3012 Highway 301 N., Suite 1000
Tampa, Florida 33619
ATTN: Mike Jones

August 30, 1989

Job Number: ITET 43790

P.O. Number: 453058

This is the Certificate of Analysis for the following samples:

Client Project ID: NAS JAX
Date Received by Lab: 07/25/89
Number of Samples: Twenty-one (21)
Sample Type: Water

I. Introduction

On 07/25/89, twenty-one (21) water samples arrived at the ITAS-Knoxville, Tennessee laboratory from the NAS JAX project via the IT-Tampa office. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

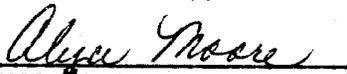
II. Analytical Results/Methodology

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) analyses were performed at the IT-Mixed Waste Laboratory (MWL) in Oak Ridge, Tennessee. A copy of that report will follow.

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

Reviewed and Approved:


Alyce Moore
Laboratory Manager

IT Corporation
August 30, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

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II. Analytical Results/Methodology (continued)

The samples were analyzed for the requested semivolatile compounds (o-Cresol and Phenol) by GC/MS according to SW-846 method 8270.

The samples were analyzed for drinking water pesticides and herbicides by gas chromatography/electron capture detection (GC-ECD) based on EPA method 608 and Standard Methods 509B, respectively.

The samples were analyzed for total organic carbon (TOC) by chemical wet oxidation/infrared detection using EPA method 415.1.

The samples were analyzed for the requested total and dissolved metals by Cold Vapor Atomic Absorption Spectroscopy (CVAA), Graphite Furnace Atomic Absorption Spectroscopy (GFAA) and Inductively Coupled Plasma Spectroscopy (ICP) using SW-846 methods 3010, 3020, 7421, 7740, 7470 and 6010.

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

The samples were analyzed for hexavalent chromium according to Standard Methods 312B.

III. Quality Control

Routine laboratory level I QC was followed.

The volatiles analyses were performed on 08/04/89 by purge and trap with J&W DB-624 Megabore column on a Finnigan OWA GC/MS/DS. The semivolatiles analyses were performed on 08/02, 08/03 and 08/09/89 by direct injection of sample extract on a Restek RTX-5 capillary column on Finnigan 4000 and 4500 GC/MS/DS units. Both volatiles and semivolatiles runs went well. Semivolatiles sample 4-4-7/89 required a dilution for phenol. Sample 4-16-7/89 showed a matrix effect on surrogate recovery, confirmed by similar results on analysis of a (semivolatiles) reextraction. Both sets of results were submitted. It should be noted that when extracted the sample contained a very thick emulsion which did not break during centrifugation. There were other, not requested, compounds seen in the runs. There were no other problems, QC or otherwise, seen in final data review.

The samples were extracted for drinking water pesticides and herbicides on 07/27,28/89 and analyzed on 08/03/89 through 08/16/89. Heavy sulfur contamination was present; therefore, samples were treated for sulfur interferences according to SW-846 method 3660. Sample 4-4-7/89 has an elevated detection limit for 2,4-D due to matrix interferences. This is footnoted as such in the reported data. All run QC was acceptable, and no other problems were encountered.

The samples were analyzed for total organic carbons on 08/03/89. No problems were encountered and all run QC was acceptable.

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III. Quality Control (continued)

The samples were digested on 08/03/89 for ICP. The samples for mercury analysis were prepared just prior to analysis. The CVAA analysis for mercury was performed on 07/31/89; the remaining metals were analyzed by ICP on 08/04/89. All run QC was acceptable. The samples were originally digested on 07/27/89 for ICP. The original method blank showed cadmium and zinc contamination, so the samples were digested again on 08/03/89 and reported from the second digestion which showed acceptable results. Sample 4-16-7/89 showed elevated detection limits for some metals due to aluminum interferences and is footnoted as such in the report. No other problems were encountered. Samples 4-9-7/89 and 4-13-7/89 were filtered by gravity using a 0.45 μ m filter. Filtering time was normal. Sample 4-16-7/89 was filtered using the same type filter but a vacuum pump was used due to the difficulty of filtration. After filtration the sample was described as being brown and opaque.

