Attachment IV

Data Quality Assessment

Introduction

Attachment IV provides the quality assurance/quality control (QA/QC) data for site characterization samples. The QA/QC data is organized by the chain-of-custody (COC) identification associated with the collection of the particular sample(s). QA/QC data is presented separately for duplicates, equipment blanks, and laboratory QA/QC reports.

It is important to note that the data sets may share QA/QC reports; i.e. the laboratory may have processed samples from several different COC's as a single batch. In these cases, the QA/QC data is displayed with each COC for which it applies.

Quality Control Data

Radionuclide Soil Standard

	Uranium (µg/g)	Th-230 (pCi/g)	Ra-226 (pCi/g)
Standard	42.513	49.7	67.5
Laboratory analysis	48	40	74
% difference	+13	-20	+10
Laboratory analysis	45	46	63
% difference	+ 6	- 7	- 7

Quality Control Data
Soil, Sediment and Source Duplicates

COC #	Location		URANIUM (pCi/g)	TH230 (pCi/g)	RA226 (pCi/g)	NITRATE (ug/g)	FLUORIDE (ug/g)
E0201-95	BH115	Dup	< 0.7			3.0	39.6
	BH115	Sample	2.1			3.0	54.8
		% RPD	144.4			0.0	32.2
E0213-95	BH118	Dup	19.0			6.0	41.0
	BH118	Sample	30.1			5.0	51.8
		% RPD	45.3			18.2	23.3
E0214-95	BH120	Dup	1.3			2.0	72.4
	BH120	Sample	7.5			2.0	84.4
		% RPD	141.5			0.0	15.8
E0227-95	BH126	Dup	1.3			80.0	162.0
	BH126	Sample	2.3			101.0	170.0
		% RPD	56.6			23.2	4.8
E0227-95	BH127	Dup	1.8			132.0	187.0
	BH127	Sample	1.9			143.0	191.0
		% RPD	7.4			8.0	2.1
E0248-95	BH129	Dup	2.2			2.0	98.5
	BH129	Sample	2.4			2.0	73.9
		% RPD	8.7			0.0	28.5
E0303-95	BH131A	Dup	4.7			224.0	292.0
	BH131A	Sample	4.9			229.0	302.0
		% RPD	4.2			2.2	3.4
E0313-95	BH133	Dup	12.1			1.0	96.5
	BH133	Sample	4.2			2.0	103.0
		% RPD	97.1			66.7	6.5
E0319-95	BH139	Dup	3.7			2.0	101.0
	BH139	Sample	4.1			2.0	84.5
		% RPD	8.7			0.0	17.8
E0330-95	BH142	Dup	2.0			10.0	226.0
	BH142	Sample	2.6			9.0	263.0
		% RPD	26.9			10.5	15.1
E0367-95	BH147	Dup	318.9			4.0	438.0
	BH147	Sample	295.2			4.0	386.0
		% RPD	7.7			0.0	12.6
E0431-95	BH150	Dup	38.0			5.0	248.0
	BH150	Sample	33.2			5.0	298.0
		% RPD	13.5			0.0	18.3
E1003-95	HA240	Dup	1.2				
	HA240	Sample	1.3				
		% RPD	5.4				
E1003-95	HA243	Dup	1.2				
	HA243	Sample	1.2				
		% RPD	0.0				
E1014-95	HA251	Dup	< 0.7				
	HA251	Sample	0.7				
		% RPD	66.7				
E1014-95	HA256	Dup	1.3				
	HA256	Sample	1.1				
		% RPD	17.1				
E1014-95	HA268	Dup	0.7				
	HA268	Sample	0.7				
		% RPD	0.0				
E0822-95	HA270	Dup	0.7			4.0	139.0
	HA270	Sample	2.2			5.0	134.0
		% RPD	100.0			22.2	3.7

Quality Control Data
Soil, Sediment and Source Duplicates

COC #	Location		URANIUM (pCi/g)	TH230 (pCi/g)	RA226 (pCi/g)	NITRATE (ug/g)	FLUORIDE (ug/g)
SF951212	HA292	Dup	0.9				
	HA292	Sample	0.8				
		% RPD	8.0				
SF951221	HA304	Dup	2.2				
	HA304	Sample	1.0				
		% RPD	72.3				
SF951311	HA321	Dup	< 0.7			3.0	80.1
	HA321	Sample	< 0.7			3.0	84.7
		% RPD	0.0			0.0	5.6
SF951326	HA327	Dup	3297.0			41.0	83.2
	HA327	Sample	1618.0			23.0	68.0
		% RPD	68.3			56.3	20.1
BAR9607	HA357	Dup	3.5	1.0	1.3		
	HA357	Sample	3.5	1.5	1.2		
		% RPD	0.0	40.0	8.0		
BAR9607	HA364	Dup	13.5	1.1	2.3		
	HA364	Sample	15.6	1.1	2.3		
		% RPD	14.0	0.0	0.0		
BAR9607	HA365	Dup	189.6	2.0	3.1		
	HA365	Sample	196.3	2.0	3.1		383.0
		% RPD	3.5	0.0	0.0		
BAR9607	HA367	Dup	3.5	1.7	2.2		
	HA367	Sample	3.2	1.4	2.1		
		% RPD	6.1	19.4	4.7		
SF951233	HA450	Dup	0.7			523.0	338.0
	HA450	Sample	0.8			479.0	323.0
		% RPD	8.7			8.8	4.5
SF951222	HA461	Dup	5.7			236.0	383.0
	HA461	Sample	2.8			207.0	457.0
		% RPD	68.8			13.1	17.6
E0131-95	SD013	Dup	298.6			29.0	81300.0
	SD013	Sample	312.8			22.0	34300.0
		% RPD	200.0			27.5	200.0
E0131-95	SD015	Dup	1990.4			12.0	445.0
	SD015	Sample	2003.9			30.0	424.0
		% RPD	0.7			85.7	4.8
E0168-95	SD017	Dup	7379.3			20.0	9320.0
	SD017	Sample	11102.8			23.0	10300.0
		% RPD	40.3			14.0	10.0
E0821-95	SD036	Dup	231.5			4.0	403.0
	SD036	Sample	152.3			3.0	341.0
		% RPD	41.3			28.6	16.7
E0857-95	SD046	Dup	14.6				
	SD046	Sample	21.0				
		% RPD	35.7				
E1002-95	SD052	Dup	14.6				
	SD052	Sample	15.5				
		% RPD	6.3				
E1043-95	SD060	Dup	13.9			6.0	394.0
	SD060	Sample	13.9			6.0	367.0
		% RPD	0.0			0.0	7.1

Quality Control Data
Soil, Sediment and Source Duplicates

COC #	Location		URANIUM (pCi/g)	TH230 (pCi/g)	RA226 (pCi/g)	NITRATE (ug/g)	FLUORIDE (ug/g)
E1075-95	SD061	Dup	295.2			< 375.0	25100.0
	SD061	Sample	313.5			< 375.0	27700.0
		% RPD	6.0			0.0	9.8
SF951241	SD176	Dup	2741.9			23.0	1770.0
	SD176	Sample	2741.9			27.0	1790.0
		% RPD	0.0			16.0	1.1
E1138-95	SD188	Dup	5185.8			27200.0	30500.0
	SD188	Sample	5152.0			27200.0	24400.0
		% RPD	0.7			0.0	22.2
E1145-95	SD192	Dup	2098.7			1060.0	2590.0
	SD192	Sample	2200.3			926.0	2040.0
		% RPD	4.7			13.5	23.8
SF960156	GUNA-20	Dup	48.0	40.0	74.0		
		Sample	45.0	46.0	63.0		
		% RPD	6.5	14.0	16.1		

The laboratory QA/QC information is not available for the following data sets. The analyses were completed by Infinity Analytical Services (IAS) and were reported before IAS ceased operation. However, a QA/QC report was not included with the original data report. IAS's working files were recovered by SFC for all CoCs except these three data sets; therefore no laboratory QA/QC information is available.

CoC #s: SF960288,

SF960262,

SF960272.

Quality Control Data
Groundwater Equipment Rinse

COC #	LOCATION	URANIUM (pCi/l)	TH230 (pCi/l)	RA226 (pCi/l)	NITRATE (mg/l)	FLUORIDE (mg/l)
E0450-95	Q-MW031					
E1128-95	Q-MW076A	< 3.4			< 1.0	
E1131-95	Q-MW012A	< 3.4			< 1.0	
SF951198	Q-2348	< 3.4			< 1.0	
E0446-95	Q-MW063	< 3.4				< 0.2
E1157-95	Q-STA11		0.8 ± 0.4		< 1.0	
E1157-95	Q-STA11		0.8 ± 0.4		< 1.0	
SF980174	Q-MW060A	11.5			0.1	< 0.1

Quality Control Data
Groundwater Duplicates

COC #	LOCATION		URANIUM (pCi/l)	TH230 (pCi/l)	RA226 (pCi/l)	NITRATE (mg/l)	FLUORIDE (mg/l)
SF960100	2342	Dup	< 0.7		0.2	2.9	0.2
	2342	Sample	< 0.7		0.2	8.0	0.4
		% RPD	0.0		0.0	93.6	66.7
SF960322	2342	Dup	0.5		0.3	6.0	0.2
	2342	Sample	0.5		0.2	6.5	< 0.2
		% RPD	2.7		40.0	8.0	75.0
SF960319	2343	Dup	3.2		0.8	2000.0	0.4
	2343	Sample	3.1		0.9	1900.0	0.4
		% RPD	2.2		11.8	5.1	5.1
SF960790	2345	Dup	0.8		0.4	< 1.0	0.3
	2345	Sample	< 0.7		0.1	< 1.0	0.4
		% RPD	82.4		120.0	0.0	28.6
SF970418	2345	Dup	0.7		0.1	< 0.1	< 0.3
	2345	Sample	< 0.7		0.5	1.6	0.2
		% RPD	75.0		133.3	187.9	28.6
SF951198	2348	Dup	< 3.4		1.9	3680.0	0.3
	2348	Sample	< 3.4		0.2	3740.0	0.3
		% RPD	0.0		161.9	1.6	0.0
SF970182	2348	Dup			1.2	694.0	
	2348	Sample	0.7		1.2	867.0	0.3
		% RPD			0.0	22.2	
SF960590	2349	Dup	< 0.7		0.1	161.0	< 0.2
	2349	Sample	< 0.7		0.1	152.0	< 0.2
		% RPD	0.0		0.0	5.8	0.0
SF970418	2351	Dup	21.0	3.2	2.2	1870.0	< 1.0
	2351	Sample	1.6		1.6	2230.0	0.4
		% RPD	172.4		31.6	17.6	22.2
SF980174	2351	Dup	5.8		1.5	2820.0	2.9
	2351	Sample	1.4		1.8	2750.0	0.6
		% RPD	124.5		20.2	2.5	131.4
SF970182	2302B	Dup			0.5	49.3	
	2302B	Sample	< 0.7		0.1	35.7	0.3
		% RPD			133.3	32.0	200.0
SF980174	2302B	Dup	6.4		0.5	72.0	< 0.3
	2302B	Sample	1.3		0.1	76.4	0.5
		% RPD	133.3		135.8	5.9	107.7
SF970182	2303A	Dup			0.4	218.0	
	2303A	Sample	7.7		0.1	183.0	0.6
		% RPD			120.0	17.5	200.0
SF980174	2303A	Dup	6.3		0.2	162.0	< 0.3
	2303A	Sample	7.3		0.3	222.0	0.3
		% RPD	14.9		43.9	31.3	66.7
SF980174	2322A	Dup	5.7		0.8	1570.0	< 0.5
	2322A	Sample	0.9		0.4	1410.0	0.3
		% RPD	142.9		64.1	10.7	18.2
SF960231	MW001	Dup	0.9			1.7	1.8
	MW001	Sample	0.7			1.6	1.2
		% RPD	16.7			6.1	40.0
SF960254	MW008A	Dup	1.2			4.0	0.9
	MW008A	Sample	< 0.4			4.3	0.9
		% RPD	145.3			7.2	2.2
SF960768	MW009	Dup	7.0			< 1.0	
	MW009	Sample	7.9			< 1.0	
		% RPD	11.8			0.0	

Quality Control Data
Groundwater Duplicates

COC #	LOCATION		URANIUM (pCi/l)	TH230 (pCi/l)	RA226 (pCi/l)	NITRATE (mg/l)	FLUORIDE (mg/l)
SF980174	MW010	Dup	4129.7			11.0	0.7
	MW010	Sample	4955.6			21.6	0.9
		% RPD	18.2			65.0	25.0
E0684-91	MW011A	Dup	< 3.4			5.4	0.5
		Sample	< 3.4			5.9	0.7
		% RPD	0.0			8.8	33.3
E1131-95	MW012A	Dup	< 3.4			< 1.0	
	MW012A	Sample	7785.5			144.0	
		% RPD	199.9			198.6	
SF960769	MW012B	Dup	10.9			< 1.0	1.4
	MW012B	Sample	11.0			< 1.0	1.5
		% RPD	0.6			0.0	6.9
E0684-91	MW014A	Dup	8.1			96.6	1.0
		Sample	8.1			97.8	1.1
		% RPD	0.0			1.2	9.5
SF960288	MW014A	Dup	88.0			150.0	0.6
	MW014A	Sample	74.5			140.0	0.6
		% RPD	16.7			6.9	1.7
E0684-91	MW017A	Dup	< 3.4			1.2	0.6
		Sample	< 3.4			1.1	0.7
		% RPD	0.0			18.7	15.4
E0675-91	MW022A	Dup	< 3.4			5.3	0.4
		Sample	< 3.4			4.1	0.4
		% RPD	0.0			25.5	0.0
SF980174	MW025	Dup	59576.0			673.0	0.5
	MW025	Sample	75824.0			732.0	1.0
		% RPD	24.0			8.4	66.7
SF970182	MW025A	Dup				230.0	
	MW025A	Sample	724.4			323.0	0.6
		% RPD				33.6	
SF960240	MW027	Dup	4.1			46.0	0.6
	MW027	Sample	4.3			45.0	0.9
		% RPD	6.5			2.2	34.5
E0675-91	MW031A	Dup	6.0			0.9	1.5
		Sample	6.8			0.9	0.9
		% RPD	11.6			0.0	50.0
E0675-91	MW032A	Dup	< 3.4			2.2	0.8
		Sample	< 3.4			2.2	1.4
		% RPD	0.0			0.0	54.5
SF960262	MW035A	Dup	22.3			340.0	
	MW035A	Sample	25.7			300.0	
		% RPD	14.1			12.5	
SF960750	MW035A	Dup	18.8			229.0	
	MW035A	Sample	25.5			159.0	
		% RPD	30.0			36.1	
SF970418	MW035A	Dup	16.2	1.6	0.4	85.0	0.2
	MW035A	Sample	15.2		0.5	126.0	0.4
		% RPD	6.9		22.2	38.9	66.7
SF970182	MW039	Dup				2.2	
	MW039	Sample	0.8			1.8	0.5
		% RPD				20.0	

