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Enseco
A CORNING Company

June 29, 1991

Ms. Dorothy Walker
U.S. Geological Survey NWQL-CL
12395 West 53rd Street
MS-402
Arvada, CO 80002

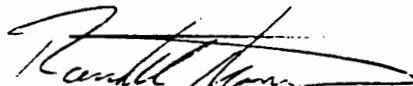
Dear Ms. Walker:

Enclosed is the report for five samples received at Enseco-Rocky Mountain Analytical Laboratory on May 31, 1991.

Included with the report is a quality control summary.

Please call if you have any questions.

Sincerely,


Randall Thompson
Program Administrator

Reviewed by:


Lindsay Breyer
Technical Manager

RT/LB/dmh
Enclosures

RMAL #015184

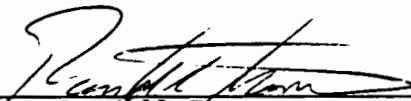


ANALYTICAL RESULTS
FOR
U.S. GEOLOGICAL SURVEY
ENSECO-RMAL NO. 015184

Enseco

JUNE 29, 1991

Reviewed by:



Randall Thompson



Lindsay Breyer

I. OVERVIEW

On May 31, 1991, Enseco-Rocky Mountain Analytical Laboratory received five 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

As directed by Bill Dam, chloride has been added to the analysis of samples 015184-0001 and -0002.

The Duplicate Control Sample (DCS) report associated with the Method 8270 analysis of samples 015184-0003, -0004, and -0005 shows RPD values above QC limits. This has been attributed to a problem isolated to DCS1 and with the acceptable surrogate recovery during the sample analyses, the data has been reported.

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
015184-0001-SA	KAFB050215-2	AQUEOUS	30 MAY 91	14:30	31 MAY 91
015184-0001-MS	KAFB050216-2	AQUEOUS	30 MAY 91	14:30	31 MAY 91
015184-0001-SD	KAFB050217-2	AQUEOUS	30 MAY 91	14:30	31 MAY 91
015184-0002-SA	KAFB060907-2	AQUEOUS	30 MAY 91	13:01	31 MAY 91
015184-0003-SA	KAFB030701-1	SOIL	28 MAY 91	17:25	31 MAY 91
015184-0004-SA	KAFB030702-1	SOIL	29 MAY 91	09:43	31 MAY 91
015184-0005-SA	KAFB030703-1	SOIL	29 MAY 91	14:10	31 MAY 91

ANALYTICAL TEST REQUESTS
for
U.S. Geological Survey

Lab ID: 015184	Group Code	Analysis Description	Custom Test?
0001	A	Chromium, Furnace AA (Total)	N
		Prep - Total Metals, ICP	N
		Chromium, Furnace AA	N
		Chromium VI (Total)	N
		Chromium VI (Dissolved)	N
		Nitrate Plus Nitrite	N
		Total Organic Carbon (TOC)	N
		Total Organic Halogen (TOX)	N
		Chloride, Ion Chromatography, for Air Force Contracts	N
0003 - 0005	B	Mercury, Cold Vapor AA	N
		Prep - Mercury, Cold Vapor AA	N
		Semivolatile Organics	N
		Prep-Semivolatile Organics	N
		Purgeable Volatile Organics	N
		AFIR Volatile Screen	N
		Purgeable Volatile Organics	N
		VOA Screen for Medium Level Soils	N
		ICP Suite: Air Force	N
		Prep - Total Metals, ICP	N
		Percent Water: ASTM D2216	N
		Volatiles Library Search (10 Compound TID)	N
		Semivolatiles Library Search (20 Compound TID)	N
0002	C	Chromium, Furnace AA (Total)	N
		Prep - Total Metals, ICP	N
		Chromium, Furnace AA	N
		Chromium VI (Total)	N
		Chromium VI (Dissolved)	N
		Nitrate Plus Nitrite	N
		Total Organic Carbon (TOC)	N
		Total Organic Halogen (TOX)	N
		Gross Alpha & Beta	N
		Uranium, Natural	N
		Chloride, Ion Chromatography, for Air Force Contracts	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.

Purgeable Volatile Organics

Method 8240

Client Name: U.S. Geological Survey

Client ID: KAFB030701-1

Lab ID: 015184-0003-SA

Matrix: SOIL

Authorized: 31 MAY 91

Sampled: 28 MAY 91

Prepared: 03 JUN 91

Received: 31 MAY 91

Analyzed: 06 JUN 91

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	mg/kg	0.10
Bromomethane	ND	mg/kg	0.10
Vinyl chloride	ND	mg/kg	0.10
Chloroethane	ND	mg/kg	0.10
Methylene chloride	ND	mg/kg	0.10
Acetone	ND	mg/kg	0.10
Carbon disulfide	ND	mg/kg	0.10
1,1-Dichloroethene	ND	mg/kg	0.10
1,1-Dichloroethane	ND	mg/kg	0.10
trans-1,2-Dichloroethene	ND	mg/kg	0.10
Chloroform	ND	mg/kg	0.10
1,2-Dichloroethane	ND	mg/kg	0.10
2-Butanone	ND	mg/kg	0.20
1,1,1-Trichloroethane	ND	mg/kg	0.10
Carbon tetrachloride	ND	mg/kg	0.10
Bromodichloromethane	ND	mg/kg	0.10
1,2-Dichloropropane	ND	mg/kg	0.10
trans-1,3-Dichloropropene	ND	mg/kg	0.10
Trichloroethene	ND	mg/kg	0.10
Dibromochloromethane	ND	mg/kg	0.10
1,1,2-Trichloroethane	ND	mg/kg	0.10
Benzene	ND	mg/kg	0.10
cis-1,3-Dichloropropene	ND	mg/kg	0.10
2-Chloroethyl vinyl ether	ND	mg/kg	0.50
Bromoform	ND	mg/kg	0.10
4-Methyl-2-pentanone	ND	mg/kg	0.10
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.10
Tetrachloroethene	ND	mg/kg	0.10
Toluene	ND	mg/kg	0.10
Chlorobenzene	ND	mg/kg	0.10
Ethylbenzene	ND	mg/kg	0.10
Xylenes (total)	ND	mg/kg	0.10
Trichlorofluoromethane	ND	mg/kg	0.10
Acrolein	ND	mg/kg	0.30
Acrylonitrile	ND	mg/kg	0.20
Dibromomethane	ND	mg/kg	0.10
Dichlorodifluoromethane	ND	mg/kg	0.10
Ethanol	ND	mg/kg	NR
Ethyl methacrylate	ND	mg/kg	0.10
2-Hexanone	ND	mg/kg	0.10
Iodomethane	ND	mg/kg	0.10

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Keith Beauvais

Approved By: Mark Dymerski

Purgeable Volatile Organics (CONT.)

Method 8240

Client Name: U.S. Geological Survey

Client ID: KAFB030701-1

Lab ID: 015184-0003-SA

Matrix: SOIL

Authorized: 31 MAY 91

Sampled: 28 MAY 91

Prepared: 03 JUN 91

Received: 31 MAY 91

Analyzed: 06 JUN 91

Parameter	Result	Units	Reporting Limit
Styrene	ND	mg/kg	0.10
1,2,3-Trichloropropane	ND	mg/kg	0.10
Vinyl acetate	ND	mg/kg	0.30
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.10
Surrogate	Recovery		
Toluene-d8	110	%	
4-Bromofluorobenzene	98.4	%	
1,2-Dichloroethane-d4	98.7	%	

ND = Not detected
NA = Not applicable

Reported By: Keith Beauvais

Approved By: Mark Dymerski

TENTATIVELY IDENTIFIED COMPOUNDS

FOR

U.S. GEOLOGICAL SURVEY

SAMPLE NUMBER 015184-0003

<u>Compound Name</u>	<u>Fraction</u>	<u>Confidence Level</u>	<u>Estimated Concentration mg/kg</u>
Cyclotrisiloxane, hexamethyl-*	VOA	1	0.140

* Possible column bleed

NOTES:

Confidence Levels

- Level 3 - Confirmed Identification
- Level 2 - Confident Identification
- Level 1 - Tentative Identification

Please refer to the discussion for further details.

Purgeable Volatile Organics

Method 8240

Client Name: U.S. Geological Survey
 Client ID: KAFB030702-1
 Lab ID: 015184-0004-SA
 Matrix: SOIL
 Authorized: 31 MAY 91

Sampled: 29 MAY 91
 Prepared: 03 JUN 91

Received: 31 MAY 91
 Analyzed: 06 JUN 91

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	mg/kg	0.10
Bromomethane	ND	mg/kg	0.10
Vinyl chloride	ND	mg/kg	0.10
Chloroethane	ND	mg/kg	0.10
Methylene chloride	ND	mg/kg	0.10
Acetone	ND	mg/kg	0.10
Carbon disulfide	ND	mg/kg	0.10
1,1-Dichloroethene	ND	mg/kg	0.10
1,1-Dichloroethane	ND	mg/kg	0.10
trans-1,2-Dichloroethene	ND	mg/kg	0.10
Chloroform	ND	mg/kg	0.10
1,2-Dichloroethane	ND	mg/kg	0.10
2-Butanone	ND	mg/kg	0.20
1,1,1-Trichloroethane	ND	mg/kg	0.10
Carbon tetrachloride	ND	mg/kg	0.10
Bromodichloromethane	ND	mg/kg	0.10
1,2-Dichloropropane	ND	mg/kg	0.10
trans-1,3-Dichloropropene	ND	mg/kg	0.10
Trichloroethene	ND	mg/kg	0.10
Dibromochloromethane	ND	mg/kg	0.10
1,1,2-Trichloroethane	ND	mg/kg	0.10
Benzene	ND	mg/kg	0.10
cis-1,3-Dichloropropene	ND	mg/kg	0.10
2-Chloroethyl vinyl ether	ND	mg/kg	0.50
Bromoform	ND	mg/kg	0.10
4-Methyl-2-pentanone	ND	mg/kg	0.10
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.10
Tetrachloroethene	ND	mg/kg	0.10
Toluene	ND	mg/kg	0.10
Chlorobenzene	ND	mg/kg	0.10
Ethylbenzene	ND	mg/kg	0.10
Xylenes (total)	ND	mg/kg	0.10
Trichlorofluoromethane	ND	mg/kg	0.10
Acrolein	ND	mg/kg	0.30
Acrylonitrile	ND	mg/kg	0.20
Dibromomethane	ND	mg/kg	0.10
Dichlorodifluoromethane	ND	mg/kg	0.10
Ethanol	ND	mg/kg	NR
Ethyl methacrylate	ND	mg/kg	0.10
2-Hexanone	ND	mg/kg	0.10
Iodomethane	ND	mg/kg	0.10

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Keith Beauvais

Approved By: Mark Dymerski

Purgeable Volatile Organics (CONT.)

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Method 8240

Client Name: U.S. Geological Survey

Client ID: KAFB030702-1

Lab ID: 015184-0004-SA

Matrix: SOIL

Authorized: 31 MAY 91

Sampled: 29 MAY 91

Prepared: 03 JUN 91

Received: 31 MAY 91

Analyzed: 06 JUN 91

Parameter	Result	Units	Reporting Limit
Styrene	ND	mg/kg	0.10
1,2,3-Trichloropropane	ND	mg/kg	0.10
Vinyl acetate	ND	mg/kg	0.30
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.10
Surrogate	Recovery		
Toluene-d8	107	%	
4-Bromofluorobenzene	103	%	
1,2-Dichloroethane-d4	105	%	

ND = Not detected

NA = Not applicable

Reported By: Keith Beauvais

Approved By: Mark Dymerski

TENTATIVELY IDENTIFIED COMPOUNDS

FOR

U.S. GEOLOGICAL SURVEY

SAMPLE NUMBER 015184-0004

<u>Compound Name</u>	<u>Fraction</u>	<u>Confidence Level</u>	<u>Estimated Concentration mg/kg</u>
None Detected	VOA		

NOTES:

Confidence Levels

- Level 3 - Confirmed Identification
- Level 2 - Confident Identification
- Level 1 - Tentative Identification

Please refer to the discussion for further details.

