

ENTERED

ANALYTICAL RESULTS
FOR
U.S. GEOLOGICAL SURVEY
ENSECO-RMAL NO. 013736



MARCH 14, 1991

Reviewed by:

A handwritten signature in cursive script, appearing to read "Randall Thompson", written over a horizontal line.

Randall Thompson

A handwritten signature in cursive script, appearing to read "Lindsay Breyer", written over a horizontal line.

Lindsay Breyer

Enseco Incorporated
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Arvada, Colorado 80002
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KAFB1099





I. OVERVIEW

On February 26, 1991, Enseco-Rocky Mountain Analytical Laboratory received two aqueous samples from U.S. Geological Survey.

This report presents the analytical results as well as supporting information to aid in the evaluation and interpretation of the data and is arranged in the following order:

- I. Overview
- II. Sample Description Information/Analytical Test Requests
- III. Analytical Results
- IV. Quality Control Report
 - A. Standard Enseco QC
 - B. Project-Specific QC

Standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. All laboratory QC samples analyzed in conjunction with the samples in this project were within established control limits.



II. SAMPLE DESCRIPTION INFORMATION/ANALYTICAL TEST REQUESTS

Sample Description Information

The Sample Description Information lists all of the samples received in this project together with the internal laboratory identification number assigned for each sample. Each project received at Enseco - RMAL is assigned a unique six digit number. Samples within the project are numbered sequentially. The laboratory identification number is a combination of the six digit project code and the sample sequence number.

Also given in the Sample Description Information is the Sample Type (matrix), Date of Sampling (if known) and Date of Receipt at the laboratory.

Analytical Test Requests

The Analytical Test Requests lists the analyses that were performed on each sample. The Custom Test column indicates where tests have been modified to conform to the specific requirements of this project.

SAMPLE DESCRIPTION INFORMATION
for
U.S. Geological Survey

Lab ID	Client ID	Matrix	Sampled Date	Time	Received Date
013736-0001-SA	KAFB050111-2	AQUEOUS	25 FEB 91	15:15	26 FEB 91
013736-0001-MS	KAFB050112-2	AQUEOUS	25 FEB 91	15:15	26 FEB 91
013736-0001-SD	KAFB050113-2	AQUEOUS	25 FEB 91	15:15	26 FEB 91
013736-0002-SA	KAFB050110-2	AQUEOUS	25 FEB 91	14:40	26 FEB 91

ANALYTICAL TEST REQUESTS
for
U.S. Geological Survey

Lab ID: 013736	Group Code	Analysis Description	Custom Test?
0001 - 0002	A	Chromium, Furnace AA	N
		Chromium, Furnace AA (Total)	N
		Prep - Total Metals, ICP	N
		Chromium VI (Dissolved)	N
		Chromium VI (Total)	N
		Nitrate Plus Nitrite	N
		Total Organic Carbon (TOC)	N
		Total Organic Halogen (TOX)	N
		Turbidity	N



III. ANALYTICAL RESULTS

The analytical results for this project are presented in the following data tables. The results are presented by sample, by test, with tests reported in the following order: GC/MS, Chromatography, Metals and Inorganics.

Each data table includes sample identification information, and when available and appropriate, dates sampled, received, authorized, prepared and analyzed. The authorization data is the date when the project was defined by the client such that laboratory work could begin. The date prepared is typically the date an extraction or digestion was initiated. For volatile organic compounds in water, the date prepared is the date the screening of the sample was performed.

Data sheets contain a listing of the parameters measured in each test, the analytical results and the Enseco reporting limit. Reporting limits are adjusted to reflect dilution of the sample, when appropriate. Solid and waste samples are reported on an "as received" basis, i.e. no correction is made for moisture content.

Enseco-RMAL is no longer routinely blank-correcting analytical data. Uncorrected analytical results are reported, along with associated blank results, for all organic and metals analyses. Analytical results and blank results are reported for conventional inorganic parameters as specified in the method. This policy is described in detail in the Enseco Incorporated Quality Assurance Program Plan for Environmental Chemical Monitoring, Revision 3.3, May, 1989.

In addition, surrogate recovery data is presented for all GC/MS analyses. The surrogate recovery is an indication of the affect of the sample matrix on the performance of the method. The results from the Standard Enseco QA/QC Program, which generates data which are independent of matrix effects, is given in Section IV.

