CORRES CONTROL
INCOMING LTR NO

3139RF 91

DUE
DATE

ACTION

DIST.	LTR	ENC
BENJAMIN, A		
BRETZKE, J C		
BURLINGAME, A H		
COPP, R.D.		
CROUCHER, D W		
DAVIS, J G		
EVERED, J E	X	X
FERRERA, D.W.		
FERRIS, L R		
FRAIKOR, F.J		
FRANCIS, G E		
GOODWIN, R		
HANNI, B.J		
HEALY, T.J		
IDEKER, E H		
JENS, J P		
KERSH, J M	X	X
KIRBY, W A		
KRIEG, D		
KUESTER, A W		
LEE, E M		
MAJESTIC, J R		
MARX, G E	X	X
MATHEWS, T A		
MEURRENS, B E		
MORGAN, R V		
PIZZUTO, V M		
POTTER, G L		
SAFFELL, B F		
SANDLIN, N B		
SWANSON, E R		
WIEBE, J.S.		
WILKINSON, R B		
WILSON, J.M.	X	X
YOUNG, E R		
ZANE, J O		
Guilbaume M	X	X
Paukert J	X	X
greengard	X	X
Smith TA	X	X
CORRES CONTROL	x	x
TRAFFIC		

Reviewed for Addressee
Corres Control RFP
9-25-91 Cu

DATE BY

Ref Ltr #

RF 46522 (Rev 6/91)

Department of Energy

ROCKY FLATS OFFICE
P O BOX 928
GOLDEN COLORADO 80402-0928

SEP 25 10 53 AM '91

SEP 24 1991

EG&G
ROCKY FLATS PLANT
CORRESPONDENCE CONTROL

91-DOE-7966

Ms Bonnie Lavelle
U S Environmental Protection Agency, Region VIII
999 18th Street, Suite 500
Denver, Colorado 80202-2405

Mr Joe Schieffelin
Colorado Department of Health
4210 East 11th Avenue
Denver, Colorado 80220

Dear Ms Lavelle & Mr Schieffelin

Please find enclosed the revised Tables 6-3, 6-4, and 6-5 for the Final Draft RFI/RI Work Plan for Operable Unit No 3, as discussed on September 9, 1991

DOE/RFO hopes this helps clarify the rationale used to arrive at the contaminants of concern for the various media to be investigated in Operable Unit No 3

If you have any questions, please contact Robert H Birk of my staff at 966-5921

Sincerely,

David P. Simonson

David P Simonson
Assistant Manager
for Environmental Management

Enclosure

cc w/Enclosure
A Rampertaap, EM-453
R Harris, HAZWRAP
M Guillaume, EG&G/RF
J Paukert, EG&G/RF

