

1 of 8



ENTERED

ANALYTICAL RESULTS  
FOR  
U.S. GEOLOGICAL SURVEY  
ENSECO-RMAL NO. 018780



DECEMBER 16, 1991

Reviewed by:

Julie L. Kramer  
Julie L. Kramer

Mark Dymerski  
Mark Dymerski

KAFB1184





## I. OVERVIEW

On November 13, 1991, Enseco-Rocky Mountain Analytical Laboratory received four 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

GC/MS volatile analysis, due to the laboratories inability to analyze samples 018780-0001, through -0004 within holding times. Requests were cancelled per Ms. Walker.



---

## 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
018780-0001-SA	KAFB060908-2	AQUEOUS	12 NOV 91	12:45	13 NOV 91
018780-0002-SA	KAFB050220-2	AQUEOUS	12 NOV 91	13:45	13 NOV 91
018780-0003-SA	KAFB050219-2	AQUEOUS	12 NOV 91	09:00	13 NOV 91
018780-0004-TB	KAFB050218-2	AQUEOUS	12 NOV 91	07:05	13 NOV 91

ANALYTICAL TEST REQUESTS  
for  
U.S. Geological Survey

Lab ID: 018780	Group Code	Analysis Description	Custom Test?
0001	A	Nitrate Plus Nitrite	N
		Gross Alpha & Beta	N
		Uranium, Natural	N
		Chromium VI (Dissolved)	N
		Chromium, Furnace AA (Total)	N
		Chromium, Furnace AA	N
		Prep - Total Metals, ICP	N
		Chromium VI (Total)	N
		Volatile Organics	N
		Appendix IX List	N
		Screen - Volatile Organics	N
		Volatiles Library Search (10 Compound TID)	N
		Chloride, Ion Chromatography, for Air Force Contracts	N
0002 - 0003	B	Nitrate Plus Nitrite	N
		Chromium VI (Dissolved)	N
		Volatile Organics	N
		Appendix IX List	N
		Screen - Volatile Organics	N
		Chromium, Furnace AA (Total)	N
		Prep - Total Metals, ICP	N
		Chromium, Furnace AA	N
		Chromium VI (Total)	N
		Volatiles Library Search (10 Compound TID)	N
		Chloride, Ion Chromatography, for Air Force Contracts	N
0004	C	Volatiles Library Search (10 Compound TID)	N
		Volatile Organics	N
		Appendix IX List	N
		Screen - Volatile Organics	N



Three



### III. ANALYTICAL RESULTS

The analytical results for this project are presented in the following data tables. 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.

The analytical data reported are subject to the following limitations of the analytical methodology:

## Tentatively Identified Compounds

This report presents results for the "identification" of unknown compounds that were detected in the GC/MS analysis. The results from this work are presented as "tentatively identified compounds" (TIC). The approach used for reporting TICs was based on the protocol established for this purpose in the EPA Superfund methods and on guidelines established by the American Chemical Society (ACS).

In summary, the mass spectrum of chromatographic peaks in concentrations in excess of 10% of the internal standard were obtained. Normally, the number of unknown compounds identified is limited to 10 compounds in the volatile fraction and 20 compounds in the semivolatile fraction. Each mass spectrum was then compared to a library of over 30,000 reference spectra in a computerized "library search." The three "best" matches obtained by the computer were hardcopied along with the mass spectrum of the unknown peak. This information was then reviewed by an analyst who "identified" the compound based on the available information.

All identifications were based on the "Guidelines for GC/MS Identification" developed by the American Chemical Society (Environmental Science and Technology, 1982, 16 143A). As recommended in these guidelines, identifications of unknown substances were reported with a level of confidence. The three levels of confidence cited in the ACS guidelines and used in this report are as follows:

### Level 3: Confirmed Identification

The identification is based on the analysis of an authentic standard.

### Level 2: Confident Identification

Good agreement was observed between the unknown compound and a specific library spectrum.

### Level 1: Tentative Identification

The unknown compound is only indicative of a specific library spectrum.