Quality Control Data
Groundwater Duplicates

COC #	LOCATION		URANIUM (pCi/l)	TH230 (pCi/l)	RA226 (pCi/l)	NITRATE (mg/l)	FLUORIDE (mg/l)
SF970498	MW040	Dup	2.7			1490.0	4.5
	MW040	Sample	0.9			1290.0	2.8
		% RPD	101.9			14.4	48.3
E0450-95	MW042	Dup	< 3.4			4.0	4.3
	MW042	Sample	< 3.4	8.4	0.8	4.0	4.4
		% RPD	0.0			0.0	2.3
E1123-95	MW050A	Dup	392.7				
	MW050A	Sample	404.2				
		% RPD	2.9				
SF960272	MW050A	Dup	345.3			31.0	0.4
	MW050A	Sample	358.8			29.0	0.3
		% RPD	3.8			6.7	24.7
SF960768	MW050B	Dup	< 0.7			< 1.0	1.4
	MW050B	Sample	< 0.7			< 1.0	1.4
		% RPD	0.0			0.0	0.0
E0695-91	MW053A	Dup	< 3.4			53.1	1.4
		Sample	< 3.4			48.3	1.1
		% RPD	0.0			9.5	24.0
SF960268	MW059A	Dup	3.1			2400.0	2.6
	MW059A	Sample	3.3			2600.0	2.4
		% RPD	6.3			8.0	8.0
SF980148	MW059B	Dup	17.6			6.4	
	MW059B	Sample	1.6			5.9	
		% RPD	167.5			8.1	
SF980174	MW060A	Dup	11.5			0.1	< 0.1
	MW060A	Sample	1.5			126.0	0.7
		% RPD	154.2			199.7	173.3
SF980148	MW061A	Dup	22.3		1.0	< 0.1	0.2
	MW061A	Sample	1.4		0.3	< 1.0	2.7
		% RPD	176.1		108.4	163.6	172.4
E0446-95	MW063	Dup	< 3.4				< 0.2
	MW063	Sample	< 3.4				4.8
		% RPD	0.0				191.8
SF970182	MW064A	Dup			-0.1	0.5	
	MW064A	Sample	1.4		0.4	1.2	5.1
		% RPD			333.3	82.4	
SF970182	MW065A	Dup			0.9	2.7	
	MW065A	Sample	0.9		0.7	85.1	1.8
		% RPD			25.0	187.7	
SF970418	MW065A	Dup	2.1		0.8	3.4	0.4
	MW065A	Sample	1.7		0.4	2.6	1.5
		% RPD	21.4		66.7	26.7	115.8
E0675-91	MW066A	Dup	< 3.4			1.3	0.6
		Sample	< 3.4			0.9	1.1
		% RPD	0.0			36.4	58.8
SF960243	MW072B	Dup	0.7			1.0	1.9
	MW072B	Sample	0.7			1.1	1.9
		% RPD	3.0			9.5	0.0
E0695-91	MW075A	Dup	< 3.4			75.8	0.5
		Sample	< 3.4			76.1	0.5
		% RPD	0.0			0.4	0.0

Quality Control Data
Groundwater Duplicates

COC #	LOCATION		URANIUM (pCi/l)	TH230 (pCi/l)	RA226 (pCi/l)	NITRATE (mg/l)	FLUORIDE (mg/l)
E1128-95	MW076A	Dup	< 3.4			< 1.0	
	MW076A	Sample	15.8			11.4	
		% RPD	161.4			183.2	
SF960237	MW079	Dup	5.9			1.6	1.4
	MW079	Sample	5.8			1.9	1.4
		% RPD	2.3			17.1	0.0
E0695-91	MW079A	Dup	< 3.4			2.8	0.6
		Sample	< 3.4			2.7	0.6
		% RPD	0.0			3.6	0.0
E0695-91	MW080A	Dup	< 3.4			1.8	0.7
		Sample	< 3.4			1.9	0.7
		% RPD	0.0			5.4	0.0
SF970182	MW082A	Dup			1.1	225.0	
	MW082A	Sample	4.2		1.0	279.0	0.4
		% RPD			9.5	21.4	
SF980174	MW082A	Dup	16.9		0.5	237.0	< 0.3
	MW082A	Sample	5.0		0.5	390.0	0.7
		% RPD	108.6		4.3	48.8	129.4
E0684-91	MW085A	Dup	< 3.4			1.1	0.7
		Sample	< 3.4			1.1	0.4
		% RPD	0.0			0.0	54.5
E1131-95	MW086	Dup	< 3.4			< 1.0	0.8
	MW086	Sample	< 3.4			< 1.0	0.7
		% RPD	0.0			0.0	13.3
E0695-91	MW087A	Dup	217.3			0.9	0.5
		Sample	279.0			0.7	0.3
		% RPD	24.9			25.0	50.0
E1117-95	MW091A	Dup				< 1.0	
	MW091A	Sample				< 1.0	
		% RPD				0.0	
SF960665	MW093A	Dup	< 0.7			15.8	
	MW093A	Sample	1.2			15.6	
		% RPD	109.1			1.3	
SF960750	MW093A	Dup				14.3	
	MW093A	Sample	6.8			13.5	
		% RPD				5.8	
SF980148	MW095A	Dup	19.0			87.0	
	MW095A	Sample	0.9			114.0	
		% RPD	181.0			26.9	
SF960754	MW105B	Dup	< 0.7			< 1.0	2.5
	MW105B	Sample	< 0.7			< 1.0	1.7
		% RPD	0.0			0.0	38.1
SF960652	MW108	Dup	< 0.7			41.3	< 0.2
	MW108	Sample	< 0.7			38.2	< 0.2
		% RPD	0.0			7.8	0.0
E0820-95	STA03	Dup	< 3.4	0.4	0.4	36.9	0.7
	STA03	Sample	< 3.4	5.5	0.4	36.8	0.5
		% RPD	0.0	172.9	0.0	0.3	33.3
E1157-95	STA11	Dup		0.1		23.4	
	STA11	Sample		0.3		23.7	
		% RPD		100.0		1.3	

Log # E-201-95

QUALITY CONTROL DATA SHEET

	Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
:-1506-94	110-4A (6-12)	TH Pb/Lg	.09			8.4 ✓	7.69	90.7	Wick
	STD	TH Pb/L	16.8	16.8 ✓			16.7	98.7	Wick
	E-201-95 160-4A 6-12	U	1.161			10 ✓	9.029	80.9	MEF BC
	E-201-95 STD	U	100	100 ✓			86.6	86.6	MEF BC
=214	BH-120 5-6	NO3 µg/g	1			100	107	106	MEF
=227	BH-127 0-2 Dup	"	132		✓		129	2.3	|
=313	BH-130 0-2	"	1			100	98	97.0	|
=319	BH 140 0-2	"	2		✓		2	0	|
-1506-94	110-4A (6-12)	PH/S Pa 221	.2			8.4 ✓	6.6	76.7	Wick
-214-95	BH-120 5-6	F µg/g	39.4			400 ✓	395.4	90.0	MEF

Comments:

Log # E-213-95

QUALITY CONTROL DATA SHEET

Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
~~BH-2~~								
E-214 BH 124	Uuglg	3.2		✓		3.4	6.2% D	BC
E-214 BH 124	100	3.4			10 ✓	11.8	87.8%	
E-214 100 STD	↓	100	100 ✓			97.4	97.4%	↓
E214 BH 120 5-6	NO_3 mg/g	1			100	107	106	MEF
E227 BH 127 0-2	" "	132		✓		129	2.3	"
E-313 BH 134 0-2	" "	1			100	98	97.0	"
E-319 BH 140 0-2	" "	2		✓		2	0	"
STD	pCi/L TH-230	16.8	16.8 ✓			16.1	96.0	WICK
E-0214 BH-124 (0-2)	pCi/g TH-230	.14		✓		.17	19.4 DIFF	WICK
E-0214 BH-120 5-6	F mg/g	39.4			400 ✓	395.4	90.0	MEF
E-0214 BH-124 (0-2)	pCi/g RA-226	.11		✓		.18	48.3 DIFF	WICK

Comments:

Log # E-214-95

QUALITY CONTROL DATA SHEET

	Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
	BH 124	U µg/g	3.2		✓		3.4	62% D	BC
	BH 124	↓	3.4			10 ✓	11.8	87.8%	↓
	100 STD	↓	100	100 ✓			97.4	97.4%	↓
E214	BH 120 5-6	NO3 µg/g	1			100	107	106	MEF
E227	BH-127	"	132		✓		129	2.3	"
E313	BH-134	"	1			100	98	97.0	"
E319	BH-140	"	2		✓		2	0	"
E-213	STD	pCi/L TH-230	16.8	16.8 ✓			16.1	96.0	Wick
	BH-124 (0-2)	pCi/g TH-230	.14		✓		.17	19.4 DIFF	Wick
E-214	BH-120 5-6	F µg/g	39.4			400 ✓	395.4	90.0	MEF
E-227	BH-127 0-2 Dup	F µg/g	176		✓		197	11.2	MEF
	BH-124 (0-2)	pCi/g RA 226	.11		✓		.13	42.9 DIFF	Wick

Comments:

Log # E 227-95

QUALITY CONTROL DATA SHEET

	Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
:214	BH-120 5-6	NO3 mg/g	1			100	107	106	MEF
:227	BH-127 0-2 Dup	"	132		✓		129	2.3	"
:-313	BH-134 0-2	"	1			100	98	97.0	"
:-319	BH-140 0-2	"	2		✓		2	0	"
:-249	BH 131A	U µg/g	3.96			20 ✓	21.47	89.6	BC
E-248	STD	U µg/g	100	100 ✓			89.7	89.7	BC
	STD	Pb µg/L TH-290	16.8	16.8 ✓			15.9	94.6	WIK
E-0248	BH-131A 0-2	Pb µg/g TH-330	.97			8.4 ✓	8.1	81.1	WIK
	BH-120 0-2 Dup	F µg/g	176		✓		197	11.2	MEF
	STD	Pb µg/L RA-221	12.1	12.1 ✓			13.5	112	WIK

Comments:

Log # E-0248-95

QUALITY CONTROL DATA SHEET

	Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
=214	BH-120 5-6	NO_2 ug/g	1			100	107	106	MEF
=227	BH-127 0-2 Dup	"	132		✓		129	2.3	"
=313	BH-134 0-2	"	1			100	98	97.0	"
=319	BH-140 0-2	"	2		✓		2	0	"
	BH 131A	U µg/g	3.95			20 ✓	21.47	89.6	BC
	STD	U µg/g	100	100 ✓			89.7	89.7	BC
E-313	BH-135 0-2	F µg/g	223			400 ✓	570	91.6	MEF
=330	BH-143 2.6-2.0	F µg/g	291.5		✓		326.5	11.3	MEF
=313	400 STD	F µg/g	400	✓			370.5	92.8	MEF
-0227	STD	pCi/L TH-230	16.8	16.8 ✓			15.9	94.1	Wick
	BH-131A 0-2	pCi/g TH-230	.97			8.4 ✓	8.1	86.1	Wick
	STD	pCi/L Ra 226	12.1	12.1 ✓			13.5	112	Wick

Comments:

Log # E-303-95

QUALITY CONTROL DATA SHEET

	Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
214	BH-120 5-6	NO_3 µg/g	1			100	107	106	MEF
227	BH-127 0-2 Dup	"	132		✓		129	2.3	"
-313	BH-134 0-2	"	1			100	98	97.0	"
-319	BH-140 0-2	"	2		✓		2	0	"
-319	BH-141	µg/g	111		✓		118	6.4% D	BC
"	BH-141	"	114			20 ✓	135	101%	BC
"	STD	"	100	100 ✓			100	100%	BC
-313	BH-135 0-2	F µg/g	223			400	570	91.6	MEF
-330	BH-143 0.6-2.0	F µg/g	291.5		✓		326.5	11.3	MEF
-313	400 STD	F µg/g	400	✓			370.5	92.8	MEF
	STD	pCi/L TH-230	16.8	16.8 ✓			14.3	86.5	WCK
-0319	BH-141 (0-2)	pCi/g TH-230	1.2		✓		1.5	18.6 DIFF	|
	STD	pCi/L TH-230	16.8	16.8 ✓			15.3	91.2	|
-0317	BH-148 (0-2)	pCi/g TH-230	6.05			8.4 ✓	15.44	107	|
0319	BH-141 (0-2)	pCi/g Ra 226	.30		✓		.34	12.5 DIFF	|

Comments:

Log # E-313 -95

QUALITY CONTROL DATA SHEET

	Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
E-214	BH-120 5-6	NO_3 µg/g	1			100	107	106	MEF
E-227	BH-127 0-2	"	132		✓		129	2.3	MEF
E-313	BH-134 0-2	"	1.			100	98	97.0	MEF
E-319	BH-140 0-2	"	2		✓		2	0	MEF
E-319	BH-141	U µg/g	111		✓		118	6.4% D	BC
"	BH-141	"	114			20 ✓	135	101%	BC
"	U STD	"	100	100 ✓			100	100%	BC
E-313	BH-135 0-20	F µg/g	223			400	570	91.6	MEF
E-330	BH-143 0.6-	F µg/g	2915		✓		3265	11.3	MEF
E-313	400 STD	F µg/g	400	✓			3705	92.8	MEF
E-303	STD	pCi/L TH 230	16.8	16.8 ✓			14.5	86.5	wick
E-319	BH-141 (0-2)	pCi/g TH-230	1.21		✓		1.46	18.6 DIFF	wick
	BH-141 (0-2)	pCi/g Ra 226	.30		✓		.34	12.5 DIFF	wick

Comments:

Log # E-319-95

QUALITY CONTROL DATA SHEET

	Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
E214	BH-120 5-6	NO_3 µg/g	1			100	107	106	MCF
E227	BH 127 0-2 Dup	"	132		✓		129	2.3	MCF
E313	BH 134 0-2	"	1			100	98	97.0	MCF
E319	BH 140 0-2	"	2		✓		2	Ø	MCF
	BH 141	U µg/g	111		✓		118	6.4% D	BC
	BH 141	"	114			20 ✓	135	101	BC
	U STD	"	100	100 ✓			100	100	BC
E313	BH-135-0-2	F µg/g	223			400 ✓	570	91.6	MCF
E330	BH-143 8.6-2.0	F µg/g	291.5		✓		326.5	11.3	MCF
E313	400 STD	F µg/g	400	✓			370.5	92.8	MCF
E303	STD	pCi/L TH 230	16.8	16.6 ✓			14.5	86.5	WICK
	BH-141 (0-2)	pCi/g TH 230	1.21		✓		1.46	18.1 DIFF	WICK
	BH-141 (0-2)	pCi/g Ra 226	.30		✓		.34	12.5 DIFF	WICK

Comments:

Log # E-330-95

QUALITY CONTROL DATA SHEET

	Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
	BH-147 0-2	NO3	7			100	110	106	MEF
	STD	ug/g	100	100 ✓			95.3	95.3	BC
=313	BH-135 0-2	F ug/g	223			400 ✓	570	91.6	MEF
=330	BH-143 0.6-2.0	F ug/g	2915		✓		3265	113	MEF
=313	400 STD	F ug/g	400	✓			3705	92.8	MEF
	STD	pCi/L TH-230	16.8	16.8 ✓			15.3	91.1	wick
=367	BH-148 (0-1)	pCi/g TH-230	6.05			8.4 ✓	15.44	107	wick
	STD	pCi/L Ra 226	12.1	12.1 ✓			11.4	94.2	wick

Comments:

Log # E-367-95

QUALITY CONTROL DATA SHEET

	Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
	BH-147 0-2	NO_3	7			100	110	106	MOF
330	STD	µg/g	100	100 ✓			95.3	95.3%	BC
-313	BH-135 0-2	F µg/g	223			400 ✓	370	91.6	MOF
-330	BH-143 26.6-2.0	F µg/g	291.5		✓		326.5	11.3	MOF
-313	400 STD	F µg/g	400	✓			370.5	92.8	MOF
-330	STD	pCi/L TH-230	16.8	16.8 ✓			15.3	91.2	WICK
	BH-148 (0-2)	pCi/g TH-230	6.05			8.4 ✓	15.44	107	WICK
-0330	STD	pCi/L Ra 221	12.1	12.1 ✓			11.4	94.2	WICK

