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GROUNDWATER MONITORING
VALIDATED ANALYTICAL RESULTS FOR THE SECOND QUARTER 1998
OB/OD GROUNDS, SENECA ARMY DEPOT

PREPARED FOR:
U.S. Army Corps of Engineers
Hunstville, Alabama

PREPARED BY:

Parsons Engineering Science, Inc.
Canton, Massachusetts

October 1998

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October 26, 1998

Mr. Stephen Absolom
FFA Program Manager
BRAC Environmental Coordinator
ATTN: SIOSE-BEC
Building 123
Seneca Army Depot Activity
Romulus, New York 14541-5001

SUBJECT: OB/OD Grounds Second Quarter 1998 Groundwater Monitoring
Seneca Army Depot Activity, Romulus, New York

Dear Mr. Absolom:

The attached report summarizes the groundwater monitoring results at the OB/OD Grounds for the Second Quarter 1998. The work for this quarter of groundwater monitoring was performed in accordance with the requirements of Delivery Order 0006, Optional Task 2 under Contract DACA87-95-D-0031.

Field Activities

A round of groundwater elevations were obtained from 35 monitoring wells at the OB/OD Grounds Groundwater samples were collected from seven wells using EPA Region II low-flow sampling procedures for TAL Metals analysis. The samples were not filtered in the field prior to collection. Four replicates samples were also collected at each well for TOC, TOX, pH and Specific Conductivity analyses in accordance with the requirements of 40 CFR 265 Subpart F.

Groundwater Elevation Data

Mean Sea Levels (MSL) elevations were obtained from the 35 wells on June 21, 1998. **Table 1** summarizes the results of the groundwater elevation measurements. Groundwater isocontours developed for the OB Grounds indicates a flow direction to the northeast with a hydraulic gradient of approximately 0.012. Groundwater isocontours developed for the OD grounds indicates a flow direction to the northeast. **Figures 1** and **2** show the groundwater isocontours developed for each area.

Analytical Results

Four replicate samples from each of the seven monitoring wells were analyzed for the standard indicator parameters of pH, Specific Conductivity, Total Organic Carbon, and Total Organic Halides (TOX). One sample from each monitoring well was also analyzed for TAL metals. **Tables 2** and **3** summarize the analytical results for the indicator compounds. The validated TAL Metals analytical results are presented in **Table 4.** The analytical results were validated in accordance with the NYSDEC Data Validation SOPs. The validated analytical results indicate that all data is acceptable.

Student's t-Test Analysis

A statistical analysis was performed on the indicator parameter data from the OB/OD Grounds using the Student's t-Test. The analysis was performed in accordance with 40 CFR 265 Subpart F and U.S. EPA SW-963, revised 1983. The analysis results are shown in **Table 7**.

The Student's t-Test results indicated that there were statistically significant increases at the OB Grounds for pH in MW-12, MW-14 and MW-27, and TOC in MW-14, and specific conductance in MW-14.. At the OD Grounds, the Student's t-Test indicated that there were significant increases of TOC and TOX at the upgradient well (MW45-4) and the two downgradient wells (MW45-2 and MW45-3), pH in MW45-3, and Specific Conductance in MW45-2 and MW45-3.

A review of the data shows that the actual values measured for TOX were non-detect (0.02U) in all wells including the background wells for this quarter of sampling as well as previous quarterly sampling. It is reasonable to conclude that there was no actual increase in concentrations as compared to background, as measured by TOX. Similarly, the variations in actual pH, conductivity and total organic carbon data were relatively small as compared to previous sampling rounds. The historical indicator parameter data shown in **Table 5** and **Table 6** shows that these "statistically significant" changes are most likely due to natural variations (seasonal) in the groundwater quality and not from any continuing releases to groundwater from either the OD or the OB Grounds. Also, the TAL metals data does not indicate any real increases in actual metals concentrations from previous sampling episodes. The close spatial distribution of the monitoring data around the mean (sample variance) and the associated errors in measurements (10-20%) may account for the statistical increases indicated by the Student's t-Test. Based upon professional judgment, these statistical increases do not indicate releases from the OB/OD Grounds.

In summary, the groundwater monitoring results for OB/OD Grounds for the Second Quarter 1998, continue to indicate no adverse impacts to groundwater in these areas.

If you have any questions, please call me at (617) 859-2492.

PARSONS ENGINEERING SCIENCE, INC.

RM Kane for

Michael Duchesneau, P.E.
Project Manager

Enclosures (3)

cc: Ms. Laura Percifield, CEMRD (1)
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Mr. Randall Battaglia, CENAN (1)
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Mr. Keith Hoddinott, USACHPPM (1)
Ms. Carla Struble, USEPA Region II (4)
Mr. James Quinn, NYSDEC (1)
Mr. Daniel Geraghty, NYSDOH (1)

TABLES

Table 1

SENECA ARMY DEPOT ACTIVITY
GROUNDWATER MONITORING PROGRAM
GROUNDWATER ELEVATION DATA
SECOND QUARTER 1998
OB / OD GROUNDS

Monitoring Well	Elevation at Top of Riser (MSL)	Fourth Quarter 1996			Second Quarter 1997			Second Quarter 1998			Well Condition
		Date	Depth from Top of Riser (ft.)	Elevation of Water Level (ft.)	Date	Depth from Top of Riser (ft.)	Elevation of Water Level (ft.)	Date	Depth from Top of Riser (ft.)	Elevation of Water Level (ft.)	
OB Grounds											
MW-1	634.22	12/28/96	7.52	626.7	06/17/97	NA	634.22	06/21/98	7.36	626.86	A
MW-4	NA	12/28/96	7.27	NA	06/17/97	NA	NA	06/21/98	N/A	NA	H
MW-5	637.99	12/28/96	3.07	634.92	06/17/97	4.61	633.38	06/21/98	3.80	634.19	A, D, F
MW-6	630.31	12/28/96	Not Measured	Not Measured	06/17/97	5.38	624.93	06/21/98	4.77	625.54	H
MW-7	622.94	12/28/96	5.42	617.52	06/17/97	Not Measured	Not Measured	06/21/98	N/A	Not Measured	H
MW-8	638.78	12/28/96	3.14	635.64	06/17/97	5.16	633.62	06/21/98	3.84	634.94	G, needs pressure cap
MW-9	634.95	12/28/96	Not Measured	Not Measured	06/17/97	4.12	630.83	06/21/98	2.93	632.02	C (1.0'), E
MW-10	638.62	12/28/96	2.30	636.32	06/17/97	4.57	634.05	06/21/98	3.55	635.07	ok
MW-11	630.65	12/28/96	2.85	627.8	06/17/97	3.47	627.18	06/21/98	3.43	627.22	C (0.3')
MW-12	624.50	12/28/96	2.25	622.25	06/17/97	3.08	621.42	06/21/98	2.62	621.88	C (0.4')
MW-13	627.09	12/28/96	2.38	624.71	06/17/97	3.37	623.72	06/21/98	3.60	623.49	C, E, G, pad tipped, pvc b
MW-14	624.51	12/28/96	3.15	621.36	06/17/97	5.16	619.35	06/21/98	3.98	620.53	C (0.8'), E, F,G, pad tipped, pv
MW-15	621.99	12/28/96	2.78	619.21	06/17/97	3.84	618.15	06/21/98	3.16	618.83	C (0.3'), E, G
MW-16	622.60	12/28/96	2.22	620.38	06/17/97	4.61	617.99	06/21/98	2.83	619.77	C (0.4'), F
MW-17	624.53	12/28/96	1.73	622.8	06/17/97	3.00	621.53	06/21/98	2.41	622.12	F
MW-18	623.95	12/28/96	2.38	621.57	06/17/97	3.26	620.69	06/21/98	2.76	621.19	B, C (0.4')
MW-19	636.34	12/28/96	2.89	633.45	06/17/97	5.08	631.26	06/21/98	3.55	632.79	A, C, F
MW-21	637.88	12/28/96	2.89	634.99	06/17/97	4.91	632.97	06/21/98	4.02	633.86	A
MW-22	623.15	12/28/96	Lock Frozen	Lock Frozen	06/17/97	Not Measured	Not Measured	06/21/98	3.6	619.55	A, G
MW-23	622.87	12/28/96	3.83	619.04	06/17/97	5.08	617.79	06/21/98	4.36	618.51	A, C, E, G
MW-24	627.33	12/28/96	4.08	623.25	06/17/97	5.95	621.38	06/21/98	5.11	622.22	B, C (0.5'), pvc riser may of h
MW-25	623.80	12/28/96	4.38	619.42	06/17/97	7.65	616.15	06/21/98	7.19	616.61	A, D
MW-26	624.31	12/28/96	3.54	620.77	06/17/97	6.32	617.99	06/21/98	5.06	619.25	B, D, G
MW-27	625.94	12/28/96	3.31	622.63	06/17/97	4.43	621.51	06/21/98	3.86	622.08	ok
MW-28	631.90	12/28/96	3.77	628.13	06/17/97	4.87	627.03	06/21/98	4.60	627.3	B, C (0.4')
MW-29	632.07	12/28/96	2.98	629.09	06/17/97	5.10	626.97	06/21/98	4.82	627.25	B, C (0.8')
MW-30	628.12	12/28/96	3.80	624.32	06/17/97	4.23	623.89	06/21/98	4.25	623.87	B, C (0.3')
MW-31	634.57	12/28/96	Not Measured	Not Measured	06/17/97	5.06	629.51	06/21/98	3.27	631.3	F
MW-32	634.81	12/28/96	2.61	632.2	06/17/97	4.35	630.46	06/21/98	3.50	631.31	A, F
MW-36	640.55	12/28/96	5.81	634.74	06/17/97	7.18	633.37	06/21/98	6.62	633.93	No stamp
MW-37	640.81	12/28/96	5.83	634.98	06/17/97	6.95	633.86	06/21/98	6.61	634.2	No stamp
MW-38	620.67	12/28/96	2.71	617.96	06/17/97	5.17	615.5	06/21/98	N/A	Not Measured	F, lock frozen
MW-39	620.14	12/28/96	3.73	616.41	06/17/97	6.25	613.89	06/21/98	5.02	615.12	A, C (0.4')
MW-40	620.46	12/28/96	3.66	616.8	06/17/97	6.59	613.87	06/21/98	5.20	615.26	C (0.8')
OD Grounds - SEAD-45 wells											
MW45-1	625.08	12/28/96	7.26	617.82	06/17/97	7.96	617.12	06/21/98	7.99	617.09	ok - dry well
MW45-2	626.76	12/28/96	8.95	617.81	06/17/97	10.02	616.74	06/21/98	10.16	616.6	ok
MW45-3	626.45	12/28/96	7.50	618.95	06/17/97	7.48	618.97	06/21/98	7.76	618.69	D
MW45-4	633.04	12/28/96	5.87	627.17	06/17/97	7.21	625.83	06/21/98	6.48	626.56	C (0.3)

A - No pad or pad destroyed by frost
B - Pad damaged by frost
C - Pad & protective casing heaved by frost (ft. above G.S.)
D - Protective casing corroded - cannot read stamp
E - PVC riser heaved by frost - cannot lock protective casing
F - Lock badly corroded
G - No lock
H - Protective casing has settled, may not be able to open

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TABLE 2

SENECA ARMY DEPOT ACTIVITY
OB GROUNDS SECOND QUARTER 1998 MONITORING PROGRAM
INDICATOR ANALYSIS RESULTS

	MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
	DATE SAMPLED	06/21/98	06/21/98	06/21/98	06/21/98	06/21/97	06/21/97	06/21/97
	ES ID	OB128	OB129	OB130	OB131	OB136	OB137	OB138
	WELL ID	**MW12A**	**MW12B**	**MW12C**	**MW12D**	**MW13A**	**MW13B**	**MW13C**
	LAB ID	359614	359615	359616	359617	359628	359629	359630
PARAMETER	**UNITS**							
pH	standard units	7.33	7.31	7.31	7.32	7.04	7.02	7.00
Conductivity	umhos/cm	741	739	737	741	902	902	892
Total Organic Carbon	mg/L	1.4	1.6	1.6	1.8	1.6	1.6	1.6
Total Organic Halides	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

TABLE 2

SENECA ARMY DEPOT ACTIVITY
OB GROUNDS SECOND QUARTER 1998 MONITORING PROGRAM
INDICATOR ANALYSIS RESULTS

	MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER	W
	DATE SAMPLED	06/22/98	06/22/98	06/22/98	06/22/98	06/22/98	06/22/98	06/22/98	0
	ES ID	OB144	OB145	OB146	OB147	OB140	OB141	OB142	
	WELL ID	**MW14A**	**MW14B**	**MW14C**	**MW14D**	**MW27A**	**MW27B**	**MW27C**	
	LAB ID	359632	359633	359634	359635	359624	359625	359626	
METER	**UNITS**								
	standard units	7.12	7.13	7.10	7.10	7.14	7.16	7.19	
ctivity	umhos/cm	1023	1026	1014	996	763	763	753	
Organic Carbon	mg/L	1.30	1.30	1.30	1.30	1.00	1.10	1.00	
Organic Halides	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	

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TABLE 3

SENECA ARMY DEPOT ACTIVITY
OD GROUNDS SECOND QUARTER 1998 MONITORING PROGRAM
INDICATOR ANALYSIS RESULTS

	MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
	DATE SAMPLED	06/22/98	06/22/98	06/22/98	06/22/98	06/21/98	06/21/98	06/21/98
	ES ID	OB132	OB133	OB134	OB135	OB124	OB125	OB126
	WELL ID	MW45-3A	MW45-3B	MW45-3C	MW45-3D	MW45-4A	MW45-4B	MW45-4C
	LAB ID	359620	359621	359622	359623	359610	359611	359612
AMETER	UNITS							
	standard units	7.3	7.3	7.33	7.32	7.24	7.27	7.23
uctivity	umhos/cm	1523	1521	1515	1510	698	701	701
Organic Carbon	mg/L	1.2	1.1	1.1	1.2	1.3	1.4	1.4
Organic Halides	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

TABLE 3

SENECA ARMY DEPOT ACTIVITY
OD GROUNDS SECOND QUARTER 1998 MONITORING PROGRAM
INDICATOR ANALYSIS RESULTS

	MATRIX	WATER	WATER	WATER	WATER
	DATE SAMPLED	06/21/98	06/21/98	06/21/98	06/21/98
	ES ID	OB120	OB121	OB122	OB123
	WELL ID	**MW45-2A**	**MW45-2B**	**MW45-2C**	**MW45-2D**
	LAB ID	359606	359607	359608	359609
ARAMETER	**UNITS**				
H	standard units	7.04	7.05	7.05	7.14
onductivity	umhos/cm	1550	1568	1571	1569
otal Organic Carbon	mg/L	1.4	1.4	1.5	1.4
otal Organic Halides	mg/L	<0.02	<0.02	<0.02	<0.02

Table 4

OB/OD 1998 Second Quarter Groundwater Monitoring
Validated TAL Metals Analytical Results

WELL ID		MW12	MW12(DU)	MW12(R)	MW13	MW14	MW27	MW45-2	MW45-3	M
ES ID		OB128	OB802	OB801	OB136	OB144	OB140	OB120	OB132	
SITE		OB	OB	OB	OB	OB	OB	OD	OD	
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	W
DATA SAMPLED		6/21/98	6/21/98	6/21/98	6/21/98	6/22/98	6/21/98	6/21/98	6/21/98	
LAB ID		359614	359619	359618	359628	359632	359624	359606	359620	
			Duplicate	Rinsate						
COMPOUND	UNITS									
Aluminimum	ug/l	153	104	36.6 U	104	69.2	36.6 U	436	178	
Antimony	ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	
Arsenic	ug/l	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	
Barium	ug/l	96.5	93.9	3.3 U	91.7	51.6	80.8	9.2	21.2	
Beryllium	ug/l	0.22	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.22 U	
Cadmium	ug/l	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	
Calcium	ug/l	75400	73900	79	154000	166000	120000	9240	234000	12
Chromium	ug/l	11.2	8.5	2.9 U	5.4	7.2	2.9 U	2.9 U	11	
Cobalt	ug/l	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	
Copper	ug/l	7.9	4.4	2.4 U	4.3	5.8	2.4 U	24.2	7.8	
Iron	ug/l	479	377	68.1 U	391	287	158	112	535	
Lead	ug/l	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	6.3	1.9 U	
Magnesium	ug/l	53100	55000	225 U	30200	33400	29600	1540	84900	25
Manganese	ug/l	2.8	1.9	0.6 U	3.5	1.4	177	881	18.2	
Mercury	ug/l	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	
Nickel	ug/l	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	4.2	
Potassium	ug/l	10800	10600	142 U	2020	1860	4190	2860	7600	
Selenium	ug/l	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	
Silver	ug/l	5.6	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.4	
Sodium	ug/l	15400	14600	914 U	16500	31600	13800	90300	31600	14
Thallium	ug/l	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	
Vanadium	ug/l	11	6.4	4 U	4 U	5.8	4 U	4.4	10.2	
Zinc	ug/l	10	9.4	44.9	11	9.7	12	28.8	53.9	
Cyanide	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	

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TABLE 5

SENECA ARMY DEPOT ACTIVITY
SECOND QUARTER 1998 GROUNDWATER MONITORING PROGRAM
HISTORICAL SUMMARY OF OB GROUNDS INDICATOR PARAMETER DATA

oring Well		Dec 1994	June 1995	January 1996	March 1996	June 1996	September 1996	December 1996	June 1997
adient Well:	MW-13	7.04	7.14	7.13	7.1	6.95	7	7.1	7.02
gradient Wells:	MW-12	7.37	7.4	7.18	7.39	7.33	7.4	7.5	7.4
	MW-14	7.11	7.18	6.75	7.19	7.1	7.2	7.2	----
	MW-27	7.34	7.4	7.26	7.32	7.28	7.2	7.4	7.3
uctivity									
adient Well:	MW-13	886	838	894	920	943	867	722	825
gradient Wells:	MW-12	911	892	869	844	854	879	850	783
	MW-14	1082	1090	1025	1047	1070	1070	929	----
	MW-27	953	912	944	889	877	877	812	789
Organic Carbon									
adient Well:	MW-13	1.2	1.2	1.2	1.1	1.7	1.9	1.0	1.6
gradient Wells:	MW-12	1.2	1.3	1.1	1.1	1.3	1.6	1.4	1.3
	MW-14	1	1.1	1.0	0.95	1.6	2.1	0.8	----
	MW-27	1	1.1	0.8	0.95	1.3	1.1	1.1	1.1
Organic Halides									
adient Well:	MW-13	0.03	0.02U	0.02U	<0.02	<0.02	<0.02	<0.02	<0.02
gradient Wells:	MW-12	0.04	0.02U	0.02U	<0.02	<0.02	<0.02	<0.02	<0.02
	MW-14	0.02U	0.02U	0.02U	<0.02	<0.02	<0.02	<0.02	<0.02
	MW-27	0.03	0.02U	0.02U	<0.02	<0.02	<0.02	<0.02	<0.02