### Class Identification

The unknown compound was not similar to a specific library spectrum, but it did contain ions characteristic of a class of compounds (saturated hydrocarbon, chlorinated hydrocarbon, etc.).

If there were no library spectra similar to the unknown, and it could not be assigned to a particular class of compounds, the compound is reported as "unknown."

Quantitation of TICs is based on the total ionization peak area relative to an internal standard, assuming a response factor of one. Accordingly, the reported concentration is an estimate.

In general, mass spectrometry cannot distinguish isomers (compounds with the same molecular formula). Therefore, an identified compound may be any one of several different isomers.

Metals

Total Metals

Client Name: U.S. Geological Survey  
 Client ID: KAFB060908-2  
 Lab ID: 018780-0001-SA  
 Matrix: AQUEOUS  
 Authorized: 13 NOV 91

*Sample*

Sampled: 12 NOV 91  
 Prepared: See Below

Received: 13 NOV 91  
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chromium (VI)	ND	mg/L	0.010	7196	NA	13 NOV 91
Chromium	0.025	mg/L	0.010	7191	25 NOV 91	02 DEC 91

ND = Not detected  
 NA = Not applicable

Reported By: David Patterson

Approved By: Sandra Jones

Metals

Total Metals

Client Name: U.S. Geological Survey  
 Client ID: KAFB050220-2  
 Lab ID: 018780-0002-SA  
 Matrix: AQUEOUS  
 Authorized: 13 NOV 91

*Sample*

Sampled: 12 NOV 91  
 Prepared: See Below

Received: 13 NOV 91  
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chromium (VI)	ND	mg/L	0.010	7196	NA	13 NOV 91
Chromium	ND	mg/L	0.010	7191	25 NOV 91	02 DEC 91

ND = Not detected  
 NA = Not applicable

Reported By: David Patterson

Approved By: Sandra Jones

Metals

Total Metals

Client Name: U.S. Geological Survey  
 Client ID: KAFB050219-2  
 Lab ID: 018780-0003-SA  
 Matrix: AQUEOUS  
 Authorized: 13 NOV 91

Sampled: 12 NOV 91  
 Prepared: See Below

Received: 13 NOV 91  
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chromium (VI)	ND	mg/L	0.010	7196	NA	13 NOV 91
Chromium	ND	mg/L	0.010	7191	25 NOV 91	02 DEC 91

*Equip. Blank*

ND = Not detected  
 NA = Not applicable

Reported By: David Patterson

Approved By: Sandra Jones

## Metals

### Dissolved Metals

Client Name: U.S. Geological Survey  
 Client ID: KAFB060908-2  
 Lab ID: 018780-0001-SA  
 Matrix: AQUEOUS  
 Authorized: 13 NOV 91

Sampled: 12 NOV 91  
 Prepared: See Below

Received: 13 NOV 91  
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chromium (VI)	ND	mg/L	0.010	7196	NA	13 NOV 91
Chromium	ND	mg/L	0.0050	7191	NA	02 DEC 91

ND = Not detected  
 NA = Not applicable

Reported By: David Patterson

Approved By: Sandra Jones

---

**Metals****Dissolved Metals**

Client Name: U.S. Geological Survey

Client ID: KAFB050220-2

Lab ID: 018780-0002-SA

Matrix: AQUEOUS

Authorized: 13 NOV 91

Sampled: 12 NOV 91

Prepared: See Below

Received: 13 NOV 91

Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chromium (VI)	ND	mg/L	0.010	7196	NA	13 NOV 91
Chromium	ND	mg/L	0.0050	7191	NA	02 DEC 91

ND = Not detected  
NA = Not applicable

Reported By: David Patterson

Approved By: Sandra Jones



Metals

Dissolved Metals

Client Name: U.S. Geological Survey  
 Client ID: KAFB050219-2  
 Lab ID: 018780-0003-SA  
 Matrix: AQUEOUS  
 Authorized: 13 NOV 91

Sampled: 12 NOV 91  
 Prepared: See Below

Received: 13 NOV 91  
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chromium (VI)	ND	mg/L	0.010	7196	NA	13 NOV 91
Chromium	ND	mg/L	0.0050	7191	NA	02 DEC 91