Comments:

Log # E-431-95

QUALITY CONTROL DATA SHEET

Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
U STD	U µg/L	100	100 ✓			102	102%	BC
BH-150 0-2 Dup	NO3	5			50	108	103	MF
BH 150 0-2 Dup	F	248.4			400 ✓	551.4	85	MF
STD	pCi/L TH 230	16.8	16.8 ✓			12.9	76.5	WICK
BH-149	pCi/L TH 230	3.4		✓		2.4	34.3 DIFF	WICK
BH-149	Ra 226	.342		✓		.142		SG
BLANK	Ra 226	0.242				0		SG

Comments:

INFINITY
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Phone (918) 489-2062 Fax (918) 489-2280

QA/QC ANALYSIS REPORT

Sample Series ID E-1003-95 January 17, 1996

The following sample identifications apply to the tables contained below:

	Spike Lab ID#	Duplicate Lab ID#
Nitrate as N	E-1003-95-11 (HA-237)	E-1043-95-05 (SD060 DUP)
Fluoride	E-1003-95-11 (HA-237)	E-1043-95-05 (SD060 DUP)
Uranium	E-1003-95-10 (HA-236)	E-1003-95-21 (HA-245)
Radium-226	N/A	E-1003-95-11 (HA-237)
Thorium-230	E-1003-95-11 (HA-237)	N/A

COMPOUND	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	% RPD	% LIMITS
Nitrate as N	5.0 (ug/g)	6.0 (ug/g)	1.8	20.0
Fluoride	390 (ug/g)	390 (ug/g)	0.1	20.0
Uranium (spike)	11 (ug/g)	11.4 (ug/g)	1.8	20.0
Radium-226	0.15 (pCi/g)	0.23 (pCi/g)	42.0 $	20.0

COMPOUND	SAMPLE CONCENTRATION	SPIKE CONCENTRATION	% REC.	% LIMITS
Nitrate as N	46 (ug/g)	172 (ug/g)	118	80-120
Fluoride	98 (ug/g)	409 (ug/g)	82	80-120
Uranium	0.14 (ug/g)	12 (ug/g)	110	80-120
Thorium-230	0.20 (pCi/g)	7.8 (pCi/g)	90	80-120

COMPOUND	STANDARD CONCENTRATION	LCS CONCENTRATION	% REC.	% LIMITS
Nitrate as N	Calibration curve analyzed.	N/A	N/A	N/A
Fluoride	Calibration curve analyzed.	N/A	N/A	N/A
Uranium	100 (ug/g)	110 (pCi/g)	110	80-120
Thorium-230	17 (pCi/g)	17 (pCi/g)	100	80-120

$ = Sample concentration does not exceed 5 times the Detection Limit

* = Matrix interferences see file case narrative.

N/A = Not available

**=Abnormal result due to much higher concentration in original sample than amount of standard added as spike.

@ = Results agree within their respective errors.

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QA/QC ANALYSIS REPORT

Sample Series ID E-1014-95 January 17, 1996

The following sample identifications apply to the tables contained below:

	Spike Lab ID#	Duplicate Lab ID#
Nitrate as N	E-1003-95-11 (HA-237)	E-1043-95-05 (SD060 DUP)
Fluoride	E-1003-95-11 (HA-237)	E-1043-95-05 (SD060 DUP)
Uranium	E-1014-95-32 (HA-283)	E-1014-95-20 (HA-268)
Radium-226	N/A	E-1075-95 (SD070)
Thorium-230	E-1075-95 (SD070)	E-1014-95-10 (HA 258)

COMPOUND	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	% RPD	% LIMITS
Nitrate as N	5.0 (ug/g)	6.0 (ug/g)	1.8	20.0
Fluoride	390 (ug/g)	390 (ug/g)	0.1	20.0
Uranium	1.0 (ug/g)	1.0 (ug/g)	3.9	20.0
Radium-226	<0.10 (pCi/g)	<0.10 (pCi/g)	0.0	20.0
Thorium-230	0.10 (pCi/g)	0.10 (pCi/g)	0.0	20.0

COMPOUND	SAMPLE CONCENTRATION	SPIKE CONCENTRATION	% REC.	% LIMITS
Nitrate as N	46 (ug/g)	172 (ug/g)	118	80-120
Fluoride	98 (ug/g)	409 (ug/g)	82	80-120
Uranium	1.1 (ug/g)	9.3 (ug/g)	84	80-120
Thorium-230	<0.40 (pCi/g)	8.2 (pCi/g)	98	80-120

COMPOUND	STANDARD CONCENTRATION	LCS CONCENTRATION	% REC.	% LIMITS
Nitrate as N	Calibration curve analyzed.	N/A	N/A	N/A
Fluoride	Calibration curve analyzed.	N/A	N/A	N/A
Radium-226	12 (pCi/g)	14 (pCi/g)	119	80-120
Thorium-230	17 (pCi/g)	16 (pCi/g)	97	80-120

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Log # E-822-95

QUALITY CONTROL DATA SHEET

	Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
	HA 270	U µg/g	3.3			10 ✓	15.046	113	BC
E-857	SD 47	"	4.324		✓		4.395	1.6% D	BC
E-857	STD	"	100	100 ✓			80.9	80.9%	BC
	HA 270	NO3(as N) µg/g	4			100 ✓	116	110%	[illegible]
	SD-36 FIELD DUP	F µg/g	403.1			400 ✓	730.1	90.9	[illegible]
	HA-270	RA pCi/g	.19		✓		.16	17%	[illegible] BC
E-0821	STD	pCi/L TH-230	16.8	16.8 ✓			16.7	99.3	SE WICK
	HA-270	pCi/g TH-230	.1 ± .4		✓		.5 ± .4	57.1	
857	SD-47	"	.4			8.4 ✓	6.8	77.1	
E-857	SD-47	RaCi/g	.19			6.05 ✓	5.34	85.6	BC

Comments:

INFINITY
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QA/QC ANALYSIS REPORT

Sample Series ID SF95-1212 January 18, 1996

The following sample identifications apply to the tables contained below:

	Spike Lab ID#	Duplicate Lab ID#
Uranium	SF95-1212-11 (OT023)	SF95-1212-14 (OT026)
Radium-226	SF95-1212-14 (OT026)	SF95-1212-07 (OT019)
Thorium-230	SF95-1212-07 (OT019)	SF95-1212-14 (OT026)

COMPOUND	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	% RPD	% LIMITS
Uranium	0.91 (ug/g)	0.88 (ug/g)	3.2	20.0
Radium-226	0.16 (pCi/g)	0.11 (pCi/g)	37 $	20.0
Thorium (spike)	7.9 (pCi/g)	9.1 (pCi/g)	14	20.0

COMPOUND	SAMPLE CONCENTRATION	SPIKE CONCENTRATION	% REC.	% LIMITS
Uranium	1.2 (ug/g)	10.5 (ug/g)	94	80-120
Radium-226	0.12 (pCi/g)	5.3 (pCi/g)	86	80-120
Thorium-230	0.10 (pCi/g)	7.9 (pCi/g)	93	80-120

COMPOUND	STANDARD CONCENTRATION	LCS CONCENTRATION	% REC.	% LIMITS
Uranium	100 (ug/g)	82 (ug/g)	82	80-120
Thorium-230	17 (pCi/g)	17 (pCi/g)	100	80-120

$ = Sample concentration does not exceed 5 times the Detection Limit
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N/A = Not available
**=Abnormal result due to much higher concentration in original sample than amount of standard added as spike.
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QA/QC ANALYSIS REPORT

Sample Series ID SF95-1221 January 18, 1996

The following sample identifications apply to the tables contained below:

	Spike Lab ID#	Duplicate Lab ID#
Uranium	SF95-1221-09 (HA 306)	SF95-1221-02 (HA 303)
Radium-226	SF95-1221-02 (HA 303)	SF95-1221-02 (HA 303)
Thorium-230	SF95-1221-02 (HA 303)	SF95-1221-02 (HA 303)

COMPOUND	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	% RPD	% LIMITS
Uranium	1.9 (ug/g)	2.0 (ug/g)	16.0	20.0
Radium (spike)	4.4 (pCi/g)	4.6 (pCi/g)	4.4	20.0
Thorium (spike)	8.2 (pCi/g)	8.1 (pCi/g)	1.2	20.0

COMPOUND	SAMPLE CONCENTRATION	SPIKE CONCENTRATION	% REC.	% LIMITS
Uranium	2.1 (ug/g)	11 (ug/g)	91	80-120
Radium-226	0.10 (pCi/g)	4.6 (pCi/g)	96	80-120
Thorium-230	0.40 (pCi/g)	8.2 (pCi/g)	93	80-120

COMPOUND	STANDARD CONCENTRATION	LCS CONCENTRATION	% REC.	% LIMITS
Uranium	50 (ug/g)	51 (ug/g)	102	80-120
Radium-226	2.4(pCi/g)	2.5 (pCi/g)	102	80-120
Thorium-230	17 (pCi/g)	16 (pCi/g)	96	80-120

$ = Sample concentration does not exceed 5 times the Detection Limit

* = Matrix interferences see file case narrative.

N/A = Not available

**=Abnormal result due to much higher concentration in original sample than amount of standard added as spike.

@ = Results agree within their respective errors.

INFINITY ANALYTICAL SERVICES, L.L.C.
ANALYSIS REPORT WORKSHEET
URANIUM ANALYSIS

Date Assigned: 12-20-95 Due Date: _____ Analyst: BC

Matrix: Soil Date Analyzed: 12-21-95

Units of Measurement (Circle One): µg/l (µg/g) µg Method: SOP25B

Laboratory Sample I.D. Number	Vial Number	Sample Uranium Content Result	Average	LLD	Amount of Standard Added	Spiked Standard or Duplicate Meas. Value	Quality Control % Recovery (R) or % Difference (D)
Blank		Ø					
SF951311-01		4.9					
SF951311-02		2.3					
SF951311-03		1.6					
SF951311-04		2.2					
SF951311-05		1.5					
SPK SF951311-05					100	94.0	93.9 % R
SPK SF951311-05					100	93.9	<1 % D
SF951311-06		1.2					
SF951311-07		2.4					
SF951311-08		2.6					
SF951311-09		15.4					
SF951311-10		1.7					
SF951311-11		1.7					
SF951311-12		<1.0					
SF951311-13		<1.0					
SF951311-14		<1.0					
SF951311-15		<1.0					
SF951311-16		<1.0					
50.0 STD		~~50.0~~ 12-21-95 BC			50.0	52.9	106 % R

Comments: Digested .1 ml of 100 g/100 ml solution & diluted to 10 mls.

INFINITY ANALYTICAL SERVICES, L.L.C.
ANALYSIS REPORT WORKSHEET

Date Assigned: 12/15/95 Due Date: 4/10/95 Analyst: METHAN

Matrix: SOIL Date Analyzed: 12/26/95

Analysis Method: 4500-NO3-D Units of Measurement: UG/G

NO3- SOIL

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
Reg Blank			—	2.5	1.0	
100 STD			—		102	102-R-%
SF951311 .01			3			
SF951311 .02			3			
SF951311 .03			<2.5			
SF951311 .04			5			
SF951311 .05			5			
SF951311 .06			3			
SF951311 .07			3			
SF951311 .08			3			
SF951311 .09			3			
SF951311 .10			3			
SF951311 .10	DUP		—		3	D-D-%
SF951311 .10	SPK		—		101	98-R-%
SF951311 .11			<2.5			
SF951311 .12			4			
SF951311 .13			3			
SF951311 .14			3			
SF951311 .15			3			
SF951311 .16			3			
100 STD			—	✓	98.	98-R-%

Comments:

INFINITY ANALYTICAL SERVICES, L.L.C.
ANALYSIS REPORT WORKSHEET

Date Assigned: 12/15/95 Due Date: 1/10/96 Analyst: MCF-MM

Matrix: SOIL Date Analyzed: 1/8/96

Analysis Method: 340.2 Units of Measurement: ~~mg~~ ug/g

F- Probe - NAOH FUSION

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
RGE-blank		x1	—	40 ug/g	29.6	
2.0 STD			—		1.89	94.5-R-%
SF951311.01			336			
SF951311.02			334			
SF951311.03			128			
SF951311.04			256			
SF951311.05			319			
SF951311.06			95.1			
SF951311.07			125			
SF951311.08			117			
SF951311.09			429			
SF951311.10			153			
SF951311.11			139			
SF951311.12			58.0			
SF951311.13			54.3			
SF951311.14			73.8			
SF951311.15			54.7			
SF951311.16			70.1			
SF951311.16	SPK		~~434~~ MCF		484	101-R-%
SF951311.16	SPK		~~463~~ MCF	✓	463	95.7-R-% 4.4-D
2.0 STD			—		1.90	95.0-R-%

Comments:

INFINITY ANALYTICAL SERVICES, L.L.C.
ANALYSIS REPORT WORKSHEET
URANIUM ANALYSIS

Date Assigned: 12-27-95 Due Date: 2-4-96 Analyst: JR, BC

Matrix: Soil Date Analyzed: ~~12-29-95~~ 1-4-96

Units of Measurement (Circle One): µg/l (µg/g) µg Method: SOP 25B

Laboratory Sample I.D. Number	Vial Number	Sample Uranium Content Result	Average	LLD	Amount of Standard Added	Spiked Standard or Duplicate Meas. Value	Quality Control % Recovery (R) or % Difference (D)
BIK		0.2					
SF95-1326-01		4.8		1.0			
SF95-1326-02		3.8					
SF95-1326-03		<1.0					
SF95-1326-04		<1.0					
SF95-1326-05		1.0					
SF95-1326-06		<1.0					
SF95-1326-06 SPK					10.0	~~9.27~~ 9.3	84.3% R
SF95-1326-06 SPK					10.0	9.4	2.3% D
SF95-1326-07		2,670.					
SF95-1326-08		456.					
SF95-1326-09		142.					
SF95-1326-10		381.					
SF95-1326-11		41.4					
SF95-1326-12		2,160.					
SF95-1326-13		1,520.					
SF95-1326-14		3,220.					
SF95-1326-15		4,380.					
SF95-1326-16		966.					
SF95-1326-17		2,250.					
SF95-1326-18		2,390.					
SF95-1326-19		4,870.					
SF95-1326-20 SPK		4,880.					
50. Std					50.0	53.3	106% R

Comments:

INFINITY ANALYTICAL SERVICES, L.L.C.
ANALYSIS REPORT WORKSHEET

Date Assigned: 12/20/95 Due Date: 1/15/96 Analyst: MEFAN

Matrix: SOIL Date Analyzed: 12/27/95

Analysis Method: 4500-NO3-D Units of Measurement: ug/g

NO3 Probe

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
REGBlank			—	2.5	2.	
100 STD			—		100	100-R-%
SF951326.01			3			
SF951326.02			3			
SF951326.03			3			
SF951326.04			3			
SF951326.05			3			
SF951326.06			3			
SF951326.07			33			
SF951326.08			100			
SF951326.09			41			
SF951326.10			33			
SF951326.11			3			
SF951326.11	SOK		~~9~~ MEF		97	94-R %
SF951326.11	SOK		—		101	98-R-% 4.2-D%
SF951326.12			13			
SF951326.13			20			
SF951326.14			52			
SF951326.15			220			
SF951326.16			7			
SF951326.17			15			
SF951326.18			23			
SF951326.19			41			
100 STD			~~107~~ MEF	—	107	107-R-%

Comments:

