

EG&G ROCKY FLATS INC
ROCKY FLATS PLANT
P O BOX 464
GOLDEN COLORADO 80402

ANALYTICAL REPORT

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION
C Cowdery, Env Mgmt T130B
P Singh DOE 116
J Souttee 891
File

LAB NUMBER 92E1781 (PRELIMINARY)
DATE August 11 1992
ACCOUNT NO 986445

APPROVED

E A Brovsky
E A Brovsky

SAMPLE DESCRIPTION

881 French Drain
Sample date 07/22/92

ANALYSIS RESULTS

The sample was screened for gross alpha activity by gas proportional counting analyzed for Be by flame AA and the pH was measured

Gross Alpha < 100 pCi/l
Be < 0.01 µg
pH 7.6

See attached ICPEs Metals Sweep Report

See attached abbreviated Volatile Organic Analysis Report

See attached Quantitative Gross Alpha/Gross Beta Analysis Report

The sample will be digested and analyzed for ICPEs Metals using USEPA protocols at which time a final report will be generated

ADMIN RECORD

A-0001-000094

PLASMA SPECTROSCOPY REPORT
PRELIMINARY ICPES SWEEP RESULTS

Lab Number 92E1781
Report Date August 10 1992

SAMPLE DESCRIPTION

One sample 881 French Drain was collected on July 23 1992 for ICPES sweep analysis of dissolved metals

RESULTS NARRATIVE

A sample was collected on July 22, 1992 and brought in for ICPES Sweep analysis on July 23 1992. The sample was clear and colorless, but had a thin organic layer on it. The sample was preserved by storage at 4 C. The sample was analyzed without digestion a process used in routine environmental metals analyses to break down organic matrices and solubilize particulate matter. The organic layer was not sampled or analyzed. The attached results should be evaluated as representative of only the aqueous dissolved portion of the sample. The sample was not analyzed by USEPA procedures.

Results are reported in $\mu\text{g/L}$ on the attached sheets. Only the first two significant figures of each result are valid. Flags and qualifiers are explained below. A duplicate aliquot of the sample was analyzed as well as a third aliquot which was spiked and analyzed to determine the effect of the sample matrix on the analysis. All quality assurance parameters were within normal control limits.

Data Flags and Qualifiers.

- U The analyte was not detected in the sample
- B The analyte was detected in the sample but at a low level in between the instrument's detection limit and the required detection limit for environmental water samples

This sample will be digested and analyzed according to USEPA protocols at the earliest convenient time. The raw data for this analysis are stored under 92G0037

Chemist Approval

Laura K Hubbard
Laura K Hubbard

Date August 10, 1992

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INORGANIC ANALYSIS DATA SHEET

178101

Lab Name GENERAL LABORATORY

Section 881

Lab Sample ID WELVAULT1

% Solids (0 = N/A) 0 0

X indicates TCLP extract

Date Sampled 07/22/92

SDG No JUL23

Concentration Units UG/L

Analyte	Concentration	C	Q	M
Aluminum	347	-		P
Antimony	16 0	U		P
Arsenic #	64 0	U		P
Barium	214	-		P
Beryllium	1 0	U		P
Cadmium	2 0	U		P
Calcium	105000	-		P
Chromium	9 4	B		P
Cobalt	6 0	U		P
Copper	4 0	U		P
Iron	203	-		P
Lead #	58 0	U		P
Magnesium	22300	-		P
Manganese	5 7	B		P
Molybdenum	11 0	U		P
Nickel	13 0	U		P
Potassium	3760	B		P
Selenium #	49 0	U		P
Silver	4 0	U		P
Sodium	56500	-		P
Strontium	729	-		P
Thallium #	113	U		P
Vanadium	6 0	U		P
Zinc	51 6	-		P

Color Before COLORLESS Clarity Before CLEAR Texture
 Color After COLORLESS Clarity After CLEAR Artifacts
 Comment ICPEs SWEEP RESULTS FOR INCIDENTAL WATER IDENTIFICATION THE SAMPLE
 WAS NOT DIGESTED

>>> 881 GENERAL LABORATORY <<<
VOLATILE ORGANIC ANALYSIS REPORT

Lab E # 92E1781 Customer ID # _____
 Analyst _____ Date ____ / ____ / ____
 Comments _____

C-CCC S-SPCC R-Surrogate M-Manual Integrate *-Signal Sat J-B D L

All concentrations are in units of PPB (ug/L)

Run name SYO JUL28A08
 Run date 29-JUL-92 00 25 27
 Rpt date 29-JUL-92 07 03 28 Last edit date
 Dil fact 1 00
 Library SYO CLPVDAS
 Grp flgs ABCDEFGH