Metals

Total Metals

Client Name: U.S. Geological Survey
 Client ID: KAFB050111-2
 Lab ID: 013736-0001-SA
 Matrix: AQUEOUS
 Authorized: 26 FEB 91

Sampled: 25 FEB 91
 Prepared: See Below

Received: 26 FEB 91
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chromium (VI)	ND	mg/L	0.010	7196	NA	26 FEB 91
Chromium	0.028	mg/L	0.0010	7191	05 MAR 91	12 MAR 91 @ 1145

ND = Not detected
 NA = Not applicable

Reported By: David Patterson

Approved By: Dave Roberts

Metals

Total Metals

Client Name: U.S. Geological Survey
 Client ID: KAFB050110-2
 Lab ID: 013736-0002-SA
 Matrix: AQUEOUS
 Authorized: 26 FEB 91

Sampled: 25 FEB 91
 Prepared: See Below

Received: 26 FEB 91
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date @1145
Chromium (VI)	ND	mg/L	0.010	7196	NA	26 FEB 91
Chromium	0.0030	mg/L	0.0010	7191	06 MAR 91	13 MAR 91

ND = Not detected
 NA = Not applicable

Reported By: Carla Owen

Approved By: Dave Roberts

Metals

Dissolved Metals

Client Name: U.S. Geological Survey
 Client ID: KAFB050111-2
 Lab ID: 013736-0001-SA
 Matrix: AQUEOUS
 Authorized: 26 FEB 91

Sampled: 25 FEB 91
 Prepared: See Below

Received: 26 FEB 91
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chromium (VI)	ND	mg/L	0.010	7196	NA	26 FEB 91
Chromium	0.0076	mg/L	0.0010	7191	NA	13 MAR 91

@1145

ND = Not detected
 NA = Not applicable

Reported By: Carla Owen

Approved By: Dave Roberts

Metals

Dissolved Metals

Client Name: U.S. Geological Survey
 Client ID: KAFB050110-2
 Lab ID: 013736-0002-SA
 Matrix: AQUEOUS
 Authorized: 26 FEB 91

Sampled: 25 FEB 91
 Prepared: See Below

Received: 26 FEB 91
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chromium (VI)	ND	mg/L	0.010	7196	NA	26 FEB 91
Chromium	ND	mg/L	0.0010	7191	NA	13 MAR 91

@1145

ND = Not detected
 NA = Not applicable

Reported By: Carla Owen

Approved By: Dave Roberts

General Inorganics



Client Name: U.S. Geological Survey
 Client ID: KAFB050111-2
 Lab ID: 013736-0001-SA
 Matrix: AQUEOUS
 Authorized: 26 FEB 91

Sampled: 25 FEB 91
 Prepared: See Below

Received: 26 FEB 91
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Nitrate plus Nitrite	1.6	mg/L	0.050	353.2	NA	06 MAR 91
Total Organic Carbon	1.2	mg/L	0.50	9060	NA	03 MAR 91
Total Organic Halogen as Cl	ND	ug/L	30.0	9020	NA	28 FEB 91
Turbidity	8.5	NTU	0.10	180.1	NA	27 FEB 91

ND = Not detected
 NA = Not applicable

Reported By: Blake Besser

Approved By: Roxanne Sullivan

General Inorganics



Client Name: U.S. Geological Survey
 Client ID: KAFB050110-2
 Lab ID: 013736-0002-SA
 Matrix: AQUEOUS
 Authorized: 26 FEB 91

Sampled: 25 FEB 91
 Prepared: See Below

Received: 26 FEB 91
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Nitrate plus Nitrite	ND	mg/L	0.050	353.2	NA	06 MAR 91
Total Organic Carbon	ND	mg/L	0.50	9060	NA	03 MAR 91
Total Organic Halogen as Cl	ND	ug/L	30.0	9020	NA	28 FEB 91
Turbidity	0.15	NTU	0.10	180.1	NA	27 FEB 91

ND = Not detected
 NA = Not applicable

Reported By: Blake Besser

Approved By: Roxanne Sullivan



 Four

IV. QUALITY CONTROL REPORT

The Enseco laboratories operate under a vigorous QA/QC program designed to ensure the generation of scientifically valid, legally defensible data by monitoring every aspect of laboratory operations. Routine QA/QC procedures include the use of approved methodologies, independent verification of analytical standards, use of duplicate Laboratory Control Samples to assess the precision and accuracy of the methodology on a routine basis, and a rigorous system of data review.