TABLE 6

SENECA ARMY DEPOT ACTIVITY
SECOND QUARTER 1998 GROUNDWATER MONITORING PROGRAM
HISTORICAL SUMMARY OF OD GROUNDS INDICATOR PARAMETER DATA

ring Well		Dec 1994	June 1995	January 1996	March 1996	June 1996	September 1996	December 1996	June 1997
lient Well:	MW45-4	7.1	7.24	7.16	7.18	7.2	7.2	7.26	7.24
radient Wells:	MW45-1	-	-	-	-	-	-	-	-
	MW45-2	-	-	-	-	-	-	7.15	7.17
	MW45-3	7.19	7.38	7.18	7.28	7.13	7.3	7.28	7.43
ctivity									
lient Well:	MW45-4	1030	829	891	836	793	892	679	670
radient Wells:	MW45-1	-	-	-	-	-	-	-	-
	MW45-2	-	-	-	-	-	-	1253	3876
	MW45-3	1430	1335	1325	1213	1350	1275	1275	1264
Organic Carbon									
lient Well:	MW45-4	1	0.9	1.1	0.58	0.925	1.2	1	1.2
radient Wells:	MW45-1	-	-	-	-	-	-	-	-
	MW45-2	-	-	-	-	-	-	1.0	1.2
	MW45-3	0.8	0.9	0.65	0.78	1.1	1.3	1.3	0.9
Organic Halides									
lient Well:	MW45-4	0.02U	0.02U	0.02U	<0.02	<0.02	<0.02	<0.02	<0.02
radient Wells:	MW45-1	-	-	-	-	-	-	-	-
	MW45-2	-	-	-	-	-	-	<0.02	<0.02
	MW45-3	0.02U	0.02U	0.02U	<0.02	<0.02	<0.02	<0.02	<0.02

Table 7

OB Grounds Second Quarter 1998 Monitoring Program
Students t-Test Statistical Analysis Results

Background Well MW-13	TOC	pH	Specific Cond.	TOX
Intital Mean =	1.19	7.02	909.50	0.01
Initial Variance =	0.14	0.00	704.53	0.00
Sample Size =	16.00	16.00	16.00	16.00

TOTAL ORGANIC CARBON (TOC)

Compliance Well MW -12		Background Well MW -13		Compliance Well MW -14		Compliance Wel
t*=	3.34	t*=	4.04	t*=	1.22	t*=
tc=	3.45	tc=	2.73	tc=	2.60	tc=
	No Change		**Increase**		**No Change**	N

pH

Compliance Well MW -12		Background Well MW -13		Compliance Well MW -14		Compliance Wel
t*=	17.53	t*=	-0.61	t*=	5.19	t*=
tc=	3.18	tc=	3.01	tc=	3.45	tc=
	Increase		**No Change**		**Increase**	Ir

SPECIFIC CONDUCTANCE

Compliance Well MW -12		Background Well MW -13		Compliance Well MW -14		Compliance Wel
t*=	-25.36	t*=	-0.96	t*=	11.12	t*=
tc=	2.64	tc=	3.13	tc=	3.59	tc=
	No Change		**No Change**		**Increase**	N

TOTAL ORGANIC HALIDES (TOX)

Compliance Well MW -12		Background Well MW -13		Compliance Well MW -14		Compliance We
t*=	-1.00	t*=	-1.00	t*=	-1.00	t*=
tc=	2.60	tc=	2.60	tc=	2.60	tc=
	No Change		**No Change**		**No Change**	N

key:
t*>= tc Indicates a statistically significant increase in the indicator parameter
t*<tc Indicates no statistically significant change in the indicator parameter

Table 7

OD Grounds Second Quarter 1998 Monitoring Program
Students t-Test Statistical Analysis Results

ckground Well MW45-4				
	TOC	pH	Spec Cond.	TOX
ital Mean =	0.85	7.18	875.08	0.005
tial Variance =	0.03	0.00	14375.90	0.000
mple Size =	12.00	12.00	12.00	12

OTAL ORGANIC CARBON (TOC)

ompliance Well MW 45-1		Compliance Well MW 45-2		Compliance Well MW 45-3		Background Well MW
=	0.00	t*=	10.29	t*=	5.20	t*=
=	0.00	tc=	3.08	tc=	3.17	tc=
	Dry		Increase		Increase	Increa

H

ompliance Well MW 45-1		Compliance Well MW 45-2		Compliance Well MW 45-3		Background Well MW
=	0.00	t*=	-3.46	t*=	6.50	t*=
=	0.00	tc=	4.71	tc=	3.45	tc=
	Dry		No Change		Increase	No Ch

PECIFIC CONDUCTANCE

ompliance Well MW 45-1		Compliance Well MW 45-2		Compliance Well MW 45-3		Background Well MW
=	0.00	t*=	19.72	t*=	18.49	t*=
=	0.00	tc=	2.75	tc=	2.73	tc=
	Dry		Increase		Increase	No Ch

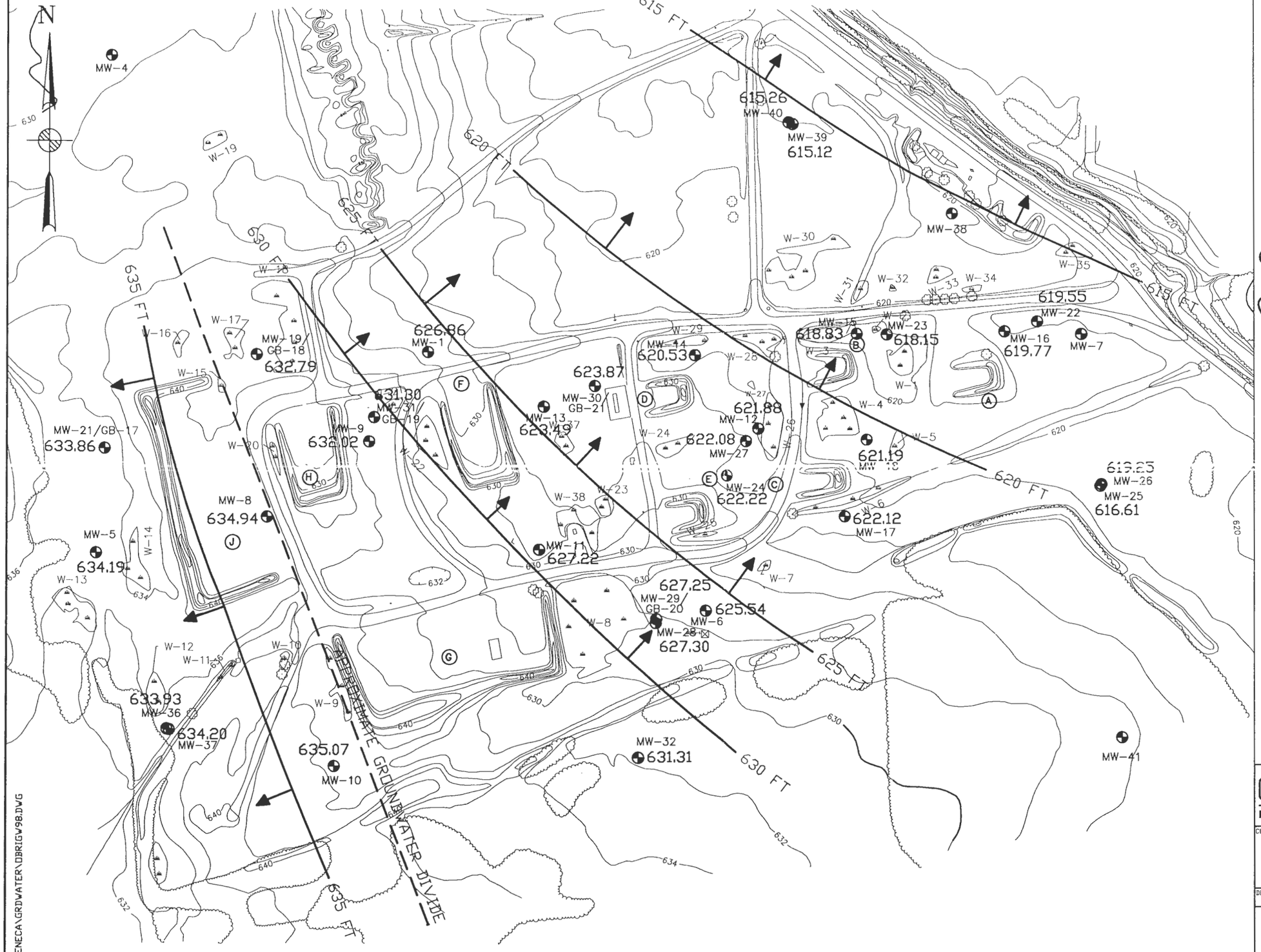
OTAL ORGANIC HALIDES (TOX)

ompliance Well MW 45-1		Compliance Well MW 45-2		Compliance Well MW 45-3		Background Well MW
=	0.00	t*=	3.32	t*=	3.32	t*=
=	0.00	tc=	2.72	tc=	2.72	tc=
	Dry		Increase		Increase	Increa

ey:
>= tc Indicates a statistically significant increase in the indicator parameter
<tc Indicates no statistically significant change in the indicator parameter

-ca\quartsmp\obod\3q96\STAT298.WK4

FIGURES



LEGEND:

- BURNING PAD DESIGNATION
- PAD OR GRID BORING
- GROUND CONTOUR AND ELEVATION
- W-1 WETLAND & DESIGNATION
- UTILITY POLE
- TREE
- BRUSH
- MW-14 620.53 MONITORING WELL & DESIGNATION AND MSL ELEVATION DATUM
- 635 GROUNDWATER CONTOUR LINE (DASHED WHERE INFERRED) MSL DATUM
- ARROW INDICATES PREDOMINANT GROUNDWATER FLOW DIRECTION

100 0 100 200
(feet)

PARSONS
PARSONS ENGINEERING SCIENCE, INC.

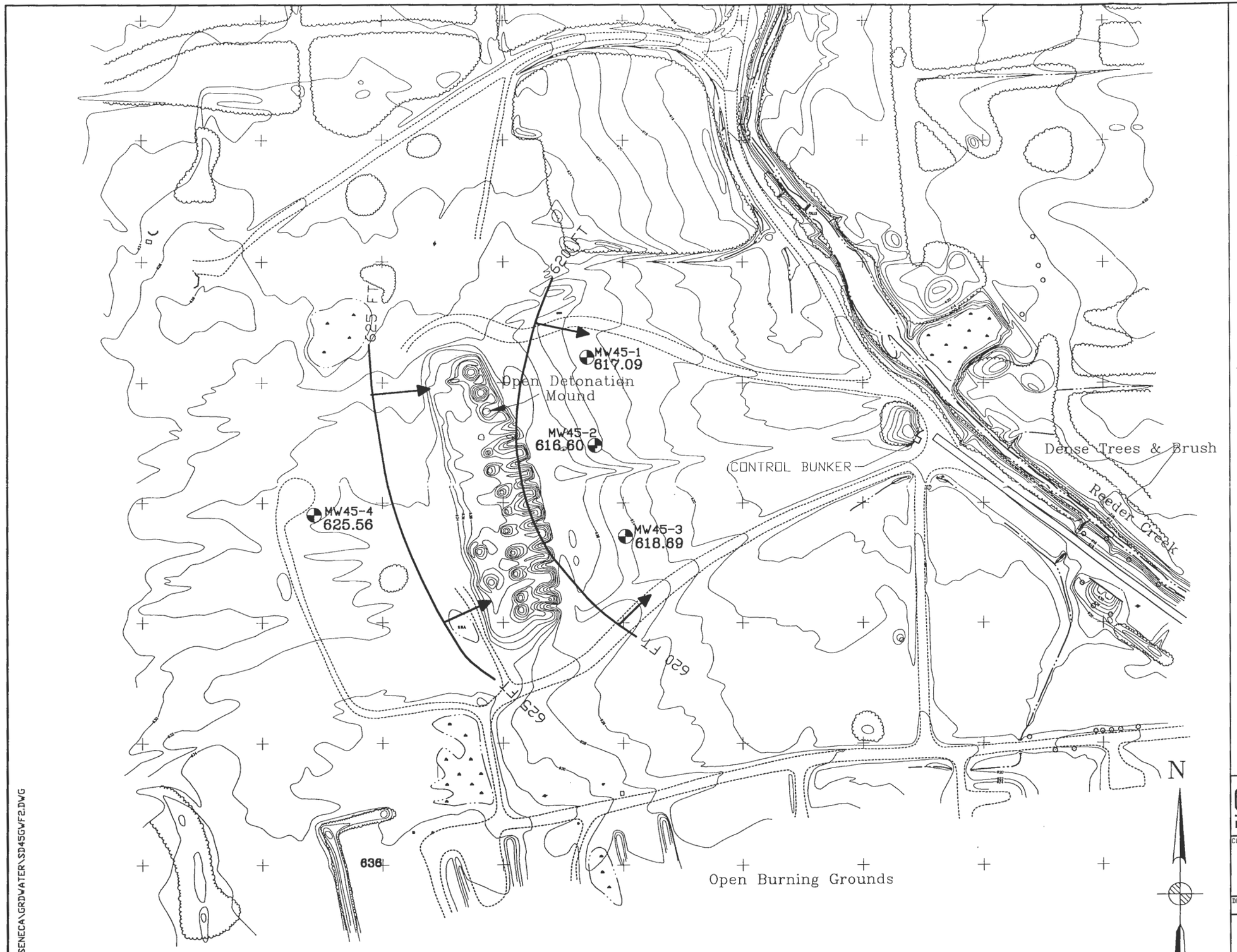
CLIENT/PROJECT TITLE
SENECA ARMY DEPOT ACTIVITY
OB GROUNDS
GROUNDWATER MONITORING PROGRAM

DEPT. ENVIRONMENTAL ENGINEERING | Dwg No. 730769-01006

FIGURE 1
GROUNDWATER ELEVATION PLAN
JUNE 1998

SCALE 1" = 200' | DATE OCTOBER 1998 | REV A

R:\SENECA\GRDWATER\DBRIGW98.DWG



LEGEND

- MINOR WATERWAY
- MAJOR WATERWAY
- FENCE
- UNPAVED ROAD
- BRUSH LINE
- LANDFILL EXTENTS
- RAILROAD
- 760 — GROUND SURFACE ELEVATION CONTOUR
- ROAD SIGN
- DECIDUOUS TREE
- GUIDE POST
- FIRE HYDRANT
- MANHOLE
- COORDINATE GRID (250' GRID)
- POLE
- UTILITY BOX
- MAILBOX/RR SIGNAL
- OVERHEAD UTILITY POLE
- SURVEY MONUMENT
- LOCATION OF DETONATION MOUND IN 1988
- MW45-1 617.12 — MONITORING WELL & DESIGNATION AND MSL ELEVATION DATUM
- 625 — GROUNDWATER CONTOUR LINE (DASHED WHERE INFERRED)
- ARROW INDICATES PREDOMINANT GROUNDWATER FLOW DIRECTION

100 0 100 200
(feet)

PARSONS
PARSONS ENGINEERING SCIENCE, INC.

CLIENT/PROJECT TITLE
SENECA ARMY DEPOT ACTIVITY
OD GROUNDS
GROUNDWATER MONITORING PROGRAM

DEPT. ENVIRONMENTAL ENGINEERING
Dwg. No. 730769-01006

FIGURE 2
GROUNDWATER ELEVATION PLAN
JUNE 1998

SCALE 1" = 200'
DATE OCTOBER 1998
REV A

ACAD:\SENECA\GRDWATER\SD45GWF2.DWG

APPENDIX A

FIELD DATA

OB/OD Second Quarter 1998 Groundwater Monitoring Program

1. Groundwater Sampling Field Notes

2. Chain-of-Custody Forms

1. Groundwater Sampling Field Notes

SAMPLING RECORD - GROUNDWATER

PARSONS ENGINEERING - SCIENCE, INC.	CLIENT: USACOE	WELL #: MW-12
PROJECT: 2nd Quarterly Monitoring - 1998		DATE: 6/21/98
SWMU # (AREA) OB/OD Grounds		INSPECTORS: KKS, JHP
SOP NO.: 17		PUMP #:

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

DATE	TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING READING (UNITS)
							OVM-580	PPM (Isobut.)
6/21/98	~~0~~1525	85F	sunny	mod high	none			

WELL DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	3	4	5	6	7	8	9	10
GALLONS / FOOT:	0.041	0.092	0.367	0.654	1.02	1.47	2.00	2.61	3.30	5.87

STANDING WATER VOLUME = WELL DIAMETER FACTOR * WATER COLUMN

HISTORIC DATA	DEPTH POW (TOC)	DEPTH TOP OF SCREEN	WELL DEV. TURBIDITY	WELL DEV. pH	WELL DEV. SPEC. COND
	9.17ft.				

