WSMR 05

DEPARTMENT OF THE ARMY
U.S. ARMY GARRISON WHITE SANDS
100 HEADQUARTERS AVENUE
WHITE SANDS MISSILE RANGE, NEW MEXICO 88002-5000

FEB 2 8 2005

REPLY TO
ATTENTION OF
Environment and Safety Directorate

RECEIVED
MAR 2005
NMED Hazardous Waste Bureau

Ms. Cheryl Frischkorn
Hazardous Waste Bureau
New Mexico Environment Department
2905 East Rodeo Park Road, Building 1
Santa Fe, New Mexico 87505-6303

Dear Ms. Frischkorn:

White Sands Missile Range has been performing groundwater monitoring at the High Energy Laser Systems Test Facility (HELSTF) Cleaning Facility as required. Enclosed for your review is one copy of the report and a CD received from the US Geologic Survey (USGS) concerning recently completed sampling activities at HELSTF. The Report includes a summary of the analytical results as well as all QA/QC lab data for the analytes of concern (volatiles, semi-volatiles, extractable petroleum products, and total metals) based upon available information for October 4 and 5, 2004. The report submitted is entitled:

United States Army White Sands Missile Range, Ground Water Monitoring at the High Energy Laser Systems Test Facility (HELSTF), Cleaning Facility RCRA Monitoring Well Sampling, Analytical Results of Samples Collected October 4 and 5, 2004.

Copies of this correspondence are also being furnished to Mr. John Kieling, NMED HWB; Ms. Marcie Leavit, GWQB, NMED; and Mr. Chuck Hendrickson, Region VI EPA.

We hope that the enclosed report satisfactorily addresses any questions regarding our groundwater monitoring activities at the HELSTF. Should you have any further questions please contact Mr. Robert Peters (505) 678-1007.

Sincerely,

Thomas A. Ladd

Thomas A. Ladd
Director, Environment and Safety Directorate

Enclosure :
1 Hard copy with CD

United States Army White Sands Missile Range

Ground-Water Monitoring at the High Energy Laser Systems Test Facility, Cleaning Facility RCRA Monitoring Well Sampling

Analytical Results of
Samples Collected October 4 and 5, 2004

Prepared for

Commander
U.S. Army White Sands Missile Range

December 2004

CONTENTS

Page

Executive summary 1

Figure 1. Location of the High Energy Laser System Test Facility site and surrounding area, south-central New Mexico 3

Figure 2. Location of RCRA monitoring wells CFW1, CFW2, CFW3, and CFW4 at the HELSTF Cleaning Facility and background monitoring wells HMW31, and HMW15, U.S. Army White Sands Missile Range, New Mexico 4

Figure 3. Time-series plot of benzene concentrations, April 1994 to October 2004, for monitoring wells CFW1, CFW2, CFW3, CFW4, and background well HMW15 in the area of the HELSTF Cleaning Facility, U.S. Army White Sands Missile Range, New Mexico 5

Figure 4. Time-series plot of xylene concentrations, April 1994 to October 2004, for monitoring wells CFW1, CFW2, CFW3, CFW4, and background well HMW15 in the area of the HELSTF Cleaning Facility, U.S. Army White Sands Missile Range, New Mexico 6

Figure 5. Time-series plot of 2-methylnaphthalene concentrations, April 1994 to October 2004, for monitoring wells CFW1, CFW2, CFW3, CFW4, and background well HMW15 in the area of the HELSTF Cleaning Facility, U.S. Army White Sands Missile Range, New Mexico 7

Figure 6. Time-series plot of naphthalene concentrations, April 1994 to October 2004, for monitoring wells CFW1, CFW2, CFW3, CFW4, and background well HMW15 in the area of the HELSTF Cleaning Facility, U.S. Army White Sands Missile Range, New Mexico 8

Figure 7. Time-series plot of diesel range organics concentrations, April 1994 to October 2004, for monitoring wells CFW1, CFW2, CFW3, CFW4, and background well HMW15 in the area of the HELSTF Cleaning Facility, U.S. Army White Sands Missile Range, New Mexico 9

Figure 8. Time-series plot of total organic halogens concentrations, April 1994 to October 2004, for monitoring wells CFW1, CFW2, CFW3, CFW4, and background well HMW15 in the area of the HELSTF Cleaning Facility, U.S. Army White Sands Missile Range, New Mexico 10

Figure 9. Time-series plot of nitrate (as N) concentrations, April 1994 to October 2004, for monitoring wells CFW1, CFW2, CFW3, CFW4, and background well HMW15 in the area of the HELSTF Cleaning Facility, U.S. Army White Sands Missile Range, New Mexico 11

CONTENTS—CONTINUED.

Page

Table 1. Summary of concentrations of analytes detected in ground water from monitoring wells CFW1, CFW2, CFW3, CFW4 and HMW15 for samples collected October 4 and 5, 2004, at the HELSTF Cleaning Facility, White Sands Missile Range, New Mexico 12

Monitoring well identification reports 14

Monitoring well quarterly sampling reports 19

APPENDIX I

Analytical Results from Severn Trent Environmental Services Laboratory for Ground-Water Samples Collected October 4 and 5, 2004

Severn Trent No. D4J050210 ..... I-2

Volatiles I-15

Semivolatiles I-39

Extractable petroleum products (DRO) I-61

Total metals I-67

General chemistry I-73

APPENDIX II

Laboratory Quality Assurance / Quality Control Results

Laboratory data validation checklist II-2

Table II-1. Data validation worksheet table for ground water samples collected October 4 and 5, 2004, sampling round at HELSTF - validation parameters, analytes, and methods II-5

Contract Laboratory Data-Review Worksheet II-11

CONTENTS—CONCLUDED.

Page

Severn Trent No. D4J050210 quality control summary II-15

U.S. Geological Survey, Water Resources Division, New Mexico District
analytical request / chain of custody II-80

Severn Trent sample receiving checklists II-90

APPENDIX III

Sample Container and Preservation Requirements

Field Data

Sample container and preservation requirements III-2

Field notes III-3

EXECUTIVE SUMMARY

The U.S. Geological Survey (USGS), Water Resources Division, has entered into an agreement with the U.S. Army to perform ground-water-quality monitoring at the High Energy Laser Systems Test Facility (HELSTF) Cleaning Facility at White Sands Missile Range (WSMR), New Mexico (fig. 1). The primary objective of the agreement is to monitor the concentrations of hazardous materials in ground water at the HELSTF Cleaning Facility as required by the Resource Conservation and Recovery Act (RCRA). The ground-water monitoring requirements for the HELSTF Cleaning Facility are part of the approved Closure Plan Modification (December 12, 1992), which is a modification to the HELSTF Treatment Tank System Closure Plan. The hydrogeologic investigation, well installation, and monitoring program were originally proposed in the HELSTF Treatment Tank System Closure Plan. The hydrogeologic investigation and well installation were conducted by a contractor for the U.S. Army as part of the Closure Plan Modification.

Four RCRA monitoring wells (CFW1, CFW2, CFW3, and CFW4) installed by the contractor at the Cleaning Facility (fig. 2) have been sampled by the USGS since April 1994. Ground-water samples were collected quarterly until 2004 when the sampling frequency was reduced to semiannual. A background well (HMW31) was added to the monitoring network in March 1995 and was sampled quarterly through July 2003. A second background well, HMW15, located at the northwest corner of HELSTF (fig. 2), was added to the network in July 2003 and replaced background well HMW31 in October 2003 because it is a better indicator of background conditions at the Cleaning Facility. The four RCRA monitoring wells and background well HMW15 have been sampled semiannually since April 2004.

Monitoring wells were sampled on October 4 and 5, 2004. Ground-water samples were analyzed for the following: VOC (method SW8260B); semivolatile organic compounds (SVOC) (method SW8270C); extractable petroleum hydrocarbons in the form of diesel range organics (DRO) (method SW8015-modified); total organic carbon (TOC) (method SW9060); total organic halogens (TOX) (method SW9020B); cyanide (method SW9012A); total trace elements (barium, beryllium, and cobalt by method SW6010B; arsenic, cadmium, chromium, lead, and selenium by method SW6020); major ions (calcium, magnesium, potassium, and sodium by method SW6010B; chloride, fluoride, nitrate, orthophosphate, and sulfate by method MCAWW300.0A; and ammonia by method MCAWW350.1); total sulfide (method MCAWW376.2); alkalinity (method MCAWW310.1); and total dissolved solids (TDS) (method MCAWW160.1). Severn Trent Environmental Services Laboratories in Arvada, Colorado, conducted all analyses. The hard copy of this report has been modified to exclude laboratory information, including analytical results and quality assurance / control results. This information is now included only in the digital report.

Concentrations of the analytes detected in ground-water samples are presented in table 1. Concentrations that are equal to or greater than the reporting limits are discussed in this summary. Concentrations that are smaller than the reporting limits are estimates and are flagged "J" in table 1. Time-series plots of selected constituents (benzene, xylenes, 2-methylnapthalene, naphthalene, DRO, TOX, and nitrate) (figs. 3-9) show the historical and present constituent concentrations in water from the monitoring wells.

Concentrations of fuel-derived VOC (benzene and xylenes) have decreased substantially in water from wells at the Cleaning Facility since monitoring began (figs. 3 and 4). Xylenes have not been detected above the reporting limit since October 2000 and benzene concentrations have generally stabilized at or below the reporting limit.

In April 2004, small concentrations of various halogenated VOC were detected in water samples from CFW1, CFW2, CFW3, and background well HMW15 (table 1). Chloroform was detected in CFW2 (1.4

micrograms per liter (μg/L) in the environmental sample and 1.7 μg/L in the duplicate) and HMW15 (4.2 μg/L). Concentrations of chloroform in these wells were the same concentrations as the samples collected in April 2004 and similar to sample concentrations collected in October 2003. The compound 1,1-Dichloroethane was present in water from wells CFW1 (3.9 μg/L), CFW2 (1.7 μg/L in the environmental sample and 1.9 μg/L in the duplicate), and CFW3 (5.3 μg/L). Small concentrations of benzene and ethylbenzene were detected in CFW3 at concentrations of 1.6 μg/L and 1.7 μg/L, respectively.

Concentrations of fuel-derived SVOC (figs. 5 through 7) were above the reporting limit in samples from CFW3 and CFW4 in October 2004. Well CFW4 contained DRO and 2-methylnaphthalene at concentrations of 0.45 milligrams per liter (mg/L) and 16 mg/L, respectively. The concentration of 2-methylnaphthalene in CFW4 approximately doubled between April 2004 and October 2004. Well CFW3 had large concentrations of 2-methylnaphthalene (2,100 μg/L, an increase from the April 2004 concentration of 12 μg/L) and DRO (10,000 mg/L, an increase from the April 2004 concentration of 450 mg/L). Concentrations of fluorine and phenanthrene were also detected in CFW3 at 680 μg/L and 710 μg/L, respectively, in October 2004, although concentration levels of these compounds were not detected above the reporting limits during the April 2004 sampling round. Monitoring well CFW3 also continued to exhibit a light, nonaqueous-phase liquid (LNAPL). This well contained 3.71 feet of LNAPL on October 5, 2004, a decrease of 0.32 ft from April 5, 2004, which is likely responsible for large concentrations of fuel related compounds in CFW3. Concentration spikes of fuel-derived SVOC (figs. 5-7) are most likely a result of LNAPL in CFW3 mixing with ground water during purging and sampling. Although procedures for purging and sampling CFW3 were altered in April 2000 to reduce the potential for mixing, ground water samples may have been mixed with LNAPL during sampling in October 2004.

TOC was present in water from all wells at concentrations ranging from 1.5 mg/L (HMW15) to 33 mg/L (CFW3). Total organic halogen concentrations were not detected above the reporting limit for all wells in October 2004. Since April 1999, concentrations of TOX have typically been estimates or non-detects because of elevated reporting limits. The elevated reporting limits for TOX are caused by large inorganic chloride concentrations in the samples.

Barium was present in water from all wells at concentrations ranging from 13 μg/L (CFW4 and HMW15) to 38 μg/L (CFW3). Chromium was present in wells CFW3 and CFW4 at concentrations of 11 μg/L and 20 μg/L, respectively. Selenium was present in wells CFW1, CFW2, CFW4 and HMW15 at concentrations ranging from 36 μg/L (CFW1) to 100 μg/L (HMW15).

Nitrate was present in water from all wells except CFW3 at concentrations ranging from 20 mg/L (CFW1) to 67 mg/L (HMW15). Nitrate concentrations have generally decreased in water from CFW4 since 1994, and in water from wells CFW2 and CFW3 since 1998 (fig. 9). Nitrate concentrations in samples from all wells except HMW15 generally decreased since October 2003. Nitrate in water from well CFW3 increased between April 2002 and July 2002 but has since decreased and has remained below its reporting limit since January 2003. There is no obvious trend for nitrate concentration in samples from CFW1 (fig. 9). Orthophosphate was present only in CFW3 in October 2004 at a concentration of 7.8 mg/L.

The major dissolved cation in water samples from the wells is sodium and the major dissolved anion is sulfate. In October 2004, sodium concentrations ranged from 1,700 mg/L (CFW3) to 2,700 mg/L (HMW15). Sulfate concentrations ranged from 3,400 mg/L (CFW3) to 6,200 mg/L (HMW15).

Ground water from all wells is brackish. TDS ranged from 8,100 mg/L (CFW3) to 14,000 mg/L (HMW15). Total sulfide concentration was only present in water from CFW3 (20 mg/L). Total alkalinity concentrations ranged from 110 mg/L (HMW15) to 1,400 mg/L (CFW3).

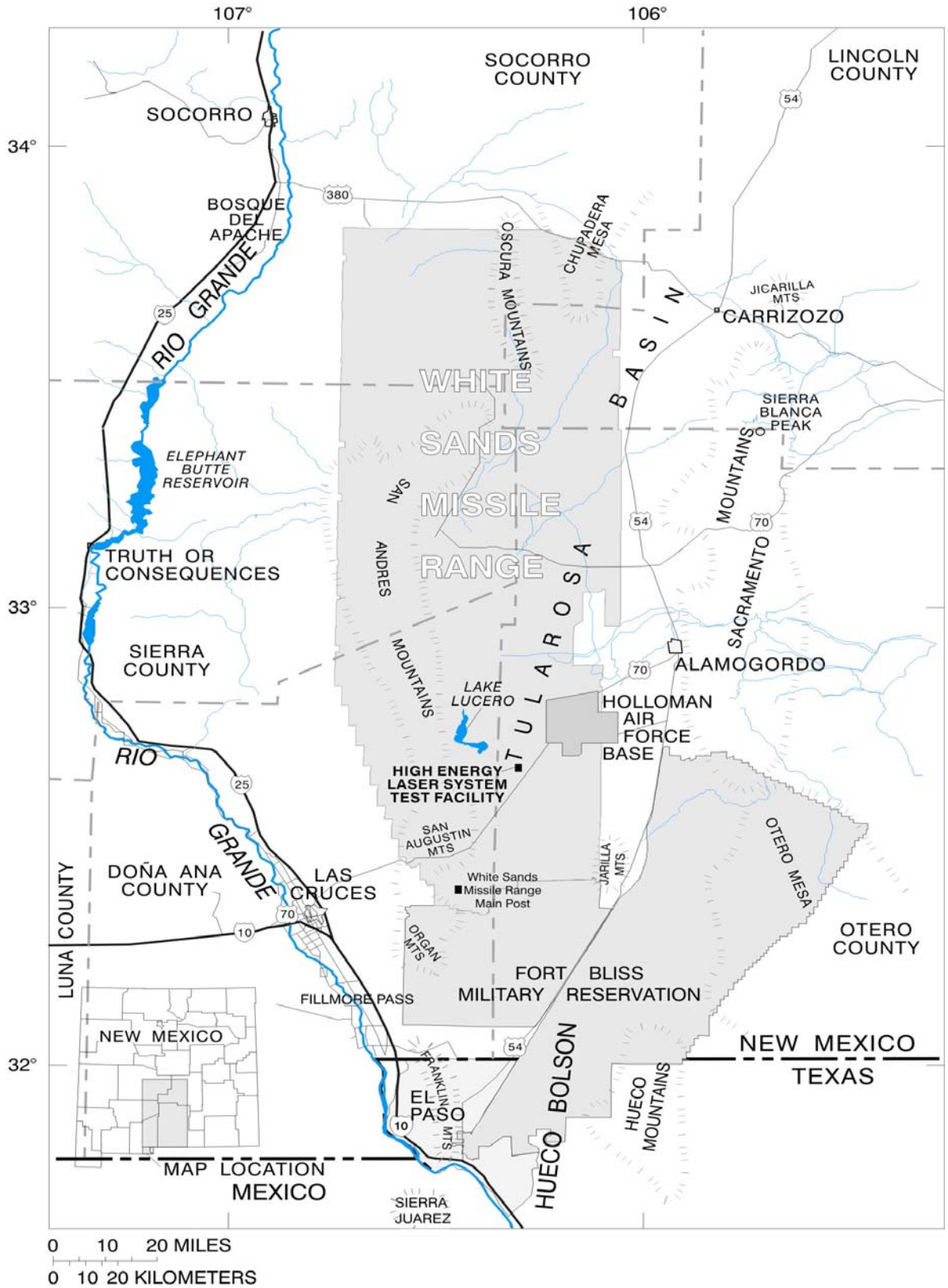


Figure 1. Location of the High Energy Laser System Test Facility site and surrounding area, south-central New Mexico.

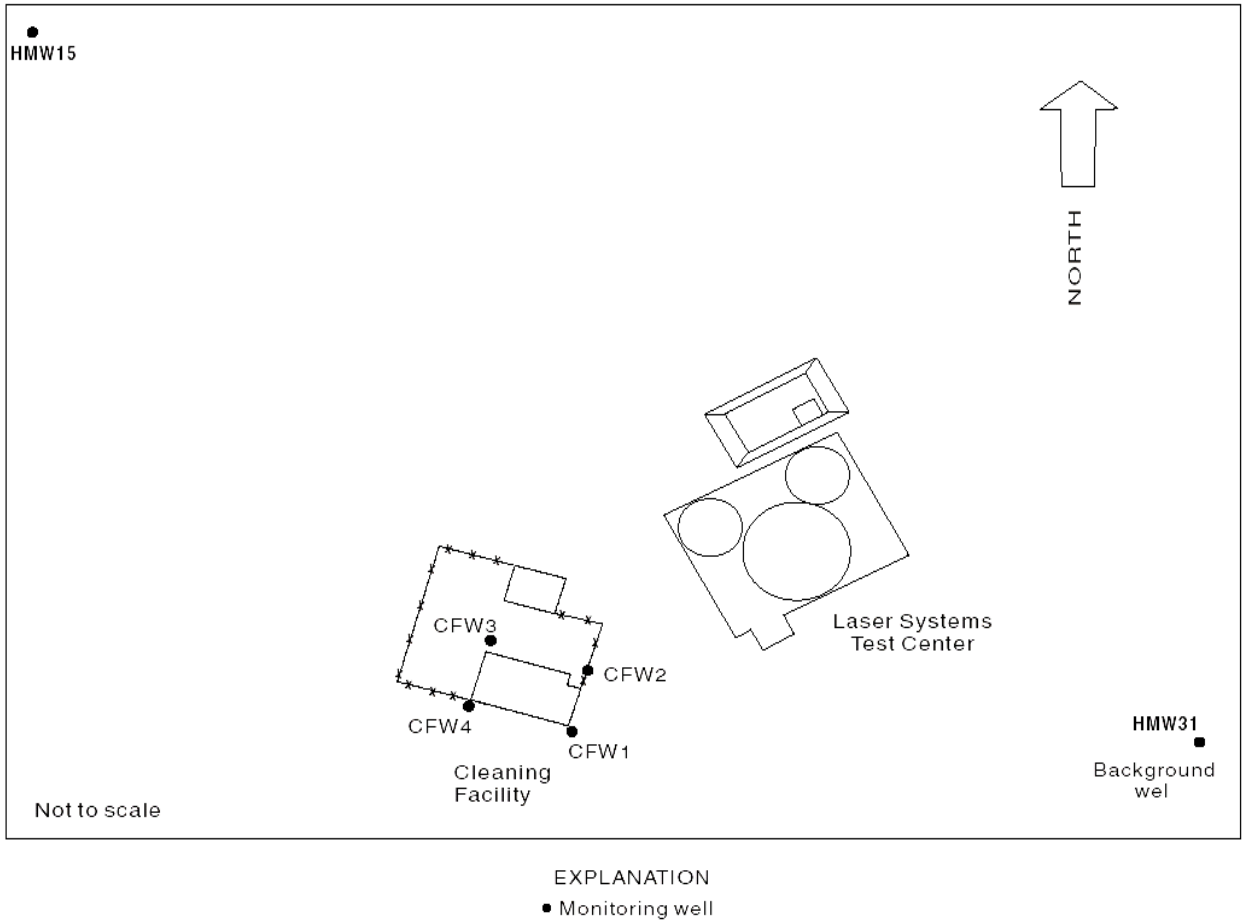


Figure 2. Location of RCRA monitoring wells CFW1, CFW2, CFW3, CFW4 at the HELSTF Cleaning Facility and background monitoring well HMW15, White Sands Missile Range, New Mexico. HMW31 represents background conditions from March 1995 to July 2003 while HMW15 indicates background conditions from July 2003 to present (modified from Advanced Sciences, 1993)

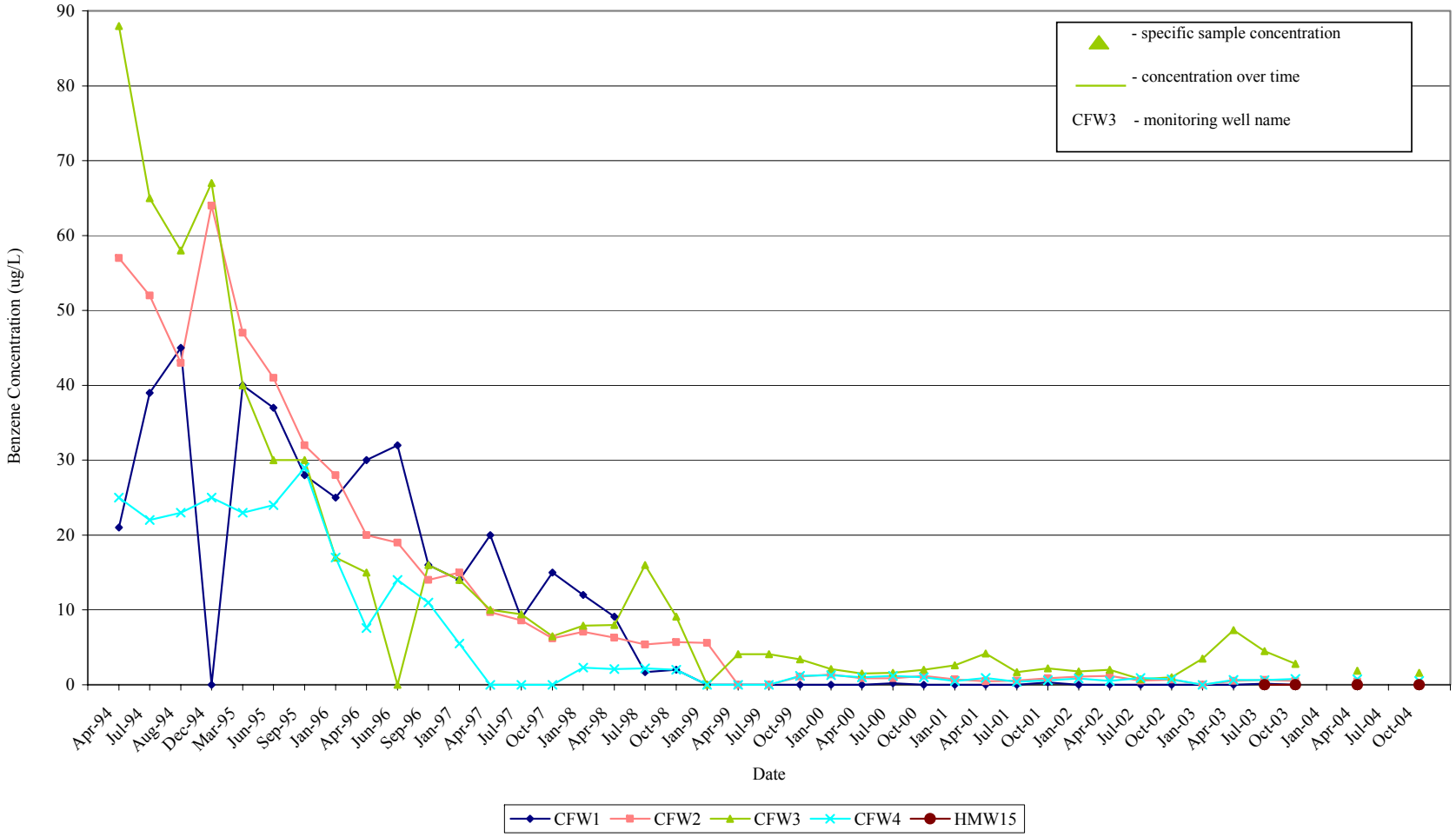
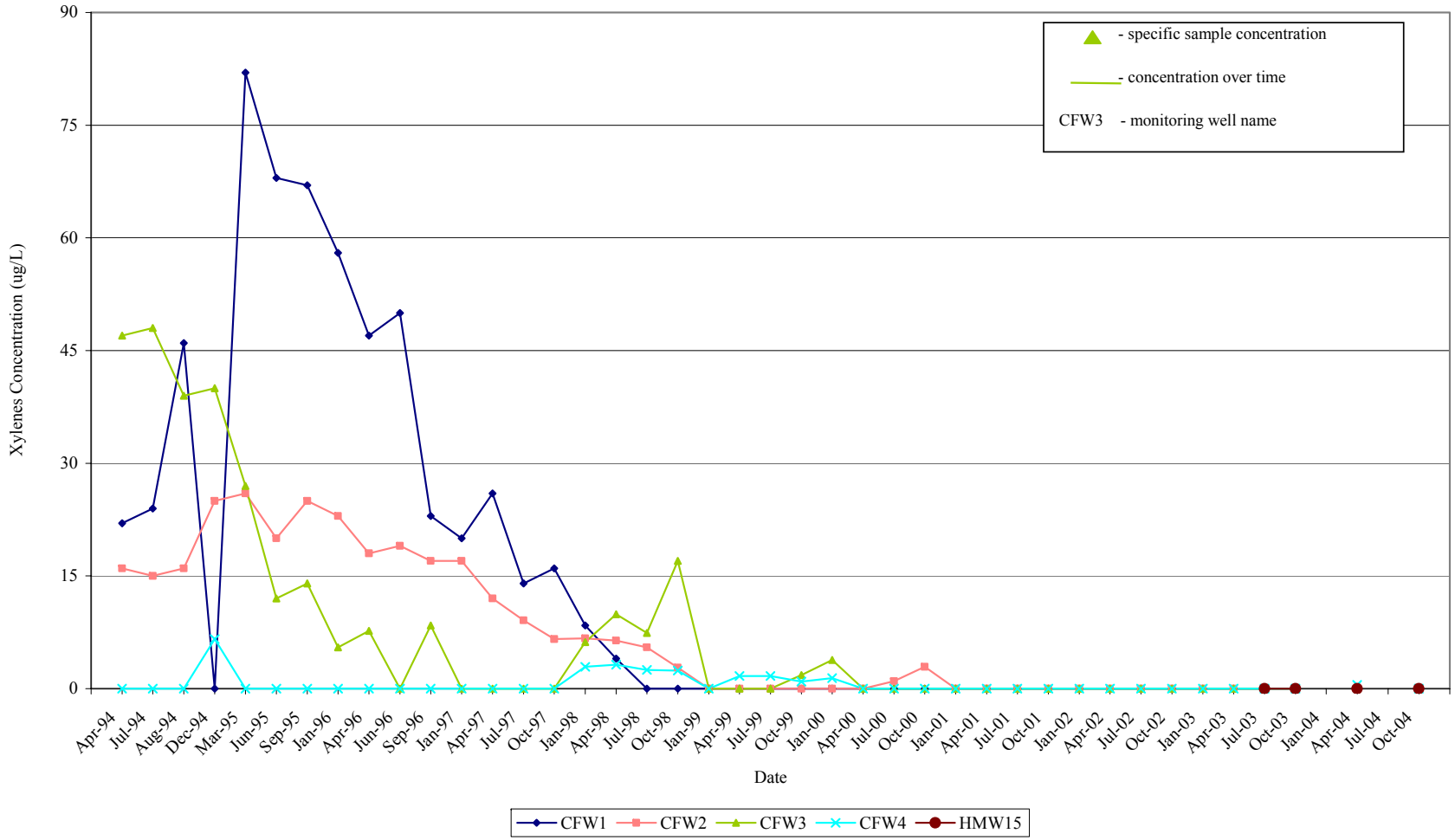


Figure 3. Time-series plot of benzene concentrations, April 1994 to October 2004, for monitoring wells CFW1, CFW2, CFW3, CFW4, and background well HMW15 in the area of the HELSTF Cleaning Facility, U.S. Army White Sands Missile Range, New Mexico.



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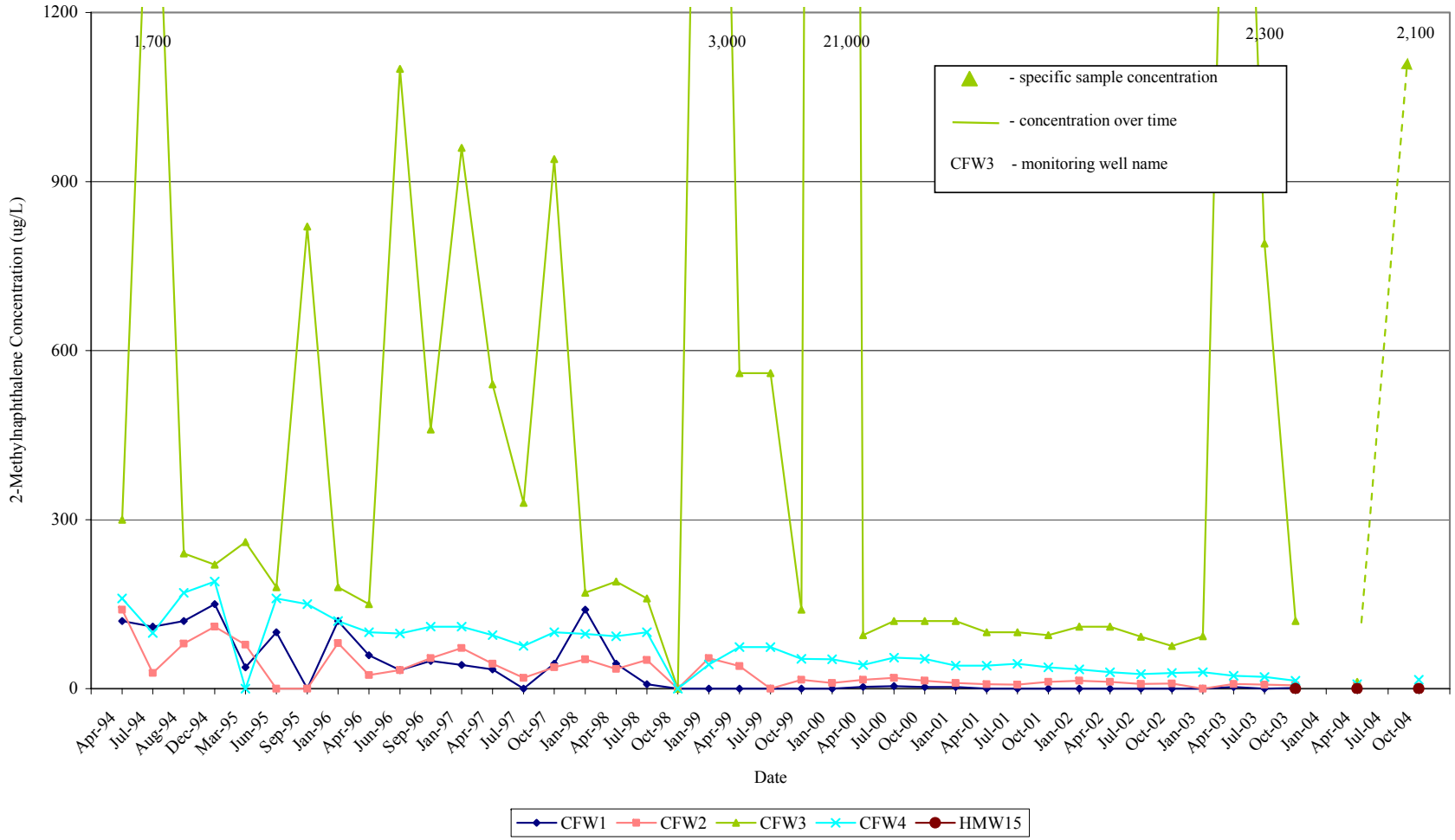

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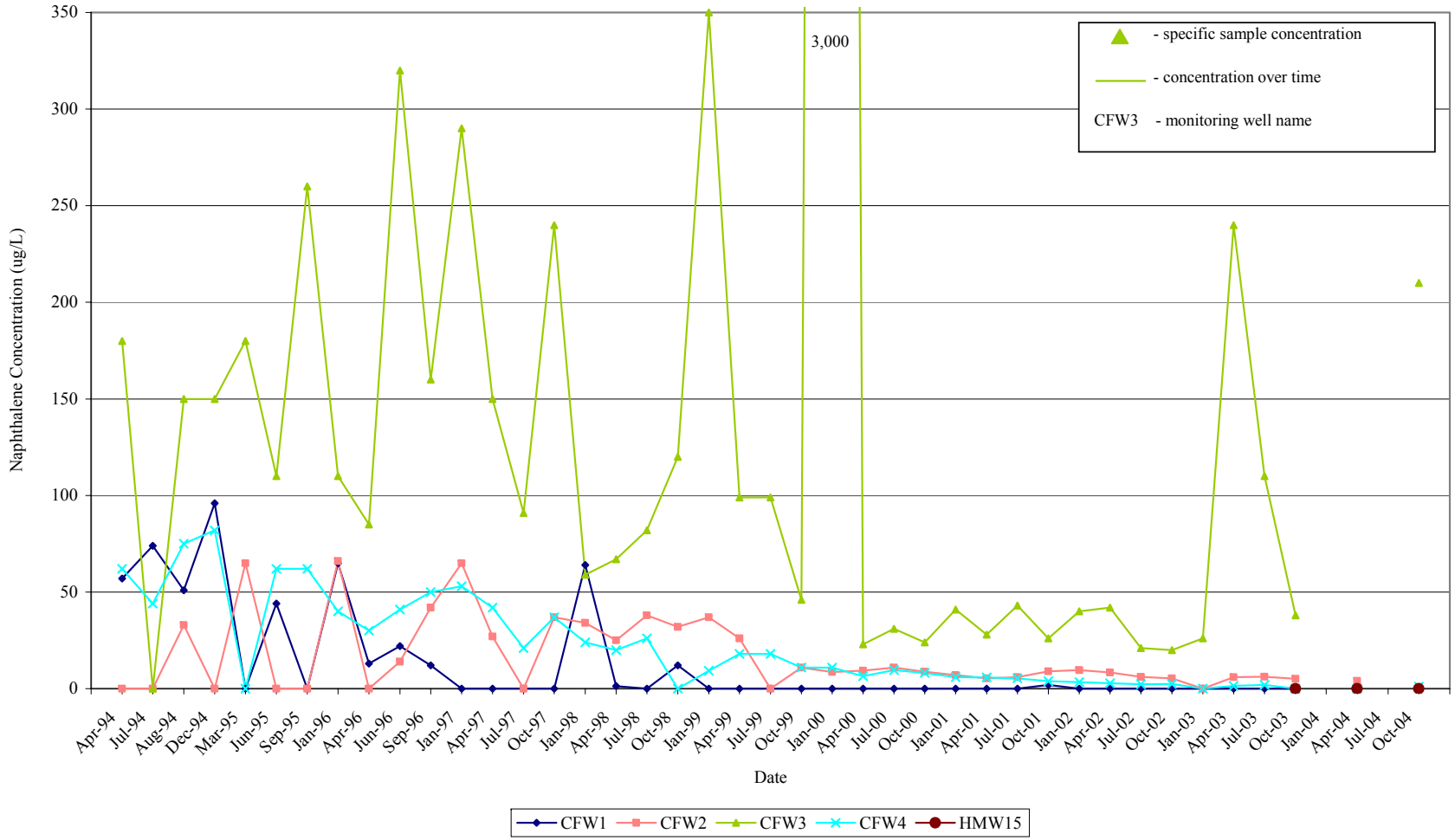
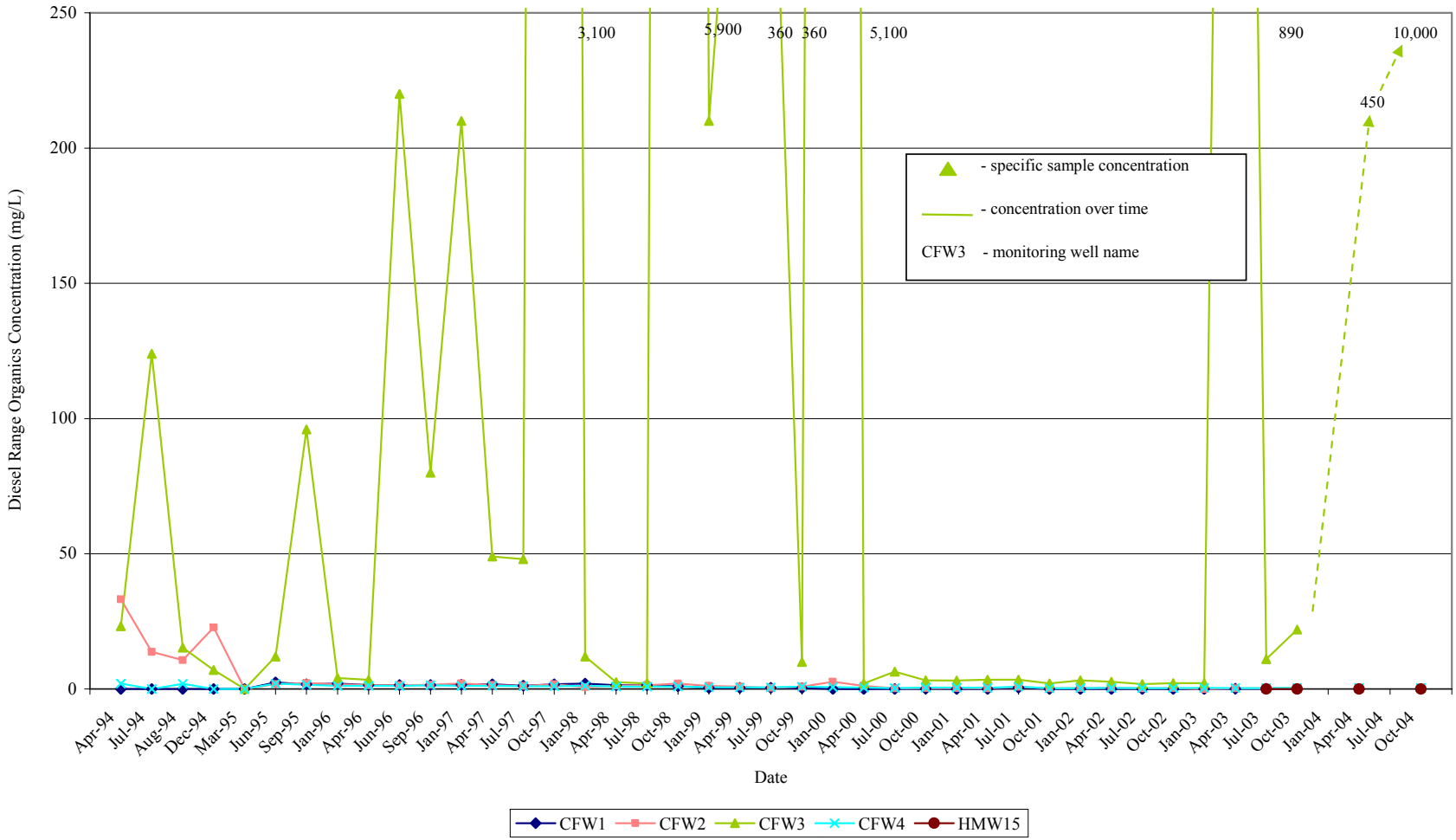


Figure 6. Time-series plot of naphthalene concentrations, April 1994 to October 2004, for monitoring wells CFW1, CFW2, CFW3, CFW4, and background well HMW15 in the area of the HELSTF Cleaning Facility, U.S. Army White Sands Missile Range, New Mexico.



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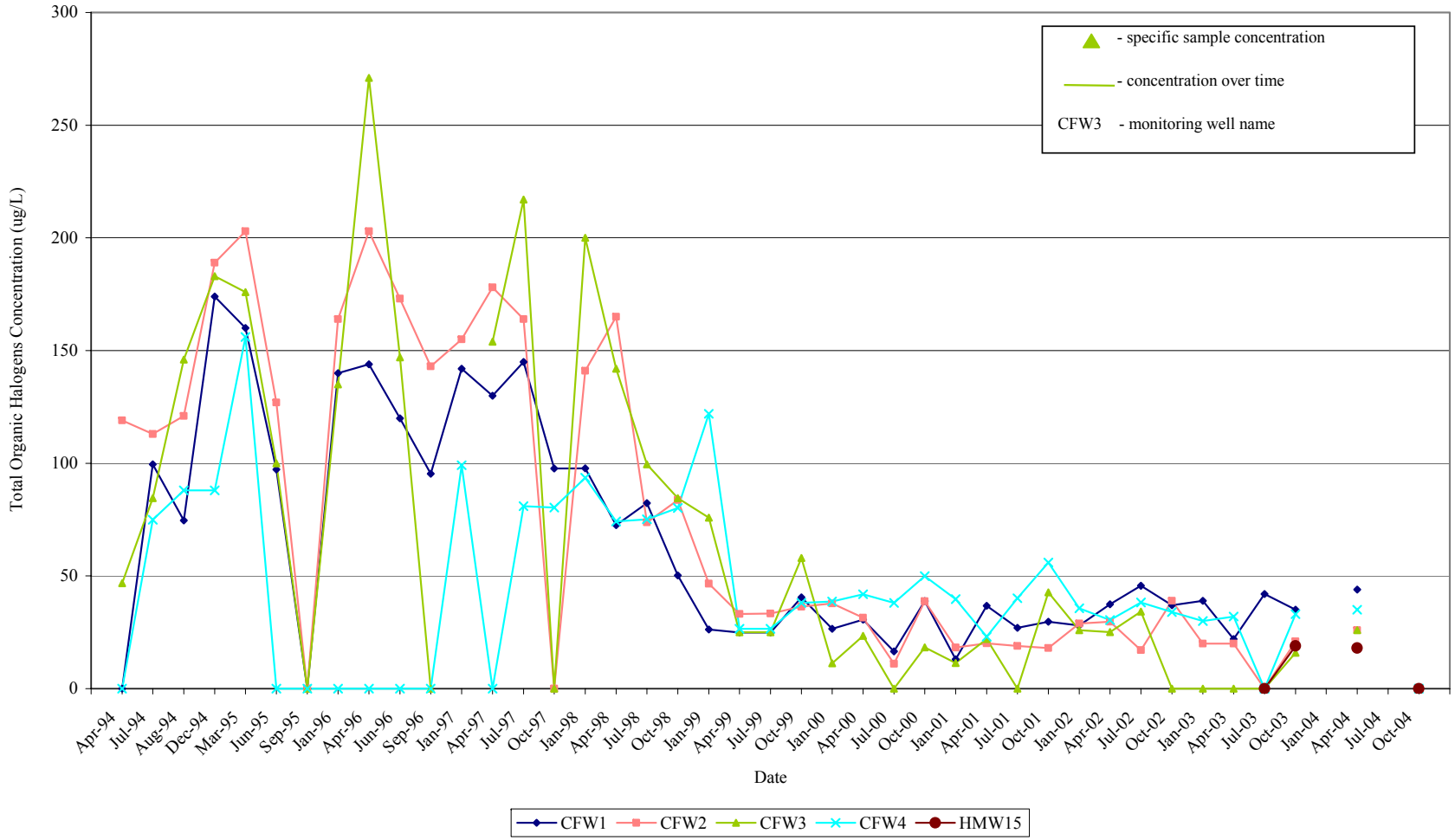

Figure 8. Time-series plot of total organic halogens concentrations, April 1994 to October 2004, for monitoring wells CFW1, CFW2, CFW3, CFW4, and background well HMW15 in the area of the HELSTF Cleaning Facility, U.S. Army White Sands Missile Range, New Mexico.