ADMIN RECORD

A-OU03-000036

TABLE 6-3

SUMMARY OF COMPOUNDS DETECTED IN GROUNDWATER

Parameter	Number of Analyses	Number of Detections	Maximum Value	Average Value[1]	MCL[2]	Units
VOA—CASE 2						
Methylene Chloride	54	12	24	10 7	–	µg/l
Acetone	54	4	24	14 5	–	µg/l
1,1 1-trichlorethane	63	1	9	9	200	µg/l
Carbon disulfide	54	3	3	2	–	µg/l
SEMIVOLATILES—CASE 1						
PESTICIDES/PCBS—CASE 1						
RADIONUCLIDES—CASE 2						
Americium-241	58	56	8	0 027	–	pCi/l
Cesium-137	38	38	7	0 113	–	pCi/l
Curium 244	2	2	005	0 002	–	pCi/l
Gross Alpha–Dissolved	16	16	16 15	5 295	–	pCi/l
Gross Alpha–Suspended	12	12	16 8	3 531	–	pCi/l
Gross Alpha Particle Radioactive	69	67	170	17 363	–	pCi/l
Gross Beta–Dissolved	16	16	33 52	7 656	–	pCi/l
Gross Beta–Suspended	5	5	8 286	7 036	–	pCi/l
Gross Beta–Particle Radioactive	76	75	220	18 695	–	pCi/l
Plutonium-238	6	6	0 16	0 006	–	pCi/l
Plutonium 239	44	42	2 1	0 136	–	pCi/l
Plutonium-239/240	18	18	1 098	0 081	–	pCi/l
Radium-226	12	11	1 2	0 480	–	pCi/l
Radium 228	4	3	3 248	2 624	–	pCi/l
Strontium-89/90	6	6	854	0 454	–	pCi/l
Strontium 90	41	36	2.5	0 592	–	pCi/l
Tritium	46	31	330	121 799	–	pCi/l
Uranium Total	40	40	35 7	8 575	–	pCi/l
Uranium-233/234	60	60	20	3 937	–	pCi/l
Uranium 234	2	2	1 4	1 2	–	pCi/l
Uranium 235	46	44	7	142	–	pCi/l
Uranium 235/236	11	11	479	159	–	pCi/l
Uranium 238	62	62	15	3 219	–	pCi/l
INORGANICS—CASE 2						
Aluminum	46	24	0 426	0 089	0 05	mg/l
Antimony	46	5	0 197	0 078	–	
Barium	46	31	0 238	0 148	1	mg/l
Cadmium	46	2	0 0002	0 0003	0 005	mg/l
Chromium	46	6	0 0178	0 014	0 05	mg/l
Copper	46	10	0 171	0 025	0 2	mg/l
Iron	47	24	1 69	0 173	0 30	mg/l

TABLE 6-3

SUMMARY OF COMPOUNDS DETECTED IN GROUNDWATER
(Concluded)

Parameter	Number of Analyses	Number of Detections	Maximum Value	Average Value[1]	MCL[2]	Units
Lead	43	3	0 046	0 017	0 05	mg/l
Lithium	21	6	0 685	0 16	--	mg/l
Manganese	46	34	0 975	0 285	0 05	mg/l
Mercury	44	4	0 00024	0 00022	0 002	mg/l
Molybdenum	46	1	0 014	0 014	--	mg/l
Nickel	46	25	0 62	0 137	0 2	mg/l
Selenium	43	24	0 048	0 02	0 010	mg/l
Silver	46	3	0 0256	0 02	0 05	mg/l
Strontium	46	43	4 74	1 361	--	mg/l
Tin	17	1	0 164	0 164	--	mg/l
Vanadium	46	3	0 031	0 028	--	mg/l
Zinc	46	17	0 138	0 042	2	mg/l

[1]Average value of detections (nondetects not included in average)
[2]Lowest ARAR identified