The samples were analyzed for complexed cyanide on 08/03/89 and for hexavalent chromium on 07/25/89. No problems were encountered with either analysis.

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August 30, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

VOLATILE ORGANIC ANALYSIS

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

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank <u>VB0804</u>	<u>4-4-7/89</u> <u>JJ3313</u>	<u>4-5-7/89</u> <u>JJ3314</u>
benzene	5 U	5 U	5 U
carbon tetrachloride	5 U	5 U	5 U
1,2-dichloroethane	5 U	5 U	5 U
1,2-dichloropropane	5 U	5 U	5 U
methylene chloride	2 J	52	1 J
tetrachloroethene	5 U	4 J	5 U
1,1,1-trichloroethane	5 U	5 U	5 U
trichloroethene	5 U	5 U	5 U
vinyl chloride	10 U	10 U	10 U
1,2,3-trichloropropane	5 U	5 U	5 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 Analysis: 08/04/89

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IT ANALYTICAL SERVICES
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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

VOLATILE ORGANIC ANALYSIS

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

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-9-7/89</u> <u>JJ3315R</u>	<u>4-11-7/89</u> <u>JJ3316R</u>	<u>4-13-7/89</u> <u>JJ3317</u>	<u>4-13D-7/89</u> <u>JJ3318</u>
benzene	5 U	5 U	5 U	5 U
carbon tetrachloride	5 U	5 U	5 U	5 U
1,2-dichloroethane	5 U	5 U	5 U	5 U
1,2-dichloropropane	5 U	5 U	5 U	5 U
methylene chloride	5 U	94	5 U	5 U
tetrachloroethene	5 U	5 U	5 U	5 U
1,1,1-trichloroethane	5 U	4 J	5 U	5 U
trichloroethene	5 U	2 J	5 U	5 U
vinyl chloride	10 U	10 U	10 U	10 U
1,2,3-trichloropropane	5 U	5 U	5 U	5 U

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

Date of Analysis: 08/04/89

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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

VOLATILE ORGANIC ANALYSIS

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

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-14-7/89</u> <u>JJ3319</u>	<u>4-16-7/89</u> <u>JJ3320</u>	<u>4-RD-7/89</u> <u>JJ3321</u>
benzene	5 U	5 U	5 U
carbon tetrachloride	5 U	5 U	5 U
1,2-dichloroethane	5 U	5 U	5 U
1,2-dichloropropane	5 U	5 U	5 U
methylene chloride	5 U	5 U	5 U
tetrachloroethene	5 U	5 U	5 U
1,1,1-trichloroethane	5 U	8	5 U
trichloroethene	5 U	5 U	5 U
vinyl chloride	10 U	10 U	10 U
1,2,3-trichloropropane	5 U	5 U	5 U

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

Date of Analysis: 08/04/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

WATER SURROGATE PERCENT RECOVERY SUMMARY

Sample No.	VOLATILE		
	Toluene-D8 (88-110%)*	BFB (86-115%)*	1,2 Dichloroethane-D4 (76-114%)*
Method Blank	98	98	89
4-4-7/89	95	96	88
4-5-7/89	97	92	83
4-9-7/89	92	87	82
4-11-7/89	96	89	83
4-13-7/89	98	92	90
4-13D-7/89	97	90	90
4-14-7/89	94	88	84
4-16-7/89	97	91	88
4-RD-7/89	97	89	93

*Values in parenthesis represent USEPA contract required QC limits.

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IT ANALYTICAL SERVICES
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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: Method Blank 1

Lab Sample ID: BL4572

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date of Extraction: 07/28/89

Date of Analysis: 08/02/89

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IT ANALYTICAL SERVICES
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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-11-7/89
Lab Sample ID: JJ3373

<u>Compound</u>	<u>Concentration</u>
Phenol	970 D
o-Cresol	45

D = Compound analyzed at a secondary dilution factor.