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	STATIC WATER LEVEL	CALCULATED STANDING WATER VOL. (GAL)	DEPTH TO PUMP INTAKE (DEPTH TOS + 2 ft)	PUMPING START TIME
		2.66 ft.	1.06 gal	7.0 ft.	1540

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)		PUMP AFTER SAMPLING (cps)	

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

DATE	TIME (min)	PUMPING RATE (L/min)	CUMULATIVE VOL (GALLONS)	TEMPERATURE (C)	SPEC. COND (umhos)	pH	Eh	DISSOLVED OXYGEN	TURBIDITY (NTU)
WL 2.95 6/21/98	1550	0.320	0.50	15.97	744	7.17	301	0.69	45.6
	1553	0.320	~~0.0~~ 0.75	15.78	747	7.16	301	0.56	22.9
	1556	0.320	1.0	15.47	745	7.16	301	0.56	20.9
	1559	0.320	1.25	15.18	745	7.11	300	0.58	16.1
	1610	Sampled							

SAMPLING RECORD - GROUNDWATER

PARSONS ENGINEERING - SCIENCE, INC. | CLIENT: USACOE | WELL #: MW-12

SAMPLING ORDER		PRESERV.	BOTTLES COUNT/VOL	BOTTLES TYPE	TIME	SAMPLE # REPLICATE #1	SAMPLE # REPLICATE #2	SAMPLE # REPLICATE #3	SAMPLE # REPLICATE #4
1	Metals	HNO3	1 / 1L	HDPE	1610	OB128			
2	CN	NaOH	1 / 1L	HDPE	↓	↓			
3	TOX	H2SO4	1 / 500 ml	Amber			OB129	OB130	OB131
3	TOC	H2SO4	2 / 40 ml	VOA			↓	↓	↓
4	Cond./								
5	pH	None	1 / 500 ml	HDPE	↓	↓	↓	↓	↓

QA/QC

BOTTLE COUNTS ARE TRIPLED IF MS/MSD SAMPLES ARE COLLECTED

QA/QC DUPLICATE SAMPLE COLLECTED: (YES) ~~NO~~

Duplicate Sample Name: OB802

MRD Sample Name: OB128

QA/QC rinsate sample name: OB801

MATRIX SPIKE sample collected? (YES) ~~NO~~

INVESTIGATION DERIVED WASTE (IDW):

DATE:	6/2/98			
VOLUME:	1.25 gal			
DRUM #, LOCATION:	OB-1 W			

COMMENTS:

SAMPLING RECORD - GROUNDWATER

PARSONS ENGINEERING - SCIENCE, INC.	CLIENT: USACOE	WELL #: MW-13
PROJECT: 2nd Quarterly Monitoring - 1998		DATE: 6/22/98
SWMU # (AREA) OB/OD Grounds		INSPECTORS: KVS, JHP
SOP NO.: 17		PUMP #:

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

DATE	TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING READING (UNITS)
							OVM-580	PPM (Isobut.)
6/22/98	1157	85°F	overcast	high	east			

WELL DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	3	4	5	6	7	8	9	10
GALLONS / FOOT:	0.041	0.092	0.367	0.654	1.02	1.47	2.00	2.61	3.30	5.87

STANDING WATER VOLUME = WELL DIAMETER FACTOR * WATER COLUMN

HISTORIC DATA	DEPTH POW (TOC)	DEPTH TOP OF SCREEN	WELL DEV. TURBIDITY	WELL DEV. pH	WELL DEV. SPBC. COND
	10.00 ft.				

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	STATIC WATER LEVEL	CALCULATED STANDING WATER VOL. (GAL)	DEPTH TO PUMP INTAKE (DEPTH TOS + 2 ft)	PUMPING START TIME
		3.00 ft.	1.14 gal	8.0 ft.	1202

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)		PUMP AFTER SAMPLING (cps)	

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

WL 3.42

DATE	TIME (min)	PUMPING RATE (L/min)	CUMULATIVE VOL (GALLONS)	TEMPERATURE (C)	SPEC. COND (umhos)	pH	Eh	DISSOLVED OXYGEN	TURBIDITY (NTU)
6/22/98	1207	0.400	0.25	18.27	927	6.82	325	0.77	16.9
	1210	0.400	0.55	16.84	923	6.77	319	0.62	11.0
	1213	0.400	0.90	16.32	924	6.74	321	0.49	7.60
	1216	0.400	1.20	15.91	925	6.73	324	0.44	5.18
	1220	Sampled							

SAMPLING RECORD - GROUNDWATER

PARSONS ENGINEERING - SCIENCE, INC. | CLIENT: USACOE | WELL #: MW-13

SAMPLING ORDER		PRESERV.	BOTTLES COUNT/VOL	BOTTLES TYPE	TIME	SAMPLE # REPLICATE #1	SAMPLE # REPLICATE #2	SAMPLE # REPLICATE #3	SAMPLE # REPLICATE #4
1	Metals	HNO3	1 / 1L	HDPE	6/22/98 1220	OB136			
2	CN	NaOH	1 / 1L	HDPE	↓	↓			
3	TOX	H2SO4	1 / 500 ml	Amber			OB137	OB138	OB139
3	TOC	H2SO4	2 / 40 ml	VOA			↓	↓	↓
4	Cond./								
5	pH	None	1 / 500 ml	HDPE	↓	↓			

QA/QC

BOTTLE COUNTS ARE TRIPLED IF MS/ MSD SAMPLES ARE COLLECTED

QA/QC DUPLICATE SAMPLE COLLECTED? YES (NO)

Duplicate Sample Name: _____

MRD Sample Name: _____

QA/QC rinsate sample name: _____

MATRIX SPIKE sample collected? YES (NO)

INVESTIGATION DERIVED WASTE (IDW):

DATE:	6/22/98			
VOLUME:	1.2 gal			
DRUM #, LOCATION:	OB-1W			

COMMENTS:

SAMPLING RECORD - GROUNDWATER

PARSONS ENGINEERING - SCIENCE, INC.	CLIENT: USACOE	WELL #: 11W-14
PROJECT: 2nd Quarterly Monitoring - 1998		DATE: 6/22/98
SWMU # (AREA) OB/OD Grounds		INSPECTORS: KKS, JHP
SOP NO.: 17		PUMP #:

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

DATE	TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS
6/22/98	~~1330~~	~~80F~~	~~overcast~~	~~high~~	~~none~~ JHP	
	1400	85°F	rainy	high	none	

MONITORING

INSTRUMENT	READING (UNITS)
OVM-580	PPM (Isobut.)

WELL DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	3	4	5	6	7	8	9	10
GALLONS / FOOT:	0.041	0.092	0.367	0.654	1.02	1.47	2.00	2.61	3.30	5.87

STANDING WATER VOLUME = WELL DIAMETER FACTOR * WATER COLUMN

HISTORIC DATA	DEPTH POW (TOC)	DEPTH TOP OF SCREEN	WELL DEV. TURBIDITY	WELL DEV. pH	WELL DEV. SPEC. COND
	10.58ft.				

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	STATIC WATER LEVEL	CALCULATED STANDING WATER VOL. (GAL)	DEPTH TO PUMP INTAKE (DEPTH TOS + 2 ft)	PUMPING START TIME
		~~4.00ft.~~	~~1.07gal~~	8.0ft.	1402

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)		PUMP AFTER SAMPLING (cps)	
	4.23ft. JHP		1.04 JHP	

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

DATE	TIME (min)	PUMPING RATE (L/min)	CUMULATIVE VOL (GALLONS)	TEMPERATURE (C)	SPEC. COND (umhos)	pH	Eh	DISSOLVED OXYGEN	TURBIDITY (NTU)
WL 5.81 6/~~22~~23/98	1410	0.640	2.5	14.22	1042	6.97	322	0.98	7.88
	1413		3.0	14.07	1042	7.02	323	0.93	6.04
	1416		3.25	14.04	1042	7.04	324	0.92	4.00
	1420	Sampled							

SAMPLING RECORD - GROUNDWATER

PARSONS ENGINEERING - SCIENCE, INC. | CLIENT: USACOE | WELL #: MW-14

SAMPLING ORDER		PRESERV.	BOTTLES COUNT/VOL	BOTTLES TYPE	TIME	SAMPLE # REPLICATE #1	SAMPLE # REPLICATE #2	SAMPLE # REPLICATE #3	SAMPLE # REPLICATE #4
1	Metals	HNO3	1 / 1L	HDPE	6/22/98 1420	OB144			
2	CN	NaOH	1 / 1L	HDPE	↓	↓			
3	TOX	H2SO4	1 / 500 ml	Amber			OB145	OB146	OB147
3	TOC	H2SO4	2 / 40 ml	VOA			↓	↓	↓
4	Cond./								
5	pH	None	1 / 500 ml	HDPE	↓	↓			

QA/QC

BOTTLE COUNTS ARE TRIPLED IF MS/ MSD SAMPLES ARE COLLECTED

QA/QC DUPLICATE SAMPLE COLLECTED? YES (NO)

Duplicate Sample Name: _____

MRD Sample Name: _____

QA/QC rinsate sample name: _____

MATRIX SPIKE sample collected? YES (NO)

INVESTIGATION DERIVED WASTE (IDW):

DATE:	6/20/98			
VOLUME:	3.25 gals.			
DRUM #, LOCATION:	OB-1W			

COMMENTS:

SAMPLING RECORD - GROUNDWATER

PARSONS ENGINEERING - SCIENCE, INC.	CLIENT: USACOE	WELL #: MW-27
PROJECT: 2nd Quarterly Monitoring - 1998		DATE: 6/2/98
SWMU # (AREA) OB/OD Grounds		INSPECTORS: KKS, JHP
SOP NO.: 17		PUMP #:

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

DATE	TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS
6/22/98	1330	85F	overcast	high	none	

MONITORING

INSTRUMENT	READING (UNITS)
OVM-580	PPM (Isobut.)

WELL DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	3	4	5	6	7	8	9	10
GALLONS / FOOT:	0.041	0.092	0.367	0.654	1.02	1.47	2.00	2.61	3.30	5.87

STANDING WATER VOLUME = WELL DIAMETER FACTOR * WATER COLUMN

HISTORIC DATA	DEPTH POW (TOC)	DEPTH TOP OF SCREEN	WELL DEV. TURBIDITY	WELL DEV. pH	WELL DEV. SPEC. COND
	15.46 ft.				

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	STATIC WATER LEVEL	CALCULATED STANDING WATER VOL. (GAL)	DEPTH TO PUMP INTAKE (DEPTH TOS + 2 ft)	PUMPING START TIME
		4.00 ft.	1.87 gal	13.0 ft.	1335

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)		PUMP AFTER SAMPLING (cps)	

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

WL

DATE	TIME (min)	PUMPING RATE (L/min)	CUMULATIVE VOL (GALLONS)	TEMPERATURE (C)	SPEC. COND (umhos)	pH	Eh	DISSOLVED OXYGEN	TURBIDITY (NTU)
6/22/98	1337	0.400	0.20	14.43	770	7.11	305	0.74	6.81
	1340	0.400	0.55	12.79	767	7.03	314	0.41	3.23
	1343	0.400	0.80	12.74	767	7.00	316	0.35	2.64
	~~1346~~								
	1350	Sampled							

SAMPLING RECORD - GROUNDWATER

PARSONS ENGINEERING - SCIENCE, INC. | CLIENT: USACOE | WELL #: MW-27

SAMPLING ORDER		PRESERV.	BOTTLES COUNT/VOL	BOTTLES TYPE	TIME	SAMPLE # REPLICATE #1	SAMPLE # REPLICATE #2	SAMPLE # REPLICATE #3	SAMPLE # REPLICATE #4
1	Metals	HNO3	1 / 1L	HDPE	6/22/98 1350	OB140			
2	CN	NaOH	1 / 1L	HDPE					
3	TOX	H2SO4	1 / 500 ml	Amber			OB141	OB142	OB143
3	TOC	H2SO4	2 / 40 ml	VOA					
4	Cond./								
5	pH	None	1 / 500 ml	HDPE					

QA/QC

BOTTLE COUNTS ARE TRIPLED IF MS/ MSD SAMPLES ARE COLLECTED

QA/QC DUPLICATE SAMPLE COLLECTED? YES (NO)

Duplicate Sample Name: _____

MRD Sample Name: _____

QA/QC rinsate sample name: _____

MATRIX SPIKE sample collected? YES (NO)

INVESTIGATION DERIVED WASTE (IDW):

DATE:	6/22/98			
VOLUME:	0.80 gals			
DRUM #, LOCATION:	OB-1W			

COMMENTS:

SAMPLING RECORD - GROUNDWATER

PARSONS ENGINEERING - SCIENCE, INC.	CLIENT: USACOE	WELL #: MW-45-1
PROJECT: 2nd Quarterly Monitoring - 1998		DATE: 6/2/98
SWMU # (AREA) OB/OD Grounds		INSPECTORS: KKS, JHP
SOP NO.: 17		PUMP #:

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

DATE	TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING READING (UNITS)
6/2/98							OVM-580	PPM (Isobut.)

WELL DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	3	4	5	6	7	8	9	10
GALLONS / FOOT:	0.041	0.092	0.367	0.654	1.02	1.47	2.00	2.61	3.30	5.87

STANDING WATER VOLUME = WELL DIAMETER FACTOR * WATER COLUMN

HISTORIC DATA	DEPTH POW (TOC)	DEPTH TOP OF SCREEN	WELL DEV. TURBIDITY	WELL DEV. pH	WELL DEV. SPEC. COND
	8.63 ft.				

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	STATIC WATER LEVEL	CALCULATED STANDING WATER VOL. (GAL)	DEPTH TO PUMP INTAKE (DEPTH TOS + 2 ft)	PUMPING START TIME
		8.21		NOT	

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)		PUMP AFTER SAMPLING (cps)	

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

DATE	TIME (min)	PUMPING RATE (L/min)	CUMULATIVE VOL (GALLONS)	TEMPERATURE (C)	SPEC. COND (umhos)	pH	Eh	DISSOLVED OXYGEN	TURBIDITY (NTU)
6/2/98		Dry Well - no water in screen							
		- Not Sampled -							

SAMPLING RECORD - GROUNDWATER

PARSONS ENGINEERING - SCIENCE, INC. | CLIENT: USACOE | WELL #: MW-45-1

SAMPLING ORDER		PRESERV.	BOTTLES COUNT/VOL	BOTTLES TYPE	TIME	SAMPLE # REPLICATE #1	SAMPLE # REPLICATE #2	SAMPLE # REPLICATE #3	SAMPLE # REPLICATE #4
1	Metals	HNO3	1 / 1L	HDPE					
2	CN	NaOH	1 / 1L	HDPE					
3	TOX	H2SO4	1 / 500 ml	Amber					
3	TOC	H2SO4	2 / 40 ml	VOA					
4	Cond./								
5	pH	None	1 / 500 ml	HDPE					

QA/QC

BOTTLE COUNTS ARE TRIPLED IF MS/MSD SAMPLES ARE COLLECTED

QA/QC DUPLICATE SAMPLE COLLECTED? YES (NO)

Duplicate Sample Name: _____

MRD Sample Name: _____

QA/QC rinsate sample name: _____

MATRIX SPIKE sample collected? YES (NO)

INVESTIGATION DERIVED WASTE (IDW):

DATE:	6/2/98			
VOLUME:				
DRUM #, LOCATION:				

COMMENTS:

SAMPLING RECORD - GROUNDWATER

PARSONS ENGINEERING - SCIENCE, INC.	CLIENT: USACOE	WELL #: MW-45-2
PROJECT: 2nd Quarterly Monitoring - 1998		DATE: 6/21/98
SWMU # (AREA) OB/OD Grounds		INSPECTORS: KKS, JHP
SOP NO.: 17		PUMP #:

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

DATE	TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING READING (UNITS)
							OVM-580	PPM (Isobut.)
6/21/98	1330	85°F	sunny	mod. high	none			

WELL DIAMETER FACTORS (2 → 0.163)

DIAMETER (INCHES):	1	1.5	3	4	5	6	7	8	9	10
GALLONS / FOOT:	0.041	0.092	0.367	0.654	1.02	1.47	2.00	2.61	3.30	5.87

STANDING WATER VOLUME = WELL DIAMETER FACTOR * WATER COLUMN

HISTORIC DATA	DEPTH POW (TOC)	DEPTH TOP OF SCREEN	WELL DEV. TURBIDITY	WELL DEV. pH	WELL DEV. SPEC. COND
	12.42 ft.				

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	STATIC WATER LEVEL	CALCULATED STANDING WATER VOL. (GAL)	DEPTH TO PUMP INTAKE (DEPTH TOS + 2 ft)	PUMPING START TIME
		10.15ft.	0.37 gal	11.5ft.	1340

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)		PUMP AFTER SAMPLING (cps)	

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

DATE	TIME (min)	PUMPING RATE (L/min)	CUMULATIVE VOL (GALLONS)	TEMPERATURE (C)	SPEC. COND (umhos)	pH	Eh	DISSOLVED OXYGEN	TURBIDITY (NTU)
6/21/98	1343	0.125	0.05	19.75	1600	6.83	293	5.31	16.3
	1346	0.120	0.12	19.25	1600	6.80	299	5.90	8.98
	1349	0.120	0.16	19.19	1600	6.81	300	5.94	~~12.9~~ 9.08
	1352	0.120	0.20	18.76	1600	6.81	300	6.21	~~9.40~~
	1355	Sampled							

SAMPLING RECORD - GROUNDWATER

PARSONS ENGINEERING - SCIENCE, INC.	CLIENT: USACOE	WELL #: MW-45-3
PROJECT: 2nd Quarterly Monitoring - 1998		DATE: 6/22/98
SWMU # (AREA): OB/OD Grounds		INSPECTORS: KKS, JHP
SOP NO.: 17		PUMP #:

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

DATE	TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING READING (UNITS)
6/22/98	1050	80°F	overcast	high	east		OVM-580	PPM (Isobut.)

WELL DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	3	4	5	6	7	8	9	10
GALLONS / FOOT:	0.041	0.092	0.367	0.654	1.02	1.47	2.00	2.61	3.30	5.87

STANDING WATER VOLUME = WELL DIAMETER FACTOR * WATER COLUMN

HISTORIC DATA	DEPTH POW (TOC)	DEPTH TOP OF SCREEN	WELL DEV. TURBIDITY	WELL DEV. pH	WELL DEV. SPEC. COND
	14.09 ft				

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	STATIC WATER LEVEL	CALCULATED STANDING WATER VOL. (GAL)	DEPTH TO PUMP INTAKE (DEPTH TOS + 2 ft)	PUMPING START TIME
		7.76 ft.	1.03 gal	12.0 ft.	1055

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)		PUMP AFTER SAMPLING (cps)	

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

	DATE	TIME (min)	PUMPING RATE (L/min)	CUMULATIVE VOL (GALLONS)	TEMPERATURE (C)	SPEC. COND (umhos)	pH	Eh	DISSOLVED OXYGEN	TURBIDITY (NTU)
	6/22/98	1100	0.320	0.30	14.01	1540	6.89	404	4.23	49.6
7.24		1103	0.200	0.40	14.64	1530	6.93	395	4.29	29.6
		1106	0.200	0.50	15.63	1530	6.95	387	4.32	24.1
7.28		1109	0.200	0.60	15.48	1530	6.99	377	4.63	16.2
		1112	0.200	0.70	15.72	1520	7.01	373	4.89	12.1
		1120	Sampled							

SAMPLING RECORD - GROUNDWATER

PARSONS ENGINEERING - SCIENCE, INC. | CLIENT: USACOE | WELL #: MW-45-3

SAMPLING ORDER		PRESERV.	BOTTLES COUNT/VOL	BOTTLES TYPE	TIME	SAMPLE # REPLICATE #1	SAMPLE # REPLICATE #2	SAMPLE # REPLICATE #3	SAMPLE # REPLICATE #4
1	Metals	HNO3	1 / 1L	HDPE	1120	OB132			
2	CN	NaOH	1 / 1L	HDPE	↓	↓			
3	TOX	H2SO4	1 / 500 ml	Amber			OB133	OB134	OB135
3	TOC	H2SO4	2 / 40 ml	VOA			↓	↓	↓
4	Cond./								
5	pH	None	1 / 500 ml	HDPE	↓	↓	↓	↓	↓

QA/QC

BOTTLE COUNTS ARE TRIPLED IF MS/MSD SAMPLES ARE COLLECTED

QA/QC DUPLICATE SAMPLE COLLECTED? YES (NO)

Duplicate Sample Name: _____

MRD Sample Name: _____

QA/QC rinsate sample name: _____

MATRIX SPIKE sample collected? YES (NO)

INVESTIGATION DERIVED WASTE (IDW):

DATE:	6/22/98			
VOLUME:	0.70 gal			
DRUM #, LOCATION:	OB-1W			

COMMENTS:

SAMPLING RECORD - GROUNDWATER

PARSONS ENGINEERING - SCIENCE, INC.	CLIENT: USACOE	WELL #:	MW 45-4
PROJECT:	2nd Quarterly Monitoring - 1998	DATE:	6/21/98
SWMU # (AREA)	OB/OD Grounds	INSPECTORS:	KKS, JHP
SOP NO.:	17	PUMP #:	

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

DATE	TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING READING (UNITS)
6/21/98	1425	85°F	sunny	mod. high	none		OVM-580	PPM (Isobut.)