ND = Not detected  
 NA = Not applicable

Reported By: David Patterson

Approved By: Sandra Jones

---

General Inorganics

Client Name: U.S. Geological Survey  
Client ID: KAFB060908-2  
Lab ID: 018780-0001-SA  
Matrix: AQUEOUS  
Authorized: 13 NOV 91

Sampled: 12 NOV 91  
Prepared: See Below

Received: 13 NOV 91  
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chloride	41.8	mg/L	0.50	A429	NA	03 DEC 91
Nitrate plus Nitrite	18.8	mg/L	0.50	353.2	NA	27 NOV 91

ND = Not detected  
NA = Not applicable

Reported By: Tammy Bailey

Approved By: Eileen Burke

General Inorganics

Client Name: U.S. Geological Survey  
 Client ID: KAFB050220-2  
 Lab ID: 018780-0002-SA  
 Matrix: AQUEOUS  
 Authorized: 13 NOV 91

Sampled: 12 NOV 91  
 Prepared: See Below

Received: 13 NOV 91  
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chloride	12.4	mg/L	0.50	A429	NA	03 DEC 91
Nitrate plus Nitrite	3.5	mg/L	0.25	353.2	NA	27 NOV 91

ND = Not detected  
 NA = Not applicable

Reported By: Tammy Bailey

Approved By: Eileen Burke

General Inorganics

Client Name: U.S. Geological Survey  
 Client ID: KAFB050219-2  
 Lab ID: 018780-0003-SA  
 Matrix: AQUEOUS  
 Authorized: 13 NOV 91

Sampled: 12 NOV 91  
 Prepared: See Below

Received: 13 NOV 91  
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chloride	ND	mg/L	0.50	A429	NA	03 DEC 91
Nitrate plus Nitrite	ND	mg/L	0.050	353.2	NA	27 NOV 91

ND = Not detected  
 NA = Not applicable

Reported By: Tammy Bailey

Approved By: Eileen Burke



**Hazen Research, Inc.**  
 4601 Indiana St. • Golden, Colo. 80403  
 Tel: (303) 279-4501 • Telex 45-860  
 FAX: (303) 278-1528

000038

12/2/91  
 JS

DATE December 3 1991  
 HRI PROJECT 009-175  
 HRI SERIES NO. K319/91-B  
 DATE RECD. 11/15/91  
 CUST P.O.# 01333

ENSECO - Rocky Mountain Analytical  
 4955 Yarrow Street  
 Arvada Colorado 80002

REPORT OF ANALYSIS

SAMPLE NUMBER	SAMPLE IDENTIFICATION	Uranium mg/l	Uranium pCi/l
K319-1	18780-01	0.002	2

By:

Robert Rostad  
 Laboratory Manager

Results reported on recoverable basis. Method ASTM D2907. Completed 12/02/91.  
 Uranium results reported assuming the activity of natural U =  $6.77 \times 10^{-7}$  Ci/g

Radiochemistry



Client Name: U.S. Geological Survey  
Client ID: KAFB060908-2  
Lab ID: 018780-0001-SA  
Matrix: AQUEOUS  
Authorized: 13 NOV 91

Sampled: 12 NOV 91  
Prepared: See Below

Received: 13 NOV 91  
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Gross Alpha	5.1	pCi/L	+/- 3.1	900.0	NA	26 NOV 91
Gross Beta	0.8	pCi/L	+/- 1.5	900.0	NA	26 NOV 91

ND = Not detected  
NA = Not applicable

Reported By: Linda Sullivan

Approved By: Will Pratt



#### 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.

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.