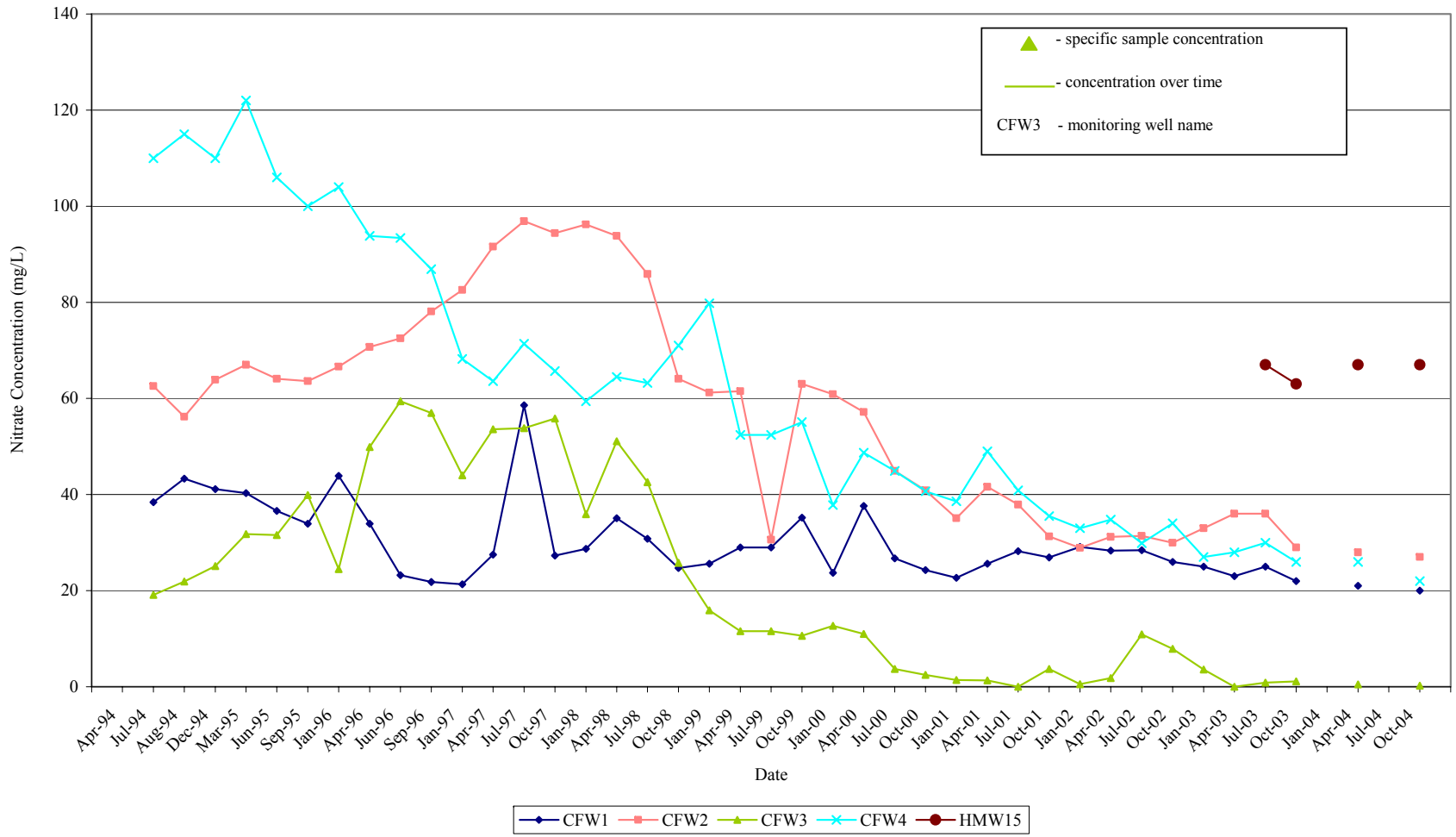

Figure 9. Time-series plot of nitrate (as N) concentrations, April 1994 to October 2004, for monitoring wells CFW1, CFW2, CFW3, CFW4, and background well HMW15 in the area of the HELSTF Cleaning Facility, U.S. Army White Sands Missile Range, New Mexico.

Table 1. Summary of concentrations of analytes detected in ground water from monitoring wells CFW1, CFW2, CFW3, CFW4, and HMW15 for samples collected October 4 and 5, 2004, at the HELSTF Cleaning Facility, White Sands Missile Range, New Mexico.

[**RL**, reporting limit; **µg/L**, micrograms per liter; **ND**, not detected; **J**, analyte was detected below the reporting limit and the value is an estimated concentration; **B**, method blank contamination; **mg/L**, milligrams per liter; **NR**, analysis not requested; **G**, elevated reporting limit due to matrix interference; **IC**, diluted due to high inorganic chloride]

Sample ID:	CFW1		CFW2		Duplicate CFW2-1		CFW3		CFW4		Trip Blank CFW4-TB		HMW15		Trip Blank HMW15-TB	
Sample date & time:	10/5/04	1105	10/5/04	1245	10/5/04	1250	10/5/04	1405	10/5/04	945	10/5/04	900	10/4/04	1450	10/4/04	1455
Analytes and method:	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Volatile Organics SW8260B (µg/L)																
Acetone	ND	10	ND	10	ND	10	6.2 J	10	ND	10	ND	10	ND	10	ND	10
Benzene	ND	1	ND	1	ND	1	1.6	1	0.55 J	1	ND	1	ND	1	ND	1
Carbon disulfide	ND	1	ND	1	ND	1	0.36 J	1	ND	1	ND	1	ND	1	ND	1
Chloroform	0.77 J	1	1.4	1	1.7	1	ND	1	0.43 J	1	ND	1	4.2	1	ND	1
1,1-Dichloroethane	3.9	1	1.7	1	1.9	1	5.3	1	0.34 J	1	ND	1	ND	1	ND	1
Ethylbenzene	ND	1	ND	1	ND	1	1.7	1	ND	1	ND	1	ND	1	ND	1
Methylene chloride	0.29 J, B	5	ND	5	ND	5	ND	5	ND	5	0.49 J, B	5	ND	5	ND	5
1, 1, 1-Trichloroethane	ND	1	ND	1	ND	1	0.62 J	1	ND	1	ND	1	ND	1	ND	1
Trichloroethene	0.17 J	1	0.32 J	1	0.37 J	1	ND	1	0.2 J	1	ND	1	ND	1	ND	1
Semivolatile Organics SW8270C (µg/L)																
Acenaphthene	ND	10	ND	10	ND	10	ND	400	1.4 J	10	NR		ND	10	NR	
Carbazole	ND	10	ND	10	ND	10	ND	400	0.99 J	10	NR		ND	10	NR	
Dibenzofuran	ND	10	ND	10	ND	10	ND	400	4.7 J	10	NR		ND	10	NR	
Fluorene	ND	10	ND	10	ND	10	680	400	ND	10	NR		ND	10	NR	
2-Methylnaphthalene	ND	10	1.7 J	10	1.5 J	10	2100	400	16	10	NR		ND	10	NR	
Naphthalene	ND	10	ND	10	ND	10	210 J	400	1.1 J	10	NR		ND	10	NR	
Phenanthrene	ND	10	ND	10	ND	10	710	400	3.2 J	10	NR		ND	10	NR	
Pyrene	ND	10	ND	10	ND	10	80 J	400	ND	10	NR		ND	10	NR	
Diesel Range Organics (DRO) SW8015-modified (mg/L)	ND	0.25	0.21 J	0.25	0.22 J	0.25	10,000	25	0.45	0.25	NR		ND	0.25	NR	
Total Organic Carbon (TOC) SW9060 (mg/L)	4.7	1	3.4	1	3	1	33 G	20	4	1	NR		1.5	1	NR	
Total Organic Halogen (TOX) SW9020B (µg/L)	ND IC	40	ND IC	40	ND IC	40	ND IC	40	ND IC	40	NR		ND IC	40	NR	

Table 1. Summary of concentrations of analytes detected in ground water from monitoring wells CFW1, CFW2, CFW3, CFW4, and HMW15 for samples collected October 4 and 5, 2004, at the HELSTF Cleaning Facility, White Sands Missile Range, New Mexico – Concluded

[**RL**, reporting limit; **µg/L**, micrograms per liter; **J**, analyte was detected below the reporting limit and the value is an estimated concentration; **ND**, not detected; **B**, method blank contamination; **mg/L**, milligrams per liter; **Q**, reporting limit is elevated due to large analyte concentrations; **G**, reporting limit elevated due to matrix interference]

Sample ID:	CFW1		CFW2		Duplicate CFW2-1		CFW3		CFW4		HMW15	
Sample date & time:	10/5/04	1105	10/5/04	1245	10/5/04	1250	10/5/04	1405	10/5/04	945	10/4/04	1450
Analytes and Method:	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Trace Elements, Total (µg/L)												
Arsenic SW6020	9.8 J	25	16 J	25	15 J	25	3.2 J	25	12 J	25	11 J	25
Barium SW6010B	14	10	14	10	14	10	38	10	13	10	13	10
Beryllium	1 J	6	ND	6	1.2 J	6	1.2 J	6	1 J	6	ND	6
Cadmium SW6020	0.58 J	5	0.29 J	5	0.56 J	5	ND	5	0.57 J	5	0.32 J	5
Chromium SW6020	7.7 J, B	10	8.7 J, B	10	9.6 J, B	10	11 B	10	20 B	10	3.9 J, B	10
Lead SW6020	0.59 J	5	ND	5	ND	5	2 J	5	ND	5	ND	5
Selenium SW6020	36	25	47	25	43	25	3 J	25	48	25	100	25
Nutrients (mg/L)												
Ammonia as (N) MCAWW350.1	ND	0.1	0.026 J	0.1	ND	0.1	0.045 J	0.1	ND	0.1	ND	0.1
Nitrate as (N) MCAWW300.0A	20 Q	2.5	27 Q	2.5	27 Q	2.5	0.25 J, G	2.5	22 Q	2.5	67 Q	10
Orthophosphate as (P) MCAWW300.0A	ND G	2.5	ND G	2.5	ND G	2.5	7.8 G	2.5	ND G	2.5	ND G	2.5
Major Ions (mg/L)												
Calcium SW6010B	320	0.6	210	0.6	200	0.6	380	0.6	330	0.6	450	0.6
Chloride MCAWW300.0A	730 B, Q	150	730 B, Q	150	680 B, Q	150	720 B, Q	150	690 B, Q	150	2,100 Q	300
Fluoride MCAWW300.0A	3.3 J, G	5	4.3 J, G	5	4.4 J, G	5	2.7 J, G	5	3.7 J, G	5	ND G	5
Magnesium SW6010B	410	0.2	400	0.2	380	0.2	370	0.2	460	0.2	740	0.2
Potassium SW6010B	72	3	70	3	70	3	65	3	89	3	71	3
Sodium SW6010B	1,900	5	2,000	5	2,000	5	1,700	5	2,300	5	2,700	5
Sulfate MCAWW300.0A	4,400 Q	1,000	4,500 Q	1,000	4,400 Q	1,000	3,400 Q	500	5,600 Q	1,000	6,200 Q	2,500
Total Dissolved Solids MCAWW160.1 (mg/L)	8,500 Q	100	8,500 Q	100	8,500 Q	100	8,100 Q	100	10,000 Q	100	14,000 Q	100
Total Sulfide MCAWW376.2 (mg/L)	ND	0.05	ND	0.05	ND	0.05	20 Q	1	ND	0.05	ND	0.05
Alkalinity MCAWW310.1 (mg/L)	430	5	220	5	220	5	1,400	5	280	5	110	5

MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT
HAZARDOUS AND RADIOACTIVE MATERIALS BUREAU
525 CAMINO DE LOS MARQUEZ, SUITE 4
SANTA FE, NEW MEXICO 87502

FACILITY NAME	High Energy Laser System Test Facility, Cleaning Facility
EPA I.D. NUMBER	NM275021135
COUNTY	Otero
WELL NUMBER	CFW1
WELL LOCATION (LONGITUDE)	106 ° 19 ' 52.11 "
WELL LOCATION (LATITUDE)	32 ° 37 ' 59.07 "
AQUIFER NAME	Alluvium (110AVMB)
AQUIFER CONFINED	_____ UNCONFINED X
WELL INSTALLATION DATE	5 / 4 / 93
DRILLING METHOD	HLWAG - Hollow Stem Auger
INNER CASING DIAMETER	4 INCHES
BOREHOLE DIAMETER	10.75 INCHES
CASING MATERIAL	PVC (Schedule 40)
METHOD OF DEVELOPMENT	Unknown
ELEV BOTTOM OF BOREHOLE	3,890.10 FEET ABOVE MSL
ELEV BOTTOM OF WELL CASING	3,895.10 FEET ABOVE MSL
ELEV BOTTOM OF SCREENED INT	3,900.10 FEET ABOVE MSL
ELEV OF TOP OF SCREENED INT	3,920.10 FEET ABOVE MSL
SURVEYED ELEV OF CASING TOP	3,957.34 FEET ABOVE MSL

Date of Report: 03/26/98 Signature: Jeff Langman

MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT
HAZARDOUS AND RADIOACTIVE MATERIALS BUREAU
525 CAMINO DE LOS MARQUEZ, SUITE 4
SANTA FE, NEW MEXICO 87502

FACILITY NAME	High Energy Laser System Test Facility, Cleaning Facility
EPA I.D. NUMBER	NM275021135
COUNTY	Otero
WELL NUMBER	CFW2 (HCF-9)
WELL LOCATION (LONGITUDE)	106 ° 19 ' 52.15 "
WELL LOCATION (LATITUDE)	32 ° 37 ' 59.51 "
AQUIFER NAME	Alluvium (110AVMB)
AQUIFER CONFINED	_____ UNCONFINED X
WELL INSTALLATION DATE	5 / 21 / 93
DRILLING METHOD	HLWAG - Hollow Stem Auger
INNER CASING DIAMETER	4 INCHES
BOREHOLE DIAMETER	~ 11.5 INCHES
CASING MATERIAL	PVC (Schedule 40)
METHOD OF DEVELOPMENT	Unknown
ELEV BOTTOM OF BOREHOLE	3,895.01 FEET ABOVE MSL
ELEV BOTTOM OF WELL CASING	3,895.51 FEET ABOVE MSL
ELEV BOTTOM OF SCREENED INT	3,900.51 FEET ABOVE MSL
ELEV OF TOP OF SCREENED INT	3,920.51 FEET ABOVE MSL
SURVEYED ELEV OF CASING TOP	3,957.47 FEET ABOVE MSL

Date of Report: 03/26/98 Signature: Jeff Langman

MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT
HAZARDOUS AND RADIOACTIVE MATERIALS BUREAU
525 CAMINO DE LOS MARQUEZ, SUITE 4
SANTA FE, NEW MEXICO 87502

FACILITY NAME	High Energy Laser System Test Facility, Cleaning Facility
EPA I.D. NUMBER	NM275021135
COUNTY	Otero
WELL NUMBER	CFW3 (HCF-8)
WELL LOCATION (LONGITUDE)	106 ° 19 ' 53.45 "
WELL LOCATION (LATITUDE)	32 ° 37 ' 59.59 "
AQUIFER NAME	Alluvium (110AVMB)
AQUIFER CONFINED	_____ UNCONFINED X
WELL INSTALLATION DATE	5 / 19 / 93
DRILLING METHOD	HLWAG - Hollow Stem Auger
INNER CASING DIAMETER	4 INCHES
BOREHOLE DIAMETER	~ 11.5 INCHES
CASING MATERIAL	PVC (Schedule 40)
METHOD OF DEVELOPMENT	Unknown
ELEV BOTTOM OF BOREHOLE	3,892.63 FEET ABOVE MSL
ELEV BOTTOM OF WELL CASING	3,903.63 FEET ABOVE MSL
ELEV BOTTOM OF SCREENED INT	3,908.63 FEET ABOVE MSL
ELEV OF TOP OF SCREENED INT	3,918.63 FEET ABOVE MSL
SURVEYED ELEV OF CASING TOP	3,955.63 FEET ABOVE MSL

Date of Report: 03/26/98 Signature: Jeff Langman

MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT
HAZARDOUS AND RADIOACTIVE MATERIALS BUREAU
525 CAMINO DE LOS MARQUEZ, SUITE 4
SANTA FE, NEW MEXICO 87502

FACILITY NAME	High Energy Laser System Test Facility, Cleaning Facility
EPA I.D. NUMBER	NM275021135
COUNTY	Otero
WELL NUMBER	CFW4
WELL LOCATION (LONGITUDE)	106 ° 19 ' 53.51 "
WELL LOCATION (LATITUDE)	32 ° 37 ' 58.92 "
AQUIFER NAME	Alluvium (110AVMB)
AQUIFER CONFINED	_____ UNCONFINED X
WELL INSTALLATION DATE	4 / 30 / 93
DRILLING METHOD	HLWAG - Hollow Stem Auger
INNER CASING DIAMETER	4 INCHES
BOREHOLE DIAMETER	10.75 INCHES
CASING MATERIAL	PVC (Schedule 40)
METHOD OF DEVELOPMENT	Unknown
ELEV BOTTOM OF BOREHOLE	3,885.43 FEET ABOVE MSL
ELEV BOTTOM OF WELL CASING	3,895.43 FEET ABOVE MSL
ELEV BOTTOM OF SCREENED INT	3,900.43 FEET ABOVE MSL
ELEV OF TOP OF SCREENED INT	3,920.43 FEET ABOVE MSL
SURVEYED ELEV OF CASING TOP	3,958.11 FEET ABOVE MSL

Date of Report: 03/26/98 Signature: Jeff Langman

MONITORING WELL IDENTIFICATION REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT
HAZARDOUS AND RADIOACTIVE MATERIALS BUREAU
525 CAMINO DE LOS MARQUEZ, SUITE 4
SANTA FE, NEW MEXICO 87502

FACILITY NAME	High Energy Laser System Test Facility, Cleaning Facility
EPA I.D. NUMBER	NM275021135
COUNTY	Otero
WELL NUMBER	HMW15
WELL LOCATION (LONGITUDE)	106 ° 20 ' 07.09 "
WELL LOCATION (LATITUDE)	32 ° 37 ' 52.04 "
AQUIFER NAME	unknown
AQUIFER CONFINED	X UNCONFINED
WELL INSTALLATION DATE	unknown
DRILLING METHOD	unknown
INNER CASING DIAMETER	2 INCHES
BOREHOLE DIAMETER	unknown
CASING MATERIAL	PVC (Schedule 40)
METHOD OF DEVELOPMENT	Unknown
ELEV BOTTOM OF BOREHOLE	3,893.39 FEET ABOVE MSL
ELEV BOTTOM OF WELL CASING	3,941.39 FEET ABOVE MSL
ELEV BOTTOM OF SCREENED INT	3,898.39 FEET ABOVE MSL
ELEV OF TOP OF SCREENED INT	3,913.39 FEET ABOVE MSL
SURVEYED ELEV OF CASING TOP	3,958.30 FEET ABOVE MSL

Date of Report: 08/13/03 Signature: Sara Caldwell

MONITORING WELL

QUARTERLY SAMPLING REPORT

SAMPLE COLLECTED BY: Ralph Wilcox

LABORATORY NAME: Severn Trent Services WELL NUMBER: CFW1

WELL DEPTH: 62.24 feet WELL CASING VOLUME (given ground-water elev.): 10.58 gallons

DATE SAMPLED: 10/05/04 LABORATORY SAMPLE ID#: D4J050210-6

TIME SAMPLED: 1105 DATE RECEIVED BY LAB: 10/06/04

PARAMETERS	STORET CODE	UNITS	VALUE	DATE
Ground water altitude	71993	Feet	3,911.31	10/05/04
Flow Rate	00059	gal/min	0.73	10/05/04
Pump Period	72004	minutes	55	10/05/04
Volume Evacuated	73675	gallons	40	10/05/04
Well Sampling Method	84077	---	BLDRP	N/A

Sampler Material: TEFLON Well Sampling Method: Bladder Pump (BLDRP)

PARAMETERS	STORET CODE	UNITS	VALUE	DETECTION LIMIT	DATA ANALYZED	METHOD USED
pH	00400	S.U.	7.0	N/A	10/05/04	field electrometer
Specific Conductance	00095	µS/cm	1,001	N/A	10/05/04	field electrometer
TOX	70354	µg/L	0	40	10/24/04	SW9020B
TOC	00680	mg/L	4.7	1.0	10/24/04	SW9060

SIGNATURE: Sara Caldwell

MONITORING WELL

QUARTERLY SAMPLING REPORT

SAMPLE COLLECTED BY: Ralph Wilcox

LABORATORY NAME: Severn Trent Services WELL NUMBER: CFW2

WELL DEPTH: 61.96 feet WELL CASING VOLUME (given ground-water elev.): 10.22 gallons

DATE SAMPLED: 10/05/04 LABORATORY SAMPLE ID#: D4J050210-4

TIME SAMPLED: 1245 DATE RECEIVED BY LAB: 10/06/04

PARAMETERS	STORET CODE	UNITS	VALUE	DATE
Ground water altitude	71993	Feet	3,911.17	10/05/04
Flow Rate	00059	gal/min	0.48	10/05/04
Pump Period	72004	minutes	83	10/05/04
Volume Evacuated	73675	gallons	40	10/05/04
Well Sampling Method	84077	---	BLDRP	N/A

Sampler Material: TEFLON Well Sampling Method: Bladder Pump (BLDRP)

PARAMETERS	STORET CODE	UNITS	VALUE	DETECTION LIMIT	DATA ANALYZED	METHOD USED
pH	00400	S.U.	7.47	N/A	10/05/04	field electrometer
Specific Conductance	00095	µS/cm	1,011	N/A	10/05/04	field electrometer
TOX	70354	µg/L	0	40	10/24/04	SW9020B
TOC	00680	mg/L	3.4	1.0	10/24/04	SW9060

SIGNATURE: Sara Caldwell

MONITORING WELL

QUARTERLY SAMPLING REPORT

SAMPLE COLLECTED BY: Jeff Langman

LABORATORY NAME: Severn Trent Services WELL NUMBER: CFW3

WELL DEPTH: 52.0 FEET WELL CASING VOLUME (given ground-water elev.): 3.66 gallons

DATE SAMPLED: 10/05/04 LABORATORY SAMPLE ID#: D4J050210-5

TIME SAMPLED: 1405 DATE RECEIVED BY LAB: 10/06/04

PARAMETERS	STORET CODE	UNITS	VALUE	DATE
Ground water altitude	71993	Feet	3,909.23	10/05/04
Flow Rate	00059	gal/min	0.2	10/05/04
Pump Period	72004	Minutes	10	10/05/04
Volume Evacuated	73675	Gallons	2	10/05/04
Well Sampling Method	84077	---	BLDRP	N/A

Sampler Material: TEFLON Well Sampling Method: Bladder Pump (BLDRP)

PARAMETERS	STORET CODE	UNITS	VALUE	DETECTION LIMIT	DATA ANALYZED	METHOD USED
pH	00400	S.U.	6.85	N/A	10/05/04	field electrometer
Specific Conductance	00095	µS/cm	910	N/A	10/05/04	field electrometer
TOX	70354	µg/L	0	40	10/24/04	SW9020B
TOC	00680	mg/L	33	20	10/24/04	SW9060

SIGNATURE: Sara Caldwell

MONITORING WELL

QUARTERLY SAMPLING REPORT

SAMPLE COLLECTED BY: Jeff Langman

LABORATORY NAME: Severn Trent Services WELL NUMBER: CFW4

WELL DEPTH: 62.68 feet WELL CASING VOLUME (given ground-water elev.): 10.3 gallons

DATE SAMPLED: 10/05/04 LABORATORY SAMPLE ID#: D4J050210-7

TIME SAMPLED: 945 DATE RECEIVED BY LAB: 10/06/04

PARAMETERS	STORET CODE	UNITS	VALUE	DATE
Ground water altitude	71993	Feet	3,911.21	10/05/04
Flow Rate	00059	Gal/min	0.74	10/05/04
Pump Period	72004	minutes	54	10/05/04
Volume Evacuated	73675	gallons	40	10/05/04
Well Sampling Method	84077	---	BLDRP	N/A

Sampler Material: TEFLON Well Sampling Method: Bladder Pump (BLDRP)

PARAMETERS	STORET CODE	UNITS	VALUE	DETECTION LIMIT	DATA ANALYZED	METHOD USED
pH	00400	S.U.	7.10	N/A	10/05/04	field electrometer
Specific Conductance	00095	µS/cm	1,130	N/A	10/05/04	field electrometer
TOX	70354	µg/L	0	40	10/24/04	SW9020B
TOC	00680	mg/L	4.0	1.0	10/24/04	SW9060

SIGNATURE: Sara Caldwell

MONITORING WELL

QUARTERLY SAMPLING REPORT

SAMPLE COLLECTED BY: Jeff Langman

LABORATORY NAME: Severn Trent Services WELL NUMBER: HMW15

WELL DEPTH: 68 feet WELL CASING VOLUME (given ground-water elev.): 11.59 gallons

DATE SAMPLED: 10/04/04 LABORATORY SAMPLE ID#: D4J050210-1

TIME SAMPLED: 1450 DATE RECEIVED BY LAB: 10/05/04

PARAMETERS	STORET CODE	UNITS	VALUE	DATE
Ground water altitude	71993	Feet	3,908.05	10/04/04
Flow Rate	00059	gal/min	0.19	10/04/04
Pump Period	72004	Minutes	80	10/04/04
Volume Evacuated	73675	gallons	15	10/04/04
Well Sampling Method	84077	---	BLDRP	N/A

Sampler Material: TEFLON Well Sampling Method: Bladder Pump (BLDRP)

PARAMETERS	STORET CODE	UNITS	VALUE	DETECTION LIMIT	DATA ANALYZED	METHOD USED
pH	00400	S.U.	7.52	N/A	10/04/04	field electrometer
Specific Conductance	00095	µS/cm	1,523	N/A	10/04/04	field electrometer
TOX	70354	µg/L	0	40	10/24/04	SW9020B
TOC	00680	mg/L	1.5	1.0	10/24/04	SW9060

SIGNATURE: Sara Caldwell

APPENDIX I

Analytical Results from Severn Trent Services Laboratory for
Ground-Water Samples Collected October 4 and 5, 2004

SEVERN TRENT STL

STL Denver
4955 Yarrow Street
Arvada, CO 80002

Tel: 303 736 0100 Fax: 303 431 7171
www.stl-inc.com

ANALYTICAL REPORT

White Sands HELSTF

Lot #: D4J050210

Richard Daddow

U.S. Geological Survey

STL DENVER

Wayne Scott
Project Manager

October 26, 2004

Leaders in Environmental Testing

Severn Trent Laboratories, Inc.

Case Narrative
D4J050210

With exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. All laboratory quality control samples analyzed in conjunction with the samples in this project were within established control limits.

The test results presented in this report meet all requirements of NELAC, and any exceptions are noted. This report shall not be reproduced, except in full, without written permission from the laboratory.

Sample Receiving

One sample and one trip blank were received under chain of custody on October 5, 2004. Five samples and on trip blank were received under chain of custody on October 6, 2004. The samples were received at the lab in good condition at a temperature of 3.4°C on October 5th and 4.1°C, 2.7 C, 5.0 C, 4.0 C, 3.1 C, and 5.4 C on October 6th.

Sample CRW2-1 requested an MS and MSD. The chain of custody requested metals by method 6020 and ammonia by method 350.1 for the MS but not the MSD. The MSD was also logged for 6020 and 350.1.

GC/MS Volatiles, SW846 8260B

Sample D4J050210-005 demonstrated a recovery of the surrogate 4-bromofluorobenzene above control limits. Matrix interference is evident; therefore, no corrective action was taken.

Methylene chloride was detected in the method blank associated with batch 4287232 at a concentration below the reporting limit, but above the method detection limit. Associated positive sample results are flagged "B".

The MS/MSD associated with batch 4286614 performed on sample D4J050210-003 was in control.

The MS/MSD associated with batch 4287232 was performed on a sample from another client and/or lot and was in control.

GC/MS Semivolatiles, SW846 8270C

The extract of sample D4J050210-005 would not concentrate to a volume less than 2 mL, instead of the normal 1 mL. The sample was diluted further due to a high concentration of target analytes. The reporting limits are elevated accordingly. As a result of the required dilution, the surrogate recoveries could not be calculated.

The MS/MSD performed on sample D4J050210-003 was in control.

GC Semivolatiles – DRO, SW846 8015 MOD

The extract of sample D4J050210-005 would not concentrate to a volume less than 10 mL, instead of the normal 1 mL. The sample was then analyzed at further dilution due to high concentrations of target analytes. The reporting limit is elevated accordingly. As a result of the required dilution, the surrogate recoveries could not be calculated.

Sample D4I050210-006 demonstrated o-terphenyl surrogate recovery slightly above control limits. As matrix interference is evident and the sample was non-detect for DRO at the method detection limit, no corrective action was taken.

The MS/MSD performed on sample D4J050210-003 was in control.

An MS/MSD associated with batch 4279449 was not requested and the laboratory could not designate one due to insufficient sample volume.

Total Metals, SW846 6010B/6020

Samples D4J050210-001 and 003 through 007 were analyzed by method 6020 at a dilution due to matrix interference. The reporting limits have been adjusted accordingly.

Chromium was detected in the method 6020 blank associated with batch 4280667 at a concentration below the reporting limit, but above the method detection limit. Associated positive sample results are flagged "J".

The method 6010B MS/MSD associated with batch 4279544 was performed on a sample from another client and/or lot and was in control.

The method 6010B MS/MSD associated with batch 4280567 performed on sample D4J050210-003 was in control. The recoveries of calcium, magnesium, and sodium were not calculated because the sample amount was greater than four times the spike amount.

The method 6020 MS/MSD associated with batch 4280667 performed on sample D4J050210-003 was in control.

The Continuing Calibration Verification (CCV) for method 6020 associated with batch 4280667 was above the upper control limit for lead. Associated samples are still considered valid because lead was non-detect at the method detection limit.

General Chemistry, Various Methods

Samples D4J050210-001, 003, 004, 006, and 007 were analyzed at dilutions for chloride, nitrate, sulfate, and total dissolved solids due to high analyte levels. The reporting limits have been adjusted accordingly and the associated sample data are flagged "Q".

Samples D4J050210-001, 003, 004, 006, and 007 were analyzed at dilutions for fluoride and ortho-phosphate due to matrix interference. The reporting limits have been adjusted accordingly and the associated sample d[illegible] gged "G".

Samples D4J050210-001 and 003 through 007 were analyzed at dilutions for total organic halogens due to high levels inorganic chloride in the samples. The reporting limits have been adjusted accordingly and the associated sample data are flagged "IC".

Sample D4I050210-005 was analyzed at dilutions for chloride, sulfate, total dissolved solids, and total sulfide due to high analyte levels The reporting limits have been adjusted accordingly and the associated sample data are flagged "Q".

Sample D4I050210-005 was analyzed at dilutions for fluoride, nitrate, orthophosphate, and total organic carbon due to matrix interference. The reporting limits have been adjusted accordingly and the associated sample data are flagged "G".

Chloride was detected in the method 300.0A blank associated with batch 4281551 at a concentration below the reporting limit but above the method detection limit. Associated positive sample data are flagged "J".

The method 350.1 MS/MSD performed on sample D4I050210-003 was in control for ammonia.

The method 300.0A MS/MSD performed on sample D4I050210-003 was in control for chloride, fluoride, nitrate, orthophosphate, and sulfate. The recoveries of nitrate are estimate because the result concentration exceeds the calibration range.

The method 300.0A MS/MSD performed on sample D4I050210-001 was in control for chloride, fluoride, nitrate, orthophosphate, and sulfate.

The method 9012A MS/MSD associated with batch 4289233 performed on sample D4I050210-003 was in control for total cyanide.

The method 9020 MS/MSD associated with batch 4298053 performed on sample D4I050210-003 was in control for total organic halogens.

The method 9060 MS/MSD associated with batch 4299070 performed on sample D4I050210-003 was in control for total organic carbon.

The method 376.2 MS/MSD associated with batch 4286564 performed on sample D4I050210-003 was in control for total sulfide.

All other MS/MSDs were performed on samples from another client and/or lot and some recoveries were not in control.

The method 310.1 duplicate performed on sample D4J050210-003 was in control for total alkalinity.

All other duplicates were performed on samples from other clients and/or lots and were in control.

Quality Control Definitions of Terms

Term	Definition
Batch	A set of up to 20 field samples plus associated laboratory QC samples that are similar in composition (matrix) and that are processed within the same time period with the same reagent and standard lots.
Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD)	A volume of regent water for aqueous samples or a contaminant-free solid matrix (Ottawa sand) for soil and sediment samples which is spiked with known amounts of representative target analytes and required surrogates. A LCS is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects. An LCSD is a second Laboratory Control Sample.
Matrix Spike and Matrix Spike Duplicate (MS/MSD)	A field sample fortified with known quantities of target analytes that are also added to the LCS. Matrix spike duplicate is a second matrix spike sample. MSs/MSDs are carried throughout he entire analytical process and are used to determine sample matrix effect on accuracy of the measurement system. The accuracy and precision estimated using MS/MSD is only representative of the precision of the sample that was spiked.
Method Blank	A sample composed of all the reagents (in the same quantities) in reagent water carried through the entire analytical process. The method blank is used to monitor the level of contamination introduced during sample preparation steps.
Surrogate	Organic constituents not expected to be detected in environmental media and are added to every sample and QC at a known concentration. Surrogates are used to determine the efficiency of the sample preparation and the analytical process.
Sample Duplicate	A second aliquot of an environmental sample, taken form the same sample container when possible, that is processed independently with the first sample aliquot. The results are used to assess the effect of the sample matrix on the precision of the analytical process. The precision estimated using this sample is not necessarily representative to the precision for other samples in the batch.
Method Detection Limit "MDL"	The method detection limit is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from replicate analyses of low level standards in a typical representative matrix.
Reporting Limit "RL"	The STL reporting limit is normally the lowest level at which measurements become quantitatively meaningful, ie., the quantitation limit, which is approximately three times the MDL. Some projects require RLs that are less than the quantitation limit to achieve particular maximum contaminant levels (MCLs) or relevant and appropriate requirements (ARARs), but RLs cannot be less than the statistically determined MDL.

Quality Control Definitions of Qualifiers

Qualifier	Definition
*	Surrogate or Relative Percent Difference (RPD) is outside control limits.
a	Spiked analyte recovery is outside control limits.
B	Organics: Method blank contamination. The associated method blank contains the target analyte at a reportable level. Inorganics: Estimated result. Result is less than the RL
COL	More than 40% difference between the primary and confirmation detector results. The lower of the two results is reported.
DIL	The concentration is estimated or not reported due to dilution.
E	Estimated result. Result concentrations exceeds the calibration range.
G	Inorganics: Elevated reporting limit. The reporting limit is elevated due to matrix interference.
J	Organics: Estimated result. Result is less than RL Inorganics: Method blank contamination. The associated method blank contains the target analyte at a reportable level.
L	Serial dilution of a digestate in the analytical batch indicates that physical and chemical interferences are present
N	Spiked analyte recovery is outside stated control limits.
NC	The recovery and/or RPD were not calculated.
ND	The analyte was not detected at the MDL concentration and with a measurable degree of confidence can be said not to be present at or above the RL concentration.
p	Relative percent difference (RPD) is outside stated control limits.
Q	Elevated reporting limit. The reporting limit is elevated due to high analyte levels.
V	General Chemistry: Elevated reporting limit due to limited sample volume.
Wa	Post digestion spike recovery fell between 40-85% due to matrix interference.
Wb	Post digestion spike recovery fell between 115-150% due to matrix interference.
I	Percent recovery is estimated since the results exceeded the calibration range.
T1	A tentatively identified compound that did not generate a spectral match of 80% or greater. Typically called "unknown"
T2	A tentatively identified compound with a spectral match of 80% or better
T3	A tentatively identified compound that was calibrated for by the lab, but not on the client target analyte list.
IC	Diluted due to high inorganic chloride.

EXECUTIVE SUMMARY - Detection Highlights

D4J050210

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
HMW15 10/04/04 14:50 001				
Arsenic	11 B	25	ug/L	SW846 6020
Cadmium	0.32 B	5.0	ug/L	SW846 6020
Chromium	3.9 B,J	10	ug/L	SW846 6020
Selenium	100	25	ug/L	SW846 6020
Barium	13	10	ug/L	SW846 6010B
Calcium	450000	600	ug/L	SW846 6010B
Potassium	71000	3000	ug/L	SW846 6010B
Magnesium	740000	200	ug/L	SW846 6010B
Sodium	2700000	5000	ug/L	SW846 6010B
Chloroform	4.2	1.0	ug/L	SW846 8260B
Total Dissolved Solids	14000 Q	100	mg/L	MCAWW 160.1
Chloride	2100 Q	300	mg/L	MCAWW 300.0A
Sulfate	6200 Q	2500	mg/L	MCAWW 300.0A
Nitrate	67 Q	10	mg/L	MCAWW 300.0A
Total Organic Carbon	1.5	1.0	mg/L	SW846 9060
Total Alkalinity	110	5.0	mg/L	MCAWW 310.1
CFW2-1 10/05/04 12:50 003				
Diesel Range Organics	0.22 J	0.25	mg/L	SW846 8015 MOD
Arsenic	15 B	25	ug/L	SW846 6020
Cadmium	0.56 B	5.0	ug/L	SW846 6020
Chromium	9.6 B,J	10	ug/L	SW846 6020
Selenium	43	25	ug/L	SW846 6020
Barium	14	10	ug/L	SW846 6010B
Beryllium	1.2 B	6.0	ug/L	SW846 6010B
Calcium	200000	600	ug/L	SW846 6010B
Potassium	70000	3000	ug/L	SW846 6010B
Magnesium	380000	200	ug/L	SW846 6010B
Sodium	2000000	5000	ug/L	SW846 6010B
2-Methylnaphthalene	1.5 J	10	ug/L	SW846 8270C
Chloroform	1.7	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	1.9	1.0	ug/L	SW846 8260B
Trichloroethene	0.37 J	1.0	ug/L	SW846 8260B
Total Dissolved Solids	8500 Q	100	mg/L	MCAWW 160.1
Chloride	680 J,Q	150	mg/L	MCAWW 300.0A
Sulfate	4400 Q	1000	mg/L	MCAWW 300.0A
Fluoride	4.4 B,G	5.0	mg/L	MCAWW 300.0A
Nitrate	27 Q	2.5	mg/L	MCAWW 300.0A
Total Organic Carbon	3.0	1.0	mg/L	SW846 9060
Total Alkalinity	220	5.0	mg/L	MCAWW 310.1

(Continu xt page)

EXECUTIVE SUMMARY - Detection Highlights

D4J050210

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
CFW2 10/05/04 12:45 004				
Diesel Range Organics	0.21 J	0.25	mg/L	SW846 8015 MOD
Arsenic	16 B	25	ug/L	SW846 6020
Cadmium	0.29 B	5.0	ug/L	SW846 6020
Chromium	8.7 B,J	10	ug/L	SW846 6020
Selenium	47	25	ug/L	SW846 6020
Barium	14	10	ug/L	SW846 6010B
Calcium	210000	600	ug/L	SW846 6010B
Potassium	70000	3000	ug/L	SW846 6010B
Magnesium	400000	200	ug/L	SW846 6010B
Sodium	2000000	5000	ug/L	SW846 6010B
2-Methylnaphthalene	1.7 J	10	ug/L	SW846 8270C
Chloroform	1.4	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	1.7	1.0	ug/L	SW846 8260B
Trichloroethene	0.32 J	1.0	ug/L	SW846 8260B
Total Dissolved Solids	8500 Q	100	mg/L	MCAWW 160.1
Chloride	730 J,Q	150	mg/L	MCAWW 300.0A
Sulfate	4500 Q	1000	mg/L	MCAWW 300.0A
Fluoride	4.3 B,G	5.0	mg/L	MCAWW 300.0A
Nitrate	27 Q	2.5	mg/L	MCAWW 300.0A
Total Organic Carbon	3.4	1.0	mg/L	SW846 9060
Total Alkalinity	220	5.0	mg/L	MCAWW 310.1
Ammonia as N	0.026 B	0.10	mg/L	MCAWW 350.1
CFW3 10/05/04 14:05 005				
Diesel Range Organics	10000	25	mg/L	SW846 8015 MOD
Arsenic	3.2 B	25	ug/L	SW846 6020
Chromium	11 J	10	ug/L	SW846 6020
Lead	2.0 B	5.0	ug/L	SW846 6020
Selenium	3.0 B	25	ug/L	SW846 6020
Barium	38	10	ug/L	SW846 6010B
Beryllium	1.2 B	6.0	ug/L	SW846 6010B
Calcium	380000	600	ug/L	SW846 6010B
Potassium	65000	3000	ug/L	SW846 6010B
Magnesium	370000	200	ug/L	SW846 6010B
Sodium	1700000	5000	ug/L	SW846 6010B
Fluorene	680	400	ug/L	SW846 8270C
2-Methylnaphthalene	2100	400	ug/L	SW846 8270C
Naphthalene	210 J	400	ug/L	SW846 8270C
Phenanthrene	710	400	ug/L	SW846 8270C
Pyrene	80 J	400	ug/L	SW846 8270C
Acetone	6.2 J	10	ug/L	SW846 8260B

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EXECUTIVE SUMMARY - Detection Highlights