In addition, the Enseco laboratories maintain a comprehensive set of certifications from both state and federal governmental agencies which require frequent analyses of blind audit samples. Enseco-Rocky Mountain Analytical Laboratory is certified by the EPA under the EPA/CLP program for both Organic and Inorganic analyses, under the USATHAMA (U.S. Army) program, by the Army Corps of Engineers, and the states of Colorado, New Jersey, New York, Utah, and Florida, among others.

A. Standard Enseco QC

The standard laboratory QC package is designed to:

- 1) establish a strong, cost-effective QC program that ensures the generation of scientifically valid, legally defensible data
- 2) assess the laboratory's performance of the analytical method using control limits generated with a well-defined matrix
- 3) establish clear-cut guidelines for acceptability of analytical data so that QC decisions can be made immediately at the bench, and
- 4) provide a standard set of reportables which assures the client of the quality of his data.

The Enseco QC program is based upon monitoring the precision and accuracy of an analytical method by analyzing a set of Duplicate Control Samples (DCS) at frequent, well-defined intervals. Each DCS is a well-characterized matrix which is spiked with target compounds at 5-100 times the reporting limit, depending upon the methodology being monitored. The purpose of the DCS is not to duplicate the sample matrix, but rather to provide an interference-free, homogeneous matrix from which to gather data to establish control limits. These limits are used to determine whether data generated by the laboratory on any given day is in control.

Control limits for accuracy (percent recovery) are based on the average, historical percent recovery +/- 3 standard deviation units. Control limits for precision (relative percent difference) range from 0 (identical duplicate DCS results) to the average, historical relative percent difference + 3 standard deviation units. These control limits are fairly narrow based on the consistency of the matrix being monitored and are updated on a quarterly basis.

For each batch of samples analyzed, an additional control measure is taken in the form of a Single Control Sample (SCS). The SCS consists of a control matrix that is spiked with surrogate compounds appropriate to the method being used. In cases where no surrogate is available, (e.g., metals or conventional analyses) a single DCS serves as the control sample. An SCS is prepared for each sample lot for which the DCS pair are not analyzed. The recovery of the SCS is charted in exactly the same manner as described for the DCS, and provides a daily check on the performance of the method.

Accuracy for DCS and SCS is measured by Percent Recovery.

$$\% \text{ Recovery} = \frac{\text{Measured Concentration}}{\text{Actual Concentration}} \times 100$$

Precision for DCS is measured by Relative Percent Difference (RPD).

$$\text{RPD} = \frac{|\text{Measured Concentration DCS1} - \text{Measured Concentration DCS2}|}{(\text{Measured Concentration DCS1} + \text{Measured Concentration DCS2})/2} \times 100$$

All samples analyzed concurrently by the same test are assigned the same QC lot number. Projects which contain numerous samples, analyzed over several days, may have multiple QC lot numbers associated with each test. The QC information which follows includes a listing of the QC lot numbers associated with each of the samples reported, DCS and SCS (where applicable) recoveries from the QC lots associated with the samples, and control limits for these lots. The QC data is reported by test code, in the order that the tests are reported in the analytical results section of this report.

B. Project-Specific QC

With this project, additional QC was requested in the form of duplicate sample analyses and/or spiked sample analyses. The use of an actual sample as the QC matrix is termed "project-specific" QC.

Project-specific QC is valuable in assessing the affect of the sample matrix on the performance of the analytical method. No QC limits for accuracy and precision are assigned to data generated on actual sample matrices due to the variability of the matrix.

The results of the duplicate and spike sample analyses follow. For matrix spike analyses, the project specific QC results contain the analytical results from both analyses along with the spike level and percent recovery. The percent recovery calculation is not performed if the spike level is less than or equal to 50% of the value in the sample.

For duplicate analyses, the results from both the analyses are reported along with the relative percent difference (RPD). An RPD is not calculated if one of the results is reported as ND.