Purgeable Volatile Organics

Method 8240

Client Name: U.S. Geological Survey
 Client ID: KAFB030703-1
 Lab ID: 015184-0005-SA
 Matrix: SOIL
 Authorized: 31 MAY 91

Sampled: 29 MAY 91
 Prepared: 03 JUN 91

Received: 31 MAY 91
 Analyzed: 06 JUN 91

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	mg/kg	0.10
Bromomethane	ND	mg/kg	0.10
Vinyl chloride	ND	mg/kg	0.10
Chloroethane	ND	mg/kg	0.10
Methylene chloride	ND	mg/kg	0.10
Acetone	ND	mg/kg	0.10
Carbon disulfide	ND	mg/kg	0.10
1,1-Dichloroethene	ND	mg/kg	0.10
1,1-Dichloroethane	ND	mg/kg	0.10
trans-1,2-Dichloroethene	ND	mg/kg	0.10
Chloroform	ND	mg/kg	0.10
1,2-Dichloroethane	ND	mg/kg	0.10
2-Butanone	ND	mg/kg	0.20
1,1,1-Trichloroethane	ND	mg/kg	0.10
Carbon tetrachloride	ND	mg/kg	0.10
Bromodichloromethane	ND	mg/kg	0.10
1,2-Dichloropropane	ND	mg/kg	0.10
trans-1,3-Dichloropropene	ND	mg/kg	0.10
Trichloroethene	ND	mg/kg	0.10
Dibromochloromethane	ND	mg/kg	0.10
1,1,2-Trichloroethane	ND	mg/kg	0.10
Benzene	ND	mg/kg	0.10
cis-1,3-Dichloropropene	ND	mg/kg	0.10
2-Chloroethyl vinyl ether	ND	mg/kg	0.50
Bromoform	ND	mg/kg	0.10
4-Methyl-2-pentanone	ND	mg/kg	0.10
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.10
Tetrachloroethene	ND	mg/kg	0.10
Toluene	ND	mg/kg	0.10
Chlorobenzene	ND	mg/kg	0.10
Ethylbenzene	ND	mg/kg	0.10
Xylenes (total)	ND	mg/kg	0.10
Trichlorofluoromethane	ND	mg/kg	0.10
Acrolein	ND	mg/kg	0.30
Acrylonitrile	ND	mg/kg	0.20
Dibromomethane	ND	mg/kg	0.10
Dichlorodifluoromethane	ND	mg/kg	0.10
Ethanol	ND	mg/kg	NR
Ethyl methacrylate	ND	mg/kg	0.10
2-Hexanone	ND	mg/kg	0.10
Iodomethane	ND	mg/kg	0.10

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Keith Beauvais

Approved By: Mark Dymerski

Purgeable Volatile Organics (CONT.)

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Method 8240

Client Name: U.S. Geological Survey

Client ID: KAFB030703-1

Lab ID: 015184-0005-SA

Matrix: SOIL

Authorized: 31 MAY 91

Sampled: 29 MAY 91

Prepared: 03 JUN 91

Received: 31 MAY 91

Analyzed: 06 JUN 91

Parameter	Result	Units	Reporting Limit
Styrene	ND	mg/kg	0.10
1,2,3-Trichloropropane	ND	mg/kg	0.10
Vinyl acetate	ND	mg/kg	0.30
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.10

Surrogate	Recovery
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Toluene-d8	115 %
------------	-------

4-Bromofluorobenzene	96.2 %
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1,2-Dichloroethane-d4	98.6 %
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ND = Not detected
NA = Not applicable

Reported By: Keith Beauvais

Approved By: Mark Dymerski

TENTATIVELY IDENTIFIED COMPOUNDS

FOR

U.S. GEOLOGICAL SURVEY

SAMPLE NUMBER 015184-0005

<u>Compound Name</u>	<u>Fraction</u>	<u>Confidence Level</u>	<u>Estimated Concentration mg/kg</u>
Cyclotrisiloxane, hexamethyl-*	VOA	1	0.240

* Possible column bleed

NOTES:

Confidence Levels

- Level 3 - Confirmed Identification
- Level 2 - Confident Identification
- Level 1 - Tentative Identification

Please refer to the discussion for further details.

Semivolatiles Organics

Method 8270

Client Name: U.S. Geological Survey

Client ID: KAFB030701-1

Lab ID: 015184-0003-SA

Matrix: SOIL

Authorized: 31 MAY 91

Sampled: 28 MAY 91

Prepared: 03 JUN 91

Received: 31 MAY 91

Analyzed: 10 JUN 91

Parameter	Result	Units	Reporting Limit
Phenol	ND	mg/kg	0.50
bis(2-Chloroethyl) ether	ND	mg/kg	0.50
2-Chlorophenol	ND	mg/kg	0.50
1,3-Dichlorobenzene	ND	mg/kg	0.50
1,4-Dichlorobenzene	ND	mg/kg	0.50
1,2-Dichlorobenzene	ND	mg/kg	0.50
bis(2-Chloroisopropyl)- ether	ND	mg/kg	0.50
N-Nitroso-di- n-propylamine	ND	mg/kg	0.50
Hexachloroethane	ND	mg/kg	0.50
Nitrobenzene	ND	mg/kg	0.50
Isophorone	ND	mg/kg	0.50
2-Nitrophenol	ND	mg/kg	0.50
2,4-Dimethylphenol	ND	mg/kg	0.50
bis(2-Chloroethoxy)- methane	ND	mg/kg	0.50
2,4-Dichlorophenol	ND	mg/kg	0.50
1,2,4-Trichlorobenzene	ND	mg/kg	0.50
Naphthalene	ND	mg/kg	0.50
Hexachlorobutadiene	ND	mg/kg	0.50
4-Chloro-3-methylphenol	ND	mg/kg	0.50
2,4,6-Trichlorophenol	ND	mg/kg	0.50
2,4,5-Trichlorophenol	ND	mg/kg	1.5
2-Chloronaphthalene	ND	mg/kg	0.50
Dimethyl phthalate	ND	mg/kg	0.50
Acenaphthylene	ND	mg/kg	0.50
Acenaphthene	ND	mg/kg	0.50
2,4-Dinitrophenol	ND	mg/kg	1.5
4-Nitrophenol	ND	mg/kg	2.5
2,4-Dinitrotoluene	ND	mg/kg	0.50
2,6-Dinitrotoluene	ND	mg/kg	0.50
Diethyl phthalate	ND	mg/kg	0.50
4-Chlorophenyl phenyl ether	ND	mg/kg	0.50
Fluorene	ND	mg/kg	0.50
4,6-Dinitro- 2-methylphenol	ND	mg/kg	1.5
4-Bromophenyl phenyl ether	ND	mg/kg	0.50
Hexachlorobenzene	ND	mg/kg	0.50

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Steven Francis

Approved By: Mark Dymerski

Semivolatile Organics (CONT.)

Method 8270

Client Name: U.S. Geological Survey

Client ID: KAFB030701-1

Lab ID: 015184-0003-SA

Matrix: SOIL

Sampled: 28 MAY 91

Received: 31 MAY 91

Authorized: 31 MAY 91

Prepared: 03 JUN 91

Analyzed: 10 JUN 91

Parameter	Result	Units	Reporting Limit
Pentachlorophenol	ND	mg/kg	1.5
Phenanthrene	ND	mg/kg	0.50
Anthracene	ND	mg/kg	0.50
Di-n-butyl phthalate	ND	mg/kg	0.50
Fluoranthene	ND	mg/kg	0.50
Pyrene	ND	mg/kg	0.50
Butyl benzyl phthalate	ND	mg/kg	0.50
3,3'-Dichlorobenzidine	ND	mg/kg	1.0
Benzo(a)anthracene	ND	mg/kg	0.50
bis(2-Ethylhexyl) phthalate	ND	mg/kg	0.50
Chrysene	ND	mg/kg	0.50
Di-n-octyl phthalate	ND	mg/kg	0.50
Benzo(b)fluoranthene	ND	mg/kg	0.50
Benzo(k)fluoranthene	ND	mg/kg	0.50
Benzo(a)pyrene	ND	mg/kg	0.50
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.50
Dibenz(a,h)anthracene	ND	mg/kg	0.50
Benzo(g,h,i)perylene	ND	mg/kg	0.50
Acetophenone	ND	mg/kg	2.5
Aniline	ND	mg/kg	2.5
4-Aminobiphenyl	ND	mg/kg	2.5
Benzidine	ND	mg/kg	5.6
Benzoic acid	ND	mg/kg	2.5
Benzyl alcohol	ND	mg/kg	1.0
4-Chloroaniline	ND	mg/kg	1.0
Dibenz(a,j)acridine	ND	mg/kg	--
Dibenzofuran	ND	mg/kg	0.50
p-Dimethylaminoazobenzene	ND	mg/kg	2.5
7,12-Dimethylbenz(a)-anthracene	ND	mg/kg	2.5
a,a-Dimethylphenethylamine	ND	mg/kg	--
Diphenylamine	ND	mg/kg	2.5
1,2-Diphenylhydrazine	ND	mg/kg	2.5
Ethyl methanesulfonate	ND	mg/kg	2.5
Methyl methanesulfonate	ND	mg/kg	2.5
2-Methylnaphthalene	ND	mg/kg	0.50
1-Naphthylamine	ND	mg/kg	2.5
2-Naphthylamine	ND	mg/kg	2.5
2-Nitroaniline	ND	mg/kg	2.5

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Steven Francis

Approved By: Mark Dymerski

Semivolatile Organics (CONT.)

Method 8270

Client Name: U.S. Geological Survey

Client ID: KAFB030701-1

Lab ID: 015184-0003-SA

Matrix: SOIL

Authorized: 31 MAY 91

Sampled: 28 MAY 91

Prepared: 03 JUN 91

Received: 31 MAY 91

Analyzed: 10 JUN 91

Parameter	Result	Units	Reporting Limit
3-Nitroaniline	ND	mg/kg	2.5
4-Nitroaniline	ND	mg/kg	2.5
Pentachlorobenzene	ND	mg/kg	2.5
Pentachloronitrobenzene	ND	mg/kg	2.5
Phenacetin	ND	mg/kg	2.5
2-Picoline	ND	mg/kg	2.5
Pronamide	ND	mg/kg	2.5
1,2,4,5-Tetrachloro- benzene	ND	mg/kg	2.5
2,6-Dichlorophenol	ND	mg/kg	2.5
2-Methylphenol	ND	mg/kg	0.50
4-Methylphenol	ND	mg/kg	0.50
2,3,4,6-Tetrachlorophenol	ND	mg/kg	2.5
N-Nitroso-di-n-butylamine	ND	mg/kg	2.5
N-Nitrosodimethylamine	ND	mg/kg	2.5
N-Nitrosopiperidine	ND	mg/kg	2.5
1-Chloronaphthalene	ND	mg/kg	2.5
3-Methylcholanthrene	ND	mg/kg	2.5
N-Nitrosodiphenylamine	ND	mg/kg	0.50
Hexachlorocyclopentadiene	ND	mg/kg	0.50
Surrogate	Recovery		
Nitrobenzene-d5	57	%	
2-Fluorobiphenyl	61	%	
Terphenyl-d14	87	%	
Phenol-d5	53	%	
2-Fluorophenol	62	%	
2,4,6-Tribromophenol	75	%	

ND = Not detected

NA = Not applicable

Reported By: Steven Francis

Approved By: Mark Dymerski

TENTATIVELY IDENTIFIED COMPOUNDS
FOR
U.S. GEOLOGICAL SURVEY

SAMPLE NUMBER 015184-0003

<u>Compound Name</u>	<u>Fraction</u>	<u>Confidence Level</u>	<u>Estimated Concentration mg/kg</u>
None Detected	BNA		

NOTES:

Confidence Levels

- Level 3 - Confirmed Identification
- Level 2 - Confident Identification
- Level 1 - Tentative Identification

Please refer to the discussion for further details.