QC LOT ASSIGNMENT REPORT  
Metals Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
018780-0001-SA	AQUEOUS	CR6-A	13 NOV 91-A	-
018780-0001-SA	AQUEOUS	CR-FAA-AT	25 NOV 91-G	25 NOV 91-G
018780-0001-SA	AQUEOUS	CR-FAA-AD	02 DEC 91-G	-
018780-0001-SA	AQUEOUS	CR6-AT	13 NOV 91-A	-
018780-0002-SA	AQUEOUS	CR6-A	13 NOV 91-A	-
018780-0002-SA	AQUEOUS	CR-FAA-AT	25 NOV 91-G	25 NOV 91-G
018780-0002-SA	AQUEOUS	CR-FAA-AD	02 DEC 91-G	-
018780-0002-SA	AQUEOUS	CR6-AT	13 NOV 91-A	-
018780-0003-SA	AQUEOUS	CR6-A	13 NOV 91-A	-
018780-0003-SA	AQUEOUS	CR-FAA-AT	25 NOV 91-G	25 NOV 91-G
018780-0003-SA	AQUEOUS	CR-FAA-AD	02 DEC 91-G	-
018780-0003-SA	AQUEOUS	CR6-AT	13 NOV 91-A	-

DUPLICATE CONTROL SAMPLE REPORT  
 Metals Analysis and Preparation

Analyte	Concentration Spiked	Concentration Measured		AVG	Accuracy Average (%)		Precision (RPD)		
		DCS1	DCS2		DCS	Limits	DCS	Limit	
Category: CR6-A Matrix: AQUEOUS QC Lot: 13 NOV 91-A Concentration Units: mg/L									
Chromium (VI)	0.05	0.0497	0.0497	0.0497	99	75-125	0.0	20	
Category: CR-FAA-AT Matrix: AQUEOUS QC Lot: 25 NOV 91-G Concentration Units: mg/L									
Chromium	0.20	0.206	0.205	0.206	103	75-125	0.5	20	
Category: CR-FAA-AD Matrix: AQUEOUS QC Lot: 02 DEC 91-G Concentration Units: mg/L									
Chromium	0.20	0.212	0.205	0.208	104	75-125	3.4	20	
Category: CR6-AT Matrix: AQUEOUS QC Lot: 13 NOV 91-A Concentration Units: mg/L									
Chromium (VI)	0.05	0.0497	0.0497	0.0497	99	75-125	0.0	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: 25 NOV 91-G    QC Run: 25 NOV 91-G			
Chromium	ND	mg/L	0.0050
Test: CR-FAA-AT Matrix: AQUEOUS QC Lot: 25 NOV 91-G    QC Run: 25 NOV 91-G			
Chromium	ND	mg/L	0.0050

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)
018780-0001-SA	AQUEOUS	NO3-A	27 NOV 91-A	-
018780-0001-SA	AQUEOUS	CL-IC-A	03 DEC 91-N	-
018780-0002-SA	AQUEOUS	NO3-A	27 NOV 91-A	-
018780-0002-SA	AQUEOUS	CL-IC-A	03 DEC 91-N	-
018780-0003-SA	AQUEOUS	NO3-A	27 NOV 91-A	-
018780-0003-SA	AQUEOUS	CL-IC-A	03 DEC 91-N	-

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: 27 NOV 91-A Concentration Units: mg/L									
Nitrate as N	2.0	1.83	1.86	1.84	92	91-109	1.6	10	
Category: CL-IC-A Matrix: AQUEOUS QC Lot: 03 DEC 91-N Concentration Units: mg/L									
Chloride	50	50.7	50.9	50.8	102	92-108	0.4	20	

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

**ENSECO ANALYTICAL SERVICES REQUEST FORM**

1878001

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

Hazardous material

SAMPLE

KAFB060908-2

Station Name

Field ID

USGS/WRD/NEW MEX

Field Office

SW - Surface Water  
 GW - Ground Water  
 ME - Meteorological

**Site Type (circle one)**

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

KIRTLAND AFB  
 RP-SWMU'S

Project

Miko Roybal

Collector

(505) 262-5344  
 Phone (FTS)

**File Deposition\***

(Circle one)

Q - WATSTORE

X - Lab File

**Sample identification**

[Empty box]

