EG&G ER Department
Rocky Flats Plant

(02/25/90)

ER DEPARTMENT DATA ASSESSMENT SUMMARY REPORT FORM

Batch No. 9011C048 (C011289, C011290, C011310) **Site** Surface Water

Laboratory IT - Cerritos **No. of Samples/Matrix** 17/Water

SOW # 10/86 (Rev. 2/88) **Reviewer Org.** QuantaLex, Inc.

Sample Numbers SW00509WC, SW00512WC, SW00519WC, SW00528WC, SW00534WC, SW00544WC, SW00548WC, SW00550WC, SW00551WC, SW00557WC, SW00560WC, SW90199WC, SW90200WC, SW90203WC, SW90204WC, SW90205WC, SW90206WC

Data Assessment Summary

		VOA	Comments
1.	Holding Times	A	Action Item 1
2.	GC/MS Tune/Instr. Perf.	V	
3.	Calibrations	X	Comment 1
4.	Blanks	A	Action Item 2
5.	Surrogates	V	
6.	Matrix Spike/Dup.	V	
7.	Other QC	A	Action Item 3; Comment 2
8.	Internal Standards	V	
9.	Compound Identification	X	Comment 3
10.	System Performance	V	
11.	Overall Assessment	A	Data acceptable with qualifications.

V = Data had no problems.
A = Data acceptable but qualified due to problems.
R = Data rejected.
X = Problems, but do not affect data.

Data Quality: Data contained in this batch were reviewed and found to be acceptable with qualifications. Acceptable, qualified data may be used provided that individual values impacted by the "Action Items" listed below are appropriately flagged. (Refer to attached Data Summary Tables.)

011c048v/voa

REVIEWED FOR CLASSIFICATION/UCNI
By
Date
A-OU04-000080

Action Items: 1) The results for aromatic compounds in samples SW00548WC, SW00551WC, SW00550WC, and SW90206WC are estimated (J) because holding times exceeded seven days. (Note: These samples were received at IT-Cerritos after expiration of the holding time.)

2) As a result of method blank contamination, the results for Acetone in sample SW00534WC and for Methylene Chloride in all samples except SW00550WC are reported as undetected and estimated (J) according to the Functional Guidelines criteria (10x rule).

3) Calibration was not performed for the cis isomer of 1,2-Dichloroethene (total). Since a relative response factor (RRF) was not generated and the retention time (RT) was not verifiable, the exact concentration could not be determined and the positive result for this compound in sample SW00528WC is estimated (J).

Comments: 1) The %D for 2-Butanone exceeded 25% in the continuing calibration of 11/21/90 (2306). No action is necessary because there were no positive results for this compound.

2) All five matrix spiking compounds were found in sample SW90200WC at a level of 1 ppb or 2 ppb. (Chlorobenzene was not reported on Form 1 as the analyst determined that the mass spectra was insufficient to positively confirm its identification.) There may have been some form of cross-contamination in this sample.

3) An unidentified peak in sample SW00548WC was not reported or quantitated.

Note: Data Summary Tables are attached.

Pamela S. Rogers — 3/13/91
Validator Signature — Date

William T. Fen — 3/11/91
Reviewer Signature — Date

011c048v/voa

PROJECT SAMPLE NUMBER	SAMPLE COLLECTION DATE MM/DD/	SAMPLE COLLECTION TIME HH:	BATCH NUMBER	SAMPL MATRIX	LAB SAMPLE NUMBER	LAB ID	SAMPL PREP DATE MM/DD/	SAMPLE ANALYSIS DATE MM/DD/	SAMPLE ANALYSIS TIME HH:	BLANK SAMPLE NUMBER	LAB TEST PANEL CODE	RS ID	CAS NUMBER	ANALYTI RESULT	RSLT QUA IFIE	2 SIG ERROR	UNIT OF MEASU	RETEN TION TIME	PARAMETER NAME	INSTRUMENT DETECTION LIMIT	V	REASONS 1	2	3	4	QLI RESULT	QLI UNIT OF MEASU	QLI QUA FIER
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	71-55-6	5	U		UG/L		1,1,1-TRICHLOROETHANE	5	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	79-34-5	5	U		UG/L		1,1,2,2-TETRACHLOROETH	5	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	79-00-5	5	U		UG/L		1,1,2-TRICHLOROETHANE	5	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	75-34-3	5	U		UG/L		1,1-DICHLOROETHANE	5	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	75-35-4	5	U		UG/L		1,1-DICHLOROETHENE	5	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	107-06-2	5	U		UG/L		1,2-DICHLOROETHANE	5	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	540-59-0	5	U		UG/L		1,2-DICHLOROETHENE (T	5	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	78-87-5	5	U		UG/L		1,2-DICHLOROPROPANE	5	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	78-93-3	10	U		UG/L		2-BUTANONE	10	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	591-78-6	10	U		UG/L		2-HEXANONE	10	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	108-10-1	10	U		UG/L		4-METHYL-2-PENTANONE	10	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	67-64-1	10	U		UG/L		ACETONE	10	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	71-43-2	5	U		UG/L		BENZENE	5	JA	1						
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	75-27-4	5	U		UG/L		BROMODICHLOROMETH	5	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	75-25-2	5	U		UG/L		BROMOFORM	5	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	74-83-9	10	U		UG/L		BROMOMETHANE	10	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	75-15-0	5	U		UG/L		CARBON DISULFIDE	5	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	56-23-5	5	U		UG/L		CARBON TETRACHLORID	5	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	108-90-7	5	U		UG/L		CHLOROBENZENE	5	JA	1						
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	75-00-3	10	U		UG/L		CHLOROETHANE	10	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	67-66-3	2	J		UG/L		CHLOROFORM	5	A							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	74-87-3	10	U		UG/L		CHLOROMETHANE	10	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	10061-01-5	5	U		UG/L		CIS-1,3-DICHLOROPROPE	5	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	124-48-1	5	U		UG/L		DIBROMOCHLOROMETH	5	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	100-41-4	5	U		UG/L		ETHYLBENZENE	5	JA	1						
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	75-09-2	1	BJ		UG/L		METHYLENE CHLORIDE	5	JA				49	5		U
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	100-42-5	5	U		UG/L		STYRENE	5	JA	1						
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	127-18-4	5	U		UG/L		TETRACHLOROETHENE	5	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	108-88-3	5	U		UG/L		TOLUENE	5	JA	1						
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	10061-02-6	5	U		UG/L		TRANS-1,3-DICHLOROPRO	5	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	79-01-6	4	J		UG/L		TRICHLOROETHENE	5	A							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	108-05-4	10	U		UG/L		VINYL ACETATE	10	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	75-01-4	10	U		UG/L		VINYL CHLORIDE	10	V							
SW00551WC	11/19/90	1230	C011310	WATER	C01131003A	ITLC		11/27/90		C011310VBLK2	VOCCLPTCL	TR	1330-20-7	5	U		UG/L		XYLENES (TOTAL)	5	JA	1						

C011310

CONTRACTOR: WOODWARD-CLYDE FEDERAL SERVICES

SAMPLERS: GTM, MLW, TR, LAJ ~~EJD, TRM, MT~~

PROJECT #: 4002-

SITE CONTACT/PHONE: Bruce LaRue (303) 966-5874

LAB/LOCATION: ITCORP - OAKRIDGE, TENNESSEE

C-O-C NUMBER WC-IT01666 (2 of 2)