INFINITY ANALYTICAL SERVICES, L.L.C.
ANALYSIS REPORT WORKSHEET

Date Assigned: 12/20/95 Due Date: 1/15/96 Analyst: MEFAN

Matrix: SOIL Date Analyzed: 1/9/96

Analysis Method: 340.2 probe ~~NaOH~~ Units of Measurement: ug/g

F-- NAOH FUSION

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
Blank	10 ml	X1	—	40 ug/g	21.7	
2.0 STD	0.5g	1	—	1	1.92	96-R-%
SF951326.01	1	1	105	1		
SF951326.02	1	1	130	1		
SF951326.03	1	1	431	1		
SF951326.04	1	1	421	1		
SF951326.05	1	1	451	1		
SF951326.06	1	1	270	1		
SF951326.07	1	1	129	1		
SF951326.08	1	1	390	1		
SF951326.09	1	1	482	1		
SF951326.10	1	1	523	1		
SF951326.11	1	1	79.9	1		
SF951326.12	1	1	102	1		
SF951326.13	1	1	88.0	1		
SF951326.14	1	1	100	1		
SF951326.15	1	1	129	1		
SF951326.16	1	1	87.3	1		
SF951326.17	1	1	71.4	1		
SF951326.18	1	1	68.0 ~~83.2~~	1		
SF951326.19	1	1	83.2	1		
SF951326.19	spk	1	—	1	463	95.0-R %
SF951326.19	SPK	1	—	1	560	104.2-R % 9.2-Di
2.0 STD	1	1	—	1	1.94	97-R-%

Comments:

BAR9607

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

30-May-96
Page: Q-1
Job: 961835E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Ra-226 Total pCi/g	± 2σ	Th-230 Total pCi/g	± 2σ
Duplicate	2.2	±0.8	2.0	±0.9
Duplicate	1.6	±0.7	1.5	±1.0
RER	0.55		0.35	
Std (found value)	87	±6	294	±12
Std (true value)	99		305	
Std % rec.	87		96	
Blank	0.0	±0.2	0.0	±0.1
Spike % rec.	110		99	

BAR9607

BARRINGER LABORATORIES, INC.
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30-May-96
Page: Q-2
Job: 961835E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Uranium Total µg/g
Duplicate	5.2
Duplicate	5.2
RPD	0.0
Std (found value)	540
Std (true value)	510
Std % rec.	106
Blank	U
Spike % rec.	100

BAR9607

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

30-May-96
Page: Q-3
Job: 961835E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	K-40 Total mg/kg
Blank	U
LCS (True)	2350
LCS (Found)	2278
LCS % Rec	96.9
Duplicate	660
Duplicate	697
RPD	5.4
Spike % Rec	NA

BAR9607

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

30-May-96
Page: Q-4

Robert Miller
SEQUOYAH FUELS
P.O. Box 610
Gore, OK 74435

Attn:
Received: 1-May-96 10:05
Project: SCP
PO #: 330202

Job: 961835E
Status: Final

Abbreviations:

Parameters:

Ra-226	: Radium-226
Th-230	: Thorium-230
K-40	: Potassium 40 by calculation

Units:

pCi/g	: picoCuries per gram
µg/g	: micrograms per gram
mg/kg	: milligrams per kilogram

Quality codes:

NA	: Not Analyzed
U	: Undetected

BAR9607

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

31-May-96
Page: Q-1
Job: 961938E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	K-40 Total mg/kg
Blank	U
LCS (True)	2350
LCS (Found)	2278
LCS % Rec	96.9
Duplicate	660
Duplicate	697
RPD	5.4
Spike % Rec	NA

BAR9607

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

31-May-96
Page: Q-2
Job: 961938E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Ra-226 Total pCi/g	± 2σ	Th-230 Total pCi/g	± 2σ
Duplicate	85	±3	0.8	±0.5
Duplicate	105	±4	1.3	±0.6
RER	0.96		0.55	
Std (found value)	84	±3	98	±8
Std (true value)	99		97	
Std % rec.	85		101	
Blank	0.0	±0.2	-0.2	±0.3
Spike % rec.	99		114	

BAR9607

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31-May-96
Page: Q-3
Job: 961938E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Uranium Total µg/g
Duplicate	260
Duplicate	260
RPD	0.2
Std (found value)	520
Std (true value)	510
Std % rec.	101
Blank	U
Spike % rec.	100

BAR9607

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

31-May-96
Page: Q-4

Robert Miller
SEQUOYAH FUELS
P.O. Box 610
Gore, OK 74435

Attn:
Received: 13-May-96 09:45
Project: SCP
PO #: 330202

Job: 961938E
Status: Final

Abbreviations:

Parameters:

K-40	: Potassium 40 by calculation
Ra-226	: Radium-226
Th-230	: Thorium-230

Units:

mg/kg	: milligrams per kilogram
pCi/g	: picoCuries per gram
µg/g	: micrograms per gram

Quality codes:

NA	: Not Analyzed
U	: Undetected

INFINITY
ANALYTICAL SERVICES, LLC.
Highway 64 & Carlile Lane
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Phone (918) 489-2062 Fax (918) 489-2280

QA/QC ANALYSIS REPORT

Sample Series ID SF95-1233 January 19, 1996

The following sample identifications apply to the tables contained below:

	Spike Lab ID#	Duplicate Lab ID#
Nitrate as N	SF95-1233-08 (2221 West North)	SF95-1233-08 (2221 West North)
Fluoride	SF95-1240-06 (HA 317)	SF95-1240-06 (HA 317)
Uranium	SF95-1240-06 (HA 317)	SF95-1233-10 (2221 West North)
Radium-226	SF95-1233-10 (2221 West North)	SF95-1233-10 (2221 West North)
Thorium-230	SF95-1264-27 (HA-8)	SF95-1264-27 (HA-8)

COMPOUND	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	% RPD	% LIMITS
Nitrate as N	42 (ug/g)	36 (ug/g)	15	20.0
Fluoride	380 (ug/g)	400 (ug/g)	3.6	20.0
Uranium	1.2 (ug/g)	1.2 (ug/g)	0.0	20.0
Radium-226	6.2 (pCi/g)	5.8 (pCi/g)	8.2	20.0
Thorium-230	7.6 (pCi/g)	7.0 (pCi/g)	8.2	20.0

COMPOUND	SAMPLE CONCENTRATION	SPIKE CONCENTRATION	% REC.	% LIMITS
Nitrate as N	42 (ug/g)	170 (ug/g)	104	80-120
Fluoride	290 (ug/g)	670 (ug/g)	96	80-120
Uranium	14 (ug/g)	22 (ug/g)	90	80-120
Radium-226	0.10 (pCi/g)	6.2 (pCi/g)	102	80-120
Thorium-230	0.40 (pCi/g)	7.6 (pCi/g)	86	80-120

COMPOUND	STANDARD CONCENTRATION	LCS CONCENTRATION	% REC.	% LIMITS
Nitrate as N	Calibration curve analyzed.	N/A	N/A	N/A
Fluoride	Calibration curve analyzed.	N/A	N/A	N/A
Uranium	50 (ug/g)	49 (ug/g)	98	80-120
Radium-226	2.4 (pCi/g)	2.4 (pCi/g)	99	80-120
Thorium-230	17 (pCi/g)	17 (pCi/g)	102	80-120

$ = Sample concentration does not exceed 5 times the Detection Limit

* = Matrix interferences see file case narrative.

N/A = Not available

**=Abnormal result due to much higher concentration in original sample than amount of standard added as spike.

@ = Results agree within their respective errors.

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Highway 64 & Carlile Lane
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Phone (918) 489-2062 Fax (918) 489-2280

QA/QC ANALYSIS REPORT

Sample Series ID SF95-1222 January 19, 1996

The following sample identifications apply to the tables contained below:

	Spike Lab ID#	Duplicate Lab ID#
Nitrate as N	SF95-1222-09 (2220 West North)	SF95-1222-17 (2220 West South DUP)
Fluoride	SF95-1222-17 (2220 West South DUP)	SF95-1222-10 (2220 West North)
Uranium	SF95-1222-16 (2220 West South)	SF95-1222-17 (2220 West South DUP)
Radium-226	SF95-1222-17 (2220 West South DUP)	SF95-1222-07 (2220 East North)
Thorium-230	SF95-1222-17 (2220 West South DUP)	SF95-1222-17 (2220 West South DUP)

COMPOUND	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	% RPD	% LIMITS
Nitrate as N	240 (ug/g)	230 (ug/g)	1.3	20.0
Fluoride	370 (ug/g)	375 (ug/g)	1.3	20.0
Uranium	8.4 (ug/g)	7.5 (ug/g)	8.4	20.0
Radium-226	0.10 (pCi/g)	0.20 (pCi/g)	67.0 $	20.0
Thorium-230	19.5 (pCi/g)	19.4 (pCi/g)	0.5	20.0

COMPOUND	SAMPLE CONCENTRATION	SPIKE CONCENTRATION	% REC.	% LIMITS
Nitrate as N	320 (ug/g)	460 (ug/g)	102	80-120
Fluoride	380 (ug/g)	870 (ug/g)	117	80-120
Uranium	1.1 (ug/g)	9.5 (ug/g)	85	80-120
Radium-226	0.30 (pCi/g)	4.9 (pCi/g)	101	80-120
Thorium-230	9.4 (pCi/g)	10 (pCi/g)	120	80-120

COMPOUND	STANDARD CONCENTRATION	LCS CONCENTRATION	% REC.	% LIMITS
Nitrate as N	Calibration curve analyzed.	N/A	N/A	N/A
Fluoride	Calibration curve analyzed.	N/A	N/A	N/A
Uranium	50 (ug/g)	52 (ug/g)	104	80-120
Radium-226	12 (pCi/g)	12 (pCi/g)	100	80-120
Thorium-230	17 (pCi/g)	17.3 (pCi/g)	103	80-120

$ = Sample concentration does not exceed 5 times the Detection Limit

* = Matrix interferences see file case narrative.

N/A = Not available

**=Abnormal result due to much higher concentration in original sample than amount of standard added as spike.

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Log # E-0131-95

QUALITY CONTROL DATA SHEET

	Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
	E-168-95 SD-19	NO_3	124			2500 ✓	2820	108	BC
	SD-16	U µg/g	693		✓		711	2.6% D	BC
	STD	U µg/g	100	✓			101	101%	BC
E-0168	STD	pCi/L TH-230	16.8	16.8 ✓			16.3	96.8	wik
	SD-16	" " pCi/g	.77		✓		.51	31.3 RPD	wik
E-213	STD	pCi/L TH-230	16.8	16.8 ✓			16.1	95.9	wik
E-214	RH-124 (0-2)	pCi/g TH-230	.14		✓		.17	14.4 RPD	wik
	SD-16	pCi/g RA226	.08		✓		.05	46.2 RPD	wik
	SD-19	F- mg/L	2580			400 ✓	2680	0%	mn

Comments:

Log # E-0168-95

QUALITY CONTROL DATA SHEET

Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
SD-19	NO3	124			2500 ✓	2820	108	BC
E-131-95 SD-16	U µg/L	693		✓		711	2.6% D	BC
STD	U µg/L	100	100 ✓			101	101%	BC
STD	pCi/L TH-230	16.3	16.3 ✓			16.3	96.3	[illegible]
:-0131 SD-16	" " pCi/L	.77		✓		.56	21.3 DIFF	" "
:-0213 STD	pCi/L TH-230	16.2	16.3 ✓			16.1	9.5.9	" " K
:-0214 AH-1244 (D-1)	pCi/L TH-230	.14		✓		.17	16.4 DIFF	" "
:-0131 SD-16	pCi/L Ra 226	.08		✓		.115	46.1 DIFF	" " K
SD-17	F- mg/L	2880			400 ✓	2610	0%	MM

Comments:

Log # E-821-95

QUALITY CONTROL DATA SHEET

	Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
E-822	HA 270	U µg/g	3.3			10 ✓	15.046	113	BC
E-857	SD 47	U µg/g	4.324		✓		4.395	1.6% D	BC
E-857	STD	U µg/g	100	100 ✓			80.9	80.9	BC
	SD36	NO3(-) mg/g	3		✓	●	4	25% D	[illegible]
	HA 270	"	5		✓		4	22% D	[illegible]
	HA270	"	4			100 ✓	116	110%	[illegible]
	~~HA 270~~	~~"~~	~~8~~			~~100~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~
	STD	pCi/L 230 TH	16.8	16.8 ✓			16.7	99.3	SE. WICK
822	HA-270	pCi/g 230 TH	.1 ± .4		✓		.5 ± .4	57.1	"
857	SD-47	"	.4			8.4 ✓	6.2	77.1	SE WICK
	SD-36 FIELD Dup	F µg/g	403.1			400 ✓	730.1	90.9	NEF
822	HA-270	RA pCi/g	.19		✓		.16	16 17%	NEF

Comments:

Log # E-857-95

QUALITY CONTROL DATA SHEET

	Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
E-822	HA 270	U µg/g	3.3			10 ✓	15.046	113%	BC
E-857	SD 47	"	4.324		✓		4.395	1.6% D	BC
"	STD	"	100	100 ✓			80.9	80.9%	BC
821	STD	pCi/L TH-230	16.8	16.8 ✓			16.7	99.3	SE WICK
822	HA-270	pCi/g TH-230	.1+/-.4		✓		.5+/-.4	57.1	|
	SD-47	"	.4			8.4 ✓	6.8	77.1	|
	SD-47	Ra pCi/g	.19			6.05 ✓	5.34	85.6	BC

Comments:

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QA/QC ANALYSIS REPORT

Sample Series ID E-1002-95 January 17, 1996

The following sample identifications apply to the tables contained below:

	Spike Lab ID#	Duplicate Lab ID#
Uranium	E-1002-95-05 (SD055)	E-1002-95-05 (SD055)
Radium-226	E-1002-95-05 (SD055)	N/A
Thorium-230	E-1003-95-11 (HA-237)	N/A

COMPOUND	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	% RPD	% LIMITS
Uranium	1.6 (ug/g)	1.6 (ug/g)	0.0	20.0

COMPOUND	SAMPLE CONCENTRATION	SPIKE CONCENTRATION	% REC.	% LIMITS
Uranium	1.6 (ug/g)	10.4 (ug/g)	88	80-120
Radium-226	0.29 (pCi/g)	4.3 (pCi/g)	83	80-120
Thorium-230	0.20 (pCi/g)	7.8 (pCi/g)	90	80-120

COMPOUND	STANDARD CONCENTRATION	LCS CONCENTRATION	% REC.	% LIMITS
Uranium	100 (ug/g)	82 (ug/g)	82	80-120
Thorium-230	17 (pCi/g)	17 (pCi/g)	100	80-120

$ = Sample concentration does not exceed 5 times the Detection Limit

* =Matrix interferences see file case narrative.

N/A = Not available

**=Abnormal result due to much higher concentration in original sample than amount of standard added as spike.

@ = Results agree within their respective errors.

INFINITY
ANALYTICAL SERVICES, LLC.