Semivolatile Organics

Method 8270

Client Name: U.S. Geological Survey

Client ID: KAFB030702-1

Lab ID: 015184-0004-SA

Matrix: SOIL

Authorized: 31 MAY 91

Sampled: 29 MAY 91

Prepared: 03 JUN 91

Received: 31 MAY 91

Analyzed: 13 JUN 91

Parameter	Result	Units	Reporting Limit
Phenol	ND	mg/kg	0.50
bis(2-Chloroethyl) ether	ND	mg/kg	0.50
2-Chlorophenol	ND	mg/kg	0.50
1,3-Dichlorobenzene	ND	mg/kg	0.50
1,4-Dichlorobenzene	ND	mg/kg	0.50
1,2-Dichlorobenzene	ND	mg/kg	0.50
bis(2-Chloroisopropyl)- ether	ND	mg/kg	0.50
N-Nitroso-di- n-propylamine	ND	mg/kg	0.50
Hexachloroethane	ND	mg/kg	0.50
Nitrobenzene	ND	mg/kg	0.50
Isophorone	ND	mg/kg	0.50
2-Nitrophenol	ND	mg/kg	0.50
2,4-Dimethylphenol	ND	mg/kg	0.50
bis(2-Chloroethoxy)- methane	ND	mg/kg	0.50
2,4-Dichlorophenol	ND	mg/kg	0.50
1,2,4-Trichlorobenzene	ND	mg/kg	0.50
Naphthalene	ND	mg/kg	0.50
Hexachlorobutadiene	ND	mg/kg	0.50
4-Chloro-3-methylphenol	ND	mg/kg	0.50
2,4,6-Trichlorophenol	ND	mg/kg	0.50
2,4,5-Trichlorophenol	ND	mg/kg	1.5
2-Chloronaphthalene	ND	mg/kg	0.50
Dimethyl phthalate	ND	mg/kg	0.50
Acenaphthylene	ND	mg/kg	0.50
Acenaphthene	ND	mg/kg	0.50
2,4-Dinitrophenol	ND	mg/kg	1.5
4-Nitrophenol	ND	mg/kg	2.5
2,4-Dinitrotoluene	ND	mg/kg	0.50
2,6-Dinitrotoluene	ND	mg/kg	0.50
Diethyl phthalate	ND	mg/kg	0.50
4-Chlorophenyl phenyl ether	ND	mg/kg	0.50
Fluorene	ND	mg/kg	0.50
4,6-Dinitro- 2-methylphenol	ND	mg/kg	1.5
4-Bromophenyl phenyl ether	ND	mg/kg	0.50
Hexachlorobenzene	ND	mg/kg	0.50

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Steven Francis

Approved By: Mark Dymerski

Semivolatile Organics (CONT.)

Enseco
A Combustion Company

Method 8270

Client Name: U.S. Geological Survey

Client ID: KAFB030702-1

Lab ID: 015184-0004-SA

Matrix: SOIL

Authorized: 31 MAY 91

Sampled: 29 MAY 91

Prepared: 03 JUN 91

Received: 31 MAY 91

Analyzed: 13 JUN 91

Parameter	Result	Units	Reporting Limit
Pentachlorophenol	ND	mg/kg	1.5
Phenanthrene	ND	mg/kg	0.50
Anthracene	ND	mg/kg	0.50
Di-n-butyl phthalate	ND	mg/kg	0.50
Fluoranthene	ND	mg/kg	0.50
Pyrene	ND	mg/kg	0.50
Butyl benzyl phthalate	ND	mg/kg	0.50
3,3'-Dichlorobenzidine	ND	mg/kg	1.0
Benzo(a)anthracene	ND	mg/kg	0.50
bis(2-Ethylhexyl) phthalate	ND	mg/kg	0.50
Chrysene	ND	mg/kg	0.50
Di-n-octyl phthalate	ND	mg/kg	0.50
Benzo(b)fluoranthene	ND	mg/kg	0.50
Benzo(k)fluoranthene	ND	mg/kg	0.50
Benzo(a)pyrene	ND	mg/kg	0.50
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.50
Dibenz(a,h)anthracene	ND	mg/kg	0.50
Benzo(g,h,i)perylene	ND	mg/kg	0.50
Acetophenone	ND	mg/kg	2.5
Aniline	ND	mg/kg	2.5
4-Aminobiphenyl	ND	mg/kg	2.5
Benzidine	ND	mg/kg	5.6
Benzoic acid	ND	mg/kg	2.5
Benzyl alcohol	ND	mg/kg	1.0
4-Chloroaniline	ND	mg/kg	1.0
Dibenz(a,j)acridine	ND	mg/kg	--
Dibenzofuran	ND	mg/kg	0.50
p-Dimethylaminoazobenzene	ND	mg/kg	2.5
7,12-Dimethylbenz(a)- anthracene	ND	mg/kg	2.5
a,a-Dimethylphenethyl- amine	ND	mg/kg	--
Diphenylamine	ND	mg/kg	2.5
1,2-Diphenylhydrazine	ND	mg/kg	2.5
Ethyl methanesulfonate	ND	mg/kg	2.5
Methyl methanesulfonate	ND	mg/kg	2.5
2-Methylnaphthalene	ND	mg/kg	0.50
1-Naphthylamine	ND	mg/kg	2.5
2-Naphthylamine	ND	mg/kg	2.5
2-Nitroaniline	ND	mg/kg	2.5

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Steven Francis

Approved By: Mark Dymerski

Semivolatile Organics (CONT.)

Method 8270

Client Name: U.S. Geological Survey

Client ID: KAFB030702-1

Lab ID: 015184-0004-SA

Matrix: SOIL

Authorized: 31 MAY 91

Sampled: 29 MAY 91

Prepared: 03 JUN 91

Received: 31 MAY 91

Analyzed: 13 JUN 91

Parameter	Result	Units	Reporting Limit
3-Nitroaniline	ND	mg/kg	2.5
4-Nitroaniline	ND	mg/kg	2.5
Pentachlorobenzene	ND	mg/kg	2.5
Pentachloronitrobenzene	ND	mg/kg	2.5
Phenacetin	ND	mg/kg	2.5
2-Picoline	ND	mg/kg	2.5
Pronamide	ND	mg/kg	2.5
1,2,4,5-Tetrachloro- benzene	ND	mg/kg	2.5
2,6-Dichlorophenol	ND	mg/kg	2.5
2-Methylphenol	ND	mg/kg	0.50
4-Methylphenol	ND	mg/kg	0.50
2,3,4,6-Tetrachlorophenol	ND	mg/kg	2.5
N-Nitroso-di-n-butylamine	ND	mg/kg	2.5
N-Nitrosodimethylamine	ND	mg/kg	2.5
N-Nitrosopiperidine	ND	mg/kg	2.5
1-Chloronaphthalene	ND	mg/kg	2.5
3-Methylcholanthrene	ND	mg/kg	2.5
N-Nitrosodiphenylamine	ND	mg/kg	0.50
Hexachlorocyclopentadiene	ND	mg/kg	0.50
Surrogate	Recovery		
Nitrobenzene-d5	70	%	
2-Fluorobiphenyl	73	%	
Terphenyl-d14	78	%	
Phenol-d5	72	%	
2-Fluorophenol	69	%	
2,4,6-Tribromophenol	52	%	

ND = Not detected
 NA = Not applicable

Reported By: Steven Francis

Approved By: Mark Dymerski

TENTATIVELY IDENTIFIED COMPOUNDS

FOR

U.S. GEOLOGICAL SURVEY

SAMPLE NUMBER 015184-0004

<u>Compound Name</u>	<u>Fraction</u>	<u>Confidence Level</u>	<u>Estimated Concentration mg/kg</u>
Pyrrolo[1,2-A]Quinoline-1-Ethanol, Dodecahydro-6-(2,4-Pentadienyl)-,!	BNA	1	0.890

! Indicates that compound name is too long for database.

NOTES:

Confidence Levels

- Level 3 - Confirmed Identification
- Level 2 - Confident Identification
- Level 1 - Tentative Identification

Please refer to the discussion for further details.

Semivolatile Organics

Method 8270

Client Name: U.S. Geological Survey
 Client ID: KAFB030703-1
 Lab ID: 015184-0005-SA
 Matrix: SOIL
 Authorized: 31 MAY 91

Sampled: 29 MAY 91
 Prepared: 03 JUN 91

Received: 31 MAY 91
 Analyzed: 13 JUN 91

Parameter	Result	Units	Reporting Limit
Phenol	ND	mg/kg	0.50
bis(2-Chloroethyl) ether	ND	mg/kg	0.50
2-Chlorophenol	ND	mg/kg	0.50
1,3-Dichlorobenzene	ND	mg/kg	0.50
1,4-Dichlorobenzene	ND	mg/kg	0.50
1,2-Dichlorobenzene	ND	mg/kg	0.50
bis(2-Chloroisopropyl)- ether	ND	mg/kg	0.50
N-Nitroso-di- n-propylamine	ND	mg/kg	0.50
Hexachloroethane	ND	mg/kg	0.50
Nitrobenzene	ND	mg/kg	0.50
Isophorone	ND	mg/kg	0.50
2-Nitrophenol	ND	mg/kg	0.50
2,4-Dimethylphenol	ND	mg/kg	0.50
bis(2-Chloroethoxy)- methane	ND	mg/kg	0.50
2,4-Dichlorophenol	ND	mg/kg	0.50
1,2,4-Trichlorobenzene	ND	mg/kg	0.50
Naphthalene	ND	mg/kg	0.50
Hexachlorobutadiene	ND	mg/kg	0.50
4-Chloro-3-methylphenol	ND	mg/kg	0.50
2,4,6-Trichlorophenol	ND	mg/kg	0.50
2,4,5-Trichlorophenol	ND	mg/kg	1.5
2-Chloronaphthalene	ND	mg/kg	0.50
Dimethyl phthalate	ND	mg/kg	0.50
Acenaphthylene	ND	mg/kg	0.50
Acenaphthene	ND	mg/kg	0.50
2,4-Dinitrophenol	ND	mg/kg	1.5
4-Nitrophenol	ND	mg/kg	2.5
2,4-Dinitrotoluene	ND	mg/kg	0.50
2,6-Dinitrotoluene	ND	mg/kg	0.50
Diethyl phthalate	ND	mg/kg	0.50
4-Chlorophenyl phenyl ether	ND	mg/kg	0.50
Fluorene	ND	mg/kg	0.50
4,6-Dinitro- 2-methylphenol	ND	mg/kg	1.5
4-Bromophenyl phenyl ether	ND	mg/kg	0.50
Hexachlorobenzene	ND	mg/kg	0.50

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Steven Francis

Approved By: Mark Dymerski

Semivolatile Organics (CONT.)