EG&G ROCKY FLATS PLANT CHAIN OF CUSTODY

DATE	TIME	SAMPLE NUMBER	LOCATION	CONTAINER TYPE	NUMBER OF CONTAINERS	MEDIA SOIL(S) WATER (W)	FILTERED=F POT DISS=P	TURN AROUND RUSH =R	OUT OF SPEC REPORTS REQUIRED	COOLED TO 4 C Y/N	PRESERVATIVE Zn(C2H3O2)2	NAOH	HNO3	H2SO4	Na2S2O3	A VOA-CLP ~~PRESERVED WITH HCL~~	B BNA-CLP	C PEST/PCB-CLP	D TRIAZINES	E OIL AND GREASE	F METALS, Cs, Li, Sr, Sn, Mo	G CN ~~PRESERVED WITH C6H8O6~~	H TSS, TDS, Cl, F, SO4, CO3, HCO3, SI, NO2	I Tot Phos, NO3/NO2, ~~NH4~~	J o-Phos	K H2S	L TOC DOC IF FILTERED	M GROSS A/B	N Pu239/240, Am241	O U233/234, 235, 238	P Sr89/90, Cs137, Ra226, 228	Q H3	R RADIATION SCREEN
11/19/90	1230	SW00551WC	SW095	40 ML AG	2	W			X	Y						A																	
	1231	SW00551WC	SW095	1 L AG	1	W			X	Y				X						E													
	1233	SW00551WC	SW095	1 L POLY	1	W	F		X	Y			X								F												
	1232	SW00551WC	SW095	1 L POLY	1	W			X	Y			X								F												
	1234	SW00551WC	SW095	1 L POLY	1	W			X	Y		X										G											
	1235	SW00551WC	SW095	1 L POLY	1	W			X	Y													H		J								
	1236	SW00551WC	SW095	1 L POLY	1	W			X	Y				X										I									
	1237	SW00551WC	SW095	500 ML POLY	1	W			X	Y	X	X														K							
11/19/90	1242	SW00551WC	SW095	40 ML VL	1	W			X	Y																							X

11/20/90 DMS

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
[signature]	11/19/90	1640	[signature]	11/19/90	1600
[signature]	11/20/90	1530	[signature] ITCORP	11-21-90	1000
[signature]	11/20/90	1600	[signature] ITCORP	11/21/90	0900

REMARKS

SHIPMENT METHOD FED EX

LABORATORY USE ONLY	Y / N
PCKG REC'D/CUSTODY SEALS INTACT	
SAMPLE LABELS/COCs AGREE	
TEMPERATURE WITHIN SPECIFICATION ____C	
CORRECTED COPY ATTACHED	
OTHER PROBLEMS OR DISCREPANCIES	

EG&G ER Department
Rocky Flats Plant

(1/22/91)

ER DEPARTMENT DATA ASSESSMENT SUMMARY REPORT FORM

Batch No. 9011P082 **Site** Surface Water

Laboratory ITAS - Pittsburgh **No. of Samples/Matrix** 5/Water

Method Standard Methods **Reviewer Org.** QuantaLex, Inc.

Sample Numbers SW00512WC, SW00548WC, SW00550WC, SW00551WC, SW70040WC

Data Assessment Summary

		Silica	F	Phos.	Alkal.	Cl	Nitrate/ Nitrite	Sulfide/ Sulfate	Oil&Grease Grav.	Comments
1.	Holding Times	V	A	A	V	V	A	V	A	Action Items 1-2
2.	Calibrations	V	V	V	V	V	V	V	V	
3.	Blanks	V	V	V	V	V	V	V	V	
4.	Lab Control Sample Results	N/A	N/A	N/A	V	V	N/A	N/A	V	
5.	Duplicate Sample Results	V	V	V	V	V	V	V	V	
6.	Matrix Spike Sample Results	V	V	V	N/A	N/A	V	V	N/A	
7.	Sample Verification	V	V	V	V	V	V	V	V	
8.	Other QC	V	V	V	X	V	V	V	V	Comment 1
9.	Overall Assessment	V	A	A	V	V	A	V	A	Data valid or acceptable with qualifications

V = Data had no problems.
A = Data acceptable but qualified due to problems.
R = Data rejected.
X = Problems, but do not affect data.

N/A = Not applicable.

Data Quality: Data contained in this batch were reviewed and found to be valid or acceptable with qualifications. Acceptable, qualified data may be used provided that individual values impacted by the "Action Items" listed below are appropriately flagged. (Refer to attached Results Summary Tables).

011p082w/eg20t

Action Items: 1) All Fluoride, TDS and TSS values are estimated (J), and non-detects are estimated and undetected (UJ) because holding times were exceeded.

2) All o-Phosphate and Nitrite non-detects are rejected (R), and values for o-Phosphate are estimated (J) because holding times were grossly exceeded.

Comments: 1) All Carbonate non-detects are reported to the IDL; correct values appear on the Summary table.

Note: Data Summary Tables are attached.