WELL DIAMETER FACTORS (2 0.163)

DIAMETER (INCHES):	1	1.5	3	4	5	6	7	8	9	10
GALLONS / FOOT:	0.041	0.092	0.367	0.654	1.02	1.47	2.00	2.61	3.30	5.87

STANDING WATER VOLUME = WELL DIAMETER FACTOR * WATER COLUMN

HISTORIC DATA	DEPTH POW (TOC)	DEPTH TOP OF SCREEN	WELL DEV. TURBIDITY	WELL DEV. pH	WELL DEV. SPEC. COND
	9.75 ft.				

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	STATIC WATER LEVEL	CALCULATED STANDING WATER VOL. (GAL)	DEPTH TO PUMP INTAKE (DEPTH TOS + 2 ft)	PUMPING START TIME
		6.48 ft.	0.53 gal	8.5 ft.	1432

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)		PUMP AFTER SAMPLING (cps)	

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

DATE	TIME (min)	PUMPING RATE (L/min)	CUMULATIVE VOL (GALLONS)	TEMPERATURE (C)	SPEC. COND (umhos)	pH	Eh	DISSOLVED OXYGEN	TURBIDITY (NTU)
6/21/98	1437	0.200	0.15	18.17	701	7.09	290	0.88	35.5
	1440	0.280	0.40	14.63	693	7.03	296	0.45	18.4
	1443	0.280	0.55	14.48	693	7.01	298	0.40	11.0
	1446	0.320	0.90	13.86	697	7.00	299	0.38	7.27
	1449	0.320	1.05						
	1500	Sampled							

SAMPLING RECORD - GROUNDWATER

PARSONS ENGINEERING - SCIENCE, INC. | CLIENT: USACOE | WELL #: MW 45-4

SAMPLING ORDER		PRESERV.	BOTTLES COUNT/VOL	BOTTLES TYPE	TIME	SAMPLE # REPLICATE #1	SAMPLE # REPLICATE #2	SAMPLE # REPLICATE #3	SAMPLE # REPLICATE #4
1	Metals	HNO3	1 / 1L	HDPE	1900	OB 124			
2	CN	NaOH	1 / 1L	HDPE					
3	TOX	H2SO4	1 / 500 ml	Amber			OB125	OB126	OB127
3	TOC	H2SO4	2 / 40 ml	VOA					
4	Cond./								
5	pH	None	1 / 500 ml	HDPE					

QA/QC

BOTTLE COUNTS ARE TRIPLED IF MS/ MSD SAMPLES ARE COLLECTED

QA/QC DUPLICATE SAMPLE COLLECTED? YES (NO)

Duplicate Sample Name: _____

MRD Sample Name: _____

QA/QC rinsate sample name: _____

MATRIX SPIKE sample collected? YES (NO)

INVESTIGATION DERIVED WASTE (IDW):

DATE:	6/21/98			
VOLUME:	1.05 gal			
DRUM #, LOCATION:	OB-1W			

COMMENTS:

16

6/21/98

0710 On Site with Jayne Rick
Review todays plans -
Core Sample
Look for fittings in Q Area
Groundwater Elevations
Start Sampling OB/OD - Concerned about pH holding times - Chris Ollette said 24 hrs from day of collection. Samples will arrive Tues AM.

0745 Hydrolab Calibration

Parameter (units)	Std @ 22°C	Reading	Set to	Reading
DO (mg/l)	8.83	8.38	8.83	8.83
pH	7.00	7.09	7.00	7.00
	4.01	3.88	4.00	3.99
Conductivity uS/cm	700	655	700	700
	2060	2060	—	—
Redox (mV) @ 23°C	289	294	289	289
Hydrogen Std. Scale @ 23°C	460	473	—	—

Hach 2100 P Turbidimeter

Turbidity (NTU's)				
	430	428	—	—
	4.95	4.97	—	—
	48.9	79.2	—	—

Keys

6/21/98 Charge 2 hrs Set-D 12

0840 Setup at MW12-3 - Background well - Sample for Distribution Co-effecient.
Purge rate @ 240 ml/min
Removed 1.5 gal. - Turbidity just dropping under 40-50 NTU's
Sample 2 x 4 h Plastic collected preserved with HNO_3.

1005 Wait at Post 5 to enter Ammo

1020 Go to "Q" area to look for soil gas fittings - no luck.

1045 OB/OD Grounds for water Levels
H+S quick briefing on UXO's -
Groundwater elevation Survey:

OB/OD

~~6448~~	~~4555~~		
1100	MW45-4	6.98	Pad Heaved
1102 (no pad)	MW-4	—	Protective casing has onto PVC - Cannot open cover - may of heaved up + cannot read stamp
1111	MW-21	4.02	Pad broken up
1114	MW-5	3.80	No Pad - Lock badly Cannot read stamp
1119	MW-37	6.61	No Stamp
1120	MW-36	6.62	No Stamp

6/21/88 Groundwater Elevation - OD/OD

1126 MW-10 3.55 OK

1133 MW-32 3.50 Pad in small pieces
Lock very sticky - rust Pad heaved 0.4'

1137 MW-28 4.60 Pad broken in pieces

1139 MW-29 4.82 Pad in pieces - Pad heaved 0.8'

1142 MW-6 4.77 No Pad - Protective casing has settled 0.8' - Casing must be lifted to open cover

1148 MW-11 3.43 Pad heaved 0.3'

1152 MW-17 2.41 OK Lock rusty

1156 MW-18 2.76 Pad broken into pieces
Protective casing heaved 0.4'

1159 MW-24 5.11 Pad in Pieces - Protective casing heaved 0.5' - PVC moved?

1204 MW-27 3.86 OK

1205 MW-12 2.62 Pad + Protective casing heaved 0.4'.

1212 MW-26 5.06 Pad 1/2 broken No Lock
Barely read Stamp

1214 MW-25 7.19 Pad broken up
Protective casing total rust -
Cannot read stamp

1218 MW-7 — Protective casing has No lock
settled - cannot lift to open coved

6/21/88 POW = 8.55

1256 MW45-1 7.99 OK

1300 MW-2 — Fallen Over

Sample MW45-2 (Slow)
MW45-4
MW-12 QA/QC

Call office Monday to confirm
MRD Samples parameters

1800 Leave Demo Ground.

1830 Leave Depot

6/22/98

0700 On Site
Pack Yesterdays samples + bring to 323.

0942 H20 Calibration

Parameter (units)	Std	Reading	Set to Reading	Reading
pH	7.00	7.19 (26.58)	7.00	7.00
	4.00	4.05	4.00	4.00
DO (mg/l)	25.5°C 8.38	8.42	—	—
Conductivity (uS/cm)	200	697	—	—
	2060	2060	—	—
Redox (mV)	Zobel 26.0°C			
Hydrogen Std Scale	428	428	—	—

Finish Sampling MW45-2
Sample MW45-3
MW-14
MW-27
MW-13

1430 Leave ammo area
Pack samples

1640 Jayne leaves site for Fedex Syracuse

JHP 6/22/98

1157 At MW-13. Weather is 85°F, overcast, high humidity, wind from east.
Historic data: POW = 10.0 ft
intake = 8.0 ft
Static water level = 3.00 ft
Calc water vol = 1.14 gal

1202 Began pumping

time	WL	pump rate	cumu vol	temp	cond	pH	Eh	D.O.	turb
1207		0.400	0.25	18.27	927	6.82	325	0.77	16.9
1210	3.42	0.400	0.55	16.84	923	6.77	319	0.62	11.0
1213		0.400	0.90	16.32	924	6.74	320	0.49	7.60
1216		0.400	1.20	15.91	925	6.73	324	0.44	5.18

1220 Collected OB136, OB137, OB138, OB139. Purged water drummed in OB-1W.

1240 Returned to trailer to get peristaltic pump.

1330 At MW-27 Weather is 85°F, overcast, high humidity, no wind.

1335 Began pumping

time	pump rate	cumu vol	temp	cond	pH	Eh	D.O.	turb
1337	0.400	0.20	14.43	770	7.11	305	0.74	6.81
1340	0.400	0.55	12.79	767	7.03	314	0.41	3.23
1343	0.400	0.80	12.74	767	7.00	316	0.35	2.64

6/22/98

1350 Collected OB140, OB141, OB142, OB143. Purged water drummed in OB-1W

1400 At MW-14 Weather is 85° rainy, high humidity, no wind.
Historic data: POW = 10.58
intake = 8.0 ft
Static water level = 4.23 ft
Calc. water vol = 1.04 gal

1402 Began pumping

time	WL	pump rate	cumu vol	temp	cond	pH	Eh	D.O.	t
1410	5.81	0.640	2.5	14.22	1042	6.97	322	0.98	
1413			3.0	14.07	1042	7.02	323	0.93	
1416			3.25	14.04	1042	7.04	324	0.92	

1420 Collected OB144, OB145, OB14 OB147, Purged water drummed OB-1W.

1500 Packed samples

1630 Left site

Jayson H Paul
6/22/98

JHP 6/21/98

wl	pump rate	cumm vol	temp	cond	pH	Eh	D.O	turb
1550 29.5	0.320	0.5	15.91	744	7.17	301	0.69	45.6
1553	0.320	0.75	15.78	747	7.16	301	0.56	22.9
1556	0.320	1.0	15.47	745	7.16	301	0.54	20.9
1559	0.320	1.25	15.18	745	7.11	300	0.58	16.1

1610 Collected samples OB128, OB129, OB130, OB131, matrix spike OB128, dup OB802.

1642 Drummed purged water from MW45-2, MW45-4, & MW12 in OB-1W.

1725 Packed samples & decommed pumps.

1825 Left site

Jayne H (Last) 6/21/98

6/22/98

0700 JHP & KKS arrive on site & packed samples.

0920 Delivered coolers to Shipping Receiving.

~~0950~~ 1030 Collected OB120, OB121, OB122, & OB123 for TO & TOC analyses.

1050 At MW45-3 80°F, overca high humidity, slight bree from east.

Historic data: P.O.W. = 14.09
Intake = 12.0

Static water level = 7.76 ft.

Calc standing water vol = 1.03

1055 Began pumping

time	wl	pump rate	cumm vol	temp	cond	pH	Eh	D.O.
1100		0.320	0.30	14.01	1540	6.89	404	4.23
1103	9.24	0.200	0.40	14.64	1530	6.93	395	4.29
1106		0.200	0.50	15.63	1530	6.95	387	4.3
1109	9.28	0.200	0.60	15.48	1530	6.99	377	4.63
1112		0.200	0.70	15.72	1520	7.01	373	4.89

1120 Collected ~~OB132~~, OB133, OB135. Purged water drummed in OB-1W.

JHO 6/21/98

1305 MW-16 lock badly rusted but could be unlocked WL = 2.83'

1310 MW-31 lock needs to be replaced WL = 3.27'

1315 MW-9 needs lockable pressure cap WL = 2.93'

1320 MW-19 lock badly rusted + needs to be replaced WL = 3.55'

1330 MW45-2 Weather is 85°F, sunny, mod. high humidity, + no wind.

Historic Data:

POW = 12.42 ft. intake = 11.5 ft

static water level = 10.15 ft.

calc. standing water vol. = 0.37 gal

1340 Began pumping

water level below top of pump

time	WL	pump rate	cumu vol	temp	cond	pH	Eh	D.O.	turb
1343		0.125	0.05	19.15	1600	6.83	293	5.31	16.3
1346		0.120	0.12	19.25	1600	6.80	299	5.90	8.98
1349		0.120	0.16	19.19	1600	6.81	300	5.94	9.03
1352		0.120	0.20	18.74	1600	6.81	300	6.21	

1355 Collected sample OB120 for metals, CN, TOX, TOC, cond/pH

1425 At MW45-4. Weather is

JHO OB121, OB122, OB123 for ~~TOC~~, cond/pH.

6/21/98 JS

85°F, sunny, mod. high humidity, + no wind.

Historic data: P.O.W = 9.75 ft.

intake = 8.5 ft; calc standing water vol =

static water level = 6.48 ft.

1432 Began pumping

time	WL	pump rate	cumu vol	temp	cond	pH	Eh	D.O.
1437 *		0.200	0.15	18.17	701	7.09	290	0.8
1440		0.280	0.40	14.63	693	7.03	296	0.4
1443		0.280	0.55	14.48	693	7.01	298	0.4
1446		0.320	0.90	13.86	697	7.00	299	0.3
1449		0.320	1.05					

1450 Collected OB124, OB-125, OB-126, OB127. Purged water drummed.

1525 At MW12 85°F, sunny, mo high humidity, no wind

Historic data:

POW = 9.17 ft. intake = 7.0

static water level = 2.66 ft.

calc. standing water vol = 1.0

1540 Began pumpe

1535 Collected rinsate + MRD rinsa OB801.

JHP 6/20/98

1300 Collected sample AL191 for VOC CLP, m/e/e, D.O., n/n, a/s/c. Fe^{2+} = 0.00 mg/L. Purged water drummed in Ash-5W.

1330 Packed samples + decon'ed pumps.

1500 Left site

Jayne H. Park 6/20/98

6/20/98

0710 JHP arrives onsite. Prepared sample bottle sets.

0838 At MW-12 (CL2) Static water leve 14.19 ft. P.O.W. = 20.24 f Weather is sunny, 68°F, no wi moderately humid. Calc wate 0.99 gal

0845 Began pumping.

time	WL	pump rat	cum vol	temp	cond	pH	Eh	D.O.
0901		0.240	1.0x	12.46	615	6.91	294	2.79
0904		0.240	1.3	12.51	609	6.91	294	2.50
0907		0.240	1.5	12.54	609	6.90	297	2.40

0910 Collected sample 2x 4-L plastic preserved with HNO_3 for distrib. cient – Core Labs.

1050 MW-22 WL = 3.60' pad broken in large chunks, lock difficult to remove

1057 MW-16 WL = pad heaved, lock won't un

1102 MW-23 WL = 4.36 pad broken in med. chunks, casi heaved, well unlocked w/ top partially open due to height of casing

JHD 6/21/98

1105 MW-15 WL = 3.16'
pad slightly heaved, inner casing raised above top of outer casing, well unlocked

1109 MW-38 WL = 4.05'
pad heaved, could not open lock

1114 MW-39 WL = 5.02'
pad heaved + broken in large chunks

1116 MW-40 WL = ~~5.02~~ 5.20'
pad heaved very high, could not confirm W.L. because of yellowjackets

1130 ordnance noted near side of road in a damp area opposite MW-23 (which is on other side of road)

1135 MW-14 WL = 3.98'
pad heaved + at an angle, lock was unlocked, no plastic lid, lock does not work

1140 MW-30 WL = 4.25'
pad heaved + broken into large chunks,

1145 MW-13 WL = 3.60'
pad heaved + at an angle, inner casing raised above top of outer casing

6/21/98

1155 MW-1 WL = 7.36'
no pad

1203 MW-31 WL =
pad broken + heaved 1 ft., cannot take off lock

1207 MW-29 WL =
pad heaved 1 ft., inner casi higher than outer, but meta cover is partially on + locked, take lock off

1212 MW19 WL =
pad broken in large chunks, could not take off lock

1217 MW8 WL = 3.84'
pad in good cond, no lock or plastic cover

1232 ? WL = 7.51'
cannot read stamp

1235 Break for lunch

1255 MW-45-2 pad + well in good cond. WL = 10.16'

1300 MW45-3 cannot read stamp, pad + well in good cond. WL = 7.76'

2. Chain-of-Custody Forms

CHAIN-OF-CUSTODY RECORD

PAGE 1 OF 1

ENGINEERING SCIENCE, INC.
Phone: 781-401-3200
Fax: 781-401-2575

JOB NO. 730769-01006
PROJECT Severn 2nd Qtr. 1998
CONTACT Mike Duchesneau

LABORATORY MRD
ADDRESS Omaha, NB
CONTACT Laura Percifield

SAMPLE NO.	LABORATORY SAMPLE NO.	SAMPLING DATE	SAMPLING TIME	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSES: VOA	SVOC	METALS	CN	M/E/E	TOX	TOC	SPEC. COND. pH	NO. OF CONTAINERS	COMMENTS (Special instructions, ...)
806		6/20/98	0800		water	X								2	Trip Blank
805		6/20/98	0805		water	X				X				3	Rinse Blank
190		6/20/98	1145		water	X				X				6	
128		6/21/98	1610		water			X	X		X	X	X	6	
801		6/21/98	1535		water		X	X	X		X	X		5	Rinse Blank
							KES						KES		

M/E/E = Met

Relinquished by
Kerry Smith
Parsons ES
6/22/98 Time 1000

Received by
Sign
Print
Firm
Date Time

Relinquished by
Time

Received by
Sign
Print
Firm
Date Time

Sample Samples tampered with? ☐ No ☐ Yes
If yes explain in remarks.