D4J050210

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
CFW3 10/05/04 14:05 005				
Benzene	1.6	1.0	ug/L	SW846 8260B
Carbon disulfide	0.36 J	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	5.3	1.0	ug/L	SW846 8260B
Ethylbenzene	1.7	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	0.62 J	1.0	ug/L	SW846 8260B
Total Dissolved Solids	8100 Q	100	mg/L	MCAWW 160.1
Chloride	720 J,Q	150	mg/L	MCAWW 300.0A
Sulfate	3400 Q	500	mg/L	MCAWW 300.0A
Fluoride	2.7 B,G	5.0	mg/L	MCAWW 300.0A
Nitrate	0.25 B,G	2.5	mg/L	MCAWW 300.0A
Phosphate as P, Ortho	7.8 G	2.5	mg/L	MCAWW 300.0A
Total Organic Carbon	33 G	20	mg/L	SW846 9060
Total Sulfide	20 Q	1.0	mg/L	MCAWW 376.2
Total Alkalinity	1400	5.0	mg/L	MCAWW 310.1
Ammonia as N	0.045 B	0.10	mg/L	MCAWW 350.1
CFW1 10/05/04 11:05 006				
Arsenic	9.8 B	25	ug/L	SW846 6020
Cadmium	0.58 B	5.0	ug/L	SW846 6020
Chromium	7.7 B,J	10	ug/L	SW846 6020
Lead	0.59 B	5.0	ug/L	SW846 6020
Selenium	36	25	ug/L	SW846 6020
Barium	14	10	ug/L	SW846 6010B
Beryllium	1.0 B	6.0	ug/L	SW846 6010B
Calcium	320000	600	ug/L	SW846 6010B
Potassium	72000	3000	ug/L	SW846 6010B
Magnesium	410000	200	ug/L	SW846 6010B
Sodium	1900000	5000	ug/L	SW846 6010B
Chloroform	0.77 J	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	3.9	1.0	ug/L	SW846 8260B
Methylene chloride	0.29 J,B	5.0	ug/L	SW846 8260B
Trichloroethene	0.17 J	1.0	ug/L	SW846 8260B
Total Dissolved Solids	8500 Q	100	mg/L	MCAWW 160.1
Chloride	730 J,Q	150	mg/L	MCAWW 300.0A
Sulfate	4400 Q	1000	mg/L	MCAWW 300.0A
Fluoride	3.3 B,G	5.0	mg/L	MCAWW 300.0A
Nitrate	20 Q	2.5	mg/L	MCAWW 300.0A
Total Organic Carbon	4.7	1.0	mg/L	SW846 9060
Total Alkalinity	430	5.0	mg/L	MCAWW 310.1

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EXECUTIVE SUMMARY - Detection Highlights

D4J050210

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
CFW4 10/05/04 09:45 007				
Diesel Range Organics	0.45	0.25	mg/L	SW846 8015 MOD
Arsenic	12 B	25	ug/L	SW846 6020
Cadmium	0.57 B	5.0	ug/L	SW846 6020
Chromium	20 J	10	ug/L	SW846 6020
Selenium	48	25	ug/L	SW846 6020
Barium	13	10	ug/L	SW846 6010B
Beryllium	1.0 B	6.0	ug/L	SW846 6010B
Calcium	330000	600	ug/L	SW846 6010B
Potassium	89000	3000	ug/L	SW846 6010B
Magnesium	460000	200	ug/L	SW846 6010B
Sodium	2300000	5000	ug/L	SW846 6010B
Acenaphthene	1.4 J	10	ug/L	SW846 8270C
Carbazole	0.99 J	10	ug/L	SW846 8270C
Dibenzofuran	4.7 J	10	ug/L	SW846 8270C
2-Methylnaphthalene	16	10	ug/L	SW846 8270C
Naphthalene	1.1 J	10	ug/L	SW846 8270C
Phenanthrene	3.2 J	10	ug/L	SW846 8270C
Benzene	0.55 J	1.0	ug/L	SW846 8260B
Chloroform	0.43 J	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	0.34 J	1.0	ug/L	SW846 8260B
Trichloroethene	0.20 J	1.0	ug/L	SW846 8260B
Total Dissolved Solids	10000 Q	100	mg/L	MCAWW 160.1
Chloride	690 J,Q	150	mg/L	MCAWW 300.0A
Sulfate	5600 Q	1000	mg/L	MCAWW 300.0A
Fluoride	3.7 B,G	5.0	mg/L	MCAWW 300.0A
Nitrate	22 Q	2.5	mg/L	MCAWW 300.0A
Total Organic Carbon	4.0	1.0	mg/L	SW846 9060
Total Alkalinity	280	5.0	mg/L	MCAWW 310.1
CFW4-TB 10/05/04 09:00 008				
Methylene chloride	0.49 J,B	5.0	ug/L	SW846 8260B

METHODS SUMMARY

D4J050210

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Alkalinity	MCAWW 310.1	MCAWW 310.1
Chloride	MCAWW 300.0A	MCAWW 300.0A
Cyanide, Total	SW846 9012A	SW846 9012A
Extractable Petroleum Hydrocarbons	SW846 8015 MOD	SW846 3510
Filterable Residue (TDS)	MCAWW 160.1	MCAWW 160.1
Fluoride	MCAWW 300.0A	MCAWW 300.0A
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3010A
ICP-MS (6020)	SW846 6020	SW846 3020A
Nitrate as N	MCAWW 300.0A	MCAWW 300.0A
Nitrogen, Ammonia	MCAWW 350.1	MCAWW 350.1
Phosphate as P, Ortho	MCAWW 300.0A	MCAWW 300.0A
Semivolatile Organic Compounds by GC/MS	SW846 8270C	SW846 3520C
Sulfate	MCAWW 300.0A	MCAWW 300.0A
Sulfide (Colorimetric,MB)	MCAWW 376.2	MCAWW 376.2
Total Organic Carbon	SW846 9060	SW846 9060
Total Organic Halogens	SW846 9020B	SW846 9020B
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3010A
Volatile Organics by GC/MS	SW846 8260B	SW846 5030B/826

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

METHOD / ANALYST SUMMARY

D4J050210

ANALYTICAL METHOD	ANALYST	ANALYST ID
MCAWW 160.1	David Kendall	002164
MCAWW 300.0A	Andrita Scofield	004409
MCAWW 310.1	Maria Fayard	002596
MCAWW 350.1	Claire Likar	004382
MCAWW 376.2	Maria Fayard	002596
SW846 6010B	Luis Diaz	4729
SW846 6010B	Lynn-Anne Trudell	6645
SW846 6020	Thomas Lill	006929
SW846 8015 MOD	Sonya Dacar	011595
SW846 8260B	Greg Meier	006004
SW846 8260B	Heather Despres	009250
SW846 8270C	Mike G. Hoffman	001880
SW846 9012A	Ewa Kudla	001167
SW846 9020B	Duane Allee	001470
SW846 9060	Dave Elkin	000901

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

D4J050210

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
GRT64	001	HMW15	10/04/04	14:50
GRT7J	002	HMW15-TB	10/04/04	14:55
GRX95	003	CFW2-1	10/05/04	12:50
GR0A7	004	CFW2	10/05/04	12:45
GR0CD	005	CFW3	10/05/04	14:05
GR0CE	006	CFW1	10/05/04	11:05
GR0CN	007	CFW4	10/05/04	09:45
GR0CT	008	CFW4-TB	10/05/04	09:00

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

US GEOLOGICAL SURVEY

Client Sample ID: HMW15

GC/MS Volatiles

Lot-Sample #...: D4J050210-001 **Work Order #...:** GRT641AM **Matrix.....:** WATER
Date Sampled...: 10/04/04 14:50 **Date Received..:** 10/05/04
Prep Date.....: 10/11/04 **Analysis Date..:** 10/11/04
Prep Batch #...: 4286614 **Analysis Time..:** 18:43
Dilution Factor: 1

Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	ND	10	ug/L	2.5
Benzene	ND	1.0	ug/L	0.17
Bromodichloromethane	ND	1.0	ug/L	0.20
Bromoform	ND	1.0	ug/L	0.23
Bromomethane	ND	2.0	ug/L	0.22
2-Butanone (MEK)	ND	5.0	ug/L	2.0
Carbon disulfide	ND	1.0	ug/L	0.24
Carbon tetrachloride	ND	1.0	ug/L	0.20
Chlorobenzene	ND	1.0	ug/L	0.13
Dibromochloromethane	ND	1.0	ug/L	0.19
Chloroethane	ND	2.0	ug/L	0.18
Chloroform	**4.2**	**1.0**	**ug/L**	**0.17**
Chloromethane	ND	2.0	ug/L	0.91
1,1-Dichloroethane	ND	1.0	ug/L	0.22
1,2-Dichloroethane	ND	1.0	ug/L	0.26
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.14
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.15
1,1-Dichloroethene	ND	1.0	ug/L	0.23
1,2-Dichloroethene (total)	ND	1.0	ug/L	0.24
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.19
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.20
Ethylbenzene	ND	1.0	ug/L	0.12
2-Hexanone	ND	5.0	ug/L	1.7
Methylene chloride	ND	5.0	ug/L	0.21
4-Methyl-2-pentanone	ND	5.0	ug/L	0.98
Styrene	ND	1.0	ug/L	0.14
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.21
Tetrachloroethene	ND	1.0	ug/L	0.26
Toluene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	ND	1.0	ug/L	0.16
1,1,2-Trichloroethane	ND	1.0	ug/L	0.27
Trichloroethene	ND	1.0	ug/L	0.16
Vinyl chloride	ND	2.0	ug/L	0.19
Xylenes (total)	ND	2.0	ug/L	0.41

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US GEOLOGICAL SURVEY

Client Sample ID: HMW15

GC/MS Volatiles

Lot-Sample #...: D4J050210-001 **Work Order #...:** GRT641AM **Matrix.....:** WATER

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	97	(73 - 118)
1,2-Dichloroethane-d4	102	(62 - 128)
4-Bromofluorobenzene	102	(78 - 118)
Toluene-d8	88	(77 - 117)

US GEOLOGICAL SURVEY

HMW15

GC/MS Volatiles

Lot-Sample #: D4J050210-001 **Work Order #:** GRT641AM **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Acetic acid, 2-ethylhexyl este	103-09-3	7.2 J	M	16.135	ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

US GEOLOGICAL SURVEY

Client Sample ID: HMW15-TB

GC/MS Volatiles

Lot-Sample #...: D4J050210-002 **Work Order #...:** GRT7J1AA **Matrix.....:** WATER
Date Sampled...: 10/04/04 14:55 **Date Received..:** 10/05/04
Prep Date.....: 10/11/04 **Analysis Date..:** 10/11/04
Prep Batch #...: 4286614 **Analysis Time..:** 19:06
Dilution Factor: 1

Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	ND	10	ug/L	2.5
Benzene	ND	1.0	ug/L	0.17
Bromodichloromethane	ND	1.0	ug/L	0.20
Bromoform	ND	1.0	ug/L	0.23
Bromomethane	ND	2.0	ug/L	0.22
2-Butanone (MEK)	ND	5.0	ug/L	2.0
Carbon disulfide	ND	1.0	ug/L	0.24
Carbon tetrachloride	ND	1.0	ug/L	0.20
Chlorobenzene	ND	1.0	ug/L	0.13
Dibromochloromethane	ND	1.0	ug/L	0.19
Chloroethane	ND	2.0	ug/L	0.18
Chloroform	ND	1.0	ug/L	0.17
Chloromethane	ND	2.0	ug/L	0.91
1,1-Dichloroethane	ND	1.0	ug/L	0.22
1,2-Dichloroethane	ND	1.0	ug/L	0.26
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.14
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.15
1,1-Dichloroethene	ND	1.0	ug/L	0.23
1,2-Dichloroethene (total)	ND	1.0	ug/L	0.24
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.19
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.20
Ethylbenzene	ND	1.0	ug/L	0.12
2-Hexanone	ND	5.0	ug/L	1.7
Methylene chloride	ND	5.0	ug/L	0.21
4-Methyl-2-pentanone	ND	5.0	ug/L	0.98
Styrene	ND	1.0	ug/L	0.14
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.21
Tetrachloroethene	ND	1.0	ug/L	0.26
Toluene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	ND	1.0	ug/L	0.16
1,1,2-Trichloroethane	ND	1.0	ug/L	0.27
Trichloroethene	ND	1.0	ug/L	0.16
Vinyl chloride	ND	2.0	ug/L	0.19
Xylenes (total)	ND	2.0	ug/L	0.41

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US GEOLOGICAL SURVEY

Client Sample ID: HMW15-TB

GC/MS Volatiles

Lot-Sample #...: D4J050210-002 **Work Order #...:** GRT7J1AA **Matrix.....:** WATER

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	91	(73 - 118)
1,2-Dichloroethane-d4	94	(62 - 128)
4-Bromofluorobenzene	100	(78 - 118)
Toluene-d8	87	(77 - 117)

US GEOLOGICAL SURVEY

HMW15-TB

GC/MS Volatiles

Lot-Sample #: D4J050210-002 **Work Order #:** GRT7J1AA **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Unknown		1.5 J	M	15.471	ug/L
Acetic acid, 2-ethylhexyl este	103-09-3	9.5 J	M	16.139	ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

US GEOLOGICAL SURVEY

Client Sample ID: CFW2-1

GC/MS Volatiles

Lot-Sample #...: D4J050210-003 **Work Order #...:** GRX951AM **Matrix.....:** WATER
Date Sampled...: 10/05/04 12:50 **Date Received..:** 10/06/04
Prep Date.....: 10/11/04 **Analysis Date..:** 10/11/04
Prep Batch #...: 4286614 **Analysis Time..:** 17:34
Dilution Factor: 1

Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	ND	10	ug/L	2.5
Benzene	ND	1.0	ug/L	0.17
Bromodichloromethane	ND	1.0	ug/L	0.20
Bromoform	ND	1.0	ug/L	0.23
Bromomethane	ND	2.0	ug/L	0.22
2-Butanone (MEK)	ND	5.0	ug/L	2.0
Carbon disulfide	ND	1.0	ug/L	0.24
Carbon tetrachloride	ND	1.0	ug/L	0.20
Chlorobenzene	ND	1.0	ug/L	0.13
Dibromochloromethane	ND	1.0	ug/L	0.19
Chloroethane	ND	2.0	ug/L	0.18
Chloroform	**1.7**	**1.0**	**ug/L**	**0.17**
Chloromethane	ND	2.0	ug/L	0.91
1,1-Dichloroethane	**1.9**	**1.0**	**ug/L**	**0.22**
1,2-Dichloroethane	ND	1.0	ug/L	0.26
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.14
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.15
1,1-Dichloroethene	ND	1.0	ug/L	0.23
1,2-Dichloroethene (total)	ND	1.0	ug/L	0.24
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.19
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.20
Ethylbenzene	ND	1.0	ug/L	0.12
2-Hexanone	ND	5.0	ug/L	1.7
Methylene chloride	ND	5.0	ug/L	0.21
4-Methyl-2-pentanone	ND	5.0	ug/L	0.98
Styrene	ND	1.0	ug/L	0.14
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.21
Tetrachloroethene	ND	1.0	ug/L	0.26
Toluene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	ND	1.0	ug/L	0.16
1,1,2-Trichloroethane	ND	1.0	ug/L	0.27
Trichloroethene	**0.37 J**	**1.0**	**ug/L**	**0.16**
Vinyl chloride	ND	2.0	ug/L	0.19
Xylenes (total)	ND	2.0	ug/L	0.41

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US GEOLOGICAL SURVEY

Client Sample ID: CFW2-1

GC/MS Volatiles

Lot-Sample #...: D4J050210-003 **Work Order #...:** GRX951AM **Matrix.....:** WATER

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	101	(73 - 118)
1,2-Dichloroethane-d4	102	(62 - 128)
4-Bromofluorobenzene	103	(78 - 118)
Toluene-d8	100	(77 - 117)

NOTE(S):

J Estimated result. Result is less than RL.

US GEOLOGICAL SURVEY

CFW2-1

GC/MS Volatiles

Lot-Sample #: D4J050210-003 **Work Order #:** GRX951AM **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
3-Methylheptyl acetate	72218-58-7	17 J	M	16.141	ug/L
Unknown		5.5 J	M	17.367	ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

US GEOLOGICAL SURVEY

Client Sample ID: CFW2

GC/MS Volatiles

Lot-Sample #...: D4J050210-004 **Work Order #...:** GR0A71AV **Matrix.....:** WATER
Date Sampled...: 10/05/04 12:45 **Date Received..:** 10/06/04
Prep Date.....: 10/11/04 **Analysis Date..:** 10/11/04
Prep Batch #...: 4286614 **Analysis Time..:** 19:29
Dilution Factor: 1

Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	ND	10	ug/L	2.5
Benzene	ND	1.0	ug/L	0.17
Bromodichloromethane	ND	1.0	ug/L	0.20
Bromoform	ND	1.0	ug/L	0.23
Bromomethane	ND	2.0	ug/L	0.22
2-Butanone (MEK)	ND	5.0	ug/L	2.0
Carbon disulfide	ND	1.0	ug/L	0.24
Carbon tetrachloride	ND	1.0	ug/L	0.20
Chlorobenzene	ND	1.0	ug/L	0.13
Dibromochloromethane	ND	1.0	ug/L	0.19
Chloroethane	ND	2.0	ug/L	0.18
Chloroform	**1.4**	**1.0**	**ug/L**	**0.17**
Chloromethane	ND	2.0	ug/L	0.91
1,1-Dichloroethane	**1.7**	**1.0**	**ug/L**	**0.22**
1,2-Dichloroethane	ND	1.0	ug/L	0.26
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.14
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.15
1,1-Dichloroethene	ND	1.0	ug/L	0.23
1,2-Dichloroethene (total)	ND	1.0	ug/L	0.24
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.19
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.20
Ethylbenzene	ND	1.0	ug/L	0.12
2-Hexanone	ND	5.0	ug/L	1.7
Methylene chloride	ND	5.0	ug/L	0.21
4-Methyl-2-pentanone	ND	5.0	ug/L	0.98
Styrene	ND	1.0	ug/L	0.14
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.21
Tetrachloroethene	ND	1.0	ug/L	0.26
Toluene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	ND	1.0	ug/L	0.16
1,1,2-Trichloroethane	ND	1.0	ug/L	0.27
Trichloroethene	**0.32 J**	**1.0**	**ug/L**	**0.16**
Vinyl chloride	ND	2.0	ug/L	0.19
Xylenes (total)	ND	2.0	ug/L	0.41

(Continued on next page)

US GEOLOGICAL SURVEY

Client Sample ID: CFW2

GC/MS Volatiles

Lot-Sample #...: D4J050210-004 **Work Order #...:** GR0A71AV **Matrix.....:** WATER

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	94	(73 - 118)
1,2-Dichloroethane-d4	98	(62 - 128)
4-Bromofluorobenzene	103	(78 - 118)
Toluene-d8	92	(77 - 117)

NOTE(S):

J Estimated result. Result is less than RL.

US GEOLOGICAL SURVEY

CFW2

GC/MS Volatiles

Lot-Sample #: D4J050210-004 **Work Order #:** GR0A71AV **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Ethane, 1,2-dichloro-1,1,2-tri	354-23-4	2.1 J	M	5.8422	ug/L
Acetic acid, 2-ethylhexyl este	103-09-3	13 J	M	16.14	ug/L
Unknown		4.5 J	M	17.365	ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

US GEOLOGICAL SURVEY

Client Sample ID: CFW3

GC/MS Volatiles

Lot-Sample #...: D4J050210-005 **Work Order #...:** GR0CD1AV **Matrix.....:** WATER
Date Sampled...: 10/05/04 14:05 **Date Received..:** 10/06/04
Prep Date.....: 10/11/04 **Analysis Date..:** 10/12/04
Prep Batch #...: 4286614 **Analysis Time..:** 02:26
Dilution Factor: 1

Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**6.2 J**	**10**	**ug/L**	**2.5**
Benzene	**1.6**	**1.0**	**ug/L**	**0.17**
Bromodichloromethane	ND	1.0	ug/L	0.20
Bromoform	ND	1.0	ug/L	0.23
Bromomethane	ND	2.0	ug/L	0.22
2-Butanone (MEK)	ND	5.0	ug/L	2.0
Carbon disulfide	**0.36 J**	**1.0**	**ug/L**	**0.24**
Carbon tetrachloride	ND	1.0	ug/L	0.20
Chlorobenzene	ND	1.0	ug/L	0.13
Dibromochloromethane	ND	1.0	ug/L	0.19
Chloroethane	ND	2.0	ug/L	0.18
Chloroform	ND	1.0	ug/L	0.17
Chloromethane	ND	2.0	ug/L	0.91
1,1-Dichloroethane	**5.3**	**1.0**	**ug/L**	**0.22**
1,2-Dichloroethane	ND	1.0	ug/L	0.26
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.14
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.15
1,1-Dichloroethene	ND	1.0	ug/L	0.23
1,2-Dichloroethene (total)	ND	1.0	ug/L	0.24
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.19
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.20
Ethylbenzene	**1.7**	**1.0**	**ug/L**	**0.12**
2-Hexanone	ND	5.0	ug/L	1.7
Methylene chloride	ND	5.0	ug/L	0.21
4-Methyl-2-pentanone	ND	5.0	ug/L	0.98
Styrene	ND	1.0	ug/L	0.14
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.21
Tetrachloroethene	ND	1.0	ug/L	0.26
Toluene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	**0.62 J**	**1.0**	**ug/L**	**0.16**
1,1,2-Trichloroethane	ND	1.0	ug/L	0.27
Trichloroethene	ND	1.0	ug/L	0.16
Vinyl chloride	ND	2.0	ug/L	0.19
Xylenes (total)	ND	2.0	ug/L	0.41

(Continued on next page)

US GEOLOGICAL SURVEY

Client Sample ID: CFW3

GC/MS Volatiles

Lot-Sample #...: D4J050210-005 **Work Order #...:** GR0CD1AV **Matrix.....:** WATER

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	96	(73 - 118)
1,2-Dichloroethane-d4	105	(62 - 128)
4-Bromofluorobenzene	313 *	(78 - 118)
Toluene-d8	94	(77 - 117)

NOTE(S):

* Surrogate recovery is outside stated control limits.

J Estimated result. Result is less than RL.

US GEOLOGICAL SURVEY

CFW3

GC/MS Volatiles

Lot-Sample #: D4J050210-005 **Work Order #:** GR0CD1AV **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Nonane, 3-methyl-	5911-04-6	160 J	M	13.013	ug/L
Unknown		150 J	M	13.187	ug/L
Unknown		150 J	M	13.251	ug/L
Unknown		36 J	M	13.781	ug/L
Unknown		19 J	M	14.01	ug/L
Unknown		52 J	M	14.193	ug/L
Cyclohexane, 1,1-dimethyl-2-pr	81983-71-3	26 J	M	15.025	ug/L
Naphthalene, decahydro-, trans	493-02-7	56 J	M	15.29	ug/L
Unknown		24 J	M	15.364	ug/L
Unknown		21 J	M	15.482	ug/L
Benzene, 4-ethyl-1,2-dimethyl-	934-80-5	22 J	M	15.556	ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

US GEOLOGICAL SURVEY

Client Sample ID: CFW1

GC/MS Volatiles

Lot-Sample #...: D4J050210-006 **Work Order #...:** GR0CE1AV **Matrix.....:** WATER
Date Sampled...: 10/05/04 11:05 **Date Received..:** 10/06/04
Prep Date.....: 10/12/04 **Analysis Date..:** 10/12/04
Prep Batch #...: 4287232 **Analysis Time..:** 17:14
Dilution Factor: 1

Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	ND	10	ug/L	2.5
Benzene	ND	1.0	ug/L	0.17
Bromodichloromethane	ND	1.0	ug/L	0.20
Bromoform	ND	1.0	ug/L	0.23
Bromomethane	ND	2.0	ug/L	0.22
2-Butanone (MEK)	ND	5.0	ug/L	2.0
Carbon disulfide	ND	1.0	ug/L	0.24
Carbon tetrachloride	ND	1.0	ug/L	0.20
Chlorobenzene	ND	1.0	ug/L	0.13
Dibromochloromethane	ND	1.0	ug/L	0.19
Chloroethane	ND	2.0	ug/L	0.18
Chloroform	**0.77 J**	**1.0**	**ug/L**	**0.17**
Chloromethane	ND	2.0	ug/L	0.91
1,1-Dichloroethane	**3.9**	**1.0**	**ug/L**	**0.22**
1,2-Dichloroethane	ND	1.0	ug/L	0.26
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.14
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.15
1,1-Dichloroethene	ND	1.0	ug/L	0.23
1,2-Dichloroethene (total)	ND	1.0	ug/L	0.24
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.19
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.20
Ethylbenzene	ND	1.0	ug/L	0.12
2-Hexanone	ND	5.0	ug/L	1.7
Methylene chloride	**0.29 J,B**	**5.0**	**ug/L**	**0.21**
4-Methyl-2-pentanone	ND	5.0	ug/L	0.98
Styrene	ND	1.0	ug/L	0.14
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.21
Tetrachloroethene	ND	1.0	ug/L	0.26
Toluene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	ND	1.0	ug/L	0.16
1,1,2-Trichloroethane	ND	1.0	ug/L	0.27
Trichloroethene	**0.17 J**	**1.0**	**ug/L**	**0.16**
Vinyl chloride	ND	2.0	ug/L	0.19
Xylenes (total)	ND	2.0	ug/L	0.41

(Continued on next page)

US GEOLOGICAL SURVEY

Client Sample ID: CFW1

GC/MS Volatiles

Lot-Sample #...: D4J050210-006 **Work Order #...:** GR0CE1AV **Matrix.....:** WATER

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	104	(73 - 118)
1,2-Dichloroethane-d4	101	(62 - 128)
4-Bromofluorobenzene	96	(78 - 118)
Toluene-d8	93	(77 - 117)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

US GEOLOGICAL SURVEY

CFW1

GC/MS Volatiles

Lot-Sample #: D4J050210-006 **Work Order #:** GR0CE1AV **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Acetic acid, 2-ethylhexyl este	103-09-3	7.8 J	M	11.014	ug/L
Unknown		1.8 J	M	11.697	ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

US GEOLOGICAL SURVEY

Client Sample ID: CFW4

GC/MS Volatiles

Lot-Sample #...: D4J050210-007 **Work Order #...:** GR0CN1AV **Matrix.....:** WATER
Date Sampled...: 10/05/04 09:45 **Date Received..:** 10/06/04
Prep Date.....: 10/12/04 **Analysis Date..:** 10/12/04
Prep Batch #...: 4287232 **Analysis Time..:** 10:35
Dilution Factor: 1

Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	ND	10	ug/L	2.5
Benzene	**0.55 J**	**1.0**	**ug/L**	**0.17**
Bromodichloromethane	ND	1.0	ug/L	0.20
Bromoform	ND	1.0	ug/L	0.23
Bromomethane	ND	2.0	ug/L	0.22
2-Butanone (MEK)	ND	5.0	ug/L	2.0
Carbon disulfide	ND	1.0	ug/L	0.24
Carbon tetrachloride	ND	1.0	ug/L	0.20
Chlorobenzene	ND	1.0	ug/L	0.13
Dibromochloromethane	ND	1.0	ug/L	0.19
Chloroethane	ND	2.0	ug/L	0.18
Chloroform	**0.43 J**	**1.0**	**ug/L**	**0.17**
Chloromethane	ND	2.0	ug/L	0.91
1,1-Dichloroethane	**0.34 J**	**1.0**	**ug/L**	**0.22**
1,2-Dichloroethane	ND	1.0	ug/L	0.26
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.14
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.15
1,1-Dichloroethene	ND	1.0	ug/L	0.23
1,2-Dichloroethene (total)	ND	1.0	ug/L	0.24
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.19
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.20
Ethylbenzene	ND	1.0	ug/L	0.12
2-Hexanone	ND	5.0	ug/L	1.7
Methylene chloride	ND	5.0	ug/L	0.21
4-Methyl-2-pentanone	ND	5.0	ug/L	0.98
Styrene	ND	1.0	ug/L	0.14
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.21
Tetrachloroethene	ND	1.0	ug/L	0.26
Toluene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	ND	1.0	ug/L	0.16
1,1,2-Trichloroethane	ND	1.0	ug/L	0.27
Trichloroethene	**0.20 J**	**1.0**	**ug/L**	**0.16**
Vinyl chloride	ND	2.0	ug/L	0.19
Xylenes (total)	ND	2.0	ug/L	0.41

(Continued on next page)

US GEOLOGICAL SURVEY

Client Sample ID: CFW4

GC/MS Volatiles

Lot-Sample #...: D4J050210-007 **Work Order #...:** GR0CN1AV **Matrix.....:** WATER

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	94	(73 - 118)
1,2-Dichloroethane-d4	91	(62 - 128)
4-Bromofluorobenzene	108	(78 - 118)
Toluene-d8	92	(77 - 117)

NOTE(S):

J Estimated result. Result is less than RL.

US GEOLOGICAL SURVEY

CFW4

GC/MS Volatiles

Lot-Sample #: D4J050210-007 **Work Order #:** GR0CN1AV **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Benzene, 1-ethyl-4-methyl-	622-96-8	5.6 J	M	9.2619	ug/L
Benzene, 4-ethyl-1,2-dimethyl-	934-80-5	5.8 J	M	10.391	ug/L
2,3-Dihydro-1-methylindene	27133-93-3	3.0 J	M	10.458	ug/L
Benzene, 1,2,3,5-tetramethyl-	527-53-7	6.6 J	M	10.742	ug/L
Acetic acid, 2-ethylhexyl este	103-09-3	9.2 J	M	11.014	ug/L
Benzene, 1-methyl-4-(2-propeny	3333-13-9	8.5 J	M	11.135	ug/L
Benzene, 2-ethenyl-1,3,5-trime	769-25-5	7.5 J	M	11.437	ug/L
1H-indene, 2,3-dihydro-1,6-dim	17059-48-2	3.5 J	M	11.503	ug/L
Naphthalene, 1,2,3,4-tetrahydr	1559-81-5	4.7 J	M	11.975	ug/L
Naphthalene, 1,2,3,4-tetrahydr	1680-51-9	4.1 J	M	12.168	ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

US GEOLOGICAL SURVEY

Client Sample ID: CFW4-TB

GC/MS Volatiles

Lot-Sample #...: D4J050210-008 **Work Order #...:** GR0CT1AA **Matrix.....:** WATER
Date Sampled...: 10/05/04 09:00 **Date Received..:** 10/06/04
Prep Date.....: 10/12/04 **Analysis Date..:** 10/12/04
Prep Batch #...: 4287232 **Analysis Time..:** 10:54
Dilution Factor: 1

Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	ND	10	ug/L	2.5
Benzene	ND	1.0	ug/L	0.17
Bromodichloromethane	ND	1.0	ug/L	0.20
Bromoform	ND	1.0	ug/L	0.23
Bromomethane	ND	2.0	ug/L	0.22
2-Butanone (MEK)	ND	5.0	ug/L	2.0
Carbon disulfide	ND	1.0	ug/L	0.24
Carbon tetrachloride	ND	1.0	ug/L	0.20
Chlorobenzene	ND	1.0	ug/L	0.13
Dibromochloromethane	ND	1.0	ug/L	0.19
Chloroethane	ND	2.0	ug/L	0.18
Chloroform	ND	1.0	ug/L	0.17
Chloromethane	ND	2.0	ug/L	0.91
1,1-Dichloroethane	ND	1.0	ug/L	0.22
1,2-Dichloroethane	ND	1.0	ug/L	0.26
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.14
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.15
1,1-Dichloroethene	ND	1.0	ug/L	0.23
1,2-Dichloroethene (total)	ND	1.0	ug/L	0.24
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.19
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.20
Ethylbenzene	ND	1.0	ug/L	0.12
2-Hexanone	ND	5.0	ug/L	1.7
Methylene chloride	**0.49 J,B**	**5.0**	**ug/L**	**0.21**
4-Methyl-2-pentanone	ND	5.0	ug/L	0.98
Styrene	ND	1.0	ug/L	0.14
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.21
Tetrachloroethene	ND	1.0	ug/L	0.26
Toluene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	ND	1.0	ug/L	0.16
1,1,2-Trichloroethane	ND	1.0	ug/L	0.27
Trichloroethene	ND	1.0	ug/L	0.16
Vinyl chloride	ND	2.0	ug/L	0.19
Xylenes (total)	ND	2.0	ug/L	0.41

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US GEOLOGICAL SURVEY

Client Sample ID: CFW4-TB

GC/MS Volatiles

Lot-Sample #...: D4J050210-008 **Work Order #...:** GR0CT1AA **Matrix.....:** WATER

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	95	(73 - 118)
1,2-Dichloroethane-d4	89	(62 - 128)
4-Bromofluorobenzene	100	(78 - 118)
Toluene-d8	92	(77 - 117)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

US GEOLOGICAL SURVEY

CFW4-TB

GC/MS Volatiles

Lot-Sample #: D4J050210-008 **Work Order #:** GR0CT1AA **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Unknown		1.1 J	M	8.9832	ug/L
Naphthalene, 2,6-dimethyl-	581-42-0	1.4 J	M	10.076	ug/L
Naphthalene, 2,6-dimethyl-	581-42-0	4.5 J	M	10.487	ug/L
Unknown		3.9 J	M	10.614	ug/L
Naphthalene, 2,3-dimethyl-	581-40-8	6.6 J	M	10.923	ug/L
Naphthalene, 1,3-dimethyl-	575-41-7	2.1 J	M	11.436	ug/L
Unknown		2.5 J	M	11.696	ug/L
Unknown		1.2 J	M	11.944	ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

US GEOLOGICAL SURVEY

Client Sample ID: HMW15

GC/MS Semivolatiles

Lot-Sample #...: D4J050210-001 **Work Order #...:** GRT641AN **Matrix.....:** WATER
Date Sampled...: 10/04/04 14:50 **Date Received..:** 10/05/04
Prep Date.....: 10/06/04 **Analysis Date..:** 10/15/04
Prep Batch #...: 4280472 **Analysis Time..:** 17:45
Dilution Factor: 1

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	10	ug/L	0.60
Acenaphthylene	ND	10	ug/L	0.60
Anthracene	ND	10	ug/L	3.0
Benzo(a)anthracene	ND	10	ug/L	0.80
Benzo(b)fluoranthene	ND	10	ug/L	0.90
Benzo(k)fluoranthene	ND	10	ug/L	2.0
Benzo(ghi)perylene	ND	10	ug/L	1.0
Benzo(a)pyrene	ND	10	ug/L	0.80
bis(2-Chloroethoxy) methane	ND	10	ug/L	0.90
bis(2-Chloroethyl)-ether	ND	10	ug/L	3.0
bis(2-Ethylhexyl) phthalate	ND	10	ug/L	0.90
4-Bromophenyl phenyl ether	ND	10	ug/L	0.70
Butyl benzyl phthalate	ND	10	ug/L	1.0
Carbazole	ND	10	ug/L	0.90
4-Chloroaniline	ND	10	ug/L	3.0
4-Chloro-3-methylphenol	ND	10	ug/L	0.80
2-Chloronaphthalene	ND	10	ug/L	0.70
2-Chlorophenol	ND	10	ug/L	0.80
4-Chlorophenyl phenyl ether	ND	10	ug/L	0.60
Chrysene	ND	10	ug/L	0.80
Dibenz(a,h)anthracene	ND	10	ug/L	0.90
Dibenzofuran	ND	10	ug/L	0.60
Di-n-butyl phthalate	ND	10	ug/L	0.80
1,2-Dichlorobenzene	ND	10	ug/L	0.80
1,3-Dichlorobenzene	ND	10	ug/L	0.80
1,4-Dichlorobenzene	ND	10	ug/L	1.0
3,3'-Dichlorobenzidine	ND	50	ug/L	8.0
2,4-Dichlorophenol	ND	10	ug/L	0.70
Diethyl phthalate	ND	10	ug/L	0.70
2,4-Dimethylphenol	ND	10	ug/L	4.0
Dimethyl phthalate	ND	10	ug/L	0.80
4,6-Dinitro-2-methylphenol	ND	50	ug/L	6.0

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US GEOLOGICAL SURVEY

Client Sample ID: HMW15

GC/MS Semivolatiles

Lot-Sample #...: D4J050210-001 **Work Order #...:** GRT641AN **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dinitrophenol	ND	50	ug/L	6.0
2,4-Dinitrotoluene	ND	10	ug/L	1.0
2,6-Dinitrotoluene	ND	10	ug/L	0.80
Di-n-octyl phthalate	ND	10	ug/L	1.0
Fluoranthene	ND	10	ug/L	0.70
Fluorene	ND	10	ug/L	0.60
Hexachlorobenzene	ND	10	ug/L	0.80
Hexachlorobutadiene	ND	10	ug/L	1.0
Hexachlorocyclopenta-diene	ND	50	ug/L	5.0
Hexachloroethane	ND	10	ug/L	0.80
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	0.80
Isophorone	ND	10	ug/L	0.90
2-Methylnaphthalene	ND	10	ug/L	0.80
2-Methylphenol	ND	10	ug/L	0.90
4-Methylphenol	ND	10	ug/L	0.80
Naphthalene	ND	10	ug/L	0.80
2-Nitroaniline	ND	50	ug/L	0.90
3-Nitroaniline	ND	50	ug/L	0.90
4-Nitroaniline	ND	50	ug/L	6.0
Nitrobenzene	ND	10	ug/L	2.0
2-Nitrophenol	ND	10	ug/L	0.80
4-Nitrophenol	ND	50	ug/L	7.0
N-Nitrosodiphenylamine	ND	10	ug/L	1.0
N-Nitrosodi-n-propyl-amine	ND	10	ug/L	0.70
2,2'-oxybis(1-Chloropropane)	ND	10	ug/L	0.70
Pentachlorophenol	ND	50	ug/L	5.0
Phenanthrene	ND	10	ug/L	0.70
Phenol	ND	10	ug/L	0.90
Pyrene	ND	10	ug/L	0.80
1,2,4-Trichloro-benzene	ND	10	ug/L	0.90
2,4,5-Trichloro-phenol	ND	10	ug/L	1.0
2,4,6-Trichloro-phenol	ND	10	ug/L	0.80

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	64	(36 - 110)
Phenol-d5	63	(39 - 109)
Nitrobenzene-d5	65	(47 - 107)
2-Fluorobiphenyl	45	(34 - 96)
2,4,6-Tribromophenol	47	(34 - 126)
Terphenyl-d14	84	(12 - 126)

US GEOLOGICAL SURVEY

HMW15

GC/MS Semivolatiles

Lot-Sample #: D4J050210-001 **Work Order #:** GRT641AN **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
None				ug/L

US GEOLOGICAL SURVEY

Client Sample ID: CFW2-1

GC/MS Semivolatiles

Lot-Sample #...: D4J050210-003 **Work Order #...:** GRX951AN **Matrix.....:** WATER
Date Sampled...: 10/05/04 12:50 **Date Received..:** 10/06/04
Prep Date.....: 10/06/04 **Analysis Date..:** 10/15/04
Prep Batch #...: 4280472 **Analysis Time..:** 18:13
Dilution Factor: 1

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	10	ug/L	0.60
Acenaphthylene	ND	10	ug/L	0.60
Anthracene	ND	10	ug/L	3.0
Benzo(a)anthracene	ND	10	ug/L	0.80
Benzo(b)fluoranthene	ND	10	ug/L	0.90
Benzo(k)fluoranthene	ND	10	ug/L	2.0
Benzo(ghi)perylene	ND	10	ug/L	1.0
Benzo(a)pyrene	ND	10	ug/L	0.80
bis(2-Chloroethoxy) methane	ND	10	ug/L	0.90
bis(2-Chloroethyl)-ether	ND	10	ug/L	3.0
bis(2-Ethylhexyl) phthalate	ND	10	ug/L	0.90
4-Bromophenyl phenyl ether	ND	10	ug/L	0.70
Butyl benzyl phthalate	ND	10	ug/L	1.0
Carbazole	ND	10	ug/L	0.90
4-Chloroaniline	ND	10	ug/L	3.0
4-Chloro-3-methylphenol	ND	10	ug/L	0.80
2-Chloronaphthalene	ND	10	ug/L	0.70
2-Chlorophenol	ND	10	ug/L	0.80
4-Chlorophenyl phenyl ether	ND	10	ug/L	0.60
Chrysene	ND	10	ug/L	0.80
Dibenz(a,h)anthracene	ND	10	ug/L	0.90
Dibenzofuran	ND	10	ug/L	0.60
Di-n-butyl phthalate	ND	10	ug/L	0.80
1,2-Dichlorobenzene	ND	10	ug/L	0.80
1,3-Dichlorobenzene	ND	10	ug/L	0.80
1,4-Dichlorobenzene	ND	10	ug/L	1.0
3,3'-Dichlorobenzidine	ND	50	ug/L	8.0
2,4-Dichlorophenol	ND	10	ug/L	0.70
Diethyl phthalate	ND	10	ug/L	0.70
2,4-Dimethylphenol	ND	10	ug/L	4.0
Dimethyl phthalate	ND	10	ug/L	0.80
4,6-Dinitro-2-methylphenol	ND	50	ug/L	6.0

(Continu xt page)

US GEOLOGICAL SURVEY

Client Sample ID: CFW2-1

GC/MS Semivolatiles

Lot-Sample #...: D4J050210-003 **Work Order #...:** GRX951AN **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dinitrophenol	ND	50	ug/L	6.0
2,4-Dinitrotoluene	ND	10	ug/L	1.0
2,6-Dinitrotoluene	ND	10	ug/L	0.80
Di-n-octyl phthalate	ND	10	ug/L	1.0
Fluoranthene	ND	10	ug/L	0.70
Fluorene	ND	10	ug/L	0.60
Hexachlorobenzene	ND	10	ug/L	0.80
Hexachlorobutadiene	ND	10	ug/L	1.0
Hexachlorocyclopenta-diene	ND	50	ug/L	5.0
Hexachloroethane	ND	10	ug/L	0.80
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	0.80
Isophorone	ND	10	ug/L	0.90
2-Methylnaphthalene	**1.5 J**	**10**	**ug/L**	**0.80**
2-Methylphenol	ND	10	ug/L	0.90
4-Methylphenol	ND	10	ug/L	0.80
Naphthalene	ND	10	ug/L	0.80
2-Nitroaniline	ND	50	ug/L	0.90
3-Nitroaniline	ND	50	ug/L	0.90
4-Nitroaniline	ND	50	ug/L	6.0
Nitrobenzene	ND	10	ug/L	2.0
2-Nitrophenol	ND	10	ug/L	0.80
4-Nitrophenol	ND	50	ug/L	7.0
N-Nitrosodiphenylamine	ND	10	ug/L	1.0
N-Nitrosodi-n-propyl-amine	ND	10	ug/L	0.70
2,2'-oxybis(1-Chloropropane)	ND	10	ug/L	0.70
Pentachlorophenol	ND	50	ug/L	5.0
Phenanthrene	ND	10	ug/L	0.70
Phenol	ND	10	ug/L	0.90
Pyrene	ND	10	ug/L	0.80
1,2,4-Trichloro-benzene	ND	10	ug/L	0.90
2,4,5-Trichloro-phenol	ND	10	ug/L	1.0
2,4,6-Trichloro-phenol	ND	10	ug/L	0.80

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	64	(36 - 110)
Phenol-d5	64	(39 - 109)
Nitrobenzene-d5	65	(47 - 107)
2-Fluorobiphenyl	47	(34 - 96)
2,4,6-Tribromophenol	58	(34 - 126)
Terphenyl-d14	80	(12 - 126)

(Continued on next page)

US GEOLOGICAL SURVEY

Client Sample ID: CFW2-1

GC/MS Semivolatiles

Lot-Sample #...: D4J050210-003 **Work Order #...:** GRX951AN **Matrix.....:** WATER

NOTE(S):

J Estimated result. Result is less than RL.