Reviewer Signature

1/25/91
Date

011p082w/eg20t

PROJECT SAMPLE NO.	SAMPLE COLLECTION DATE MM/DD/Y	TIME HH:M	BATCH NUMBER	SAMPLE MATRIX	LAB SAMPLE NUMBER	LAB ID	SAMPLE PREP DATE MM/DD/Y	SAMPLE ANALYSIS DATE MM/DD/Y	TIME HH:M	BLANK SAMPLE NUMBER	LAB TEST PANEL CODE	RS ID	CAS NUMBER	ANALYTIC RESULT	RSLT QUAL IFIER	2 SIG ERROR	UNIT OF MEASURE	RETEN-TION TIME	PARAMETER NAME	INSTRUMENT DETECTION LIMIT	V	REASONS 1	2	3	4
MB 11/28/90			P082 11/21/90	WATER	MB 11/28/90	ITPA		11/28/90		MB 11/28/90	WQPL	TR	14797-65-0	0.02	U		MG/L		NITRITE						
MB 11/28/90			P082 11/21/90	WATER	MB 11/28/90	ITPA		11/28/90		MB 11/28/90	WQPL	TR	56-38-2	0.01	U		MG/L		ORTHOPHOSPHATE						
MB 11/28/90			P082 11/21/90	WATER	MB 11/28/90	ITPA		11/28/90		MB 11/28/90	WQPL	TR	18496-25-8	1	U		MG/L		SULFIDE						
MB 11/28/90			P082 11/21/90	WATER	MB 11/28/90	ITPA		11/28/90		MB 11/28/90	WQPL	TR	10-33-3	10	U		MG/L		TOTAL DISSOLVED SOLIDS						
MB 11/28/90			P082 11/21/90	WATER	MB 11/28/90	ITPA		11/28/90		MB 11/28/90	WQPL	TR	10-32-2	4	U		MG/L		TOTAL SUSPENDED SOLIDS						
MB 11/29/90			P082 11/21/90	WATER	MB 11/29/90	ITPA		11/29/90		MB 11/29/90	WQPL	TR	10-89-9	0.4	U		MG/L		SILICA						
MB 12/03/90			P082 11/21/90	WATER	MB 12/03/90	ITPA		12/03/90		MB 12/03/90	WQPL	TR	16887-00-6	0.4			MG/L		CHLORIDE						
MB 12/04/90			P082 11/21/90	WATER	MB 12/04/90	ITPA		12/04/90		MB 12/04/90	WQPL	TR	10-13-9	1	U		MG/L		BICARBONATE						
MB 12/04/90			P082 11/21/90	WATER	MB 12/04/90	ITPA		12/04/90		MB 12/04/90	WQPL	TR	3812-32-6	0			MG/L		CARBONATE					99	
MB 12/04/90			P082 11/21/90	WATER	MB 12/04/90	ITPA		12/04/90		MB 12/04/90	WQPL	TR	10-28-6	0.2	U		MG/L		NITRATE/NITRITE						
MB 12/04/90			P082 11/21/90	WATER	MB 12/04/90	ITPA		12/04/90		MB 12/04/90	WQPL	TR	10-32-2	4	U		MG/L		TOTAL SUSPENDED SOLIDS						
MB 12/06/90			P082 11/21/90	WATER	MB 12/06/90	ITPA		12/06/90		MB 12/06/90	WQPL	TR	10-28-6	0.02	U		MG/L		NITRATE/NITRITE						
MB 12/10/90			P082 11/21/90	WATER	MB 12/10/90	ITPA		12/10/90		MB 12/10/90	WQPL	TR	14265-44-2	0.01	U		MG/L		TOTAL PHOSPHATE						
MB 12/13/90			P082 11/21/90	WATER	MB 12/13/90	ITPA		12/13/90		MB 12/13/90	WQPL	TR	14808-79-8	2	U		MG/L		SULFATE						
MB 12/29/90			P082 11/21/90	WATER	MB 12/29/90	ITPA		12/29/90		MB 12/29/90	WQPL	TR	16984-48-8	0.1	U		MG/L		FLUORIDE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 DUP	ITPA		12/04/90		MB 12/04/90	WQPL	D	10-13-9	220			MG/L		BICARBONATE	V					
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 S	ITPA		12/04/90		MB 12/04/90	WQPL	S	10-13-9	90			%		BICARBONATE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804	ITPA		12/04/90		MB 12/04/90	WQPL	TR	10-13-9	220			MG/L		BICARBONATE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 DUP	ITPA		12/04/90		MB 12/04/90	WQPL	D	3812-32-6	0			MG/L		CARBONATE					99	
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804	ITPA		12/04/90		MB 12/04/90	WQPL	TR	3812-32-6	0			MG/L		CARBONATE	V				99	
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 S	ITPA		12/04/90		MB 12/04/90	WQPL	S	3812-32-6	90			%		CARBONATE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 S	ITPA		12/03/90		MB 12/03/90	WQPL	S	16887-00-6	97			%		CHLORIDE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804	ITPA		12/03/90		MB 12/03/90	WQPL	TR	16887-00-6	46			MG/L		CHLORIDE	V					
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 DUP	ITPA		12/03/90		MB 12/03/90	WQPL	D	16887-00-6	47			MG/L		CHLORIDE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 DUP	ITPA		12/29/90		MB 12/29/90	WQPL	D	16984-48-8	0.6			MG/L		FLUORIDE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804	ITPA		12/29/90		MB 12/29/90	WQPL	TR	16984-48-8	0.6			MG/L		FLUORIDE	JA	2				
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 S	ITPA		12/29/90		MB 12/29/90	WQPL	S	16984-48-8	95			%		FLUORIDE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804	ITPA		12/06/90		MB 12/06/90	WQPL	TR	10-28-6	0.02	U		MG/L		NITRATE/NITRITE	V					
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 S	ITPA		12/06/90		MB 12/06/90	WQPL	S	10-28-6	104			%		NITRATE/NITRITE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 DUP	ITPA		12/06/90		MB 12/06/90	WQPL	D	10-28-6	0.02	U		MG/L		NITRATE/NITRITE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 S	ITPA		11/28/90		MB 11/28/90	WQPL	S	14797-65-0	94			%		NITRITE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 DUP	ITPA		11/28/90		MB 11/28/90	WQPL	D	14797-65-0	0.02	U		MG/L		NITRITE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804	ITPA		11/28/90		MB 11/28/90	WQPL	TR	14797-65-0	0.02	U		MG/L		NITRITE	R	2				
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 S	ITPA		11/28/90		MB 11/28/90	WQPL	S	56-38-2	88			%		ORTHOPHOSPHATE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 DUP	ITPA		11/28/90		MB 11/28/90	WQPL	D	56-38-2	0.01	U		MG/L		ORTHOPHOSPHATE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804	ITPA		11/28/90		MB 11/28/90	WQPL	TR	56-38-2	0.01	U		MG/L		ORTHOPHOSPHATE	R	2				
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 S	ITPA		11/29/90		MB 11/29/90	WQPL	S	10-89-9	84			%		SILICA						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804	ITPA		11/29/90		MB 11/29/90	WQPL	TR	10-89-9	6.5			MG/L		SILICA						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 DUP	ITPA		11/29/90		MB 11/29/90	WQPL	D	10-89-9	6.5			MG/L		SILICA						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 S	ITPA		12/13/90		MB 12/13/90	WQPL	S	14808-79-8	96			%		SULFATE						