	VOA Vial	Glass Bottle	Plastic Bottle	Preservative	Container Volume
VOA	X			A C	40 ml
SVOC					
METALS			X	A D	1 L
CN			X	A F	1 L
M/E/E	X			A C	40 ml
TOX		X		A E	250 ml
TOC	X			A E	40 ml
SPEC. COND. pH			X	A	500 ml

PRESERVATION KEY:
A - Ice
B - Filtered
C - Acidified with HCl
D - Acidified with HNO_3
E - Acidified with H_2SO_4
F - NaOH + Ascorbic
G - Other

REMARKS: (Samp... nonstandard samp...
LIMS # 5
Return cooler
Core Labs
420 W. 1st
Casper, WY

Cooler #: 00

To: Chris Oullette verbal correction to Don 6/24 + 6/29

CHAIN-OF-CUSTODY RECORD

PAGE 1 OF

ENGINEERING SCIENCE, INC.
Phone: 781-401-3200
Fax: 781-401-2575

JOB NO. 730769.01006
PROJECT Seneca, 2nd qtr, 1998
CONTACT Mike Duchesneau

LABORATORY ITS
ADDRESS Colchester VT
CONTACT Chris Ouellette

SAMPLE NO.	LABORATORY SAMPLE NO.	SAMPLING DATE	SAMPLING TIME	SAMPLE DEPTH	SAMPLE MATRIX	VOA	SVOC	METALS	CN	TOX	TOC	Lead 211			NO. OF CONTAINERS	COMMENTS (Special instructions,
129		6/21/98	1610		water			X	X	X	X	X			8	Matrix Spike
129		6/21/98	1610		water					X	X	X			4	
130		6/21/98	1610		water					X	X	X			4	Matrix Only -
131		6/21/98	1610		water					X	X	X			4	Se
201		6/21/98	1535		water			X	X	X	X	ICKS			2	Rinse B
202		6/21/98	1610		water			X	X	(Un	UN	ICKS			5	

KKS

VOA Vial: X
Glass Bottle: X
Plastic Bottle: X X X
Preservative: A D | A F | A E | A E | A
Container Volume: 1 L | 1 L | 250 mL | 40 mL | 500 mL

PRESERVATION KEY: A - Ice; B - Filtered; C - Acidified with HCl; D - Acidified with HNO_3; E - Acidified with H_2SO_4; F - NaOH + Ascorbic; G - Other

REMARKS: (Samp nonstandard samp
Keep C
Circled ite are revisions

Cooler #: LC

and Relinquished by
Kenny Smith
Parsons ES
6/22/98 Time 1000

Received by
Sign
Print
Firm
Date Time

shed by
Time

Received by
Sign
Print
Firm
Date Time

ce Samples tampered with? ☐ No ☐ Yes
explain in remarks.

rm COC0198 White - return with data Yellow - lab copy Pink - Sampler copy

To: Chris Oullette verbal correction to Don 6/24 + 6/29

CHAIN-OF-CUSTODY RECORD

PAGE 1 OF

ENGINEERING SCIENCE, INC.

Phone: 781-401-3200
Fax: 781-401-2575

JOB NO. 730769.01006
PROJECT Seneca, 2nd qtr 1998
CONTACT Mike Duchesneau

LABORATORY ITS
ADDRESS Colchester, VT
CONTACT Chris Oullette

LE NO.	LABORATORY SAMPLE NO.	SAMPLING DATE	SAMPLING TIME	SAMPLE DEPTH	SAMPLE MATRIX	VOA	SVOC	METALS	CN	TOX	TOC	Cond/pH	NO. OF CONTAINERS	COMMENT (Special instructions, c
129		6/21/98	1610		water			X	X	X	X	X	8	Matrix Spike
129		6/21/98	1610		water					X	X	X	4	
130		6/21/98	1610		water					X	X	X	4	Matrix Only - se
131		6/21/98	1610		water					X	X	X	4	
201		6/21/98	1535		water			X	X	[redacted]			2	Rinse Bl
202		6/21/98	1610		water			X	X	[redacted]			5	

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and Relinquished by
Kenny Smith
Parsons ES
6/22/98 Time 1000

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Date Time

e Samples tampered with? ☐ No ☐ Yes
explain in remarks.

	VOA	SVOC	METALS	CN	TOX	TOC	Cond/pH
VOA Vial						X	
Glass Bottle					X		
Plastic Bottle			X	X			X
Preservative			A D	A F	A E	A E	A
Container Volume			1 L	1 L	250 mL	40 mL	500 mL

PRESERVATION KEY: C - Acidified with HCl; F - NaOH + Ascorbic; A - Ice; D - Acidified with HNO_3; G - Other; B - Filtered; E - Acidified with H_2SO_4

REMARKS: (Samp
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CHAIN-OF-CUSTODY RECORD

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ENGINEERING SCIENCE, INC.

ad
02021

Phone: 781-401-3200
Fax: 781-401-2575

JOB NO. 730769.01006

PROJECT Seneca, 2nd qtr, 1998

CONTACT Mike Durkin

LABORATORY TTS

ADDRESS Colchester, VT

CONTACT Chris Shelton

PLE NO.	LABORATORY SAMPLE NO.	SAMPLING DATE	SAMPLING TIME	SAMPLE DEPTH	SAMPLE MATRIX	NO. OF CONTAINERS
120		6/21/98	1355		water	3
121		6/21/98	1355		water	5
122		6/21/98	1355		water	5
123		6/21/98	1355		water	6
124		6/21/98	1500		water	6
125		6/21/98	1500		water	4
126		6/21/98	1500		water	4
127		6/21/98	1500		water	4
20		6/22/98	1030			3
21		6/22/98				3
22		6/22/98				3
123		6/22/98				3

ANALYSES: VOA, SVOC, METALS, CN, TCL, TCL, Cond. pH

COMMENTS (Special instructions,

and Relinquished by

Kerry Smith
Persons ES

6/22/98 Time 1700

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Date Time

	Container Volume	Preservative
VOA Vial		
Glass Bottle		
Plastic Bottle	1 L	
Plastic Bottle	1 L	F
Plastic Bottle	500 mL	E
Plastic Bottle	40 mL	E
Plastic Bottle	500 mL	

PRESERVATION KEY:
A - Ice
B - Filtered
C - Acidified with HCl
D - Acidified with HNO_3
E - Acidified with H_2SO_4
F - NaOH + Ascorbic
G - Other

REMARKS: (Samp
nonstandard samp

Cooler #: 63

ce Samples tampered with? ☐ No ☐ Yes
explain in remarks.

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CHAIN-OF-CUSTODY RECORD

PAGE 1 OF

ENGINEERING SCIENCE, INC.
Phone: 781-401-3200
02021 Fax: 781-401-2575

JOB NO. 730769.01006
PROJECT Seneca, 2nd qtr, 1998
CONTACT Mike Duchesneau

LABORATORY ITS
ADDRESS Colchester VT
CONTACT Chris Ouellette

SAMPLE NO.	LABORATORY SAMPLE NO.	SAMPLING DATE	SAMPLING TIME	SAMPLE DEPTH	SAMPLE MATRIX	VOA	SVOC	METALS	CN	TOX	TOC	Cond/pH	NO. OF CONTAINERS	COMMENTS
136		6/22/98	1220		water			X	X	X	X	X	6	
137		6/22/98	1220		water					X	X	X	4	
138		6/22/98	1220		water					X	X	X	4	
139		6/22/98	1220		water					X	X	X	4	
144		6/22/98	1420		water			X	X	X	X	X	6	
145		6/22/98	1420		water					X	X	X	4	
146		6/22/98	1420		water					X	X	X	4	
147		6/22/98	1420		water					X	X	X	4	

XXX

Relinquished by
Kenny Smith
Parsons ES
6/22/98 Time 1700

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Date Time

e Samples tampered with? ☐ No ☐ Yes
explain in remarks.

	VOA	SVOC	METALS	CN	TOX	TOC	Cond/pH
VOA Vial						X	
Glass Bottle					X		
Plastic Bottle			X	X			X
Preservative			A D	A F	A E	A E	A
Container Volume			1 L	1 L	500 mL	40 mL	500 mL

PRESERVATION KEY: C - Acidified with HCl; F - NaOH + Ascorbic; A - Ice; D - Acidified with HNO_3; G - Other; B - Filtered; E - Acidified with H_2SO_4

REMARKS: (Samp
nonstandard samp

Cooler #: 1

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CHAIN-OF-CUSTODY RECORD

PAGE 1 OF

ENGINEERING SCIENCE, INC.

ad
02021

Phone: 781-401-3200
Fax: 781-401-2575

JOB NO. 730 769.01006
PROJECT Seneca, 2nd qtr, 1998
CONTACT Mike Duchesneau

LABORATORY JTS
ADDRESS Colchester, VT
CONTACT Chris Oriellette

LE NO.	LABORATORY SAMPLE NO.	SAMPLING DATE	SAMPLING TIME	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSES VOA	SVOC	METALS	CN	TOX	TOC	Diss Fe	NO. OF CONTAINERS	COMMENT (Special instructions,
32		6/22/98	1120		water			X	X	X	X	X	6	
133		6/22/98	1120		water					X	X	X	4	
34		6/22/98	1120		water					X	X	X	4	
35		6/22/98	1120		water					X	X	X	4	
140		6/22/98	1350		water			X	X	X	X	X	6	Lab didn't
141		6/22/98	1350		water					X	X	X	4	They will
142		6/22/98	1350		water					X	X	X	4	
143		6/22/98	1350		water					X	X	X	4	

KES

and Relinquished by
Kerry Smith
Parsons ES
6/22/98 Time 1700

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hed by

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Date Time

e Samples tampered with? ☐ No ☐ Yes
explain in remarks.

VOA Vial						X							
Glass Bottle					X								
Plastic Bottle			X	X			X						
Preservative			A D	A F	A E	A E	A						
Container Volume			1 L	1 L	250 mL	40 mL	500 mL						

PRESERVATION KEY: A - Ice; B - Filtered; C - Acidified with HCl; D - Acidified with HNO_3; E - Acidified with H_2SO_4; F - NaOH + Ascorbic; G - Other

REMARKS: (Samp
nonstandard samp

Cooler #: 45

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APPENDIX B

Laboratory Analytical Packages with QA/QC Data

1. Sample Delivery Group No. 69619

   A. Indicator Analysis Results
   B. TAL Metals Analysis

ITS **Intertek Testing Services**
Environmental Laboratories

SAMPLE DATA SUMMARY PACKAGE

CONTRACT: 93206
CASE NO: 93206
SDG NO: 69619

ITS Intertek Testing Services
Environmental Laboratories

July 22, 1998

Mr. Mike Duchesneau
Parsons Engineering Science
ATTN: Accounts Payable
30 Dan Road
Canton, MA 02021

Re: Laboratory Project No. 93206
Case No. 93206; SDG 69619

Dear Mr. Duchesneau:

Enclosed are the analytical results of samples received intact by ITS Environmental Laboratories on June 23, 1998. Laboratory numbers have been assigned and designated as follows:

Lab ID	Client Sample ID	Sample Date	Sample Matrix
	Received: 06/23/98	ETR No: 69619	
359606	OB120	06/21/98	Water
359607	OB121	06/21/98	Water
359608	OB122	06/21/98	Water
359609	OB123	06/21/98	Water
359610	OB124	06/21/98	Water
359611	OB125	06/21/98	Water
359612	OB126	06/21/98	Water
359613	OB127	06/21/98	Water
359614	OB128	06/21/98	Water
359614MS	OB128MS	06/21/98	Water
359614DP	OB128REP	06/21/98	Water
359615	OB129	06/21/98	Water
359616	OB130	06/21/98	Water
359617	OB131	06/21/98	Water
359618	OB801	06/21/98	Water
359619	OB802	06/21/98	Water

Lab ID	Client Sample ID	Sample Date	Sample Matrix
	Received: 06/23/98	ETR No: 69619 (Continued)	
359620	OB132	06/22/98	Water
359621	OB133	06/22/98	Water
359622	OB134	06/22/98	Water
359623	OB135	06/22/98	Water
359624	OB140	06/22/98	Water
359625	OB141	06/22/98	Water
359626	OB142	06/22/98	Water
359627	OB143	06/22/98	Water
359628	OB136	06/22/98	Water
359629	OB137	06/22/98	Water
359630	OB138	06/22/98	Water
359631	OB139	06/22/98	Water
359632	OB144	06/22/98	Water
359633	OB145	06/22/98	Water
359634	OB146	06/22/98	Water
359635	OB147	06/22/98	Water
359606A	OB120	06/22/98	Water
359607A	OB121	06/22/98	Water
359608A	OB122	06/22/98	Water
359609A	OB123	06/22/98	Water

The metals analysis of sample labeled OB128 exhibited matrix spike and post spike recoveries for selenium outside quality control criteria. All data have been flagged appropriately.

If there are any questions regarding this submittal, please contact Christopher A. Ouellette at (802) 655-1203.

Sincerely,

Deborah A. Loring
Laboratory Director

DAL/cga
Enclosure

CC2

ITS Intertek Testing Services
Environmental Laboratories

55 South Park Drive
Colchester, VT 05446

Analytical Report

Parsons Engineering Science
Attn: Accounts Payable
30 Dan Road
Canton, MA 02021

Attention : Mike Duchesneau

Date : 07/22/98
ETR Number : 69619
Project No.: 93206
No. Samples: 36
Arrived : 06/23/98
P.O. Number: 73076930000

Case:93206 SDG:69619 OB Quarterly

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater. All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result
359606	OB120:06/21/98 @1355(Water)	
9050	Conductivity (umhos/cm)	1550
9040	pH (std. units)	7.04
359607	OB121:06/21/98 @1355(Water)	
9050	Conductivity (umhos/cm)	1568
9040	pH (std. units)	7.05
359608	OB122:06/21/98 @1355(Water)	
9050	Conductivity (umhos/cm)	1571
9040	pH (std. units)	7.05
359609	OB123:06/21/98 @1355(Water)	
9050	Conductivity (umhos/cm)	1569
9040	pH (std. units)	7.14
359610	OB124:06/21/98 @1500(Water)	
9050	Conductivity (umhos/cm)	698
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.24
9060	Total Organic Carbon	1.3

< Cont. Next Page >

ITS Intertek Testing Services
Environmental Laboratories

55 South Park Drive
Colchester, VT 05446

Analytical Report

Parsons Engineering Science
Attn: Accounts Payable
30 Dan Road
Canton, MA 02021

Attention : Mike Duchesneau

Date : 07/22/98
ETR Number : 69619
Project No.: 93206
No. Samples: 36
Arrived : 06/23/98
P.O. Number: 73076930000

Case:93206 SDG:69619 OB Quarterly

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All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result
359611	OB125:06/21/98 @1500(Water)	
9050	Conductivity (umhos/cm)	701
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.27
9060	Total Organic Carbon	1.4
359612	OB126:06/21/98 @1500(Water)	
9050	Conductivity (umhos/cm)	701
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.23
9060	Total Organic Carbon	1.4
359613	OB127:06/21/98 @1500(Water)	
9050	Conductivity (umhos/cm)	705
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.23
9060	Total Organic Carbon	1.3
359614	OB128:06/21/98 @1610(Water)	
9050	Conductivity (umhos/cm)	741
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.33

< Cont. Next Page >

ITS Intertek Testing Services
Environmental Laboratories

55 South Park Drive
Colchester, VT 05446

Analytical Report

Parsons Engineering Science
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Canton, MA 02021

Attention : Mike Duchesneau

Date : 07/22/98
ETR Number : 69619
Project No.: 93206
No. Samples: 36
Arrived : 06/23/98
P.O. Number: 73076930000

Case:93206 SDG:69619 OB Quarterly

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater. All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result
359614	OB128:06/21/98 @1610(Water)	
9060	Total Organic Carbon	1.4
359615	OB129:06/21/98 @1610(Water)	
9050	Conductivity (umhos/cm)	739
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.31
9060	Total Organic Carbon	1.6
359616	OB130:06/21/98 @1610(Water)	
9050	Conductivity (umhos/cm)	737
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.31
9060	Total Organic Carbon	1.6
359617	OB131:06/21/98 @1610(Water)	
9050	Conductivity (umhos/cm)	741
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.32
9060	Total Organic Carbon	1.8

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ITS Intertek Testing Services
Environmental Laboratories

55 South Park Drive
Colchester, VT 05446

Analytical Report

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Project No.: 93206
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Arrived : 06/23/98
P.O. Number: 73076930000

Case:93206 SDG:69619 OB Quarterly

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All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result
359618	OB801:06/21/98 @1535(Water)	
9020	Total Organic Halides	<0.02
9060	Total Organic Carbon	0.6
359620	OB132:06/22/98 @1120(Water)	
9050	Conductivity (umhos/cm)	1523
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.30
9060	Total Organic Carbon	1.2
359621	OB133:06/22/98 @1120(Water)	
9050	Conductivity (umhos/cm)	1521
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.30
9060	Total Organic Carbon	1.1
359622	OB134:06/22/98 @1120(Water)	
9050	Conductivity (umhos/cm)	1515
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.33
9060	Total Organic Carbon	1.1

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ITS Intertek Testing Services
Environmental Laboratories

55 South Park Drive
Colchester, VT 05446

Analytical Report

Parsons Engineering Science
Attn: Accounts Payable
30 Dan Road
Canton, MA 02021

Attention : Mike Duchesneau

Date : 07/22/98
ETR Number : 69619
Project No.: 93206
No. Samples: 36
Arrived : 06/23/98
P.O. Number: 73076930000

Case:93206 SDG:69619 OB Quarterly

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater.
All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result
359623	OB135:06/22/98 @1120(Water)	
9050	Conductivity (umhos/cm)	1510
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.32
9060	Total Organic Carbon	1.2
359624	OB140:06/22/98 @1350(Water)	
9050	Conductivity (umhos/cm)	763
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.14
9060	Total Organic Carbon	1.0
359625	OB141:06/22/98 @1350(Water)	
9050	Conductivity (umhos/cm)	763
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.16
9060	Total Organic Carbon	1.1
359626	OB142:06/22/98 @1350(Water)	
9050	Conductivity (umhos/cm)	753
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.19

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ITS Intertek Testing Services
Environmental Laboratories

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Analytical Report

Parsons Engineering Science
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Attention : Mike Duchesneau

Date : 07/22/98
ETR Number : 69619
Project No.: 93206
No. Samples: 36
Arrived : 06/23/98
P.O. Number: 73076930000

Case:93206 SDG:69619 OB Quarterly

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All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result
359626	OB142:06/22/98 @1350(Water)	
9060	Total Organic Carbon	1.0
359627	OB143:06/22/98 @1350(Water)	
9050	Conductivity (umhos/cm)	754
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.18
9060	Total Organic Carbon	0.9
359628	OB136:06/22/98 @1220(Water)	
9050	Conductivity (umhos/cm)	906
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.04
9060	Total Organic Carbon	1.6
359629	OB137:06/22/98 @1220(Water)	
9050	Conductivity (umhos/cm)	902
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.02
9060	Total Organic Carbon	1.6