QC LOT ASSIGNMENT REPORT
Metals Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
013736-0001-SA	AQUEOUS	CR-FAA-AD	13 MAR 91-C	-
013736-0001-SA	AQUEOUS	CR-FAA-AT	05 MAR 91-A	05 MAR 91-A
013736-0001-SA	AQUEOUS	CR6-A	26 FEB 91-A	-
013736-0001-SA	AQUEOUS	CR6-AT	26 FEB 91-A	-
013736-0001-MS	AQUEOUS	CR-FAA-AD	13 MAR 91-C	-
013736-0001-MS	AQUEOUS	CR-FAA-AT	05 MAR 91-A	05 MAR 91-A
013736-0001-MS	AQUEOUS	CR6-A	26 FEB 91-B	-
013736-0001-MS	AQUEOUS	CR6-AT	26 FEB 91-B	-
013736-0001-SD	AQUEOUS	CR-FAA-AD	13 MAR 91-C	-
013736-0001-SD	AQUEOUS	CR-FAA-AT	05 MAR 91-A	05 MAR 91-A
013736-0001-SD	AQUEOUS	CR6-A	26 FEB 91-B	-
013736-0001-SD	AQUEOUS	CR6-AT	26 FEB 91-B	-
013736-0002-SA	AQUEOUS	CR-FAA-AD	13 MAR 91-C	-
013736-0002-SA	AQUEOUS	CR-FAA-AT	06 MAR 91-L	06 MAR 91-L
013736-0002-SA	AQUEOUS	CR6-A	26 FEB 91-A	-
013736-0002-SA	AQUEOUS	CR6-AT	26 FEB 91-A	-

DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation

Analyte	Spiked	Concentration		Measured	AVG	Accuracy		Precision	
		DCS1	DCS2			DCS	Average(%) Limits	(RPD) DCS Limit	DCS Limit
Category: CR-FAA-AD Matrix: AQUEOUS QC Lot: 13 MAR 91-C Concentration Units: mg/L									
Chromium	0.02	0.0204	0.0202	0.0203	102	75-125	1.0	20	
Category: CR-FAA-AT Matrix: AQUEOUS QC Lot: 05 MAR 91-A Concentration Units: mg/L									
Chromium	0.20	0.198	0.204	0.201	101	75-125	3.0	20	
Category: CR6-A Matrix: AQUEOUS QC Lot: 26 FEB 91-A Concentration Units: mg/L									
Chromium (VI)	0.05	0.0503	0.0503	0.0503	101	75-125	0.0	20	
Category: CR6-AT Matrix: AQUEOUS QC Lot: 26 FEB 91-A Concentration Units: mg/L									
Chromium (VI)	0.05	0.0503	0.0503	0.0503	101	75-125	0.0	20	
Category: CR6-A Matrix: AQUEOUS QC Lot: 26 FEB 91-B Concentration Units: mg/L									
Chromium (VI)	0.05	0.0503	0.0503	0.0503	101	75-125	0.0	20	

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

DUPLICATE CONTROL SAMPLE REPORT
 Metals Analysis and Preparation (cont.)

Analyte	Spiked	Concentration		AVG	Accuracy		Precision		
		DCS1	Measured DCS2		DCS	Average(%) Limits	(RPD) DCS Limit	DCS Limit	
Category: CR6-AT Matrix: AQUEOUS QC Lot: 26 FEB 91-B Concentration Units: mg/L									
Chromium (VI)	0.05	0.0503	0.0503	0.0503	101	75-125	0.0	20	
Category: CR-FAA-AT Matrix: AQUEOUS QC Lot: 06 MAR 91-L Concentration Units: mg/L									
Chromium	0.20	0.226	0.234	0.230	115	75-125	3.5	20	

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

METHOD BLANK REPORT
Metals Analysis and Preparation

Analyte	Result	Units	Reporting Limit
Test: CR-FAA-AT Matrix: AQUEOUS QC Lot: 05 MAR 91-A QC Run: 05 MAR 91-A			
Chromium	ND	mg/L	0.0050
Test: CR-FAA-AT Matrix: AQUEOUS QC Lot: 05 MAR 91-A QC Run: 05 MAR 91-A			
Chromium	ND	mg/L	0.0050
Test: CR-FAA-AT Matrix: AQUEOUS QC Lot: 06 MAR 91-L QC Run: 06 MAR 91-L			
Chromium	ND	mg/L	0.0050