PROJECT SAMPLE NO.	SAMPLE COLLECTION DATE MM/DD/Y	TIME HH:M	BATCH NUMBER	SAMPLE MATRIX	LAB SAMPLE NUMBER	LAB ID	SAMPLE PREP DATE MM/DD/Y	SAMPLE ANALYSIS DATE MM/DD/Y	TIME HH:M	BLANK SAMPLE NUMBER	LAB TEST PANEL CODE	RS ID	CAS NUMBER	ANALYTIC RESULT	RSLT QUAL IFIER	2 SIG ERROR	UNIT OF MEASURE	RETEN-TION TIME	PARAMETER NAME	INSTRUMENT DETECTION LIMIT	V	REASONS 1	2	3	4
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804	ITPA		12/13/90		MB 12/13/90	WQPL	TR	14808-79-8	35			MG/L		SULFATE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 DUP	ITPA		12/13/90		MB 12/13/90	WQPL	D	14808-79-8	33			MG/L		SULFATE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 S	ITPA		11/28/90		MB 11/28/90	WQPL	S	18496-25-8	90			%		SULFIDE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 DUP	ITPA		11/28/90		MB 11/28/90	WQPL	D	18496-25-8	1	U		MG/L		SULFIDE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804	ITPA		11/28/90		MB 11/28/90	WQPL	TR	18496-25-8	1	U		MG/L		SULFIDE		V				
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804	ITPA		11/28/90		MB 11/28/90	WQPL	TR	10-33-3	350			MG/L		TOTAL DISSOLVED SOLIDS		JA	1			
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 DUP	ITPA		11/28/90		MB 11/28/90	WQPL	D	10-33-3	310			MG/L		TOTAL DISSOLVED SOLIDS						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 S	ITPA		12/10/90		MB 12/10/90	WQPL	S	14265-44-2	89			%		TOTAL PHOSPHATE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 DUP	ITPA		12/10/90		MB 12/10/90	WQPL	D	14265-44-2	0.01	U		MG/L		TOTAL PHOSPHATE						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804	ITPA		12/10/90		MB 12/10/90	WQPL	TR	14265-44-2	0.01	U		MG/L		TOTAL PHOSPHATE		V				
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804 DUP	ITPA		12/04/90		MB 12/04/90	WQPL	D	10-32-2	4	U		MG/L		TOTAL SUSPENDED SOLIDS						
SW00512WC	11/20/90		P082 11/21/90	WATER	Q01113804	ITPA		11/28/90		MB 11/28/90	WQPL	TR	10-32-2	4	U		MG/L		TOTAL SUSPENDED SOLIDS		JA	1	11		
SW00548WC	11/19/90		P082 11/21/90	WATER	Q01113801	ITPA		12/04/90		MB 12/04/90	WQPL	TR	10-13-9	310			MG/L		BICARBONATE		V				
SW00548WC	11/19/90		P082 11/21/90	WATER	Q01113801	ITPA		12/04/90		MB 12/04/90	WQPL	TR	3812-32-6	0			MG/L		CARBONATE		V				99
SW00548WC	11/19/90		P082 11/21/90	WATER	Q01113801	ITPA		12/03/90		MB 12/03/90	WQPL	TR	16887-00-6	58			MG/L		CHLORIDE		V				
SW00548WC	11/19/90		P082 11/21/90	WATER	Q01113801	ITPA		12/29/90		MB 12/29/90	WQPL	TR	16984-48-8	0.5			MG/L		FLUORIDE		JA	1			
SW00548WC	11/19/90		P082 11/21/90	WATER	Q01113801	ITPA		12/04/90		MB 12/04/90	WQPL	TR	10-28-6	7.0			MG/L		NITRATE/NITRITE		V				
SW00548WC	11/19/90		P082 11/21/90	WATER	Q01113801	ITPA		11/28/90		MB 11/28/90	WQPL	TR	14797-65-0	0.02	U		MG/L		NITRITE		R	2			
SW00548WC	11/19/90		P082 11/21/90	WATER	Q01113801	ITPA		11/28/90		MB 11/28/90	WQPL	TR	56-38-2	0.01	U		MG/L		ORTHOPHOSPHATE		R	2			
SW00548WC	11/19/90		P082 11/21/90	WATER	Q01113801	ITPA		11/29/90		MB 11/29/90	WQPL	TR	10-89-9	5.9			MG/L		SILICA		V				
SW00548WC	11/19/90		P082 11/21/90	WATER	Q01113801	ITPA		12/13/90		MB 12/13/90	WQPL	TR	14808-79-8	53			MG/L		SULFATE		V				
SW00548WC	11/19/90		P082 11/21/90	WATER	Q01113801	ITPA		11/28/90		MB 11/28/90	WQPL	TR	10-33-3	520			MG/L		TOTAL DISSOLVED SOLIDS		JA	1			
SW00548WC	11/19/90		P082 11/21/90	WATER	Q01113801	ITPA		12/10/90		MB 12/10/90	WQPL	TR	14265-44-2	0.01			MG/L		TOTAL PHOSPHATE		V				
SW00548WC	11/19/90		P082 11/21/90	WATER	Q01113801	ITPA		11/28/90		MB 11/28/90	WQPL	TR	10-32-2	6			MG/L		TOTAL SUSPENDED SOLIDS		JA	1	11		
SW00550WC	11/19/90		P082 11/21/90	WATER	Q01113802	ITPA		12/04/90		MB 12/04/90	WQPL	TR	10-13-9	350			MG/L		BICARBONATE		V				
SW00550WC	11/19/90		P082 11/21/90	WATER	Q01113802	ITPA		12/04/90		MB 12/04/90	WQPL	TR	3812-32-6	0			MG/L		CARBONATE		V				99
SW00550WC	11/19/90		P082 11/21/90	WATER	Q01113802	ITPA		12/03/90		MB 12/03/90	WQPL	TR	16887-00-6	81			MG/L		CHLORIDE		V				
SW00550WC	11/19/90		P082 11/21/90	WATER	Q01113802	ITPA		12/29/90		MB 12/29/90	WQPL	TR	16984-48-8	0.6			MG/L		FLUORIDE		JA	1			
SW00550WC	11/19/90		P082 11/21/90	WATER	Q01113802	ITPA		12/04/90		MB 12/04/90	WQPL	TR	10-28-6	290			MG/L		NITRATE/NITRITE		V				
SW00550WC	11/19/90		P082 11/21/90	WATER	Q01113802	ITPA		11/28/90		MB 11/28/90	WQPL	TR	14797-65-0	0.02	U		MG/L		NITRITE		R	2			
SW00550WC	11/19/90		P082 11/21/90	WATER	Q01113802	ITPA		11/28/90		MB 11/28/90	WQPL	TR	56-38-2	0.02			MG/L		ORTHOPHOSPHATE		JA	2			
SW00550WC	11/19/90		P082 11/21/90	WATER	Q01113802	ITPA		11/29/90		MB 11/29/90	WQPL	TR	10-89-9	8.0			MG/L		SILICA		V				
SW00550WC	11/19/90		P082 11/21/90	WATER	Q01113802	ITPA		12/13/90		MB 12/13/90	WQPL	TR	14808-79-8	110			MG/L		SULFATE		V				
SW00550WC	11/19/90		P082 11/21/90	WATER	Q01113802	ITPA		11/28/90		MB 11/28/90	WQPL	TR	10-33-3	2700			MG/L		TOTAL DISSOLVED SOLIDS		JA	1			
SW00550WC	11/19/90		P082 11/21/90	WATER	Q01113802	ITPA		12/10/90		MB 12/10/90	WQPL	TR	14265-44-2	0.04			MG/L		TOTAL PHOSPHATE		V				
SW00550WC	11/19/90		P082 11/21/90	WATER	Q01113802	ITPA		11/28/90		MB 11/28/90	WQPL	TR	10-32-2	16			MG/L		TOTAL SUSPENDED SOLIDS		JA	1	11		
SW00551WC	11/19/90		P082 11/21/90	WATER	Q01113803	ITPA		12/04/90		MB 12/04/90	WQPL	TR	10-13-9	300			MG/L		BICARBONATE		V				
SW00551WC	11/19/90		P082 11/21/90	WATER	Q01113803	ITPA		12/04/90		MB 12/04/90	WQPL	TR	3812-32-6	0			MG/L		CARBONATE		V				99
SW00551WC	11/19/90		P082 11/21/90	WATER	Q01113803	ITPA		12/03/90		MB 12/03/90	WQPL	TR	16887-00-6	130			MG/L		CHLORIDE		V				
SW00551WC	11/19/90		P082 11/21/90	WATER	Q01113803	ITPA		12/29/90		MB 12/29/90	WQPL	TR	16984-48-8	1.0			MG/L		FLUORIDE		JA	1			

PROJECT SAMPLE NO.	SAMPLE COLLECTION DATE MM/DD/Y	TIME HH:M	BATCH NUMBER	SAMPLE MATRIX	LAB SAMPLE NUMBER	LAB ID	SAMPLE PREP DATE MM/DD/Y	SAMPLE ANALYSIS DATE MM/DD/Y	TIME HH:M	BLANK SAMPLE NUMBER	LAB TEST PANEL CODE	RS ID	CAS NUMBER	ANALYTIC RESULT	RSLT QUAL IFIER	2 SIG ERROR	UNIT OF MEASURE	RETEN-TION TIME	PARAMETER NAME	INSTRUMENT DETECTION LIMIT	V	REASONS 1	2	3	4
SW00551WC	11/19/90		P082 11/21/90	WATER	Q01113803	ITPA		12/04/90		MB 12/04/90	WQPL	TR	10-28-6	410			MG/L		NITRATE/NITRITE		V				
SW00551WC	11/19/90		P082 11/21/90	WATER	Q01113803	ITPA		11/28/90		MB 11/28/90	WQPL	TR	14797-65-0	0.02	U		MG/L		NITRITE		R	2			
SW00551WC	11/19/90		P082 11/21/90	WATER	Q01113803	ITPA		11/28/90		MB 11/28/90	WQPL	TR	56-38-2	0.01			MG/L		ORTHOPHOSPHATE		JA	2			
SW00551WC	11/19/90		P082 11/21/90	WATER	Q01113803	ITPA		11/29/90		MB 11/29/90	WQPL	TR	10-89-9	6.8			MG/L		SILICA		V				
SW00551WC	11/19/90		P082 11/21/90	WATER	Q01113803	ITPA		12/13/90		MB 12/13/90	WQPL	TR	14808-79-8	170			MG/L		SULFATE		V				
SW00551WC	11/19/90		P082 11/21/90	WATER	Q01113803	ITPA		11/28/90		MB 11/28/90	WQPL	TR	10-33-3	3800			MG/L		TOTAL DISSOLVED SOLIDS		JA	1			
SW00551WC	11/19/90		P082 11/21/90	WATER	Q01113803	ITPA		12/10/90		MB 12/10/90	WQPL	TR	14265-44-2	0.04			MG/L		TOTAL PHOSPHATE		V				
SW00551WC	11/19/90		P082 11/21/90	WATER	Q01113803	ITPA		11/28/90		MB 11/28/90	WQPL	TR	10-32-2	11			MG/L		TOTAL SUSPENDED SOLIDS		JA	1	11		
SW70040WC	11/19/90		P082 11/21/90	WATER	Q01113807	ITPA		12/04/90		MB 12/04/90	WQPL	TR	10-13-9	100			MG/L		BICARBONATE		V				
SW70040WC	11/19/90		P082 11/21/90	WATER	Q01113807	ITPA		12/04/90		MB 12/04/90	WQPL	TR	3812-32-6	0			MG/L		CARBONATE		V				99
SW70040WC	11/19/90		P082 11/21/90	WATER	Q01113807	ITPA		12/03/90		MB 12/03/90	WQPL	TR	16887-00-6	120			MG/L		CHLORIDE		V				
SW70040WC	11/19/90		P082 11/21/90	WATER	Q01113807	ITPA		12/29/90		MB 12/29/90	WQPL	TR	16984-48-8	0.4			MG/L		FLUORIDE		JA	1			
SW70040WC	11/19/90		P082 11/21/90	WATER	Q01113807	ITPA		12/04/90		MB 12/04/90	WQPL	TR	10-28-6	1.8			MG/L		NITRATE/NITRITE		V				
SW70040WC	11/19/90		P082 11/21/90	WATER	Q01113807	ITPA		11/28/90		MB 11/28/90	WQPL	TR	14797-65-0	0.02	U		MG/L		NITRITE		R	2			
SW70040WC	11/19/90		P082 11/21/90	WATER	Q01113807	ITPA		11/29/90		MB 11/29/90	WQPL	TR	10-89-9	2.2			MG/L		SILICA		V				
SW70040WC	11/19/90		P082 11/21/90	WATER	Q01113807	ITPA		12/13/90		MB 12/13/90	WQPL	TR	14808-79-8	18			MG/L		SULFATE		V				
SW70040WC	11/19/90		P082 11/21/90	WATER	Q01113807	ITPA		11/28/90		MB 11/28/90	WQPL	TR	10-33-3	310			MG/L		TOTAL DISSOLVED SOLIDS		JA	1			
SW70040WC	11/19/90		P082 11/21/90	WATER	Q01113807	ITPA		12/10/90		MB 12/10/90	WQPL	TR	14265-44-2	0.08			MG/L		TOTAL PHOSPHATE		V				
SW70040WC	11/19/90		P082 11/21/90	WATER	Q01113807	ITPA		11/28/90		MB 11/28/90	WQPL	TR	10-32-2	62			MG/L		TOTAL SUSPENDED SOLIDS		JA	1	11		
$$$																									