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QA/QC ANALYSIS REPORT

Sample Series ID E-1043-95 January 17, 1996

The following sample identifications apply to the tables contained below:

	Spike Lab ID#	Duplicate Lab ID#
Nitrate as N	E-1003-95-11 (HA-237)	E-1043-95-05 (SD060 DUP)
Fluoride	E-1003-95-11 (HA-237)	E-1043-95-05 (SD060 DUP)
Uranium	E-1043-95-04 (SD060)	N/A

COMPOUND	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	% RPD	% LIMITS
Nitrate as N	5.0 (ug/g)	6.0 (ug/g)	1.8	20.0
Fluoride	390 (ug/g)	390 (ug/g)	0.1	20.0

COMPOUND	SAMPLE CONCENTRATION	SPIKE CONCENTRATION	% REC.	% LIMITS
Nitrate as N	46 (ug/g)	172 (ug/g)	118	80-120
Fluoride	98 (ug/g)	410 (ug/g)	82	80-120
Uranium	21 (ug/g)	29 (ug/g)	88	80-120

COMPOUND	STANDARD CONCENTRATION	LCS CONCENTRATION	% REC.	% LIMITS
Nitrate as N	Calibration curve analyzed.	N/A	N/A	N/A
Fluoride	Calibration curve analyzed.	N/A	N/A	N/A
Uranium	100 (ug/g)	101 (ug/g)	101	80-120

$ = Sample concentration does not exceed 5 times the Detection Limit
* = Matrix interferences see file case narrative.
N/A = Not available
**=Abnormal result due to much higher concentration in original sample than amount of standard added as spike.
@ = Results agree within their respective errors.

INFINITY
ANALYTICAL SERVICES, LLC.
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Gore, Oklahoma 74435
Phone (918) 489-2062 Fax (918) 489-2280

QA/QC ANALYSIS REPORT

Sample Series ID E-1075-95 January 17, 1996

The following sample identifications apply to the tables contained below:

	Spike Lab ID#	Duplicate Lab ID#
Nitrate as N	N/A	E-1078-95 (SD071)
Fluoride	E-1075-95 (SD070)	N/A
Uranium	N/A	E-1075-95 (SD070)
Radium-226	N/A	E-1075-95 (SD070)
Thorium-230	E-1075-95 (SD070)	N/A

COMPOUND	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	% RPD	% LIMITS
Nitrate as N	176 (ug/g)	174 (ug/g)	0.9	20.0
Fluoride	390 (ug/g)	390 (ug/g)	0.1	20.0
Uranium	227 (ug/g)	233 (ug/g)	2.6	20.0

COMPOUND	SAMPLE CONCENTRATION	SPIKE CONCENTRATION	% REC.	% LIMITS
Fluoride	8740 (ug/g)	16900 (ug/g)	102	80-120
Thorium-230	<0.40 (pCi/g)	8.2 (pCi/g)	97	80-120

COMPOUND	STANDARD CONCENTRATION	LCS CONCENTRATION	% REC.	% LIMITS
Nitrate as N	Calibration curve analyzed.	N/A	N/A	N/A
Fluoride	Calibration curve analyzed.	N/A	N/A	N/A
Uranium	100 (ug/g)	103 (ug/g)	103	80-120
Thorium-230	17 (pCi/g)	16 (pCi/g)	97	80-120

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QA/QC ANALYSIS REPORT

Sample Series ID SF95-1241 January 19, 1996

The following sample identifications apply to the tables contained below:

	Spike Lab ID#	Duplicate Lab ID#
Nitrate as N	SF95-1241-03 (South East DUP)	SF95-1241-03 (South East DUP)
Fluoride	SF95-1241-06 (OT010)	SF95-1241-06 (OT010)
Uranium	SF95-1241-05 (North East)	SF95-1241-05 (North East)
Radium-226	SF95-1221-02 (HA 303)	SF95-1221-02 (HA 303)
Thorium-230	SF95-1221-02 (HA 303)	SF95-1221-02 (HA 303)

COMPOUND	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	% RPD	% LIMITS
Nitrate as N	23 (ug/g)	19 (ug/g)	22 $	20.0
Fluoride	730 (ug/g)	720 (ug/g)	0.3	20.0
Uranium	8200 (ug/g)	8100 (ug/g)	0.5	20.0
Radium-226	4.4 (pCi/g)	4.6 (pCi/g)	4.4	20.0
Thorium-230	8.2 (pCi/g)	8.1 (pCi/g)	1.2	20.0

COMPOUND	SAMPLE CONCENTRATION	SPIKE CONCENTRATION	% REC.	% LIMITS
Nitrate as N	23 (ug/g)	592 (ug/g)	95	80-120
Fluoride	1800 (ug/g)	2600 (ug/g)	115	80-120
Uranium	8200 (ug/g)	8600 (ug/g)	103	80-120
Radium-226	0.10 (pCi/g)	4.4 (pCi/g)	90	80-120
Thorium-230	0.40 (pCi/g)	8.2 (pCi/g)	93	80-120

COMPOUND	STANDARD CONCENTRATION	LCS CONCENTRATION	% REC.	% LIMITS
Nitrate as N	Calibration curve analyzed.	N/A	N/A	N/A
Fluoride	Calibration curve analyzed.	N/A	N/A	N/A
Uranium	50 (ug/g)	54 (ug/g)	107	80-120
Radium-226	2.4 (pCi/g)	2.5 (pCi/g)	102	80-120
Thorium-230	17 (pCi/g)	16 (pCi/g)	96	80-120

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QA/QC ANALYSIS REPORT

Sample Series ID E-1138-95 January 18, 1996

The following sample identifications apply to the tables contained below:

	Spike Lab ID#	Duplicate Lab ID#
Nitrate as N	E-1145-95 (3534)	E-1145-95 (3534)
Fluoride	E-1138-95 (3512-Clar 2A-NW)	N/A
Uranium	N/A	E-1138-95 (3512-Clar 2A-NW)
Radium-226	N/A	E-1138-95 (3512-Clar 2A-NW)
Thorium-230	N/A	E-1138-95 (3512-Clar 2A-NW)

COMPOUND	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	% RPD	% LIMITS
Nitrate as N	193 (ug/g)	189 (ug/g)	2.1	20.0
Uranium	5500 (ug/g)	6200 (ug/g)	13.0	20.0
Radium-226	48 (pCi/g)	68 (pCi/g)	36.0 @	20.0
Thorium-230	450 (pCi/g)	310 (pCi/g)	36.0 @	20.0

COMPOUND	SAMPLE CONCENTRATION	SPIKE CONCENTRATION	% REC.	% LIMITS
Nitrate as N	190 (ug/g)	2560 (ug/g)	178 *	80-120
Fluoride	29,000 (ug/g)	33800 (ug/g)	1200 **	80-120

COMPOUND	STANDARD CONCENTRATION	LCS CONCENTRATION	% REC.	% LIMITS
Nitrate as N	Calibration curve analyzed.	N/A	N/A	N/A
Fluoride	Calibration curve analyzed.	N/A	N/A	N/A
Radium-226	2.4 (pCi/g)	2.4 (pCi/g)	101	80-120
Thorium-230	17 (pCi/g)	16 (pCi/g)	97	80-120

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N/A = Not available

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QA/QC ANALYSIS REPORT

Sample Series ID E-1145-95 January 18, 1996

The following sample identifications apply to the tables contained below:

	Spike Lab ID#	Duplicate Lab ID#
Nitrate as N	E-1145-95 (3534 North Ditch NW)	E-1145-95 (3534 North Ditch NW)
Fluoride	E-1138-95 (3512-Clar 2A-NW)	N/A
Uranium	N/A	E-1145-95 (3534 North Ditch NW)
Radium-226	E-1145-95 (3534 North Ditch SW)	E-1145-95 (3534 North Ditch NW)
Thorium-230	SF951179-03 (OT010)	SF951179-04 (OT011)

COMPOUND	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	% RPD	% LIMITS
Nitrate as N	193 (ug/g)	189 (ug/g)	2.1	20.0
Uranium	3340 (ug/g)	3280 (ug/g)	1.8	20.0
Radium-226	5.5 (pCi/g)	4.7 (pCi/g)	15.7	20.0
Thorium-230	0.30 (pCi/g)	0.40 (pCi/g)	29.0 $	20.0

COMPOUND	SAMPLE CONCENTRATION	SPIKE CONCENTRATION	% REC.	% LIMITS
Nitrate as N	190 (ug/g)	2600 (ug/g)	178 *	80-120
Fluoride	29000 (ug/g)	34000 (ug/g)	1200 **	80-120
Radium-226	6.0 (pCi/g)	16 (pCi/g)	90	80-120
Thorium-230	0.20 (pCi/g)	8.1 (pCi/g)	94	80-120

COMPOUND	STANDARD CONCENTRATION	LCS CONCENTRATION	% REC.	% LIMITS
Nitrate as N	Calibration curve analyzed.	N/A	N/A	N/A
Fluoride	Calibration curve analyzed.	N/A	N/A	N/A
Thorium-230	17 (pCi/g)	16.5 (pCi/g)	98	80-120

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SF960156

BARRINGER LABORATORIES, INC.
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1-Apr-96
Page: Q-1
Job: 961421E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Ra-226 Total pCi/g	+ 2σ	Th-230 Total pCi/g	+ 2σ
Duplicate	2.4	±0.8	0.2	±0.2
Duplicate	2.3	±0.7	0.2	±0.7
RER	0.10		0.07	
Std (found value)	92	±6	320	±12
Std (true value)	99		305	
Std % rec.	93		105	
Blank	0.0	±0.2	0.2	±0.2
Spike % rec.	82		102	

SF960156

BARRINGER LABORATORIES, INC.
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1-Apr-96
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Job: 961421E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Uranium Total µg/g
Duplicate	45
Duplicate	45
RPD	0.0
Std (found value)	550
Std (true value)	510
Std % rec.	107
Blank	U
Spike % rec.	106

SF960156

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1-Apr-96
Page: Q-3

Robert Miller
SEQUOYAH FUELS
P.O. Box 610
Gore, OK 74435

Attn:
Received: 11-Mar-96 12:15
Project: 330202
PO #: 920438

Job: 961421E
Status: Final

Abbreviations:

Parameters:

Ra-226	: Radium-226
Th-230	: Thorium-230

Units:

pCi/g	: picoCuries per gram
µg/g	: micrograms per gram

Quality codes:

U	: Undetected

The laboratory QA/QC information is not available for the following data sets. The analyses were completed by Infinity Analytical Services (IAS) and were reported before IAS ceased operation. However, a QA/QC report was not included with the original data report. IAS's working files were recovered by SFC for all CoCs except these three data sets; therefore no laboratory QA/QC information is available.

CoC #s: SF960288,
SF960262,
SF960272.

Quality Control Data
Groundwater Equipment Rinse

COC #	LOCATION	URANIUM (pCi/l)	TH230 (pCi/l)	RA226 (pCi/l)	NITRATE (mg/l)	FLUORIDE (mg/l)
E0450-95	Q-MW031					
E1128-95	Q-MW076A	< 3.4			< 1.0	
E1131-95	Q-MW012A	< 3.4			< 1.0	
SF951198	Q-2348	< 3.4			< 1.0	
E0446-95	Q-MW063	< 3.4				< 0.2
E1157-95	Q-STA11		0.8 ± 0.4		< 1.0	
E1157-95	Q-STA11		0.8 ± 0.4		< 1.0	
SF980174	Q-MW060A	11.5			0.1	< 0.1

Quality Control Data
Groundwater Duplicates

COC #	LOCATION		URANIUM (pCi/l)	TH230 (pCi/l)	RA226 (pCi/l)	NITRATE (mg/l)	FLUORIDE (mg/l)
SF960100	2342	Dup	< 0.7		0.2	2.9	0.2
		Sample	< 0.7		0.2	8.0	0.4
		% RPD	0.0		0.0	93.6	66.7
SF960322	2342	Dup	0.5		0.3	6.0	0.2
		Sample	0.5		0.2	6.5	< 0.2
		% RPD	2.7		40.0	8.0	75.0
SF960319	2343	Dup	3.2		0.8	2000.0	0.4
		Sample	3.1		0.9	1900.0	0.4
		% RPD	2.2		11.8	5.1	5.1
SF960790	2345	Dup	0.8		0.4	< 1.0	0.3
		Sample	< 0.7		0.1	< 1.0	0.4
		% RPD	82.4		120.0	0.0	28.6
SF970418	2345	Dup	0.7		0.1	< 0.1	< 0.3
		Sample	< 0.7		0.5	1.6	0.2
		% RPD	75.0		133.3	187.9	28.6
SF951198	2348	Dup	< 3.4		1.9	3680.0	0.3
		Sample	< 3.4		0.2	3740.0	0.3
		% RPD	0.0		161.8	1.6	0.0
SF970182	2348	Dup			1.2	694.0	
		Sample	0.7		1.2	867.0	0.3
		% RPD			0.0	22.2	
SF960590	2349	Dup	< 0.7		0.1	161.0	< 0.2
		Sample	< 0.7		0.1	152.0	< 0.2
		% RPD	0.0		0.0	5.8	0.0
SF970418	2351	Dup	21.0	3.2	2.2	1870.0	< 1.0
		Sample	1.6		1.6	2230.0	0.4
		% RPD	172.4		31.6	17.6	22.2
SF980174	2351	Dup	5.8		1.5	2820.0	2.8
		Sample	1.4		1.8	2750.0	0.6
		% RPD	124.5		20.2	2.5	131.4
SF970182	2302B	Dup			0.5	49.3	
		Sample	< 0.7		0.1	35.7	0.3
		% RPD			133.3	32.0	200.0
SF980174	2302B	Dup	6.4		0.5	72.0	< 0.3
		Sample	1.3		0.1	76.4	0.5
		% RPD	133.3		135.8	5.9	107.7
SF970182	2303A	Dup			0.4	218.0	
		Sample	7.7		0.1	183.0	0.8
		% RPD			120.0	17.5	200.0
SF980174	2303A	Dup	6.3		0.2	162.0	< 0.3
		Sample	7.3		0.3	222.0	0.3
		% RPD	14.9		43.8	31.3	66.7
SF980174	2322A	Dup	5.7		0.8	1570.0	< 0.5
		Sample	0.9		0.4	1410.0	0.3
		% RPD	142.9		64.1	10.7	18.2
SF960231	MW001	Dup	0.9			1.7	1.8
		Sample	0.7			1.6	1.2
		% RPD	16.7			6.1	40.0
SF960254	MW008A	Dup	1.2			4.0	0.9
		Sample	< 0.4			4.3	0.8
		% RPD	145.3			7.2	2.2
SF960768	MW009	Dup	7.0			< 1.0	
		Sample	7.9			< 1.0	
		% RPD	11.8			0.0	

Quality Control Data
Groundwater Duplicates

COC #	LOCATION		URANIUM (pCi/l)	TH230 (pCi/l)	RA226 (pCi/l)	NITRATE (mg/l)	FLUORIDE (mg/l)
SF980174	MW010	Dup	4129.7			11.0	0.7
		Sample	4955.6			21.6	0.9
		% RPD	18.2			65.0	25.0
E0684-91	MW011A	Dup	< 3.4			5.4	0.5
		Sample	< 3.4			5.9	0.7
		% RPD	0.0			8.8	33.3
E1131-95	MW012A	Dup	< 3.4			< 1.0	
		Sample	7785.5			144.0	
		% RPD	199.9			188.6	
SF960769	MW012B	Dup	10.9			< 1.0	1.4
		Sample	11.0			< 1.0	1.5
		% RPD	0.6			0.0	6.9
E0684-91	MW014A	Dup	8.1			96.6	1.0
		Sample	8.1			97.8	1.1
		% RPD	0.0			1.2	9.5
SF960288	MW014A	Dup	88.0			150.0	0.6
		Sample	74.5			140.0	0.6
		% RPD	16.7			6.9	1.7
E0684-91	MW017A	Dup	< 3.4			1.2	0.6
		Sample	< 3.4			1.1	0.7
		% RPD	0.0			8.7	15.4
E0675-91	MW022A	Dup	< 3.4			5.3	0.4
		Sample	< 3.4			4.1	0.4
		% RPD	0.0			25.5	0.0
SF980174	MW025	Dup	59576.0			673.0	0.5
		Sample	75824.0			732.0	1.0
		% RPD	24.0			8.4	66.7
SF970182	MW025A	Dup				230.0	
		Sample	724.4			323.0	0.6
		% RPD				33.6	
SF960240	MW027	Dup	4.1			46.0	0.6
		Sample	4.3			45.0	0.9
		% RPD	6.5			2.2	34.5
E0675-91	MW031A	Dup	6.0			0.9	1.5
		Sample	6.8			0.9	0.9
		% RPD	11.6			0.0	50.0
E0675-91	MW032A	Dup	< 3.4			2.2	0.8
		Sample	< 3.4			2.2	1.4
		% RPD	0.0			0.0	54.5
SF960262	MW035A	Dup	22.3			340.0	
		Sample	25.7			300.0	
		% RPD	14.1			12.5	
SF960750	MW035A	Dup	18.8			229.0	
		Sample	25.5			159.0	
		% RPD	30.0			36.1	
SF970418	MW035A	Dup	16.2	1.6	0.4	85.0	0.2
		Sample	15.2		0.5	126.0	0.4
		% RPD	6.9		22.2	38.9	66.7
SF970182	MW039	Dup				2.2	
		Sample	0.8			1.8	0.5
		% RPD				20.0	