US GEOLOGICAL SURVEY

CFW2-1

GC/MS Semivolatiles

Lot-Sample #: D4J050210-003 **Work Order #:** GRX951AN **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Unknown		4.4 J	M	5.984	ug/L
Unknown		6.3 J	M	9.2785	ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

US GEOLOGICAL SURVEY

Client Sample ID: CFW2

GC/MS Semivolatiles

Lot-Sample #...: D4J050210-004 **Work Order #...:** GR0A71AW **Matrix.....:** WATER
Date Sampled...: 10/05/04 12:45 **Date Received..:** 10/06/04
Prep Date.....: 10/06/04 **Analysis Date..:** 10/15/04
Prep Batch #...: 4280472 **Analysis Time..:** 19:36
Dilution Factor: 1

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	10	ug/L	0.60
Acenaphthylene	ND	10	ug/L	0.60
Anthracene	ND	10	ug/L	3.0
Benzo(a)anthracene	ND	10	ug/L	0.80
Benzo(b)fluoranthene	ND	10	ug/L	0.90
Benzo(k)fluoranthene	ND	10	ug/L	2.0
Benzo(ghi)perylene	ND	10	ug/L	1.0
Benzo(a)pyrene	ND	10	ug/L	0.80
bis(2-Chloroethoxy) methane	ND	10	ug/L	0.90
bis(2-Chloroethyl)-ether	ND	10	ug/L	3.0
bis(2-Ethylhexyl) phthalate	ND	10	ug/L	0.90
4-Bromophenyl phenyl ether	ND	10	ug/L	0.70
Butyl benzyl phthalate	ND	10	ug/L	1.0
Carbazole	ND	10	ug/L	0.90
4-Chloroaniline	ND	10	ug/L	3.0
4-Chloro-3-methylphenol	ND	10	ug/L	0.80
2-Chloronaphthalene	ND	10	ug/L	0.70
2-Chlorophenol	ND	10	ug/L	0.80
4-Chlorophenyl phenyl ether	ND	10	ug/L	0.60
Chrysene	ND	10	ug/L	0.80
Dibenz(a,h)anthracene	ND	10	ug/L	0.90
Dibenzofuran	ND	10	ug/L	0.60
Di-n-butyl phthalate	ND	10	ug/L	0.80
1,2-Dichlorobenzene	ND	10	ug/L	0.80
1,3-Dichlorobenzene	ND	10	ug/L	0.80
1,4-Dichlorobenzene	ND	10	ug/L	1.0
3,3'-Dichlorobenzidine	ND	50	ug/L	8.0
2,4-Dichlorophenol	ND	10	ug/L	0.70
Diethyl phthalate	ND	10	ug/L	0.70
2,4-Dimethylphenol	ND	10	ug/L	4.0
Dimethyl phthalate	ND	10	ug/L	0.80
4,6-Dinitro-2-methylphenol	ND	50	ug/L	6.0

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US GEOLOGICAL SURVEY

Client Sample ID: CFW2

GC/MS Semivolatiles

Lot-Sample #...: D4J050210-004 **Work Order #...:** GR0A71AW **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dinitrophenol	ND	50	ug/L	6.0
2,4-Dinitrotoluene	ND	10	ug/L	1.0
2,6-Dinitrotoluene	ND	10	ug/L	0.80
Di-n-octyl phthalate	ND	10	ug/L	1.0
Fluoranthene	ND	10	ug/L	0.70
Fluorene	ND	10	ug/L	0.60
Hexachlorobenzene	ND	10	ug/L	0.80
Hexachlorobutadiene	ND	10	ug/L	1.0
Hexachlorocyclopenta-diene	ND	50	ug/L	5.0
Hexachloroethane	ND	10	ug/L	0.80
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	0.80
Isophorone	ND	10	ug/L	0.90
2-Methylnaphthalene	**1.7 J**	**10**	**ug/L**	**0.80**
2-Methylphenol	ND	10	ug/L	0.90
4-Methylphenol	ND	10	ug/L	0.80
Naphthalene	ND	10	ug/L	0.80
2-Nitroaniline	ND	50	ug/L	0.90
3-Nitroaniline	ND	50	ug/L	0.90
4-Nitroaniline	ND	50	ug/L	6.0
Nitrobenzene	ND	10	ug/L	2.0
2-Nitrophenol	ND	10	ug/L	0.80
4-Nitrophenol	ND	50	ug/L	7.0
N-Nitrosodiphenylamine	ND	10	ug/L	1.0
N-Nitrosodi-n-propyl-amine	ND	10	ug/L	0.70
2,2'-oxybis(1-Chloropropane)	ND	10	ug/L	0.70
Pentachlorophenol	ND	50	ug/L	5.0
Phenanthrene	ND	10	ug/L	0.70
Phenol	ND	10	ug/L	0.90
Pyrene	ND	10	ug/L	0.80
1,2,4-Trichloro-benzene	ND	10	ug/L	0.90
2,4,5-Trichloro-phenol	ND	10	ug/L	1.0
2,4,6-Trichloro-phenol	ND	10	ug/L	0.80

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	66	(36 - 110)
Phenol-d5	67	(39 - 109)
Nitrobenzene-d5	70	(47 - 107)
2-Fluorobiphenyl	51	(34 - 96)
2,4,6-Tribromophenol	65	(34 - 126)
Terphenyl-d14	91	(12 - 126)

(Continued on next page)

US GEOLOGICAL SURVEY

Client Sample ID: CFW2

GC/MS Semivolatiles

Lot-Sample #...: D4J050210-004 **Work Order #...:** GR0A71AW **Matrix.....:** WATER

NOTE(S):

J Estimated result. Result is less than RL.

US GEOLOGICAL SURVEY

CFW2

GC/MS Semivolatiles

Lot-Sample #: D4J050210-004 **Work Order #:** GR0A71AW **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Unknown		7.2 J	M	5.9838	ug/L
2H-indol-2-one, 1,3-dihydro-	59-48-3	6.6 J	M	9.2782	ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

US GEOLOGICAL SURVEY

Client Sample ID: CFW3

GC/MS Semivolatiles

Lot-Sample #...: D4J050210-005 **Work Order #...:** GR0CD1AW **Matrix.....:** WATER
Date Sampled...: 10/05/04 14:05 **Date Received..:** 10/06/04
Prep Date.....: 10/06/04 **Analysis Date..:** 10/15/04
Prep Batch #...: 4280472 **Analysis Time..:** 20:04
Dilution Factor: 40

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	400	ug/L	24
Acenaphthylene	ND	400	ug/L	24
Anthracene	ND	400	ug/L	120
Benzo(a)anthracene	ND	400	ug/L	32
Benzo(b)fluoranthene	ND	400	ug/L	36
Benzo(k)fluoranthene	ND	400	ug/L	80
Benzo(ghi)perylene	ND	400	ug/L	40
Benzo(a)pyrene	ND	400	ug/L	32
bis(2-Chloroethoxy) methane	ND	400	ug/L	36
bis(2-Chloroethyl)-ether	ND	400	ug/L	120
bis(2-Ethylhexyl) phthalate	ND	400	ug/L	36
4-Bromophenyl phenyl ether	ND	400	ug/L	28
Butyl benzyl phthalate	ND	400	ug/L	40
Carbazole	ND	400	ug/L	36
4-Chloroaniline	ND	400	ug/L	120
4-Chloro-3-methylphenol	ND	400	ug/L	32
2-Chloronaphthalene	ND	400	ug/L	28
2-Chlorophenol	ND	400	ug/L	32
4-Chlorophenyl phenyl ether	ND	400	ug/L	24
Chrysene	ND	400	ug/L	32
Dibenz(a,h)anthracene	ND	400	ug/L	36
Dibenzofuran	ND	400	ug/L	24
Di-n-butyl phthalate	ND	400	ug/L	32
1,2-Dichlorobenzene	ND	400	ug/L	0.80
1,3-Dichlorobenzene	ND	400	ug/L	0.80
1,4-Dichlorobenzene	ND	400	ug/L	40
3,3'-Dichlorobenzidine	ND	2000	ug/L	320
2,4-Dichlorophenol	ND	400	ug/L	28
Diethyl phthalate	ND	400	ug/L	28
2,4-Dimethylphenol	ND	400	ug/L	160
Dimethyl phthalate	ND	400	ug/L	32
4,6-Dinitro-2-methylphenol	ND	2000	ug/L	240

(Continu xt page)

US GEOLOGICAL SURVEY

Client Sample ID: CFW3

GC/MS Semivolatiles

Lot-Sample #...: D4J050210-005 **Work Order #...:** GR0CD1AW **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dinitrophenol	ND	2000	ug/L	240
2,4-Dinitrotoluene	ND	400	ug/L	40
2,6-Dinitrotoluene	ND	400	ug/L	32
Di-n-octyl phthalate	ND	400	ug/L	40
Fluoranthene	ND	400	ug/L	28
Fluorene	**680**	**400**	**ug/L**	**24**
Hexachlorobenzene	ND	400	ug/L	32
Hexachlorobutadiene	ND	400	ug/L	40
Hexachlorocyclopenta-diene	ND	2000	ug/L	200
Hexachloroethane	ND	400	ug/L	32
Indeno(1,2,3-cd)pyrene	ND	400	ug/L	32
Isophorone	ND	400	ug/L	36
2-Methylnaphthalene	**2100**	**400**	**ug/L**	**32**
2-Methylphenol	ND	400	ug/L	36
4-Methylphenol	ND	400	ug/L	32
Naphthalene	**210 J**	**400**	**ug/L**	**32**
2-Nitroaniline	ND	2000	ug/L	36
3-Nitroaniline	ND	2000	ug/L	36
4-Nitroaniline	ND	2000	ug/L	240
Nitrobenzene	ND	400	ug/L	80
2-Nitrophenol	ND	400	ug/L	32
4-Nitrophenol	ND	2000	ug/L	280
N-Nitrosodiphenylamine	ND	400	ug/L	40
N-Nitrosodi-n-propyl-amine	ND	400	ug/L	28
2,2'-oxybis(1-Chloropropane)	ND	400	ug/L	28
Pentachlorophenol	ND	2000	ug/L	200
Phenanthrene	**710**	**400**	**ug/L**	**28**
Phenol	ND	400	ug/L	36
Pyrene	**80 J**	**400**	**ug/L**	**32**
1,2,4-Trichloro-benzene	ND	400	ug/L	36
2,4,5-Trichloro-phenol	ND	400	ug/L	40
2,4,6-Trichloro-phenol	ND	400	ug/L	32

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	NC,DIL	(36 - 110)
Phenol-d5	NC,DIL	(39 - 109)
Nitrobenzene-d5	NC,DIL	(47 - 107)
2-Fluorobiphenyl	NC,DIL	(34 - 96)
2,4,6-Tribromophenol	NC,DIL	(34 - 126)
Terphenyl-d14	NC,DIL	(12 - 126)

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US GEOLOGICAL SURVEY

Client Sample ID: CFW3

GC/MS Semivolatiles

Lot-Sample #...: D4J050210-005 **Work Order #...:** GR0CD1AW **Matrix.....:** WATER

NOTE(S):

NC The recovery and/or RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

J Estimated result. Result is less than RL.

US GEOLOGICAL SURVEY

CFW3

GC/MS Semivolatiles

Lot-Sample #: D4J050210-005 **Work Order #:** GR0CD1AW **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Tridecane, 7-methyl-	26730-14-3	1700 J	M	7.8309	ug/L
1H-indene, 2,3-dihydro-1,1,3-t	2613-76-5	830 J	M	8.2709	ug/L
Naphthalene, 1-methyl-	90-12-0	940 J	M	8.2924	ug/L
Dodecane, 2,6,10-trimethyl-	3891-98-3	700 J	M	8.4211	ug/L
Naphthalene, 2,7-dimethyl-	582-16-1	1200 J	M	8.7753	ug/L
Naphthalene, 2,7-dimethyl-	582-16-1	2800 J	M	8.8504	ug/L
Naphthalene, 2,7-dimethyl-	582-16-1	1300 J	M	8.8772	ug/L
Pentadecane	629-62-9	2400 J	M	9.0221	ug/L
Unknown		1600 J	M	9.2957	ug/L
Naphthalene, 1,4,6-trimethyl-	2131-42-2	1900 J	M	9.344	ug/L
Naphthalene, 1,4,6-trimethyl-	2131-42-2	1500 J	M	9.3708	ug/L
Tridecane, 4,8-dimethyl-	55030-62-1	810 J	M	9.4138	ug/L
Hexadecane	544-76-3	5200 J	M	9.4513	ug/L
Naphthalene, 1,4,6-trimethyl-	2131-42-2	3300 J	M	9.5211	ug/L
1,1'-Biphenyl, 2-methyl-	643-58-3	2600 J	M	9.7518	ug/L
Heptadecane	629-78-7	1900 J	M	9.843	ug/L
Azulene, 7-ethyl-1,4-dimethyl-	529-05-5	1700 J	M	9.945	ug/L
Tridecane	629-50-5	2600 J	M	10.036	ug/L
Unknown		1400 J	M	10.132	ug/L
Octadecane	593-45-3	1600 J	M	10.197	ug/L
Tridecane, 6-propyl-	55045-10-8	2800 J	M	10.234	ug/L
Unknown		1400 J	M	10.336	ug/L
Unknown		560 J	M	10.503	ug/L
Nonadecane	629-92-5	2900 J	M	10.529	ug/L
Dibenzothiophene, 3-methyl-	16587-52-3	1800 J	M	10.685	ug/L
Anthracene, 2-methyl-	613-12-7	420 J	M	10.814	ug/L
Eicosane	112-95-8	3400 J	M	10.835	ug/L
Pentadecane	629-62-9	2200 J	M	11.13	ug/L
Hexadecane	544-76-3	1300 J	M	11.415	ug/L
Octadecane	593-45-3	2100 J	M	11.957	ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

US GEOLOGICAL SURVEY

Client Sample ID: CFW1

GC/MS Semivolatiles

Lot-Sample #...: D4J050210-006 **Work Order #...:** GR0CE1AW **Matrix.....:** WATER
Date Sampled...: 10/05/04 11:05 **Date Received..:** 10/06/04
Prep Date.....: 10/06/04 **Analysis Date..:** 10/15/04
Prep Batch #...: 4280472 **Analysis Time..:** 20:32
Dilution Factor: 1

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	10	ug/L	0.60
Acenaphthylene	ND	10	ug/L	0.60
Anthracene	ND	10	ug/L	3.0
Benzo(a)anthracene	ND	10	ug/L	0.80
Benzo(b)fluoranthene	ND	10	ug/L	0.90
Benzo(k)fluoranthene	ND	10	ug/L	2.0
Benzo(ghi)perylene	ND	10	ug/L	1.0
Benzo(a)pyrene	ND	10	ug/L	0.80
bis(2-Chloroethoxy) methane	ND	10	ug/L	0.90
bis(2-Chloroethyl)-ether	ND	10	ug/L	3.0
bis(2-Ethylhexyl) phthalate	ND	10	ug/L	0.90
4-Bromophenyl phenyl ether	ND	10	ug/L	0.70
Butyl benzyl phthalate	ND	10	ug/L	1.0
Carbazole	ND	10	ug/L	0.90
4-Chloroaniline	ND	10	ug/L	3.0
4-Chloro-3-methylphenol	ND	10	ug/L	0.80
2-Chloronaphthalene	ND	10	ug/L	0.70
2-Chlorophenol	ND	10	ug/L	0.80
4-Chlorophenyl phenyl ether	ND	10	ug/L	0.60
Chrysene	ND	10	ug/L	0.80
Dibenz(a,h)anthracene	ND	10	ug/L	0.90
Dibenzofuran	ND	10	ug/L	0.60
Di-n-butyl phthalate	ND	10	ug/L	0.80
1,2-Dichlorobenzene	ND	10	ug/L	0.80
1,3-Dichlorobenzene	ND	10	ug/L	0.80
1,4-Dichlorobenzene	ND	10	ug/L	1.0
3,3'-Dichlorobenzidine	ND	50	ug/L	8.0
2,4-Dichlorophenol	ND	10	ug/L	0.70
Diethyl phthalate	ND	10	ug/L	0.70
2,4-Dimethylphenol	ND	10	ug/L	4.0
Dimethyl phthalate	ND	10	ug/L	0.80
4,6-Dinitro-2-methylphenol	ND	50	ug/L	6.0

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US GEOLOGICAL SURVEY

Client Sample ID: CFW1

GC/MS Semivolatiles

Lot-Sample #...: D4J050210-006 **Work Order #...:** GR0CE1AW **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dinitrophenol	ND	50	ug/L	6.0
2,4-Dinitrotoluene	ND	10	ug/L	1.0
2,6-Dinitrotoluene	ND	10	ug/L	0.80
Di-n-octyl phthalate	ND	10	ug/L	1.0
Fluoranthene	ND	10	ug/L	0.70
Fluorene	ND	10	ug/L	0.60
Hexachlorobenzene	ND	10	ug/L	0.80
Hexachlorobutadiene	ND	10	ug/L	1.0
Hexachlorocyclopenta-diene	ND	50	ug/L	5.0
Hexachloroethane	ND	10	ug/L	0.80
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	0.80
Isophorone	ND	10	ug/L	0.90
2-Methylnaphthalene	ND	10	ug/L	0.80
2-Methylphenol	ND	10	ug/L	0.90
4-Methylphenol	ND	10	ug/L	0.80
Naphthalene	ND	10	ug/L	0.80
2-Nitroaniline	ND	50	ug/L	0.90
3-Nitroaniline	ND	50	ug/L	0.90
4-Nitroaniline	ND	50	ug/L	6.0
Nitrobenzene	ND	10	ug/L	2.0
2-Nitrophenol	ND	10	ug/L	0.80
4-Nitrophenol	ND	50	ug/L	7.0
N-Nitrosodiphenylamine	ND	10	ug/L	1.0
N-Nitrosodi-n-propyl-amine	ND	10	ug/L	0.70
2,2'-oxybis(1-Chloropropane)	ND	10	ug/L	0.70
Pentachlorophenol	ND	50	ug/L	5.0
Phenanthrene	ND	10	ug/L	0.70
Phenol	ND	10	ug/L	0.90
Pyrene	ND	10	ug/L	0.80
1,2,4-Trichloro-benzene	ND	10	ug/L	0.90
2,4,5-Trichloro-phenol	ND	10	ug/L	1.0
2,4,6-Trichloro-phenol	ND	10	ug/L	0.80

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	65	(36 - 110)
Phenol-d5	66	(39 - 109)
Nitrobenzene-d5	70	(47 - 107)
2-Fluorobiphenyl	52	(34 - 96)
2,4,6-Tribromophenol	54	(34 - 126)
Terphenyl-d14	88	(12 - 126)

US GEOLOGICAL SURVEY

CFW1

GC/MS Semivolatiles

Lot-Sample #: D4J050210-006 **Work Order #:** GR0CE1AW **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
None				ug/L

US GEOLOGICAL SURVEY

Client Sample ID: CFW4

GC/MS Semivolatiles

Lot-Sample #...: D4J050210-007 **Work Order #...:** GR0CN1AW **Matrix.....:** WATER
Date Sampled...: 10/05/04 09:45 **Date Received..:** 10/06/04
Prep Date.....: 10/06/04 **Analysis Date..:** 10/15/04
Prep Batch #...: 4280472 **Analysis Time..:** 21:00
Dilution Factor: 1

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	**1.4 J**	**10**	**ug/L**	**0.60**
Acenaphthylene	ND	10	ug/L	0.60
Anthracene	ND	10	ug/L	3.0
Benzo(a)anthracene	ND	10	ug/L	0.80
Benzo(b)fluoranthene	ND	10	ug/L	0.90
Benzo(k)fluoranthene	ND	10	ug/L	2.0
Benzo(ghi)perylene	ND	10	ug/L	1.0
Benzo(a)pyrene	ND	10	ug/L	0.80
bis(2-Chloroethoxy) methane	ND	10	ug/L	0.90
bis(2-Chloroethyl)-ether	ND	10	ug/L	3.0
bis(2-Ethylhexyl) phthalate	ND	10	ug/L	0.90
4-Bromophenyl phenyl ether	ND	10	ug/L	0.70
Butyl benzyl phthalate	ND	10	ug/L	1.0
Carbazole	**0.99 J**	**10**	**ug/L**	**0.90**
4-Chloroaniline	ND	10	ug/L	3.0
4-Chloro-3-methylphenol	ND	10	ug/L	0.80
2-Chloronaphthalene	ND	10	ug/L	0.70
2-Chlorophenol	ND	10	ug/L	0.80
4-Chlorophenyl phenyl ether	ND	10	ug/L	0.60
Chrysene	ND	10	ug/L	0.80
Dibenz(a,h)anthracene	ND	10	ug/L	0.90
Dibenzofuran	**4.7 J**	**10**	**ug/L**	**0.60**
Di-n-butyl phthalate	ND	10	ug/L	0.80
1,2-Dichlorobenzene	ND	10	ug/L	0.80
1,3-Dichlorobenzene	ND	10	ug/L	0.80
1,4-Dichlorobenzene	ND	10	ug/L	1.0
3,3'-Dichlorobenzidine	ND	50	ug/L	8.0
2,4-Dichlorophenol	ND	10	ug/L	0.70
Diethyl phthalate	ND	10	ug/L	0.70
2,4-Dimethylphenol	ND	10	ug/L	4.0
Dimethyl phthalate	ND	10	ug/L	0.80
4,6-Dinitro-2-methylphenol	ND	50	ug/L	6.0

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US GEOLOGICAL SURVEY

Client Sample ID: CFW4

GC/MS Semivolatiles

Lot-Sample #...: D4J050210-007 **Work Order #...:** GR0CN1AW **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dinitrophenol	ND	50	ug/L	6.0
2,4-Dinitrotoluene	ND	10	ug/L	1.0
2,6-Dinitrotoluene	ND	10	ug/L	0.80
Di-n-octyl phthalate	ND	10	ug/L	1.0
Fluoranthene	ND	10	ug/L	0.70
Fluorene	ND	10	ug/L	0.60
Hexachlorobenzene	ND	10	ug/L	0.80
Hexachlorobutadiene	ND	10	ug/L	1.0
Hexachlorocyclopenta-diene	ND	50	ug/L	5.0
Hexachloroethane	ND	10	ug/L	0.80
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	0.80
Isophorone	ND	10	ug/L	0.90
2-Methylnaphthalene	**16**	**10**	**ug/L**	**0.80**
2-Methylphenol	ND	10	ug/L	0.90
4-Methylphenol	ND	10	ug/L	0.80
Naphthalene	**1.1 J**	**10**	**ug/L**	**0.80**
2-Nitroaniline	ND	50	ug/L	0.90
3-Nitroaniline	ND	50	ug/L	0.90
4-Nitroaniline	ND	50	ug/L	6.0
Nitrobenzene	ND	10	ug/L	2.0
2-Nitrophenol	ND	10	ug/L	0.80
4-Nitrophenol	ND	50	ug/L	7.0
N-Nitrosodiphenylamine	ND	10	ug/L	1.0
N-Nitrosodi-n-propyl-amine	ND	10	ug/L	0.70
2,2'-oxybis(1-Chloropropane)	ND	10	ug/L	0.70
Pentachlorophenol	ND	50	ug/L	5.0
Phenanthrene	**3.2 J**	**10**	**ug/L**	**0.70**
Phenol	ND	10	ug/L	0.90
Pyrene	ND	10	ug/L	0.80
1,2,4-Trichloro-benzene	ND	10	ug/L	0.90
2,4,5-Trichloro-phenol	ND	10	ug/L	1.0
2,4,6-Trichloro-phenol	ND	10	ug/L	0.80

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	67	(36 - 110)
Phenol-d5	68	(39 - 109)
Nitrobenzene-d5	73	(47 - 107)
2-Fluorobiphenyl	50	(34 - 96)
2,4,6-Tribromophenol	62	(34 - 126)
Terphenyl-d14	80	(12 - 126)

(Continued on next page)

US GEOLOGICAL SURVEY

Client Sample ID: CFW4

GC/MS Semivolatiles

Lot-Sample #...: D4J050210-007 **Work Order #...:** GR0CN1AW **Matrix.....:** WATER

NOTE(S):

J Estimated result. Result is less than RL.

US GEOLOGICAL SURVEY

CFW4

GC/MS Semivolatiles

Lot-Sample #: D4J050210-007 **Work Order #:** GR0CN1AW **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Unknown		10 J	M	5.9849	ug/L
Unknown		4.3 J	M	8.1472	ug/L
Naphthalene, 1-methyl-	90-12-0	27 J	M	8.2867	ug/L
Naphthalene, 2-ethyl-	939-27-5	5.1 J	M	8.7106	ug/L
Naphthalene, 1,5-dimethyl-	571-61-9	13 J	M	8.7643	ug/L
Naphthalene, 1,5-dimethyl-	571-61-9	21 J	M	8.8501	ug/L
Naphthalene, 1,5-dimethyl-	571-61-9	14 J	M	8.8716	ug/L
Naphthalene, 1,5-dimethyl-	571-61-9	8.4 J	M	8.9574	ug/L
Naphthalene, 1,5-dimethyl-	571-61-9	5.1 J	M	8.9789	ug/L
Naphthalene, 1,3-dimethyl-	575-41-7	6.1 J	M	9.0433	ug/L
Unknown		11 J	M	9.2794	ug/L
Naphthalene, 1,4,5-trimethyl-	2131-41-1	4.2 J	M	9.3598	ug/L
Naphthalene, 1,6,7-trimethyl-	2245-38-7	5.5 J	M	9.4403	ug/L
Naphthalene, 1,4,5-trimethyl-	2131-41-1	5.0 J	M	9.5154	ug/L
2-Naphthyl methyl ketone	93-08-3	4.7 J	M	9.7354	ug/L
6'-Methyl-2'-acetonaphthone	24875-94-3	6.5 J	M	10.196	ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

US GEOLOGICAL SURVEY

Client Sample ID: HMW15

GC Semivolatiles

Lot-Sample #...: D4J050210-001 **Work Order #...:** GRT641AL **Matrix.....:** WATER
Date Sampled...: 10/04/04 14:50 **Date Received..:** 10/05/04
Prep Date.....: 10/05/04 **Analysis Date..:** 10/12/04
Prep Batch #...: 4279449 **Analysis Time..:** 00:45
Dilution Factor: 1

Method.....: SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Diesel Range Organics	ND	0.25	mg/L	0.043

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	89	(46 - 95)

US GEOLOGICAL SURVEY

Client Sample ID: CFW2-1

GC Semivolatiles

Lot-Sample #...: D4J050210-003 **Work Order #...:** GRX951AL **Matrix.....:** WATER
Date Sampled...: 10/05/04 12:50 **Date Received..:** 10/06/04
Prep Date.....: 10/06/04 **Analysis Date..:** 10/12/04
Prep Batch #...: 4280536 **Analysis Time..:** 07:03
Dilution Factor: 1

Method.....: SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Diesel Range Organics	**0.22 J**	**0.25**	**mg/L**	**0.043**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	93	(46 - 95)

NOTE(S):

J Estimated result. Result is less than RL.

US GEOLOGICAL SURVEY

Client Sample ID: CFW2

GC Semivolatiles

Lot-Sample #...: D4J050210-004 **Work Order #...:** GR0A71AU **Matrix.....:** WATER
Date Sampled...: 10/05/04 12:45 **Date Received..:** 10/06/04
Prep Date.....: 10/06/04 **Analysis Date..:** 10/09/04
Prep Batch #...: 4280536 **Analysis Time..:** 22:49
Dilution Factor: 1

Method.....: SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Diesel Range Organics	**0.21 J**	**0.25**	**mg/L**	**0.043**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	92	(46 - 95)

NOTE(S):

J Estimated result. Result is less than RL.

US GEOLOGICAL SURVEY

Client Sample ID: CFW3

GC Semivolatiles

Lot-Sample #...:	D4J050210-005	**Work Order #...:**	GR0CD1AU	**Matrix.....:**	WATER
Date Sampled...:	10/05/04 14:05	**Date Received..:**	10/06/04		
Prep Date.....:	10/06/04	**Analysis Date..:**	10/16/04		
Prep Batch #...:	4280536	**Analysis Time..:**	16:52		
Dilution Factor:	100				
		Method.....:	SW846 8015 MOD		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Diesel Range Organics	**10000**	**25**	**mg/L**	**4.3**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	NC,DIL	(46 - 95)

NOTE(S):

NC The recovery and/or RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

US GEOLOGICAL SURVEY

Client Sample ID: CFW1

GC Semivolatiles

Lot-Sample #...: D4J050210-006 **Work Order #...:** GR0CE1AU **Matrix.....:** WATER
Date Sampled...: 10/05/04 11:05 **Date Received..:** 10/06/04
Prep Date.....: 10/06/04 **Analysis Date..:** 10/09/04
Prep Batch #...: 4280536 **Analysis Time..:** 23:52
Dilution Factor: 1

Method.....: SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Diesel Range Organics	ND	0.25	mg/L	0.043

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	96 *	(46 - 95)

NOTE(S):

* Surrogate recovery is outside stated control limits.

US GEOLOGICAL SURVEY

Client Sample ID: CFW4

GC Semivolatiles

Lot-Sample #...: D4J050210-007 **Work Order #...:** GR0CN1AU **Matrix.....:** WATER
Date Sampled...: 10/05/04 09:45 **Date Received..:** 10/06/04
Prep Date.....: 10/06/04 **Analysis Date..:** 10/10/04
Prep Batch #...: 4280536 **Analysis Time..:** 00:24
Dilution Factor: 1

Method.....: SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Diesel Range Organics	**0.45**	**0.25**	**mg/L**	**0.043**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	88	(46 - 95)

US GEOLOGICAL SURVEY

Client Sample ID: HMW15

TOTAL Metals

Lot-Sample #...: D4J050210-001 **Matrix.....:** WATER
Date Sampled...: 10/04/04 14:50 **Date Received..:** 10/05/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4279544						
Barium	**13**	**10**	**ug/L**	**SW846 6010B**	**10/06-10/09/04**	**GRT641A0**
		Dilution Factor: 1		Analysis Time..: 23:46	MDL.....: 2.1	
Beryllium	ND	6.0	ug/L	SW846 6010B	10/06-10/08/04	GRT641A1
		Dilution Factor: 1		Analysis Time..: 06:25	MDL.....: 0.83	
Calcium	**450000**	**600**	**ug/L**	**SW846 6010B**	**10/06-10/08/04**	**GRT641A2**
		Dilution Factor: 1		Analysis Time..: 06:25	MDL.....: 96	
Cobalt	ND	10	ug/L	SW846 6010B	10/06-10/09/04	GRT641A6
		Dilution Factor: 1		Analysis Time..: 23:46	MDL.....: 0.91	
Potassium	**71000**	**3000**	**ug/L**	**SW846 6010B**	**10/06-10/08/04**	**GRT641A3**
		Dilution Factor: 1		Analysis Time..: 06:25	MDL.....: 250	
Magnesium	**740000**	**200**	**ug/L**	**SW846 6010B**	**10/06-10/08/04**	**GRT641A4**
		Dilution Factor: 1		Analysis Time..: 06:25	MDL.....: 17	
Sodium	**2700000**	**5000**	**ug/L**	**SW846 6010B**	**10/06-10/08/04**	**GRT641A5**
		Dilution Factor: 1		Analysis Time..: 06:25	MDL.....: 1400	
Prep Batch #...: 4280667						
Arsenic	**11 B**	**25**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GRT641AR**
		Dilution Factor: 5		Analysis Time..: 21:16	MDL.....: 0.47	
Cadmium	**0.32 B**	**5.0**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GRT641AT**
		Dilution Factor: 5		Analysis Time..: 21:16	MDL.....: 0.14	
Chromium	**3.9 B,J**	**10**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GRT641AW**
		Dilution Factor: 5		Analysis Time..: 21:16	MDL.....: 1.2	
Lead	ND	5.0	ug/L	SW846 6020	10/13-10/19/04	GRT641AU
		Dilution Factor: 5		Analysis Time..: 21:16	MDL.....: 0.38	
Selenium	**100**	**25**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GRT641AV**
		Dilution Factor: 5		Analysis Time..: 21:16	MDL.....: 0.80	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

US GEOLOGICAL SURVEY

Client Sample ID: CFW2-1

TOTAL Metals

Lot-Sample #...: D4J050210-003 **Matrix.....:** WATER
Date Sampled...: 10/05/04 12:50 **Date Received..:** 10/06/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4280567						
Barium	**14**	**10**	**ug/L**	**SW846 6010B**	**10/07-10/11/04**	**GRX951A0**
		Dilution Factor: 1		Analysis Time..: 19:47	MDL.....: 2.1	
Beryllium	**1.2 B**	**6.0**	**ug/L**	**SW846 6010B**	**10/07-10/10/04**	**GRX951A1**
		Dilution Factor: 1		Analysis Time..: 06:20	MDL.....: 0.83	
Calcium	**200000**	**600**	**ug/L**	**SW846 6010B**	**10/07-10/10/04**	**GRX951A2**
		Dilution Factor: 1		Analysis Time..: 06:20	MDL.....: 96	
Cobalt	ND	10	ug/L	SW846 6010B	10/07-10/11/04	GRX951A6
		Dilution Factor: 1		Analysis Time..: 19:47	MDL.....: 0.91	
Potassium	**70000**	**3000**	**ug/L**	**SW846 6010B**	**10/07-10/12/04**	**GRX951A3**
		Dilution Factor: 1		Analysis Time..: 04:15	MDL.....: 250	
Magnesium	**380000**	**200**	**ug/L**	**SW846 6010B**	**10/07-10/10/04**	**GRX951A4**
		Dilution Factor: 1		Analysis Time..: 06:20	MDL.....: 17	
Sodium	**2000000**	**5000**	**ug/L**	**SW846 6010B**	**10/07-10/12/04**	**GRX951A5**
		Dilution Factor: 1		Analysis Time..: 04:15	MDL.....: 1400	
Prep Batch #...: 4280667						
Arsenic	**15 B**	**25**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GRX951AR**
		Dilution Factor: 5		Analysis Time..: 21:20	MDL.....: 0.47	
Cadmium	**0.56 B**	**5.0**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GRX951AT**
		Dilution Factor: 5		Analysis Time..: 21:20	MDL.....: 0.14	
Chromium	**9.6 B,J**	**10**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GRX951AW**
		Dilution Factor: 5		Analysis Time..: 21:20	MDL.....: 1.2	
Lead	ND	5.0	ug/L	SW846 6020	10/13-10/19/04	GRX951AU
		Dilution Factor: 5		Analysis Time..: 21:20	MDL.....: 0.38	
Selenium	**43**	**25**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GRX951AV**
		Dilution Factor: 5		Analysis Time..: 21:20	MDL.....: 0.80	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

US GEOLOGICAL SURVEY

Client Sample ID: CFW2

TOTAL Metals

Lot-Sample #...: D4J050210-004 **Matrix.....:** WATER
Date Sampled...: 10/05/04 12:45 **Date Received..:** 10/06/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4280567						
Barium	**14**	**10**	**ug/L**	**SW846 6010B**	**10/07-10/11/04**	**GR0A71AA**
		Dilution Factor: 1		Analysis Time..: 20:07	MDL.....: 2.1	
Beryllium	ND	6.0	ug/L	SW846 6010B	10/07-10/10/04	GR0A71AC
		Dilution Factor: 1		Analysis Time..: 06:39	MDL.....: 0.83	
Calcium	**210000**	**600**	**ug/L**	**SW846 6010B**	**10/07-10/10/04**	**GR0A71AD**
		Dilution Factor: 1		Analysis Time..: 06:39	MDL.....: 96	
Cobalt	ND	10	ug/L	SW846 6010B	10/07-10/11/04	GR0A71AH
		Dilution Factor: 1		Analysis Time..: 20:07	MDL.....: 0.91	
Potassium	**70000**	**3000**	**ug/L**	**SW846 6010B**	**10/07-10/12/04**	**GR0A71AE**
		Dilution Factor: 1		Analysis Time..: 04:34	MDL.....: 250	
Magnesium	**400000**	**200**	**ug/L**	**SW846 6010B**	**10/07-10/10/04**	**GR0A71AF**
		Dilution Factor: 1		Analysis Time..: 06:39	MDL.....: 17	
Sodium	**2000000**	**5000**	**ug/L**	**SW846 6010B**	**10/07-10/12/04**	**GR0A71AG**
		Dilution Factor: 1		Analysis Time..: 04:34	MDL.....: 1400	
Prep Batch #...: 4280667						
Arsenic	**16 B**	**25**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GR0A71A1**
		Dilution Factor: 5		Analysis Time..: 21:46	MDL.....: 0.47	
Cadmium	**0.29 B**	**5.0**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GR0A71A2**
		Dilution Factor: 5		Analysis Time..: 21:46	MDL.....: 0.14	
Chromium	**8.7 B,J**	**10**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GR0A71A5**
		Dilution Factor: 5		Analysis Time..: 21:46	MDL.....: 1.2	
Lead	ND	5.0	ug/L	SW846 6020	10/13-10/19/04	GR0A71A3
		Dilution Factor: 5		Analysis Time..: 21:46	MDL.....: 0.38	
Selenium	**47**	**25**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GR0A71A4**
		Dilution Factor: 5		Analysis Time..: 21:46	MDL.....: 0.80	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

US GEOLOGICAL SURVEY

Client Sample ID: CFW3

TOTAL Metals

Lot-Sample #...: D4J050210-005 **Matrix.....:** WATER
Date Sampled...: 10/05/04 14:05 **Date Received..:** 10/06/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4280567						
Barium	**38**	**10**	**ug/L**	**SW846 6010B**	**10/07-10/11/04**	**GR0CD1AA**
		Dilution Factor: 1		Analysis Time..: 20:12	MDL.....: 2.1	
Beryllium	**1.2 B**	**6.0**	**ug/L**	**SW846 6010B**	**10/07-10/10/04**	**GR0CD1AC**
		Dilution Factor: 1		Analysis Time..: 06:44	MDL.....: 0.83	
Calcium	**380000**	**600**	**ug/L**	**SW846 6010B**	**10/07-10/10/04**	**GR0CD1AD**
		Dilution Factor: 1		Analysis Time..: 06:44	MDL.....: 96	
Cobalt	ND	10	ug/L	SW846 6010B	10/07-10/11/04	GR0CD1AH
		Dilution Factor: 1		Analysis Time..: 20:12	MDL.....: 0.91	
Potassium	**65000**	**3000**	**ug/L**	**SW846 6010B**	**10/07-10/12/04**	**GR0CD1AE**
		Dilution Factor: 1		Analysis Time..: 04:39	MDL.....: 250	
Magnesium	**370000**	**200**	**ug/L**	**SW846 6010B**	**10/07-10/10/04**	**GR0CD1AF**
		Dilution Factor: 1		Analysis Time..: 06:44	MDL.....: 17	
Sodium	**1700000**	**5000**	**ug/L**	**SW846 6010B**	**10/07-10/12/04**	**GR0CD1AG**
		Dilution Factor: 1		Analysis Time..: 04:39	MDL.....: 1400	
Prep Batch #...: 4280667						
Arsenic	**3.2 B**	**25**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GR0CD1A1**
		Dilution Factor: 5		Analysis Time..: 21:50	MDL.....: 0.47	
Cadmium	ND	5.0	ug/L	SW846 6020	10/13-10/19/04	GR0CD1A2
		Dilution Factor: 5		Analysis Time..: 21:50	MDL.....: 0.14	
Chromium	**11 J**	**10**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GR0CD1A5**
		Dilution Factor: 5		Analysis Time..: 21:50	MDL.....: 1.2	
Lead	**2.0 B**	**5.0**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GR0CD1A3**
		Dilution Factor: 5		Analysis Time..: 21:50	MDL.....: 0.38	
Selenium	**3.0 B**	**25**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GR0CD1A4**
		Dilution Factor: 5		Analysis Time..: 21:50	MDL.....: 0.80	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

US GEOLOGICAL SURVEY

Client Sample ID: CFW1

TOTAL Metals

Lot-Sample #...: D4J050210-006 **Matrix.....:** WATER
Date Sampled...: 10/05/04 11:05 **Date Received..:** 10/06/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4280567						
Barium	**14**	**10**	**ug/L**	**SW846 6010B**	**10/07-10/11/04**	**GR0CE1AA**
		Dilution Factor: 1		Analysis Time..: 20:17	MDL.....: 2.1	
Beryllium	**1.0 B**	**6.0**	**ug/L**	**SW846 6010B**	**10/07-10/10/04**	**GR0CE1AC**
		Dilution Factor: 1		Analysis Time..: 06:58	MDL.....: 0.83	
Calcium	**320000**	**600**	**ug/L**	**SW846 6010B**	**10/07-10/10/04**	**GR0CE1AD**
		Dilution Factor: 1		Analysis Time..: 06:58	MDL.....: 96	
Cobalt	ND	10	ug/L	SW846 6010B	10/07-10/11/04	GR0CE1AH
		Dilution Factor: 1		Analysis Time..: 20:17	MDL.....: 0.91	
Potassium	**72000**	**3000**	**ug/L**	**SW846 6010B**	**10/07-10/12/04**	**GR0CE1AE**
		Dilution Factor: 1		Analysis Time..: 04:53	MDL.....: 250	
Magnesium	**410000**	**200**	**ug/L**	**SW846 6010B**	**10/07-10/10/04**	**GR0CE1AF**
		Dilution Factor: 1		Analysis Time..: 06:58	MDL.....: 17	
Sodium	**1900000**	**5000**	**ug/L**	**SW846 6010B**	**10/07-10/12/04**	**GR0CE1AG**
		Dilution Factor: 1		Analysis Time..: 04:53	MDL.....: 1400	
Prep Batch #...: 4280667						
Arsenic	**9.8 B**	**25**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GR0CE1A1**
		Dilution Factor: 5		Analysis Time..: 21:53	MDL.....: 0.47	
Cadmium	**0.58 B**	**5.0**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GR0CE1A2**
		Dilution Factor: 5		Analysis Time..: 21:53	MDL.....: 0.14	
Chromium	**7.7 B,J**	**10**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GR0CE1A5**
		Dilution Factor: 5		Analysis Time..: 21:53	MDL.....: 1.2	
Lead	**0.59 B**	**5.0**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GR0CE1A3**
		Dilution Factor: 5		Analysis Time..: 21:53	MDL.....: 0.38	
Selenium	**36**	**25**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GR0CE1A4**
		Dilution Factor: 5		Analysis Time..: 21:53	MDL.....: 0.80	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

US GEOLOGICAL SURVEY

Client Sample ID: CFW4

TOTAL Metals

Lot-Sample #...: D4J050210-007 **Matrix.....:** WATER
Date Sampled...: 10/05/04 09:45 **Date Received..:** 10/06/04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4280567						
Barium	**13**	**10**	**ug/L**	**SW846 6010B**	**10/07-10/11/04**	**GR0CN1AA**
		Dilution Factor: 1		Analysis Time..: 20:22	MDL.....: 2.1	
Beryllium	**1.0 B**	**6.0**	**ug/L**	**SW846 6010B**	**10/07-10/10/04**	**GR0CN1AC**
		Dilution Factor: 1		Analysis Time..: 07:03	MDL.....: 0.83	
Calcium	**330000**	**600**	**ug/L**	**SW846 6010B**	**10/07-10/10/04**	**GR0CN1AD**
		Dilution Factor: 1		Analysis Time..: 07:03	MDL.....: 96	
Cobalt	ND	10	ug/L	SW846 6010B	10/07-10/11/04	GR0CN1AH
		Dilution Factor: 1		Analysis Time..: 20:22	MDL.....: 0.91	
Potassium	**89000**	**3000**	**ug/L**	**SW846 6010B**	**10/07-10/12/04**	**GR0CN1AE**
		Dilution Factor: 1		Analysis Time..: 04:58	MDL.....: 250	
Magnesium	**460000**	**200**	**ug/L**	**SW846 6010B**	**10/07-10/10/04**	**GR0CN1AF**
		Dilution Factor: 1		Analysis Time..: 07:03	MDL.....: 17	
Sodium	**2300000**	**5000**	**ug/L**	**SW846 6010B**	**10/07-10/12/04**	**GR0CN1AG**
		Dilution Factor: 1		Analysis Time..: 04:58	MDL.....: 1400	
Prep Batch #...: 4280667						
Arsenic	**12 B**	**25**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GR0CN1A1**
		Dilution Factor: 5		Analysis Time..: 21:57	MDL.....: 0.47	
Cadmium	**0.57 B**	**5.0**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GR0CN1A2**
		Dilution Factor: 5		Analysis Time..: 21:57	MDL.....: 0.14	
Chromium	**20 J**	**10**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GR0CN1A5**
		Dilution Factor: 5		Analysis Time..: 21:57	MDL.....: 1.2	
Lead	ND	5.0	ug/L	SW846 6020	10/13-10/19/04	GR0CN1A3
		Dilution Factor: 5		Analysis Time..: 21:57	MDL.....: 0.38	
Selenium	**48**	**25**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GR0CN1A4**
		Dilution Factor: 5		Analysis Time..: 21:57	MDL.....: 0.80	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

US GEOLOGICAL SURVEY

Client Sample ID: HMW15

General Chemistry

Lot-Sample #...: D4J050210-001 **Work Order #...:** GRT64 **Matrix.....:** WATER
Date Sampled...: 10/04/04 14:50 **Date Received..:** 10/05/04

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Ammonia as N	ND	0.10	mg/L	MCAWW 350.1	10/07/04	4285444
		Dilution Factor: 1		Analysis Time..: 14:00	MDL.....: 0.019	
Chloride	**2100 Q**	**300**	**mg/L**	**MCAWW 300.0A**	**10/05/04**	**4280344**
		Dilution Factor: 100		Analysis Time..: 16:27	MDL.....: 10	
Cyanide, Total	ND	0.010	mg/L	SW846 9012A	10/11/04	4285617
		Dilution Factor: 1		Analysis Time..: 17:00	MDL.....: 0.0028	
Fluoride	ND G	5.0	mg/L	MCAWW 300.0A	10/05/04	4280345
		Dilution Factor: 5		Analysis Time..: 14:38	MDL.....: 0.50	
Nitrate	**67 Q**	**10**	**mg/L**	**MCAWW 300.0A**	**10/05/04**	**4280346**
		Dilution Factor: 20		Analysis Time..: 15:32	MDL.....: 0.40	
Phosphate as P, Ortho	ND G	2.5	mg/L	MCAWW 300.0A	10/05/04	4280347
		Dilution Factor: 5		Analysis Time..: 14:38	MDL.....: 0.15	
Sulfate	**6200 Q**	**2500**	**mg/L**	**MCAWW 300.0A**	**10/05/04**	**4280348**
		Dilution Factor: 500		Analysis Time..: 17:57	MDL.....: 50	
Total Alkalinity	**110**	**5.0**	**mg/L**	**MCAWW 310.1**	**10/11/04**	**4286149**
		Dilution Factor: 1		Analysis Time..: 16:08	MDL.....: 0.85	
Total Dissolved Solids	**14000 Q**	**100**	**mg/L**	**MCAWW 160.1**	**10/07/04**	**4282167**
		Dilution Factor: 10		Analysis Time..: 15:45	MDL.....: 36	
Total Organic Carbon	**1.5**	**1.0**	**mg/L**	**SW846 9060**	**10/24/04**	**4299070**
		Dilution Factor: 1		Analysis Time..: 11:00	MDL.....: 0.27	
Total Organic Halogens	ND IC	40	ug/L	SW846 9020B	10/24/04	4298053
		Dilution Factor: 4		Analysis Time..: 12:00	MDL.....: 31	
Total Sulfide	ND	0.050	mg/L	MCAWW 376.2	10/06/04	4281176
		Dilution Factor: 1		Analysis Time..: 17:00	MDL.....: 0.020	

NOTE(S):

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

IC Diluted due to high inorganic chloride.