genP082Xls36

CONTRACTOR WOODWARD-CLYDE FEDERAL SERVICES SAMPLERS ~~EJD, TRM, MTR~~ OTM, MLW, MTR, LAJ DJD PROJECT # 4002-410

SITE CONTACT/PHONE Bruce LaRue (303) 966-5874

LAB/LOCATION ITCORP - OAKRIDGE, TENNESSEE

C-O-C NUMBER WC-IT0166 (2 of 2)

EG&G ROCKY FLATS PLANT CHAIN OF CUSTODY

DATE/TIME		SAMPLE NUMBER	LOCATION	CONTAINER TYPE	NUMBER OF CONTAINERS	MEDIA SOIL(S) WATER (W)	FILTERED=F POT DISS=P	TURN AROUND RUSH =R	OUT OF SPEC REPORTS REQUIRED	PRESERVATIVE: COOLED TO 4 C Y/N	Zn(C2H3O2)2	NAOH	HNO3	H2SO4	Na2S2O3	A: VOA-CLP ~~PRESERVED WITH HCL~~	B: BNA-CLP	C: PEST/PCB-CLP	D: TRIAZINES	E: OIL AND GREASE	F: METALS, Cs, Li, Sr, Sn, Mo	G: CN ~~PRESERVED WITH C6H8O6~~	H: TSS, TDS, Cl, F, SO4, CO3, HCO3, SI, NO2	I: Tot Phos, NO3/NO2, ~~NH4~~	J: o-Phos	K: H2S	L: TOC DOC IF FILTERED	M: GROSS A/B	N: Pu239/240, Am241	O: U233/234, 235, 238	P: Sr89/90, Cs137, Ra226, 228	Q: H3	R: RADIATION SCREEN
11/19/90	1230	SW00551WC	SW095	40 ML AG	2	W			X	Y						A																	
	1231	SW00551WC	SW095	1 L AG	1	W			X	Y				X						E													
	1233	SW00551WC	SW095	1 L POLY	1	W	F		X	Y			X								F												
	1232	SW00551WC	SW095	1 L POLY	1	W			X	Y			X								F												
	1234	SW00551WC	SW095	1 L POLY	1	W			X	Y		X										G											
	1235	SW00551WC	SW095	1 L POLY	1	W			X	Y													H		J								
	1236	SW00551WC	SW095	1 L POLY	1	W			X	Y				X										I									
	1237	SW00551WC	SW095	500 ML POLY	1	W			X	Y	X	X														K							
11/19/90	1242	SW00551WC	SW095	40 ML VL	1	W			X	Y																							X

11/22/90 DJD

RELINQUISHED BY	DATE/TIME		RECEIVED BY	DATE/TIME	
[illegible]	11/19/90	1600	[illegible]	11/19/90	1600
[illegible]	11/20/90	1530	[illegible]	11-21-90	1000
[illegible]	11/20/90	16:30	11/20/90 You ARE only getting		
NITRATES	WENT TO		THE NITRATES		

REMARKS Relinquished By: S. M. McElroy 11/ /90

SHIPMENT METHOD FED EX

Received [illegible]

LABORATORY USE ONLY	Y / N
PCKG REC'D/CUSTODY SEALS INTACT	
SAMPLE LABELS/COCs AGREE	
TEMPERATURE WITHIN SPECIFICATION ____ C	
CORRECTED COPY ATTACHED	

OTHER PROBLEMS OR DISCREPANCIES
Received Gen Chem & Nutrient Bottle at IT Pitt 11-27-90

0764

EG&G EM Department
Rocky Flats Plant

(07/01/91)

EM DEPARTMENT DATA ASSESSMENT SUMMARY REPORT FORM

File No. 9011T426 **Site** Surface Water Monitoring

Laboratory Teledyne **No. of Samples/Matrix** 20/Water

QLI No. R00360 **Reviewer Org.** QuantaLex, Inc.

Sample Numbers SW00474WC, SW00470WC, SW00534WC, SW00509WC, SW00528WC, SW00519WC, SW00557WC, SW00560WC, SW00544WC, SW00513WC, SW00517WC, SW00518WC, SW00549WC, SW00551WC, SW00550WC, SW00512WC, SW00548WC, SW00540WC, SW00542WC, SW00541WC

Data Assessment Summary

Gross a + b Analysis by Gas Proportional Counters	Alpha	Beta	Comments
1. Holding Times	V	V	
2. Initial Calibrations	V	V	
3. Continuing Calibrations	V	V	
4. Laboratory Blanks	V	V	
5. Lab Replicates	X	X	See Action Item 1
6. Lab Control Samples	V	V	See Comment 1
7. Size of Aliquot	V	V	See Comment 2
8. Self-Absorption Factors	V	V	
9. Sample Calculations	V	V	See Comment 3
10. Overall Assessment	V	V	See Comment 4

V = Data had no problems.
A = Data acceptable but qualified due to problems.
R = Data rejected.
X = Problems, but do not affect data.

Data Quality: Data contained in this batch were reviewed and found to be valid. (Refer to attached Data Summary Tables).

011t426g/nwl

Action Items: 1) Lab Replicates: No lab replicates were analyzed with this Sample Delivery Group (SDG), however this did not affect the overall quality of the data; thus the results were flagged X.

Comments: 1) Lab Control Sample (LCSs): The relative percent error for the Gross alpha LCS was 0.8%. The relative percent error for the Gross beta LCS was 14.1%.

2) Minimum Detectable Activities (MDAs): The MDAs for samples SW00474WC, SW00534WC, SW00528WC, SW00560WC, SW00517WC, SW00551WC, SW00540WC, SW00551WC, SW00540WC, and SW00550WC exceeded the Required Detection Limit (RDL) for the Gross alpha analysis due to heavy dissolved solids in the sample matrices. The MDAs for samples SW00528WC, SW00551WC, and SW00550WC exceeded the RDL for the Gross beta analysis due to heavy dissolved solids in the sample matrices.

3) Sample Calculations: The laboratory reported estimated values on the Data Summary Report Table for those samples with activities less than the MDA. The reviewer reported the laboratory's actual values in the QLI Result column of the Data Summary Table.