MATRIX SPECIFIC QC
ASSIGNMENT REPORT
Metals Analysis and Preparation

QC SAMPLE TYPE	TEST	LABORATORY SAMPLE NUMBER	QC LOT
MATRIX SPIKE DUPLICATE	CR-FAA-AD	013736-0001-SD	13 MAR 91-C
MATRIX SPIKE	CR-FAA-AD	013736-0001-MS	13 MAR 91-C
MATRIX SPIKE DUPLICATE	CR-FAA-AT	013736-0001-SD	05 MAR 91-A
MATRIX SPIKE	CR-FAA-AT	013736-0001-MS	05 MAR 91-A
MATRIX SPIKE DUPLICATE	CR6-SPEC-AD	013736-0001-SD	26 FEB 91-B
MATRIX SPIKE	CR6-SPEC-AD	013736-0001-MS	26 FEB 91-B
MATRIX SPIKE DUPLICATE	CR6-SPEC-AT	013736-0001-SD	26 FEB 91-B
MATRIX SPIKE	CR6-SPEC-AT	013736-0001-MS	26 FEB 91-B

MATRIX SPIKE / MATRIX SPIKE DUPLICATE REPORT
 Metals Analysis and Preparation

Analyte	Sample	Concentration			Spiked		%Recovery		% RPD
		Matrix Spike	Matrix Spike Dup	MS	MSD	MS	MSD		
Test: CR-FAA-AD Matrix AQUEOUS Sample: 013736-0001 Units: mg/L									
Chromium	0.0076	0.024	0.025	0.020	0.020	82	87	6	
Test: CR-FAA-AT Matrix AQUEOUS Sample: 013736-0001 Units: mg/L									
Chromium	0.028	0.23	0.26	0.20	0.20	101	116	14	
Test: CR6-SPEC-AD Matrix AQUEOUS Sample: 013736-0001 Units: mg/L									
Chromium (VI)	ND	0.048	0.050	0.050	0.050	96	100	4	
Test: CR6-SPEC-AT Matrix AQUEOUS Sample: 013736-0001 Units: mg/L									
Chromium (VI)	ND	0.057	0.049	0.050	0.050	114	98	15	

ND = Not detected

NC = Not calculated, calculation not applicable

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

QC LOT ASSIGNMENT REPORT
Wet Chemistry Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
013736-0001-SA	AQUEOUS	NO3-A	06 MAR 91-A	-
013736-0001-SA	AQUEOUS	TOC-A	03 MAR 91-A	-
013736-0001-SA	AQUEOUS	TOX-A	28 FEB 91-A	-
013736-0001-SA	AQUEOUS	TURB-A	27 FEB 91-A	-
013736-0001-MS	AQUEOUS	NO3-A	06 MAR 91-A	-
013736-0001-MS	AQUEOUS	TOC-A	03 MAR 91-A	-
013736-0001-MS	AQUEOUS	TOX-A	28 FEB 91-A	-
013736-0001-SD	AQUEOUS	NO3-A	06 MAR 91-A	-
013736-0001-SD	AQUEOUS	TOC-A	03 MAR 91-A	-
013736-0001-SD	AQUEOUS	TOX-A	28 FEB 91-A	-
013736-0002-SA	AQUEOUS	NO3-A	06 MAR 91-A	-
013736-0002-SA	AQUEOUS	TOC-A	03 MAR 91-B	-
013736-0002-SA	AQUEOUS	TOX-A	28 FEB 91-A	-
013736-0002-SA	AQUEOUS	TURB-A	27 FEB 91-A	-

DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation

Analyte	Concentration Spiked	Concentration Measured		AVG	Accuracy Average (%)		Precision (RPD)		
		DCS1	DCS2		DCS	Limits	DCS	Limit	
Category: NO3-A Matrix: AQUEOUS QC Lot: 06 MAR 91-A Concentration Units: mg/L									
Nitrate as N	7.1	6.79	7.12	6.96	98	91-109	4.7	10	
Category: TOC-A Matrix: AQUEOUS QC Lot: 03 MAR 91-A Concentration Units: mg/L									
Total Organic Carbon	25	26.3	26.3	26.3	105	91-109	0.0	20	
Category: TOX-A Matrix: AQUEOUS QC Lot: 28 FEB 91-A Concentration Units: ug Cl/L									
Total Organic Halogen as Cl	100	101	99.7	100	100	80-120	1.3	20	
Category: TURB-A Matrix: AQUEOUS QC Lot: 27 FEB 91-A Concentration Units: NTU									
Turbidity	5.0	5.10	5.10	5.10	102	85-115	0.0	10	
Category: TOC-A Matrix: AQUEOUS QC Lot: 03 MAR 91-B Concentration Units: mg/L									
Total Organic Carbon	25	26.4	26.2	26.3	105	91-109	0.8	20	