Date of Extraction: 07/28/89
Date of Analysis: 08/03/89

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IT ANALYTICAL SERVICES
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KNOXVILLE, TN

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Job Number: ITET 43790

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-13-7/89
Lab Sample ID: JJ3374

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date of Extraction: 07/28/89
Date of Analysis: 08/03/89

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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-14-7/89
Lab Sample ID: JJ3376

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date of Extraction: 07/28/89
Date of Analysis: 08/02/89

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SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-9-7/89

Lab Sample ID: JJ3372

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date of Extraction: 07/28/89

Date of Analysis: 08/03/89

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SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: Method Blank 2
Lab Sample ID: BL4572

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date of Extraction: 07/28/89
Date of Analysis: 08/02/89

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Job Number: ITET 43790

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-13D-7/89
Lab Sample ID: JJ3375

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date of Extraction: 07/28/89
Date of Analysis: 08/02/89

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Job Number: ITET 43790

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-16-7/89
Lab Sample ID: JJ3377

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date of Extraction: 07/28/89
Date of Analysis: 08/03/89

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IT ANALYTICAL SERVICES
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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-4-7/89
Lab Sample ID: JJ3370

<u>Compound</u>	<u>Concentration</u>
Phenol	410 D
o-Cresol	32

D = Compound analyzed at a secondary dilution factor.

Date of Extraction: 07/28/89
Date of Analysis: 08/03/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-5-7/89
Lab Sample ID: JJ3371

<u>Compound</u>	<u>Concentration</u>
Phenol	15
o-Cresol	17

Date of Extraction: 07/28/89
Date of Analysis: 08/03/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-R-7/89
Lab Sample ID: JJ3378

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date of Extraction: 07/28/89
Date of Analysis: 08/02/89

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August 30, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: Method Blank 3
Lab Sample ID: BL4622

<u>Compound</u>	<u>Concentration</u>
Phenol	5 U
o-Cresol	5 U

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

Date of Extraction: 08/07/89
Date of Analysis: 08/09/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

SEMIVOLATILE ORGANIC COMPOUNDS

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

Sample Matrix: Water

Client Sample ID: 4-16-7/89RE
Lab Sample ID: JJ3377

<u>Compound</u>	<u>Concentration</u>
Phenol	10 U
o-Cresol	10 U

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

Date of Extraction: 08/07/89
Date of Analysis: 08/09/89

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IT ANALYTICAL SERVICES
 5815 MIDDLEBROOK PIKE
 KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

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%)*
4-11-7/89	86	78	83	34	47	96
4-11-7/89 DL	90	84	96	35	47	123
4-13-7/89	77	67	66	22	36	100
4-14-7/89	81	75	84	36	61	90
4-9-7/89	82	72	83	30	46	99
Method Blank 1	93	86	103	40	65	109
4-13D-7/89	81	75	85	32	51	84
4-16-7/89	15 **	11 **	3 **	7 **	10 **	14
4-16-7/89 RE	6 **	3 **	0 **	5 **	7 **	5 **
4-4-7/89	82	83	78	37	57	85
4-4-7/89 DL	79	80	80	35	54	88
4-5-7/89	79	78	80	29	47	91
4-R-7/89	83	79	91	31	47	86
Method Blank 2	100	88	96	35	56	96
Method Blank 3	62	62	83	23	40	69

* = Values in parenthesis represent USEPA contract required QC limits.
 ** = Values outside of contract required QC limits.
 DL = Dilution

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August 30, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

DRINKING WATER PESTICIDES AND HERBICIDES ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank <u>BL4561/4582</u>	4-4-7/89 <u>JJ3379</u>	4-5-7/89 <u>JJ3380</u>	4-9-7/89 <u>JJ3381</u>
Lindane	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Endrin	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Methoxychlor	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Toxaphene	0.0004 U	0.0004 U	0.0004 U	0.0004 U
2,4-D	0.0002 U	0.0004 U*	0.0002 U	0.0002 U
Silvex	0.0001 U	0.0001 U	0.0001 U	0.0001 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.