4) Overall Assessment: The laboratory did not report the MDAs for the Gross alpha and Gross beta analyses. The reviewer calculated the MDAs as follows:

Sample ID	Gross alpha MDA (pCi/L)	Gross beta MDA (pCi/L)
SW00474WC	3.74	3.99
SW00470WC	2.07	2.52
SW00534WC	3.64	3.96
SW00509WC	2.19	2.56
SW00528WC	32.00	52.71
SW00519WC	2.43	2.64
SW00557WC	1.84	2.47
SW00560WC	3.65	3.96
SW00513WC	2.17	2.56
SW00544WC	2.20	2.57
SW00517WC	2.52	2.67
SW00518WC	2.24	2.58
SW00549WC	2.31	2.60
SW00551WC	13.43	15.47
SW00542WC	2.26	2.58
SW00540WC	2.54	2.67
SW00541WC	2.39	2.62

Sample ID	(pCi/L)	(pCi/L)
SW00548WC	2.45	2.64
SW00512WC	2.17	2.56
SW00550WC	12.47	15.15
Set 426 LCS	1.81	2.44
Set 426 BLK	1.37	2.33

Note: Data Summary Tables are attached.

Nikki Wilson
Validator Signature

7/17/91
Date

Richard Thurman
Reviewer Signature

7/17/91
Date

011t426g/nw1

Radiochemical Data Completeness
Checklist for Radiometric and Gross α & β Analyses
of Soil and Water by Gas Proportional Counters

A. Yes ___ Case Narrative
- Yes ___ Abnormalities explained
- Yes ___ Matrix Problems explained
- Yes ___ Instrument problems explained
- Yes ___ Improper collection, storage, preservation, container explained
- Yes ___ Hold times met, explained if not met

B. Yes ___ Initial and Continuing Calibration Data Package
- Yes ___ Detector ID
- Yes ___ Date and Time calibrated, calibration check, Analyst initials
- Yes ___ Radionuclide Standard Name, NIST certification and expiration dates, and DPM value
- Yes ___ Aliquots of standards used
- Yes ___ Raw tapes from counters showing alpha and beta counts obtained and count durations for each weight of salt
- Yes ___ Weights of salts
- Yes ___ Efficiencies
- Yes ___ Best fit curve coefficients
- Yes ___ Reliability check source name, NIST certification, expiration and DPM activity
- Yes ___ Raw tapes from counters showing alpha and beta counts obtained and count durations for reliability checksource
- N/A ___ Efficiency checksource name, NIST certification, expiration, and DPM activity
- N/A ___ Raw tapes from counters showing alpha and beta counts obtained and count duration for checksource
- Yes ___ Efficiency obtained for checksource
- Yes ___ Results of lab statistical test used to evaluate reliability and efficiency checks
- Yes ___ Background counts obtained and count duration for each detector
- Yes ___ Results of lab statistical test used to evaluate the instrument background

C. Yes ___ Reagent Blanks Data Package
- Yes ___ ID of each detector used
- Yes ___ Analyst initials
- Yes ___ Date reagent blanks were analyzed
- Yes ___ ID of samples analyzed with the reagent blanks
- No ___ Type of method blank used, MDA of method
- Yes ___ Volume of aliquot for reagent blanks

D. No ___ Replicate Sample Data Package
- No ___ ID of each detector used
- No ___ Analyst Initials
- No ___ Date sample and replicates were analyzed
- No ___ Sample IDs, values obtained for sample and replicates
- No ___ Count Duration of sample and replicates
- No ___ Volume of aliquot for sample and replicates
- No ___ Calculated uncertainties and MDAs

E. Yes ___ Lab Control Samples (LCSs) Data Package
- Yes ___ ID of each detector used
- Yes ___ Analyst initials
- Yes ___ Date LCSs were analyzed
- Yes ___ ID of LCS
- Yes ___ Values obtained for LCSs with uncertainty and MDA
- No ___ True value of LCSs with uncertainty
- Yes ___ ID of samples analyzed with the LCSs

F. Yes ___ Minimum Detectable Activity
- Yes ___ Background measurements including: counts and count durations of samples and backgrounds taken during the same weekly time period
- Yes ___ Date of analysis
- Yes ___ Background CPM
- No ___ MDA calculated for both gross alpha and gross beta analysis of the sample

G. Yes ___ Size of Aliquot in Gross α & β Determination Data Package
- Yes ___ Sample ID
- Yes ___ Calculated volume of sample to deliver 150mgs solids
- Yes ___ Raw data supporting efficiency factor and efficiency factor used

H. Yes ___ Sample Data Package
- Yes ___ Printed report of results for sample, reruns
- Yes ___ Raw Data from counter, copies of notebook pages
- Yes ___ Manual/Computer calculations
- No ___ Sample ID, Detector ID, obtained sample and background counts and count durations observed, aliquot of sample, weight of solids counted, detector efficiency, activities, uncertainties, and MDAs