For Laboratory Use Only

K A F B 0 6 0 9 0 8 - 2

Station ID or Unique Number\*

4 6 3 5 3 6 0 0 1

Project Account #

1 9 9 1  
 Year\*

1 1  
 Month\*

1 2  
 Day\*

1 2 4 5  
 Time\*

1 1  
 Month

1 2  
 Day

1 2 5 5  
 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	H or 9	9	9	9		
	Sample Medium**	Geologic Unit	Analysis Status**	Analysis Source**	Hydrologic Condition**	Sample Type**	Hydrologic Event**
PARAMETER:	CHROMIUM, TOTAL		CHROMIUM, DISS		CHROMIUM HEXAVALENT TOTAL		CHROMIUM HEXAVALENT DISSOLVED
METHOD:	SW3020/SW7191		SW3005/SW7191		SW7196		SW7196
PARAMETER:	NITRATE & NITRITE		CHLORIDE DISSOLVED		APPX IX-VOC		GROSS ALPHA & GROSS BETA
METHOD:	E353.2		A429		SW5030/8240		A711B, E900
PARAMETER:	<del>VOX</del>						
METHOD:	<del>SW5030/8010</del>						

**Chain-of-Custody Record**

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

Relinquished by: (Signature) Miko Roybal Received by: (Signature) \_\_\_\_\_ Date 11/12/91 Time 1600

Relinquished by: (Signature) \_\_\_\_\_ Received by: (Signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Relinquished by: (Signature) \_\_\_\_\_ Received at lab by: (Signature) Justin-Chapell Date 11/13/91 Time 0800

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

**Comments (Only 50 characters stored in NWIS)**

Record 5 SAMPLE FROM WELL NR. GOLF C. P. NE

Record 6 \_\_\_\_\_

Total number of sample bottles for this request: 10

SHIP TO: DEBBIE FA ZIO/TONI STOVALL

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



ENSECO ANALYTICAL SERVICES REQUEST FORM

18780 02

Special Handling

(Circle as appropriate and explain in record 5)

hazardous material

SAMPLE

KAFB050220-2

Station Name

Field ID

USGS/WRD/NEW MEX

Field Office

KIRTLAND AFB RP-SWMU'S

Project

Miko Roybal

Collector

Site Type (circle one)

GW - Ground Water  
SW - Surface Water  
ME - Meteorological

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

(505) 262-5344  
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 050220-2

Station ID or Unique Number\*

463536001

Project Account #

1991  
Year\*

11  
Month\*

12  
Day\*

1345  
Time\*

11  
Month

12  
Day

1355  
Time

N M  
State Code\*

035  
District/ User Code\*

001  
County Code

Begin Date

Composite End Date

Analysis level codes and schedules

	6 Sample Medium**	Geologic Unit	H or 9 Analysis Status**	9 Analysis Source**	Hydrologic Condition**	9 Sample Type**	9 Hydrologic Event**
PARAMETER:	CHROMIUM, TOTAL	/	CHROMIUM, DISS	/	CHROMIUM HEXAVALENT TOTAL	/	CHROMIUM HEXAVALENT DISSOLVED
METHOD:	SW3020/SW7191	/	SW3005/SW7191	/	SW7196	/	SW7196
PARAMETER:	NITRATE & NITRITE	/	CHLORIDE DISSOLVED	/	APPX IX-VOC	/	GROSS ALPHA & GROSS BETA
METHOD:	E353.2	/	A429	/	SW5030/8240	/	A711B, B900
PARAMETER:	<del>VOC</del>	/		/		/	
METHOD:	<del>SW5030/8010</del>	/		/		/	

Chain-of-Custody Record

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

Relinquished by: (Signature) Miko Roybal Received by: (Signature) \_\_\_\_\_ Date 11/12/91 Time 1600

Relinquished by: (Signature) \_\_\_\_\_ Received by: (Signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Relinquished by: (Signature) \_\_\_\_\_ Received at lab by: (Signature) Justin Chiswell Date 11/13/91 Time 0800

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

Comments (Only 50 characters stored in NWIS)

Record 5 S.A.M.P.L.E. FR A SEWAGE LAGOON. NE.