Dates of Extraction: 07/27/89 - 07/28/89

Date of Analysis: 08/16/89

IT Corporation
August 30, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

DRINKING WATER PESTICIDES AND HERBICIDES ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-11-7/89</u> <u>JJ3382</u>	<u>4-13-7/89</u> <u>JJ3383</u>	<u>4-13D-7/89</u> <u>JJ3384</u>	<u>4-14-7/89</u> <u>JJ3385</u>
Lindane	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Endrin	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Methoxychlor	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Toxaphene	0.0004 U	0.0004 U	0.0004 U	0.0004 U
2,4-D	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Silvex	0.0001 U	0.0001 U	0.0001 U	0.0001 U

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

Dates of Extraction: 07/27/89 - 07/28/89
Date of Analysis: 08/16/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

DRINKING WATER PESTICIDES AND HERBICIDES ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID:	4-16-7/89	4-R-7/89
Lab Sample ID:	<u>JJ3386</u>	<u>JJ3387</u>
Lindane	0.0001 U	0.0001 U
Endrin	0.0001 U	0.0001 U
Methoxychlor	0.0001 U	0.0001 U
Toxaphene	0.0004 U	0.0004 U
2,4-D	0.0002 U	0.0002 U
Silvex	0.0001 U	0.0001 U

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

Dates of Extraction: 07/27/89 - 07/28/89
Date of Analysis: 08/16/89

IT Corporation
August 30, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

TOTAL ORGANIC CARBON ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Result</u>
4-4-7/89	JJ3322	21
4-5-7/89	JJ3323	46
4-9-7/89	JJ3324	16
4-11-7/89	JJ3225	35
4-13-7/89	JJ3226	9
4-13D-7/89	JJ3227	1 U
4-14-7/89	JJ3228	1 U
4-16-7/89	JJ3229	320
4-R-7/89	JJ3330	1 U
Method Blank	D0150	1 U

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

Date of Analysis: 08/03/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

TOTAL METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>Method Blank PBWC0381</u>
Arsenic	0.03 U
Barium	0.002 U
Cadmium	0.005 U
Chromium	0.01 U
Lead	0.03 U
Mercury	NR
Nickel	0.02 U
Selenium	0.06 U
Silver	0.005 U
Vanadium	0.01 U
Zinc	0.014

U = Compound was analyzed for but not detected. The number is the detection limit for the sample.
NR = Not required.

Date Digested: 08/03/89
Date Analyzed: 08/04/89
Hg - 07/31/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

TOTAL METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-4-7/89</u> <u>JJ3340</u>	<u>4-5-7/89</u> <u>JJ3341</u>	<u>4-9-7/89</u> <u>JJ3342</u>	<u>4-11-7/89</u> <u>JJ3343</u>
Arsenic	0.03 U	0.03 U	0.03 U	0.03 U
Barium	0.20	0.041	0.088	0.14
Cadmium	0.029	0.26	0.012	0.005 U
Chromium	0.09	0.08	0.02	0.05
Lead	0.10	0.07	0.04	0.05
Mercury	0.001 U	0.001 U	0.001 U	0.001 U
Nickel	0.15	1.2	0.02 U	1.9
Selenium	0.06 U	0.06 U	0.06 U	0.06 U
Silver	0.005 U	0.005 U	0.005 U	0.005 U
Vanadium	0.26	0.18	0.07	0.59
Zinc	0.19	0.092	0.025	0.27

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

Date Digested: 08/03/89
Date Analyzed: 08/04/89
Hg - 07/31/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

TOTAL METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-13-7/89</u> <u>JJ3344</u>	<u>4-16-7/89</u> <u>JJ3347</u>	<u>4-R-7/89</u> <u>JJ3348</u>
Arsenic	0.03 U	0.3 U*	0.03 U
Barium	0.61	2.8	0.002 U
Cadmium	0.011	0.05 U*	0.011
Chromium	0.12	1.2	0.02
Lead	0.06	1.2 *	0.03 U
Mercury	0.001 U	0.005	0.001 U
Nickel	0.02	0.30	0.02 U
Selenium	0.06 U	0.6 U*	0.06 U
Silver	0.005 U	0.005 U	0.005 U
Vanadium	0.09	0.98	0.01 U
Zinc	0.084	0.76	0.025

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

* = Elevated detection limits due to aluminum interferences.