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ITS Intertek Testing Services
Environmental Laboratories

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Analytical Report

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Canton, MA 02021

Attention : Mike Duchesneau

Date : 07/22/98
ETR Number : 69619
Project No.: 93206
No. Samples: 36
Arrived : 06/23/98
P.O. Number: 73076930000

Case:93206 SDG:69619 OB Quarterly

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater. All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result
359630	OB138:06/22/98 @1220(Water)	
9050	Conductivity (umhos/cm)	892
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.00
9060	Total Organic Carbon	1.6
359631	OB139:06/22/98 @1220(Water)	
9050	Conductivity (umhos/cm)	912
9020	Total Organic Halides	<0.02
9040	pH (std. units)	6.96
9060	Total Organic Carbon	1.5
359632	OB144:06/22/98 @1420(Water)	
9050	Conductivity (umhos/cm)	1023
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.12
9060	Total Organic Carbon	1.3
359633	OB145:06/22/98 @1420(Water)	
9050	Conductivity (umhos/cm)	1026
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.13

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ITS Intertek Testing Services
Environmental Laboratories

55 South Park Drive
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Analytical Report

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Case:93206 SDG:69619 OB Quarterly

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All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result
359633	OB145:06/22/98 @1420(Water)	
9060	Total Organic Carbon	1.3
359634	OB146:06/22/98 @1420(Water)	
9050	Conductivity (umhos/cm)	1014
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.10
9060	Total Organic Carbon	1.3
359635	OB147:06/22/98 @1420(Water)	
9050	Conductivity (umhos/cm)	996
9020	Total Organic Halides	<0.02
9040	pH (std. units)	7.10
9060	Total Organic Carbon	1.3
359606A	OB120:06/22/98 @1030(Water)	
9020	Total Organic Halides	<0.02
9060	Total Organic Carbon	1.4
359607A	OB121:06/22/98 @1030(Water)	
9020	Total Organic Halides	<0.02
9060	Total Organic Carbon	1.4

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ITS Intertek Testing Services
Environmental Laboratories

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Analytical Report

Parsons Engineering Science
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Canton, MA 02021

Attention : Mike Duchesneau

Date : 07/22/98
ETR Number : 69619
Project No.: 93206
No. Samples: 36
Arrived : 06/23/98
P.O. Number: 73076930000

Case:93206 SDG:69619 OB Quarterly

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater.
All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result
359608A	OB122:06/22/98 @1030(Water)	
9020	Total Organic Halides	<0.02
9060	Total Organic Carbon	1.5
359609A	OB123:06/22/98 @1030(Water)	
9020	Total Organic Halides	<0.02
9060	Total Organic Carbon	1.4

Comments/Notes

Conductivity analyzed on 06/30/98.
pH analyzed on 06/23/98.
Total Organic Carbon analyzed on 06/30/98, 07/01/98, and 07/07/98.
Total Organic Halides analyzed on 06/30/98.

< Last Page > Submitted By : Aquatec Inc.

WET CHEMISTRY
Quality Control Summary

Project No: 93206
SDG No: 69619
Units: mg/L

Parameter	Date Analyzed	Method Preparation Blank	Laboratory Control Sample		
			Reported Value	True Value	Percent Recovery
Conductivity (umhos/cm)	06/30/98	NA	1002	1002	100.0
pH (Std Units)	06/23/98	NA	6.01	6.00	100.2
Total Organic Carbon	06/30/98	< 0.5	67.8	68.0	99.7
Total Organic Carbon	07/01/98	< 0.5	68.2	68.0	100.3
Total Organic Carbon	07/07/98	< 0.5	66.8	68.0	98.2
Total Organic Halides	06/29/98	< 0.02	0.108	0.100	108.0

Reviewed By: MKE
Date: 7/10/98

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206 SAS No.: _____ SDG No.:69619_

SOW No.: ILM03.0

EPA Sample No.	Lab Sample ID
_OB120_____	_359606_____
_OB124_____	_359610_____
_OB128_____	_359614_____
_OB128D_____	_359614DP_____
_OB128S_____	_359614MS_____
_OB132_____	_359620_____
_OB136_____	_359628_____
_OB140_____	_359624_____
_OB144_____	_359632_____
_OB801_____	_359618_____
_OB802_____	_359619_____
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_____	_____
_____	_____
_____	_____

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before application of background corrections ? Yes/No NO_

Comments:

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I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: _____

Date: _____ Title: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

OB120

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Matrix (soil/water): WATER Lab Sample ID: 359606

Level (low/med): LOW__ Date Received: 06/23/98

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	436			P
7440-36-0	Antimony	10.0	U		P
7440-38-2	Arsenic	6.0	U		P
7440-39-3	Barium	9.2	B		P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.90	U		P
7440-70-2	Calcium	9240			P
7440-47-3	Chromium	2.9	U		P
7440-48-4	Cobalt	3.9	U		P
7440-50-8	Copper	24.2	B		P
7439-89-6	Iron	112			P
7439-92-1	Lead	6.3			P
7439-95-4	Magnesium	1540	B		P
7439-96-5	Manganese	881			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	3.8	U		P
7440-09-7	Potassium	2860	B		P
7782-49-2	Selenium	3.8	U	N	P
7440-22-4	Silver	3.1	U		P
7440-23-5	Sodium	90300			P
7440-28-0	Thallium	6.5	U		P
7440-62-2	Vanadium	4.4	B		P
7440-66-6	Zinc	28.8			P
	Cyanide	5.0	U		AS

Color Before: COLORLESS Clarity Before: CLOUDY Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

OB124

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Matrix (soil/water): WATER Lab Sample ID: 359610

Level (low/med): LOW__ Date Received: 06/23/98

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	334			P_
7440-36-0	Antimony_	10.0	U		P_
7440-38-2	Arsenic__	6.0	U		P_
7440-39-3	Barium___	30.4	B		P_
7440-41-7	Beryllium	0.30	B		P_
7440-43-9	Cadmium__	1.2	B		P_
7440-70-2	Calcium__	121000			P_
7440-47-3	Chromium_	10.5			P_
7440-48-4	Cobalt___	5.1	B		P_
7440-50-8	Copper___	11.2	B		P_
7439-89-6	Iron_____	602			P_
7439-92-1	Lead_____	1.9	U		P_
7439-95-4	Magnesium	25200			P_
7439-96-5	Manganese	18.0			P_
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	6.1	B		P_
7440-09-7	Potassium	3040	B		P_
7782-49-2	Selenium_	3.8	U	N	P_
7440-22-4	Silver___	8.7	B		P_
7440-23-5	Sodium___	14100			P_
7440-28-0	Thallium_	6.5	U		P_
7440-62-2	Vanadium_	12.1	B		P_
7440-66-6	Zinc_____	18.0	B		P_
_____	Cyanide__	5.0	U		AS
_____	_____	_____			

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

OB128

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Matrix (soil/water): WATER Lab Sample ID: 359614

Level (low/med): LOW__ Date Received: 06/23/98

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	153	B		P_
7440-36-0	Antimony_	10.0	U		P_
7440-38-2	Arsenic__	6.0	U		P_
7440-39-3	Barium___	96.5	B		P_
7440-41-7	Beryllium	0.22	B		P_
7440-43-9	Cadmium__	0.90	U		P_
7440-70-2	Calcium__	75400	_		P_
7440-47-3	Chromium_	11.2	_		P_
7440-48-4	Cobalt___	3.9	U		P_
7440-50-8	Copper___	7.9	B		P_
7439-89-6	Iron_____	479	_		P_
7439-92-1	Lead_____	1.9	U		P_
7439-95-4	Magnesium	53100	_		P_
7439-96-5	Manganese	2.8	B		P_
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	3.8	U		P_
7440-09-7	Potassium	10800	_		P_
7782-49-2	Selenium_	3.8	U	N	P_
7440-22-4	Silver___	5.6	B		P_
7440-23-5	Sodium___	15400	_		P_
7440-28-0	Thallium_	6.5	U		P_
7440-62-2	Vanadium_	11.0	B		P_
7440-66-6	Zinc_____	10	B		P_
_____	Cyanide__	5.0	U		AS
_____	_____	_____	_		__

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
OB132

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Matrix (soil/water): WATER Lab Sample ID: 359620

Level (low/med): LOW__ Date Received: 06/23/98

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	178	B		P_
7440-36-0	Antimony_	10.0	U		P_
7440-38-2	Arsenic__	6.0	U		P_
7440-39-3	Barium___	21.2	B		P_
7440-41-7	Beryllium	0.22	B		P_
7440-43-9	Cadmium__	0.90	U		P_
7440-70-2	Calcium__	234000	_		P_
7440-47-3	Chromium_	11.0	_		P_
7440-48-4	Cobalt___	3.9	U		P_
7440-50-8	Copper___	7.8	B		P_
7439-89-6	Iron_____	535	_		P_
7439-92-1	Lead_____	1.9	U		P_
7439-95-4	Magnesium	84900	_		P_
7439-96-5	Manganese	18.2	_		P_
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	4.2	B		P_
7440-09-7	Potassium	7600	_		P_
7782-49-2	Selenium_	3.8	U	N	P_
7440-22-4	Silver___	3.4	B		P_
7440-23-5	Sodium___	31600	_		P_
7440-28-0	Thallium_	6.5	U		P_
7440-62-2	Vanadium_	10.2	B		P_
7440-66-6	Zinc_____	53.9	_		P_
_____	Cyanide__	5.0	U		AS
_____	_____	_____	_		__

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

OB136

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Matrix (soil/water): WATER Lab Sample ID: 359628

Level (low/med): LOW__ Date Received: 06/23/98

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	104	B		P_
7440-36-0	Antimony_	10.0	U		P_
7440-38-2	Arsenic__	6.0	U		P_
7440-39-3	Barium___	91.7	B		P_
7440-41-7	Beryllium	0.20	U		P_
7440-43-9	Cadmium__	0.90	U		P_
7440-70-2	Calcium__	154000			P_
7440-47-3	Chromium_	5.4	B		P_
7440-48-4	Cobalt___	3.9	U		P_
7440-50-8	Copper___	4.3	B		P_
7439-89-6	Iron_____	391			P_
7439-92-1	Lead_____	1.9	U		P_
7439-95-4	Magnesium	30200			P_
7439-96-5	Manganese	3.5	B		P_
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	3.8	U		P_
7440-09-7	Potassium	2020	B		P_
7782-49-2	Selenium_	3.8	U	N	P_
7440-22-4	Silver___	3.1	U		P_
7440-23-5	Sodium___	16500			P_
7440-28-0	Thallium_	6.5	U		P_
7440-62-2	Vanadium_	4.0	U		P_
7440-66-6	Zinc_____	11.0	B		P_
_____	Cyanide__	5.0	U		AS
_____	_____	_____			

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

OB140

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Matrix (soil/water): WATER Lab Sample ID: 359624

Level (low/med): LOW__ Date Received: 06/23/98

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	36.6	U		P_
7440-36-0	Antimony_	10.0	U		P_
7440-38-2	Arsenic__	6.0	U		P_
7440-39-3	Barium___	80.8	B		P_
7440-41-7	Beryllium	0.20	U		P_
7440-43-9	Cadmium__	0.90	U		P_
7440-70-2	Calcium__	120000			P_
7440-47-3	Chromium_	2.9	U		P_
7440-48-4	Cobalt___	3.9	U		P_
7440-50-8	Copper___	2.4	U		P_
7439-89-6	Iron_____	158			P_
7439-92-1	Lead_____	1.9	U		P_
7439-95-4	Magnesium	29600			P_
7439-96-5	Manganese	177			P_
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	3.8	U		P_
7440-09-7	Potassium	4190	B		P_
7782-49-2	Selenium_	3.8	U	N	P_
7440-22-4	Silver___	3.1	U		P_
7440-23-5	Sodium___	13800			P_
7440-28-0	Thallium_	6.5	U		P_
7440-62-2	Vanadium_	4.0	U		P_
7440-66-6	Zinc_____	12.0	B		P_
_____	Cyanide__	5.0	U		AS
_____	_____	_____			

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

OB144

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Matrix (soil/water): WATER Lab Sample ID: 359632

Level (low/med): LOW__ Date Received: 06/23/98

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	69.2	B		P_
7440-36-0	Antimony_	10.0	U		P_
7440-38-2	Arsenic__	6.0	U		P_
7440-39-3	Barium___	51.6	B		P_
7440-41-7	Beryllium	0.20	U		P_
7440-43-9	Cadmium__	0.90	U		P_
7440-70-2	Calcium__	166000			P_
7440-47-3	Chromium_	7.2	B		P_
7440-48-4	Cobalt___	3.9	U		P_
7440-50-8	Copper___	5.8	B		P_
7439-89-6	Iron_____	287			P_
7439-92-1	Lead_____	1.9	U		P_
7439-95-4	Magnesium	33400			P_
7439-96-5	Manganese	1.4	B		P_
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	3.8	U		P_
7440-09-7	Potassium	1860	B		P_
7782-49-2	Selenium_	3.8	U	N	P_
7440-22-4	Silver___	3.1	U		P_
7440-23-5	Sodium___	31600			P_
7440-28-0	Thallium_	6.5	U		P_
7440-62-2	Vanadium_	5.8	B		P_
7440-66-6	Zinc_____	9.7	B		P_
_____	Cyanide__	5.0	U		AS
_____	_____	_____	_	_____	__

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

OB801

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Matrix (soil/water): WATER Lab Sample ID: 359618

Level (low/med): LOW__ Date Received: 06/23/98

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	36.6	U		P_
7440-36-0	Antimony_	10.0	U		P_
7440-38-2	Arsenic__	6.0	U		P_
7440-39-3	Barium___	3.3	U		P_
7440-41-7	Beryllium	0.20	U		P_
7440-43-9	Cadmium__	0.90	U		P_
7440-70-2	Calcium__	79.0	B		P_
7440-47-3	Chromium_	2.9	U		P_
7440-48-4	Cobalt___	3.9	U		P_
7440-50-8	Copper___	2.4	U		P_
7439-89-6	Iron_____	68.1	U		P_
7439-92-1	Lead_____	1.9	U		P_
7439-95-4	Magnesium	225	U		P_
7439-96-5	Manganese	0.60	U		P_
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	3.8	U		P_
7440-09-7	Potassium	142	U		P_
7782-49-2	Selenium_	3.8	U	N	P_
7440-22-4	Silver___	3.1	U		P_
7440-23-5	Sodium___	914	U		P_
7440-28-0	Thallium_	6.5	U		P_
7440-62-2	Vanadium_	4.0	U		P_
7440-66-6	Zinc_____	44.9			P_
_____	Cyanide__	5.0	U		AS
_____	_____	_____	_	_____	__

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

OB802

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Matrix (soil/water): WATER Lab Sample ID: 359619

Level (low/med): LOW__ Date Received: 06/23/98

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	104	B		P
7440-36-0	Antimony	10.0	U		P
7440-38-2	Arsenic	6.0	U		P
7440-39-3	Barium	93.9	B		P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.90	U		P
7440-70-2	Calcium	73900			P
7440-47-3	Chromium	8.5	B		P
7440-48-4	Cobalt	3.9	U		P
7440-50-8	Copper	4.4	B		P
7439-89-6	Iron	377			P
7439-92-1	Lead	1.9	U		P
7439-95-4	Magnesium	55000			P
7439-96-5	Manganese	1.9	B		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	3.8	U		P
7440-09-7	Potassium	10600			P
7782-49-2	Selenium	3.8	U	N	P
7440-22-4	Silver	3.1	U		P
7440-23-5	Sodium	14600			P
7440-28-0	Thallium	6.5	U		P
7440-62-2	Vanadium	6.4	B		P
7440-66-6	Zinc	9.4	B		P
	Cyanide	5.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Initial Calibration Source: VENTURES____

Continuing Calibration Source: SPEX_____

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum	26000.0	26100.00	100.4	30200.0	30600.00	101.3	30120.00	99.7	P
Antimony	250.0	250.20	100.1	300.0	305.80	101.9	312.90	104.3	P
Arsenic	250.0	250.00	100.0	100.0	99.30	99.3	95.45	95.4	P
Barium	500.0	514.10	102.8	200.0	204.50	102.2	201.10	100.6	P
Beryllium	500.0	523.20	104.6	100.0	103.20	103.2	101.80	101.8	P
Cadmium	500.0	502.40	100.5	100.0	101.10	101.1	98.97	99.0	P
Calcium	25000.0	25620.00	102.5	30200.0	30650.00	101.5	30230.00	100.1	P
Chromium	500.0	527.50	105.5	200.0	212.30	106.2	207.80	103.9	P
Cobalt	500.0	518.10	103.6	200.0	206.00	103.0	201.50	100.8	P
Copper	500.0	529.50	105.9	200.0	210.70	105.4	205.10	102.6	P
Iron	25500.0	25920.00	101.6	30200.0	30590.00	101.3	30130.00	99.8	P
Lead	1000.0	1031.00	103.1	400.0	405.20	101.3	396.90	99.2	P
Magnesium	25000.0	24950.00	99.8	30200.0	30270.00	100.2	30900.00	102.3	P
Manganese	500.0	517.80	103.6	200.0	204.90	102.4	201.70	100.8	P
Mercury	1.8	1.72	95.6	5.0	5.06	101.2	5.18	103.6	CV
Nickel	500.0	520.70	104.1	200.0	205.60	102.8	200.90	100.4	P
Potassium	25000.0	27020.00	108.1	30200.0	31780.00	105.2	31310.00	103.7	P
Selenium	250.0	266.10	106.4	100.0	102.30	102.3	101.20	101.2	P
Silver	500.0	524.90	105.0	100.0	105.70	105.7	101.60	101.6	P
Sodium	25000.0	25230.00	100.9	30200.0	30010.00	99.4	29060.00	96.2	P
Thallium	250.0	239.20	95.7	100.0	105.40	105.4	101.10	101.1	P
Vanadium	500.0	530.20	106.0	200.0	212.50	106.2	206.90	103.4	P
Zinc	500.0	513.20	102.6	200.0	204.70	102.4	201.40	100.7	P
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Initial Calibration Source: VENTURES____