PROJECT SAMPLE NUMBER	SAMPLE COLLECTION DATE MM/DD/	TIME HH:	BATCH NUMBER	SAMPL MATRIX	LAB SAMPLE NUMBER	LAB ID	SAMPL PREP DATE MM/DD/	SAMPLE ANALYSIS DATE MM/DD/	TIME HH:	BLANK SAMPLE NUMBER	LAB TEST PANEL CODE	RS ID	CAS NUMBER	ANALYTI RESULT	RSLT QUA IFIE	2 SIG ERROR	UNIT OF MEASU	RETEN-TION TIME	PARAMETER NAME	INSTRUMENT DETECTION LIMIT	V	REASONS 1	2	3	4	QLI RESULT	QLI UNIT OF MEASU	QLI QUA FIER
LAB BLANK	11/28/90		45426	WATER	20314	TELI	01/10/91	01/14/91	12:00	20314	DRADS	BL	12587-46-1	1.000	U	0.85 Q	PCI/L		GR-A	2		31	99		54	0.08	PCI/L	
LAB BLANK	11/28/90		45426	WATER	20314	TELI	01/10/91	01/14/91	12:00	20314	DRADS	BL	12587-47-2	2.000	U	1.45 Q	PCI/L		GR-B	4		31	99		54	0.68	PCI/L	
LAB SPIKE	11/28/90		45426	WATER	20312	TELI	01/10/91	01/14/91	12:00	20314	DRADS	SP	12587-46-1	7.500		2.100	PCI/L		GR-A	2		31	99					
LAB SPIKE	11/28/90		45426	WATER	20312	TELI	01/10/91	01/14/91	12:00	20314	DRADS	SP	12587-47-2	26.00		2.000	PCI/L		GR-B	4		31	99					
SW00470WC	11/14/90	11:20	45426	WATER	20270	TELI	12/13/90	12/13/90	12:00	20314	DRADS	TR	12587-46-1	2.000	U	1.23 Q	PCI/L		GR-A	2	V	31	99		54	-0.11	PCI/L	
SW00470WC	11/14/90	11:20	45426	WATER	20270	TELI	12/13/90	12/13/90	12:00	20314	DRADS	TR	12587-47-2	6.500		1.800	PCI/L		GR-B	4	V	31	99					
SW00474WC	11/14/90	09:45	45426	WATER	20268	TELI	12/14/90	12/13/90	12:00	20314	DRADS	TR	12587-46-1	3.800		2.900	PCI/L		GR-A	2	V	31	99	36				
SW00474WC	11/14/90	09:45	45426	WATER	20268	TELI	12/14/90	12/13/90	12:00	20314	DRADS	TR	12587-47-2	14.00		3.000	PCI/L		GR-B	4	V	31	99					
SW00509WC	11/15/90	14:15	45426	WATER	20274	TELI	12/13/90	12/13/90	12:00	20314	DRADS	TR	12587-46-1	2.200		1.700	PCI/L		GR-A	2	V	31	99					
SW00509WC	11/15/90	14:15	45426	WATER	20274	TELI	12/13/90	12/13/90	12:00	20314	DRADS	TR	12587-47-2	6.200		1.800	PCI/L		GR-B	4	V	31	99					
SW00512WC	11/20/90	13:09	45426	WATER	20298	TELI	12/14/90	12/13/90	12:00	20314	DRADS	TR	12587-46-1	4.400		2.000	PCI/L		GR-A	2	V	31	99					
SW00512WC	11/20/90	13:09	45426	WATER	20298	TELI	12/14/90	12/13/90	12:00	20314	DRADS	TR	12587-47-2	9.200		2.000	PCI/L		GR-B	4	V	31	99					
SW00513WC	11/19/90	14:30	45426	WATER	20286	TELI	12/13/90	12/13/90	12:00	20314	DRADS	TR	12587-46-1	4.500		2.000	PCI/L		GR-A	2	V	31	99					
SW00513WC	11/19/90	14:30	45426	WATER	20286	TELI	12/13/90	12/13/90	12:00	20314	DRADS	TR	12587-47-2	7.100		1.900	PCI/L		GR-B	4	V	31	99					
SW00517WC	11/19/90	13:40	45426	WATER	20288	TELI	12/13/90	12/13/90	12:00	20314	DRADS	TR	12587-46-1	4.900		2.200	PCI/L		GR-A	2	V	31	99	36				
SW00517WC	11/19/90	13:40	45426	WATER	20288	TELI	12/13/90	12/13/90	12:00	20314	DRADS	TR	12587-47-2	5.700		1.900	PCI/L		GR-B	4	V	31	99					
SW00518WC	11/19/90	13:40	45426	WATER	20290	TELI	12/13/90	12/13/90	12:00	20314	DRADS	TR	12587-46-1	5.200		2.100	PCI/L		GR-A	2	V	31	99					
SW00518WC	11/19/90	13:40	45426	WATER	20290	TELI	12/13/90	12/13/90	12:00	20314	DRADS	TR	12587-47-2	6.200		1.800	PCI/L		GR-B	4	V	31	99					
SW00519WC	11/15/90	13:20	45426	WATER	20278	TELI	12/13/90	12/13/90	12:00	20314	DRADS	TR	12587-46-1	3.900		2.100	PCI/L		GR-A	2	V	31	99					
SW00519WC	11/15/90	13:20	45426	WATER	20278	TELI	12/13/90	12/13/90	12:00	20314	DRADS	TR	12587-47-2	6.200		1.900	PCI/L		GR-B	4	V	31	99					
SW00528WC	11/15/90	11:18	45426	WATER	20276	TELI	02/08/91	02/13/91	12:00	20314	DRADS	TR	12587-46-1	34.00		25.00	PCI/L		GR-A	2	V	31	99	36				
SW00528WC	11/15/90	11:18	45426	WATER	20276	TELI	02/08/91	02/13/91	12:00	20314	DRADS	TR	12587-47-2	50.00	U	32.9 Q	PCI/L		GR-B	4	V	31	99		54	18.35	PCI/L	
SW00534WC	11/15/90	13:00	45426	WATER	20272	TELI	12/14/90	12/13/90	12:00	20314	DRADS	TR	12587-46-1	9.000		3.400	PCI/L		GR-A	2	V	31	99	36				
SW00534WC	11/15/90	13:00	45426	WATER	20272	TELI	12/14/90	12/13/90	12:00	20314	DRADS	TR	12587-47-2	9.600		2.800	PCI/L		GR-B	4	V	31	99					
SW00540WC	11/26/90	12:09	45426	WATER	20302	TELI	12/14/90	12/13/90	12:00	20314	DRADS	TR	12587-46-1	3.000	U	1.81 Q	PCI/L		GR-A	2	V	31	99	36	54	1.64	PCI/L	
SW00540WC	11/26/90	12:09	45426	WATER	20302	TELI	12/14/90	12/13/90	12:00	20314	DRADS	TR	12587-47-2	5.800		1.900	PCI/L		GR-B	4	V	31	99					
SW00541WC	11/26/90	10:19	45426	WATER	20306	TELI	12/14/90	12/13/90	12:00	20314	DRADS	TR	12587-46-1	2.800		1.900	PCI/L		GR-A	2	V	31	99					
SW00541WC	11/26/90	10:19	45426	WATER	20306	TELI	12/14/90	12/13/90	12:00	20314	DRADS	TR	12587-47-2	4.000		1.800	PCI/L		GR-B	4	V	31	99					
SW00542WC	11/26/90	11:09	45426	WATER	20304	TELI	12/14/90	12/13/90	12:00	20314	DRADS	TR	12587-46-1	2.600		1.800	PCI/L		GR-A	2	V	31	99					
SW00542WC	11/26/90	11:09	45426	WATER	20304	TELI	12/14/90	12/13/90	12:00	20314	DRADS	TR	12587-47-2	3.200		1.700	PCI/L		GR-B	4	V	31	99					
SW00544WC	11/16/90	10:09	45426	WATER	20284	TELI	12/13/90	12/13/90	12:00	20314	DRADS	TR	12587-46-1	2.000	U	1.44 Q	PCI/L		GR-A	2	V	31	99		54	0.59	PCI/L	
SW00544WC	11/16/90	10:09	45426	WATER	20284	TELI	12/13/90	12/13/90	12:00	20314	DRADS	TR	12587-47-2	4.300		1.800	PCI/L		GR-B	4	V	31	99					
SW00548WC	11/20/90	11:09	45426	WATER	20300	TELI	12/14/90	12/13/90	12:00	20314	DRADS	TR	12587-46-1	3.700		2.000	PCI/L		GR-A	2	V	31	99					
SW00548WC	11/20/90	11:09	45426	WATER	20300	TELI	12/14/90	12/13/90	12:00	20314	DRADS	TR	12587-47-2	8.700		2.000	PCI/L		GR-B	4	V	31	99					
SW00549WC	11/19/90	10:32	45426	WATER	20292	TELI	12/14/90	12/13/90	12:00	20314	DRADS	TR	12587-46-1	4.500		2.000	PCI/L		GR-A	2	V	31	99					
SW00549WC	11/19/90	10:32	45426	WATER	20292	TELI	12/14/90	12/13/90	12:00	20314	DRADS	TR	12587-47-2	8.000		1.900	PCI/L		GR-B	4	V	31	99					
SW00550WC	11/19/90	11:39	45426	WATER	20296	TELI	01/10/91	01/14/91	12:00	20314	DRADS	TR	12587-46-1	15.00		10.00	PCI/L		GR-A	2	V	31	99	36				
SW00550WC	11/19/90	11:39	45426	WATER	20296	TELI	01/10/91	01/14/91	12:00	20314	DRADS	TR	12587-47-2	70.00		12.00	PCI/L		GR-B	4	V	31	99	36				

PROJECT SAMPLE NUMBER	SAMPLE COLLECTION DATE MM/DD/	TIME HH:	BATCH NUMBER	SAMPL MATRIX	LAB SAMPLE NUMBER	LAB ID	SAMPL PREP DATE MM/DD/	SAMPLE ANALYSIS DATE MM/DD/	TIME HH:	BLANK SAMPLE NUMBER	LAB TEST PANEL CODE	RS ID	CAS NUMBER	ANALYTI RESULT	RSLT QUA IFIE	2 SIG ERROR	UNIT OF MEASU	RETEN TION TIME	PARAMETER NAME	INSTRUMENT DETECTION LIMIT	V	REASONS 1	2	3	4	QLI RESULT	QLI UNIT OF MEASU	QLI QUA FIER
SW00551WC	11/19/90	12:39	45426	WATER	20294	TELI	01/10/91	01/14/91	12:00	20314	DRADS	TR	12587-46-1	42.00		14.00	PCI/L		GR-A	2	V	31	99	36				
SW00551WC	11/19/90	12:39	45426	WATER	20294	TELI	01/10/91	01/14/91	12:00	20314	DRADS	TR	12587-47-2	110.0		10.00	PCI/L		GR-B	4	V	31	99	36	54	107.25	PCI/L	
SW00557WC	11/16/90	09:45	45426	WATER	20280	TELI	12/13/90	12/13/90	12:00	20314	DRADS	TR	12587-46-1	2.000	U	1.19 Q	PCI/L		GR-A	2	V	31	99		54	0.40	PCI/L	
SW00557WC	11/16/90	09:45	45426	WATER	20280	TELI	12/13/90	12/13/90	12:00	20314	DRADS	TR	12587-47-2	2.600		1.600	PCI/L		GR-B	4	V	31	99					
SW00560WC	11/16/90	10:05	45426	WATER	20282	TELI	12/14/90	12/13/90	12:00	20314	DRADS	TR	12587-46-1	4.000	U	2.6 Q	PCI/L		GR-A	2	V	31	99	36	54	2.35	PCI/L	
SW00560WC	11/16/90	10:05	45426	WATER	20282	TELI	12/14/90	12/13/90	12:00	20314	DRADS	TR	12587-47-2	47.00		4.000	PCI/L		GR-B	4	V	31	99					

CONTRACTOR WOODWARD-CLYDE FEDERAL SERVICES SAMPLERS GTM,MLW,MTR,LAG PROJECT # 4002-410

SITE CONTACT/PHONE Bruce LaRue (303) 966-5874

LAB/LOCATION TELEDYNE - WARDWOOD,N.J.