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

MATRIX SPECIFIC QC
ASSIGNMENT REPORT
Wet Chemistry Analysis and Preparation

QC SAMPLE TYPE	TEST	LABORATORY SAMPLE NUMBER	QC LOT
MATRIX SPIKE DUPLICATE	NO3+NO2-TEC-A	013736-0001-SD	06 MAR 91-A
MATRIX SPIKE	NO3+NO2-TEC-A	013736-0001-MS	06 MAR 91-A
MATRIX SPIKE DUPLICATE	TOC-TOC-A	013736-0001-SD	03 MAR 91-A
MATRIX SPIKE	TOC-TOC-A	013736-0001-MS	03 MAR 91-A
MATRIX SPIKE DUPLICATE	TOX-TOX-A	013736-0001-SD	28 FEB 91-A
MATRIX SPIKE	TOX-TOX-A	013736-0001-MS	28 FEB 91-A

MATRIX SPIKE / MATRIX SPIKE DUPLICATE REPORT
Wet Chemistry Analysis and Preparation

Analyte	Sample	Concentration			Spiked		%Recovery		% RPD
		Matrix Spike	Matrix Spike Dup	MS	MSD	MS	MSD		
Test: NO3+NO2-TEC-A Matrix AQUEOUS Sample: 013736-0001 Units: mg/L									
Nitrate plus Nitrite as N	1.6	2.7	2.7	1.0	1.0	110	110	0	
Test: TOC-TOC-A Matrix AQUEOUS Sample: 013736-0001 Units: mg/L									
Total Organic Carbon	1.2	11.2	11.2	10.0	10.0	100	100	0	
Test: TOX-TOX-A Matrix AQUEOUS Sample: 013736-0001 Units: ug/L									
Total Organic Halogen as Cl	ND	106	97.2	100	100	106	97	9	

ND = Not detected

NC = Not calculated, calculation not applicable

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

ENSECO ANALYTICAL SERVICES REQUEST FORM

13736-01

Special Handling (Circle as appropriate and explain in record 5)

azardous material

SAMPLE
AFB050/11-2

Station Name

Site Type (circle one)

SW - Surface Water
GW - Ground Water
ME - Meteorological

LK - Lake
ES - Estuary
SP - Spring
SS - Special Source

Field ID
USGS/WRD/NEW MEX
Field Office

KIRTLAND AFB
RP-SWMU'S
Project

BILL DAM
Collector

(505) 262-5341
Phone (FTS)

File Deposition*

Sample identification

Circle one)

Q - WATSTORE

X - Lab File

[Empty box for Laboratory Use Only]

For Laboratory Use Only

K A F B 0 5 0 1 1 1 - 2

Station ID or Unique Number*

4 6 3 5 3 6 0 0 1

Project Account #

1 9 9 1
Year*

0 2 2 5
Month* Day*

Begin Date

1 5 1 5 0 2 2 5 1 5 5 7

0 2 2 5 1 5 5 7
Month Day Time

Composite End Date

N M
State Code*

0 3 5
District/ User Code*

0 0 1
County Code

Analysis level codes and schedules

	6 Sample Medium**	(H) or 9 Geologic Unit	9 Analysis Status**	9 Analysis Source**	9 Hydrologic Condition**	9 Sample Type**	9 Hydrologic Event**
PARAMETER:	CHROMIUM, TOTAL		CHROMIUM, DISS	CHROMIUM HEXAVALENT TOTAL	CHROMIUM HEXAVALENT DISSOLVED		NITRATE + NITRITE
METHOD:	SW3020/SW7191		SW3005/SW7191	SW7196	SW7196		E353.2
PARAMETER:	URANIUM GROSS ALPHA & GROSS BETA			NO XI	TDC, TOX		NITROGLYCERIN & PETN
METHOD:	AZHB, E900			SW5039/SW8010	SW7160, SW9020 E415.1		USATHAMA
PARAMETER:							
METHOD:							

Chain-of-Custody Record

PROJECT NAME KIRTLAND AFB-IRP, SWMU'S PROJECT NO. 463536001 P.O. NO.