TABLE 6-4

SUMMARY OF COMPOUNDS DETECTED IN SURFACE WATER

Parameter	Number of Analyses	Number of Detections	Maximum Value	Average Value[1]	MCL[2]	Units
VOA—CASE 2						
Acetone	96	5	19	6	–	µg/l
Benzene	105	1	1	1	0	µg/l
Bromoform	107	1	2	2	–	
Carbon disulfide	95	2	5	3 5	–	µg/l
Chlorobenzene	105	1	1	1	–	µg/l
Ethylbenzene	107	1	1	1	700	µg/l
Methylene chloride	108	15	14	3 61	–	µg/l
Tetrachloroethene	107	2	4	3 5	0	µg/l
Toluene	105	8	6	4 13	2420	µg/l
Trichlorethene	105	3	2	1 7	0	µg/l
Total Xylenes	97	6	6	5	10,000	µg/l
Vinyl acetate	96	1	3	3	–	µg/l
2-butanone	95	3	27	13 7	–	µg/l
1 2-dichloroethane	107	2	4	3 5	0	µg/l
1 1 1-trichloroethane	107	1	4	4	200	µg/l
2 hexanone	95	1	7	7	–	
SEMIVOLATILE—CASE 2						
Bis(2 ethylhexyl)phthalate	29	10	19	6 65	15 000	µg/l
Di-n-butyl-phthalate	29	1	1 6	1 6	–	µg/l
Di-n-octyl-phthalate	29	2	3	2.5	–	µg/l
N-nitrosodiphenylamine	29	1	1	1	4 9	µg/l
PESTICIDES/PCBs—CASE 2						
Altrazine	18	8	2	0 653	3	µg/l
Simazine	17	2	6	3 24	–	µg/l
RADIONUCLIDES—CASE 2						
Americium 241	21	19	0 02	0 004	–	pCi/l
Cesium-137	18	18	0 2	0 013	–	pCi/l
Curium 244	2	2	0 0049	0 002	–	pCi/l
Gross Alpha - Dissolved	11	11	11 01	3 963	–	pCi/l
Gross Alpha Suspended	9	9	6 5	2 145	–	pCi/l
Gross Alpha Particle Radioac	29	27	11	3 533	–	pCi/l
Gross Beta Dissolved	11	11	4 595	3 270	–	pCi/l
Gross Beta Suspended	5	5	8 286	7 036	–	pCi/l
Gross Beta Particle Radioact	33	32	9 287	4 676	–	pCi/l
Plutonium 238	1	1	0 0008	0 0008	–	pCi/l
Plutonium-239	12	10	0 06	0 006	–	pCi/l
Plutonium 239/240	10	10	0 0112	0 005	–	pCi/l
Radium-226	4	3	0 3	0 133	–	pCi/l
Strontium-89 90	1	1	0 7982	0 798	–	pCi/l
Strontium 90	19	17	0 7687	0 204	–	pCi/l

TABLE 6-4

SUMMARY OF COMPOUNDS DETECTED IN SURFACE WATER
(Concluded)

Parameter	Number of Analyses	Number of Detections	Maximum Value	Average Value[1]	MCL[2]	Units
Tritium	12	10	230	38 221	–	pCi/l
Uranium Total	8	8	6	1 816	–	pCi/l
Uranium-233 234	20	20	3 93	1 307	–	pCi/l
Uranium-234	2	2	1 4	1 2	–	pCi/l
Uranium-235	13	11	0 33	0 050	–	pCi/l
Uranium-235/236	8	8	0 2983	0 099	–	pCi/l
Uranium-238	22	22	3 269	1 215	–	pCi/l
INORGANICS–CASE 2						
Aluminum	83	20	2 14	394	0 05	mg/l
Arsenic	83	1	0 0021	0 002	0 000002	mg/l
Barium	84	10	0 0991	0 086	1	mg/l
Beryllium	85	1	0 09	0 09	0 0000068	mg/l
Copper	83	7	0 0363	0 025	0 012	mg/l
Cyanide	4	1	0 006	0 006	–	mg/l
Iron	84	36	1 41	0 311	0 3	mg/l
Lead	82	12	0 014	0 005	0 0032	mg/l
Lithium	82	23	0 033	0 016	–	mg/l
Manganese	84	28	0 279	0 057	0 05	mg/l
Mercury	80	5	0 0003	0 0003	0 000012	mg/l
Molybdenum	80	1	0 30	0 30	–	mg/l
Selenium	81	3	0 012	0 007	0 01	mg/l
Silver	82	1	0 02	0 02	0 12	mg/l
Strontium	83	43	0 52	0 344	–	mg/l
Tin	80	4	0 045	0 035	–	mg/l
Vanadium	81	1	0 313	0 313	–	mg/l
Zinc	83	52	0 30	0 054	0 1	mg/l

[1]Average value of detection s (nondetects not included in average)
[2]Lowest ARAR identified