Record 6 \_\_\_\_\_

Total number of sample bottles for this request: 9

SHIP TO: DEBBIE FAZIO/TONI STOVALL

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

ENSECO ANALYTICAL SERVICES REQUEST FORM

18780 03

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

hazardous material

~~HAZARDOUS~~ EQ BL  
KAFB 050219-2

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

Miko Roybal  
Collector

(505) 262-5344  
Phone (FTS)

File Deposition\*

Circle one)

Q - WATSTORE  
X - Lab File

[Empty box for Laboratory Use Only]

For Laboratory Use Only

Sample identification

K A F B 050219-2

Station ID or Unique Number\*

463536001

Project Account #

1991 11 12 0900  
Year\* Month\* Day\* Time\*  
Begin Date

Month Day Time  
Composite End Date

N M 035 001  
State Code\* District/ User Code\* County Code

Analysis level codes and schedules

	6 Sample Medium**	Geologic Unit	H or 9 Analysis Status**	9 Analysis Source**	Hydrologic Condition**	9 Sample Type**	9 Hydrologic Event**
PARAMETER:	CHROMIUM, TOTAL		CHROMIUM, DISS		CHROMIUM HEXAVALENT TOTAL		CHROMIUM HEXAVALENT DISSOLVED
METHOD:	SW3020/SW7191		SW3005/SW7191		SW7196		SW7196
PARAMETER:	NITRATE & NITRITE		CHLORIDE DISSOLVED		APPX IX-VOC		GROSS ALPHA & GROSS BETA
METHOD:	E353.2		A429		SW5030/8240		A711B, E900
PARAMETER:	<del>VOC</del>						
METHOD:	<del>SW5030/8010</del>						

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>Miko Roybal</i>	FEDERAL EXPRESS	11/12/91	1600
	<i>Justin Chavez</i>	11/13/91	0800

Comments (Only 50 characters stored in NWIS)

Record 5 EQ BLANK - SEWAGE LAGOON, NE

Record 6

Total number of sample bottles for this request: 9

SHIP TO: DEBBIE FA 210/TONI STOVALL

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

ENSECO ANALYTICAL SERVICES REQUEST FORM

17750 04

Special Handling

(Circle as appropriate and explain in record 5)

**hazardous material**

TRIP BLANK  
KAFB050218-2

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  
IRP-SWMU'S

Project

Miko Roybal  
Collector

(505) 262-5344  
Phone (FTS)

File Deposition\*

(Circle one)

Q - WATSTORE  
 X - Lab File

For Laboratory Use Only

Sample identification

KAFB050218-2

Station ID or Unique Number\*

463536001

Project Account #

1991  
Year\*

11  
Month\*

12  
Day\*

0705  
Time\*

Month

Day

Time

Composite End Date

N.M.  
State Code\*

035  
District User Code\*

001  
County Code

Begin Date

Analysis level codes and schedules

	6 Sample Medium**	Geologic Unit	H or 9 Analysis Status**	9 Analysis Source**	Hydrologic Condition**	9 Sample Type**	9 Hydrologic Event**
PARAMETER:	<del>CHROMIUM/TOTAL</del>		<del>CHROMIUM, DISS</del>		<del>CHROMIUM</del>		<del>CHROMIUM</del>
METHOD:	<del>SW3020/SW7191</del>		<del>SW3005/SW7191</del>		<del>HEXAVALENT TOTAL</del>		<del>HEXAVALENT DISSOLVED</del>
PARAMETER:	<del>NITRATE &amp; NITRITE</del>		<del>CHLORIDE DISSOLVED</del>		<b>APPX IX-VOC</b>		<del>GROSS ALPHA &amp; GROSS BETA</del>
METHOD:	<del>E353.2</del>		<del>4429</del>		<u>SW5030/8240</u>		<del>E900</del>
PARAMETER:	<del>NOX</del>						
METHOD:	<del>SW5030/8010</del>						

Chain-of-Custody Record

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

Relinquished by: (Signature) Miko Roybal Received by: (Signature) \_\_\_\_\_ Date 11/12/91 Time 1600

Relinquished by: (Signature) \_\_\_\_\_ Received by: (Signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

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 T R I P S E W A G E L A G O O N N E

Record 6 \_\_\_\_\_

Total number of sample bottles for this request: 3

SHIP TO: DEBBIE FA E10/TONI STOVALL

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