Relinquished by: (Signature) Received by: (Signature) Date Time
[Signature] FEDERAL EXPRESS 2/25/91 1730

Relinquished by: (Signature) Received by: (Signature) Date Time
[Signature] Rmad B Maren 2/26/91 0830

Relinquished by: (Signature) Received at lab by: (Signature) Date Time

Relinquished from lab by: (Signature) Received by: (Signature) Date Time

Comments (Only 50 characters stored in NWIS)

Record 5 W. E. L. L. A. T. S. E. C. N. R. O. F. S. E. W. A. G. E. L. A. G. O. O. I. X.
- S. A. M. P. L. E

Record 6

Total number of sample bottles for this request: 6

SHIP TO:

Enseco-Rocky Mountain Analytical
4955 Yarrow Street.
Arvada, CO 80002
(303) 421-6611
LINDSAY BREYER

ENSECO ANALYTICAL SERVICES REQUEST FORM

13731-42
01MS

Special Handling (Circle as appropriate and explain in record 5)

hazardous material

MATRIX SPIKE
KAFB 050112-2

Station Name

Site Type (circle one)

SW - Surface Water
GW - Ground Water
ME - Meteorological

LK - Lake
ES - Estuary
SP - Spring
SS - Special Source

Field ID
USGS/WRD/NEW MEX
Field Office

Project
KIRTLAND AFB
RP-SWMU'S

Collector
BILL DAM

Phone (FTS)
(505) 262-5341

File Deposition*

Sample identification

(Circle one)

Q - WATSTORE

X - Lab File

[Empty box for Laboratory Use Only]

For Laboratory Use Only

KAFB 050112-2

Station ID or Unique Number*

463536001

Project Account #

1991 02 25 1515 02 25 1557 N.M. 035 001
Year* Month* Day* Time* Month Day Time State Code* District/ User Code* County Code

Begin Date

Composite End Date

Analysis level codes and schedules

	6	(H) or 9	9	9	9	9	
	Sample Medium**	Geologic Unit	Analysis Status**	Analysis Source**	Microbiologic Contamination**	Sample Type**	Hydrologic Event**
PARAMETER:	CHROMIUM, TOTAL		CHROMIUM, DISS	CHROMIUM HEXAVALENT TOTAL	CHROMIUM HEXAVALENT DISSOLVED		NITRATE + NITRITE
METHOD:	SW3020/SW7191		SW3005/SW7191	SW7196	SW7196		E353.2
PARAMETER:	URANIUM - GROSS ALPHA & GROSS BETA			VOX	TOC, TOX		NITROGLYCERIN & PETA
METHOD:	A711B, E900			SW5030/SW8010	SW7060, SW9020 E415.1		USATAMA
PARAMETER:							
METHOD:							

Chain-of-Custody Record

PROJECT NAME KIRTLAND AFB-IRP, SWMU'S PROJECT NO. 463536001 P.O. NO.

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
<i>Mike Royal</i>	FEDERAL EXPRESS	2/25/91	1730
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	<i>Rmad B Magon</i>	2/26/91	0830
Relinquished by: (Signature)	Received at lab by: (Signature)	Date	Time
Relinquished from lab by: (Signature)	Received by: (Signature)	Date	Time

Comments (Only 50 characters stored in NWIS)

Record 5 M.A.T.R.I.X .S.P.I.K.E

Record 6

Total number of sample bottles for this request: 6

SHIP TO:

Enseco-Rocky Mountain Analytical
4955 Yarrow Street.
Arvada, CO 80002
(303) 421-6611
LINDSAY BREYER

ENSECO ANALYTICAL SERVICES REQUEST FORM

13736-82

Special Handling (Circle as appropriate and explain in record 5)

azardous material
MATRIX SPIKE DUPLICATE
KAFB050113-2

Site Type (circle one)

SW - Surface Water
GW - Ground Water
ME - Meteorological

LK - Lake
ES - Estuary
SP - Spring
SS - Special Source

015B

Field ID
USGS/WRD/NEW MEX
Field Office

Project
KIRTLAND AFB
RP-SWMU'S

Collector
BILL DAM

Phone (FTS)
(505) 262-5341

File Deposition*

Sample identification

Circle one
Q - WATSTORE
X - Lab File

[Empty box for Laboratory Use Only]