Continuing Calibration Source: SPEX_____

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum				30200.0	30140.00	99.8			P
Antimony				300.0	318.70	106.2			P
Arsenic				100.0	96.84	96.8			P
Barium				200.0	200.90	100.4			P
Beryllium				100.0	101.30	101.3			P
Cadmium				100.0	98.35	98.4			P
Calcium				30200.0	30140.00	99.8			P
Chromium				200.0	207.10	103.6			P
Cobalt				200.0	200.40	100.2			P
Copper				200.0	204.60	102.3			P
Iron				30200.0	30000.00	99.3			P
Lead				400.0	396.50	99.1			P
Magnesium				30200.0	31510.00	104.3			P
Manganese				200.0	200.90	100.4			P
Mercury				5.0	5.15	103.0			CV
Nickel				200.0	200.00	100.0			P
Potassium				30200.0	31380.00	103.9			P
Selenium				100.0	101.20	101.2			P
Silver				100.0	101.20	101.2			P
Sodium				30200.0	29080.00	96.3			P
Thallium				100.0	104.00	104.0			P
Vanadium				200.0	206.30	103.2			P
Zinc				200.0	200.50	100.2			P
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Initial Calibration Source: VENTURES____

Continuing Calibration Source: SPEX_____

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium	250.0	245.80	98.3	100.0	99.36	99.4	99.12	99.1	P
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Initial Calibration Source: FISHER_____

Continuing Calibration Source: FISHER_____

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide	120.0	134.50	112.1	150.0	155.00	103.3	153.00	102.0	AS

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Initial Calibration Source: FISHER_____

Continuing Calibration Source: FISHER_____

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide				150.0	154.00	102.7			AS

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

AA CRDL Standard Source: VENTURES____

ICP CRDL Standard Source: VENTURES____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum				400.0	552.90	138.2	615.40	153.8
Antimony				120.0	124.10	103.4	129.30	107.8
Arsenic				20.0	19.73	98.6	14.40	72.0
Barium				400.0	409.00	102.2	400.40	100.1
Beryllium				10.0	10.63	106.3	10.45	104.5
Cadmium				10.0	10.90	109.0	10.46	104.6
Calcium				10000.0	10480.00	104.8	10380.00	103.8
Chromium				20.0	33.84	169.2	32.27	161.4
Cobalt				100.0	105.70	105.7	103.00	103.0
Copper				50.0	58.18	116.4	55.59	111.2
Iron				200.0	407.90	204.0	417.50	208.8
Lead				6.0	6.12	102.0	7.11	118.5
Magnesium				10000.0	10020.00	100.2	10390.00	103.9
Manganese				30.0	32.29	107.6	31.50	105.0
Mercury	0.2	0.10	50.0					
Nickel				80.0	90.54	113.2	87.77	109.7
Potassium				10000.0	11380.00	113.8	11200.00	112.0
Selenium				10.0	9.86	98.6	9.96	99.6
Silver				20.0	24.68	123.4	22.48	112.4
Sodium				10000.0	10450.00	104.5	9911.00	99.1
Thallium				20.0	24.19	121.0	25.15	125.8
Vanadium				100.0	111.80	111.8	108.00	108.0
Zinc				40.0	43.77	109.4	42.67	106.7

U.S. EPA - CLP

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

AA CRDL Standard Source: VENTURES____

ICP CRDL Standard Source: VENTURES____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium				10.0	5.67	56.7	7.18	71.8
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

3
BLANKS

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L_

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	36.6	U	36.6	U	36.6	U	49.7	B	36.600	U	P
Antimony	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Arsenic	6.0	U	-7.0	B	6.0	U	6.0	U	6.000	U	P
Barium	3.3	U	3.3	U	3.3	U	3.3	U	3.300	U	P
Beryllium	0.2	U	0.2	U	0.2	U	0.2	U	0.200	U	P
Cadmium	0.9	U	0.9	U	0.9	U	0.9	U	0.900	U	P
Calcium	74.5	U	74.5	U	74.5	U	74.5	U	74.500	U	P
Chromium	2.9	U	2.9	U	2.9	U	2.9	U	2.900	U	P
Cobalt	3.9	U	3.9	U	3.9	U	3.9	U	3.900	U	P
Copper	2.4	U	2.4	U	2.4	U	2.5	B	-3.035	B	P
Iron	68.1	U	68.1	U	68.1	U	68.1	U	68.100	U	P
Lead	1.9	U	1.9	U	1.9	U	1.9	U	1.900	U	P
Magnesium	225.0	U	225.0	U	225.0	U	225.0	U	225.000	U	P
Manganese	0.6	U	0.6	U	0.6	U	0.6	U	0.600	U	P
Mercury	0.1	U	-0.1	B	0.1	U	-0.2	B	-0.115	B	CV
Nickel	3.8	U	3.8	U	3.8	U	3.8	U	3.800	U	P
Potassium	142.0	U	142.0	U	142.0	U	142.0	U	142.000	U	P
Selenium	3.8	U	3.8	U	3.8	U	3.8	U	3.800	U	P
Silver	3.1	U	3.1	U	3.1	U	3.1	U	-3.776	B	P
Sodium	914.0	U	914.0	U	914.0	U	914.0	U	914.000	U	P
Thallium	6.5	U	7.7	B	6.5	U	6.5	U	6.862	B	P
Vanadium	4.0	U	4.0	U	4.0	U	4.0	U	-4.402	B	P
Zinc	2.2	U	2.2	U	2.2	U	2.2	U	4.782	B	P
Cyanide	10.0	U	10.0	U	10.0	U	10.0	U	5.000	U	AS

3
BLANKS

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium	3.8	U	3.8	U	-4.6	B					P
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No: _____ SDG No.: 69619_

ICP ID Number: ICP6 TJA 61E ICS Source: VENTURES____

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum	500000	480400	487000	488400.0	101.7	503600	491100.0	102.2
Antimony								
Arsenic								
Barium	0	489	4	517.4	105.8	5	520.3	106.4
Beryllium	0	476	1	504.0	105.9	1	506.1	106.3
Cadmium	0	891	5	941.3	105.6	6	938.7	105.4
Calcium	500000	456400	463600	466300.0	102.2	479000	468400.0	102.6
Chromium	0	467	-1	494.0	105.8	2	496.5	106.3
Cobalt	0	467	10	493.3	105.6	13	496.4	106.3
Copper	0	509	9	542.2	106.5	13	544.9	107.1
Iron	200000	195020	193700	197500.0	101.3	199900	198200.0	101.6
Lead	0	46	2	45.0	97.8	-2	44.5	96.7
Magnesium								
Manganese	0	487	20	513.8	105.5	21	515.6	105.9
Mercury								
Nickel	0	900	11	959.1	106.6	14	958.7	106.5
Potassium	0	0	-102	-48.9		-25	-25.7	
Selenium	0	44	2	50.6	115.0	3	48.0	109.1
Silver	0	199	-1	214.1	107.6	3	215.7	108.4
Sodium	0	0	-877	-152.9		-208	-0.8	
Thallium								
Vanadium	0	500	24	532.3	106.5	30	536.0	107.2
Zinc	0	893	1	944.4	105.8	1	950.3	106.4

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4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No: _____ SDG No.: 69619_

ICP ID Number: ICP6 TJA 61E ICS Source: VENTURES____

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium	0	44	-9	44.7	101.6	-5	42.7	97.0
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No: _____ SDG No.: 69619_

ICP ID Number: ICP5 TJA 61E ICS Source: VENTURES____

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony	0	602	2	602.8	100.1	4	634.2	105.3
Arsenic	0	89	-7	83.2	93.5	-6	94.0	105.6
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead								
Magnesium	500000	503940	512500	495800.0	98.4	526800	517000.0	102.6
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium	0	93	3	94.4	101.5	0	93.8	100.9
Vanadium								
Zinc								

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.
OB128S

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Matrix (soil/water): WATER_ Level (low/med): LOW___

% Solids for Sample: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	2400.0000		152.6000	B	2000.00	112.4		P
Antimony	75-125	531.6000		10.0000	U	500.00	106.3		P
Arsenic	75-125	39.7700		6.0000	U	40.00	99.4		P
Barium	75-125	2169.0000		96.4700	B	2000.00	103.6		P
Beryllium	75-125	56.0600		0.2150	B	50.00	111.7		P
Cadmium	75-125	52.4000		0.9000	U	50.00	104.8		P
Calcium									NR
Chromium	75-125	226.7000		11.2500		200.00	107.7		P
Cobalt	75-125	536.7000		3.9000	U	500.00	107.3		P
Copper	75-125	276.5000		7.8780	B	250.00	107.4		P
Iron	75-125	1598.0000		479.2000		1000.00	111.9		P
Lead	75-125	21.9800		1.9000	U	20.00	109.9		P
Magnesium									NR
Manganese	75-125	539.3000		2.8230	B	500.00	107.3		P
Mercury	75-125	0.9730		0.1000	U	1.00	97.3		CV
Nickel	75-125	527.7000		3.8000	U	500.00	105.5		P
Potassium									NR
Selenium	75-125	13.6700		3.8000	U	10.00	136.7	N	P
Silver	75-125	58.0300		5.5910	B	50.00	104.9		P
Sodium									NR
Thallium	75-125	54.6500		6.5000	U	50.00	109.3		P
Vanadium	75-125	554.4000		11.0100	B	500.00	108.7		P
Zinc	75-125	536.1000		9.9810	B	500.00	105.2		P
Cyanide									NR

Comments:

U.S. EPA - CLP

5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.
OB128A

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Matrix (soil/water) : WATER_ Level (low/med): LOW___

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium		13.06		3.80	U	10.0	130.6		P
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

6
DUPLICATES

EPA SAMPLE NO.
OB128D

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Matrix (soil/water): WATER Level (low/med): _LOW__

% Solids for Sample: __0.0 % Solids for Duplicate: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		152.6000	B	148.8000	B	2.5		P
Antimony		10.0000	U	10.0000	U			P
Arsenic		6.0000	U	6.0000	U			P
Barium		96.4700	B	95.6100	B	0.9		P
Beryllium		0.2150	B	0.2000	U	200.0		P
Cadmium		0.9000	U	0.9000	U			P
Calcium		75350.0000		74720.0000		0.8		P
Chromium	10.0	11.2500		9.4500	B	17.4		P
Cobalt		3.9000	U	3.9000	U			P
Copper		7.8780	B	5.7230	B	31.7		P
Iron	100.0	479.2000		478.7000		0.1		P
Lead		1.9000	U	1.9000	U			P
Magnesium		53090.0000		52930.0000		0.3		P
Manganese		2.8230	B	2.7080	B	4.2		P
Mercury		0.1000	U	0.1000	U			CV
Nickel		3.8000	U	3.8000	U			P
Potassium	5000.0	10830.0000		10730.0000		0.9		P
Selenium		3.8000	U	4.8550	B	200.0		P
Silver		5.5910	B	3.1000	U	200.0		P
Sodium	5000.0	15450.0000		14800.0000		4.3		P
Thallium		6.5000	U	6.5000	U			P
Vanadium		11.0100	B	8.2600	B	28.5		P
Zinc		9.9810	B	11.5400	B	14.5		P
Cyanide								NR

7

LABORATORY CONTROL SAMPLE

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Solid LCS Source: _____

Aqueous LCS Source: VENTURES____

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum	51000.0	54230.00	106.3						
Antimony	2000.0	2135.00	106.8						
Arsenic	1050.0	1071.00	102.0						
Barium	500.0	537.40	107.5						
Beryllium	500.0	546.60	109.3						
Cadmium	525.0	531.10	101.2						
Calcium	50000.0	53800.00	107.6						
Chromium	500.0	548.30	109.7						
Cobalt	500.0	538.40	107.7						
Copper	500.0	553.10	110.6						
Iron	50500.0	53690.00	106.3						
Lead	1015.0	1069.00	105.3						
Magnesium	50000.0	51540.00	103.1						
Manganese	500.0	538.20	107.6						
Mercury	1.0	0.91	90.6						
Nickel	500.0	538.40	107.7						
Potassium	50000.0	53030.00	106.1						
Selenium	525.0	583.70	111.2						
Silver	500.0	524.70	104.9						
Sodium	50000.0	53220.00	106.4						
Thallium	550.0	533.80	97.1						
Vanadium	500.0	554.30	110.9						
Zinc	500.0	532.60	106.5						
Cyanide									

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8
STANDARD ADDITION RESULTS

Lab Name: ITS_ENVIRONMENTAL________ Contract:93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.:______ SDG No.:69619_

Concentration Units: ug/L

EPA Sample No.	An	0 ADD	1 ADD		2 ADD		3 ADD		Final Conc.	r	Q
		ABS	CON	ABS	CON	ABS	CON	ABS			

9
ICP SERIAL DILUTION

EPA SAMPLE NO.
OB128L

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

Matrix (soil/water): WATER Level (low/med): LOW__

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	152.60	B	232.50	B	52.4		P
Antimony	10.00	U	50.00	U			P
Arsenic	6.00	U	30.00	U			P
Barium	96.47	B	94.66	B	1.9		P
Beryllium	0.22	B	1.00	U	100.0		P
Cadmium	0.90	U	4.50	U			P
Calcium	75350.00		73120.00		3.0		P
Chromium	11.25		22.80	B	102.7		P
Cobalt	3.90	U	19.50	U			P
Copper	7.88	B	18.10	B	129.7		P
Iron	479.20		773.30		61.4		P
Lead	1.90	U	9.50	U			P
Magnesium	53090.00		54100.00		1.9		P
Manganese	2.82	B	4.44	B	57.4		P
Mercury							NR
Nickel	3.80	U	19.00	U			P
Potassium	10830.00		10730.00	B	0.9		P
Selenium	3.80	U	19.00	U			P
Silver	5.59	B	16.97	B	203.6		P
Sodium	15450.00		16500.00	B	6.8		P
Thallium	6.50	U	32.50	U			P
Vanadium	11.01	B	22.51	B	104.5		P
Zinc	9.98	B	68.01	B	581.5		P

10
Instrument Detection Limits (Quarterly)

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

ICP ID Number: ICP6_TJA_61E Date: 07/16/98

Flame AA ID Number : _____

Furnace AA ID Number : _____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.22		200	36.6	P
Antimony			60		NR
Arsenic			10		NR
Barium	493.41		200	3.3	P
Beryllium	313.04		5	0.2	P
Cadmium	228.80		5	0.9	P
Calcium	317.93		5000	74.5	P
Chromium	267.72		10	2.9	P
Cobalt	228.62		50	3.9	P
Copper	324.75		25	2.4	P
Iron	259.94		100	68.1	P
Lead	220.35		3	1.9	P
Magnesium			5000		NR
Manganese	257.61		15	0.6	P
Mercury			0.2		NR
Nickel	231.60		40	3.8	P
Potassium	766.49		5000	142.0	P
Selenium	196.03		5	3.8	P
Silver	328.07		10	3.1	P
Sodium	589.00		5000	914.0	P
Thallium			10		NR
Vanadium	292.40		50	4.0	P
Zinc	213.86		20	2.2	P

Comments:

10
Instrument Detection Limits (Quarterly)

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

ICP ID Number: ICP5_TJA_61E Date: 07/16/98

Flame AA ID Number : _____

Furnace AA ID Number : _____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony	206.84		60	10.0	P
Arsenic	189.04		10	6.0	P
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead			3		NR
Magnesium	279.08		5000	225.0	P
Manganese			15		NR
Mercury			0.2		NR
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium	190.86		10	6.5	P
Vanadium			50		NR
Zinc			20		NR

Comments:

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10
Instrument Detection Limits (Quarterly)

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

ICP ID Number: _____ Date: 04/16/98

Flame AA ID Number : CV1_PS200II_

Furnace AA ID Number : _____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic			10		NR
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead			3		NR
Magnesium			5000		NR
Manganese			15		NR
Mercury	253.70		0.2	0.1	CV
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR

Comments:

10
Instrument Detection Limits (Quarterly)

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

ICP ID Number: _____ Date: 04/16/98

Flame AA ID Number : PS1214_____

Furnace AA ID Number : _____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic			10		NR
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead			3		NR
Magnesium			5000		NR
Manganese			15		NR
Mercury			0.2		NR
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR

Comments:

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11A
ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

ICP ID Number: ICP6 TJA 61E Date: 04/01/98

Analyte	Wave-length (nm)	Interelement Correction Factors for : Al	Ca	Fe	Mg	CD_
Aluminum_	308.22	0.0000000	0.0000000	0.0002200	0.0000140	0.0000000
Antimony_	206.84	0.0009800	0.0000000	0.0001100	0.0000000	0.0000000
Arsenic						
Barium	493.41	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000190	0.0000080	0.0000900	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium_	267.72	0.0000000	0.0000000	0.0000380	0.0000330	0.0000260
Cobalt	228.62	0.0000000	0.0000000	0.0000470	0.0000000	0.0000840
Copper	324.75	0.0000000	0.0000000	0.0000240	0.0000000	0.0000000
Iron_____	259.94	0.0000000	0.0000000	0.0000000	0.0010900	0.0000000
Lead_____	220.35	0.0004000	0.0000000	-0.0000080	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000230	0.0000000	0.0000000	0.0004620
Mercury						
Nickel	231.60	-0.0000400	0.0000000	0.0000000	0.0000000	0.0000870
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium_	196.03	-0.0000080	0.0000000	-0.0000050	-0.0000600	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000080	0.0000000	0.0000000
Sodium	589.00	0.0000000	0.0018800	0.0000600	0.0000000	0.0000000
Thallium_						
Vanadium_	292.40	0.0000000	0.0000000	0.0000080	0.0000300	0.0000000
Zinc_____	213.86	0.0000800	0.0000000	0.0000540	0.0000090	0.0000290

Comments:

U.S. EPA - CLP

11B
ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

ICP ID Number: ICP6 TJA 61E Date: 04/01/98

Analyte	Wave-length (nm)	Interelement Correction Factors for : CO_	CR_	CU_	MN_	NA_
Aluminum_	308.22	0.0002310	0.0002270	0.0000000	0.0004060	0.0000000
Antimony_	206.84	0.0000710	0.0070400	0.0000000	0.0000000	0.0000000
Arsenic						
Barium	493.41	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.04	0.0000000	0.0000050	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000140	0.0000000	0.0000000	0.0000000	0.0000820
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium_	267.72	0.0000120	0.0000000	0.0000000	0.0001760	0.0000000
Cobalt	228.62	0.0000000	0.0005150	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000310	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0819300	0.0069800	0.0000000	0.0014270	0.0000000
Lead	220.35	0.0001080	0.0000000	0.0000000	0.0000750	0.0000000
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0042900	0.0000000
Manganese	257.61	0.0000000	0.0000410	0.0000270	0.0000000	0.0000000
Mercury						
Nickel	231.60	0.0040740	0.0000870	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium_	196.03	0.0001840	0.0000360	0.0000000	0.0003000	0.0000000
Silver	328.07	0.0000000	0.0000200	0.0000000	0.0001380	0.0000000
Sodium	589.00	0.0075090	0.0152200	0.0000000	0.0025300	0.0000000
Thallium_						
Vanadium_	292.40	0.0000340	0.0000780	0.0000000	0.0002320	0.0000000
Zinc	213.86	0.0000240	0.0005000	0.0000000	0.0000000	0.0000000