Enseco
A Comins Company

Method 8270

Client Name: U.S. Geological Survey

Client ID: KAFB030703-1

Lab ID: 015184-0005-SA

Matrix: SOIL

Authorized: 31 MAY 91

Sampled: 29 MAY 91

Prepared: 03 JUN 91

Received: 31 MAY 91

Analyzed: 13 JUN 91

Parameter	Result	Units	Reporting Limit
Pentachlorophenol	ND	mg/kg	1.5
Phenanthrene	ND	mg/kg	0.50
Anthracene	ND	mg/kg	0.50
Di-n-butyl phthalate	ND	mg/kg	0.50
Fluoranthene	ND	mg/kg	0.50
Pyrene	ND	mg/kg	0.50
Butyl benzyl phthalate	ND	mg/kg	0.50
3,3'-Dichlorobenzidine	ND	mg/kg	1.0
Benzo(a)anthracene	ND	mg/kg	0.50
bis(2-Ethylhexyl) phthalate	ND	mg/kg	0.50
Chrysene	ND	mg/kg	0.50
Di-n-octyl phthalate	ND	mg/kg	0.50
Benzo(b)fluoranthene	ND	mg/kg	0.50
Benzo(k)fluoranthene	ND	mg/kg	0.50
Benzo(a)pyrene	ND	mg/kg	0.50
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.50
Dibenz(a,h)anthracene	ND	mg/kg	0.50
Benzo(g,h,i)perylene	ND	mg/kg	0.50
Acetophenone	ND	mg/kg	2.5
Aniline	ND	mg/kg	2.5
4-Aminobiphenyl	ND	mg/kg	2.5
Benzidine	ND	mg/kg	5.6
Benzoic acid	ND	mg/kg	2.5
Benzyl alcohol	ND	mg/kg	1.0
4-Chloroaniline	ND	mg/kg	1.0
Dibenz(a,j)acridine	ND	mg/kg	--
Dibenzofuran	ND	mg/kg	0.50
p-Dimethylaminoazobenzene	ND	mg/kg	2.5
7,12-Dimethylbenz(a)-anthracene	ND	mg/kg	2.5
a,a-Dimethylphenethylamine	ND	mg/kg	--
Diphenylamine	ND	mg/kg	2.5
1,2-Diphenylhydrazine	ND	mg/kg	2.5
Ethyl methanesulfonate	ND	mg/kg	2.5
Methyl methanesulfonate	ND	mg/kg	2.5
2-Methylnaphthalene	ND	mg/kg	0.50
1-Naphthylamine	ND	mg/kg	2.5
2-Naphthylamine	ND	mg/kg	2.5
2-Nitroaniline	ND	mg/kg	2.5

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Steven Francis

Approved By: Mark Dymerski

Semivolatle Organics (CONT.)

Method 8270

Client Name: U.S. Geological Survey
 Client ID: KAFB030703-1
 Lab ID: 015184-0005-SA
 Matrix: SOIL
 Authorized: 31 MAY 91

Sampled: 29 MAY 91
 Prepared: 03 JUN 91

Received: 31 MAY 91
 Analyzed: 13 JUN 91

Parameter	Result	Units	Reporting Limit
3-Nitroaniline	ND	mg/kg	2.5
4-Nitroaniline	ND	mg/kg	2.5
Pentachlorobenzene	ND	mg/kg	2.5
Pentachloronitrobenzene	ND	mg/kg	2.5
Phenacetin	ND	mg/kg	2.5
2-Picoline	ND	mg/kg	2.5
Pronamide	ND	mg/kg	2.5
1,2,4,5-Tetrachloro- benzene	ND	mg/kg	2.5
2,6-Dichlorophenol	ND	mg/kg	2.5
2-Methylphenol	ND	mg/kg	0.50
4-Methylphenol	ND	mg/kg	0.50
2,3,4,6-Tetrachlorophenol	ND	mg/kg	2.5
N-Nitroso-di-n-butylamine	ND	mg/kg	2.5
N-Nitrosodimethylamine	ND	mg/kg	2.5
N-Nitrosopiperidine	ND	mg/kg	2.5
1-Chloronaphthalene	ND	mg/kg	2.5
3-Methylcholanthrene	ND	mg/kg	2.5
N-Nitrosodiphenylamine	ND	mg/kg	0.50
Hexachlorocyclopentadiene	ND	mg/kg	0.50
Surrogate	Recovery		
Nitrobenzene-d5	67	%	
2-Fluorobiphenyl	67	%	
Terphenyl-d14	71	%	
Phenol-d5	68	%	
2-Fluorophenol	65	%	
2,4,6-Tribromophenol	51	%	

ND = Not detected
 NA = Not applicable

Reported By: Steven Francis

Approved By: Mark Dymerski

TENTATIVELY IDENTIFIED COMPOUNDS
FOR
U.S. GEOLOGICAL SURVEY

SAMPLE NUMBER 015184-0005

<u>Compound Name</u>	<u>Fraction</u>	<u>Confidence Level</u>	<u>Estimated Concentration mg/kg</u>
Pyrrolo[1,2-A]Quinoline-1-Ethanol, Dodecahydro-6-(2,4-Pentadienyl)-,!	BNA	1	0.800

! Indicates that compound name is too long for database.

NOTES:

Confidence Levels

- Level 3 - Confirmed Identification
- Level 2 - Confident Identification
- Level 1 - Tentative Identification

Please refer to the discussion for further details.

Metals

Total Metals

Client Name: U.S. Geological Survey
 Client ID: KAFB050#215-2
 Lab ID: 015184-0001-SA
 Matrix: AQUEOUS
 Authorized: 31 MAY 91

Sampled: 30 MAY 91
 Prepared: See Below

Received: 31 MAY 91
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chromium (VI)	ND	mg/L	0.010	7196	NA	31 MAY 91
Chromium	ND	mg/L	0.0040	7191	07 JUN 91	10 JUN 91

ND = Not detected
 NA = Not applicable

Reported By: Carla Owen

Approved By: Sandra Jones

Metals

Total Metals

Client Name: U.S. Geological Survey

Client ID: KAFB060907-2

Lab ID: 015184-0002-SA

Matrix: AQUEOUS

Authorized: 31 MAY 91

Sampled: 30 MAY 91

Prepared: See Below

Received: 31 MAY 91

Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chromium (VI)	0.011	mg/L	0.010	7196	NA	31 MAY 91
Chromium	0.0076	mg/L	0.0020	7191	07 JUN 91	10 JUN 91

ND = Not detected

NA = Not applicable

Reported By: Carla Owen

Approved By: Sandra Jones

Metals

Total Metals

Client Name: U.S. Geological Survey

Client ID: KAFB030701-1

Lab ID: 015184-0003-SA

Matrix: SOIL

Authorized: 31 MAY 91

Sampled: 28 MAY 91

Prepared: See Below

Received: 31 MAY 91

Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Aluminum	21700	mg/kg	20.0	6010	04 JUN 91	10 JUN 91
Antimony	ND	mg/kg	20.0	6010	04 JUN 91	10 JUN 91
Arsenic	ND	mg/kg	30.0	6010	04 JUN 91	10 JUN 91
Barium	224	mg/kg	10.0	6010	04 JUN 91	10 JUN 91
Beryllium	0.97	mg/kg	0.20	6010	04 JUN 91	10 JUN 91
Cadmium	ND	mg/kg	2.0	6010	04 JUN 91	10 JUN 91
Calcium	41600	mg/kg	500	6010	04 JUN 91	10 JUN 91
Chromium	18.3	mg/kg	4.0	6010	04 JUN 91	10 JUN 91
Cobalt	7.5	mg/kg	4.0	6010	04 JUN 91	10 JUN 91
Copper	18.7	mg/kg	3.0	6010	04 JUN 91	10 JUN 91
Iron	20500	mg/kg	4.0	6010	04 JUN 91	10 JUN 91
Lead	ND	mg/kg	20.0	6010	04 JUN 91	10 JUN 91
Magnesium	8120	mg/kg	500	6010	04 JUN 91	10 JUN 91
Manganese	566	mg/kg	1.0	6010	04 JUN 91	10 JUN 91
Mercury	ND	mg/kg	0.10	7471	10 JUN 91	11 JUN 91
Molybdenum	ND	mg/kg	4.0	6010	04 JUN 91	10 JUN 91
Nickel	15.8	mg/kg	4.0	6010	04 JUN 91	10 JUN 91
Potassium	5200	mg/kg	500	6010	04 JUN 91	10 JUN 91
Selenium	ND	mg/kg	40.0	6010	04 JUN 91	10 JUN 91
Silver	ND	mg/kg	3.0	6010	04 JUN 91	10 JUN 91
Sodium	ND	mg/kg	500	6010	04 JUN 91	10 JUN 91
Thallium	ND	mg/kg	200	6010	04 JUN 91	10 JUN 91
Vanadium	37.7	mg/kg	4.0	6010	04 JUN 91	10 JUN 91
Zinc	66.9	mg/kg	1.0	6010	04 JUN 91	10 JUN 91

ND = Not detected
NA = Not applicable

Reported By: Debra Hosford

Approved By: Sandra Jones

Metals

Total Metals

Client Name: U.S. Geological Survey
 Client ID: KAFB030702-1
 Lab ID: 015184-0004-SA
 Matrix: SOIL
 Authorized: 31 MAY 91

Sampled: 29 MAY 91
 Prepared: See Below

Received: 31 MAY 91
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Aluminum	5750	mg/kg	20.0	6010	04 JUN 91	10 JUN 91
Antimony	ND	mg/kg	20.0	6010	04 JUN 91	10 JUN 91
Arsenic	ND	mg/kg	30.0	6010	04 JUN 91	10 JUN 91
Barium	40.8	mg/kg	10.0	6010	04 JUN 91	10 JUN 91
Beryllium	0.32	mg/kg	0.20	6010	04 JUN 91	10 JUN 91
Cadmium	ND	mg/kg	2.0	6010	04 JUN 91	10 JUN 91
Calcium	22700	mg/kg	500	6010	04 JUN 91	10 JUN 91
Chromium	6.2	mg/kg	4.0	6010	04 JUN 91	10 JUN 91
Cobalt	5.1	mg/kg	4.0	6010	04 JUN 91	10 JUN 91
Copper	7.9	mg/kg	3.0	6010	04 JUN 91	10 JUN 91
Iron	13200	mg/kg	4.0	6010	04 JUN 91	10 JUN 91
Lead	ND	mg/kg	20.0	6010	04 JUN 91	10 JUN 91
Magnesium	2860	mg/kg	500	6010	04 JUN 91	10 JUN 91
Manganese	257	mg/kg	1.0	6010	04 JUN 91	10 JUN 91
Mercury	ND	mg/kg	0.10	7471	10 JUN 91	11 JUN 91
Molybdenum	ND	mg/kg	4.0	6010	04 JUN 91	10 JUN 91
Nickel	5.1	mg/kg	4.0	6010	04 JUN 91	10 JUN 91
Potassium	1370	mg/kg	500	6010	04 JUN 91	10 JUN 91
Selenium	ND	mg/kg	40.0	6010	04 JUN 91	10 JUN 91
Silver	ND	mg/kg	3.0	6010	04 JUN 91	10 JUN 91
Sodium	ND	mg/kg	500	6010	04 JUN 91	10 JUN 91
Thallium	ND	mg/kg	200	6010	04 JUN 91	10 JUN 91
Vanadium	25.2	mg/kg	4.0	6010	04 JUN 91	10 JUN 91
Zinc	28.3	mg/kg	1.0	6010	04 JUN 91	10 JUN 91