TABLE 6-5

SUMMARY OF COMPOUNDS DETECTED IN SEDIMENTS

Parameter	Number of Analyses	Number of Detections	Maximum Value	Average Value[1]	MCL[2]	Units
VOA–CASE 2						
Acetone	11	5	85	122	8 000 000	µg/kg
1 1,1-trichloroethane	11	1	3	3	7,000 000	µg/kg
Toluene	11	1	2	2	20 000 000	µg/kg
Methylene chloride	11	2	90	90	90,000	µg/kg
SEMIVOLATILES–CASE 2						
Bis(2-ethyhexyl)phthalate	11	2	1,000	550	50 000	µg/kg
Fluoranthene	11	1	41	41	–	µg/g
Pyrene	11	1	41	41	–	µg/g
Di-n-butylphthalate	11	1	60	60	–	µg/g
Benzoic acid	11	1	390	390	–	µg/g
4-methylphenol	11	1	2,200	2 200	–	µg/kg
PESTICIDE/PCBs–CASE 2						
Beta-BHC	7	1	1 5	1 5	–	µg/kg
RADIONUCLIDES–CASE 2						
Americium 241	5	5	0 42	0 136	–	pCi/l
Cesium-137	7	7	0 9	0 517	–	pCi/l
Gross Alpha–Dissolved	2	2	11 37	11 02	–	pCi/l
Gross Alpha–Particle Radioactive	4	4	39	28	–	pCi/l
Gross Beta–Dissolved	2	2	33 52	31 75	–	pCi/l
Gross Beta–Particle Radioactive	4	4	36	27 75	–	pCi/l
Plutonium-238	2	2	0 016	0 011	–	pCi/l
Plutonium 239	4	4	1 9	0 908	–	pCi/l
Plutonium 239/240	2	2	1 098	0 687	–	pCi/l
Radium 226	3	3	1 2	1 13	–	pCi/l
Radium 228	3	3	3 248	2 624	–	pCi/l
Strontium-89 90	2	2	0 142	0 128	–	pCi/l
Strontium-90	1	1	-0 4	-0 4	–	pCi/l
Tritium	6	6	205 2	60 807	–	pCi/l
Uranium Total	4	4	2 7	1 673	–	pCi/l
Uranium 233 -234	6	6	3 048	1 412	–	pCi/l
Uranium 235	3	3	0 086	0 028	–	pCi/l
Uranium 238	6	6	2.215	1 199	–	pCi/l
INORGANICS–CASE 2						
Aluminum	11	11	17,600	7,776	–	mg/kg
Arsenic	11	10	4 6	1 92	80	mg/kg
Barium	11	10	157	104 7	4000	mg/kg
Beryllium	11	2	2.3	2.3	0 2	mg/kg
Cadmium	11	1	1 8	1 8	40	mg/kg
Chromium	11	11	17	11 082	–	mg/kg
Cobalt	11	4	8	6 55	–	mg/kg
Copper	11	11	34	16 77	–	mg/kg

TABLE 6-5

SUMMARY OF COMPOUNDS DETECTED IN SEDIMENTS
(Concluded)

Parameter	Number of Analyses	Number of Detections	Maximum Value	Average Value[1]	MCL[2]	Units
Iron	11	11	20 100	15 818	–	mg/kg
Lead	11	11	27 6	16 86	–	mg/kg
Lithium	5	1	8 4	8 4	–	mg/kg
Manganese	11	11	675	284 27	–	mg/kg
Mercury	9	5	0 39	0 252	–	mg/kg
Molybdenum	11	2	11	11 0	–	mg/kg
Nickel	11	8	17 7	13 95	2000	mg/kg
Selenium	11	5	1 3	0 462	–	mg/kg
Silver	11	3	21 2	8 53	200	mg/kg
Strontium	11	8	67	39 68	–	mg/kg
Thallium	5	4	17	11 1	–	mg/kg
Vanadium	11	11	40	32.7	–	mg/kg
Zinc	10	10	391	95 23	–	mg/kg

[1]Average value of detections (nondetects not included in average)
[2]Lowest ARAR identified (proposed RCRA corrective action)