US GEOLOGICAL SURVEY

Client Sample ID: CFW2-1

General Chemistry

Lot-Sample #...: D4J050210-003 **Work Order #...:** GRX95 **Matrix.....:** WATER
Date Sampled...: 10/05/04 12:50 **Date Received..:** 10/06/04

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Ammonia as N	ND	0.10	mg/L	MCAWW 350.1	10/07/04	4285444
		Dilution Factor: 1		Analysis Time..: 14:00	MDL.....: 0.019	
Chloride	**680 J,Q**	**150**	**mg/L**	**MCAWW 300.0A**	**10/06/04**	**4281551**
		Dilution Factor: 50		Analysis Time..: 22:44	MDL.....: 5.0	
Cyanide, Total	ND	0.010	mg/L	SW846 9012A	10/14-10/15/04	4289233
		Dilution Factor: 1		Analysis Time..: 11:00	MDL.....: 0.0028	
Fluoride	**4.4 B,G**	**5.0**	**mg/L**	**MCAWW 300.0A**	**10/06/04**	**4281552**
		Dilution Factor: 5		Analysis Time..: 21:51	MDL.....: 0.50	
Nitrate	**27 Q**	**2.5**	**mg/L**	**MCAWW 300.0A**	**10/06/04**	**4281553**
		Dilution Factor: 5		Analysis Time..: 21:51	MDL.....: 0.10	
Phosphate as P, Ortho	ND G	2.5	mg/L	MCAWW 300.0A	10/06/04	4281554
		Dilution Factor: 5		Analysis Time..: 21:51	MDL.....: 0.15	
Sulfate	**4400 Q**	**1000**	**mg/L**	**MCAWW 300.0A**	**10/06-10/07/04**	**4281555**
		Dilution Factor: 200		Analysis Time..: 00:14	MDL.....: 20	
Total Alkalinity	**220**	**5.0**	**mg/L**	**MCAWW 310.1**	**10/13/04**	**4288134**
		Dilution Factor: 1		Analysis Time..: 13:42	MDL.....: 0.85	
Total Dissolved Solids	**8500 Q**	**100**	**mg/L**	**MCAWW 160.1**	**10/07/04**	**4282167**
		Dilution Factor: 10		Analysis Time..: 15:45	MDL.....: 36	
Total Organic Carbon	**3.0**	**1.0**	**mg/L**	**SW846 9060**	**10/24/04**	**4299070**
		Dilution Factor: 1		Analysis Time..: 11:00	MDL.....: 0.27	
Total Organic Halogens	ND IC	40	ug/L	SW846 9020B	10/24/04	4298053
		Dilution Factor: 4		Analysis Time..: 12:00	MDL.....: 31	
Total Sulfide	ND	0.050	mg/L	MCAWW 376.2	10/12/04	4286564
		Dilution Factor: 1		Analysis Time..: 15:00	MDL.....: 0.020	

NOTE(S):

RL Reporting Limit

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Q Elevated reporting limit. The reporting limit is elevated due to high analyte lev

B Estimated result. Result is less than RL.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

IC Diluted due to high inorganic chloride.

US GEOLOGICAL SURVEY

Client Sample ID: CFW2

General Chemistry

Lot-Sample #...: D4J050210-004 **Work Order #...:** GR0A7 **Matrix.....:** WATER
Date Sampled...: 10/05/04 12:45 **Date Received..:** 10/06/04

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Ammonia as N	**0.026 B**	**0.10**	**mg/L**	**MCAWW 350.1**	**10/07/04**	**4285444**
		Dilution Factor: 1		Analysis Time..: 14:00	MDL.....: 0.019	
Chloride	**730 J,Q**	**150**	**mg/L**	**MCAWW 300.0A**	**10/06-10/07/04**	**4281551**
		Dilution Factor: 50		Analysis Time..: 01:26	MDL.....: 5.0	
Cyanide, Total	ND	0.010	mg/L	SW846 9012A	10/14-10/15/04	4289233
		Dilution Factor: 1		Analysis Time..: 11:00	MDL.....: 0.0028	
Fluoride	**4.3 B,G**	**5.0**	**mg/L**	**MCAWW 300.0A**	**10/06-10/07/04**	**4281552**
		Dilution Factor: 5		Analysis Time..: 01:08	MDL.....: 0.50	
Nitrate	**27 Q**	**2.5**	**mg/L**	**MCAWW 300.0A**	**10/06-10/07/04**	**4281553**
		Dilution Factor: 5		Analysis Time..: 01:08	MDL.....: 0.10	
Phosphate as P, Ortho	ND G	2.5	mg/L	MCAWW 300.0A	10/06-10/07/04	4281554
		Dilution Factor: 5		Analysis Time..: 01:08	MDL.....: 0.15	
Sulfate	**4500 Q**	**1000**	**mg/L**	**MCAWW 300.0A**	**10/06-10/07/04**	**4281555**
		Dilution Factor: 200		Analysis Time..: 01:43	MDL.....: 20	
Total Alkalinity	**220**	**5.0**	**mg/L**	**MCAWW 310.1**	**10/13/04**	**4288134**
		Dilution Factor: 1		Analysis Time..: 13:42	MDL.....: 0.85	
Total Dissolved Solids	**8500 Q**	**100**	**mg/L**	**MCAWW 160.1**	**10/07/04**	**4282167**
		Dilution Factor: 10		Analysis Time..: 15:45	MDL.....: 36	
Total Organic Carbon	**3.4**	**1.0**	**mg/L**	**SW846 9060**	**10/24/04**	**4299070**
		Dilution Factor: 1		Analysis Time..: 12:00	MDL.....: 0.27	
Total Organic Halogens	ND IC	40	ug/L	SW846 9020B	10/24/04	4298053
		Dilution Factor: 4		Analysis Time..: 12:00	MDL.....: 31	
Total Sulfide	ND	0.050	mg/L	MCAWW 376.2	10/12/04	4286564
		Dilution Factor: 1		Analysis Time..: 15:00	MDL.....: 0.020	

NOTE(S):

RL Reporting Limit

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target rtable level.

Q Elevated reporting limit. The reporting limit is elevated due to high analyte le

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

IC Diluted due to high inorganic chloride.

US GEOLOGICAL SURVEY

Client Sample ID: CFW3

General Chemistry

Lot-Sample #...: D4J050210-005 **Work Order #...:** GR0CD **Matrix.....:** WATER
Date Sampled...: 10/05/04 14:05 **Date Received..:** 10/06/04

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Ammonia as N	**0.045 B**	**0.10**	**mg/L**	**MCAWW 350.1**	**10/07/04**	**4285444**
	Dilution Factor: 1			Analysis Time..: 14:00	MDL.....: 0.019	
Chloride	**720 J,Q**	**150**	**mg/L**	**MCAWW 300.0A**	**10/06-10/07/04**	**4281551**
	Dilution Factor: 50			Analysis Time..: 02:19	MDL.....: 5.0	
Cyanide, Total	ND	0.010	mg/L	SW846 9012A	10/14-10/15/04	4289233
	Dilution Factor: 1			Analysis Time..: 11:00	MDL.....: 0.0028	
Fluoride	**2.7 B,G**	**5.0**	**mg/L**	**MCAWW 300.0A**	**10/06-10/07/04**	**4281552**
	Dilution Factor: 5			Analysis Time..: 02:01	MDL.....: 0.50	
Nitrate	**0.25 B,G**	**2.5**	**mg/L**	**MCAWW 300.0A**	**10/06-10/07/04**	**4281553**
	Dilution Factor: 5			Analysis Time..: 02:01	MDL.....: 0.10	
Phosphate as P, Ortho	**7.8 G**	**2.5**	**mg/L**	**MCAWW 300.0A**	**10/06-10/07/04**	**4281554**
	Dilution Factor: 5			Analysis Time..: 02:01	MDL.....: 0.15	
Sulfate	**3400 Q**	**500**	**mg/L**	**MCAWW 300.0A**	**10/06-10/07/04**	**4281555**
	Dilution Factor: 100			Analysis Time..: 02:37	MDL.....: 10	
Total Alkalinity	**1400**	**5.0**	**mg/L**	**MCAWW 310.1**	**10/13/04**	**4288134**
	Dilution Factor: 1			Analysis Time..: 13:42	MDL.....: 0.85	
Total Dissolved Solids	**8100 Q**	**100**	**mg/L**	**MCAWW 160.1**	**10/07/04**	**4282167**
	Dilution Factor: 10			Analysis Time..: 15:45	MDL.....: 36	
Total Organic Carbon	**33 G**	**20**	**mg/L**	**SW846 9060**	**10/24/04**	**4299070**
	Dilution Factor: 10			Analysis Time..: 12:00	MDL.....: 2.7	
Total Organic Halogens	ND IC	40	ug/L	SW846 9020B	10/24/04	4298053
	Dilution Factor: 4			Analysis Time..: 12:00	MDL.....: 31	
Total Sulfide	**20 Q**	**1.0**	**mg/L**	**MCAWW 376.2**	**10/12/04**	**4286564**
	Dilution Factor: 20			Analysis Time..: 15:00	MDL.....: 0.40	

NOTE(S):

RL Reporting Limit

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target a table level.

Q Elevated reporting limit. The reporting limit is elevated due to high analyte lev

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

IC Diluted due to high inorganic chloride.

US GEOLOGICAL SURVEY

Client Sample ID: CFW1

General Chemistry

Lot-Sample #...: D4J050210-006 **Work Order #...:** GR0CE **Matrix.....:** WATER
Date Sampled...: 10/05/04 11:05 **Date Received..:** 10/06/04

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Ammonia as N	ND	0.10	mg/L	MCAWW 350.1	10/07/04	4285444
		Dilution Factor: 1		Analysis Time..: 14:00	MDL.....: 0.019	
Chloride	**730 J,Q**	**150**	**mg/L**	**MCAWW 300.0A**	**10/06-10/07/04**	**4281551**
		Dilution Factor: 50		Analysis Time..: 03:49	MDL.....: 5.0	
Cyanide, Total	ND	0.010	mg/L	SW846 9012A	10/14-10/15/04	4289233
		Dilution Factor: 1		Analysis Time..: 11:00	MDL.....: 0.0028	
Fluoride	**3.3 B,G**	**5.0**	**mg/L**	**MCAWW 300.0A**	**10/06-10/07/04**	**4281552**
		Dilution Factor: 5		Analysis Time..: 03:31	MDL.....: 0.50	
Nitrate	**20 Q**	**2.5**	**mg/L**	**MCAWW 300.0A**	**10/06-10/07/04**	**4281553**
		Dilution Factor: 5		Analysis Time..: 03:31	MDL.....: 0.10	
Phosphate as P, Ortho	ND G	2.5	mg/L	MCAWW 300.0A	10/06-10/07/04	4281554
		Dilution Factor: 5		Analysis Time..: 03:31	MDL.....: 0.15	
Sulfate	**4400 Q**	**1000**	**mg/L**	**MCAWW 300.0A**	**10/06-10/07/04**	**4281555**
		Dilution Factor: 200		Analysis Time..: 04:07	MDL.....: 20	
Total Alkalinity	**430**	**5.0**	**mg/L**	**MCAWW 310.1**	**10/13/04**	**4288134**
		Dilution Factor: 1		Analysis Time..: 13:42	MDL.....: 0.85	
Total Dissolved Solids	**8500 Q**	**100**	**mg/L**	**MCAWW 160.1**	**10/07/04**	**4282167**
		Dilution Factor: 10		Analysis Time..: 15:45	MDL.....: 36	
Total Organic Carbon	**4.7**	**1.0**	**mg/L**	**SW846 9060**	**10/24/04**	**4299070**
		Dilution Factor: 1		Analysis Time..: 12:00	MDL.....: 0.27	
Total Organic Halogens	ND IC	40	ug/L	SW846 9020B	10/24/04	4298053
		Dilution Factor: 4		Analysis Time..: 12:00	MDL.....: 31	
Total Sulfide	ND	0.050	mg/L	MCAWW 376.2	10/12/04	4286564
		Dilution Factor: 1		Analysis Time..: 15:00	MDL.....: 0.020	

NOTE(S):

RL Reporting Limit

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Q Elevated reporting limit. The reporting limit is elevated due to high analyte lev

B Estimated result. Result is less than RL.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

IC Diluted due to high inorganic chloride.

US GEOLOGICAL SURVEY

Client Sample ID: CFW4

General Chemistry

Lot-Sample #...: D4J050210-007 **Work Order #...:** GR0CN **Matrix.....:** WATER
Date Sampled...: 10/05/04 09:45 **Date Received..:** 10/06/04

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Ammonia as N	ND	0.10	mg/L	MCAWW 350.1	10/07/04	4285444
		Dilution Factor: 1		Analysis Time..: 14:00	MDL.....: 0.019	
Chloride	**690 J,Q**	**150**	**mg/L**	**MCAWW 300.0A**	**10/06-10/07/04**	**4281551**
		Dilution Factor: 50		Analysis Time..: 04:43	MDL.....: 5.0	
Cyanide, Total	ND	0.010	mg/L	SW846 9012A	10/14-10/15/04	4289233
		Dilution Factor: 1		Analysis Time..: 11:00	MDL.....: 0.0028	
Fluoride	**3.7 B,G**	**5.0**	**mg/L**	**MCAWW 300.0A**	**10/06-10/07/04**	**4281552**
		Dilution Factor: 5		Analysis Time..: 04:25	MDL.....: 0.50	
Nitrate	**22 Q**	**2.5**	**mg/L**	**MCAWW 300.0A**	**10/06-10/07/04**	**4281553**
		Dilution Factor: 5		Analysis Time..: 04:25	MDL.....: 0.10	
Phosphate as P, Ortho	ND G	2.5	mg/L	MCAWW 300.0A	10/06-10/07/04	4281554
		Dilution Factor: 5		Analysis Time..: 04:25	MDL.....: 0.15	
Sulfate	**5600 Q**	**1000**	**mg/L**	**MCAWW 300.0A**	**10/06-10/07/04**	**4281555**
		Dilution Factor: 200		Analysis Time..: 05:00	MDL.....: 20	
Total Alkalinity	**280**	**5.0**	**mg/L**	**MCAWW 310.1**	**10/13/04**	**4288134**
		Dilution Factor: 1		Analysis Time..: 13:42	MDL.....: 0.85	
Total Dissolved Solids	**10000 Q**	**100**	**mg/L**	**MCAWW 160.1**	**10/07/04**	**4282167**
		Dilution Factor: 10		Analysis Time..: 15:45	MDL.....: 36	
Total Organic Carbon	**4.0**	**1.0**	**mg/L**	**SW846 9060**	**10/24/04**	**4299070**
		Dilution Factor: 1		Analysis Time..: 12:00	MDL.....: 0.27	
Total Organic Halogens	ND IC	40	ug/L	SW846 9020B	10/24/04	4298053
		Dilution Factor: 4		Analysis Time..: 12:00	MDL.....: 31	
Total Sulfide	ND	0.050	mg/L	MCAWW 376.2	10/12/04	4286564
		Dilution Factor: 1		Analysis Time..: 15:00	MDL.....: 0.020	

NOTE(S):

RL Reporting Limit

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Q Elevated reporting limit. The reporting limit is elevated due to high analyte lev

B Estimated result. Result is less than RL.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

IC Diluted due to high inorganic chloride.

APPENDIX II

Laboratory Quality Assurance / Quality Control Results

LABORATORY DATA VALIDATION CHECKLIST

SECTION 1.0: GENERAL INFORMATION

Data reviewer(s) name, affiliation, title, signature, and date of review:

Sara Caldwell, USGS-WRD, Hydrologic Technician Dec. 6, 2004

DATA INVENTORY

1.1 Sample project number: Severn Trent Environmental Services Lot # D4J050210

1.2 Operable unit and site: High Energy Laser Systems Test Facility (HELSTF), Cleaning Facility

Sample collection dates: October 4 and 5, 2004

1.2 Sample locations (location IDs): CFW1, CFW2, CFW3, CFW4, and HMW15 (background well). CFW2-1 was a field duplicate for CFW2; HMW15-TB and CFW4-TB were trip blanks for HMW15 and CFW4, respectively.

1.4 Sample matrix (ground water, soil, other): ground water

1.5 Type and number of field samples (environmental and quality control) in sample project:

Type	Number	Type	Number
environmental	5	MS/MSD	0
field duplicate	1	trip blank	2
equipment blank	0	ambient blank	0

Data validation level: Level 1 (note - see Page II-9 for description of different levels)

SECTION 2.0: DATA REPORTS AND COMPLETENESS

Name of reviewer(s) and review date: Sara Caldwell Dec. 6, 2004

LABORATORY DATA REPORTS

2.1 Analytical Results Report--report date: October 26, 2004

2.2 Raw Data Report--number of volumes: Raw data not reviewed

2.3 Was completeness of lab reports acceptable? Yes √ No ____

(overview, analytical results, quality-control report)

DATA COMPLETENESS

2.4 Were all samples requested on chain of custody form analyzed by lab? Yes √ No ____

	VOC	SVOC	DRO	Total Metals	Anions
requested:	8	6	6	6	6
analyzed:	8	6	6	6	6

	Cyanide	Sulfide	TOC	TOX	TDS	Alkalinity
requested:	6	6	6	6	6	6
analyzed:	6	6	6	6	6	6

2.5 List cancelled analyses on cancelled-data worksheet: None

2.6 Were sample cooler seals intact upon receipt by lab? Yes

2.7 What were the sample cooler temperatures upon receipt by lab?
2.7-5.4° C @ Severn Trent Services

2.8 Additional comments:
none

SECTION 3.0: DATA VALIDATION REVIEW

In the following table (Table II-1), the data from the October 4 and 5, 2004 sampling round is reviewed for the following data validation parameters: holding times, surrogate spike recovery, project reporting limits, field duplicates, trip blanks, tentatively identified compounds, lab control samples, lab method blanks, matrix spike and duplicates, and results over the reporting limits with qualifiers. Data validation parameters are reviewed for compliance with individual requirements for each parameter specific to the individual analyses of volatiles (Method SW8260B), semivolatiles (SW8270C), extractable petroleum hydrocarbons (SW8015-modified), total metals (SW6010B and SW6020), common anions and ammonia (MCAWW300.0A and MCAWW350.1), cyanide and sulfide (SW9012A and MCAWW376.2), total organic carbon (SW9060), total organic halogens (SW9020B), and total dissolved solids and alkalinity (MCAWW160.1 and MCAWW310.1).

Table II-1. Data validation worksheet table for ground-water samples collected October 4 and 5, 2004, sampling round at HELSTF - validation parameters, analytes, and methods.

Data Validation Para-meters	**Volatiles SW8260B**	**Semivolatiles SW8270C**	**Extractable Petroleum Hydrocarbons SW8015 Modified**	**Total Metals SW6010B**	**Common Anions and Nitrogen MCAWW3000A MCAWW350.1**	**Cyanide and Sulfide SW9012 and MCAWW376.2**	**Total Organic Carbon SW9060**	**Total Organic Halogens SW9020B**	**Total Dissolved Solids and Alkalinity MCAWW160.1 and MCAWW310.1**
Holding times	14-day limit	7 days to extract, 40-day from extraction to analysis	7 days to extract, 40-day from extraction to analysis	180-day limit	48-hours for NO3 and PO4. 28-days for all others	14 days for cyanide, 7 days for sulfide	28-day limit	28-day limit	7 days for TDS, 14 days for alkalinity
Met	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes
Surrogate Spike Recovery	%R varies for surrogates	%R varies for surrogates	%R varies for surrogates	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Met	☐ Yes ☑ No, see notes	☐ Yes ☑ No, see notes	☐ Yes ☑ No, see notes						
Project Reporting limit	No limits provided Not Applicable	No limits provided Not Applicable	Severn Trent RL: 0.1 mg/L	No limits provided Not Applicable	No limits provided Not Applicable	Severn Trent: 0.01 mg/L cyanide, 0.05 mg/L sulfide	Severn Trent: 1.0 mg/L	Severn Trent: 30 µg/L	Severn Trent: 10 mg/L TDS, 5.0 mg/L alkalinity
Met			☐ Yes ☑ No, see notes			☐ Yes ☑ No, see notes	☐ Yes ☑ No, see notes	☐ Yes ☑ No, see notes	☐ Yes ☑ No, see notes
Field Duplicates	RPD < 30%	RPD < 30%	RPD < 30%	RPD < 30%	RPD < 30%	RPD < 30%	RPD < 30%	RPD < 30%	RPD < 30%
Met	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☐ Yes ☑ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes
Trip Blanks	Presence of contaminants	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Met	☐ Yes, see notes ☑ No								

Table II-1. Data validation worksheet table for ground-water samples collected October 4 and 5, 2004, sampling round at HELSTF - validation parameters, analytes, and methods—concluded.

Data Validation Parameters	**Volatiles SW8260B**	**Semivolatiles SW8270C**	**Extractable Petroleum Hydrocarbons SW8015 Modified**	**Total Metals SW6010B**	**Common Anions and Nitrogen MCAWW3000A MCAWW350.1**	**Cyanide and Sulfide SW9012 and MCAWW376.2**	**Total Organic Carbon SW9060**	**Total Organic Halogens SW9020B**	**Total Dissolved Solids and Alkalinity MCAWW160.1 MCAWW310.1**
Tentatively Identified Comps.	No. of compounds per site	No. of compounds per site	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Presence	HMW15: 1 CFW1: 2 CFW2: 3 CFW3: 11 CFW4: 10	HMW15: 0 CFW1: 0 CFW2: 2 CFW3: 30 CFW4: 16	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lab Control Samples	%R and RPD within 3 SD of historical performance	%R and RPD within 3 SD of historical performance	%R and RPD within 3 SD of historical performance	%R and RPD within 3 SD of historical performance	%R and RPD within 3 SD of historical performance	%R and RPD within 3 SD of historical performance	%R and RPD within 3 SD of historical performance	%R within 80 to 120% and RPD < 20%	%R between 87 and 107%, RPD < 10%
Met	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes
Lab Method Blanks	< RL except for common lab contaminants, then < 5 x RL	< RL except for common lab contaminants, then < 5 x RL	< 2 x RL	< RL except for common lab contaminants, then < 2 x RL	< 2 x RL	< 2 x RL	Non-detect	Non-detect	< 2 x RL
Met	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes
Matrix Spike and Duplicates	Met various %R and RPD requirements	Met various %R and RPD requirements	Met various %R and RPD requirements	Met various %R and RPD requirements	Met various %R and RPD requirements	Met various %R and RPD requirements	Meet %R and RPD requirements	%R within 80 to 120% and RPD < 20%	%R between 87 and 107%, RPD < 10%
Met	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☐ Yes ☑ No, see notes	☐ Yes ☑ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes	☑ Yes ☐ No, see notes
Results over RL with Qualifiers	List: none.	List: none.	List: none.	List: none.	List: Elevated reporting limits of chloride, nitrate, and sulfate due to large analyte concentrations; elevated reporting limits of fluoride and phosphate due to matrix interference.	List: Elevated reporting limit for sulfide in CFW3 due to high analyte levels.	List: Elevated reporting limit in CFW3 due to matrix interference.	List: All samples diluted because of large levels of inorganic chloride.	List: All samples had elevated reporting limits because of large analyte levels for TDS.

Table II-1. Data validation worksheet table for ground-water samples collected October 4 and 5, 2004, sampling round at HELSTF - notes.

Analyte and Method:	Notes of Data Validation Parameters:
Volatiles SW8260B	- Surrogate recovery is outside stated control limits for 4-Bromofluorobenzene in sample CFW3.
Semivolatiles SW8270C	- Surrogate recoveries for CFW3 were not calculated due to dilution or the presence of interfering analytes.
Extractable Petroleum Hydrocarbons SW8015 Modified	- Surrogate recovery for CFW3 was not calculated due to dilution or the presence of interfering analytes. - Project reporting limits for CFW1, CFW2, CFW2-1, CFW4, and HMW15 were 0.25 mg/L; project reporting limit for CFW3 was 25 mg/L.
Total Metals SW6010B and SW6020	- Relative percent difference (RPD) for cadmium between CFW2 and the field duplicate, CFW2-1, was more than 30%. - Matrix spike recovery and RPD were not calculated for calcium, magnesium, and sodium because all sample amounts were greater than 4 times the spike amount.
Common Anions and Nitrogen MCAWW3000A MCAWW350.1	- Matrix spike for nitrate was estimated in all samples; the final concentration exceeded the calibration range.
Cyanide and Sulfide SW9012 and MCAWW376.2	- Project reporting limit for total sulfide in CFW3 was 1.0 mg/L.
Total Organic Carbon SW9060	- Project reporting limit for CFW3 was 20 mg/L.
Total Organic Halogens SW9020B	- Project reporting limit for all samples was 40µg/L.
Total Dissolved Solids and Alkalinity MCAWW160.1 and MCAWW310.1	- Project reporting limit for TDS in all samples was 100 mg/L.

Instruction Notes for the Data Validation Checklist

This data validation checklist will be used when validating the chemical analytical results. Data validation is a systematic and independent verification of data quality and consists of checking, verifying, evaluating, and qualifying the chemical analytical results.

Two different levels of data validation are used with level I being not as detailed or as rigorous as level II. Level I data validation includes: (1) checking holding times limits, (2) evaluating the results of field and laboratory quality-control (QC) samples such as field replicates, matrix spikes, surrogate samples, and duplicate control samples, and (3) checking that contamination during sample processing has not occurred in QC blanks such as equipment, method, ambient, and trip blanks. Most of the information and data used to conduct a level I data validation is contained in the summary-data reports prepared by the reporting laboratory. Level II data validation includes all the level I guidelines plus using the raw-data reports prepared by the reporting laboratory to: (1) check that the laboratory instruments have been properly tuned and calibrated, and (2) verify that selected sample results do not have any omissions, problems, discrepancies, transcription errors, and reduction (dilution, conversion) errors.

Field samples (environmental and QC) are processed and analyzed by the reporting laboratory in specific groups of samples called sample projects (also called sample cases). A sample project usually consists of 20 or fewer samples that are collected from one or more sampling locations (monitoring well) in a given sampling period. Numerous laboratory QC samples also are analyzed with the field samples for each sample project.

This data validation checklist is designed to be used when validating the analytical results for a given sample project and it has a multi-level organization. The first part of the checklist contains general information (section 1.0) about the scope (who, when, how, and what) of the data validation and data reports and completeness (section 2.0) for each sample project. Sections 1.0 and 2.0 will be completed and included with all data validation checklists. The data validation checklist also contains numerous supplemental sections that are listed at the bottom of the first page of this document. These supplemental checklist sections are used for specific analytical methods and will be marked with a checkmark (√) when they are completed for a given sample project. Specific project-required frequency and QC acceptance criteria, and pertinent reference page numbers are listed with most of the checklist items. The major data-validation references are the USEPA guidance documents.

Checklist Abbreviations, Acronyms, and Notes
Abbreviations:

As	arsenic
Ba	barium
Be	beryllium
Ca	calcium
CCV	continuing calibration verification
Cd	cadmium
CFW	cleaning facility well
Cl	chloride
Co	cobalt
Conc.	concentration

Checklist Abbreviations, Acronyms, and Notes -- continued
Abbreviations:

Cr	chromium
DCS	duplicate control sample
Diss.	dissolved
DRO	diesel range organics with GC/FID analysis C10-C28
DUP	duplicate environmental sample
EB	equipment blank
FG-INORG	Functional guidelines (EPA) for evaluating inorganic analyses (USEPA contract laboratory program national functional guidelines for inorganic data review, February, 1994, Publication 9240.1-05-01, Document number PB94-963502, 42 p.)
FG-ORG	Functional guidelines (EPA) for evaluating organic analyses (USEPA Contract laboratory program national functional guidelines for organic data review, February, 1994, Publication 9240.1-05, Document number PB94-963501, 124 p.)
Fl	fluoride
GFAA	graphite furnace atomic absorption
HELSTF	High Energy Laser Systems Test Facility
ICP	inductively coupled plasma
ID	identification
IS	internal standards
J	estimated value qualifier
K	potassium
LCS	laboratory control sample
MCAWW	"Methods for Chemical Analysis of Water and Wastes"', EPA-600/4-79-020, March 1983 subsequent revisions.
Mg	magnesium
mg/L	milligrams per liter
MS/MSD	matrix spike/matrix spike duplicate
MW	monitoring well
Na	sodium
ND	not detected
NMED	New Mexico Environment Department
NO2	nitrate
Pb	lead
PO4	orthophosphate
PRL	project reporting limit
QC	quality control
RCLs	Recovery Control Limits
RCRA	Resource Conservation and Recovery Act
RL	reporting limits
RPD	relative percent difference
SA	environmental sample

Checklist Abbreviations, Acronyms, and Notes -- continued
Abbreviations:

SAP	Sampling and Analysis Plan
SCS	single control sample
SD	standard deviation
SO4	sulfate
SVOC	semivolatile organic compounds
TB	trip blank
TDS	total dissolved solids
TIC	tentatively identified compound
TOC	total organic carbon
Tot.	total
TOX	total organic halogen
TSS	total suspended solids
USEPA	United States Environmental Protection Agency
USGS/WRD	United States Geological Survey, Water Resources Division
VOC	volatile organic compounds
mg/L	microgram per liter
%R	percent recovery

References

USEPA, 1994, USEPA contract laboratory program national functional guidelines for organic data review, February, 1994, Publication 9240.1-05, Document number PB94-963501, 124 p.
NOTE: this reference is abbreviated FG-ORG in this checklist.

USEPA, 1994, USEPA contract laboratory program national functional guidelines for inorganic data review, February, 1994, Publication 9240.1-05-01, Document number PB94-963502, 42 p.
NOTE: this reference is abbreviated FG-INORG in this checklist.

COPY FOR YOUR INFORMATION

CONTRACT LABORATORY DATA-REVIEW WORKSHEET

1.0 GENERAL INFORMATION Laboratory Lot Number: D4J050210

Data reviewer: Richard Daddow Review date: 10/31/04

District, Project, & Account #: New Mexico White Sands NEWSTF 8636 - 9K401

2.0 DATA DELIVERABLES

Date of Lab analytical report: 10/26/04 Number of copies: bound 1 unbound 1

No. of volumes of raw-data report: — No. of CD copies of raw-data report: 1

Raw-data report reviewed? Yes ___ No X Electronic data files on CD? Yes X No ___

EDD file format: QWDATA X STL QUANT002 ___ ERPIMS ___ Other ___

Comments—Data Reports ___

Date rec'd data deliverables: 10/28/04 Date sent deliverables to USGS office 11/1/04

3.0 INVOICE STATUS FOR LOT: OK Invoice copy attached X

4.0 SAMPLE INFORMATION *(Page #'s listed in this worksheet refer to lab analytical report)*

Sample collection date(s): 10/4-5/04 Sample matrix: water

No. of sample types in lot: Environmental 6 Trip blank 2 Equip. blank ___

MS/MSD ___ Other: ___

4.1 Were accelerated turn-around times (TATs) requested for analyses? Yes ___ No X

If yes, list TAT period and if completed: ___

4.2 Were analyses on chain-of-custody (COC) form performed by lab? YES X NO ___

If **no**, list missing or cancelled analyses and reason for non-performance: ___

4.3 Were the samples properly preserved, labeled, no lab log-in problems, and(or) at appropriate temperature (<6 deg. C) upon receipt by the laboratory: Yes X No ___

If **no**, list sample/lab IDs, and associated problems with when delivered at laboratory:

Laboratory Lot No: D4J050210

4.4 Were preparation (extraction) and(or) analysis holding times met? Yes X No ___

If **no**, list analytical methods and sample/lab IDs for samples that exceeded holding-time limits:

4.5 Did surrogate recoveries meet QC acceptance criteria? Yes ___ No X NA ___

If **no**, list methods, surrogates, associated sample/lab IDs, lab report page #s:

8260B 1 Surrogate sample: CFW3 (-005) ~~(p. 26)~~ (p. 27)
8015M (DRO) Sample: CFW1 (-006) 1 surrogate (p. 64)

4.6 Were dilution factors greater than 1 for ***organic*** analyses? Yes X No ___ NA ___

If **yes**, list analytical method, lab/sample IDs, and reason for raised dilution factors: dilution ___ high-analyte levels X matrix interferences ___ other ___

8270C sample: CFW3 (-005) (p. 49-50)
8015M (DRO) sample: CFW3 (-005) (p. 63)

4.7 Were dilution factors greater than 1 for **inorganic** analyses? Yes X No ___ NA ___

If **yes**, list analytical method, lab/sample IDs, and reason for raised dilution factors: dilution ___ high-analyte levels X matrix interferences X other ___

6020 As, Cd, Cr, Pb, Se samples: -001, -003, -004, -005, -006, -007 (p. 66-71)
Selected general chemistry methods samples: -001, -003 → -007 (p. 72-77)

4.8 Additional comments about sample analyses:

Laboratory Lot No: D4J050210

5.0 QUALITY CONTROL (QC) ANALYSES and RESULTS

5.1 Were any target analytes detected in the **Laboratory Method Blanks**? Yes X No____

If **yes**, list method, analytes, report page #s:

~~627~~ 8260B ~~B~~ 1 analyte (p. 88) prep batch # 4287232
6020 Cr (p. 112) prep batch # 4280667
300 Cl (p. 125)

5.2 Did lab control samples (LCS/LSCD) meet percent recoveries (%R) criteria? Yes X No____

If **no**, list method, analytes, LCS/LCSD, and report page #s:

5.3 Did the **MS/MSD** results meet %R or RPD acceptance criteria? Yes____ No X NA____

Note: matrix spike and matrix spike duplicate (MS/MSD) data are used to evaluate the effect of sample matrix on the analytical process and should be only used in conjunction with other available lab QC data. In some cases, MS samples not directly associated with this lot may be used by the laboratory.

List analytical method and if MS samples are associated with this lot.

If did not meet acceptance criteria also list analytes; MS, MSD or RPD; and lab report page #:

376.2 Total Sulfide (p. 136) associated MS lot # yes____ no X
associated MS lot # yes____ no____
associated MS lot # yes____ no____
associated MS lot # yes____ no____

No MS results reported for method(s):

5.4 Did the **lab-sample duplicate** results meet RPD acceptance criteria? Yes X No____ NA____

5.5 Additional comments about QC results:

Laboratory Lot No: D4J050210

6.0 ANALYTICAL METHODS USED in this LABORATORY LOT NUMBER

X VOCs by GC/MS--method 8260B/ 524.2 *[water (W) or solids (S) analysis holding-time (HT) of 14 days]*

___ Gasoline Range Organics (GRO)+BTEX-method 8015M(GRO)/ 8021 *[W and S: analysis HT 14 days]*

X Diesel Range Organics-method 8015M-DRO *[W: prep HT 7 days; S: prep HT 14 days; analysis HT 40 days]*

___ Pesticides by GC--method 8081A *[W: prep HT 7 days; S: prep HT 14 days; analysis HT 40 days]*

___ PCBs by GC--method 8082 *[W: prep HT 7 days; S: prep HT14 days; analysis HT 40 days]*

___ Pesticides by GC--method 8141A *[W: prep HT 7 days; S: prep HT 14 days; analysis HT 40 days]*

___ Herbicides by GC--method 8151A *[W: prep HT 7 days; S: prep HT14 days; analysis HT 40 days]*

X SVOCs by GC/MS--method 8270C *[W: prep HT 7 days; S: prep HT14 days; analysis HT 40 days]*

___ Dioxins and Furans--methods 8280/ 8290 *[W and S: prep HT 30 days; analysis HT 45 days]*

___ PAHs by HPLC method 8310 *[W: prep HT 7 days; S: prep HT14 days; analysis HT 40 days]*

___ Explosives by HPLC method 8330 or 8321A *[W: prep HT 7 days; S: prep HT14 days; analysis HT 40 days]*

___ Hexane extractable materials (HEM and SGT-HEM)-method 1664/ 9071B *[W/S: analysis HT 28 days]*

X Total or dissolved organic carbon (TOC/DOC)--methods 415.1 or 9060 *[W: analysis HT 28 days]*

___ Perchlorate--methods 314.0 or 8321A or IC/MS/MS

X Total organic halides (TOX)--method 9020 *[W: analysis HT 28 days]*

X Metals by ICP--method 6010B/200.7 Dissolved ___ Total X *[W and S: analysis HT 180 days]*

X Metals by ICP/MS--method 6020/200.8 Dissolved ___ Total X *[W and S: analysis HT 180 days]*

___ Metals by GFAA methods *[W and S: analysis HT 180 days]* Methods:Sb-7041, As-7060, Cd-7131 Cr-7191, Pb-7421, Se-7740, Tl-7841 List GFAA metals: ___

___ Hexavalent chromium--method 7196 *[W: analysis HT **24 hours**]*

___ Mercury by CVAA--method 7470A (W) and 7471A (S) *[W and S: analysis HT 28 days]*

X Inorganic anions--method 300 *[W: analysis HT **48 hours**- NO_2, NO_3, ortho-P HT 28 days--Br, Cl, F, SO_4]*

X Total dissolved solids (TDS)--method 160.1 and(or) TSS--method 160.2 *[W: analysis HT 7 days]*

X Total alkalinity--method 310.1 *[W: analysis HT 14 days]*

X Nitrogen, ammonia--method 350.1 *[W: analysis HT 28 days]*

___ Nitrogen, TKN--method 351.2 *[W: analysis HT 28 days]*

___ Nitrogen, nitrate + nitrite--method 353.2 *[W: analysis HT 28 days]* NO_3 or NO_2 only *[HT **48 hours**]*

___ Nitrogen, nitrite--method 354.1 *[W: analysis HT **48 hours**]*

___ Total phosphorus-method 365.3 and ortho P by 365.3 *[total P: W: analysis HT 28 days, ortho P **48 hours**]*

___ Cyanide, total and(or) amenable--methods 9012A/ 335.3 *[W and S: analysis HT 14 days]*

___ Moisture content--methods D2216 or 160.3M

X Other analyses: 376.2

QC DATA ASSOCIATION SUMMARY

D4J050210

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	MCAWW 160.1		4282167	4287279
	WATER	MCAWW 300.0A		4280344	4280263
	WATER	MCAWW 300.0A		4280348	4280276
	WATER	MCAWW 300.0A		4280345	4280254
	WATER	MCAWW 300.0A		4280346	4280268
	WATER	MCAWW 300.0A		4280347	4280275
	WATER	SW846 9060		4299070	4299054
	WATER	SW846 8015 MOD		4279449	
	WATER	SW846 6020		4280667	4280372
	WATER	SW846 9020B		4298053	4299378
	WATER	SW846 8260B		4286614	4286346
	WATER	SW846 8270C		4280472	4280250
	WATER	SW846 6010B		4279544	4279313
	WATER	SW846 9012A		4285617	4285414
	WATER	MCAWW 376.2		4281176	4282117
	WATER	MCAWW 310.1		4286149	4287138
	WATER	MCAWW 350.1		4285444	4285306
002	WATER	SW846 8260B		4286614	4286346
003	WATER	MCAWW 160.1		4282167	4287279
	WATER	MCAWW 300.0A		4281551	4281388
	WATER	MCAWW 300.0A		4281555	4281398
	WATER	MCAWW 300.0A		4281552	4281386
	WATER	MCAWW 300.0A		4281553	4281392
	WATER	MCAWW 300.0A		4281554	4281393
	WATER	SW846 9060		4299070	4299054
	WATER	SW846 8015 MOD		4280536	4280296
	WATER	SW846 6020		4280667	4280372
	WATER	SW846 9020B		4298053	4299378
	WATER	SW846 8260B		4286614	4286346
	WATER	SW846 8270C		4280472	4280250
	WATER	SW846 6010B		4280567	4280318
	WATER	SW846 9012A		4289233	4289153
	WATER	MCAWW 376.2		4286564	4286325
	WATER	MCAWW 310.1		4288134	4288159
	WATER	MCAWW 350.1		4285444	4285306
004	WATER	MCAWW 160.1		4282167	4287279
	WATER	MCAWW 300.0A		4281551	4281388
	WATER	MCAWW 300.0A		4281555	4281398
	WATER	MCAWW 300.0A		4281552	4281386
	WATER	MCAWW 300.0		4281553	4281392