ND = Not detected
 NA = Not applicable

Reported By: Debra Hosford

Approved By: Sandra Jones

Metals

Total Metals

Client Name: U.S. Geological Survey

Client ID: KAFB030703-1

Lab ID: 015184-0005-SA

Matrix: SOIL

Authorized: 31 MAY 91

Sampled: 29 MAY 91

Prepared: See Below

Received: 31 MAY 91

Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Aluminum	9360	mg/kg	20.0	6010	04 JUN 91	10 JUN 91
Antimony	ND	mg/kg	20.0	6010	04 JUN 91	10 JUN 91
Arsenic	ND	mg/kg	30.0	6010	04 JUN 91	10 JUN 91
Barium	168	mg/kg	10.0	6010	04 JUN 91	10 JUN 91
Beryllium	0.46	mg/kg	0.20	6010	04 JUN 91	10 JUN 91
Cadmium	ND	mg/kg	2.0	6010	04 JUN 91	10 JUN 91
Calcium	26700	mg/kg	500	6010	04 JUN 91	10 JUN 91
Chromium	10.2	mg/kg	4.0	6010	04 JUN 91	10 JUN 91
Cobalt	4.9	mg/kg	4.0	6010	04 JUN 91	10 JUN 91
Copper	9.8	mg/kg	3.0	6010	04 JUN 91	10 JUN 91
Iron	15100	mg/kg	4.0	6010	04 JUN 91	10 JUN 91
Lead	ND	mg/kg	20.0	6010	04 JUN 91	10 JUN 91
Magnesium	4680	mg/kg	500	6010	04 JUN 91	10 JUN 91
Manganese	336	mg/kg	1.0	6010	04 JUN 91	10 JUN 91
Mercury	ND	mg/kg	0.10	7471	10 JUN 91	11 JUN 91
Molybdenum	ND	mg/kg	4.0	6010	04 JUN 91	10 JUN 91
Nickel	7.6	mg/kg	4.0	6010	04 JUN 91	10 JUN 91
Potassium	2250	mg/kg	500	6010	04 JUN 91	10 JUN 91
Selenium	ND	mg/kg	40.0	6010	04 JUN 91	10 JUN 91
Silver	ND	mg/kg	3.0	6010	04 JUN 91	10 JUN 91
Sodium	ND	mg/kg	500	6010	04 JUN 91	10 JUN 91
Thallium	ND	mg/kg	200	6010	04 JUN 91	10 JUN 91
Vanadium	29.6	mg/kg	4.0	6010	04 JUN 91	10 JUN 91
Zinc	40.0	mg/kg	1.0	6010	04 JUN 91	10 JUN 91

ND = Not detected
NA = Not applicable

Reported By: Debra Hosford

Approved By: Sandra Jones

Metals

Dissolved Metals

Client Name: U.S. Geological Survey
 Client ID: KAFB050215-2
 Lab ID: 015184-0001-SA
 Matrix: AQUEOUS
 Authorized: 31 MAY 91

Sampled: 30 MAY 91
 Prepared: See Below

Received: 31 MAY 91
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chromium (VI)	ND	mg/L	0.010	7196	NA	31 MAY 91
Chromium	ND	mg/L	0.0020	7191	NA	06 JUN 91

ND = Not detected
 NA = Not applicable

Reported By: Norma Baier

Approved By: Sandra Jones

Metals

Dissolved Metals

Client Name: U.S. Geological Survey
 Client ID: KAFB060907-2
 Lab ID: 015184-0002-SA
 Matrix: AQUEOUS
 Authorized: 31 MAY 91

Sampled: 30 MAY 91
 Prepared: See Below

Received: 31 MAY 91
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chromium (VI)	ND	mg/L	0.010	7196	NA	31 MAY 91
Chromium	ND	mg/L	0.0020	7191	NA	06 JUN 91

ND = Not detected
 NA = Not applicable

Reported By: Norma Baier

Approved By: Sandra Jones

General Inorganics

Client Name: U.S. Geological Survey
 Client ID: KAFB0500215-2
 Lab ID: 015184-0001-SA
 Matrix: AQUEOUS
 Authorized: 31 MAY 91

Sampled: 30 MAY 91
 Prepared: See Below

Received: 31 MAY 91
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chloride	13.5	mg/L	0.50	A429	NA	13 JUN 91
Nitrate plus Nitrite	5.0	mg/L	0.50	353.2	NA	04 JUN 91
Total Organic Carbon	6.5	mg/L	0.50	9060	NA	08 JUN 91
Total Organic Halogen as Cl	ND	ug/L	30.0	9020	NA	05 JUN 91

ND = Not detected
 NA = Not applicable

Reported By: Tammy Bailey

Approved By: Toni Stovall

General Inorganics

Client Name: U.S. Geological Survey
Client ID: KAFB060907-2
Lab ID: 015184-0002-SA
Matrix: AQUEOUS
Authorized: 31 MAY 91

Sampled: 30 MAY 91
Prepared: See Below

Received: 31 MAY 91
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chloride	44.0	mg/L	0.50	A429	NA	13 JUN 91
Nitrate plus Nitrite	23.2	mg/L	1.0	353.2	NA	04 JUN 91
Total Organic Carbon	0.75	mg/L	0.50	9060	NA	07 JUN 91
Total Organic Halogen as Cl	ND	ug/L	30.0	9020	NA	05 JUN 91

ND = Not detected
NA = Not applicable

Reported By: Tammy Bailey

Approved By: Toni Stovall

General Inorganics

Enseco
A Corning Company

Client Name: U.S. Geological Survey

Client ID: KAFB030701-1

Lab ID: 015184-0003-SA

Matrix: SOIL

Authorized: 31 MAY 91

Sampled: 28 MAY 91

Prepared: See Below

Received: 31 MAY 91

Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Water	7.6	%	0.1	D2216	NA	05 JUN 91

ND = Not detected

NA = Not applicable

Reported By: Eric Smith

Approved By: Lance Gemberling

General Inorganics

Enseco
A Corning Company

Client Name: U.S. Geological Survey

Client ID: KAFB030702-1

Lab ID: 015184-0004-SA

Matrix: SOIL

Authorized: 31 MAY 91

Sampled: 29 MAY 91

Prepared: See Below

Received: 31 MAY 91

Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Water	1.6	%	0.1	D2216	NA	05 JUN 91

ND = Not detected

NA = Not applicable

Reported By: Eric Smith

Approved By: Lance Gemberling

General Inorganics

Enseco
A Comins Company

Client Name: U.S. Geological Survey
Client ID: KAFB030703-1
Lab ID: 015184-0005-SA
Matrix: SOIL
Authorized: 31 MAY 91

Sampled: 29 MAY 91
Prepared: See Below

Received: 31 MAY 91
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Water	3.5	%	0.1	D2216	NA	05 JUN 91

ND = Not detected
NA = Not applicable

Reported By: Eric Smith

Approved By: Lance Gemberling

Radiochemistry

Enseco
A Comins Company

Client Name: U.S. Geological Survey

Client ID: KAFB060907-2

Lab ID: 015184-0002-SA

Matrix: AQUEOUS

Authorized: 31 MAY 91

Sampled: 30 MAY 91

Prepared: See Below

Received: 31 MAY 91

Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Gross Alpha	6.4	pCi/L	+/- 3.8	900.0	NA	17 JUN 91
Gross Beta	21	pCi/L	+/- 5	900.0	NA	17 JUN 91
Uranium, Natural	0.002	mg/L	--	ASTM D2907-70T	NA	07 JUN 91

ND = Not detected

NA = Not applicable

Reported By: Paula Hubble

Approved By: Toni Stovall

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
Volatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
015184-0003-SA	SOIL	8240-SL	28 MAY 91-L	05 JUN 91-L
015184-0004-SA	SOIL	8240-SL	28 MAY 91-L	05 JUN 91-L
015184-0005-SA	SOIL	8240-SL	28 MAY 91-L	05 JUN 91-L

DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS

Analyte	Concentration		AVG	Accuracy		Precision		
	Spiked	Measured		Average(%)	(RPD)			
	DCS1	DCS2		DCS	Limits	DCS	Limit	
Category: 8240-SL								
Matrix: SOIL								
QC Lot: 28 MAY 91-L								
Concentration Units: ug/Kg								
1,1-Dichloroethene	50	47.9	46.1	47.0	94	59-172	3.8	22
Trichloroethene	50	48.0	45.6	46.8	94	62-137	5.1	24
Benzene	50	52.3	48.7	50.5	101	66-142	7.1	21
Toluene	50	54.8	49.8	52.3	105	59-139	9.6	21
Chlorobenzene	50	53.1	49.0	51.0	102	60-133	8.0	21

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

SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits
Category: 8240-SL				
Matrix: SOIL				
QC Lot: 28 MAY 91-L QC Run: 05 JUN 91-L				
Concentration Units: ug/Kg				
1,2-Dichloroethane-d4	50.0	51.3	103	70-121
4-Bromofluorobenzene	50.0	50.1	100	74-121
Toluene-d8	50.0	51.4	103	81-117

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

METHOD BLANK REPORT
Volatile Organics by GC/MS

Analyte	Result	Units	Reporting Limit
Test: 8240L-AFIR-S			
Matrix: SOIL			
QC Lot: 28 MAY 91-L QC Run: 05 JUN 91-L			
Chloromethane	ND	mg/kg	0.10
Bromomethane	ND	mg/kg	0.10
Vinyl chloride	ND	mg/kg	0.10
Chloroethane	ND	mg/kg	0.10
Methylene chloride	ND	mg/kg	0.10
Acetone	ND	mg/kg	0.10
Carbon disulfide	ND	mg/kg	0.10
1,1-Dichloroethene	ND	mg/kg	0.10
1,1-Dichloroethane	ND	mg/kg	0.10
trans-1,2-Dichloroethene	ND	mg/kg	0.10
Chloroform	ND	mg/kg	0.10
1,2-Dichloroethane	ND	mg/kg	0.10
2-Butanone	ND	mg/kg	0.20
1,1,1-Trichloroethane	ND	mg/kg	0.10
Carbon tetrachloride	ND	mg/kg	0.10
Bromodichloromethane	ND	mg/kg	0.10
1,2-Dichloropropane	ND	mg/kg	0.10
trans-1,3-Dichloropropene	ND	mg/kg	0.10
Trichloroethene	ND	mg/kg	0.10
Dibromochloromethane	ND	mg/kg	0.10
1,1,2-Trichloroethane	ND	mg/kg	0.10
Benzene	ND	mg/kg	0.10
cis-1,3-Dichloropropene	ND	mg/kg	0.10
2-Chloroethyl vinyl ether	ND	mg/kg	0.50
Bromoform	ND	mg/kg	0.10
4-Methyl-2-pentanone	ND	mg/kg	0.10
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.10
Tetrachloroethene	ND	mg/kg	0.10
Toluene	ND	mg/kg	0.10
Chlorobenzene	ND	mg/kg	0.10
Ethylbenzene	ND	mg/kg	0.10
Xylenes (total)	ND	mg/kg	0.10
Trichlorofluoromethane	ND	mg/kg	0.10
Acrolein	ND	mg/kg	0.30
Acrylonitrile	ND	mg/kg	0.20
Dibromomethane	ND	mg/kg	0.10
Dichlorodifluoromethane	ND	mg/kg	0.10
Ethanol	ND	mg/kg	NR
Ethyl methacrylate	ND	mg/kg	0.10
2-Hexanone	ND	mg/kg	0.10
Iodomethane	ND	mg/kg	0.10