Date Digested: 08/03/89
Date Analyzed: 08/04/89
Hg - 07/31/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

TOTAL METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank <u>PBWC0388</u>
Arsenic	0.03 U
Barium	0.002 U
Cadmium	0.005 U
Chromium	0.01 U
Lead	0.03 U
Mercury	NR
Nickel	0.02 U
Selenium	0.06 U
Silver	0.005 U
Vanadium	0.01 U
Zinc	0.020

U = Compound was analyzed for but not detected. The number is the detection limit for the sample.
NR = Not required.

Date Digested: 08/03/89
Date Analyzed: 08/04/89
Hg - 07/31/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

TOTAL METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID:	4-13D-7/89	4-14-7/89
Lab Sample ID:	<u>JJ3345</u>	<u>JJ3346</u>
Arsenic	0.03 U	0.03 U
Barium	0.059	0.11
Cadmium	0.005 U	0.005 U
Chromium	0.01 U	0.06
Lead	0.03 U	0.04
Mercury	0.001 U	0.001 U
Nickel	0.02 U	0.02 U
Selenium	0.06 U	0.06 U
Silver	0.005 U	0.005 U
Vanadium	0.01 U	0.05
Zinc	0.025	0.058

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

Date Digested: 08/03/89
Date Analyzed: 08/04/89
Hg - 07/31/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

DISSOLVED METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank <u>PBWC0388</u>
Arsenic	0.03 U
Barium	0.002 U
Cadmium	0.005 U
Chromium	0.01 U
Lead	0.03 U
Mercury	NR
Nickel	0.02 U
Selenium	0.06 U
Silver	0.005 U
Vanadium	0.01 U
Zinc	0.020

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

NR = Not required.

Date Digested: 08/03/89
Date Analyzed: 08/04/89
Hg - 07/31/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

DISSOLVED METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID:	4-4-7/89	4-5-7/89
Lab Sample ID:	<u>JJ3349</u>	<u>JJ3350</u>
Arsenic	0.03 U	0.03 U
Barium	0.13	0.041
Cadmium	0.005 U	0.005 U
Chromium	0.02	0.02
Lead	0.03 U	0.03 U
Mercury	0.001 U	0.001 U
Nickel	0.11	0.21
Selenium	0.06 U	0.06 U
Silver	0.005 U	0.005 U
Vanadium	0.15	0.03
Zinc	0.017	0.005

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

Date Digested: 08/03/89
Date Analyzed: 08/04/89
Hg - 07/31/89

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IT ANALYTICAL SERVICES
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KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

DISSOLVED METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-10-7/89</u> <u>JJ3352</u>	<u>4-11-7/89</u> <u>JJ3353</u>	<u>4-12D-7/89</u> <u>JJ3354</u>
Arsenic	0.03 U	0.03 U	0.03 U
Barium	0.13	0.040	0.064
Cadmium	0.005 U	0.005 U	0.005 U
Chromium	0.01 U	0.02	0.01 U
Lead	0.03 U	0.03 U	0.03 U
Mercury	0.001 U	0.001 U	0.001 U
Nickel	0.23	1.7	0.02 U
Selenium	0.06 U	0.06 U	0.06 U
Silver	0.005 U	0.005 U	0.005 U
Vanadium	0.21	0.47	0.01 U
Zinc	0.017	0.057	0.081

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

Date Digested: 08/03/89
Date Analyzed: 08/04/89
Hg - 07/31/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