Comments
 FT00088ITU1

No	QC	Name	Mass	Scan	Time	Pk	Fit	Area	Conc
1S		Bromochloromethane	128	976	16 32	BB	1 00	14070	50 0
2S		1 4-Difluorobenzene	114	1130	18 27	BB	0 88	82865	50 0
3S		Chlorobenzene-d5	117	1593	24 12	BB	1 00	70716	50 0
1T	S	Chloromethane	50	153	6 55		0 00	NOT FOUND	
2T		Bromomethane	94	341	8 92		0 00	NOT FOUND	
3T	C	Vinyl Chloride	62	213	7 30		0 00	NOT FOUND	
4T		Chloroethane	64	383	9 45		0 00	NOT FOUND	
5T		Methylene Chloride	84	730	13 22	BB	0 69	1517	2 2
6T		Acetone	43	602	12 22		0 00	NOT FOUND	
7T		Carbon Disulfide	76	658	12 30		0 35	NOT FOUND	
8T	C	1 1-Dichloroethene	96	579	11 92		0 00	NOT FOUND	
9T	S	1 1-Dichloroethane	63	798	14 68		0 00	NOT FOUND	
10T		1 2-Dichloroethene (to	96	726	13 78		0 00	NOT FOUND	
11T	C	Chloroform	83	941	16 50		0 00	NOT FOUND	
12T		1 2-Dichloroethane	62	1026	17 57		0 00	NOT FOUND	
13T		2-Butanone	43	943	15 90		0 08	NOT FOUND	
14T		1 1 1-Trichloroethane	97	967	16 83		0 00	NOT FOUND	
15T		Carbon Tetrachloride	117	993	17 15		0 00	NOT FOUND	
16T		Bromodichloromethane	83	1201	19 78		0 00	NOT FOUND	
17T	C	1 2-Dichloropropane	63	1158	19 23		0 00	NOT FOUND	

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18T		cis-1 3-Dichloropropen	75	1270	20	65		0 00	NOT FOUND	
19T		Trichloroethene	130	1170	18	77	BB	0 93	3555	5 7
20T		Dibromochloromethane	129	1452	22	95		0 00	NOT FOUND	
21T		1 1 2-Trichloroethane	97	1389	22	15		0 00	NOT FOUND	
22T		Benzene	78	1025	17	55		0 00	NOT FOUND	
23T		trans-1 3-Dichloroprop	75	1358	21	77		0 00	NOT FOUND	
24T	S	Bromoform	173	1695	26	02		0 00	NOT FOUND	
25T		4-Methyl-2-Pentanone	43	1358	21	15		0 00	NOT FOUND	
26T		2-Hexanone	43	1426	22	62		0 00	NOT FOUND	
27T		Tetrachloroethene	164	1455	22	37	BB	1 00	4601	9 6
28T	S	1 1 2 2-Tetrachloroeth	83	1777	27	05		0 00	NOT FOUND	
29T	C	Toluene	92	1321	21	30		0 00	NOT FOUND	
30T	S	Chlorobenzene	112	1552	24	22		0 00	NOT FOUND	
31T	C	Ethylbenzene	106	1569	24	43		0 00	NOT FOUND	
32T		Styrene	104	1661	25	58		0 00	NOT FOUND	
33T		Xylenes (total)	106	1589	24	68		0 00	NOT FOUND	
34T	R	Toluene-d8	98	1357	21	13	BB	0 84	83126	53 6
35T	R	Bromofluorobenzene	95	1796	26	68	BB	0 74	45445	54 3
36T	R	1 2-Dichloroethane-d4	65	1064	17	43	BB	0 89	26328	56 9

RADIOCHEMISTRY REPORT
GROSS ALPHA/GROSS BETA DETERMINED
BY GAS PROPORTIONAL COUNTING

Lab Number 92E1781
Report Date August 10 1992

Method Summary

The sample was quantitatively analyzed for gross alpha and gross beta activity using gas proportional counting. In this analysis an aliquot of the sample was evaporated onto a counting planchet and the planchet was counted in a thin window low background gas flow proportional counter. The efficiency curves used to correct for the efficiency of the detector and absorption of the alpha and beta particles by the salt residue on the planchet were determined using ^{241}Am for the alpha curve and ^{90}Sr ^{90}Y for the beta curve. The minimum detectable activity (MDA) for this method is a function of detector background, detector efficiency, self absorption of the salt residue on the planchet, size of aliquot analyzed and count time. The MDAs for the analyses are given in the Results section of the report. Where the result is based on the average of two or more counts the average MDA is reported.

Quality Assurance/Quality Control Summary

The sample was analyzed in duplicate as part of the QC for the analysis. The agreement of the two results were within the expected precision of the method. The average and propagated uncertainties of the two analyses are reported.

A preparation blank is an aliquot of Milli Q water which is prepared with the sample batch in exactly the same manner as the samples. Data from this analysis indicate that the sample was not contaminated during the analysis.

Results

Gross Alpha 8 ± 2 pCi/l (MDA 4)
Gross Beta 6 ± 3 pCi/l (MDA 9)

Chemist Approval K M Hagglund
K M Hagglund

Date 8-10-92