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8240L-AFIR-S			
Matrix: SOIL			
QC Lot: 28 MAY 91-L QC Run: 05 JUN 91-L			
Styrene	ND	mg/kg	0.10
1,2,3-Trichloropropane	ND	mg/kg	0.10
Vinyl acetate	ND	mg/kg	0.30
trans-1,4-Dichloro- 2-butene	ND	mg/kg	0.10

QC LOT ASSIGNMENT REPORT
Semivolatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
015184-0003-SA	SOIL	8270-S	02 JUN 91-A	03 JUN 91-A
015184-0004-SA	SOIL	8270-S	02 JUN 91-A	03 JUN 91-A
015184-0005-SA	SOIL	8270-S	02 JUN 91-A	03 JUN 91-A

DUPLICATE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS

Analyte	Concentration Spiked	Concentration		AVG	Accuracy Average(%)		Precision (RPD)		
		DCS1	Measured DCS2		DCS	Limits	DCS	Limit	
Category: 8270-S									
Matrix: SOIL									
QC Lot: 02 JUN 91-A									
Concentration Units: ug/kg									
Phenol	6670	1490	5030	3260	49	26- 90	110	35	
2-Chlorophenol	6670	1420	4630	3020	45	25-102	110	50	
1,4-Dichlorobenzene	3330	709	2190	1450	44	28-104	100	27	
N-Nitroso-di- n-propylamine	3330	675	2330	1500	45	41-126	110	38	
1,2,4-Trichlorobenzene	3330	797	2420	1610	48	38-107	100	23	
4-Chloro-3-methylphenol	6670	1640	5730	3680	55	26-103	110	33	
Acenaphthene	3330	724	2230	1480	44	31-137	100	19	
4-Nitrophenol	6670	1700	5830	3760	56	11-114	110	50	
2,4-Dinitrotoluene	3330	752	2460	1610	48	28- 89	110	47	
Pentachlorophenol	6670	1500	5370	3440	51	17-109	110	47	
Pyrene	3330	873	2720	1800	54	35-142	100	36	

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

SINGLE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits
Category: 8270-S				
Matrix: SOIL				
QC Lot: 02 JUN 91-A QC Run: 03 JUN 91-A				
Concentration Units: ug/kg				
Nitrobenzene-d5	1670	1380	83	23-120
2-Fluorobiphenyl	1670	1280	77	30-115
Terphenyl-d14	1670	1350	81	18-137
2-Fluorophenol	3330	2640	79	25-121
Phenol-d5	3330	2510	75	24-113
2,4,6-Tribromophenol	3330	2310	69	19-122

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

METHOD BLANK REPORT
Semivolatile Organics by GC/MS

Analyte	Result	Units	Reporting Limit
Test: 8270-AFIR-S			
Matrix: SOIL			
QC Lot: 02 JUN 91-A QC Run: 03 JUN 91-A			
Phenol	ND	mg/kg	0.50
bis(2-Chloroethyl) ether	ND	mg/kg	0.50
2-Chlorophenol	ND	mg/kg	0.50
1,3-Dichlorobenzene	ND	mg/kg	0.50
1,4-Dichlorobenzene	ND	mg/kg	0.50
1,2-Dichlorobenzene	ND	mg/kg	0.50
bis(2-Chloroisopropyl)- ether	ND	mg/kg	0.50
N-Nitroso-di- n-propylamine	ND	mg/kg	0.50
Hexachloroethane	ND	mg/kg	0.50
Nitrobenzene	ND	mg/kg	0.50
Isophorone	ND	mg/kg	0.50
2-Nitrophenol	ND	mg/kg	0.50
2,4-Dimethylphenol	ND	mg/kg	0.50
bis(2-Chloroethoxy)- methane	ND	mg/kg	0.50
2,4-Dichlorophenol	ND	mg/kg	0.50
1,2,4-Trichlorobenzene	ND	mg/kg	0.50
Naphthalene	ND	mg/kg	0.50
Hexachlorobutadiene	ND	mg/kg	0.50
4-Chloro-3-methylphenol	ND	mg/kg	0.50
2,4,6-Trichlorophenol	ND	mg/kg	0.50
2,4,5-Trichlorophenol	ND	mg/kg	1.5
2-Chloronaphthalene	ND	mg/kg	0.50
Dimethyl phthalate	ND	mg/kg	0.50
Acenaphthylene	ND	mg/kg	0.50
Acenaphthene	ND	mg/kg	0.50
2,4-Dinitrophenol	ND	mg/kg	1.5
4-Nitrophenol	ND	mg/kg	2.5
2,4-Dinitrotoluene	ND	mg/kg	0.50
2,6-Dinitrotoluene	ND	mg/kg	0.50
Diethyl phthalate	ND	mg/kg	0.50
4-Chlorophenyl phenyl ether	ND	mg/kg	0.50
Fluorene	ND	mg/kg	0.50
4,6-Dinitro- 2-methylphenol	ND	mg/kg	1.5
4-Bromophenyl phenyl ether	ND	mg/kg	0.50
Hexachlorobenzene	ND	mg/kg	0.50

METHOD BLANK REPORT
Semivolatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8270-AFIR-S			
Matrix: SOIL			
QC Lot: 02 JUN 91-A QC Run: 03 JUN 91-A			
Pentachlorophenol	ND	mg/kg	1.5
Phenanthrene	ND	mg/kg	0.50
Anthracene	ND	mg/kg	0.50
Di-n-butyl phthalate	ND	mg/kg	0.50
Fluoranthene	ND	mg/kg	0.50
Pyrene	ND	mg/kg	0.50
Butyl benzyl phthalate	ND	mg/kg	0.50
3,3'-Dichlorobenzidine	ND	mg/kg	1.0
Benzo(a)anthracene	ND	mg/kg	0.50
bis(2-Ethylhexyl) phthalate	ND	mg/kg	0.50
Chrysene	ND	mg/kg	0.50
Di-n-octyl phthalate	ND	mg/kg	0.50
Benzo(b)fluoranthene	ND	mg/kg	0.50
Benzo(k)fluoranthene	ND	mg/kg	0.50
Benzo(a)pyrene	ND	mg/kg	0.50
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.50
Dibenz(a,h)anthracene	ND	mg/kg	0.50
Benzo(g,h,i)perylene	ND	mg/kg	0.50
Acetophenone	ND	mg/kg	2.5
Aniline	ND	mg/kg	2.5
4-Aminobiphenyl	ND	mg/kg	2.5
Benzidine	ND	mg/kg	5.6
Benzoic acid	ND	mg/kg	2.5
Benzyl alcohol	ND	mg/kg	1.0
4-Chloroaniline	ND	mg/kg	1.0
Dibenz(a,j)acridine	ND	mg/kg	--
Dibenzofuran	ND	mg/kg	0.50
p-Dimethylaminoazobenzene	ND	mg/kg	2.5
7,12-Dimethylbenz(a)- anthracene	ND	mg/kg	2.5
a,a-Dimethylphenethyl- amine	ND	mg/kg	--
Diphenylamine	ND	mg/kg	2.5
1,2-Diphenylhydrazine	ND	mg/kg	2.5
Ethyl methanesulfonate	ND	mg/kg	2.5
Methyl methanesulfonate	ND	mg/kg	2.5
2-Methylnaphthalene	ND	mg/kg	0.50
1-Naphthylamine	ND	mg/kg	2.5
2-Naphthylamine	ND	mg/kg	2.5
2-Nitroaniline	ND	mg/kg	2.5

METHOD BLANK REPORT
Semivolatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8270-AFIR-S			
Matrix: SOIL			
QC Lot: 02 JUN 91-A QC Run: 03 JUN 91-A			
3-Nitroaniline	ND	mg/kg	2.5
4-Nitroaniline	ND	mg/kg	2.5
Pentachlorobenzene	ND	mg/kg	2.5
Pentachloronitrobenzene	ND	mg/kg	2.5
Phenacetin	ND	mg/kg	2.5
2-Picoline	ND	mg/kg	2.5
Pronamide	ND	mg/kg	2.5
1,2,4,5-Tetrachloro- benzene	ND	mg/kg	2.5
2,6-Dichlorophenol	ND	mg/kg	2.5
2-Methylphenol	ND	mg/kg	0.50
4-Methylphenol	ND	mg/kg	0.50
2,3,4,6-Tetrachlorophenol	ND	mg/kg	2.5
N-Nitroso-di-n-butylamine	ND	mg/kg	2.5
N-Nitrosodimethylamine	ND	mg/kg	2.5
N-Nitrosopiperidine	ND	mg/kg	2.5
1-Chloronaphthalene	ND	mg/kg	2.5
3-Methylcholanthrene	ND	mg/kg	2.5
N-Nitrosodiphenylamine	ND	mg/kg	0.50
Hexachlorocyclopentadiene	ND	mg/kg	0.50

QC LOT ASSIGNMENT REPORT
Metals Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
015184-0001-SA	AQUEOUS	CR-FAA-AT	07 JUN 91-A	07 JUN 91-A
015184-0001-SA	AQUEOUS	CR-FAA-AD	06 JUN 91-A	-
015184-0001-SA	AQUEOUS	CR6-AT	31 MAY 91-A	-
015184-0001-SA	AQUEOUS	CR6-A	31 MAY 91-A	-
015184-0001-MS	AQUEOUS	CR-FAA-AT	07 JUN 91-A	07 JUN 91-A
015184-0001-MS	AQUEOUS	CR-FAA-AD	06 JUN 91-A	-
015184-0001-MS	AQUEOUS	CR6-AT	31 MAY 91-A	-
015184-0001-MS	AQUEOUS	CR6-A	31 MAY 91-A	-
015184-0001-SD	AQUEOUS	CR-FAA-AT	07 JUN 91-A	07 JUN 91-A
015184-0001-SD	AQUEOUS	CR-FAA-AD	06 JUN 91-A	-
015184-0001-SD	AQUEOUS	CR6-AT	31 MAY 91-A	-
015184-0001-SD	AQUEOUS	CR6-A	31 MAY 91-A	-
015184-0002-SA	AQUEOUS	CR-FAA-AT	07 JUN 91-A	07 JUN 91-A
015184-0002-SA	AQUEOUS	CR-FAA-AD	06 JUN 91-A	-
015184-0002-SA	AQUEOUS	CR6-AT	31 MAY 91-A	-
015184-0002-SA	AQUEOUS	CR6-A	31 MAY 91-A	-
015184-0003-SA	SOIL	HG-CVAA-S	10 JUN 91-A	10 JUN 91-A
015184-0003-SA	SOIL	ICP-S	04 JUN 91-E	04 JUN 91-E
015184-0004-SA	SOIL	HG-CVAA-S	10 JUN 91-A	10 JUN 91-A
015184-0004-SA	SOIL	ICP-S	04 JUN 91-E	04 JUN 91-E
015184-0005-SA	SOIL	HG-CVAA-S	10 JUN 91-A	10 JUN 91-A
015184-0005-SA	SOIL	ICP-S	04 JUN 91-E	04 JUN 91-E

DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation

Analyte	Concentration		Measured	AVG	Accuracy		Precision	
	Spiked	DCS1			DCS2	Average (%)	Limits	(RPD)
Category: CR-FAA-AT Matrix: AQUEOUS QC Lot: 07 JUN 91-A Concentration Units: mg/L								
Chromium	0.20	0.213	0.208	0.210	105	75-125	2.4	20
Category: CR-FAA-AD Matrix: AQUEOUS QC Lot: 06 JUN 91-A Concentration Units: mg/L								
Chromium	0.02	0.0199	0.0224	0.0212	106	75-125	12	20
Category: CR6-AT Matrix: AQUEOUS QC Lot: 31 MAY 91-A Concentration Units: mg/L								
Chromium (VI)	0.050	0.0489	0.0482	0.0486	97	75-125	1.4	20
Category: CR6-A Matrix: AQUEOUS QC Lot: 31 MAY 91-A Concentration Units: mg/L								
Chromium (VI)	0.050	0.0489	0.0482	0.0486	97	75-125	1.4	20
Category: HG-CVAA-S Matrix: SOIL QC Lot: 10 JUN 91-A Concentration Units: mg/kg								
Mercury	0.50	0.511	0.517	0.514	103	75-125	1.1	20

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

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

Analyte	Concentration			AVG	Accuracy Average(%)		Precision (RPD)	
	Spiked	DCS1	Measured DCS2		DCS	Limits	DCS	Limit
Category: ICP-S								
Matrix: SOIL								
QC Lot: 04 JUN 91-E								
Concentration Units: mg/kg								
Aluminum	200	213	205	209	104	75-125	3.6	20
Antimony	50	54.5	50.9	52.7	105	75-125	6.8	20
Arsenic	50	52.8	50.8	51.8	104	75-125	3.8	20
Barium	200	199	193	196	98	75-125	3.1	20
Beryllium	5.0	4.93	4.81	4.87	97	75-125	2.4	20
Cadmium	5.0	5.08	4.54	4.81	96	75-125	11	20
Calcium	10000	10900	10600	10700	107	75-125	3.1	20
Chromium	20	19.8	18.7	19.3	96	75-125	5.7	20
Cobalt	50	47.9	46.6	47.3	95	75-125	2.8	20
Copper	25	25.4	25.3	25.3	101	75-125	0.4	20
Iron	100	100	95.4	97.9	98	75-125	5.1	20
Lead	50	50.6	49.3	50.0	100	75-125	2.6	20
Magnesium	5000	5310	5170	5240	105	75-125	2.7	20
Manganese	50	48.0	47.1	47.5	95	75-125	1.9	20
Nickel	50	48.9	47.5	48.2	96	75-125	2.9	20
Potassium	5000	5830	5730	5780	116	75-125	1.6	20
Silver	5.0	5.54	5.20	5.37	107	75-125	6.5	20
Sodium	10000	11300	11300	11300	113	75-125	0.3	20
Vanadium	50	50.6	49.6	50.1	100	75-125	2.0	20
Zinc	50	51.0	48.6	49.8	100	75-125	5.0	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: 07 JUN 91-A QC Run: 07 JUN 91-A			
Chromium	ND	mg/L	0.0050
Test: CR-FAA-AT Matrix: AQUEOUS QC Lot: 07 JUN 91-A QC Run: 07 JUN 91-A			
Chromium	ND	mg/L	0.0050
Test: CR-FAA-AT Matrix: AQUEOUS QC Lot: 07 JUN 91-A QC Run: 07 JUN 91-A			
Chromium	ND	mg/L	0.0050
Test: HG-CVAA-S Matrix: SOIL QC Lot: 10 JUN 91-A QC Run: 10 JUN 91-A			
Mercury	ND	mg/kg	0.10
Test: ICP-AFIR-S Matrix: SOIL QC Lot: 04 JUN 91-E QC Run: 04 JUN 91-E			
Aluminum	ND	mg/kg	20.0
Antimony	ND	mg/kg	20.0
Arsenic	ND	mg/kg	30.0
Barium	ND	mg/kg	10.0
Beryllium	ND	mg/kg	0.20
Cadmium	ND	mg/kg	2.0
Calcium	ND	mg/kg	500
Chromium	ND	mg/kg	4.0
Cobalt	ND	mg/kg	4.0
Copper	ND	mg/kg	3.0
Iron	ND	mg/kg	4.0
Lead	ND	mg/kg	20.0
Magnesium	ND	mg/kg	500

METHOD BLANK REPORT
Metals Analysis and Preparation (cont.)

Analyte	Result	Units	Reporting Limit
Test: ICP-AFIR-S			
Matrix: SOIL			
QC Lot: 04 JUN 91-E QC Run: 04 JUN 91-E			
Manganese	ND	mg/kg	1.0
Molybdenum	ND	mg/kg	4.0
Nickel	ND	mg/kg	4.0
Potassium	ND	mg/kg	500
Selenium	ND	mg/kg	40.0
Silver	ND	mg/kg	3.0
Sodium	ND	mg/kg	500
Thallium	ND	mg/kg	200
Vanadium	ND	mg/kg	4.0
Zinc	ND	mg/kg	1.0

MATRIX SPECIFIC QC
ASSIGNMENT REPORT
Metals Analysis and Preparation

QC SAMPLE TYPE	TEST	LABORATORY SAMPLE NUMBER	QC LOT
MATRIX SPIKE DUPLICATE	CR-FAA-AT	015184-0001-SD	07 JUN 91-A
MATRIX SPIKE	CR-FAA-AT	015184-0001-MS	07 JUN 91-A
MATRIX SPIKE DUPLICATE	CR-FAA-AD	015184-0001-SD	06 JUN 91-A
MATRIX SPIKE	CR-FAA-AD	015184-0001-MS	06 JUN 91-A
MATRIX SPIKE DUPLICATE	CR6-SPEC-AT	015184-0001-SD	31 MAY 91-A
MATRIX SPIKE	CR6-SPEC-AT	015184-0001-MS	31 MAY 91-A
MATRIX SPIKE DUPLICATE	CR6-SPEC-AD	015184-0001-SD	31 MAY 91-A
MATRIX SPIKE	CR6-SPEC-AD	015184-0001-MS	31 MAY 91-A

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-AT Matrix AQUEOUS Sample: 015184-0001 Units: mg/L									
Chromium	ND	0.21	0.21	0.20	0.20	105	105	0	
Test: CR-FAA-AD Matrix AQUEOUS Sample: 015184-0001 Units: mg/L									
Chromium	ND	0.020	0.021	0.020	0.020	102	104	2	
Test: CR6-SPEC-AT Matrix AQUEOUS Sample: 015184-0001 Units: mg/L									
Chromium (VI)	ND	0.049	0.048	0.050	0.050	98	96	2	
Test: CR6-SPEC-AD Matrix AQUEOUS Sample: 015184-0001 Units: mg/L									
Chromium (VI)	ND	0.054	0.056	0.050	0.050	108	112	4	

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)
015184-0001-SA	AQUEOUS	NO3-A	04 JUN 91-E	-
015184-0001-SA	AQUEOUS	TOC-A	08 JUN 91-C	-
015184-0001-SA	AQUEOUS	TOX-A	05 JUN 91-A	-
015184-0001-SA	AQUEOUS	CL-IC-A	13 JUN 91-M	-
015184-0001-MS	AQUEOUS	NO3-A	04 JUN 91-E	-
015184-0001-MS	AQUEOUS	TOC-A	08 JUN 91-C	-
015184-0001-MS	AQUEOUS	TOX-A	05 JUN 91-A	-
015184-0001-MS	AQUEOUS	CL-IC-A	13 JUN 91-M	-
015184-0001-SD	AQUEOUS	NO3-A	04 JUN 91-E	-
015184-0001-SD	AQUEOUS	TOC-A	08 JUN 91-C	-
015184-0001-SD	AQUEOUS	TOX-A	05 JUN 91-A	-
015184-0001-SD	AQUEOUS	CL-IC-A	13 JUN 91-M	-
015184-0002-SA	AQUEOUS	NO3-A	04 JUN 91-E	-
015184-0002-SA	AQUEOUS	TOC-A	07 JUN 91-B	-
015184-0002-SA	AQUEOUS	TOX-A	05 JUN 91-A	-
015184-0002-SA	AQUEOUS	CL-IC-A	13 JUN 91-M	-

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: 04 JUN 91-E Concentration Units: mg/L									
Nitrate as N	7.1	7.50	7.48	7.49	105	91-109	0.3	10	
Category: TOC-A Matrix: AQUEOUS QC Lot: 08 JUN 91-C Concentration Units: mg/L									
Total Organic Carbon	25	24.9	24.7	24.8	99	91-109	0.8	20	
Category: TOX-A Matrix: AQUEOUS QC Lot: 05 JUN 91-A Concentration Units: ug Cl/L									
Total Organic Halogen as Cl	100	98.5	96.5	97.5	98	80-120	2.1	20	
Category: CL-IC-A Matrix: AQUEOUS QC Lot: 13 JUN 91-M Concentration Units: mg/L									
Chloride	20.0	19.9	20.1	20.0	100	92-108	1.0	20	
Category: TOC-A Matrix: AQUEOUS QC Lot: 07 JUN 91-B Concentration Units: mg/L									
Total Organic Carbon	25	24.8	24.8	24.8	99	91-109	0.0	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	015184-0001-SD	04 JUN 91-E
MATRIX SPIKE	NO3+NO2-TEC-A	015184-0001-MS	04 JUN 91-E
MATRIX SPIKE DUPLICATE	TOC-TOC-A	015184-0001-SD	08 JUN 91-C
MATRIX SPIKE	TOC-TOC-A	015184-0001-MS	08 JUN 91-C
MATRIX SPIKE DUPLICATE	TOX-TOX-A	015184-0001-SD	05 JUN 91-A
MATRIX SPIKE	TOX-TOX-A	015184-0001-MS	05 JUN 91-A
MATRIX SPIKE DUPLICATE	CL-IC-AFIR-A	015184-0001-SD	13 JUN 91-M
MATRIX SPIKE	CL-IC-AFIR-A	015184-0001-MS	13 JUN 91-M

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: 015184-0001 Units: mg/L									
Nitrate plus Nitrite as N	5.0	6.1	6.1	1.0	1.0	NC	NC	NC	
Test: TOC-TOC-A Matrix AQUEOUS Sample: 015184-0001 Units: mg/L									
Total Organic Carbon	6.5	16.2	16.6	10.0	10.0	97	101	4	
Test: TOX-TOX-A Matrix AQUEOUS Sample: 015184-0001 Units: ug/L									
Total Organic Halogen as Cl	ND	115	111	100	100	115	111	4	
Test: CL-IC-AFIR-A Matrix AQUEOUS Sample: 015184-0001 Units: mg/L									
Chloride	13.5	35.6	35.6	20.0	20.0	110	110	0	

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

15184-01

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

Hazardous material

SAMPLE
KAFB050215-2

Station Name

Field ID

USGS/WRD/NEW MEX

Field Office

KIRTLAND AFB
RP-SWMU'S

Project

SW - Surface Water
GW - Ground Water
ME - Meteorological

Site Type (circle one)

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

M. Royba

Collector

(505) 262-5341
Phone (FTS)