DISSOLVED METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID:	4-13D-7/89	4-14-7/89
Lab Sample ID:	<u>JJ3356</u>	<u>JJ3357</u>
Arsenic	0.03 U	0.03 U
Barium	0.064	0.044
Cadmium	0.005 U	0.005 U
Chromium	0.05	0.01 U
Lead	0.03	0.03 U
Mercury	0.001 U	0.001 U
Nickel	0.02 U	0.02 U
Selenium	0.06 U	0.06 U
Silver	0.005 U	0.005 U
Vanadium	0.01 U	0.02
Zinc	0.041	0.036

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

Date Digested: 08/03/89
Date Analyzed: 08/04/89
Hg - 07/31/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

DISSOLVED METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank <u>PBWC0387</u>
Arsenic	0.03 U
Barium	0.002 U
Cadmium	0.005 U
Chromium	0.01 U
Lead	0.03 U
Mercury	NR
Nickel	0.02 U
Selenium	0.06 U
Silver	0.005 U
Vanadium	0.01 U
Zinc	0.014

U = Compound was analyzed for but not detected. The number is the detection limit for the sample.
NR = Not required.

Date Digested: 08/03/89
Date Analyzed: 08/04/89
Hg - 07/31/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

DISSOLVED METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID:	4-9-7/89	4-13-7/89
Lab Sample ID:	<u>JJ3351</u>	<u>JJ3355</u>
Arsenic	0.03 U	0.03 U
Barium	0.050	0.090
Cadmium	0.005 U	0.005 U
Chromium	0.02	0.01
Lead	0.03 U	0.03 U
Mercury	0.001 U	0.006
Nickel	0.02 U	0.02 U
Selenium	0.06 U	0.06 U
Silver	0.005 U	0.005 U
Vanadium	0.05	0.01
Zinc	0.051	0.006

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

Date Digested: 08/03/89
Date Analyzed: 08/04/89
Hg - 07/31/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

DISSOLVED METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: 4-16-7/89
Lab Sample ID: JJ3360

Arsenic	0.03 U
Barium	0.060
Cadmium	0.40
Chromium	0.07
Lead	0.04
Mercury	0.001 U
Nickel	0.02 U
Selenium	0.06 U
Silver	0.005 U
Vanadium	0.08
Zinc	0.12

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

Date Digested: 08/03/89
Date Analyzed: 08/04/89
Hg - 07/31/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

DISSOLVED METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	Method Blank <u>PBWC0365</u>
Arsenic	0.03 U
Barium	0.002 U
Cadmium	0.005 U
Chromium	0.01 U
Lead	0.03 U
Mercury	NR
Nickel	0.02 U
Selenium	0.06 U
Silver	0.005 U
Vanadium	0.01 U
Zinc	0.016

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

NR = Not required.

Date Digested: 08/03/89
Date Analyzed: 08/04/89
Hg - 07/31/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

DISSOLVED METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID:	4-15-7/89	4-D-7/89
Lab Sample ID:	<u>JJ3358</u>	<u>JJ3359</u>
Arsenic	0.03 U	0.03 U
Barium	0.057	0.052
Cadmium	0.005 U	0.55
Chromium	0.01 U	0.01 U
Lead	0.03	0.03 U
Mercury	0.001 U	0.001 U
Nickel	0.28	0.26
Selenium	0.06 U	0.06 U
Silver	0.005 U	0.005 U
Vanadium	0.04	0.04
Zinc	0.044	0.081

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

Date Digested: 08/03/89
Date Analyzed: 08/04/89
Hg - 07/31/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

DISSOLVED METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-R-7/89</u> <u>JJ3361</u>	<u>4-17-7/89</u> <u>JJ3362</u>	<u>4-17D-7/89</u> <u>JJ3363</u>
Arsenic	0.03 U	0.03 U	0.03 U
Barium	0.002 U	0.050	0.023
Cadmium	0.66	0.23	0.017
Chromium	0.01 U	0.01 U	0.01 U
Lead	0.03 U	0.03	0.03 U
Mercury	0.001 U	0.001 U	0.001 U
Nickel	0.02 U	0.02 U	0.02 U
Selenium	0.06 U	0.06 U	0.06 U
Silver	0.005 U	0.005 U	0.005 U
Vanadium	0.01 U	0.01 U	0.01 U
Zinc	0.076	0.076	0.011