Quality Control Data
Groundwater Duplicates

COC #	LOCATION		URANIUM (pCi/l)	TH230 (pCi/l)	RA226 (pCi/l)	NITRATE (mg/l)	FLUORIDE (mg/l)
SF970498	MW040	Dup	2.7			1490.0	4.5
		Sample	0.9			1290.0	2.8
		% RPD	101.9			14.4	48.3
E0450-95	MW042	Dup	< 3.4			4.0	4.3
		Sample	< 3.4	6.4	0.8	4.0	4.4
		% RPD	0.0			0.0	2.3
E1123-95	MW050A	Dup	392.7				
		Sample	404.2				
		% RPD	2.9				
SF960272	MW050A	Dup	345.3			31.0	0.4
		Sample	358.8			29.0	0.3
		% RPD	3.8			6.7	24.7
SF960768	MW050B	Dup	< 0.7			< 1.0	1.4
		Sample	< 0.7			< 1.0	1.4
		% RPD	0.0			0.0	0.0
E0695-91	MW053A	Dup	< 3.4			53.1	1.4
		Sample	< 3.4			48.3	1.1
		% RPD	0.0			9.5	24.0
SF960268	MW059A	Dup	3.1			2400.0	2.6
		Sample	3.3			2600.0	2.4
		% RPD	6.3			8.0	8.0
SF980148	MW059B	Dup	17.6			6.4	
		Sample	1.6			5.9	
		% RPD	167.5			8.1	
SF980174	MW060A	Dup	11.5			0.1	< 0.1
		Sample	1.5			126.0	0.7
		% RPD	154.2			199.7	173.3
SF980148	MW061A	Dup	22.3		1.0	< 0.1	0.2
		Sample	1.4		0.3	< 1.0	2.7
		% RPD	176.1		108.4	163.6	172.4
E0446-95	MW063	Dup	< 3.4				< 0.2
		Sample	< 3.4				4.8
		% RPD	0.0				191.8
SF970182	MW064A	Dup			-0.1	0.5	
		Sample	1.4		0.4	1.2	5.1
		% RPD			333.3	82.4	
SF970182	MW065A	Dup			0.9	2.7	
		Sample	0.9		0.7	85.1	1.8
		% RPD			25.0	187.7	
SF970418	MW065A	Dup	2.1		0.8	3.4	0.4
		Sample	1.7		0.4	2.6	1.5
		% RPD	21.4		66.7	26.7	115.8
E0675-91	MW066A	Dup	< 3.4			1.3	0.6
		Sample	< 3.4			0.9	1.1
		% RPD	0.0			36.4	58.6
SF960243	MW072B	Dup	0.7			1.0	1.9
		Sample	0.7			1.1	1.9
		% RPD	0.0			9.5	0.0
E0695-91	MW075A	Dup	< 3.4			75.8	0.5
		Sample	< 3.4			76.1	0.5
		% RPD	0.0			0.4	0.0

Quality Control Data
Groundwater Duplicates

COC #	LOCATION		URANIUM (pCi/l)	TH230 (pCi/l)	RA226 (pCi/l)	NITRATE (mg/l)	FLUORIDE (mg/l)
E1128-95	MW076A	Dup	< 3.4			< 1.0	
		Sample	15.8			11.4	
		% RPD	161.4			183.2	
SF960237	MW079	Dup	5.9			1.6	1.4
		Sample	5.8			1.9	1.4
		% RPD	2.3			17.1	0.0
E0695-91	MW079A	Dup	< 3.4			2.8	0.6
		Sample	< 3.4			2.7	0.6
		% RPD	0.0			3.6	0.0
E0695-91	MW080A	Dup	< 3.4			1.8	0.7
		Sample	< 3.4			1.9	0.7
		% RPD	0.0			5.4	0.0
SF970182	MW082A	Dup			1.1	225.0	
		Sample	4.2		1.0	279.0	0.4
		% RPD			9.5	21.4	
SF980174	MW082A	Dup	16.9		0.5	237.0	< 0.3
		Sample	5.0		0.5	390.0	0.7
		% RPD	108.6		4.3	48.8	129.4
E0684-91	MW085A	Dup	< 3.4			1.1	0.7
		Sample	< 3.4			1.1	0.4
		% RPD	0.0			0.0	54.5
E1131-95	MW086	Dup	< 3.4			< 1.0	0.8
		Sample	< 3.4			< 1.0	0.7
		% RPD	0.0			0.0	13.3
E0695-91	MW087A	Dup	217.3			0.9	0.5
		Sample	279.0			0.7	0.3
		% RPD	24.9			25.0	50.0
E1117-95	MW091A	Dup				< 1.0	
		Sample				< 1.0	
		% RPD				0.0	
SF960665	MW093A	Dup	< 0.7			15.8	
		Sample	1.2			15.6	
		% RPD	109.1			1.3	
SF960750	MW093A	Dup				14.3	
		Sample	6.8			13.5	
		% RPD				5.8	
SF980148	MW095A	Dup	19.0			87.0	
		Sample	0.9			114.0	
		% RPD	181.0			26.9	
SF960754	MW105B	Dup	< 0.7			< 1.0	2.5
		Sample	< 0.7			< 1.0	1.7
		% RPD	0.0			0.0	38.1
SF960652	MW108	Dup	< 0.7			41.3	< 0.2
		Sample	< 0.7			38.2	< 0.2
		% RPD	0.0			7.8	0.0
E0820-95	STA03	Dup	< 3.4	0.4	0.4	36.9	0.7
		Sample	< 3.4	5.5	0.4	36.8	0.5
		% RPD	0.0	172.9	0.0	0.3	33.3
E1157-95	STA11	Dup		0.1		23.4	
		Sample		0.3		23.7	
		% RPD		100.0		1.3	

INFINITY ANALYTICAL SERVICES, L.L.C.
ANALYSIS REPORT WORKSHEET
URANIUM ANALYSIS

Date Assigned: 2-12-96 Due Date: _____ Analyst: BC

Matrix: aqueous Date Analyzed: 2-12-96

Units of Measurement (Circle One): (µg/l) µg/g µg Method: SOP25B

Laboratory Sample I.D. Number	Vial Number	Sample Uranium Content Result	Average	LLD	Amount of Standard Added	Spiked Standard or Duplicate Meas. Value	Quality Control % Recovery (R) or % Difference (D)	
Blank		1.1						
SF960100-01		4.9		1.0				
SF960100-02		4.3		↓				
SF960100-03		<1.0						
SF960100-04		<1.0						
SF960100-05		3.9						
SF960100-06		2.3						
SF960100-07		<1.0						
SF960100-08		6.2						
SF960100-09		<1.0						
SF960100-10		1.7		↓				
SPK SF960100-10					1000.	913.	91.1% R	
DUP SPK SF960100-10					1000.	921.	91.9% R	0.9% D
SF960100-11		4.7		1.0				
SF960100-12		4.4		↓				
SF960100-13		2.8						
SF960100-14		2.8						
SF960100-15		5.3						
SF960100-16		<1.0		↓				
SPK SF960100-16					1000.	973.	97.3% R	
DUP SPK SF960100-16					1000.	1014.	101% R	4.1% D
50 STD		~~50.0~~			50.0	52.2	104% R	

Comments: Digested 1 ml with HNO_3 only & diluted to 10 mls.

LB 2/3

INFINITY ANALYTICAL SERVICES, L.L.C.
ANALYSIS REPORT WORKSHEET

Date Assigned: 2/9/96 Due Date: 2/14/96 Analyst: MEFSON

Matrix: LIQUID Date Analyzed: 2/9/96

Analysis Method: 4500-NO3-D Units of Measurement: mg/L

NO3- probe

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
Blank		x1	—	1.0	0.9	
100 STD			—		101	101-R-%
SF960100.01			249			
.02		X2	1,350	2.0		
.03		x1	8.0	1.0		
.04			2.9			
.05		X2	1,500	2.0		
.06		x1	34.0	1.0		
.07			<1.0 ~~2.9~~			
.08			208			
.09			14.7			
.10		x10	2,790	10.0		
.11		x2	1,780	2.0		
.12		x1	254	1.0		
.13			769			
.14			278			
.15			430			
.16			<1.0			
.16	SPK		—		55.6	111.2-R-%
.16	SPK		—		49.8	99.6-R-% 11.0%
SF960100			<1.0			
			SPIKE=	50		

Comments: Data in SF960100

INFINITY ANALYTICAL SERVICES, L.L.C.
ANALYSIS REPORT WORKSHEET

3/3

Date Assigned: 2/09/96 Due Date: 2/14/96 Analyst: MCFAM

Matrix: LIQUID Date Analyzed: 2/15/96

Analysis Method: 340.2 DIST Units of Measurement: mg/L

F⁻ DIST

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
BLANK		X1	—	0.2	0.05	
STD-2.0			—		2.18	109-R-%
SF960100.01			0.5			
.02			0.2			
.03			0.4			
.04			0.2			
.05			0.3			
.06			0.4			
.07			0.3			
.08			0.2			
.09			0.3			
.10			0.3			
.11			0.3			
.12			0.2			
.13			<0.2			
.14			0.2			
.15			0.3			
.16			0.7		.66	
.16	SPIK		—		2.63	98.5-R%
.16	SPIK		—		2.65	99.5-R%
2.0 STD		—	—	—	2.02	101

1.0D-%

Comments:

INFINITY ANALYTICAL SERVICES, L.L.C.
ANALYSIS REPORT WORKSHEET
URANIUM ANALYSIS

Date Assigned: _____ Due Date: _____ Analyst: BC

Matrix: Aqueous Date Analyzed: 5-7-96

Units of Measurement (Circle One): (µg/l) µg/g µg Method: SOP 25B

Laboratory Sample I.D. Number	Vial Number	Sample Uranium Content Result	Average	LLD	Amount of Standard Added	Spiked Standard or Duplicate Meas. Value	Quality Control % Recovery (R) or % Difference (D)
Blank		0.46					
SF960322-01		2.1		0.57			
SF960322-02		1.2					
SF960322-03		0.74					
SF960322-04		0.76					
SF960322-05		2.4					
SF960322-06		6.6					
SF960322-07		1.3					
SF960322-08		3.8					
SF960322-09		0.67					
SF960322-10		1.8					
SF960322-11		<0.57					
SF960322-11 SPK					1000.	950.	95% R
SF960322-11 SPK					1000.	980.	98% R
50 STD					50.	51.	100% R

2.6%

Comments: HNO_3 & H_2SO_4

Date Assigned: 5/3/96 Due Date: 5/8 Analyst: MCFA

Matrix: LIQUID Date Analyzed: 5/3

Analysis Method: 4500 - NO3 - D Units of Measurement: mg/L

NO3

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
Blank		X1	—	1.0	0.63	
100 STD		1	—	1	100	100-R%
SF960322.01		X4	2500	4.0		
.02		X1	600	1.0		
.03			6.5			
.04			6.0			
.05			38			
.06			150			
.07		1	26	1		
.08		X5	3000	5.0		
.09		X1	410	1.0		
.10			1.1			
.11			1.5			
.11	SPK		—		52	100-R%
11	SPK	1	—	1	53	100-R%

0.39

Comments:

ANALYSIS REPORT WORKSHEET

3/3

Date Assigned: 5/8 5/3 Due Date: ~~5/13~~ 5/8 Analyst: MEFAN

Matrix: LIQUID Date Analyzed: 5/9

Analysis Method: 340.2 DIST Units of Measurement: mg/L

F⁻

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
Blank		X 1	—	0.20	~~0.06~~	0.05
2.0 STD			—		2.0	100-R%
SF960322.01			0.24			
.02			<0.20			
.03			<0.20			
.04			~~0.~~ 0.22			
.05			0.32			
.06			0.29			
.07			0.26			
.08			0.30			
.09			0.24			
.10			0.37			
.11			0.71			
.11	SPK		—		2.7	100R %
.11	SPK		—		2.7	100R%
						0.99-D%
					SPK =	2.0

Comments:

INFINITY ANALYTICAL SERVICES, L.L.C.
ANALYSIS REPORT WORKSHEET
URANIUM ANALYSIS

Date Assigned: _____ Due Date: _____ Analyst: BC

Matrix: Aqueous Date Analyzed: 5-7-96

Units of Measurement (Circle One): (µg/l) µg/g µg Method: 5Of25B

Laboratory Sample I.D. Number	Vial Number	Sample Uranium Content Result	Average	LLD	Amount of Standard Added	Spiked Standard or Duplicate Meas. Value	Quality Control % Recovery (R) or % Difference (D)
Blank		0.37					
SF960319-01		5.4		0.57			
SF960319-02		4.4		↓			
SF960319-03		4.6		↓			
SF960319-04		4.7		↓			
SF960319-05		~~12.6~~ 5-7-96 13 BC		5.7			
SF960319-06		2.6		0.57			
SF960319-07		4.3		↓			
SF960319-08		4.5		↓			
SF960319-09		2.8		↓			
SF960319-10		3.9		↓			
SF960319-11		5.2		↓			
SPK SF960319-11					1000.	910.	91% R
SPK SF960319-11					1000.	920.	92% R
50 STD					50.	48.	97% R

1.4% D

Comments: HNO_3 & H_2SO_4

ANALYSIS REPORT WORKSHEET

Date Assigned: 5/2/96 Due Date: 5/7 Analyst: [illegible] 2/3

Matrix: LIQUID Date Analyzed: 5/2 5/3 LB

Analysis Method: 4500-NO3-D Units of Measurement: mg/L 2C

NO3

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
Blank		X1	—	1.0	0.82	
100. STD		|	—	|	99	99-R %
SF960319.01		|	220	|		
.02		X2	1,700	2.0		
.03		|	1,900	|		
.04		|	2,000	|		
.05		X1	<1.0	1.0		
.06		X5	1,500	5.0		
.07		X4	2,400	4.0		
.08		X1	250	1.0		
.09		|	880	|		
.10		|	360	|		
.11		|	550	|		
.11	SPK	|	—	|	600	90-R
.11	SPK	|	—	|	600	90-R 0.00%
SF960318		|	<1.0	|		
SF960321		|	<1.0	|		

Comments:

Date Assigned: 5/2/96 Due Date: 5/7/96 Analyst: MEF

Matrix: LIQUID Date Analyzed: 5/9/96

Analysis Method: 340.2 DIST Units of Measurement: mg/L

3/3 LB

F⁻

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
Blank			—	0.20	0.05	
2.0			—		2.0	100 - R%
SF960319.01			0.23			
.02			0.22			
.03			0.38			
.04			0.40			
.05			0.23			
.06			0.37			
.07			0.29			
.08			0.29			
.09		x3	0.32	0.60		
.10			0.27	0.20		
.11			0.36			
.11	SPK		—		2.1	89 - R%
.11	SPK		—		2.1	88 - R%
						1.7 - D%
					SPK =	2.0

Comments: Data in SF960319

SF960790

Sheet1

QC DATA PROJECT: 960727

PARAMETER	BLANK	LCS (%REC)	MD(RPD)	MS(%REC)
URANIUM	< 1	73%	NC	98%
NITRATE AS(N)	0.4		5.9%	115%
FLUORIDE			NC	99%
GROSS ALPHA	0+/-1.5	104%	NC	93%
GROSS BETA	0+/-4.4	122%	NC	114%
RADIUM 226	0.1+/-0.1	104%	NC	95%

SF97418

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8-Jan-98
Page: Q-1
Job: 974041E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Nitrate+Nitrite as N Fluoride

Sample Id	mg/l	mg/l
Blank	U	U
LCS (True)	1.00	20.0
LCS (Found)	0.99	21.0
LCS % Rec	99.1	105
Duplicate	85	U
Duplicate	78	U
RPD	8.0	NC
Spike % Rec	96.0	101

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SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Gross Alpha Total pCi/l	± 2σ	Gross Beta Total pCi/l	± 2σ
Duplicate	6.4	±5.1	11	±5
Duplicate	8.3	±5.7	8.3	±5.5
RER	0.17		0.26	
Std (found value)	85	±4	104	±2
Std (true value)	103		90	
Std % rec.	82		116	
Blank	0.9	±0.5	0.8	±0.5
Spike % rec.	105		105	

Sample Id	Ra-226 Total pCi/l	± 2σ
Duplicate	0.0	±0.2
Duplicate	0.7	±1.8
RER	0.37	
Std (found value)	24.0	±1.8
Std (true value)	22.5	
Std % rec.	107	
Blank	0.0	±0.2
Spike % rec.	95	

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Job: 974041E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Uranium Total mg/l
Duplicate	0.0059
Duplicate	0.0059
RPD	0.0
Std (found value)	1.5
Std (true value)	1.5
Std % rec.	100
Blank	U
Spike % rec.	100

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Job: 974041E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Th-230 Total pCi/l	+ 2σ
Duplicate	0.3	±0.5
Duplicate	0.0	±2.9
RER	0.08	
Std (found value)	98	±4
Std (true value)	102	
Std % rec.	96	
Blank	0.0	±0.1
Spike % rec.	93	

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8-Jan-98
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Kenny Schlag
SEQUOYAH FUELS
P.O. Box 610
Gore, OK 74435

Attn: Scott Munson
Project: SF97-0418
PO #:

Received: 24-Oct-97 09:15

Job: 974041E
Status: Final

Abbreviations:

Parameters:

Ra-226	: Radium-226
Th-230	: Thorium-230

Units:

mg/l	: milligrams per liter
pCi/l	: picoCuries per liter

Quality codes:

U	: Undetected
NC	: Not Calculated

1/2

Log # SF95-1198

QUALITY CONTROL DATA SHEET

Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
SF951198-10	Uµg/l	0		✓		0	<1% D	BC
SF951198-10	Uµg/l	0			1000 ✓	993	99.3	BC
SF951198-20	Uµg/l	1.545		✓		1.342	14.1% D	BC
SF951198-20	Uµg/l	1			1000 ✓	1000	99.9	BC
SF951198-22	Uµg/l	0		✓		0	<1% D	BC
SF951198-22	Uµg/l	0			✓	997	99.7	BC
Blank	Uµg/l	0						BC
Blank	GApCi/l	Ø						BC
Blank	GBpCi/l	Ø						BC
E-1172 SF951172-04 2212	GApCi/l	57		✓		54	5.4% D	BC
E-1172 SF951172-04 2212	GBpCi/l	23		✓		28	19.6% D	BC
SF951198-10 2347	GApCi/l	Ø			560 ✓	516	92.1% R	BC
SF951198-10 2347	GBpCi/l	Ø			10,200 ✓	9505	93.0% R	BC
SF951198-11 2348	GApCi/l	Ø		✓		Ø	<1% D	BC
SF951198-11 2348	GBpCi/l	Ø		✓		Ø	<1% D	BC
SF951198-20 FTP-2B	GApCi/l	Ø			420 ✓	382	91.0% R	BC
SF951198-20 FTP-2B	GBpCi/l	Ø			6813 ✓	6474	95.0% R	BC
Th STD	GApCi/l	16.8	✓			20	119% R	BC
Sr STD	GBpCi/l	196.4	✓			182	92.7% R	BC

Comments:

2/2

Log # SF95 1198

QUALITY CONTROL DATA SHEET

Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
SF95 1198.20	NO3	299		✓		300	0.3%	MCF
SF951198.20.	NO3	300			50	346	98.9	MCF
100 STD	NO3	100	✓			106	106	MCF
SF951198.19	F	.16		✓		.19	17.1	MCF
SF951198.20	F	0.23			2.0	2.04	91.5	MCF
2.0 STD	F	2.0	2.0 ✓			2.1	105	MCF

Comments:

SF970182

BARRINGER LABORATORIES, INC.
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23-May-97
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Job: 972054E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Nitrate as N

Sample Id	mg/l
Blank	U
LCS (True)	1.00
LCS (Found)	1.05
LCS % Rec	105
Duplicate	0.49
Duplicate	0.57
RPD	15.1
Spike % Rec	114

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Job: 972054E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Ammonia as N mg/l	Fluoride mg/l	TSS mg/l
Blank	U	U	U
LCS (True)	5.00	20.0	5000
LCS (Found)	5.22	19.5	4770
LCS % Rec	104	97.5	95.5
Duplicate	2.37	0.54	U
Duplicate	2.34	0.43	U
RPD	1.2	(4)	NC
Spike % Rec	H74.0	93.3	NA

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23-May-97
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Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Arsenic Total mg/l
Blank	U
LCS (True)	0.050
LCS (Found)	0.051
LCS % Rec	103
Duplicate	U
Duplicate	U
RPD	NC
Spike % Rec	125

BARRINGER LABORATORIES, INC.
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23-May-97
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Job: 972054E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Ra-226 Total pCi/l	+ 2σ
Duplicate	0.4	±0.3
Duplicate	0.6	±0.3
RER	0.25	
Std (found value)	89	±4
Std (true value)	89	
Std % rec.	100	
Blank	0.0	±0.2
Spike % rec.	104	

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

23-May-97
Page: Q-5

Kenny Schlag
SEQUOYAH FUELS
P.O. Box 610
Gore, OK 74435

Attn:
Received: 30-Apr-97 09:20
Project: S.F.C. QA/QC
PO #:

Job: 972054E
Status: Final

Abbreviations:

Parameters:

TSS	: Total Suspended Solids
Ra-226	: Radium-226

Units:

mg/l	: milligrams per liter
pCi/l	: picoCuries per liter

Quality codes:

(4)	: Sample < 5 times LLD
H	: Matrix Spike recovery was outside control limits.
NA	: Not Analyzed
U	: Undetected
NC	: Not Calculated

Sheet1

SF960590

QC DATA PROJECT: 960420

PARAMETER	BLANK	LCS (%REC)	MD(RPD)	MS(%REC)
URANIUM	< 1	122%	19%	100%
URANIUM	< 1	100%	NC	122%
NITRATE AS(N)			NC	102%
FLUORIDE			NC	96%
GROSS ALPHA	0+/-0.2	101%	20%	103%
GROSS BETA	0+/-0.6	93%	9%	101%
RADIUM 226	0.1+/-0.1	102%	NC	
THORIUM 230	0.04+/-0.01	87%	NC	98%

SF980174

BARRINGER LABORATORIES, INC.
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27-May-98
Page: Q-1
Job: 982087E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Nitrate+Nitrite as N mg/l	Fluoride mg/l
Blank	U	U
LCS (True)	1.00	20.0
LCS (Found)	1.02	18.3
LCS % Rec	102	91.4
Duplicate	U	U
Duplicate	U	U
RPD	NC	NC
Spike % Rec	100	95.5

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

27-May-98
Page: Q-2
Job: 982087E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Arsenic Total mg/l
Blank	U
LCS (True)	0.050
LCS (Found)	0.053
LCS % Rec	106
Duplicate	U
Duplicate	U
RPD	NC
Spike % Rec	119

BARRINGER LABORATORIES, INC.
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27-May-98
Page: Q-3
Job: 982087E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Cadmium Total mg/l
Blank	U
LCS (True)	1.00
LCS (Found)	0.96
LCS % Rec	96.2
Duplicate	U
Duplicate	U
RPD	NC
Spike % Rec	92.5

BARRINGER LABORATORIES, INC.
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SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Barium Total mg/l
Blank	U
LCS (True)	10.0
LCS (Found)	9.76
LCS % Rec	97.6
Duplicate	0.1
Duplicate	0.1
RPD	0.6
Spike % Rec	109

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

27-May-98
Page: Q-5
Job: 982087E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Silver Total mg/l
Blank	U
LCS (True)	1.00
LCS (Found)	0.97
LCS % Rec	97.1
Duplicate	U
Duplicate	U
RPD	NC
Spike % Rec	124

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Ra-226 Total pCi/l	± 2σ
Duplicate	77.7	±3.3
Duplicate	17.9	±3.6
RER	*3.60	
Std (found value)	99.8	±3.5
Std (true value)	104.0	
Std % rec.	96	
Blank	0	±0.0751
Spike % rec.	79	

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

27-May-98
Page: Q-7
Job: 982087E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Uranium Total mg/l
Duplicate	0.0063
Duplicate	0.0063
RPD	0.0
Std (found value)	1.5
Std (true value)	1.5
Std % rec.	100
Blank	U
Spike % rec.	100

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

27-May-98
Page: Q-8

Kenny Schlag
SEQUOYAH FUELS
P.O. Box 610
Gore, OK 74435

Attn: Scott Munson
Project: SF98-0174

Received: 1-May-98 09:05
PO #:

Job: 982087E

Status: Final

Abbreviations:

Parameters:

Ra-226	: Radium-226

Units:

mg/l	: milligrams per liter
pCi/l	: picoCuries per liter

Quality codes:

U	: Undetected
*U	: Undetected and see case narrative
*	: See case narrative
NC	: Not Calculated

INFINITY ANALYTICAL SERVICES, L.L.C.
ANALYSIS REPORT WORKSHEET
URANIUM ANALYSIS

1/3

Date Assigned: _____ Due Date: _____ Analyst: BC

Matrix: Aqueous Date Analyzed: ~~4-15-96~~ 4-23-96

Units of Measurement (Circle One): (µg/l) µg/g µg Method: SOP25B

	Laboratory Sample I.D. Number	Vial Number	Sample Uranium Content Result	Average	LLD	Amount of Standard Added	Spiked Standard or Duplicate Meas. Value	Quality Control % Recovery (R) or % Difference (D)
	Blank		Ø					
*	SF960231-01		<1.4		1.4			
	SF960231-02		4.4		Ø.57			
	SF960231-03		4.1		Ø.57			
	SF960231-04		1.4		Ø.57			
*	SF960231-05		<2.8		2.8			
	SF960231-06		<5.7		5.7			
	SF960231-07		8.2		Ø.57			
	SF960231-08		4-23 BC ~~825~~ 840.		Ø.57			
	SF960231-09		7.2		Ø.57			
	SF960231-10		1.2		Ø.57			
	SF960231-11		3.3		1.1			
	SF960231-12		12.		5.7			
	SF960231-13		<5.7		5.7			
÷	SF960231-14		4-23-96 BC ~~15~~ 4.5		~~2.9~~ 2.4	4-23-96 BC		
	SF960231-15		1.3		Ø.57			
	SF960231-16		4.0		Ø.57			
	SF960231-17		<5.7		5.7			
	SF960231-18		9.0		5.7			
	SF960231-19		<5.7		5.7			
	SF960231-20		<Ø.57		Ø.57			
	SF960231-20 SPK					1000.	1100.	110% R
	SF960231-20 SPK					1000.	1200.	120% R 1.8% D
	50 STD					50.	53.	110% R

Comments: digested with HNO_3 and H_2SO_4

* HNO_3 only digestion

÷ HNO_3 & H_2O_2 digestion

Date Assigned: 4/4/96 Due Date: 4/14/96 Analyst: MOF AMN 42

Matrix: LIQUID Date Analyzed: 4/10/96 2/3

Analysis Method: 4500-NO3-D Units of Measurement: mg/L

NO3-Probe

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)	
Blank		X1	—	1.0	8.9		
100 STD			—		99.		
SF960231.01			1.3		~~1.3~~ MOF		
.02			6.4		~~6.~~ MOF		
.03			3.0				
~~.04~~			~~2.3~~				
.05			1.2				
.06			<1.0				
.07			1.1				
.08			3.9				
.09			520				
.10		—	33	—			
.11		X2	1400	2.0			
.12		X1	98	1.0			
.13			1.7				
.14			8.4				
.15			280				
.16			1.5				
.17			1.1				
.18			3.0				
.19			1.8				
.20			<1.0				
.20	SPK		—		MOF ~~5.3~~	52 - 100%	R
.20	SPK	—	—	—	MOF ~~5.2~~	52 - 100%	R
Continued on page 2						8.38 B-2	

Comments: Data in SF960231 SPIKE = 50

SF960231.01 [illegible]

Date Assigned: 4/9/96 Due Date: 4/12 Analyst: [illegible]

Matrix: LIQUID Date Analyzed: 4/12

Analysis Method: 340.2 DIST Units of Measurement: mg/L

F⁻

LB 3/3 ØC

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
Blank		X 1	—	Ø.20	Ø.10	
2.0			—		2.0	100-R %
SF960231.01			< Ø.20			
.02			Ø.81			
.03			Ø.84			
.05			Ø.59			
.06			Ø.95			
.09			4.6			
.10			Ø.65			
.11			~~1.0~~ 11			
.26			1.2			
.28			Ø.94			
.29			Ø.68			
.30			Ø.61			
.31			~~2~~ 3.0			
.33			Ø.69			
.34			Ø.90			
.35			1.8			
.35	SPIK		—		3.7	98-R %
.35	SPIK		—		3.8	100-R %
						5.5-D %
					SPIKE	=2.0

Comments:

ANALYSIS REPORT WORKSHEET
URANIUM ANALYSIS

1/3

Date Assigned: _____ Due Date: _____ Analyst: BC

Matrix: Aqueous Date Analyzed: 4-30-96

Units of Measurement (Circle One): (µg/l) µg/g µg Method: SOP25B

Laboratory Sample I.D. Number	Vial Number	Sample Uranium Content Result	Average	LLD	Amount of Standard Added	Spiked Standard or Duplicate Meas. Value	Quality Control % Recovery (R) or % Difference (D)
Blank		Ø.95					
SF960254-05		8.4		Ø.57			
SF960254-06		4-30-96 ~~BC~~ 1.6		1.1			
SF960254-07		<5.7		5.7			
SF960254-08		<5.7		5.7			
SF960254-09		<5.7		5.7			
SF960254-10		1.3		Ø.57			
SF960254-11		<5.7		5.7			
SF960254-12		<Ø.57		Ø.57			
SF960254-13		<5.7		5.7			
SF960254-18		<Ø.57		Ø.57			
SF960254-25		<5.7		5.7			
SF960254-26		<Ø.57		Ø.57			
SF960254-27		<5.7		5.7			
SF960254-28		<Ø.57		Ø.57			
SF960254-30		<Ø.57		Ø.57			
SF960254-31		1.8		Ø.57			
SF960254-33		Ø.59		Ø.57			
SF960254-34		<5.7		5.7			
SF960254-35		<Ø.57		Ø.57			
SF960254-36		<Ø.57		Ø.57			
SPK SF960254-36					1100.	1100.	110% R
DUP SPK SF960254-36					1100.	1100.	110% R
50.0 STD					50	55.	110% R

C% D

Comments: See Comments in Raw Data.