K A F B 050113-2

463536001

For Laboratory Use Only

Station ID or Unique Number*

Project Account #

1991
Year*

02
Month*

25
Day*

1515
Time*

02
Month

25
Day

1557
Time

N M
State Code*

035
District/
User Code*

001
County Code

Begin Date

Composite End Date

Analysis level codes and schedules

PARAMETER:	6 Sample Medium**	(H) or 9 Geologic Unit	9 Analysis Status**	9 Analysis Source**	9 Hydrologic Condition**	9 Sample Type**	9 Hydrologic Event**
PARAMETER:	CHROMIUM TOTAL	CHROMIUM, DISS	CHROMIUM HEXAVALENT TOTAL	CHROMIUM HEXAVALENT DISSOLVED	NITRATE + NITRITE		
METHOD:	SW3020/SW7191	SW3005/SW7191	SW7196	SW7196	E353.2		
PARAMETER:	URANIUM GROSS ALPHA & GROSS BETA		NOX	TDC, TOX	NITROGLYCERINE & PETN		
METHOD:	A711B, E900		SW5030/SW8010	SW7060, SW9020	USATHAMA		
PARAMETER:							
METHOD:							

Chain-of-Custody Record

PROJECT NAME KIRTLAND AFB-IRP, SWMU'S PROJECT NO. 463536001 P.O. NO.

Relinquished by: (Signature) *Mike Royal* Received by: (Signature) FEDERAL EXPRESS Date 2/25/91 Time 1730

Relinquished by: (Signature) Received by: (Signature) *Rmad B Macor* Date 2/26/91 Time 0830

Relinquished by: (Signature) Received at lab by: (Signature) Date Time

Relinquished from lab by: (Signature) Received by: (Signature) Date Time

Comments (Only 50 characters stored in NWIS)

Record 5 MATRIX SPIKE DUPLICATE

Record 6

Total number of sample bottles for this request: 6

SHIP TO:

Enseco-Rocky Mountain Analytical
4955 Yarrow Street
Arvada, CO 80002
(303) 421-6611
LINDSAY BREYER

ENSECO ANALYTICAL SERVICES REQUEST FORM

13736-84
02

Special Handling (Circle as appropriate and explain in record 5)

azardous material
EQUIPMENT BLANK
KAFB 050110-2
Station Name

Site Type (circle one)

SW - Surface Water
GW - Ground Water
ME - Meteorological

LK - Lake
ES - Estuary
SP - Spring
SS - Special Source

Field ID: USGS/WRD/NEW MEX
Field Office: KIRTLAND AFB
Project: RP-SWMU'S
Collector: BILL DAM
Phone (FTS): (505) 262-5341

File Deposition*

Sample identification

Circle one)
Q - WATSTORE
X - Lab File

[Blank Box]
For Laboratory Use Only

Station ID or Unique Number*: KAFB 050110-2
Project Account #: 463536001

Year: 1991
Month: 02
Day: 25
Time: 1440
Begin Date: 02/25/91
Composite End Date: [Blank]
State Code: N.M.
District/User Code: 035
Country Code: 001

Analysis level codes and schedules

PARAMETER:	6 Sample Medium**	(H) or 9 Geologic Unit	9 Analysis Status**	9 Analysis Source**	9 Hydrologic Condition**	9 Sample Type**	9 Hydrologic Event**
METHOD:	CHROMIUM, TOTAL		CHROMIUM, DISS	CHROMIUM HEXAVALENT TOTAL	CHROMIUM HEXAVALENT DISSOLVED		NITRATE + NITRITE
METHOD:	SW3020/SW7191		SW3005/SW7191	SW7196	SW7196		E353.2
PARAMETER:	URANIUM, GROSS ALPHA & GROSS BETA		VOX	SW5080/SW8010	TDC, TOX		NITROGLYCERIN & PEIN
METHOD:	A711B, E900				SW7060, SW9020 E451		USATHAMA
PARAMETER:							
METHOD:							

Chain-of-Custody Record

PROJECT NAME: KIRTLAND AFB-IRP, SWMU'S PROJECT NO: 463536001 P.O. NO. [Blank]

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
<i>Melba Royal</i>	FEDERAL EXPRESS	2/25/91	1730
	<i>Ronald B. Mayo</i>	2/26/91	0830

Comments (Only 50 characters stored in NWIS)

Record 5: WELL A.T. S.E. CNR. OF SEWAGE LAGOON.
EQUIPMENT BLANK.
Record 6: [Blank]

Total number of sample bottles for this request: 6

SHIP TO:

Enseco-Rocky Mountain Analytical
4955 Yarrow Street
Arvada, CO 80002
(303) 421-6611
LINDSAY BREYER