File Deposition*

(Circle one)
Q - WATSTORE
X - Lab File

Sample identification

KAFB050215-2

Station ID or Unique Number*

463536001

Project Account #

1991
Year*

05 30
Month* Day*

1430
Time*

05 30
Month Day

1505
Time

N M
State Code*

035
District User Code*

001
County Code

Begin Date

Composite End Date

Analysis level codes and schedules

Sample Medium**	Geologic Unit	Analysis Status**	Analysis Source	Microbiologic Sanitation**	Sample Type**	Microbiologic Event**
CHROMIUM TOTAL	CHROMIUM DISS	CHROMIUM HEXAVALENT TOTAL	CHROMIUM HEXAVALENT DISSOLVED	NITRATE + NITRITE		
SW3020/SW7191	SW3005/SW7191	SW7196	SW7196	E353.2		
URANIUM GROSS ALPHA & GROSS BETA	VCX	TOC, TOX	NITROGLYCERINE/PTA			
A711B, E700	SW5030/SW8010	SW7060, SW9020	LEATHAMA			
		E45.1				

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 Royba</i>	FEDERAL EXPRESS	5/30/91	1730
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	<i>Royba</i>	5/31/91	0800
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 NE SEWAGE LAGOON - SAMPLE

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

15184 - 01M

Special Handling (Circle as appropriate and explain in record 5)
 Hazardous material
 MATRIX SPIKE
 KAFB 050216-2
 Station Name

Field ID
 USGS/WRD/NEW MEX
 Field Office

Project
 KIRTLAND AFB
 IRP-SWMU'S

Collector
 M. ROYBAL
 BILL DAM

Site Type (circle one)
 SW - Surface Water
 GW - Ground Water
 ME - Meteorological
 LK - Lake
 ES - Estuary
 SP - Spring
 SS - Special Source

Phone (FTS)
 (505) 262-5341

File Deposition* (Circle one)
 Q - WATSTORE
 X - Lab File

Sample identification

Station ID or Unique Number*
 K A F B 0 5 0 2 / 1 6 - 2

Project Account #
 4 6 3 5 3 . 6 0 0 . 1

Year*
 1 9 9 1

Month*
 0 5

Day*
 3 0

Time*
 1 4 3 0

Composite End Date
 Month*
 0 5

Day*
 3 0

Time*
 1 5 0 5

State Code*
 N M

District User Code*
 0 3 5

County Code
 0 0 1

Analysis level codes and schedules

Sample Medium**	Geologic Unit	Analysis Status**	Analysis Source**	Microbiologic Identification	Sample Type**	Microbiologic Event**
6 CHROMIUM, TOTAL SW3020/SW7191		(H) or 9 CHROMIUM, DISS SW3005/SW7191	9 CHROMIUM HEXAVALENT TOTAL SW7196	9 CHROMIUM HEXAVALENT DISSOLVED SW7196	9 NITRATE + NITRITE E353.2	
			VOX SW5020/SW8010	9 TOC, TOX SW4060, SW9020 E415.1		NITROGLYCERINE BETA LSATHAMA

Chain-of-Custody Record

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

Relinquished by: (Signature) <i>Mito Roybal</i>	Received by: (Signature) FEDERAL EXPRESS	Date 5/30/91	Time 1730
Relinquished by: (Signature)	Received by: (Signature) <i>Ronald B. ...</i>	Date 5/17/91	Time 0800
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 NE SEWAGE LAGOON - MATRIX SPIKE

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

151K4 01 MSP

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

Hazardous material
MATRIX SPIKE DUP
KAFB050217-2
Station Name

Field ID
USGS/WRD/NEW MEX
Field Office

KIRTLAND AFB
RP-SWMU'S
Project

Site Type (circle one)
SW - Surface Water
GW - Ground Water
ME - Meteorological
M. ROYBAL
Collector

LK - Lake
ES - Estuary
SP - Spring
SS - Special Source
(505) 262-5341
Phone (FTS)

File Deposition*
(Circle one)

Q - WATSTORE
X - Lab File

Sample identification

For Laboratory Use Only

K A F B 050217-2
Station ID or Unique Number*

463536001
Project Account #

1991
Year*

05 30
Month* Day*

1430
Time*

05
Month

30
Day

1505
Time

N M
State Code*

035
District/ User Code*

001
County Code

Begin Date

Composite End Date

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	NITRATE + NITRITE		
METHOD:	SW3020/SW7191	SW3005/SW7191	SW7196	SW7196	E353.2		
PARAMETER:	URANIUM GROSS ALPHA & GROSS BETA		VOC	TDC, TOX	DIETHYLENE GLYCOL & PETA		
METHOD:	A711B, E700		SW8030/SW8010	SW7060, SW9020 E45.1	USATHANA		
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 Roybal</i>	FEDERAL EXPRESS	5/30/91	1730
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	<i>Ronald B. ...</i>	5/31/91	0800
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 N.E SEWAGE LAGOON - MATRIX - SPIKE - DUP

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

151801-63

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

Hazardous material

SAMPLE

KAFB060907-2

Station Name

Field ID

USGS/WRD/NEW MEX

Field Office

KIRTLAND AFB
IRP-SWMU'S

Project

SW - Surface Water
GW - Ground Water
ME - Meteorological

Site Type (circle one)

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

14. ROYBAL
BILL DAM

Collector

(505) 262-5341
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 0 6 0 9 0 7 - 2

Station ID or Unique Number*

4 6 3 5 3 6 0 0 1

Project Account #

1 9 9 1
Year*

0 5 3 0
Month* Day*

Begin Date

1 3 0 1
Time*

0 5 3 0
Month Day

Composite End Date

1 3 2 3
Time

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	9	
Sample Medium**	Geologic Unit	Analysis Status**	Analysis Source**	Hydrologic Condition**	Sample Type**	Hydrologic Event**
CHROMIUM, TOTAL	CHROMIUM, DISS	CHROMIUM HEXAVALENT TOTAL	CHROMIUM HEXAVALENT DISSOLVED	NITRATE + NITRITE		
SW3020/SW7191	SW3005/SW7191	SW7196	SW7196	E353.2		
URANIUM, GROSS ALPHA & GROSS BETA		VOX	TDC, TOX	NITROGLYCERINE/PETN		
A711B, E900		SW5030/SW8010	SW7060, SW9020 EHS.1	USATTANA		

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 Roybal</i>	FEDERAL EXPRESS	5/30/91	1730
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	<i>Ronald B. Martin</i>	5/31/91	0800
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 N.E. GOLF C. P.

Record 6

Total number of sample bottles for this request: 7

SHIP TO:

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

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

Hazardous material

Site Type (circle one)

- SW - Surface Water
- GW - Ground Water
- ME - Meteorological
- LK - Lake
- ES - Estuary
- SP - Spring
- SS - Special Source

Kirtland AFB, Site 3, Hole 7

Field ID: USGS/WRD/NEW MEX

Project: KIRTLAND AFB RP-SWMU'S

Collector: ABEYTA

Phone (FTS): (505) 262-5341

File Deposition* (Circle one)

- Q - WATSTORE
- X - Lab File

Sample identification

For Laboratory Use Only

Station ID or Unique Number: K A F B 030701-1

Project Account #: 463536001

1991 05 28 1725 N.M. 035 001
 Year* Month* Day* Time* Month Day Time State Code* District/User Code* County Code

Analysis level codes and schedules

Soil G	Geologic Unit	H or 9	9	9	9
Sample Medium**		Analysis Status**	Analysis Source**	Hydrologic Condition**	Sample Type**

PARAMETER:	ICP	MERCURY	Semi-VOC	SOIL MOISTURE
METHOD:	SW3050/6010	SW7471	SW3550/8270	ASTM D2216
PARAMETER:	VOC			
METHOD:	SW8240			
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>Cynthia Abeyta</i>	FEDERAL EXPRESS	30 MAY 91	1030
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	<i>Donna B. ...</i>	30 MAY 91	0800
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 CORE SAMPLE COLLECT. FROM 5 FT. DEPTH

Record 6

Total number of sample bottles for this request: 2

SHIP TO:

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

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

Hazardous material

Site Type (circle one)

- SW - Surface Water
- GW - Ground Water
- ME - Meteorological
- LK - Lake
- ES - Estuary
- SP - Spring
- SS - Special Source

Kirtland AFB Site 3 Hole 7
Station Name

Field ID
USGS/WRD/NEW MEX
Field Office

KIRTLAND AFB
RP-SWMU'S
Project

Abeyta
BILL DAM
Collector

(505) 262-5341
Phone (FTS)

File Deposition* (Circle one)

- Q - WATSTORE
- X - Lab File

For Laboratory Use Only

Sample identification

K A F . B . 0 3 0 7 0 2 - 1
Station ID or Unique Number*

4 6 3 . 5 3 . 6 0 0 . 1
Project Account #

1 9 9 1
Year*

0 5
Month*

2 9
Day*

0 9 4 3
Time*

Month

Day

Time

Composite End Date

N M
State Code*

0 3 5
District/ User Code*

0 0 1
County Code

Begin Date

Analysis level codes and schedules

Soil
G
Sample Medium**

Geologic Unit

H or 9
Analysis Status**

9
Analysis Source**

Hydrologic Condition**

9
Sample Type**

9
Hydrologic Event**

PARAMETER:

ICP

MERCURY

Semi-VOC

SOIL MOISTURE

METHOD:

SW3050/6010

SW7471

SW3550/8270

ASTM D2216

PARAMETER:

VOC

METHOD:

SW8240

PARAMETER:

METHOD:

Chain-of-Custody Record

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

Relinquished by: (Signature) Cynthia Abeyta Received by: (Signature) _____ Date 30 MAY 91 Time 1030

Relinquished by: (Signature) _____ Received by: (Signature) Priscilla B. Williams Date 31 MAY 91 Time 5:10 PM

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 CORE SAMPLE FROM 25 FT DEPTH

Record 6 _____

Total number of sample bottles for this request: 2

SHIP TO:

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

15284-013

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

Site Type (circle one)
 SW - Surface Water LK - Lake
 GW - Ground Water ES - Estuary
 ME - Meteorological SP - Spring
 (SS) - Special Source

Field ID: KIRTLAND AFB
 Station Name: Kirtland AFB Site 3, Hole 7
 Field Office: USGS/WRD/NEW MEX
 Project: IRP-SWMU'S
 Collector: BILL DAM
 Phone (FTS): (505) 262-5341

File Deposition* (Circle one)
 Q - WATSTORE
 X - Lab File

Sample identification

For Laboratory Use Only:

Station ID or Unique Number*: K A F . B . 0 3 0 . 7 . 0 . 3 . - . 1
 Project Account #: 4 6 3 . 5 3 . 6 0 0 . 1

Year*: 1 9 9 1 Month*: 0 5 Day*: 2 9 Time*: 1 4 1 0
 Composite End Date: Month: _____ Day: _____ Time: _____
 State Code*: N M District/User Code*: 0 3 5 County Code: 0 0 1

Analysis level codes and schedules

Soil	Geologic Unit	H or 9	9	Hydrologic Condition**	9	9
Sample Medium**	Geologic Unit	Analysis Status**	Analysis Source**	Hydrologic Condition**	Sample Type**	Hydrologic Event**
G		H or 9	9		9	9
PARAMETER: ICP		MERCURY	Semi-VOC		SOIL MOISTURE	
METHOD: SW3050/6010		SW7471	SW3550/8270		ASTM D2216	
PARAMETER: VOC						
METHOD: SW8240						
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
	FEDERAL EXPRESS	<u>30 MAY 91</u>	<u>1030</u>
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	<u>PIZZA B. MAGO</u>	<u>31 MAY 91</u>	<u>0800</u>
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 C.O.R.E. SAMPLE FROM 5.0 FT. DEPTH

Record 6 _____

Total number of sample bottles for this request: 2

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

SS-034