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QC DATA ASSOCIATION SUMMARY

D4J050210

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
004	WATER	MCAWW 300.0A		4281554	4281393
	WATER	SW846 9060		4299070	4299054
	WATER	SW846 8015 MOD		4280536	4280296
	WATER	SW846 6020		4280667	4280372
	WATER	SW846 9020B		4298053	4299378
	WATER	SW846 8260B		4286614	4286346
	WATER	SW846 8270C		4280472	4280250
	WATER	SW846 6010B		4280567	4280318
	WATER	SW846 9012A		4289233	4289153
	WATER	MCAWW 376.2		4286564	4286325
	WATER	MCAWW 310.1		4288134	4288159
	WATER	MCAWW 350.1		4285444	4285306
005	WATER	MCAWW 160.1		4282167	4287279
	WATER	MCAWW 300.0A		4281551	4281388
	WATER	MCAWW 300.0A		4281555	4281398
	WATER	MCAWW 300.0A		4281552	4281386
	WATER	MCAWW 300.0A		4281553	4281392
	WATER	MCAWW 300.0A		4281554	4281393
	WATER	SW846 9060		4299070	4299054
	WATER	SW846 8015 MOD		4280536	4280296
	WATER	SW846 6020		4280667	4280372
	WATER	SW846 9020B		4298053	4299378
	WATER	SW846 8260B		4286614	4286346
	WATER	SW846 8270C		4280472	4280250
	WATER	SW846 6010B		4280567	4280318
	WATER	SW846 9012A		4289233	4289153
	WATER	MCAWW 376.2		4286564	4286325
	WATER	MCAWW 310.1		4288134	4288159
	WATER	MCAWW 350.1		4285444	4285306
006	WATER	MCAWW 160.1		4282167	4287279
	WATER	MCAWW 300.0A		4281551	4281388
	WATER	MCAWW 300.0A		4281555	4281398
	WATER	MCAWW 300.0A		4281552	4281386
	WATER	MCAWW 300.0A		4281553	4281392
	WATER	MCAWW 300.0A		4281554	4281393
	WATER	SW846 9060		4299070	4299054
	WATER	SW846 8015 MOD		4280536	4280296
	WATER	SW846 6020		4280667	4280372
	WATER	SW846 9020B		4298053	4299378
	WATER	SW846 8260B		4287232	4287145
	WATER	SW846 8270C		4280472	4280250

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QC DATA ASSOCIATION SUMMARY

D4J050210

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
006	WATER	SW846 6010B		4280567	4280318
	WATER	SW846 9012A		4289233	4289153
	WATER	MCAWW 376.2		4286564	4286325
	WATER	MCAWW 310.1		4288134	4288159
	WATER	MCAWW 350.1		4285444	4285306
007	WATER	MCAWW 160.1		4282167	4287279
	WATER	MCAWW 300.0A		4281551	4281388
	WATER	MCAWW 300.0A		4281555	4281398
	WATER	MCAWW 300.0A		4281552	4281386
	WATER	MCAWW 300.0A		4281553	4281392
	WATER	MCAWW 300.0A		4281554	4281393
	WATER	SW846 9060		4299070	4299054
	WATER	SW846 8015 MOD		4280536	4280296
	WATER	SW846 6020		4280667	4280372
	WATER	SW846 9020B		4298053	4299378
	WATER	SW846 8260B		4287232	4287145
	WATER	SW846 8270C		4280472	4280250
	WATER	SW846 6010B		4280567	4280318
	WATER	SW846 9012A		4289233	4289153
	WATER	MCAWW 376.2		4286564	4286325
	WATER	MCAWW 310.1		4288134	4288159
	WATER	MCAWW 350.1		4285444	4285306
008	WATER	SW846 8260B		4287232	4287145

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: D4J050210 **Work Order #...:** GTFQ31AA **Matrix.....:** WATER
MB Lot-Sample #: D4J120000-614

Prep Date.....: 10/11/04 **Analysis Time..:** 17:02
Analysis Date..: 10/11/04 **Prep Batch #...:** 4286614
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	ND	10	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	2.0	ug/L	SW846 8260B
2-Butanone (MEK)	ND	5.0	ug/L	SW846 8260B
Carbon disulfide	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	2.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	2.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	5.0	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	2.0	ug/L	SW846 8260B
Xylenes (total)	ND	2.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	109	(73 - 118)
1,2-Dichloroethane-d4	120	(52 - 128)

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: D4J050210 **Work Order #...:** GTFQ31AA **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
4-Bromofluorobenzene	106	(78 - 118)		
Toluene-d8	92	(77 - 117)		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

US GEOLOGICAL SURVEY

Method Blank Report

GC/MS Volatiles

Lot-Sample #: D4J120000-614 B **Work Order #:** GTFQ31AA **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Unknown		1.4 J	M	15.475	ug/L
3-Methylheptyl acetate	72218-58-7	11 J	M	16.134	ug/L
Unknown		1.4 J	M	17.368	ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: D4J050210 **Work Order #...:** GTFQ31AC **Matrix.....:** WATER
LCS Lot-Sample#: D4J120000-614
Prep Date.....: 10/11/04 **Analysis Date..:** 10/11/04
Prep Batch #...: 4286614 **Analysis Time..:** 16:39
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Benzene	**103**	**(75 - 120)**	**SW846 8260B**
Chlorobenzene	**103**	**(78 - 118)**	**SW846 8260B**
1,1-Dichloroethene	**101**	**(66 - 132)**	**SW846 8260B**
Toluene	**108**	**(78 - 118)**	**SW846 8260B**
Trichloroethene	**102**	**(79 - 122)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	103	(73 - 118)
1,2-Dichloroethane-d4	114	(62 - 128)
4-Bromofluorobenzene	109	(78 - 118)
Toluene-d8	94	(77 - 117)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: D4J050210 **Work Order #...:** GTFQ31AC **Matrix.....:** WATER
LCS Lot-Sample#: D4J120000-614
Prep Date.....: 10/11/04 **Analysis Date..:** 10/11/04
Prep Batch #...: 4286614 **Analysis Time..:** 16:39
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Benzene	**10.0**	**10.3**	**ug/L**	**103**	**SW846 8260B**
Chlorobenzene	**10.0**	**10.3**	**ug/L**	**103**	**SW846 8260B**
1,1-Dichloroethene	**10.0**	**10.1**	**ug/L**	**101**	**SW846 8260B**
Toluene	**10.0**	**10.8**	**ug/L**	**108**	**SW846 8260B**
Trichloroethene	**10.0**	**10.2**	**ug/L**	**102**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	103	(73 - 118)
1,2-Dichloroethane-d4	114	(62 - 128)
4-Bromofluorobenzene	109	(78 - 118)
Toluene-d8	94	(77 - 117)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: D4J050210 **Work Order #...:** GRX951C7-MS **Matrix.....:** WATER
MS Lot-Sample #: D4J050210-003 GRX951C8-MSD
Date Sampled...: 10/05/04 12:50 **Date Received..:** 10/06/04
Prep Date.....: 10/11/04 **Analysis Date..:** 10/11/04
Prep Batch #...: 4286614 **Analysis Time..:** 17:57
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**90**	**(75 - 120)**			**SW846 8260B**
	96	**(75 - 120)**	**6.3**	**(0-21)**	**SW846 8260B**
Chlorobenzene	**92**	**(78 - 118)**			**SW846 8260B**
	95	**(78 - 118)**	**3.4**	**(0-20)**	**SW846 8260B**
1,1-Dichloroethene	**86**	**(66 - 132)**			**SW846 8260B**
	94	**(66 - 132)**	**9.1**	**(0-26)**	**SW846 8260B**
Toluene	**97**	**(78 - 118)**			**SW846 8260B**
	100	**(78 - 118)**	**2.8**	**(0-22)**	**SW846 8260B**
Trichloroethene	**88**	**(79 - 122)**			**SW846 8260B**
	96	**(79 - 122)**	**7.9**	**(0-23)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(73 - 118)
	95	(73 - 118)
1,2-Dichloroethane-d4	96	(62 - 128)
	97	(62 - 128)
4-Bromofluorobenzene	100	(78 - 118)
	97	(78 - 118)
Toluene-d8	89	(77 - 117)
	89	(77 - 117)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: D4J050210 **Work Order #...:** GRX951C7-MS **Matrix.....:** WATER
MS Lot-Sample #: D4J050210-003 GRX951C8-MSD
Date Sampled...: 10/05/04 12:50 **Date Received..:** 10/06/04
Prep Date.....: 10/11/04 **Analysis Date..:** 10/11/04
Prep Batch #...: 4286614 **Analysis Time..:** 17:57
Dilution Factor: 1

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Benzene	**ND**	**10.0**	**9.04**	**ug/L**	**90**		**SW846 8260B**
	ND	**10.0**	**9.63**	**ug/L**	**96**	**6.3**	**SW846 8260B**
Chlorobenzene	**ND**	**10.0**	**9.21**	**ug/L**	**92**		**SW846 8260B**
	ND	**10.0**	**9.53**	**ug/L**	**95**	**3.4**	**SW846 8260B**
1,1-Dichloroethene	**ND**	**10.0**	**8.59**	**ug/L**	**86**		**SW846 8260B**
	ND	**10.0**	**9.41**	**ug/L**	**94**	**9.1**	**SW846 8260B**
Toluene	**ND**	**10.0**	**9.68**	**ug/L**	**97**		**SW846 8260B**
	ND	**10.0**	**9.95**	**ug/L**	**100**	**2.8**	**SW846 8260B**
Trichloroethene	**0.37**	**10.0**	**9.18**	**ug/L**	**88**		**SW846 8260B**
	0.37	**10.0**	**9.93**	**ug/L**	**96**	**7.9**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(73 - 118)
	95	(73 - 118)
1,2-Dichloroethane-d4	96	(62 - 128)
	97	(62 - 128)
4-Bromofluorobenzene	100	(78 - 118)
	97	(78 - 118)
Toluene-d8	89	(77 - 117)
	89	(77 - 117)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: D4J050210 **Work Order #...:** GTGDJ1AA **Matrix.....:** WATER
MB Lot-Sample #: D4J130000-232

Prep Date.....: 10/12/04 **Analysis Time..:** 09:55
Analysis Date..: 10/12/04 **Prep Batch #...:** 4287232
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	ND	10	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	2.0	ug/L	SW846 8260B
2-Butanone (MEK)	ND	5.0	ug/L	SW846 8260B
Carbon disulfide	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	2.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	2.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	5.0	ug/L	SW846 8260B
Methylene chloride	**0.40 J**	**5.0**	**ug/L**	**SW846 8260B**
4-Methyl-2-pentanone	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	2.0	ug/L	SW846 8260B
Xylenes (total)	ND	2.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	96	(73 - 118)
1,2-Dichloroethane-d4	89	52 - 128)

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: D4J050210 **Work Order #...:** GTGDJ1AA **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
4-Bromofluorobenzene	99	(78 - 118)		
Toluene-d8	93	(77 - 117)		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

US GEOLOGICAL SURVEY

Method Blank Report

GC/MS Volatiles

Lot-Sample #: D4J130000-232 B **Work Order #:** GTGDJ1AA **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Unknown		9.8 J	M	10.614	ug/L
Acetic acid, 2-ethylhexyl este	103-09-3	10 J	M	11.013	ug/L
Unknown		2.2 J	M	11.696	ug/L
Unknown		1.5 J	M	11.944	ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: D4J050210 **Work Order #...:** GTGDJ1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: D4J130000-232 GTGDJ1AD-LCSD
Prep Date.....: 10/12/04 **Analysis Date..:** 10/12/04
Prep Batch #...: 4287232 **Analysis Time..:** 09:15
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**85**	**(75 - 120)**			**SW846 8260B**
	87	**(75 - 120)**	**1.9**	**(0-21)**	**SW846 8260B**
Chlorobenzene	**99**	**(78 - 118)**			**SW846 8260B**
	94	**(78 - 118)**	**6.1**	**(0-20)**	**SW846 8260B**
1,1-Dichloroethene	**87**	**(66 - 132)**			**SW846 8260B**
	89	**(66 - 132)**	**1.6**	**(0-26)**	**SW846 8260B**
Toluene	**95**	**(78 - 118)**			**SW846 8260B**
	93	**(78 - 118)**	**1.9**	**(0-22)**	**SW846 8260B**
Trichloroethene	**93**	**(79 - 122)**			**SW846 8260B**
	92	**(79 - 122)**	**2.0**	**(0-23)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	91	(73 - 118)
	91	(73 - 118)
1,2-Dichloroethane-d4	88	(62 - 128)
	88	(62 - 128)
4-Bromofluorobenzene	99	(78 - 118)
	96	(78 - 118)
Toluene-d8	93	(77 - 117)
	91	(77 - 117)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: D4J050210 **Work Order #...:** GTGDJ1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: D4J130000-232 GTGDJ1AD-LCSD
Prep Date.....: 10/12/04 **Analysis Date..:** 10/12/04
Prep Batch #...: 4287232 **Analysis Time..:** 09:15
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Benzene	**10.0**	**8.49**	**ug/L**	**85**		**SW846 8260B**
	10.0	**8.65**	**ug/L**	**87**	**1.9**	**SW846 8260B**
Chlorobenzene	**10.0**	**9.94**	**ug/L**	**99**		**SW846 8260B**
	10.0	**9.36**	**ug/L**	**94**	**6.1**	**SW846 8260B**
1,1-Dichloroethene	**10.0**	**8.74**	**ug/L**	**87**		**SW846 8260B**
	10.0	**8.88**	**ug/L**	**89**	**1.6**	**SW846 8260B**
Toluene	**10.0**	**9.49**	**ug/L**	**95**		**SW846 8260B**
	10.0	**9.30**	**ug/L**	**93**	**1.9**	**SW846 8260B**
Trichloroethene	**10.0**	**9.34**	**ug/L**	**93**		**SW846 8260B**
	10.0	**9.16**	**ug/L**	**92**	**2.0**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	91	(73 - 118)
	91	(73 - 118)
1,2-Dichloroethane-d4	88	(62 - 128)
	88	(62 - 128)
4-Bromofluorobenzene	99	(78 - 118)
	96	(78 - 118)
Toluene-d8	93	(77 - 117)
	91	(77 - 117)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: D4J050210 **Work Order #...:** GRV4T1D8-MS **Matrix.....:** WATER
MS Lot-Sample #: D4J050306-001 GRV4T1D9-MSD
Date Sampled...: 10/04/04 15:15 **Date Received..:** 10/05/04
Prep Date.....: 10/12/04 **Analysis Date..:** 10/12/04
Prep Batch #...: 4287232 **Analysis Time..:** 11:35
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**82**	**(75 - 120)**			**SW846 8260B**
	83	**(75 - 120)**	**0.87**	**(0-21)**	**SW846 8260B**
Chlorobenzene	**93**	**(78 - 118)**			**SW846 8260B**
	93	**(78 - 118)**	**0.60**	**(0-20)**	**SW846 8260B**
1,1-Dichloroethene	**81**	**(66 - 132)**			**SW846 8260B**
	82	**(66 - 132)**	**2.0**	**(0-26)**	**SW846 8260B**
Toluene	**91**	**(78 - 118)**			**SW846 8260B**
	92	**(78 - 118)**	**1.4**	**(0-22)**	**SW846 8260B**
Trichloroethene	**87**	**(79 - 122)**			**SW846 8260B**
	88	**(79 - 122)**	**2.1**	**(0-23)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(73 - 118)
	92	(73 - 118)
1,2-Dichloroethane-d4	88	(62 - 128)
	87	(62 - 128)
4-Bromofluorobenzene	98	(78 - 118)
	96	(78 - 118)
Toluene-d8	92	(77 - 117)
	90	(77 - 117)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: D4J050210 **Work Order #...:** GRV4T1D8-MS **Matrix.....:** WATER
MS Lot-Sample #: D4J050306-001 GRV4T1D9-MSD
Date Sampled...: 10/04/04 15:15 **Date Received..:** 10/05/04
Prep Date.....: 10/12/04 **Analysis Date..:** 10/12/04
Prep Batch #...: 4287232 **Analysis Time..:** 11:35
Dilution Factor: 1

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Benzene	**ND**	**10.0**	**8.18**	**ug/L**	**82**		**SW846 8260B**
	ND	**10.0**	**8.25**	**ug/L**	**83**	**0.87**	**SW846 8260B**
Chlorobenzene	**ND**	**10.0**	**9.29**	**ug/L**	**93**		**SW846 8260B**
	ND	**10.0**	**9.35**	**ug/L**	**93**	**0.60**	**SW846 8260B**
1,1-Dichloroethene	**ND**	**10.0**	**8.07**	**ug/L**	**81**		**SW846 8260B**
	ND	**10.0**	**8.23**	**ug/L**	**82**	**2.0**	**SW846 8260B**
Toluene	**ND**	**10.0**	**9.05**	**ug/L**	**91**		**SW846 8260B**
	ND	**10.0**	**9.18**	**ug/L**	**92**	**1.4**	**SW846 8260B**
Trichloroethene	**ND**	**10.0**	**8.66**	**ug/L**	**87**		**SW846 8260B**
	ND	**10.0**	**8.84**	**ug/L**	**88**	**2.1**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(73 - 118)
	92	(73 - 118)
1,2-Dichloroethane-d4	88	(62 - 128)
	87	(62 - 128)
4-Bromofluorobenzene	98	(78 - 118)
	96	(78 - 118)
Toluene-d8	92	(77 - 117)
	90	(77 - 117)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: D4J050210 **Work Order #...:** GR0PQ1AA **Matrix.....:** WATER
MB Lot-Sample #: D4J060000-472

Prep Date.....: 10/06/04 **Analysis Time..:** 19:58
Analysis Date..: 10/14/04 **Prep Batch #...:** 4280472
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acenaphthene	ND	10	ug/L	SW846 8270C
Acenaphthylene	ND	10	ug/L	SW846 8270C
Anthracene	ND	10	ug/L	SW846 8270C
Benzo(a)anthracene	ND	10	ug/L	SW846 8270C
Benzo(b)fluoranthene	ND	10	ug/L	SW846 8270C
Benzo(k)fluoranthene	ND	10	ug/L	SW846 8270C
Benzo(ghi)perylene	ND	10	ug/L	SW846 8270C
Benzo(a)pyrene	ND	10	ug/L	SW846 8270C
bis(2-Chloroethoxy) methane	ND	10	ug/L	SW846 8270C
bis(2-Chloroethyl)-ether	ND	10	ug/L	SW846 8270C
bis(2-Ethylhexyl) phthalate	ND	10	ug/L	SW846 8270C
4-Bromophenyl phenyl ether	ND	10	ug/L	SW846 8270C
Butyl benzyl phthalate	ND	10	ug/L	SW846 8270C
Carbazole	ND	10	ug/L	SW846 8270C
4-Chloroaniline	ND	10	ug/L	SW846 8270C
4-Chloro-3-methylphenol	ND	10	ug/L	SW846 8270C
2-Chloronaphthalene	ND	10	ug/L	SW846 8270C
2-Chlorophenol	ND	10	ug/L	SW846 8270C
4-Chlorophenyl phenyl ether	ND	10	ug/L	SW846 8270C
Chrysene	ND	10	ug/L	SW846 8270C
Dibenz(a,h)anthracene	ND	10	ug/L	SW846 8270C
Dibenzofuran	ND	10	ug/L	SW846 8270C
Di-n-butyl phthalate	ND	10	ug/L	SW846 8270C
1,2-Dichlorobenzene	ND	10	ug/L	SW846 8270C
1,3-Dichlorobenzene	ND	10	ug/L	SW846 8270C
1,4-Dichlorobenzene	ND	10	ug/L	SW846 8270C
3,3'-Dichlorobenzidine	ND	50	ug/L	SW846 8270C
2,4-Dichlorophenol	ND	10	ug/L	SW846 8270C
Diethyl phthalate	ND	10	ug/L	SW846 8270C
2,4-Dimethylphenol	ND	10	ug/L	SW846 8270C
Dimethyl phthalate	ND	10	ug/L	SW846 8270C
4,6-Dinitro-2-methylphenol	ND	50	ug/L	SW846 8270C
2,4-Dinitrophenol	ND	50	ug/L	SW846 8270C
2,4-Dinitrotoluene	ND	10	ug/L	SW846 8270C
2,6-Dinitrotoluene	ND	10	ug/L	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: D4J050210 **Work Order #...:** GR0PQ1AA **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Di-n-octyl phthalate	ND	10	ug/L	SW846 8270C
Fluoranthene	ND	10	ug/L	SW846 8270C
Fluorene	ND	10	ug/L	SW846 8270C
Hexachlorobenzene	ND	10	ug/L	SW846 8270C
Hexachlorobutadiene	ND	10	ug/L	SW846 8270C
Hexachlorocyclopenta-diene	ND	50	ug/L	SW846 8270C
Hexachloroethane	ND	10	ug/L	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	SW846 8270C
Isophorone	ND	10	ug/L	SW846 8270C
2-Methylnaphthalene	ND	10	ug/L	SW846 8270C
2-Methylphenol	ND	10	ug/L	SW846 8270C
4-Methylphenol	ND	10	ug/L	SW846 8270C
Naphthalene	ND	10	ug/L	SW846 8270C
2-Nitroaniline	ND	50	ug/L	SW846 8270C
3-Nitroaniline	ND	50	ug/L	SW846 8270C
4-Nitroaniline	ND	50	ug/L	SW846 8270C
Nitrobenzene	ND	10	ug/L	SW846 8270C
2-Nitrophenol	ND	10	ug/L	SW846 8270C
4-Nitrophenol	ND	50	ug/L	SW846 8270C
N-Nitrosodiphenylamine	ND	10	ug/L	SW846 8270C
N-Nitrosodi-n-propyl-amine	ND	10	ug/L	SW846 8270C
2,2'-oxybis(1-Chloropropa	ND	10	ug/L	SW846 8270C
Pentachlorophenol	ND	50	ug/L	SW846 8270C
Phenanthrene	ND	10	ug/L	SW846 8270C
Phenol	ND	10	ug/L	SW846 8270C
Pyrene	ND	10	ug/L	SW846 8270C
1,2,4-Trichloro-benzene	ND	10	ug/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	10	ug/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	10	ug/L	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	73	(36 - 110)
Phenol-d5	73	(39 - 109)
Nitrobenzene-d5	73	(47 - 107)
2-Fluorobiphenyl	49	(34 - 96)
2,4,6-Tribromophenol	48	(34 - 126)
Terphenyl-d14	85	(12 - 126)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculate

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: D4J050210 **Work Order #...:** GR0PQ1AC **Matrix.....:** WATER
LCS Lot-Sample#: D4J060000-472
Prep Date.....: 10/06/04 **Analysis Date..:** 10/14/04
Prep Batch #...: 4280472 **Analysis Time..:** 20:25
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Acenaphthene	**71**	**(51 - 95)**	**SW846 8270C**
4-Chloro-3-methylphenol	**77**	**(55 - 103)**	**SW846 8270C**
2-Chlorophenol	**72**	**(56 - 99)**	**SW846 8270C**
1,4-Dichlorobenzene	**62**	**(30 - 94)**	**SW846 8270C**
2,4-Dinitrotoluene	**74**	**(55 - 101)**	**SW846 8270C**
4-Nitrophenol	**57**	**(39 - 116)**	**SW846 8270C**
N-Nitrosodi-n-propyl-amine	**71**	**(56 - 99)**	**SW846 8270C**
Pentachlorophenol	**55**	**(43 - 109)**	**SW846 8270C**
Phenol	**70**	**(54 - 100)**	**SW846 8270C**
Pyrene	**79**	**(48 - 102)**	**SW846 8270C**
1,2,4-Trichloro-benzene	**59**	**(36 - 94)**	**SW846 8270C**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	66	(54 - 97)
Phenol-d5	68	(57 - 100)
Nitrobenzene-d5	69	(56 - 101)
2-Fluorobiphenyl	50	(42 - 92)
2,4,6-Tribromophenol	63	(54 - 107)
Terphenyl-d14	80	(51 - 109)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: D4J050210 **Work Order #...:** GR0PQ1AC **Matrix.....:** WATER
LCS Lot-Sample#: D4J060000-472
Prep Date.....: 10/06/04 **Analysis Date..:** 10/14/04
Prep Batch #...: 4280472 **Analysis Time..:** 20:25
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Acenaphthene	**100**	**70.6**	**ug/L**	**71**	**SW846 8270C**
4-Chloro-3-methylphenol	**150**	**115**	**ug/L**	**77**	**SW846 8270C**
2-Chlorophenol	**150**	**108**	**ug/L**	**72**	**SW846 8270C**
1,4-Dichlorobenzene	**100**	**61.8**	**ug/L**	**62**	**SW846 8270C**
2,4-Dinitrotoluene	**100**	**73.6**	**ug/L**	**74**	**SW846 8270C**
4-Nitrophenol	**150**	**85.3**	**ug/L**	**57**	**SW846 8270C**
N-Nitrosodi-n-propyl-amine	**100**	**70.8**	**ug/L**	**71**	**SW846 8270C**
Pentachlorophenol	**150**	**81.8**	**ug/L**	**55**	**SW846 8270C**
Phenol	**150**	**105**	**ug/L**	**70**	**SW846 8270C**
Pyrene	**100**	**78.8**	**ug/L**	**79**	**SW846 8270C**
1,2,4-Trichloro-benzene	**100**	**59.2**	**ug/L**	**59**	**SW846 8270C**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	66	(54 - 97)
Phenol-d5	68	(57 - 100)
Nitrobenzene-d5	69	(56 - 101)
2-Fluorobiphenyl	50	(42 - 92)
2,4,6-Tribromophenol	63	(54 - 107)
Terphenyl-d14	80	(51 - 109)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: D4J050210 **Work Order #...:** GRX951C9-MS **Matrix.....:** WATER
MS Lot-Sample #: D4J050210-003 GRX951DA-MSD
Date Sampled...: 10/05/04 12:50 **Date Received..:** 10/06/04
Prep Date.....: 10/06/04 **Analysis Date..:** 10/15/04
Prep Batch #...: 4280472 **Analysis Time..:** 18:41
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Acenaphthene	**69**	**(42 - 102)**			**SW846 8270C**
	73	**(42 - 102)**	**1.7**	**(0-42)**	**SW846 8270C**
4-Chloro-3-methylphenol	**77**	**(27 - 128)**			**SW846 8270C**
	79	**(27 - 128)**	**0.83**	**(0-70)**	**SW846 8270C**
2-Chlorophenol	**69**	**(46 - 108)**			**SW846 8270C**
	75	**(46 - 108)**	**3.7**	**(0-58)**	**SW846 8270C**
1,4-Dichlorobenzene	**59**	**(38 - 94)**			**SW846 8270C**
	63	**(38 - 94)**	**2.5**	**(0-47)**	**SW846 8270C**
2,4-Dinitrotoluene	**71**	**(45 - 115)**			**SW846 8270C**
	75	**(45 - 115)**	**0.09**	**(0-44)**	**SW846 8270C**
4-Nitrophenol	**64**	**(25 - 133)**			**SW846 8270C**
	74	**(25 - 133)**	**9.2**	**(0-73)**	**SW846 8270C**
N-Nitrosodi-n-propyl-amine	**68**	**(45 - 106)**			**SW846 8270C**
	70	**(45 - 106)**	**1.3**	**(0-81)**	**SW846 8270C**
Pentachlorophenol	**58**	**(27 - 136)**			**SW846 8270C**
	67	**(27 - 136)**	**9.9**	**(0-55)**	**SW846 8270C**
Phenol	**66**	**(27 - 121)**			**SW846 8270C**
	71	**(27 - 121)**	**3.0**	**(0-71)**	**SW846 8270C**
Pyrene	**76**	**(20 - 117)**			**SW846 8270C**
	89	**(20 - 117)**	**12**	**(0-53)**	**SW846 8270C**
1,2,4-Trichloro-benzene	**60**	**(36 - 94)**			**SW846 8270C**
	64	**(36 - 94)**	**2.5**	**(0-46)**	**SW846 8270C**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	64	(36 - 110)
	67	(36 - 110)
Phenol-d5	65	(39 - 109)
	69	(39 - 109)
Nitrobenzene-d5	66	(47 - 107)
	71	(47 - 107)
2-Fluorobiphenyl	51	(34 - 96)
	52	(34 - 96)
2,4,6-Tribromophenol	63	(34 - 126)
	73	(34 - 126)

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MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: D4J050210 **Work Order #...:** GRX951C9-MS **Matrix.....:** WATER
MS Lot-Sample #: D4J050210-003 GRX951DA-MSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Terphenyl-d14	82	(12 - 126)
	94	(12 - 126)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: D4J050210 **Work Order #...:** GRX951C9-MS **Matrix.....:** WATER
MS Lot-Sample #: D4J050210-003 GRX951DA-MSD
Date Sampled...: 10/05/04 12:50 **Date Received..:** 10/06/04
Prep Date.....: 10/06/04 **Analysis Date..:** 10/15/04
Prep Batch #...: 4280472 **Analysis Time..:** 18:41
Dilution Factor: 1

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Acenaphthene	ND	103	70.7	ug/L	69		SW846 8270C
	ND	98.5	71.9	ug/L	73	1.7	SW846 8270C
4-Chloro-3-methylphenol	ND	154	118	ug/L	77		SW846 8270C
	ND	148	117	ug/L	79	0.83	SW846 8270C
2-Chlorophenol	ND	154	107	ug/L	69		SW846 8270C
	ND	148	111	ug/L	75	3.7	SW846 8270C
1,4-Dichlorobenzene	ND	103	61.0	ug/L	59		SW846 8270C
	ND	98.5	62.5	ug/L	63	2.5	SW846 8270C
2,4-Dinitrotoluene	ND	103	73.5	ug/L	71		SW846 8270C
	ND	98.5	73.4	ug/L	75	0.09	SW846 8270C
4-Nitrophenol	ND	154	99.4	ug/L	64		SW846 8270C
	ND	148	109	ug/L	74	9.2	SW846 8270C
N-Nitrosodi-n-propyl-amine	ND	103	70.0	ug/L	68		SW846 8270C
	ND	98.5	69.1	ug/L	70	1.3	SW846 8270C
Pentachlorophenol	ND	154	89.3	ug/L	58		SW846 8270C
	ND	148	98.6	ug/L	67	9.9	SW846 8270C
Phenol	ND	154	101	ug/L	66		SW846 8270C
	ND	148	104	ug/L	71	3.0	SW846 8270C
Pyrene	ND	103	77.9	ug/L	76		SW846 8270C
	ND	98.5	88.0	ug/L	89	12	SW846 8270C
1,2,4-Trichloro-benzene	ND	103	61.5	ug/L	60		SW846 8270C
	ND	98.5	63.0	ug/L	64	2.5	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	64	(36 - 110)
	67	(36 - 110)
Phenol-d5	65	(39 - 109)
	69	(39 - 109)
Nitrobenzene-d5	66	(47 - 107)
	71	(47 - 107)
2-Fluorobiphenyl	51	(34 - 96)
	52	(34 - 96)
2,4,6-Tribromophenol	63	(34 - 126)
	73	(34 - 126)

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MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: D4J050210 **Work Order #...:** GRX951C9-MS **Matrix.....:** WATER
MS Lot-Sample #: D4J050210-003 GRX951DA-MSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Terphenyl-d14	82	(12 - 126)
	94	(12 - 126)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: D4J050210 **Work Order #...:** GRVKG1AA **Matrix.....:** WATER
MB Lot-Sample #: D4J050000-449

Prep Date.....: 10/05/04 **Analysis Time..:** 23:11

Analysis Date..: 10/11/04 **Prep Batch #...:** 4279449
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Diesel Range Organics	ND	0.25	mg/L	SW846 8015 MOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	91	(46 - 95)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: D4J050210 **Work Order #...:** GRVKG1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: D4J050000-449 GRVKG1AD-LCSD
Prep Date.....: 10/05/04 **Analysis Date..:** 10/11/04
Prep Batch #...: 4279449 **Analysis Time..:** 23:42
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Diesel Range Organics	**71**	**(53 - 107)**			**SW846 8015 MOD**
	71	**(53 - 107)**	**0.21**	**(0-40)**	**SW846 8015 MOD**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	80	(42 - 106)
	79	(42 - 106)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #...: D4J050210 **Work Order #...:** GRVKG1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: D4J050000-449 GRVKG1AD-LCSD
Prep Date.....: 10/05/04 **Analysis Date..:** 10/11/04
Prep Batch #...: 4279449 **Analysis Time..:** 23:42
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Diesel Range Organics	**2.00**	**1.42**	**mg/L**	**71**		**SW846 8015 MOD**
	2.00	**1.42**	**mg/L**	**71**	**0.21**	**SW846 8015 MOD**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	80	(42 - 106)
	79	(42 - 106)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: D4J050210 **Work Order #...:** GR07N1AA **Matrix.....:** WATER
MB Lot-Sample #: D4J060000-536

Prep Date.....: 10/06/04 **Analysis Time..:** 05:28
Analysis Date..: 10/12/04 **Prep Batch #...:** 4280536
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Diesel Range Organics	ND	0.25	mg/L	SW846 8015 MOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	94	(46 - 95)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: D4J050210 **Work Order #...:** GR07N1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: D4J060000-536 GR07N1AD-LCSD
Prep Date.....: 10/06/04 **Analysis Date..:** 10/12/04
Prep Batch #...: 4280536 **Analysis Time..:** 06:00
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Diesel Range Organics	**70**	**(53 - 107)**			**SW846 8015 MOD**
	70	**(53 - 107)**	**0.50**	**(0-40)**	**SW846 8015 MOD**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	79	(42 - 106)
	79	(42 - 106)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #...: D4J050210 **Work Order #...:** GR07N1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: D4J060000-536 GR07N1AD-LCSD
Prep Date.....: 10/06/04 **Analysis Date..:** 10/12/04
Prep Batch #...: 4280536 **Analysis Time..:** 06:00
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Diesel Range Organics	**2.00**	**1.40**	**mg/L**	**70**		**SW846 8015 MOD**
	2.00	**1.40**	**mg/L**	**70**	**0.50**	**SW846 8015 MOD**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	79	(42 - 106)
	79	(42 - 106)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: D4J050210 **Work Order #...:** GRX951C5-MS **Matrix.....:** WATER
MS Lot-Sample #: D4J050210-003 GRX951C6-MSD
Date Sampled...: 10/05/04 12:50 **Date Received..:** 10/06/04
Prep Date.....: 10/06/04 **Analysis Date..:** 10/09/04
Prep Batch #...: 4280536 **Analysis Time..:** 21:46
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Diesel Range Organics	**66**	**(53 - 107)**			**SW846 8015 MOD**
	66	**(53 - 107)**	**0.74**	**(0-40)**	**SW846 8015 MOD**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	84	(46 - 95)
	77	(46 - 95)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #...: D4J050210 **Work Order #...:** GRX951C5-MS **Matrix.....:** WATER
MS Lot-Sample #: D4J050210-003 GRX951C6-MSD
Date Sampled...: 10/05/04 12:50 **Date Received..:** 10/06/04
Prep Date.....: 10/06/04 **Analysis Date..:** 10/09/04
Prep Batch #...: 4280536 **Analysis Time..:** 21:46
Dilution Factor: 1

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Diesel Range Organics	**0.22**	**1.88**	**1.46**	**mg/L**	**66**		**SW846 8015 MOD**
	0.22	**1.91**	**1.48**	**mg/L**	**66**	**0.74**	**SW846 8015 MOD**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	84	(46 - 95)
	77	(46 - 95)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: D4J050210 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: D4J050000-544 **Prep Batch #...:** 4279544						
Barium	ND	10	ug/L	SW846 6010B	10/06-10/09/04	GRV421AA
		Dilution Factor: 1				
		Analysis Time..: 23:17				
Beryllium	ND	6.0	ug/L	SW846 6010B	10/06-10/08/04	GRV421AT
		Dilution Factor: 1				
		Analysis Time..: 04:20				
Calcium	ND	600	ug/L	SW846 6010B	10/06-10/08/04	GRV421AC
		Dilution Factor: 1				
		Analysis Time..: 04:20				
Cobalt	ND	10	ug/L	SW846 6010B	10/06-10/09/04	GRV421AV
		Dilution Factor: 1				
		Analysis Time..: 23:17				
Magnesium	ND	200	ug/L	SW846 6010B	10/06-10/08/04	GRV421AF
		Dilution Factor: 1				
		Analysis Time..: 04:20				
Potassium	ND	3000	ug/L	SW846 6010B	10/06-10/08/04	GRV421AU
		Dilution Factor: 1				
		Analysis Time..: 04:20				
Sodium	ND	5000	ug/L	SW846 6010B	10/06-10/08/04	GRV421AG
		Dilution Factor: 1				
		Analysis Time..: 04:20				
MB Lot-Sample #: D4J060000-567 **Prep Batch #...:** 4280567						
Barium	ND	10	ug/L	SW846 6010B	10/07-10/11/04	GR1FE1AA
		Dilution Factor: 1				
		Analysis Time..: 19:37				
Beryllium	ND	6.0	ug/L	SW846 6010B	10/07-10/10/04	GR1FE1AC
		Dilution Factor: 1				
		Analysis Time..: 05:02				
Calcium	ND	600	ug/L	SW846 6010B	10/07-10/10/04	GR1FE1AD
		Dilution Factor: 1				
		Analysis Time..: 05:02				

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METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: D4J050210 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Cobalt	ND	10	ug/L	SW846 6010B	10/07-10/11/04	GR1FE1AH
		Dilution Factor: 1				
		Analysis Time..: 19:37				
Magnesium	ND	200	ug/L	SW846 6010B	10/07-10/10/04	GR1FE1AF
		Dilution Factor: 1				
		Analysis Time..: 05:02				
Potassium	ND	3000	ug/L	SW846 6010B	10/07-10/12/04	GR1FE1AE
		Dilution Factor: 1				
		Analysis Time..: 03:00				
Sodium	ND	5000	ug/L	SW846 6010B	10/07-10/12/04	GR1FE1AG
		Dilution Factor: 1				
		Analysis Time..: 03:00				

MB Lot-Sample #: D4J060000-667 **Prep Batch #...:** 4280667

Arsenic	ND	5.0	ug/L	SW846 6020	10/13-10/19/04	GR1XL1AA
		Dilution Factor: 1				
		Analysis Time..: 21:05				
Cadmium	ND	1.0	ug/L	SW846 6020	10/13-10/19/04	GR1XL1AC
		Dilution Factor: 1				
		Analysis Time..: 21:05				
Chromium	**0.76 B**	**2.0**	**ug/L**	**SW846 6020**	**10/13-10/19/04**	**GR1XL1AF**
		Dilution Factor: 1				
		Analysis Time..: 21:05				
Lead	ND	1.0	ug/L	SW846 6020	10/13-10/19/04	GR1XL1AD
		Dilution Factor: 1				
		Analysis Time..: 21:05				
Selenium	ND	5.0	ug/L	SW846 6020	10/13-10/19/04	GR1XL1AE
		Dilution Factor: 1				
		Analysis Time..: 21:05				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Lot-Sample #...: D4J050210 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP-BATCH #
Arsenic	100	(87 - 109)			SW846 6020	10/13-10/19/04	4280667
	99	(87 - 109)	0.83	(0-20)	SW846 6020	10/13-10/19/04	4280667
		Dilution Factor: 1			Analysis Time..: 21:09		
Cadmium	102	(89 - 110)			SW846 6020	10/13-10/19/04	4280667
	99	(89 - 110)	3.3	(0-20)	SW846 6020	10/13-10/19/04	4280667
		Dilution Factor: 1			Analysis Time..: 21:09		
Chromium	111	(89 - 114)			SW846 6020	10/13-10/19/04	4280667
	105	(89 - 114)	5.2	(0-20)	SW846 6020	10/13-10/19/04	4280667
		Dilution Factor: 1			Analysis Time..: 21:09		
Lead	110	(89 - 114)			SW846 6020	10/13-10/19/04	4280667
	101	(89 - 114)	8.5	(0-20)	SW846 6020	10/13-10/19/04	4280667
		Dilution Factor: 1			Analysis Time..: 21:09		
Selenium	95	(82 - 112)			SW846 6020	10/13-10/19/04	4280667
	94	(82 - 112)	0.40	(0-20)	SW846 6020	10/13-10/19/04	4280667
		Dilution Factor: 1			Analysis Time..: 21:09		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Lot-Sample #...: D4J050210 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Arsenic	40.0	40.0	ug/L	100		SW846 6020	10/13-10/19/04	4280667
	40.0	39.7	ug/L	99	0.83	SW846 6020	10/13-10/19/04	4280667
			Dilution Factor: 1			Analysis Time..: 21:09		
Cadmium	40.0	40.7	ug/L	102		SW846 6020	10/13-10/19/04	4280667
	40.0	39.4	ug/L	99	3.3	SW846 6020	10/13-10/19/04	4280667
			Dilution Factor: 1			Analysis Time..: 21:09		
Chromium	40.0	44.4	ug/L	111		SW846 6020	10/13-10/19/04	4280667
	40.0	42.1	ug/L	105	5.2	SW846 6020	10/13-10/19/04	4280667
			Dilution Factor: 1			Analysis Time..: 21:09		
Lead	40.0	44.1	ug/L	110		SW846 6020	10/13-10/19/04	4280667
	40.0	40.4	ug/L	101	8.5	SW846 6020	10/13-10/19/04	4280667
			Dilution Factor: 1			Analysis Time..: 21:09		
Selenium	40.0	37.9	ug/L	95		SW846 6020	10/13-10/19/04	4280667
	40.0	37.8	ug/L	94	0.40	SW846 6020	10/13-10/19/04	4280667
			Dilution Factor: 1			Analysis Time..: 21:09		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: D4J050210 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: D4J050000-544 **Prep Batch #...:** 4279544					
Barium	105	(93 - 113)	SW846 6010B	10/06-10/09/04	GRV421AJ
		Dilution Factor: 1	Analysis Time..: 23:22		
Calcium	97	(89 - 110)	SW846 6010B	10/06-10/08/04	GRV421AK
		Dilution Factor: 1	Analysis Time..: 04:25		
Magnesium	97	(91 - 111)	SW846 6010B	10/06-10/08/04	GRV421AN
		Dilution Factor: 1	Analysis Time..: 04:25		
Sodium	95	(91 - 112)	SW846 6010B	10/06-10/08/04	GRV421AP
		Dilution Factor: 1	Analysis Time..: 04:25		
Potassium	95	(86 - 111)	SW846 6010B	10/06-10/08/04	GRV421A0
		Dilution Factor: 1	Analysis Time..: 04:25		
Beryllium	98	(88 - 112)	SW846 6010B	10/06-10/08/04	GRV421A2
		Dilution Factor: 1	Analysis Time..: 04:25		
Cobalt	99	(86 - 107)	SW846 6010B	10/06-10/09/04	GRV421A3
		Dilution Factor: 1	Analysis Time..: 23:22		
LCS Lot-Sample#: D4J060000-567 **Prep Batch #...:** 4280567					
Barium	104	(93 - 113)	SW846 6010B	10/07-10/11/04	GR1FE1AJ
		Dilution Factor: 1	Analysis Time..: 19:42		
Beryllium	112	(88 - 112)	SW846 6010B	10/07-10/10/04	GR1FE1AK
		Dilution Factor: 1	Analysis Time..: 05:07		
Calcium	108	(89 - 110)	SW846 6010B	10/07-10/10/04	GR1FE1AL
		Dilution Factor: 1	Analysis Time..: 05:07		
Potassium	107	(86 - 111)	SW846 6010B	10/07-10/12/04	GR1FE1AM
		Dilution Factor: 1	Analysis Time..: 03:04		
Magnesium	107	(91 - 111)	SW846 6010B	10/07-10/12/04	GR1FE1AN
		Dilution Factor: 1	Analysis Time..: 03:04		
Sodium	108	(91 - 112)	SW846 6010B	10/07-10/12/04	GR1FE1AP
		Dilution Factor: 1	Analysis Time..: 03:04		

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: D4J050210 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Cobalt	98	(86 - 107)	SW846 6010B	10/07-10/11/04	GR1FE1AQ