Comments:

U.S. EPA - CLP

11B
ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

ICP ID Number: ICP6 TJA 61E Date: 04/01/98

Analyte	Wave-length (nm)	Interelement Correction Factors for : NI_	TI_	V__	ZN_	___
Aluminum_	308.22	0.0005070	0.0031950	0.0223300	0.0000000	
Antimony_	206.84	0.0000000	0.0001540	0.0000760	0.0000000	
Arsenic__						
Barium___	493.41	0.0000000	0.0000000	0.0000480	0.0000000	
Beryllium	313.04	0.0000000	0.0000180	0.0001590	0.0000000	
Cadmium__	228.80	0.0001440	0.0000590	0.0000000	0.0000000	
Calcium__	317.93	0.0000000	0.0000000	0.0000000	0.0000000	
Chromium_	267.72	0.0000000	0.0000660	0.0004790	0.0000000	
Cobalt___	228.62	0.0003230	0.0018940	0.0000280	0.0000000	
Copper___	324.75	0.0000000	0.0007410	0.0002950	0.0000000	
Iron_____	259.94	0.0008990	0.0032200	0.0127800	0.0000000	
Lead_____	220.35	0.0004730	0.0000940	-0.0000500	0.0000000	
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	
Mercury__						
Nickel___	231.60	0.0000000	0.0000000	0.0000000	0.0000000	
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	
Selenium_	196.03	0.0000000	0.0000000	0.0001660	0.0000000	
Silver___	328.07	0.0000000	0.0002210	0.0002340	0.0000000	
Sodium___	589.00	0.0063400	0.0994800	0.0538900	0.1140000	
Thallium_						
Vanadium_	292.40	0.0000000	0.0001080	0.0000000	0.0004160	
Zinc_____	213.86	0.0000000	0.0000210	0.0000000	0.0000000	

Comments:

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11A
ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

ICP ID Number: ICP5 TJA 61E Date: 01/16/98

Analyte	Wave-length (nm)	Interelement Correction Factors for : Al	Ca	Fe	Mg	CD_
Aluminum_	237.31	0.0000000	0.0000000	-0.0007060	0.0000000	0.0000000
Antimony_	206.84	0.0000000	0.0000000	0.0000310	0.0000000	0.0000000
Arsenic__	189.04	0.0000030	0.0000000	-0.0000190	0.0000000	0.0000000
Barium___	493.41	0.0000000	0.0000000	0.0000040	0.0000000	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium__	226.50	-0.0000020	0.0000000	0.0000720	0.0000000	0.0000000
Calcium__	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium_	267.72	0.0000000	0.0000000	0.0000000	0.0000000	-0.0002050
Cobalt___	228.61	0.0000000	0.0000000	0.0000000	0.0000000	0.0002010
Copper___	324.75	0.0000000	0.0000000	-0.0001110	0.0000000	0.0000000
Iron_____	271.44	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead_____						
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	294.92	0.0000000	0.0000000	0.0006600	0.0000170	0.0000000
Mercury__						
Nickel___	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium_						
Silver___	328.07	0.0000000	0.0000000	-0.0000020	0.0000010	0.0000000
Sodium___	330.23	0.0000000	0.0000000	-0.0013900	0.0000000	0.0000000
Thallium_	190.86	-0.0000080	0.0000000	-0.0000300	0.0000000	0.0000000
Vanadium_	292.40	0.0000000	0.0000000	0.0000230	0.0000000	0.0000000
Zinc_____	213.85	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

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11B
ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

ICP ID Number: ICP5 TJA 61E Date: 01/16/98

Analyte	Wave-length (nm)	Interelement Correction Factors for : CO_	CR_	MN_	NI_	TI_
Aluminum	237.31	0.0010260	-0.0001500	0.0004560	0.0000000	0.0000000
Antimony	206.84	0.0000000	0.0106760	0.0000000	-0.0010930	0.0009800
Arsenic	189.04	0.0000000	0.0000130	-0.0000260	0.0000000	0.0000000
Barium	493.41	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0006000
Cadmium	226.50	0.0000190	0.0000000	0.0000000	-0.0001420	0.0001100
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000200	0.0000000	0.0000000
Cobalt	228.61	0.0000000	0.0000760	0.0000000	0.0001550	0.0021800
Copper	324.75	-0.0006200	0.0000000	0.0000000	0.0000000	0.0000000
Iron	271.44	0.0834400	0.0000000	-0.0010430	-0.0005400	0.0000000
Lead						
Magnesium	279.08	0.0000000	0.0000000	-0.0083200	0.0000000	0.0000000
Manganese	294.92	0.0000000	-0.0001100	0.0000000	0.0000000	0.0000000
Mercury						
Nickel	231.60	0.0005300	0.0000000	-0.0000770	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium						
Silver	328.07	0.0000000	0.0000450	0.0001060	0.0000000	0.0004400
Sodium	330.23	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.86	0.0031500	0.0003050	-0.0053100	0.0000000	0.0003200
Vanadium	292.40	0.0000000	-0.0014900	-0.0000760	0.0000000	0.0005480
Zinc	213.85	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

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11B
ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

ICP ID Number: ICP5 TJA 61E Date: 01/16/98

Analyte	Wave-length (nm)	Interelement Correction Factors for : V__	ZN_	___	___	___
Aluminum_	237.31	-0.0041100	0.0000000			
Antimony_	206.84	-0.0107300	0.0002410			
Arsenic__	189.04	-0.0010590	0.0000000			
Barium___	493.41	0.0000420	0.0000000			
Beryllium	313.04	0.0015700	0.0000000			
Cadmium__	226.50	0.0000000	0.0000000			
Calcium__	317.93	0.0000000	0.0000000			
Chromium_	267.72	0.0000000	0.0000000			
Cobalt___	228.61	0.0000000	0.0000000			
Copper___	324.75	-0.0001320	0.0000000			
Iron_____	271.44	0.0076000	0.0000000			
Lead_____						
Magnesium	279.08	0.0000000	0.0000000			
Manganese	294.92	0.0048700	0.0000000			
Mercury__						
Nickel___	231.60	-0.0001520	0.0000000			
Potassium	766.49	0.0000000	0.0000000			
Selenium_						
Silver___	328.07	0.0004460	0.0000000			
Sodium___	330.23	0.0000000	0.0939400			
Thallium_	190.86	0.0018800	0.0000000			
Vanadium_	292.40	0.0000000	0.0000000			
Zinc_____	213.85	-0.0054500	0.0000000			

Comments:

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12
ICP LINEAR RANGES (QUARTERLY)

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

ICP ID Number: ICP6 TJA 61E Date: 07/16/98

Analyte	Integ. Time (sec.)	Concentration (ug/L)	M
Aluminum	10.00	1000000.0	P
Antimony	10.00	50000.0	P
Arsenic			NR
Barium	10.00	10000.0	P
Beryllium	10.00	10000.0	P
Cadmium	10.00	10000.0	P
Calcium	10.00	600000.0	P
Chromium	10.00	100000.0	P
Cobalt	10.00	10000.0	P
Copper	10.00	50000.0	P
Iron	10.00	1000000.0	P
Lead	10.00	100000.0	P
Magnesium	10.00		P
Manganese	10.00	10000.0	P
Mercury			NR
Nickel	10.00	10000.0	P
Potassium	10.00	100000.0	P
Selenium	10.00	5000.0	P
Silver	10.00	2000.0	P
Sodium	10.00	100000.0	P
Thallium			NR
Vanadium	10.00	100000.0	P
Zinc	10.00	3000.0	P

Comments:

12
ICP LINEAR RANGES (QUARTERLY)

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.: 69619_

ICP ID Number: ICP5 TJA 61E Date: 07/16/98

Analyte	Integ. Time (sec.)	Concentration (ug/L)	M
Aluminum	10.00	1000000.0	P
Antimony	10.00	100000.0	P
Arsenic	10.00	5000.0	P
Barium	10.00	100000.0	P
Beryllium	10.00	5000.0	P
Cadmium	10.00	5000.0	P
Calcium	10.00	600000.0	P
Chromium	10.00	100000.0	P
Cobalt	10.00	100000.0	P
Copper	10.00	100000.0	P
Iron	10.00	1000000.0	P
Lead			NR
Magnesium	10.00	1000000.0	P
Manganese	10.00	100000.0	P
Mercury			NR
Nickel	10.00	100000.0	P
Potassium	10.00	100000.0	P
Selenium			NR
Silver	10.00	2000.0	P
Sodium	10.00	100000.0	P
Thallium	10.00	5000.0	P
Vanadium	10.00	100000.0	P
Zinc	10.00	3000.0	P

Comments:

13
PREPARATION LOG

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.:_93206_ SAS No.: _____ SDG No.:69619_

Method: P_

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
LCSW	07/02/98		100
OB120	07/02/98		100
OB124	07/02/98		100
OB128	07/02/98		100
OB128D	07/02/98		100
OB128S	07/02/98		100
OB132	07/02/98		100
OB136	07/02/98		100
OB140	07/02/98		100
OB144	07/02/98		100
OB801	07/02/98		100
OB802	07/02/98		100
PBW	07/02/98		100

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PREPARATION LOG

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.:_93206_ SAS No.: _____ SDG No.:69619_

Method: CV

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
LCSW	07/01/98		100
OB120	07/01/98		100
OB124	07/01/98		100
OB128	07/01/98		100
OB128D	07/01/98		100
OB128S	07/01/98		100
OB132	07/01/98		100
OB136	07/01/98		100
OB140	07/01/98		100
OB144	07/01/98		100
OB801	07/01/98		100
OB802	07/01/98		100
PBW	07/01/98		100

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PREPARATION LOG

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.:_93206_ SAS No.: _____ SDG No.:69619_

Method: AS

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
ICV	06/30/98		250
OB120	06/30/98		250
OB124	06/30/98		250
OB128	06/30/98		250
OB132	06/30/98		250
OB136	06/30/98		250
OB140	06/30/98		250
OB144	06/30/98		250
OB801	06/30/98		250
OB802	06/30/98		250
PBW	06/30/98		250

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ANALYSIS RUN LOG

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.:69619_

Instrument ID Number: ICP6 TJA 61E_ Method: P_

Start Date: 07/18/98 End Date: 07/18/98

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1024		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	
S	1.00	1027		X						X				X		X				X			X				
S	1.00	1031			X	X									X						X			X			
S	1.00	1034					X	X	X		X	X	X				X		X			X			X	X	
ICV	1.00	1040		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
ICB	1.00	1044		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
ICSA	1.00	1048		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
ICSAB	1.00	1053		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
CRI	1.00	1057		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
CCV	1.00	1102		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
CCB	1.00	1106		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
PBW	1.00	1110		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
LCSW	1.00	1115		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
OB120	1.00	1119		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
OB124	1.00	1123		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
OB128	1.00	1127		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
OB128L	5.00	1132		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
OB128A	1.00	1136																			X						
OB128S	1.00	1140		X			X	X	X		X	X	X	X	X		X		X		X	X			X	X	
OB128D	1.00	1145		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
OB801	1.00	1149		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
CCV	1.00	1153		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
CCB	1.00	1157		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
OB802	1.00	1202		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
OB132	1.00	1206		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
OB140	1.00	1210		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
OB136	1.00	1215		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
OB144	1.00	1219		X			X	X	X	X	X	X	X	X	X		X		X	X		X	X		X	X	
ICSA	1.00	1223		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
ICSAB	1.00	1228		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
CRI	1.00	1232		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	
CCV	1.00	1236		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	

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ANALYSIS RUN LOG

Lab Name: ITS_ENVIRONMENTAL________ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: ______ SDG No.:69619_

Instrument ID Number: ICP6 TJA 61E_ Method: P_

Start Date: 07/18/98 End Date: 07/18/98

EPA Sample No.	D/F	Time	% R	AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CCB	1.00	1241		X			X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	X	

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ANALYSIS RUN LOG

Lab Name: ITS_ENVIRONMENTAL________ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: ______ SDG No.:69619_

Instrument ID Number: ICP6 TJA 61E_ Method: P_

Start Date: 07/22/98 End Date: 07/22/98

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	0926		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	
S	1.00	0929		X						X				X		X				X			X				
S	1.00	0933			X	X									X						X			X			
S	1.00	0936					X	X	X		X	X	X				X		X			X			X	X	
ICV	1.00	0942																			X						
ICB	1.00	0946																			X						
CRI	1.00	0950																			X						
ICSA	1.00	0955																			X						
ICSAB	1.00	0959																			X						
CCV	1.00	1004																			X						
CCB	1.00	1008																			X						
ZZZZZZ	1.00	1012																									
ZZZZZZ	1.00	1017																									
ZZZZZZ	5.00	1021																									
ZZZZZZ	1.00	1025																									
ZZZZZZ	5.00	1029																									
ZZZZZZ	1.00	1034																									
OB144	1.00	1038																			X						
CRI	1.00	1042																			X						
ICSA	1.00	1047																			X						
ICSAB	1.00	1051																			X						
CCV	1.00	1055																			X						
CCB	1.00	1100																			X						

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ANALYSIS RUN LOG

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.:69619_

Instrument ID Number: ICP5 TJA 61E_ Method: P_

Start Date: 07/21/98 End Date: 07/21/98

EPA Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1600		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	_
S	1.00	1604		X						X				X		X				X		X				
S	1.00	1608			X	X									X						X		X			
S	1.00	1612					X	X	X		X	X	X				X		X			X		X	X	
ICV	1.00	1618			X	X										X							X			
ICB	1.00	1622			X	X										X							X			
ICSA	1.00	1627			X	X										X							X			
ICSAB	1.00	1632			X	X										X							X			
CRI	1.00	1636			X	X										X							X			
CCV	1.00	1641			X	X										X							X			
CCB	1.00	1646			X	X										X							X			
PBW	1.00	1650			X	X										X							X			
LCSW	1.00	1655			X	X										X							X			
OB120	1.00	1659			X	X										X							X			
OB124	1.00	1704			X	X										X							X			
OB128	1.00	1709			X	X										X							X			
OB128L	5.00	1713			X	X										X							X			
OB128A	1.00	1718																								
OB128S	1.00	1722			X	X																	X			
OB128D	1.00	1727			X	X										X							X			
OB801	1.00	1731			X	X										X							X			
CCV	1.00	1736			X	X										X							X			
CCB	1.00	1741			X	X										X							X			
OB802	1.00	1745			X	X										X							X			
OB132	1.00	1750			X	X										X							X			
OB140	1.00	1754			X	X										X							X			
OB136	1.00	1759			X	X										X							X			
OB144	1.00	1803			X	X										X							X			
ICSA	1.00	1808			X	X										X							X			
ICSAB	1.00	1813			X	X										X							X			
CRI	1.00	1817			X	X										X							X			
CCV	1.00	1822			X	X										X							X			

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ANALYSIS RUN LOG

Lab Name: ITS_ENVIRONMENTAL________ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: ______ SDG No.:69619_

Instrument ID Number: ICP5 TJA 61E_ Method: P_

Start Date: 07/21/98 End Date: 07/21/98

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CCB	1.00	1827			X	X										X								X			

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ANALYSIS RUN LOG

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.:69619_

Instrument ID Number: CV1 PS200II__ Method: CV

Start Date: 07/01/98 End Date: 07/01/98

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1740																X									
S0.2	1.00	1742																X									
S0.5	1.00	1745																X									
S1	1.00	1747																X									
S5	1.00	1750																X									
S10	1.00	1752																X									
ICV	1.00	1755																X									
ICB	1.00	1757																X									
CRA	1.00	1759																X									
CCV	1.00	1801																X									
CCB	1.00	1803																X									
PBW	1.00	1806																X									
LCSW	1.00	1808																X									
ZZZZZZ	1.00	1811																										
ZZZZZZ	1.00	1813																										
OB120	1.00	1815																X									
OB124	1.00	1817																X									
OB128	1.00	1820																X									
OB128S	1.00	1822																X									
OB128D	1.00	1824																X									
CCV	1.00	1827																X									
CCB	1.00	1829																X									
OB801	1.00	1831																X									
OB802	1.00	1834																X									
OB132	1.00	1836																X									
OB140	1.00	1838																X									
OB136	1.00	1840																X									
OB144	1.00	1843																X									
CCV	1.00	1845																X									
CCB	1.00	1848																X									

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ANALYSIS RUN LOG

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.:69619_

Instrument ID Number: PS1214_____ Method: AS

Start Date: 06/30/98 End Date: 06/30/98

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1252																								X
S10	1.00	1254																								X
S50	1.00	1256																								X
S100	1.00	1258																								X
S200	1.00	1301																								X
S300	1.00	1303																								X
ICV	1.00	1305																								X
ICB	1.00	1307																								X
CCV	1.00	1309																								X
CCB	1.00	1311																								X
ZZZZZZ	1.00	1314																								
PBW	1.00	1316																								X
ZZZZZZ	1.00	1318																								
ZZZZZZ	1.00	1320																								
ZZZZZZ	1.00	1322																								
ZZZZZZ	1.00	1324																								
ZZZZZZ	1.00	1326																								
ZZZZZZ	1.00	1328																								
ZZZZZZ	1.00	1330																								
OB120	1.00	1332																								X
CCV	1.00	1334																								X
CCB	1.00	1336																								X
OB124	1.00	1339																								X
OB128	1.00	1341																								X
OB801	1.00	1343																								X
OB802	1.00	1345																								X
OB132	1.00	1347																								X
OB140	1.00	1349																								X
OB136	1.00	1351																								X
OB144	1.00	1353																								X
ZZZZZZ	1.00	1355																								
ZZZZZZ	1.00	1357																								

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ANALYSIS RUN LOG

Lab Name: ITS_ENVIRONMENTAL_____ Contract: 93206_____

Lab Code: INCHVT Case No.: 93206_ SAS No.: _____ SDG No.:69619_

Instrument ID Number: PS1214_____ Method: AS

Start Date: 06/30/98 End Date: 06/30/98

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CCV	1.00	1359																								X
CCB	1.00	1401																								X