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

Date Digested: 08/03/89
Date Analyzed: 08/04/89
Hg - 07/31/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

DISSOLVED METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-18-7/89</u> <u>JJ3364</u>	<u>4-18D-7/89</u> <u>JJ3365</u>	<u>4-19-7/89</u> <u>JJ3366</u>	<u>4-19D-7/89</u> <u>JJ3367</u>
Arsenic	0.03 U	0.03 U	0.03 U	0.03 U
Barium	0.038	0.012	0.036	0.038
Cadmium	0.005 U	0.005 U	0.005 U	0.005 U
Chromium	0.01 U	0.01 U	0.03	0.01 U
Lead	0.03 U	0.03 U	0.03 U	0.03 U
Mercury	0.001 U	0.001 U	0.001 U	0.001 U
Nickel	0.02 U	0.02 U	0.02 U	0.02 U
Selenium	0.06 U	0.06 U	0.06 U	0.06 U
Silver	0.005 U	0.005 U	0.005 U	0.005 U
Vanadium	0.01 U	0.03	0.01 U	0.01 U
Zinc	0.042	0.033	0.037	0.015

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

Date Digested: 08/03/89
Date Analyzed: 08/04/89
Hg - 07/31/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

DISSOLVED METALS ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

Client Sample ID: Lab Sample ID:	<u>4-20-7/89</u> <u>JJ3368</u>	<u>4-200-7/89</u> <u>JJ3369</u>
Arsenic	0.03 U	0.03 U
Barium	0.14	0.050
Cadmium	0.005 U	0.005 U
Chromium	0.01 U	0.01 U
Lead	0.03	0.03 U
Mercury	0.001 U	0.001 U
Nickel	0.02 U	0.02 U
Selenium	0.06 U	0.06 U
Silver	0.005 U	0.005 U
Vanadium	0.06	0.01 U
Zinc	0.012	0.042

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

Date Digested: 08/03/89
Date Analyzed: 08/04/89
Hg - 07/31/89

IT Corporation
August 30, 1989

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

COMPLEXED 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	P0277	0.01 U
4-4-7/89	JJ3331	0.01
4-5-7/89	JJ3332	0.01 U
4-9-7/89	JJ3333	0.01 U
4-11-7/89	JJ3334	0.01 U
4-13-7/89	JJ3335	0.01 U
4-13D-7/89	JJ3336	0.01 U
4-14-7/89	JJ3337	0.01 U
4-16-7/89	JJ3338	0.01 U
4-R-7/89	JJ3339	0.01 U

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

Date Analyzed: 08/03/89

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: NAS JAX

Job Number: ITET 43790

DISSOLVED HEXAVALENT CHROMIUM ANALYSIS

Results in mg/liter (ppm)

Sample Matrix: Water

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Result</u>
4-4-7/89	JJ3349	0.02 U
4-5-7/89	JJ3350	0.02 U
4-9-7/89	JJ3351	0.02 U
4-10-7/89	JJ3352	0.02 U
4-11-7/89	JJ3353	0.02 U
4-12D-7/89	JJ3354	0.02 U
4-13-7/89	JJ3355	0.02 U
4-13D-7/89	JJ3356	0.02 U
4-14-7/89	JJ3357	0.02 U
4-15-7/89	JJ3358	0.02 U
4-D-7/89	JJ3359	0.02 U
4-16-7/89	JJ3360	0.02 U
4-R-7/89	JJ3361	0.02 U
4-17-7/89	JJ3362	0.02 U
4-17D-7/89	JJ3363	0.02 U
4-18-7/89	JJ3364	0.02 U
4-18D-7/89	JJ3365	0.02 U
4-19-7/89	JJ3366	0.02 U
4-19D-7/89	JJ3367	0.02 U
4-20-7/89	JJ3368	0.02 U
4-20D-7/89	JJ3369	0.02 U

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

Date Analyzed: 07/25/89