Dilution Factor: 1 Analysis Time..: 19:42

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: D4J050210 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: D4J050000-544 **Prep Batch #...:** 4279544							
Barium	2000	2100	ug/L	105	SW846 6010B	10/06-10/09/04	GRV421AJ
			Dilution Factor: 1		Analysis Time..: 23:22		
Calcium	50000	48600	ug/L	97	SW846 6010B	10/06-10/08/04	GRV421AK
			Dilution Factor: 1		Analysis Time..: 04:25		
Magnesium	50000	48600	ug/L	97	SW846 6010B	10/06-10/08/04	GRV421AN
			Dilution Factor: 1		Analysis Time..: 04:25		
Sodium	50000	47700	ug/L	95	SW846 6010B	10/06-10/08/04	GRV421AP
			Dilution Factor: 1		Analysis Time..: 04:25		
Potassium	50000	47500	ug/L	95	SW846 6010B	10/06-10/08/04	GRV421A0
			Dilution Factor: 1		Analysis Time..: 04:25		
Beryllium	50.0	48.8	ug/L	98	SW846 6010B	10/06-10/08/04	GRV421A2
			Dilution Factor: 1		Analysis Time..: 04:25		
Cobalt	500	497	ug/L	99	SW846 6010B	10/06-10/09/04	GRV421A3
			Dilution Factor: 1		Analysis Time..: 23:22		
LCS Lot-Sample#: D4J060000-567 **Prep Batch #...:** 4280567							
Barium	2000	2090	ug/L	104	SW846 6010B	10/07-10/11/04	GR1FE1AJ
			Dilution Factor: 1		Analysis Time..: 19:42		
Beryllium	50.0	55.8	ug/L	112	SW846 6010B	10/07-10/10/04	GR1FE1AK
			Dilution Factor: 1		Analysis Time..: 05:07		
Calcium	50000	54000	ug/L	108	SW846 6010B	10/07-10/10/04	GR1FE1AL
			Dilution Factor: 1		Analysis Time..: 05:07		
Potassium	50000	53400	ug/L	107	SW846 6010B	10/07-10/12/04	GR1FE1AM
			Dilution Factor: 1		Analysis Time..: 03:04		
Magnesium	50000	53600	ug/L	107	SW846 6010B	10/07-10/12/04	GR1FE1AN
			Dilution Factor: 1		Analysis Time..: 03:04		
Sodium	50000	53800	ug/L	108	SW846 6010B	10/07-10/12/04	GR1FE1AP
			Dilution Factor: 1		Analysis Time..: 03:04		

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LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: D4J050210 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Cobalt	500	488	ug/L	98	SW846 6010B	10/07-10/11/04	GR1FE1AQ

Dilution Factor: 1 Analysis Time..: 19:42

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: D4J050210 **Matrix.....:** WATER
Date Sampled...: 10/04/04 **Date Received..:** 10/05/04

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: D4J050237-001 **Prep Batch #...:** 4279544							
Barium	102	(85 - 120)			SW846 6010B	10/06-10/09/04	GRVGA1AQ
	105	(85 - 120)	2.7	(0-25)	SW846 6010B	10/06-10/09/04	GRVGA1AR
		Dilution Factor: 1					
		Analysis Time..: 23:36					
Beryllium	95	(79 - 121)			SW846 6010B	10/06-10/08/04	GRVGA1CC
	98	(79 - 121)	2.8	(0-25)	SW846 6010B	10/06-10/08/04	GRVGA1CD
		Dilution Factor: 1					
		Analysis Time..: 04:39					
Calcium	92	(48 - 153)			SW846 6010B	10/06-10/08/04	GRVGA1AT
	95	(48 - 153)	2.2	(0-25)	SW846 6010B	10/06-10/08/04	GRVGA1AU
		Dilution Factor: 1					
		Analysis Time..: 04:39					
Cobalt	97	(82 - 119)			SW846 6010B	10/06-10/09/04	GRVGA1CJ
	99	(82 - 119)	2.6	(0-25)	SW846 6010B	10/06-10/09/04	GRVGA1CK
		Dilution Factor: 1					
		Analysis Time..: 23:36					
Magnesium	95	(62 - 146)			SW846 6010B	10/06-10/08/04	GRVGA1A1
	97	(62 - 146)	2.6	(0-25)	SW846 6010B	10/06-10/08/04	GRVGA1A2
		Dilution Factor: 1					
		Analysis Time..: 04:39					
Potassium	92	(76 - 132)			SW846 6010B	10/06-10/08/04	GRVGA1CF
	95	(76 - 132)	2.6	(0-25)	SW846 6010B	10/06-10/08/04	GRVGA1CG
		Dilution Factor: 1					
		Analysis Time..: 04:39					
Sodium	94	(70 - 203)			SW846 6010B	10/06-10/08/04	GRVGA1A3
	96	(70 - 203)	1.7	(0-40)	SW846 6010B	10/06-10/08/04	GRVGA1A4
		Dilution Factor: 1					
		Analysis Time..: 04:39					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: D4J050210 **Matrix.....:** WATER
Date Sampled...: 10/04/04 **Date Received..:** 10/05/04

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: D4J050237-001 **Prep Batch #...:** 4279544									
Barium									
	16	2000	2050	ug/L	102		SW846 6010B	10/06-10/09/04	GRVGA1AQ
	16	2000	2110	ug/L	105	2.7	SW846 6010B	10/06-10/09/04	GRVGA1AR
			Dilution Factor: 1						
			Analysis Time..: 23:36						
Beryllium									
	ND	50.0	47.6	ug/L	95		SW846 6010B	10/06-10/08/04	GRVGA1CC
	ND	50.0	48.9	ug/L	98	2.8	SW846 6010B	10/06-10/08/04	GRVGA1CD
			Dilution Factor: 1						
			Analysis Time..: 04:39						
Calcium									
	22000	50000	67300	ug/L	92		SW846 6010B	10/06-10/08/04	GRVGA1AT
	22000	50000	68800	ug/L	95	2.2	SW846 6010B	10/06-10/08/04	GRVGA1AU
			Dilution Factor: 1						
			Analysis Time..: 04:39						
Cobalt									
	ND	500	484	ug/L	97		SW846 6010B	10/06-10/09/04	GRVGA1CJ
	ND	500	496	ug/L	99	2.6	SW846 6010B	10/06-10/09/04	GRVGA1CK
			Dilution Factor: 1						
			Analysis Time..: 23:36						
Magnesium									
	1200	50000	48500	ug/L	95		SW846 6010B	10/06-10/08/04	GRVGA1A1
	1200	50000	49800	ug/L	97	2.6	SW846 6010B	10/06-10/08/04	GRVGA1A2
			Dilution Factor: 1						
			Analysis Time..: 04:39						
Potassium									
	440	50000	46500	ug/L	92		SW846 6010B	10/06-10/08/04	GRVGA1CF
	440	50000	47700	ug/L	95	2.6	SW846 6010B	10/06-10/08/04	GRVGA1CG
			Dilution Factor: 1						
			Analysis Time..: 04:39						
Sodium									
	2900	50000	50000	ug/L	94		SW846 6010B	10/06-10/08/04	GRVGA1A3
	2900	50000	50800	ug/L	96	1.7	SW846 6010B	10/06-10/08/04	GRVGA1A4
			Dilution Factor: 1						
			Analysis Time..: 04:39						

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: D4J050210 **Matrix.....:** WATER
Date Sampled...: 10/05/04 12:50 **Date Received..:** 10/06/04

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: D4J050210-003 **Prep Batch #...:** 4280567							
Barium	105	(85 - 120)			SW846 6010B	10/07-10/11/04	GRX951A7
	104	(85 - 120)	0.96	(0-25)	SW846 6010B	10/07-10/11/04	GRX951A8
		Dilution Factor: 1					
		Analysis Time..: 19:57					
Beryllium	111	(79 - 121)			SW846 6010B	10/07-10/10/04	GRX951A9
	111	(79 - 121)	0.28	(0-25)	SW846 6010B	10/07-10/10/04	GRX951CA
		Dilution Factor: 1					
		Analysis Time..: 06:29					
Calcium	NC,MSB	(48 - 153)			SW846 6010B	10/07-10/10/04	GRX951CC
	NC,MSB	(48 - 153)		(0-25)	SW846 6010B	10/07-10/10/04	GRX951CD
		Dilution Factor: 1					
		Analysis Time..: 06:29					
Cobalt	101	(82 - 119)			SW846 6010B	10/07-10/11/04	GRX951CL
	100	(82 - 119)	0.68	(0-25)	SW846 6010B	10/07-10/11/04	GRX951CM
		Dilution Factor: 1					
		Analysis Time..: 19:57					
Magnesium	NC,MSB	(62 - 146)			SW846 6010B	10/07-10/10/04	GRX951CG
	NC,MSB	(62 - 146)		(0-25)	SW846 6010B	10/07-10/10/04	GRX951CH
		Dilution Factor: 1					
		Analysis Time..: 06:29					
Potassium	116	(76 - 132)			SW846 6010B	10/07-10/12/04	GRX951CE
	113	(76 - 132)	1.0	(0-25)	SW846 6010B	10/07-10/12/04	GRX951CF
		Dilution Factor: 1					
		Analysis Time..: 04:25					
Sodium	NC,MSB	(70 - 203)			SW846 6010B	10/07-10/12/04	GRX951CJ
	NC,MSB	(70 - 203)		(0-40)	SW846 6010B	10/07-10/12/04	GRX951CK
		Dilution Factor: 1					
		Analysis Time..: 04:25					
MS Lot-Sample #: D4J050210-003 **Prep Batch #...:** 4280667							
Arsenic	103	(87 - 109)			SW846 6020	10/13-10/19/04	GRX951DG
	101	(87 - 109)	1.2	(0-20)	SW846 6020	10/13-10/19/04	GRX951DH
		Dilution Factor: 5					
		Analysis Time..: 21:39					

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: D4J050210 **Matrix.....:** WATER
Date Sampled...: 10/05/04 12:50 **Date Received..:** 10/06/04

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Cadmium	101	(89 - 110)			SW846 6020	10/13-10/19/04	GRX951DJ
	99	(89 - 110)	2.0	(0-20)	SW846 6020	10/13-10/19/04	GRX951DK
		Dilution Factor: 5					
		Analysis Time..: 21:39					
Chromium	100	(89 - 114)			SW846 6020	10/13-10/19/04	GRX951DQ
	100	(89 - 114)	0.33	(0-20)	SW846 6020	10/13-10/19/04	GRX951DR
		Dilution Factor: 5					
		Analysis Time..: 21:39					
Lead	107	(89 - 114)			SW846 6020	10/13-10/19/04	GRX951DL
	106	(89 - 114)	0.37	(0-20)	SW846 6020	10/13-10/19/04	GRX951DM
		Dilution Factor: 5					
		Analysis Time..: 21:39					
Selenium	108	(82 - 112)			SW846 6020	10/13-10/19/04	GRX951DN
	103	(82 - 112)	2.6	(0-20)	SW846 6020	10/13-10/19/04	GRX951DP
		Dilution Factor: 5					
		Analysis Time..: 21:39					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

MSB The recovery and RPD were not calculated because the sample amount was greater than four times the spike amount.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: D4J050210 **Matrix.....:** WATER
Date Sampled...: 10/05/04 12:50 **Date Received..:** 10/06/04

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: D4J050210-003 **Prep Batch #...:** 4280567									
Barium									
	14	2000	2110	ug/L	105		SW846 6010B	10/07-10/11/04	GRX951A7
	14	2000	2090	ug/L	104	0.96	SW846 6010B	10/07-10/11/04	GRX951A8
			Dilution Factor: 1						
			Analysis Time..: 19:57						
Beryllium									
	1.2	50.0	56.8	ug/L	111		SW846 6010B	10/07-10/10/04	GRX951A9
	1.2	50.0	56.7	ug/L	111	0.28	SW846 6010B	10/07-10/10/04	GRX951CA
			Dilution Factor: 1						
			Analysis Time..: 06:29						
Calcium									
	200000	50000	264000	ug/L			SW846 6010B	10/07-10/10/04	GRX951CC
			Qualifiers: NC,MSB						
	200000	50000	262000	ug/L			SW846 6010B	10/07-10/10/04	GRX951CD
			Qualifiers: NC,MSB						
			Dilution Factor: 1						
			Analysis Time..: 06:29						
Cobalt									
	ND	500	506	ug/L	101		SW846 6010B	10/07-10/11/04	GRX951CL
	ND	500	503	ug/L	100	0.68	SW846 6010B	10/07-10/11/04	GRX951CM
			Dilution Factor: 1						
			Analysis Time..: 19:57						
Magnesium									
	380000	50000	446000	ug/L			SW846 6010B	10/07-10/10/04	GRX951CG
			Qualifiers: NC,MSB						
	380000	50000	445000	ug/L			SW846 6010B	10/07-10/10/04	GRX951CH
			Qualifiers: NC,MSB						
			Dilution Factor: 1						
			Analysis Time..: 06:29						
Potassium									
	70000	50000	128000	ug/L	116		SW846 6010B	10/07-10/12/04	GRX951CE
	70000	50000	127000	ug/L	113	1.0	SW846 6010B	10/07-10/12/04	GRX951CF
			Dilution Factor: 1						
			Analysis Time..: 04:25						

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MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: D4J050210 **Matrix.....:** WATER
Date Sampled...: 10/05/04 12:50 **Date Received..:** 10/06/04

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Sodium									
	2000000	50000	2090000	ug/L			SW846 6010B	10/07-10/12/04	GRX951CJ
			Qualifiers: NC,MSB						
	2000000	50000	2070000	ug/L			SW846 6010B	10/07-10/12/04	GRX951CK
			Qualifiers: NC,MSB						
			Dilution Factor: 1						
			Analysis Time..: 04:25						

MS Lot-Sample #: D4J050210-003 **Prep Batch #...:** 4280667

Arsenic									
	15	40.0	56.0	ug/L	103		SW846 6020	10/13-10/19/04	GRX951DG
	15	40.0	55.3	ug/L	101	1.2	SW846 6020	10/13-10/19/04	GRX951DH
			Dilution Factor: 5						
			Analysis Time..: 21:39						
Cadmium									
	0.56	40.0	40.9	ug/L	101		SW846 6020	10/13-10/19/04	GRX951DJ
	0.56	40.0	40.1	ug/L	99	2.0	SW846 6020	10/13-10/19/04	GRX951DK
			Dilution Factor: 5						
			Analysis Time..: 21:39						
Chromium									
	9.6	40.0	49.6	ug/L	100		SW846 6020	10/13-10/19/04	GRX951DQ
	9.6	40.0	49.7	ug/L	100	0.33	SW846 6020	10/13-10/19/04	GRX951DR
			Dilution Factor: 5						
			Analysis Time..: 21:39						
Lead									
	ND	40.0	42.8	ug/L	107		SW846 6020	10/13-10/19/04	GRX951DL
	ND	40.0	42.7	ug/L	106	0.37	SW846 6020	10/13-10/19/04	GRX951DM
			Dilution Factor: 5						
			Analysis Time..: 21:39						
Selenium									
	43	40.0	86.1	ug/L	108		SW846 6020	10/13-10/19/04	GRX951DN
	43	40.0	83.9	ug/L	103	2.6	SW846 6020	10/13-10/19/04	GRX951DP
			Dilution Factor: 5						
			Analysis Time..: 21:39						

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

MSB The recovery and RPD were not calculated because the sample amount was greater than four times the spike amount.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: D4J050210 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Ammonia as N		Work Order #: GTA961AA		MB Lot-Sample #:	D4J110000-444	
	ND	0.10	mg/L	MCAWW 350.1	10/07/04	4285444
		Dilution Factor: 1				
		Analysis Time..: 14:00				
Chloride		Work Order #: GR0231AA		MB Lot-Sample #:	D4J060000-344	
	ND	3.0	mg/L	MCAWW 300.0A	10/05/04	4280344
		Dilution Factor: 1				
		Analysis Time..: 14:20				
Chloride		Work Order #: GR4571AA		MB Lot-Sample #:	D4J070000-551	
	0.10 B	**3.0**	**mg/L**	**MCAWW 300.0A**	**10/06/04**	**4281551**
		Dilution Factor: 1				
		Analysis Time..: 17:22				
Cyanide, Total		Work Order #: GTCX41AA		MB Lot-Sample #:	D4J110000-617	
	ND	0.010	mg/L	SW846 9012A	10/11/04	4285617
		Dilution Factor: 1				
		Analysis Time..: 17:00				
Cyanide, Total		Work Order #: GTN9J1AA		MB Lot-Sample #:	D4J150000-233	
	ND	0.010	mg/L	SW846 9012A	10/14-10/15/04	4289233
		Dilution Factor: 1				
		Analysis Time..: 11:00				
Fluoride		Work Order #: GR0XR1AA		MB Lot-Sample #:	D4J060000-345	
	ND	1.0	mg/L	MCAWW 300.0A	10/05/04	4280345
		Dilution Factor: 1				
		Analysis Time..: 14:20				
Fluoride		Work Order #: GR45T1AA		MB Lot-Sample #:	D4J070000-552	
	ND	1.0	mg/L	MCAWW 300.0A	10/06/04	4281552
		Dilution Factor: 1				
		Analysis Time..: 17:22				
Nitrate		Work Order #: GR04F1AA		MB Lot-Sample #:	D4J060000-346	
	ND	0.50	mg/L	MCAWW 300.0A	10/05/04	4280346
		Dilution Factor: 1				
		Analysis Time..: 14:20				
Nitrate		Work Order #: GR46L1AA		MB Lot-Sample #:	D4J070000-553	
	ND	0.50	mg/L	MCAWW 300.0A	10/06/04	4281553
		Dilution Factor: 1				
		Analysis Time..: 17:22				

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METHOD BLANK REPORT

General Chemistry

Client Lot #...: D4J050210 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Phosphate as P, Ortho		Work Order #: GR0401AA		MB Lot-Sample #:	D4J060000-347	
	ND	0.50	mg/L	MCAWW 300.0A	10/05/04	4280347
		Dilution Factor: 1				
		Analysis Time..: 14:20				
Phosphate as P, Ortho		Work Order #: GR46R1AA		MB Lot-Sample #:	D4J070000-554	
	ND	0.50	mg/L	MCAWW 300.0A	10/06/04	4281554
		Dilution Factor: 1				
		Analysis Time..: 17:22				
Sulfate		Work Order #: GR0431AA		MB Lot-Sample #:	D4J060000-348	
	ND	5.0	mg/L	MCAWW 300.0A	10/05/04	4280348
		Dilution Factor: 1				
		Analysis Time..: 14:20				
Sulfate		Work Order #: GR4631AA		MB Lot-Sample #:	D4J070000-555	
	ND	5.0	mg/L	MCAWW 300.0A	10/06/04	4281555
		Dilution Factor: 1				
		Analysis Time..: 17:22				
Total Alkalinity		Work Order #: GTGAN1AA		MB Lot-Sample #:	D4J120000-149	
	ND	5.0	mg/L	MCAWW 310.1	10/11/04	4286149
		Dilution Factor: 1				
		Analysis Time..: 16:08				
Total Alkalinity		Work Order #: GTKDP1AA		MB Lot-Sample #:	D4J140000-134	
	ND	5.0	mg/L	MCAWW 310.1	10/13/04	4288134
		Dilution Factor: 1				
		Analysis Time..: 13:42				
Total Dissolved Solids		Work Order #: GTHRT1AA		MB Lot-Sample #:	D4J080000-167	
	ND	10	mg/L	MCAWW 160.1	10/07/04	4282167
		Dilution Factor: 1				
		Analysis Time..: 15:45				
Total Organic Halogens		Work Order #: GVGED1AA		MB Lot-Sample #:	D4J240000-053	
	ND	10	ug/L	SW846 9020B	10/24/04	4298053
		Dilution Factor: 1				
		Analysis Time..: 12:00				

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METHOD BLANK REPORT

General Chemistry

Client Lot #...: D4J050210 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon		Work Order #: GVERK1AA		MB Lot-Sample #:	D4J250000-070	
	ND	1.0	mg/L	SW846 9060	10/24/04	4299070
		Dilution Factor: 1				
		Analysis Time..: 10:00				
Total Sulfide		Work Order #: GR5041AA		MB Lot-Sample #:	D4J070000-176	
	ND	0.050	mg/L	MCAWW 376.2	10/06/04	4281176
		Dilution Factor: 1				
		Analysis Time..: 17:00				
Total Sulfide		Work Order #: GTFLA1AA		MB Lot-Sample #:	D4J120000-564	
	ND	0.050	mg/L	MCAWW 376.2	10/12/04	4286564
		Dilution Factor: 1				
		Analysis Time..: 15:00				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #...: D4J050210 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Ammonia as N		WO#:GTA961AC-LCS/GTA961AD-LCSD LCS Lot-Sample#: D4J110000-444					
	100	(90 - 110)			MCAWW 350.1	10/07/04	4285444
	101	(90 - 110)	0.47	(0-10)	MCAWW 350.1	10/07/04	4285444
		Dilution Factor: 1			Analysis Time..: 14:00		
Chloride		WO#:GR0231AC-LCS/GR0231AD-LCSD LCS Lot-Sample#: D4J060000-344					
	101	(90 - 110)			MCAWW 300.0A	10/05/04	4280344
	100	(90 - 110)	0.74	(0-10)	MCAWW 300.0A	10/05/04	4280344
		Dilution Factor: 1			Analysis Time..: 13:44		
Chloride		WO#:GR4571AC-LCS/GR4571AD-LCSD LCS Lot-Sample#: D4J070000-551					
	97	(90 - 110)			MCAWW 300.0A	10/06/04	4281551
	96	(90 - 110)	0.25	(0-10)	MCAWW 300.0A	10/06/04	4281551
		Dilution Factor: 1			Analysis Time..: 16:46		
Cyanide, Total		WO#:GTCX41AC-LCS/GTCX41AD-LCSD LCS Lot-Sample#: D4J110000-617					
	95	(89 - 109)			SW846 9012A	10/11/04	4285617
	95	(89 - 109)	0.31	(0-20)	SW846 9012A	10/11/04	4285617
		Dilution Factor: 1			Analysis Time..: 17:00		
Cyanide, Total		WO#:GTN9J1AC-LCS/GTN9J1AD-LCSD LCS Lot-Sample#: D4J150000-233					
	102	(89 - 109)			SW846 9012A	10/14-10/15/04	4289233
	104	(89 - 109)	2.1	(0-20)	SW846 9012A	10/14-10/15/04	4289233
		Dilution Factor: 1			Analysis Time..: 11:00		
Fluoride		WO#:GR0XR1AC-LCS/GR0XR1AD-LCSD LCS Lot-Sample#: D4J060000-345					
	100	(90 - 110)			MCAWW 300.0A	10/05/04	4280345
	100	(90 - 110)	0.0	(0-10)	MCAWW 300.0A	10/05/04	4280345
		Dilution Factor: 1			Analysis Time..: 13:44		
Fluoride		WO#:GR45T1AC-LCS/GR45T1AD-LCSD LCS Lot-Sample#: D4J070000-552					
	99	(90 - 110)			MCAWW 300.0A	10/06/04	4281552
	99	(90 - 110)	0.0	(0-10)	MCAWW 300.0A	10/06/04	4281552
		Dilution Factor: 1			Analysis Time..: 16:46		
Nitrate		WO#:GR04F1AC-LCS/GR04F1AD-LCSD LCS Lot-Sample#: D4J060000-346					
	100	(90 - 110)			MCAWW 300.0A	10/05/04	4280346
	100	(90 - 110)	0.24	(0-10)	MCAWW 300.0A	10/05/04	4280346
		Dilution Factor: 1			Analysis Time..: 13:44		

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #...: D4J050210 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate		WO#:GR46L1AC-LCS/GR46L1AD-LCSD LCS Lot-Sample#: D4J070000-553					
	97	(90 - 110)			MCAWW 300.0A	10/06/04	4281553
	96	(90 - 110)	0.25	(0-10)	MCAWW 300.0A	10/06/04	4281553
		Dilution Factor: 1			Analysis Time..: 16:46		
Phosphate as P, Ortho		WO#:GR0401AC-LCS/GR0401AD-LCSD LCS Lot-Sample#: D4J060000-347					
	106	(90 - 110)			MCAWW 300.0A	10/05/04	4280347
	106	(90 - 110)	0.94	(0-10)	MCAWW 300.0A	10/05/04	4280347
		Dilution Factor: 1			Analysis Time..: 13:44		
Phosphate as P, Ortho		WO#:GR46R1AC-LCS/GR46R1AD-LCSD LCS Lot-Sample#: D4J070000-554					
	110	(90 - 110)			MCAWW 300.0A	10/06/04	4281554
	110	(90 - 110)	0.45	(0-10)	MCAWW 300.0A	10/06/04	4281554
		Dilution Factor: 1			Analysis Time..: 16:46		
Sulfate		WO#:GR0431AC-LCS/GR0431AD-LCSD LCS Lot-Sample#: D4J060000-348					
	102	(90 - 110)			MCAWW 300.0A	10/05/04	4280348
	101	(90 - 110)	0.88	(0-10)	MCAWW 300.0A	10/05/04	4280348
		Dilution Factor: 1			Analysis Time..: 13:44		
Sulfate		WO#:GR4631AC-LCS/GR4631AD-LCSD LCS Lot-Sample#: D4J070000-555					
	98	(90 - 110)			MCAWW 300.0A	10/06/04	4281555
	97	(90 - 110)	0.46	(0-10)	MCAWW 300.0A	10/06/04	4281555
		Dilution Factor: 1			Analysis Time..: 16:46		
Total Alkalinity		WO#:GTGAN1AC-LCS/GTGAN1AD-LCSD LCS Lot-Sample#: D4J120000-149					
	101	(95 - 110)			MCAWW 310.1	10/11/04	4286149
	101	(95 - 110)	0.36	(0-10)	MCAWW 310.1	10/11/04	4286149
		Dilution Factor: 1			Analysis Time..: 16:08		
Total Alkalinity		WO#:GTKDP1AC-LCS/GTKDP1AD-LCSD LCS Lot-Sample#: D4J140000-134					
	98	(95 - 110)			MCAWW 310.1	10/13/04	4288134
	99	(95 - 110)	0.96	(0-10)	MCAWW 310.1	10/13/04	4288134
		Dilution Factor: 1			Analysis Time..: 13:42		
Total Dissolved Solids		WO#:GTHRT1AC-LCS/GTHRT1AD-LCSD LCS Lot-Sample#: D4J080000-167					
	99	(86 - 106)			MCAWW 160.1	10/07/04	4282167
	99	(86 - 106)	0.20	(0-20)	MCAWW 160.1	10/07/04	4282167
		Dilution Factor: 1			Analysis Time..: 15:45		

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #...: D4J050210 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Halogens		WO#:GVGED1AC-LCS/GVGED1AD-LCSD				LCS Lot-Sample#: D4J240000-053	
	91	(75 - 113)			SW846 9020B	10/24/04	4298053
	84	(75 - 113)	7.3	(0-30)	SW846 9020B	10/24/04	4298053
		Dilution Factor: 1			Analysis Time..: 12:00		
Total Organic Carbon		WO#:GVERK1AC-LCS/GVERK1AD-LCSD				LCS Lot-Sample#: D4J250000-070	
	97	(89 - 113)			SW846 9060	10/24/04	4299070
	95	(89 - 113)	2.2	(0-10)	SW846 9060	10/24/04	4299070
		Dilution Factor: 1			Analysis Time..: 10:00		
Total Sulfide		WO#:GR5041AC-LCS/GR5041AD-LCSD				LCS Lot-Sample#: D4J070000-176	
	94	(82 - 117)			MCAWW 376.2	10/06/04	4281176
	95	(82 - 117)	1.1	(0-10)	MCAWW 376.2	10/06/04	4281176
		Dilution Factor: 1			Analysis Time..: 17:00		
Total Sulfide		WO#:GTFLA1AC-LCS/GTFLA1AD-LCSD				LCS Lot-Sample#: D4J120000-564	
	104	(82 - 117)			MCAWW 376.2	10/12/04	4286564
	105	(82 - 117)	1.3	(0-10)	MCAWW 376.2	10/12/04	4286564
		Dilution Factor: 1			Analysis Time..: 15:00		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Lot-Sample #...: D4J050210 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Ammonia as N			WO#:GTA961AC-LCS/GTA961AD-LCSD			LCS Lot-Sample#: D4J110000-444		
	4.00	4.01	mg/L	100		MCAWW 350.1	10/07/04	4285444
	4.00	4.03	mg/L	101	0.47	MCAWW 350.1	10/07/04	4285444
			Dilution Factor: 1			Analysis Time..: 14:00		
Chloride			WO#:GR0231AC-LCS/GR0231AD-LCSD			LCS Lot-Sample#: D4J060000-344		
	20.0	20.2	mg/L	101		MCAWW 300.0A	10/05/04	4280344
	20.0	20.0	mg/L	100	0.74	MCAWW 300.0A	10/05/04	4280344
			Dilution Factor: 1			Analysis Time..: 13:44		
Chloride			WO#:GR4571AC-LCS/GR4571AD-LCSD			LCS Lot-Sample#: D4J070000-551		
	20.0	19.4	mg/L	97		MCAWW 300.0A	10/06/04	4281551
	20.0	19.3	mg/L	96	0.25	MCAWW 300.0A	10/06/04	4281551
			Dilution Factor: 1			Analysis Time..: 16:46		
Cyanide, Total			WO#:GTCX41AC-LCS/GTCX41AD-LCSD			LCS Lot-Sample#: D4J110000-617		
	0.100	0.0951	mg/L	95		SW846 9012A	10/11/04	4285617
	0.100	0.0954	mg/L	95	0.31	SW846 9012A	10/11/04	4285617
			Dilution Factor: 1			Analysis Time..: 17:00		
Cyanide, Total			WO#:GTN9J1AC-LCS/GTN9J1AD-LCSD			LCS Lot-Sample#: D4J150000-233		
	0.100	0.102	mg/L	102		SW846 9012A	10/14-10/15/04	4289233
	0.100	0.104	mg/L	104	2.1	SW846 9012A	10/14-10/15/04	4289233
			Dilution Factor: 1			Analysis Time..: 11:00		
Fluoride			WO#:GR0XR1AC-LCS/GR0XR1AD-LCSD			LCS Lot-Sample#: D4J060000-345		
	4.00	3.98	mg/L	100		MCAWW 300.0A	10/05/04	4280345
	4.00	3.98	mg/L	100	0.0	MCAWW 300.0A	10/05/04	4280345
			Dilution Factor: 1			Analysis Time..: 13:44		
Fluoride			WO#:GR45T1AC-LCS/GR45T1AD-LCSD			LCS Lot-Sample#: D4J070000-552		
	4.00	3.97	mg/L	99		MCAWW 300.0A	10/06/04	4281552
	4.00	3.97	mg/L	99	0.0	MCAWW 300.0A	10/06/04	4281552
			Dilution Factor: 1			Analysis Time..: 16:46		
Nitrate			WO#:GR04F1AC-LCS/GR04F1AD-LCSD			LCS Lot-Sample#: D4J060000-346		
	4.00	4.02	mg/L	100		MCAWW 300.0A	10/05/04	4280346
	4.00	4.01	mg/L	100	0.24	MCAWW 300.0A	10/05/04	4280346
			Dilution Factor: 1			Analysis Time..: 13:44		

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LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Lot-Sample #...: D4J050210 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate			WO#:GR46L1AC-LCS/GR46L1AD-LCSD			LCS Lot-Sample#: D4J070000-553		
	4.00	3.87	mg/L	97		MCAWW 300.0A	10/06/04	4281553
	4.00	3.86	mg/L	96	0.25	MCAWW 300.0A	10/06/04	4281553
			Dilution Factor: 1			Analysis Time..: 16:46		
Phosphate as P, Ortho			WO#:GR0401AC-LCS/GR0401AD-LCSD			LCS Lot-Sample#: D4J060000-347		
	4.00	4.22	mg/L	106		MCAWW 300.0A	10/05/04	4280347
	4.00	4.26	mg/L	106	0.94	MCAWW 300.0A	10/05/04	4280347
			Dilution Factor: 1			Analysis Time..: 13:44		
Phosphate as P, Ortho			WO#:GR46R1AC-LCS/GR46R1AD-LCSD			LCS Lot-Sample#: D4J070000-554		
	4.00	4.40	mg/L	110		MCAWW 300.0A	10/06/04	4281554
	4.00	4.38	mg/L	110	0.45	MCAWW 300.0A	10/06/04	4281554
			Dilution Factor: 1			Analysis Time..: 16:46		
Sulfate			WO#:GR0431AC-LCS/GR0431AD-LCSD			LCS Lot-Sample#: D4J060000-348		
	20.0	20.4	mg/L	102		MCAWW 300.0A	10/05/04	4280348
	20.0	20.2	mg/L	101	0.88	MCAWW 300.0A	10/05/04	4280348
			Dilution Factor: 1			Analysis Time..: 13:44		
Sulfate			WO#:GR4631AC-LCS/GR4631AD-LCSD			LCS Lot-Sample#: D4J070000-555		
	20.0	19.5	mg/L	98		MCAWW 300.0A	10/06/04	4281555
	20.0	19.4	mg/L	97	0.46	MCAWW 300.0A	10/06/04	4281555
			Dilution Factor: 1			Analysis Time..: 16:46		
Total Alkalinity			WO#:GTGAN1AC-LCS/GTGAN1AD-LCSD			LCS Lot-Sample#: D4J120000-149		
	200	202	mg/L	101		MCAWW 310.1	10/11/04	4286149
	200	202	mg/L	101	0.36	MCAWW 310.1	10/11/04	4286149
			Dilution Factor: 1			Analysis Time..: 16:08		
Total Alkalinity			WO#:GTKDP1AC-LCS/GTKDP1AD-LCSD			LCS Lot-Sample#: D4J140000-134		
	200	197	mg/L	98		MCAWW 310.1	10/13/04	4288134
	200	199	mg/L	99	0.96	MCAWW 310.1	10/13/04	4288134
			Dilution Factor: 1			Analysis Time..: 13:42		
Total Dissolved Solids			WO#:GTHRT1AC-LCS/GTHRT1AD-LCSD			LCS Lot-Sample#: D4J080000-167		
	500	494	mg/L	99		MCAWW 160.1	10/07/04	4282167
	500	495	mg/L	99	0.20	MCAWW 160.1	10/07/04	4282167
			Dilution Factor: 1			Analysis Time..: 15:45		

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LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Lot-Sample #...: D4J050210 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Halogens		WO#:GVGED1AC-LCS/GVGED1AD-LCSD				LCS Lot-Sample#: D4J240000-053		
	100	90.8	ug/L	91		SW846 9020B	10/24/04	4298053
	100	84.5	ug/L	84	7.3	SW846 9020B	10/24/04	4298053
		Dilution Factor: 1				Analysis Time..: 12:00		
Total Organic Carbon		WO#:GVERK1AC-LCS/GVERK1AD-LCSD				LCS Lot-Sample#: D4J250000-070		
	25.0	24.3	mg/L	97		SW846 9060	10/24/04	4299070
	25.0	23.8	mg/L	95	2.2	SW846 9060	10/24/04	4299070
		Dilution Factor: 1				Analysis Time..: 10:00		
Total Sulfide		WO#:GR5041AC-LCS/GR5041AD-LCSD				LCS Lot-Sample#: D4J070000-176		
	0.194	0.182	mg/L	94		MCAWW 376.2	10/06/04	4281176
	0.194	0.184	mg/L	95	1.1	MCAWW 376.2	10/06/04	4281176
		Dilution Factor: 1				Analysis Time..: 17:00		
Total Sulfide		WO#:GTFLA1AC-LCS/GTFLA1AD-LCSD				LCS Lot-Sample#: D4J120000-564		
	0.285	0.295	mg/L	104		MCAWW 376.2	10/12/04	4286564
	0.285	0.299	mg/L	105	1.3	MCAWW 376.2	10/12/04	4286564
		Dilution Factor: 1				Analysis Time..: 15:00		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: D4J050210 **Matrix.....:** WATER
Date Sampled...: 10/06/04 11:15 **Date Received..:** 10/06/04

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Ammonia as N			WO#: GRX951DC-MS/GRX951DD-MSD			MS Lot-Sample #: D4J050210-003	
	89	(44 - 130)			MCAWW 350.1	10/07/04	4285444
	89	(44 - 130)	0.19	(0-30)	MCAWW 350.1	10/07/04	4285444
		Dilution Factor: 1					
		Analysis Time..: 14:00					
Chloride			WO#: GRT641CA-MS/GRT641CC-MSD			MS Lot-Sample #: D4J050210-001	
	94	(80 - 120)			MCAWW 300.0A	10/05/04	4280344
	96	(80 - 120)	0.89	(0-20)	MCAWW 300.0A	10/05/04	4280344
		Dilution Factor: 1					
		Analysis Time..: 17:21					
Chloride			WO#: GRX951CQ-MS/GRX951CR-MSD			MS Lot-Sample #: D4J050210-003	
	105	(80 - 120)			MCAWW 300.0A	10/06-10/07/04	4281551
	103	(80 - 120)	1.1	(0-20)	MCAWW 300.0A	10/06-10/07/04	4281551
		Dilution Factor: 1					
		Analysis Time..: 12:48					
Cyanide, Total			WO#: GRX951DE-MS/GRX951DF-MSD			MS Lot-Sample #: D4J050210-003	
	105	(78 - 120)			SW846 9012A	10/14-10/15/04	4289233
	101	(78 - 120)	3.8	(0-20)	SW846 9012A	10/14-10/15/04	4289233
		Dilution Factor: 1					
		Analysis Time..: 11:00					
Fluoride			WO#: GRT641A8-MS/GRT641A9-MSD			MS Lot-Sample #: D4J050210-001	
	98	(80 - 120)			MCAWW 300.0A	10/05/04	4280345
	103	(80 - 120)	5.3	(0-20)	MCAWW 300.0A	10/05/04	4280345
		Dilution Factor: 1					
		Analysis Time..: 14:56					
Fluoride			WO#: GRX951CT-MS/GRX951CU-MSD			MS Lot-Sample #: D4J050210-003	
	97	(80 - 120)			MCAWW 300.0A	10/06-10/07/04	4281552
	98	(80 - 120)	0.90	(0-20)	MCAWW 300.0A	10/06-10/07/04	4281552
		Dilution Factor: 1					
		Analysis Time..: 12:12					
Nitrate			WO#: GRT641CD-MS/GRT641CE-MSD			MS Lot-Sample #: D4J050210-001	
	100	(80 - 120)			MCAWW 300.0A	10/05/04	4280346
	100	(80 - 120)	0.15	(0-20)	MCAWW 300.0A	10/05/04	4280346
		Dilution Factor: 1					
		Analysis Time..: 15:50					

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MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: D4J050210 **Matrix.....:** WATER
Date Sampled...: 10/06/04 11:15 **Date Received..:** 10/06/04

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate		WO#: GRX951CV-MS/GRX951CW-MSD				MS Lot-Sample #: D4J050210-003	
	98 I	(80 - 120)			MCAWW 300.0A	10/06-10/07/04	4281553
	98 I	(80 - 120)	0.07	(0-20)	MCAWW 300.0A	10/06-10/07/04	4281553
		Dilution Factor: 1					
		Analysis Time..: 12:12					
Phosphate as P, Ortho		WO#: GRT641CF-MS/GRT641CG-MSD				MS Lot-Sample #: D4J050210-001	
	96	(80 - 120)			MCAWW 300.0A	10/05/04	4280347
	103	(80 - 120)	6.6	(0-20)	MCAWW 300.0A	10/05/04	4280347
		Dilution Factor: 1					
		Analysis Time..: 14:56					
Phosphate as P, Ortho		WO#: GRX951CX-MS/GRX951C0-MSD				MS Lot-Sample #: D4J050210-003	
	118	(80 - 120)			MCAWW 300.0A	10/06-10/07/04	4281554
	118	(80 - 120)	0.27	(0-20)	MCAWW 300.0A	10/06-10/07/04	4281554
		Dilution Factor: 1					
		Analysis Time..: 12:12					
Sulfate		WO#: GRT641CH-MS/GRT641CJ-MSD				MS Lot-Sample #: D4J050210-001	
	100	(80 - 120)			MCAWW 300.0A	10/05/04	4280348
	104	(80 - 120)	2.6	(0-20)	MCAWW 300.0A	10/05/04	4280348
		Dilution Factor: 1					
		Analysis Time..: 18:15					
Sulfate		WO#: GRX951C1-MS/GRX951C2-MSD				MS Lot-Sample #: D4J050210-003	
	98	(80 - 120)			MCAWW 300.0A	10/06-10/07/04	4281555
	97	(80 - 120)	0.34	(0-20)	MCAWW 300.0A	10/06-10/07/04	4281555
		Dilution Factor: 1					
		Analysis Time..: 13:24					
Total Cyanide		WO#: GR1N21CE-MS/GR1N21CF-MSD				MS Lot-Sample #: D4J060369-001	
	91	(78 - 120)			SW846 9012A	10/11/04	4285617
	91	(78 - 120)	0.10	(0-20)	SW846 9012A	10/11/04	4285617
		Dilution Factor: 1					
		Analysis Time..: 17:00					
Total Organic Halogens		WO#: GRX951CN-MS/GRX951CP-MSD				MS Lot-Sample #: D4J050210-003	
	80	(75 - 113)			SW846 9020B	10/24/04	4298053
	91	(75 - 113)	12	(0-30)	SW846 9020B	10/24/04	4298053
		Dilution Factor: 1					
		Analysis Time..: 12:00					

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MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: D4J050210 **Matrix.....:** WATER
Date Sampled...: 10/06/04 11:15 **Date Received..:** 10/06/04

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon		WO#:	GRX951DT-MS/GRX951DU-MSD			MS Lot-Sample #:	D4J050210-003
	104	(73 - 124)			SW846 9060	10/24/04	4299070
	106	(73 - 124)	1.2	(0-10)	SW846 9060	10/24/04	4299070
		Dilution Factor: 1					
		Analysis Time..: 11:00					
Total Sulfide		WO#:	GRGGR1EK-MS/GRGGR1EL-MSD			MS Lot-Sample #:	D4I300151-001
	18 N	(20 - 156)			MCAWW 376.2	10/06/04	4281176
	17 N	(20 - 156)	4.4	(0-30)	MCAWW 376.2	10/06/04	4281176
		Dilution Factor: 1					
		Analysis Time..: 17:00					
Total Sulfide		WO#:	GRX951C3-MS/GRX951C4-MSD			MS Lot-Sample #:	D4J050210-003
	82	(20 - 156)			MCAWW 376.2	10/12/04	4286564
	85	(20 - 156)	4.0	(0-30)	MCAWW 376.2	10/12/04	4286564
		Dilution Factor: 1					
		Analysis Time..: 15:00					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

I Estimated result. Result concentration exceeds the calibration range.

N Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: D4J050210 **Matrix.....:** WATER
Date Sampled...: 10/06/04 11:15 **Date Received..:** 10/06/04

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Ammonia as N			WO#: GRX951DC-MS/GRX951DD-MSD				MS Lot-Sample #: D4J050210-003		
	ND	4.00	3.58	mg/L	89		MCAWW 350.1	10/07/04	4285444
	ND	4.00	3.57	mg/L	89	0.19	MCAWW 350.1	10/07/04	4285444
			Dilution Factor: 1						
			Analysis Time..: 14:00						
Chloride			WO#: GRT641CA-MS/GRT641CC-MSD				MS Lot-Sample #: D4J050210-001		
	2100	2500	4490	mg/L	94		MCAWW 300.0A	10/05/04	4280344
	2100	2500	4530	mg/L	96	0.89	MCAWW 300.0A	10/05/04	4280344
			Dilution Factor: 1						
			Analysis Time..: 17:21						
Chloride			WO#: GRX951CQ-MS/GRX951CR-MSD				MS Lot-Sample #: D4J050210-003		
	680	1250	1990	mg/L	105		MCAWW 300.0A	10/06-10/07/04	4281551
	680	1250	1970	mg/L	103	1.1	MCAWW 300.0A	10/06-10/07/04	4281551
			Dilution Factor: 1						
			Analysis Time..: 12:48						
Cyanide, Total			WO#: GRX951DE-MS/GRX951DF-MSD				MS Lot-Sample #: D4J050210-003		
	ND	0.100	0.106	mg/L	105		SW846 9012A	10/14-10/15/04	4289233
	ND	0.100	0.102	mg/L	101	3.8	SW846 9012A	10/14-10/15/04	4289233
			Dilution Factor: 1						
			Analysis Time..: 11:00						
Fluoride			WO#: GRT641A8-MS/GRT641A9-MSD				MS Lot-Sample #: D4J050210-001		
	ND	25.0	24.4	mg/L	98		MCAWW 300.0A	10/05/04	4280345
	ND	25.0	25.7	mg/L	103	5.3	MCAWW 300.0A	10/05/04	4280345
			Dilution Factor: 1						
			Analysis Time..: 14:56						
Fluoride			WO#: GRX951CT-MS/GRX951CU-MSD				MS Lot-Sample #: D4J050210-003		
	4.4	25.0	28.7	mg/L	97		MCAWW 300.0A	10/06-10/07/04	4281552
	4.4	25.0	29.0	mg/L	98	0.90	MCAWW 300.0A	10/06-10/07/04	4281552
			Dilution Factor: 1						
			Analysis Time..: 12:12						
Nitrate			WO#: GRT641CD-MS/GRT641CE-MSD				MS Lot-Sample #: D4J050210-001		
	67	100	167	mg/L	100		MCAWW 300.0A	10/05/04	4280346
	67	100	167	mg/L	100	0.15	MCAWW 300.0A	10/05/04	4280346
			Dilution Factor: 1						
			Analysis Time..: 15:50						

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MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: D4J050210 **Matrix.....:** WATER
Date Sampled...: 10/06/04 11:15 **Date Received..:** 10/06/04

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate			WO#: GRX951CV-MS/GRX951CW-MSD				MS Lot-Sample #: D4J050210-003		
	27	25.0	51.5 I	mg/L	98		MCAWW 300.0A	10/06-10/07/04	4281553
	27	25.0	51.6 I	mg/L	98	0.07	MCAWW 300.0A	10/06-10/07/04	4281553
			Dilution Factor: 1						
			Analysis Time..: 12:12						
Phosphate as P, Ortho			WO#: GRT641CF-MS/GRT641CG-MSD				MS Lot-Sample #: D4J050210-001		
	ND	25.0	24.0	mg/L	96		MCAWW 300.0A	10/05/04	4280347
	ND	25.0	25.6	mg/L	103	6.6	MCAWW 300.0A	10/05/04	4280347
			Dilution Factor: 1						
			Analysis Time..: 14:56						
Phosphate as P, Ortho			WO#: GRX951CX-MS/GRX951C0-MSD				MS Lot-Sample #: D4J050210-003		
	ND	25.0	29.4	mg/L	118		MCAWW 300.0A	10/06-10/07/04	4281554
	ND	25.0	29.5	mg/L	118	0.27	MCAWW 300.0A	10/06-10/07/04	4281554
			Dilution Factor: 1						
			Analysis Time..: 12:12						
Sulfate			WO#: GRT641CH-MS/GRT641CJ-MSD				MS Lot-Sample #: D4J050210-001		
	6200	12500	18700	mg/L	100		MCAWW 300.0A	10/05/04	4280348
	6200	12500	19200	mg/L	104	2.6	MCAWW 300.0A	10/05/04	4280348
			Dilution Factor: 1						
			Analysis Time..: 18:15						
Sulfate			WO#: GRX951C1-MS/GRX951C2-MSD				MS Lot-Sample #: D4J050210-003		
	4400	5000	9300	mg/L	98		MCAWW 300.0A	10/06-10/07/04	4281555
	4400	5000	9270	mg/L	97	0.34	MCAWW 300.0A	10/06-10/07/04	4281555
			Dilution Factor: 1						
			Analysis Time..: 13:24						
Total Cyanide			WO#: GR1N21CE-MS/GR1N21CF-MSD				MS Lot-Sample #: D4J060369-001		
	ND	0.100	0.0942	mg/L	91		SW846 9012A	10/11/04	4285617
	ND	0.100	0.0941	mg/L	91	0.10	SW846 9012A	10/11/04	4285617
			Dilution Factor: 1						
			Analysis Time..: 17:00						
Total Organic Halogens			WO#: GRX951CN-MS/GRX951CP-MSD				MS Lot-Sample #: D4J050210-003		
	ND	400	332	ug/L	80		SW846 9020B	10/24/04	4298053
	ND	400	376	ug/L	91	12	SW846 9020B	10/24/04	4298053
			Dilution Factor: 1						
			Analysis Time..: 12:00						

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MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: D4J050210 **Matrix.....:** WATER
Date Sampled...: 10/06/04 11:15 **Date Received..:** 10/06/04

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon			WO#: GRX951DT-MS/GRX951DU-MSD				MS Lot-Sample #: D4J050210-003		
	3.0	25.0	29.0	mg/L	104		SW846 9060	10/24/04	4299070
	3.0	25.0	29.4	mg/L	106	1.2	SW846 9060	10/24/04	4299070
			Dilution Factor: 1						
			Analysis Time..: 11:00						
Total Sulfide			WO#: GRGGR1EK-MS/GRGGR1EL-MSD				MS Lot-Sample #: D4I300151-001		
	ND	0.388	0.0700	mg/L	18		MCAWW 376.2	10/06/04	4281176
			Qualifiers: N						
	ND	0.388	0.0670	mg/L	17	4.4	MCAWW 376.2	10/06/04	4281176
			Qualifiers: N						
			Dilution Factor: 1						
			Analysis Time..: 17:00						
Total Sulfide			WO#: GRX951C3-MS/GRX951C4-MSD				MS Lot-Sample #: D4J050210-003		
	ND	0.570	0.467	mg/L	82		MCAWW 376.2	10/12/04	4286564
	ND	0.570	0.486	mg/L	85	4.0	MCAWW 376.2	10/12/04	4286564
			Dilution Factor: 1						
			Analysis Time..: 15:00						

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

I Estimated result. Result concentration exceeds the calibration range.

N Spiked analyte recovery is outside stated control limits.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: D4J050210 **Work Order #...:** GRK0G-SMP GRK0G-DUP **Matrix.....:** WATER

Date Sampled...: 09/30/04 10:50 **Date Received..:** 10/01/04

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Dissolved Solids						SD Lot-Sample #:	D4J010156-001	
	2200	2200	mg/L	0.50	(0-20)	MCAWW 160.1	10/07/04	4282167

Dilution Factor: 1 Analysis Time..: 15:45

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: D4J050210 **Work Order #...:** GR1R7-SMP GR1R7-DUP **Matrix.....:** WATER

Date Sampled...: 10/06/04 10:23 **Date Received..:** 10/06/04

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Alkalinity						SD Lot-Sample #:	D4J060385-003	
	610	610	mg/L	0.16	(0-10)	MCAWW 310.1	10/11/04	4286149

Dilution Factor: 1 Analysis Time..: 16:08

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: D4J050210 **Work Order #...:** GRX95-SMP GRX95-DUP **Matrix.....:** WATER

Date Sampled...: 10/05/04 12:50 **Date Received..:** 10/06/04

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Alkalinity						SD Lot-Sample #:	D4J050210-003	
	220	220	mg/L	0.45	(0-10)	MCAWW 310.1	10/13/04	4288134

Dilution Factor: 1 Analysis Time..: 13:42

U.S. GEOLOGICAL SURVEY, WATER RESOURCES DIVISION, NEW MEXICO DISTRICT
ANALYTICAL REQUEST/CHAIN OF CUSTODY

3.4
10/5/04

Project Name & Number: White Sands Missile Range, Ground Water Sampling (86369KY01)	PACKING AND SHIPPING DETAILS
Sampling Location: High Energy Laser System Test Facility (HELSTF), Cleaning Facility	Packed and Sealed for Shipping by: RK DEWEES — Seal Number: 455171
Team Leader: Jeff Langman	Delivered to Shipper by: JEFF LANGMAN — Airbill Number: 8425 9141 29
	Sampling Status: ☐ Done ☑ Continuing

Sample Date	Sample Time	Field Sample Number	Sample Type	No. of Containers	Analytical Methods (Parameters)	Remarks
10-4-04	1450	HMW15	WATER	12	E160.1, E300, E310.1, E350.1, E376.2, SW6010 (Ba, Be, Ca, Co, K, Mg, & Na), SW6020 (As, Cd, Cr, Pb, & Se), SW8015 (DRO), SW8260, SW8270, SW9012, SW9020 and SW9060	
11	1455	HMW15-TB	WATER	3	SW8260	

Additional Comments

Please batch the water samples collected Octpber 4 and 5 from the HELSTF location into a single STL lot.

CHAIN OF CUSTODY RECORD				LABORATORY LOG-IN OF SAMPLE SHIPPING CONTAINER	
Relinquished by (signed)	Received by (signed)	Date	Time	Analytical Laboratory	Seal Intact upon Receipt ☐ Yes ☐ No
[signature]	FEDEX	10-4-04	1700	Severn Trent Lab 4955 Yarrow Street Arvada, CO 80002 ph: (303) 736-0193 Attention: Wayne Scott	Condition of Contents
	[signature]	10/5/04	0845		Contents Temperature
					Laboratory Project Number

II-80

U.S. GEOLOGICAL SURVEY, WATER RESOURCES DIVISION, NEW MEXICO DISTRICT
ANALYTICAL REQUEST/CHAIN OF CUSTODY

Project Name & Number: White Sands Missile Range, Ground Water Sampling (86369KY01)	PACKING AND SHIPPING DETAILS
Sampling Location: High Energy Laser System Test Facility (HELSTF), Cleaning Facility	Packed and Sealed for Shipping by: RK DEWEES — Seal Number: 455191
Team Leader: Jeff Langman	Delivered to Shipper by: JEFF LANGMAN — Airbill Number: 8472 9104 049
	Sampling Status: ☑ Done ☐ Continuing

Sample Date	Sample Time	Field Sample Number	Sample Type	No. of Containers	Analytical Methods (Parameters)	Remarks
					E160.1, E300, E310.1, E350.1, E376.2, SW6010 (Ba, Be, Ca, Co, K, Mg, & Na), SW6020 (As, Cd, Cr, Pb, & Se), SW8015 (DRO), SW8260, SW8270, SW9012, SW9020 and SW9060	
10-5-04	1250	CFW2-1	WATER	3	SW8260	REMAINDER OF SAMPLES FOR CFW2-1, CFW2-1-MS, AND CFW2-1-MSD IN SEPARA
"	1250	CFW2-1-MS	"	3	SW8260	MATRIX SPIKE
"	1250	CFW2-1-MSD	"	3	SW8260	MATRIX SPIKE DUPLICATE

Additional Comments

Please batch the water samples collected Octpber 4 and 5 from the HELSTF location into a single STL lot.

CHAIN OF CUSTODY RECORD				LABORATORY LOG-IN OF SAMPLE SHIPPING CONTAINER	
Relinquished by (signed)	Received by (signed)	Date	Time	Analytical Laboratory	Seal Intact upon Receipt ☐ Yes ☐ No
Jeff Langman	FEDEX	10-5-04	1700	Severn Trent Lab 4955 Yarrow Street Arvada, CO 80002 ph: (303) 736-0193 Attention: Wayne Scott	Condition of Contents
	David [illegible]	10/6/04	0900		Contents Temperature
					Laboratory Project Number

U.S. GEOLOGICAL SURVEY, WATER RESOURCES DIVISION, NEW MEXICO DISTRICT
ANALYTICAL REQUEST/CHAIN OF CUSTODY

41°
WB 10/6/04

Project Name & Number: White Sands Missile Range, Ground Water Sampling (86369KY01)	PACKING AND SHIPPING DETAILS
Sampling Location: High Energy Laser System Test Facility (HELSTF), Cleaning Facility	Packed and Sealed for Shipping by: RK DEWEES — Seal Number: 455201
Team Leader: Jeff Langman	Delivered to Shipper by: JEFF LANGMAN — Airbill Number: 8472 9104 049
	Sampling Status: [✓] Done [ ] Continuing

Sample Date	Sample Time	Field Sample Number	Sample Type	No. of Containers	Analytical Methods (Parameters)	Remarks
10-5-04	1250	CFW2-1	WATER	9	E160.1, E300, E310.1, E350.1, E376.2, SW6010 (Ba, Be, Ca, Co, K, Mg, & Na), SW6020 (As, Cd, Cr, Pb, & Se), SW8015 (DRO), ~~SW8260~~, SW8270, SW9012, SW9020 and SW9060	VOC: SW8260 SAMPLE FOR CFW2-1 IN COOLER WITH CFW4
"	1250	CFW2-1-MSD	"	35	SW8015, SW9012, E376.7, SW6010	REMAINDER OF CFW2-1-MS IN COOLER WITH CFW2-1-M
						VOC: SW 8260 SAM FOR CFW2-1-MSD IN CO 3 WITH CFW4

Additional Comments

Please batch the water samples collected October 4 and 5 from the HELSTF location into a single STL lot.

CHAIN OF CUSTODY RECORD				LABORATORY LOG-IN OF SAMPLE SHIPPING CONTAINER	
Relinquished by (signed)	Received by (signed)	Date	Time	Analytical Laboratory	Seal Intact upon Receipt [ ] Yes [ ] No
Jeff Langman	FEDEX	10-5-04	1700	Severn Trent Lab 4955 Yarrow Street Arvada, CO 80002 ph: (303) 736-0193 Attention: Wayne Scott	Condition of Contents
	Paul F. Bonn	10/6/04	0900		Contents Temperature
					Laboratory Project Number

U.S. GEOLOGICAL SURVEY, WATER RESOURCES DIVISION, NEW MEXICO DISTRICT
ANALYTICAL REQUEST/CHAIN OF CUSTODY

2.7° 10/6/04

Project Name & Number White Sands Missile Range, Ground Water Sampling (86369KY01)	PACKING AND SHIPPING DETAILS Packed and Sealed for Shipping by RK DEWEES Seal Number 455211
Sampling Location High Energy Laser System Test Facility (HELSTF), Cleaning Facility	Delivered to Shipper by JEFF LANGMAN Airbill Number 8472 9 ~~8425 9041 2939~~
Team Leader Jeff Langman	Sampling Status ☑ Done ☐ Continuing

Sample Date	Sample Time	Field Sample Number	Sample Type	No. of Containers	Analytical Methods (Parameters)	Remarks
10-5-04	1250	CFW2-1-MS	WATER	9	E160.1, E300, E310.1, E350.1, E376.2, SW6010 (Ba, Be, Ca, Co, K, Mg, & Na), SW6020 (As, Cd, Cr, Pb, & Se), SW8015 (DRO), ~~SW8260~~, SW8270, SW9012, SW9020, and SW9060	VOC: SW8260 SAMPLE [redacted] FOR CFW2-1-MS IN COOLER WITH CFW4 SAMPLE
"	1250	CFW2-1-MSD	"	4	SW8270, SW9020, SW9060, E160.1, E300, E310.1	REMAINDER OF CFW2-1-M SAMPLE IN COOLER WITH CFW2-1
						VOC: SW8260 SAMP COO CFW2-1-MSD IN WITH SAMPLE C

Additional Comments

Please batch the water samples collected Octpber 4 and 5 from the HELSTF location into a single STL lot.

CHAIN OF CUSTODY RECORD				LABORATORY LOG-IN OF SAMPLE SHIPPING CONTAINER	
Relinquished by (signed)	Received by (signed)	Date	Time	Analytical Laboratory	Seal Intact upon Receipt ☐ Yes ☐ No
Jeff Langman	FEDEX	10-5-04	1700	Severn Trent Lab 4955 Yarrow Street Arvada, CO 80002 ph: (303) 736-0193 Attention: Wayne Scott	Condition of Contents
	[illegible]	10/6/04	09 00		Contents Temperature
					Laboratory Project Number

II-83

U.S. GEOLOGICAL SURVEY, WATER RESOURCES DIVISION, NEW MEXICO DISTRICT
ANALYTICAL REQUEST/CHAIN OF CUSTODY

3:1°
10/6/04

Project Name & Number	PACKING AND SHIPPING DETAILS	
White Sands Missile Range, Ground Water Sampling (86369KY01)	Packed and Sealed for Shipping by: RK DEWEES	Seal Number: 455181
Sampling Location: High Energy Laser System Test Facility (HELSTF), Cleaning Facility	Delivered to Shipper by: JEFF LANGMAN	Airbill Number: 8472 9104 049
Team Leader: Jeff Langman	Sampling Status: ☑ Done ☐ Continuing	

Sample Date	Sample Time	Field Sample Number	Sample Type	No. of Containers	Analytical Methods (Parameters)	Remarks
10-5-04	1105	CFW1	WATER	9	E160.1, E300, E310.1, E350.1, E376.2, SW6010 (Ba, Be, Ca, Co, K, Mg, & Na), SW6020 (As, Cd, Cr, Pb, & Se), SW8015 (DRO), ~~SW8260~~, SW8270, SW9012, SW9020 and SW9060	VOCs: SW8260 SAMPLE FOR CFW1 IN COOLER WITH CFW4 SAMPLE

Additional Comments

Please batch the water samples collected Octpber 4 and 5 from the HELSTF location into a single STL lot.

CHAIN OF CUSTODY RECORD				LABORATORY LOG-IN OF SAMPLE SHIPPING CONTAINER	
Relinquished by (signed)	Received by (signed)	Date	Time	Analytical Laboratory	Seal Intact upon Receipt ☐ Yes ☐ No
Jeff Langman	FEDEX	10-5-04	1700	Severn Trent Lab 4955 Yarrow Street Arvada, CO 80002 ph: (303) 736-0193 Attention: Wayne Scott	Condition of Contents
	David F. Bowyer	10/6/04	0900		Contents Temperature
					Laboratory Project Number

5.0°C
10/6/04

U.S. GEOLOGICAL SURVEY, WATER RESOURCES DIVISION, NEW MEXICO DISTRICT
ANALYTICAL REQUEST/CHAIN OF CUSTODY

Project Name & Number: White Sands Missile Range, Ground Water Sampling (86369KY01)	PACKING AND SHIPPING DETAILS
Sampling Location: High Energy Laser System Test Facility (HELSTF), Cleaning Facility	Packed and Sealed for Shipping by: RK DEWEES — Seal Number: 455221
Team Leader: Jeff Langman	Delivered to Shipper by: JEFF LANGMAN — Airbill Number: 8472 9104 04[illegible]
	Sampling Status: ☑ Done ☐ Continuing

Sample Date	Sample Time	Field Sample Number	Sample Type	No. of Containers	Analytical Methods (Parameters)	Remarks
10-5-04	1245	CFW2	WATER	9	E160.1, E300, E310.1, E350.1, E376.2, SW6010 (Ba, Be, Ca, Co, K, Mg, & Na), SW6020 (As, Cd, Cr, Pb, & Se), SW8015 (DRO), ~~SW8260~~, SW8270, SW9012, SW9020 and SW9060	VOC: SW8260 SAMPLE FOR CFW2 IN COOLER WITH CFW4 SAMPLE

Additional Comments

Please batch the water samples collected Octpber 4 and 5 from the HELSTF location into a single STL lot.

CHAIN OF CUSTODY RECORD				LABORATORY LOG-IN OF SAMPLE SHIPPING CONTAINER	
Relinquished by (signed)	Received by (signed)	Date	Time	Analytical Laboratory	Seal Intact upon Receipt ☐ Yes ☐ No
Jeff Langman	FEDEX	10-5-04	1700	Severn Trent Lab 4955 Yarrow Street Arvada, CO 80002 ph: (303) 736-0193 Attention: Wayne Scott	Condition of Contents
	David E. Bonz	10/6/04	0900		Contents Temperature
					Laboratory Project Number

U.S. GEOLOGICAL SURVEY, WATER RESOURCES DIVISION, NEW MEXICO DISTRICT
ANALYTICAL REQUEST/CHAIN OF CUSTODY

4.0 10/6/04

Project Name & Number	PACKING AND SHIPPING DETAILS	
White Sands Missile Range, Ground Water Sampling (86369KY01)	Packed and Sealed for Shipping by: RK DEWEES	Seal Number: 455231
Sampling Location: High Energy Laser System Test Facility (HELSTF), Cleaning Facility	Delivered to Shipper by: JEFF LANGMAN	Airbill Number: 8472 9104 04
Team Leader: Jeff Langman	Sampling Status: ☑ Done ☐ Continuing	

Sample Date	Sample Time	Field Sample Number	Sample Type	No. of Containers	Analytical Methods (Parameters)	Remarks
10-5-04	1405	CFW3	WATER	9	E160.1, E300, E310.1, E350.1, E376.2, SW6010 (Ba, Be, Ca, Co, K, Mg, & Na), SW6020 (As, Cd, Cr, Pb, & Se), SW8015 (DRO), ~~SW8260,~~ SW8270, SW9012, SW9020 and SW9060	VOCs: SW8260 SAMPLE FOR CFW3 IN COOLER WITH SAMPLE CFW4

Additional Comments

Please batch the water samples collected Octpber 4 and 5 from the HELSTF location into a single STL lot.

CHAIN OF CUSTODY RECORD				LABORATORY LOG-IN OF SAMPLE SHIPPING CONTAINER	
Relinquished by (signed)	Received by (signed)	Date	Time	Analytical Laboratory	Seal Intact upon Receipt ☐ Yes ☐ No
[signature]	FEDEX	10-5-04	1700	Severn Trent Lab 4955 Yarrow Street Arvada, CO 80002 ph: (303) 736-0193 Attention: Wayne Scott	Condition of Contents
[signature]	[signature]	10/6/04	0900		Contents Temperature
					Laboratory Project Number

U.S. GEOLOGICAL SURVEY, WATER RESOURCES DIVISION, NEW MEXICO DISTRICT
ANALYTICAL REQUEST/CHAIN OF CUSTODY

5.4° NB
10/6/04

Project Name & Number: White Sands Missile Range, Ground Water Sampling (86369KY01)	PACKING AND SHIPPING DETAILS
Sampling Location: High Energy Laser System Test Facility (HELSTF), Cleaning Facility	Packed and Sealed for Shipping by: RK DEWEES — Seal Number: 455191
Team Leader: Jeff Langman	Delivered to Shipper by: JEFF LANGMAN — Airbill Number: 8472 9104 049
	Sampling Status: [✓] Done [ ] Continuing

Sample Date	Sample Time	Field Sample Number	Sample Type	No. of Containers	Analytical Methods (Parameters)	Remarks
10-5-04	0945	CFW4	WATER	12	E160.1, E300, E310.1, E350.1, E376.2, SW6010 (Ba, Be, Ca, Co, K, Mg, & Na), SW6020 (As, Cd, Cr, Pb, & Se), SW8015 (DRO), SW8260, SW8270, SW9012, SW9020 and SW9060	
"	1105	CFW1	"	3	SW 8260	NOTE: REMAINDER OF SAMPLES FOR CFW 1 & 3
"	1245	CFW2	"	3	SW 8260	ARE IN SEPARATE ERS
"	1405	CFW3	"	3	SW8260	
"	0900	CFW4-TB	"	3	SW 8260	TRIP BLANKS

Additional Comments

Please batch the water samples collected Octpber 4 and 5 from the HELSTF location into a single STL lot.

CHAIN OF CUSTODY RECORD				LABORATORY LOG-IN OF SAMPLE SHIPPING CONTAINER	
Relinquished by (signed)	Received by (signed)	Date	Time	Analytical Laboratory	Seal Intact upon Receipt [ ] Yes [ ] No
Jeff Langman	FEDEX	10-5-04	1700	Severn Trent Lab 4955 Yarrow Street Arvada, CO 80002 ph: (303) 736-0193 Attention: Wayne Scott	Condition of Contents
	David F. Bauer	10/6/04	0900		Contents Temperature
					Laboratory Project Number

FedEx Express US Airbill

FedEx Tracking Number 8472 9104 0493

0215

Recipient's Copy

1 From This portion can be removed for Recipient's records.

Date 10/5/04 FedEx Tracking Number 847291040493

Sender's Name JEFF LANGMAN Phone 505 463-5109

Company US GEOLOGICAL SURVEY

Address 5338 MONTGOMERY RD NE STE 400 Dept./Floor/Suite/Room

City ALBUQUERQUE State NM ZIP 87109-1342

2 Your Internal Billing Reference 8636-9KY00

3 To

Recipient's Name WAYNE SCOTT Phone 303 736-0193

Company SEVERN TRENT LAB

Recipient's Address 4955 YARROW ST

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

Address

To request a package be held at a specific FedEx location, print FedEx address here.

City ARVADA State CO ZIP 80002

8472 9104 0493

0284801801

RECIPIENT PEEL HERE

NO POUCH NEEDED

See back for peel and stick application instructions.

4a Express Package Service — *Packages up to 150 lbs.* * To most locations

- [ ] FedEx Priority Overnight — Next business morning*
- [X] FedEx Standard Overnight — Next business afternoon*
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations*
- [ ] FedEx 2Day — Second business day*
- [ ] FedEx Express Saver — Third business day*

FedEx Envelope rate not available. Minimum charge: One-pound rate

4b Express Freight Service — *Packages over 150 lbs.* ** To most locations

- [ ] FedEx 1Day Freight* — Next business day**
- [ ] FedEx 2Day Freight — Second business day**
- [ ] FedEx 3Day Freight — Third business day**

* Call for Confirmation:

5 Packaging — * Declared value limit $500

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

6 Special Handling — *Include FedEx address in Section 3.

- [ ] SATURDAY Delivery — Available ONLY for FedEx Priority Overnight, FedEx 2Day, FedEx 1Day Freight, and FedEx 2Day Freight to select ZIP codes
- [ ] HOLD Weekday at FedEx Location — Not available for FedEx First Overnight
- [ ] HOLD Saturday at FedEx Location — Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods? One box must be checked.

- [X] No
- [ ] Yes — As per attached Shipper's Declaration
- [ ] Yes — Shipper's Declaration not required
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg
- [ ] Cargo Aircraft Only

Dangerous goods (including Dry Ice) cannot be shipped in FedEx packaging.

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [X] Sender — Acct. No. in Section 1 will be billed
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check
- [ ] Obtain Recip. Acct. No.

Total Packages	Total Weight	Total Charges
6	324	Credit Card Auth.

†Our liability is limited to $100 unless you declare a higher value. See the *FedEx Service Guide* for details.

8 Sign to Authorize Delivery Without a Signature

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

Questions? Visit our Web site at fedex.com or call 1.800.GoFedEx 1.800.463.3339.

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466

NO POUCH NEEDED.
See back for peel and stick application instructions.

ALIGN OPEN END OF FEDEX AIRBILL POUCH HE

II-89

FedEx Express *USA Airbill*

FedEx Tracking Number 8425 9141 2939

RECIPIENT: PEEL HERE

1 From This portion can be removed for Recipient's records.

Date 10/4/04 FedEx Tracking Number 8425 9141 2939

Sender's Name JEFF LANGMAN Phone 505 830-7944

Company US GEOLOGICAL SURVEY

Address 5338 MONTGOMERY RD NE STE 400 Dept./Floor/Suite/Room

City ALBUQUERQUE State NM ZIP 87109-1342

2 Your Internal Billing Reference 8636- [redacted] 9KY00

3 To

Recipient's Name WAYNE SCOTT Phone 303 736-0193

Company SEVERN TRENT LAB

Address 4955 YARROW ST

To "HOLD" at FedEx location, print FedEx address. We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address Dept./Floor/Suite/Room

City ARVADA State CO ZIP 80002

8425 9141 2939

0254655333

Form 10 Rev

4a Express Pac

☐ FedEx Priority† Next business morning

☐ FedEx 2Day Second business day ☐ FedEx Express Saver Third business day

FedEx Envelope rate not available. Minimum charge: One-pound rate

4b Express Freight Service *Packages over 150 lbs.* Delivery commitment may be later in some areas.

☐ FedEx 1Day Freight* Next business day ☒ FedEx 2Day Freight Second business day ☐ FedEx 3Day Freight Third business day

* Call for Confirmation: * Declared value limit $500

5 Packaging

☐ FedEx Envelope* ☐ FedEx Pak* Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak ☒ Other

6 Special Handling Include FedEx address in Section 3.

☐ **SATURDAY Delivery** Available only for FedEx Priority Overnight and FedEx 2Day to select ZIP codes ☐ **HOLD Weekday** at FedEx Location Not available for FedEx First Overnight ☐ **HOLD Saturday** at FedEx Location Available only for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods? One box must be checked.

☒ No ☐ Yes As per attached Shipper's Declaration ☐ Yes Shipper's Declaration not required ☐ Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous Goods including Dry Ice cannot be shipped in FedEx packaging. ☐ Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below. Obtain Recip. Acct. No. ☐

☒ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

Total Packages Total Weight Total Charges

Credit Card Auth.

†Our liability is limited to $100 unless you declare a higher value. See the *FedEx Service Guide* for details.

8 Release Signature *Sign to authorize delivery without obtaining signature.*

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

Questions? Visit our Web site at fedex.com or call 1.800.Go.FedEx® 800.463.3339.

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447

STL Denver

Sample Receiving Checklist

Lot #: D4J58240 Date/Time Received: 10/5/04 0845

Company Name & Sampling Site: USGS WHITE SANDS

*Cooler #(s): 1

Temperatures (°C): 3.4

PM to Complete This Section: *Yes* *No*
Residual chlorine check required: ☐ ☐
Time Zone:
• EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER

Quarantined: *Yes* ☐ *No* ☐

24682

Unpacking & Labeling Check Points:

N/A	Yes	No		Initials
☐	☑	☐	1. Cooler seals intact. (N/A if hand delivered)	
	☑	☐	2. Chain of custody present.	
	☐	☑	3. Bottles broken and/or are leaking, comment if yes.	
	☐	☑	4. Multiphase samples present? If yes, comment below.	
			PHOTOGRAPH BROKEN BOTTLES/MULTIPHASE SAMPLES	
	☑	☐	5. Proper container & preservatives used (ref. Attachment D of SOP# DEN-QA-0003)	
☐	☑	☐	6. pH of all samples checked and meet requirements, note exceptions.	
	☑	☐	7. Chain of custody includes "received by" and "relinquished" by signatures, dates, and times.	
	☐	☑	8. Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.	
	☑	☐	9. Chain of custody agrees with bottle count, comment if no.	
	☑	☐	10. Chain of custody agrees with labels, comment if no.	
☐	☑	☐	11. VOA samples filled completely, comment if no.	
☐	☑	☐	12. VOA vials preserved, check label. Preservative ☑HCl ☑4±2°C ☐Sodium Thiosulfate	
	☐	☑	13. Did samples require preservation with sodium thiosulfate?	
☑	☐	☐	14. If yes to #13, did the samples contain residual chlorine?	
☑	☐	☐	15. Sediment present in dissolved/filtered bottles.	
	☑	☐	16. Are analyses with short holding times requested?	
	☐	☑	17. Was a quick Turn Around (TAT) requested?	
☑	☐	☐	18. Is extra sample volume provided for MS, MSD or matrix duplicates?	
			DOUBLECHECK METALS,SAMPLE LABELS & SUBCONTRACT	
☑	☐	☐	19. Subcontract COC signed and sent with samples to bottle prep?	
	☑	☐	20. Were sample labels double-checked by a second person?	VB
☑	☐	☐	21. Were sample bottles and COC double checked for dissolved/filtered metals by a second person?	
☑	☐	☐	22. If applicable, were AFCEE Metals alkin refrigerator?	
☐	☑	☐	23. Were special instructions read and	

Document any problems or discrepancies and the actions taken [illegible]

ADD-ON

STL Denver

Sample Receiving Checklist

Lot #: D4J050210 Date/Time Received: 10/6/04 0400

Company Name & Sampling Site: USGS New Mexico

*Cooler #(s):	1	2	3	4	5	6		
Temperatures (°C):	4.1	2.7	5.0	4.0	3.1	5.4		

PM to Complete This Section: *Yes* *No*
Residual chlorine check required: ☐ ☐
Quarantined : *Yes* ☐ *No* ☐ 24682 lg in lot D4J050210
Time Zone:
• EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER

Unpacking & Labeling Check Points:

N/A	*Yes*	*No*		*Initials*
☐	☑	☐	1. Cooler seals intact. (N/A if hand delivered)	
	☑	☐	2. Chain of custody present.	
	☐	☑	3. Bottles broken and/or are leaking, comment if yes.	
	☐	☑	4. Multiphase samples present? If yes, comment below.	
			PHOTOGRAPH BROKEN BOTTLES/MULTIPHASE SAMPLES	
	☑	☐	5. Proper container & preservatives used (ref. Attachment D of SOP# DEN-QA-0003)	
☐	☑	☐	6. pH of all samples checked and meet requirements, note exceptions.	
	☑	☐	7. Chain of custody includes "received by" and "relinquished" by signatures, dates, and times.	
	☐	☑	8. Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.	
	☑	☐	9. Chain of custody agrees with bottle count, comment if no.	
	☑	☐	10. Chain of custody agrees with labels, comment if no.	
☐	☑	☐	11. VOA samples filled completely, comment if no.	
☐	☑	☐	12. VOA vials preserved, check label. Preservative ☑HCl ☑4±2°C ☐Sodium Thiosulfate	
	☐	☑	13. Did samples require preservation with sodium thiosulfate?	
☑	☐	☐	14. If yes to #13, did the samples contain residual chlorine?	
☑	☐	☐	15. Sediment present in dissolved/filtered bottles.	
	☑	☐	16. Are analyses with short holding times requested?	
	☐	☑	17. Was a quick Turn Around (TAT) requested?	
☐	☑	☐	18. Is extra sample volume provided for MS, MSD or matrix duplicates?	
			DOUBLECHECK METALS,SAMPLE LABELS & SUBCONTRACT	
☑	☐	☐	19. Subcontract COC signed and sent with samples to bottle prep?	
	☑	☐	20. Were sample labels double-checked by a second person?	
☑	☐	☐	21. Were sample bottles and COC double checked for dissolved/filtered metals by a second person?	
☑	☐	☐	22. If applicable, were AFCEE Metals p[illegible] walkin refrigerator?	
☐	☑	☐	23. Were special instructions read and f[illegible]	

Document any problems or discrepancies and the actions taken to resolve them on a Condition Upon Receipt Anomaly

APPENDIX III

Container and Preservation Requirements

Field Data

Sample container and preservation requirements

Parameters and Methods	Bottle Size and Type	Preservatives
Volatile Organic Compounds SW8260B	Three 40 ml glass vials	200 mL 50% Hydrochloric Acid, Chilled
Semivolatile Compounds SW8270C	Two 1-liter amber glass	None, Chilled
Extractable Petroleum Hydrocarbons SW8015-Modified	Two 1-liter amber glass	None, Chilled
Metals: Ba, Be, Ca, Co, Mg, K, Na by SW6010B: As, Cd, Cr, Pb, Se by SW6020	500 mL polyethylene	10 ml 20% Nitric Acid, pH<2
Fluoride, chloride, nitrate, orthophosphate, sulfate by MCAWW300.0A; TDS by MCAWW160.1, and alkalinity by MCAWW310.1	1-liter polyethylene	None, Chilled
Total Organic Carbon SW9060, Ammonia MCAWW350.1	250 mL amber glass	2 ml 50% Sulfuric Acid, Chilled, pH<2
Total Organic Halogen SW9020B	250 mL amber glass	4 ml 50% Sulfuric Acid, Chilled, pH<2
Total Cyanide SW9012A	250 mL polyethylene	2 ml 50% Sodium Hydroxide, Chilled, pH>12
Sulfide MCAWW376.2	250 mL polyethylene	1 ml 1N Zinc Acetate, plus 1 ml 50% Sodium Hydroxide, Chilled, pH>9

OCTOBER 1, 2004

CALIBRATION OF HACH 2100P TURBIDIMETER (SN0408000369 47)
PRIMARY CALIBRATION USING STABLCAL FORMAZIN STD
USING <0.1, 20, 100, 800 NTU
AUTO-CALIBRATED ✓ BLUE CASE (NEW)

SECONDARY STDS: WITHIN CALIBRATION RANGE IF WITHIN
0-10 = 4.72 5% OF SECONDARY STDS
10-100 = 47.1
100-1000 = 524

OCTOBER 4, 2004
1300- ARRIVE AT HEZSTF GATE, NO CLEARANCE ON FILE, MORRELL CLEARED IT UP.

CALIBRATION:
1) pH- ORION 250A (SN# 012942)
2-PT AUTO CAL WITH 7.0 (LOT# 036369-24, 12/05)
AND 10.0 (LOT# 035956-24, 09/05)
INITIAL = 7.21 ADJUSTED = 7.01 ✓
INITIAL = 10.29 ADJUSTED = 10.04 ✓ SLP = 101.1

2) COND- ORION 130A (# 55758)
1-PT MANUAL CAL WITH 10,000 µS/cm STD
(LOT# 04005, 01/2005)
INITIAL = 10,180 AC[III-3] = 10,000 CELL = 0.476

10/4/04

3) DO - YSI 95, SN 99A0237
AUTO CAL IN SATURATED CHAMBER AT
1 PPT AND 4,500' ELEVATION ✓

4) TURB - HACH 2100P (SN 040800036947)
SECONDARY CALIBRATION WITH GELEX STDS
0-10: 4.67 ✓ WITHIN 5% OF PRIMARY
10-100: 48.5 ✓ PRIMARY CAL COMPLETED ON
100-1000: 528 ✓ 10/1/04 BY JEFF LANGMAN

HELSTF TEAM: RK DEVEES - TEAM LEADER/PURGE/SAMPLE
JEFF LANGMAN - NOTE-TAKING/SAMPLE

HMW-15

TIME	VOL	pH	°C TEMP	mS/cm COND	mg/L DO	NTU TURB
1325	<1 GAL	7.20	23.2	14.90	6.15	21.8
1345	2.5	7.51	21.8	14.57	6.20	9.25
1355	5.0	7.53	21.2	15.57	6.07	4.36
1410	7.5	7.52	21.1	14.95	5.85	2.35
1420	10.0	7.52	21.2	15.22	5.70	2.22
1435	12.5	7.52	21.2	15.07	5.53	1.48
1445	15.0	7.52	21.3	15.23	5.32	1.03

WL= 50.25' BELOW PUMP HANGER, HNU= Ø
1450 COLLECTED ENV. GW SAMPLE AT HMW-15.
1455- TRIP BLANK SAMPLE (8260)

10/5/04

0800- ARRIVE AT HELSTF GATE, NO WORD YET ON ACCESS TO 90-DAY GATE
- HTA Y : REQUEST BY CLEANING FACILITY PERSONNEL TO CLEARLY MARK ALL PURGEWATER BARRELS.

CALIBRATION:

1) pH: ORION 250A (#012942)
2-PT AUTO CAL WITH 7.0 (LOT# 036369-24, 12/05) AND 10.0 (LOT# 035956-24, 09/05) STDS
7.0: 7.02 ✓ 10.0: 10.07 ✓ SLP= 101.9 ✓

2) COND - ORION 130A (#55158)
1-PT MANUAL CALIBRATION WITH 10,000 µS/cm (#04005, 1/05)
INITIAL= 9,990 ADJUSTED= 10,000 ✓ CELL= 0.477

3) DO- YSI 95 (SN 99A0237)
AUTO CAL IN SATURATED CHAMBER AT 1 PPT AND 4500' ELEVATION ✓

4) TURB- 2100P HACH (SN 040800036947)
SECONDARY CAL:
0-10: 4.59 ✓ WITHIN 5% OF PRIMARY CAL
10-100: 47.7 ✓ BY JBL ON 10/1/04
100-1000: 525 ✓

HNU NOT WORKING - TESTED SHARPIE

10/5/04

CFW ~~[illegible]~~-4 WL= 46.90' BELOW ~~PUMP HANDLE~~ TOC, NO PRODUCT

TIME	GALS VOL	pH	°C TEMP	mS/cm COND	mg/L DO	NTU TURB
0848	1	6.91	22.2	9.93	1.14	0.40
0853	5	6.86	22.4	9.77	0.78	0.39
0900	10	6.94	22.4	10.32	0.62	1.13
0907	15	6.95	22.4	10.40	0.55	0.28
0915	20	6.98	22.3	10.69	0.71	0.23
0922	25	7.02	22.3	11.01	0.86	0.20
0930	30	7.05	22.4	11.17	1.03	0.25
0936	35	7.08	22.3	11.25	1.13	0.19
0942	40	7.10	22.3	11.30	1.16	0.16

0945 COLLECTED ENV GW SAMPLE AT CFW 4

CFW 1 WL= 46.03' BELOW ~~PUMP HANDLE~~ TOC, NO PRODUCT

TIME	GALS VOL	pH	°C TEMP	mS/cm COND	mg/L DO	NTU TURB
1005	1	6.99	22.1	9.39	0.96	0.56
1012	5	6.97	21.9	9.28	0.81	0.34
1020	10	6.96	22.0	9.49	1.09	0.69
1027	15	6.97	22.0	9.60	1.16	0.38
1033	20	6.97	22.0	9.79	1.22	0.38
1040	25	6.97	22.0	9.92	1.31	0.28
1047	30	6.98	22.0	9.98	1.38	0.24
1053	35	6.99	22.0	10.00	1.44	0.33
1100	40	7.00	22.0	10.01	1.45	0.28

1105 COLLECTED ENV. GW SA[illegible] AT CFW 1

10/5/04

CFW2 WL= 46.30' BELOW ~~[illegible]~~ TOC, NO PRODUCT

TIME	GALS VOL	pH	°C TEMP	mS/cm COND	mg/L DO	NTU TURB
1117	1	7.42	23.2	10.14	1.72	14.3
1130	5	7.53	22.7	10.03	1.35	18.3
1141	10	7.52	22.7	10.04	1.60	7.89
1151	15	7.51	22.8	10.05	1.67	5.20
1201	20	7.49	22.9	10.07	1.70	5.24
1211	25	7.48	22.7	10.09	1.71	3.86
1220	30	7.47	22.8	10.10	1.74	3.23
1230	35	7.48	22.6	10.13	1.75	2.71
1240	40	7.47	22.6	10.11	1.76	2.13

1245 COLLECTED ENV. GW SAMPLE AT CFW2

1250 COLLECTED DUPLICATE GW SAMPLE AT CFW2

1250 COLLECTED MATRIX SPIKE GW SAMPLE AT CFW2.

1250 COLLECTED MATRIX SPIKE DUPLICATE GW SAMPLE AT CFW2.

CFW3 PRODUCT= 42.69' BELOW TOC, WL= 46.40' BELOW TOC 3.71'

TIME	VOL	pH	°C TEMP	mS/cm COND	mg/L DO	NTU TURB
1350	<1	7.00	23.7	7.83	3.45	→ LOTS OF PRODUCT IN DISCHARGE
1355	1	6.83	23.2	8.83	1.59	CLEARER
1400	2	6.85	23.1	9.10	1.27	GRAY (1/2 GAL) MINIMAL WATER BEFORE PRODUCT ENTERS LINE

PRODUCT 1/3 INTO SAMPLE COLLECTION

1405 COLLECTED ENV. GW SAMPLE AT CFW3.

COLLECTED SAMPLE OVER 1.5 HR PERIOD AS PRODUCT KEPT ENTERING LINE, SOME PRODUCT 'LL SAMPLES END OF DAY