C-O-C NUMBER WC-T0028

EG&G ROCKY FLATS PLANT
CHAIN OF CUSTODY

DATE/TIME		SAMPLE NUMBER	LOCATION	CONTAINER TYPE	NUMBER OF CONTAINERS	MEDIA SOIL(S) WATER (W)	FILTERED=F POT DISS=P	TURN AROUND RUSH =R	OUT OF SPEC REPORTS REQUIRED	PRESERVATIVE: COOLED TO 4 C Y/N	Zn(C2H3O2)2	NAOH	HNO3	H2SO4	Na2S2O3	A: VOA-CLP PRESERVED WITH HCL	B: BNA-CLP	C: PEST/PCB-CLP	D: TRIAZINES	E: OIL AND GREASE	F: METALS, Cs, Li, Sr, Sn, Mo	G: CN PRESERVED WITH C6H8O6	H: TSS, TDS, Cl, F, SO4, CO3, HCO3, SI,NO2	I: Tot Phos, NO3/NO2, NH4	J: o-Phos	K: H2S	L: TOC DOC IF FILTERED	R: M: GROSS A/B	N: Pu239/240, Am241	O: U233/234, 235, 238	P: Sr89/90, Cs137, Ra226, 228	Q: H3	RADIATION SCREEN
11/19/90	1239	SW00551WC	SW095	GAL POLY	3	W			X	N			X															M	N	O	P		
	1241	SW00551WC	SW095	100 ML AG	1	W			X	N																						Q	
	1139	SW00550WC	SW094	GAL POLY	3	W			X	N			X															M	N	O	P		
11/19/90	1141	SW00550WC	SW094	100 ML AG	1	W			X	N																						Q	

11/20/90 DJD

RELINQUISHED BY	DATE/TIME		RECEIVED BY	DATE/TIME	
[signature]	11/19/90	1600	[signature]	11/29/90	1600
[signature]	11/20/90	1530	Sheldon Jackson ECC	20 Nov	1200

REMARKS

SHIPMENT METHOD FED EX

LABORATORY USE ONLY	Y / N
PCKG REC'D/CUSTODY SEALS INTACT	
SAMPLE LABELS/COCs AGREE	
~~TEMPERATURE WITHIN SPECIFICATION~~ ~~C~~	
CORRECTED COPY ATTACHED	
OTHER PROBLEMS OR DISCREPANCIES	

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 02/27/91

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 7
4-5426	OS-1072 RFEV19	11/28/90	12/31/90	

MR PAUL WHITE
FBASCO SERVICES INCORPORATED
143 UNION BOULEVARD
SUITE 1010
LAKEWOOD CO 80228-1824

WATER - SURFACE

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
20291	SW00549WC SW093 100ML		11/19	1035			H-3	L.T. 2. E 02		02/12			5
20292	SW00549WC SW093 PRSVD		11/19	1032	11/19	1034	GR-A	4.5 +-2.0 E 00		12/13			3
							GR-B	8.0 +-1.9 E 00		12/13			3
							SR-89	L.T. 1. E 00		12/12			3
							SR-90	L.T. 4. E-01		12/12			3
							CS-137	L.T. 8. E-01		01/02			4
							NP-237	L.T. 1. E 00		01/02			4
							U-234	3.6 +-1.2 E 00		01/07			6
							U-235	L.T. 5. E-01		01/07			6
							U-238	7.2 +-1.7 E 00		01/07			6
							AM-241	L.T. 2. E-01		01/23			6 SPEC
							PU-239	L.T. 2. E-02		01/25			6 SPEC
20293	SW00551WC SW095 100ML		11/19	1241			H-3	1.6 +-0.2 E 03		02/12			5
20294	SW00551WC SW095 PRSVD		11/19	1239			RA-226	L.T. 4. E-01		03/05			2
							RA-228	1.6 +-0.7 E 00		12/17			3
							GR-A	4.2 +-1.4 E 01		01/14			3 HIGH
							GR-B	1.1 +-0.1 E 02		01/14			3 HIGH
							SR-89	L.T. 1. E 00		12/12			3
							SR-90	L.T. 3. E-01		12/12			3
							CS-137	L.T. 5. E-01		01/02			4
							NP-237	L.T. 7. E-01		01/02			4
							U-234	7.8 +-0.4 E 01		01/07			6 HIGH
							U-235	2.0 +-0.6 E 00		01/07			6
							U-238	5.5 +-0.3 E 01		01/07			6 HIGH
							AM-241	NOT ANALYZED					6
							PU-239	L.T. 1. E 00		01/09			6 SPEC

CONTRACTOR WOODWARD-CLYDE FEDERAL SERVICES SAMPLERS GTM,MLW,MTR,LAG PROJECT # 4002-410

SITE CONTACT/PHONE Bruce LaRue (303) 966-5874

LAB/LOCATION TELEDYNE - WARDWOOD,N.J.

C-O-C NUMBER WC-T0028

EG&G ROCKY FLATS PLANT CHAIN OF CUSTODY

DATE/TIME	SAMPLE NUMBER	LOCATION	CONTAINER TYPE	NUMBER OF CONTAINERS	MEDIA SOIL(S) WATER (W)	FILTERED=F POT DISS=P	TURN AROUND RUSH =R	OUT OF SPEC REPORTS REQUIRED	COOLED TO 4 C Y/N	PRESERVATIVE Zn(C2H3O2)2	NAOH	HNO3	H2SO4	Na2S2O3	A VOA-CLP PRESERVED WITH HCL	B BNA-CLP	C PEST/PCB-CLP	D TRIAZINES	E OIL AND GREASE	F METALS, Cs, Li, Sr, Sn, Mo	G CN PRESERVED WITH C6H8O6	H TSS, TDS, Cl, F, SO4, CO3, HCO3, SiO2	I Tot Phos, NO3/NO2, NH4	J o-Phos	K H2S	L TOC DOC IF FILTERED	M GROSS A/B	N Pu239/240, Am241	O U233/234, 235, 238	P Sr89/90, Cs137, Ra226, 228	Q H3	R RADIATION SCREEN
11/9/90 1239	SW00551WC	SW095	GAL POLY	3	W			X	N			X															M	N	O	P		
1241	SW00551WC	SW095	100 ML AG	1	W			X	N																						Q	
1139	SW00550WC	SW094	GAL POLY	3	W			X	N			X															M	N	O	P		
11/9/90 1141	SW00550WC	SW094	100 ML AG	1	W			X	N																						Q	

11/20/90 DMY

RELINQUISHED BY	DATE/TIME		RECEIVED BY	DATE/TIME	
[illegible]	11/15/90	1600	[illegible]	11/29/90	1200
[illegible]	11/20/90	1530	Sheldon Jackson GCC	26 hor	1200

REMARKS

SHIPMENT METHOD FED EX

LABORATORY USE ONLY	Y / N
PCKG REC'D/CUSTODY SEALS INTACT	
SAMPLE LABELS/COCs AGREE	
~~TEMPERATURE WITHIN SPECIFICATION ____ C~~	
CORRECTED COPY ATTACHED	
OTHER PROBLEMS OR DISCREPANCIES	