INFINITY ANALYTICAL SERVICES, L.L.C.
ANALYSIS REPORT WORKSHEET

2/3

Date Assigned: 4/16/96 Due Date: 4/19/96 Analyst: MEFAUN

Matrix: LIQUID Date Analyzed: 4/22/96

Analysis Method: 4500-NO3-D Units of Measurement: MG/L

NO3

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
Blank		~~X10~~ X1	—	~~0~~ 1.0		
100.STD		X1	—	1		
SF960254.16		X20	~~NF~~ ~~16~~ <20	20		
1	SPK	1	—	1	1100	110-12%
1	SPK	1	—	1	1100	110-12%
					SPIKE=	1000
Sample SF960254.16- IF Run STRAIGHT - SHOWS						
A POSITIVE INTERFERENCE. SAMPLE MV READING						
IS LESS THAN 10 MV AND DROPPING FAST.						
IF DILUTED TO X20 THE SAMPLE MV READING						
IS STABLE.						
	MEFAUN					

Comments:

Date Assigned: 4/12/96 Due Date: 4/17/96 Analyst: MEFAN

Matrix: LIQUID Date Analyzed: 4/22/96 LB 3/3

Analysis Method: 340.2 DIST Units of Measurement: mg/L IC

F⁻

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
Blank		X1	—	0.20	0.05	
2.0 STD			—		2.01	100-R%
SF960243.01			2.1			
.02			2.3			
.03			2.2.			
.04			2.0			
.05			1.4			
.06			1.9			
.07			1.2			
.08			1.0			
.09			1.7			
.10			2.9			
.11			1.9			
SF960254.06			~~0.70~~ 0.65			
.12			~~0~~ 0.74			
.14			2.9			
.15			1.3			
.16			5.5			
.17			0.78			
.18			1.1			
.30			0.93			
.31			0.91			
.31	SPK		—		3.1	110-R%
.31	SPK		—		3.1	110-R%
						0.46-D%

Comments: Data u. SF960243 SPIKE=2.0

Sheet1

SF960768

QC DATA PROJECT: 960670

PARAMETER	BLANK	LCS (%REC)	MD(RPD)	MS(%REC)
URANIUM	5.1*	97%	8%	114%
NITRATE AS(N)			3%	110%
FLUORIDE			3%	81%

* CONTAMINATION FROM 1000 STD PREVIOUSLY ANALYZED

E0684-91

1/4

10-May-91

RUN # 21

UA-3

wick

SAMPLE ID	CONCENTRATION U ug/l
BLK	0.0
MW-17	11.3
MW-17A	2.3
MW-17ADUP	1.8
MW-23	7.4
MW-16	2.9
MW-16A	3.0
MW-15	3.4
MW-27	16.3
MW-13A	16.7
MW-85	1.2

LOW RANGE

10-May-91

RUN # 21

SAMPLE ID	CONCENTRATION U ug/l
BLK	0.0
MW-13	52.0
MW-13 SPK	161.1
MW-14	19657.0

HIGH RANGE

SCINTREX UA3 URANIUM WORK SHEET

LASER INTENSITY .47

DATE: 5/10/91 Wick

VOL. STD ADD. 50 µl CONC. STD 10 & 100 a

SAMPLE ID	DATE 1991	TIME	SAMPLE SIZE	BALANCE READING	READING W/O FLURAN	READING WITH FLURAN	READING STD ADD.	DILUTION FACTOR	CONC. ug/l
BLANK			6 mL		0	.01	.36		
MW-17					0	.23	.59	20	E-0684-91
17A					0	.05	.39		
17A-DUP					0	.04	.37		
23					0	.14	.47		
16					0	.06	.39		
16A					0	.05	.32		
15					0	.06	.35		
27					0	.30	.63		
~~29A~~				WILL	RUN WITH FL-2				
13					0	.11 (A)	.46		
100 SPIKE					0	.31 (B)	.63		
13A					0	.28	.58		
14					0	.39	.72	2000	
14A				WILL	RUN WITH FL-2				
14A-DUP				WILL	RUN WITH FL-2				
85					0	.03	.38	20	

X/2

3/4

UA-3

WICK

DATE 10-May-91

RUN # 21

SAMPLE ID	CONCENTRATION U ug/l
BLK	0.0
MW-85A	1.5
MW-85ADUP	2.1
MW-84	1.5
MW-84A	9.9
MW-11	3.1
MW-11A	1.7
MW-11ADUP	1.7
MW-19	0.6
MW-19A	0.1
MW-76A	10.9
ME-82A	10.5

FL-1

LOW RANGE

DATE 10-May-91

RUN # 21

SAMPLE ID	CONCENTRATION U ug/l
BLK	0.0
MW-27A	19.0
MW-14A	11.7
MW-14ADUP	12.1

FL-2

LOW RANGE

DATE 10-May-91

RUN # 21

SAMPLE ID	CONCENTRATION U ug/l
BLK	0.0
SA LAGOON	805.5

FL-1

HIGH RANGE

SCINTREX UA3 URANIUM WORK SHEET

LASER INTENSITY .47

DATE: 5/10/91 WICK

VOL. STD ADD. 50 µl CONC. STD _____

SAMPLE ID	DATE 1991	TIME	SAMPLE SIZE	BALANCE READING	READING W/O FLURAN	READING WITH FLURAN	READING STD ADD.	DILUTION FACTOR	CONC. ug/l
BLANK			6 mL		0	.01	.36		
MW-85A					0	.03	.30	20	E-0684-91
85A-DUP					0	.05	.39		
84					0	.04	.40		
84A					0	.21	.55		
11					0	.07	.40		
11A					0	.04	.36		
11A-DUP					0	.04	.36		
19					0	.02	.35		
19A					0	.01	.36		
26A					0	.21	.52		
82A					0	.19	.48		
SAN LAGOON					0	.19 (H)	.52 (H)	500	E-0734-91
FL-2									
BLANK					0	.01	.24	20	
MW-27A					.01	.15	.27		E-0684-91
14A					0	.08	.19		
14A DUP					0	.09	.21		

4/4

Log # E-1131-95

QUALITY CONTROL DATA SHEET

Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
MW 086A	µg/l	269			1000	1210.	95.4	BC
MW-86 F-Dup	NO3	0.6			50	52.5	104	MCF
5-1128 2.0 STD DIST.	F	2.0	2.0			2.0	100	MCF
1.0 STD Instr. Check	µg/l	1.0	1.0			.992	99.2	BC
50. STD Instr. Check	µg/l	50	50			46.8	93.6	BC
Blank	µg/l	1.387						BC

subtracted

Comments:

Sheet1

SF960769

QC DATA PROJECT: 960684

PARAMETER	BLANK	LCS (%REC)	MD(RPD)	MS(%REC)
URANIUM	<1	101%	NC	103%
NITRATE AS(N)			NC	117%
FLUORIDE			NC	104%

ED675-91

1/10

UA-3
wick

DATE 07-May-91

RUN # 21

SAMPLE ID	CONCENTRATION U ug/l
BLK	0.0
MW-28	0.2
MW-28A	1.8
MW-22	7.1
MW-22A-1	0.1
MW-9A-1	5.0
MW-32A-1	0.1
MW-31A-1	10.2
MW-60A	1.2
MW-65A	3.2
MW-42	1.4
MW-42A	1.2
DUP	1.2

DATE 07-May-91

RUN # 21

SAMPLE ID	CONCENTRATION U ug/l
BLK	0.0
MW-58A	7.0

FL-2

SCINTREX UA3 URANIUM WORK SHEET

LASER INTENSITY .48

DATE: 5/7/91 Wick

VOL. STD ADD. 50 µl CONC. STD 100

SAMPLE ID	DATE 1991	TIME	SAMPLE SIZE	BALANCE READING	READING W/O FLURAN	READING WITH FLURAN	READING STD ADD.	DILUTION FACTOR	CONC. ug/l
BLANK			6 ml		0	0	.34		
MW-28					0	.01	.31	20	E-0625-91
28A					0	.04	.35		
22					0	.14	.45		
22A.1					0	.01	.33		
9A.1					0	.10	.41		
32A.1					0	.01	.33		
31A.1					0	.19	.49		
~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~WILL~~	~~RUN~~	~~FL 1~~	~~[illegible]~~	~~[illegible]~~
60A					0	.03	.35		
65A					0	.07	.39		
42					0	.03	.31		
42A					0	.03	.35		
DUP					0	.03	.35		
FL-2					(A)	(B)			
BLANK			6 ML		.01	.02	.24		
MW-58A			"		.01	.05	.14		

10/2

3/10

DATE 08-May-91

RUN # 21

UA-3

wick

SAMPLE ID	CONCENTRATION U ug/l
BLK	0.0
MW-62	16.8
MW-43	4.6
MW-4A	5.0
MW-20	0.1
MW-20A	1.2
MW-8	1.2
MW-8A	0.1
MW-21	9.6
MW-21A	5.2
MW-66	1.7
MW-66A-1	1.3
DUP	1.3

LOW RANGE

DATE 08-May-91

RUN # 21

SAMPLE ID	CONCENTRATION U ug/l
BLK	0.0
MW-33T	10744.3

HIGH RANGE

SCINTREX UA3 URANIUM WORK SHEET

LASER INTENSITY .49

DATE: 5/2/91 wick

VOL. STD ADD. 50 µL CONC. STD 100 mgo +

SAMPLE ID	DATE 1991	TIME	SAMPLE SIZE	BALANCE READING	READING W/O FLURAN	READING WITH FLURAN	READING STD ADD.	DILUTION FACTOR	CONC. ug/l
BLANK			6 mL		0	0	.34		
MW-33T					0	.22 ⑪	.56	2000	E-0625-91
62					0	.35	.69	20	
43					0	.09	.39		
4A					0	.10	.41		
20					0	.01	.33		
20A					0	.03	.34		
8					0	.03	.35		
8A					0	.01	.33		
21					0	.18	.48		
21A					0	.10	.40		
66					0	.04	.36		
66A-1					0	.03	.32		
DUP					0	.03	.33		

1/4

5/10

TE 08-May-91

RUN # 21

UA-3
WICK

SAMPLE ID	CONCENTRATION U ug/l
BLK	0.0
MW-44	5.0
MW-71	0.1
MW-9	0.2
MW-32	1.3
MW-29	0.2
MW-30	3.5
MW-30A	0.1
MW-31	0.1
MW-10A	0.1
MW-74	12.8
MW-67A	2.6
MW-68A	1.3
DUP	1.3

LOW RANGE

SCINTREX UA3 URANIUM WORK SHEET

LASER INTENSITY .49

DATE: 5/8/91 Wick

VOL. STD ADD. 50 µl CONC. STD 100

SAMPLE ID	DATE 1991	TIME	SAMPLE SIZE	BALANCE READING	READING W/O FLURAN	READING WITH FLURAN	READING STD ADD.	DILUTION FACTOR	CONC. ug/l
BLANK			6 mL		0	0	.32		
MW-44					0	.09	.37	20	F-0625-91
21					0	.01	.32		
9					0	.01	.31		
32					0	.03	.33		
29					0	.01	.31		
30					0	.07	.37		
30A					0	.01	.33		
31					0	.01	.32		
10A					0	.01	.32		
74					0	.23	.52		
67A					0	.05	.33		
68A					0	.03	.32		
DUP					0	.03	.32		

6/12

7/10

TE 08-May-91

RUN # 21

UA-3

WICK

SAMPLE ID	CONCENTRATION U ug/l
BLK	0.0
MW-69A	7.3
MW-81A	11.1
MW-70A	0.2
MW-73	0.2
MW-73A	1.3
MW-6	0.2
MW-6A	1.8
MW-5	0.2
MW-5A	1.8
MW-2	0.2
MW-2A	2.4
MW-3	3.6
DUP	3.6

LOW RANGE

SCINTREX UA3 URANIUM WORK SHEET

LASER INTENSITY .48

DATE: 5/8/91 WICK

VOL. STD ADD. 50 µl CONC. STD 100

SAMPLE ID	DATE 1991	TIME	SAMPLE SIZE	BALANCE READING	READING W/O FLURAN	READING WITH FLURAN	READING STD ADD.	DILUTION FACTOR	CONC. ug/l
BLANK			6 mL		0	.01	.31		
MW-69A					0	.12	.38	20	F-0625-91
81A					0	.20	.49		
70A					0	.01	.31		
73					0	.01	.30		
73A					0	.03	.33		
6					0	.01	.31		
6A					0	.04	.34		
5					0	.01	.31		
5A					0	.04	.35		
2					0	.01	.31		
2A					0	.05	.35		
3					0	.07	.36		
DUP					0	.07	.36		

≈100

9/10

'TE 09-May-91

RUN # 21

UA-3
WICK

SAMPLE ID	CONCENTRATION U ug/l
BLK	0.0
MW-3A	0.2
MW-1	3.8
MW-4	5.9
MW-22A-2	0.2
MW-9A-2	2.6
MW-32A-2	2.0
MW-31A-2	8.9
MW-66A-2	0.2
DUP	3.6
CS 5/6	294.9
CS 5/7	290.9

FL-1
LOW RANGE

TE 09-May-91

RUN # 21

SAMPLE ID	CONCENTRATION U ug/l
BLK	0.0
3ACLAR T	717.7
3ACLAR S	717.7

FL-2
HIGH RANGE

SCINTREX UA3 URANIUM WORK SHEET

LASER INTENSITY .48

DATE: 5/9/91 WCK

VOL. STD ADD. 50 µl CONC. STD _____

SAMPLE ID	DATE 1991	TIME	SAMPLE SIZE	BALANCE READING	READING W/O FLURAN	READING WITH FLURAN	READING STD ADD.	DILUTION FACTOR	CONC. ug/l
BLANK			6 mL		0	0	.30		
mul-3A					0	.01	.30	20	
1					0	.07	.35		
4					0	.11	.40		
22A-2					0	.01	.29		
9A-2					0	.05	.33		
32A-2					0	.04	.32		
31A-2					0	.15	.42		
16A-2					0	.01	.29		
DUP					0	.07	.36		
C.S. COMP	5-6				0	.52	.81	200	
C.S. COMP	5-7				0	.46	.72	200	
FL-2 TOTAL U. 3A CLAR	5-7				0	.19 (11)	.41	100	
FL2 BLANK					.01	.02	.19		
SOLUBLE 3A CLAR	5-7				0	.19 (11)	.41	100	

Sheet1

SF960750

QC DATA PROJECT: 960649

PARAMETER	BLANK	LCS (%REC)	MD(RPD)	MS(%REC)
URANIUM	<1	131%	NC	113%
NITRATE AS(N)			NC	104%
FLUORIDE			NC	104%

INFINITY ANALYTICAL SERVICES, L.L.C.
ANALYSIS REPORT WORKSHEET
URANIUM ANALYSIS

1/3

Date Assigned: _____ Due Date: _____ Analyst: BC

Matrix: Aqueous Date Analyzed: 4-17-96

Units of Measurement (Circle One): µg/l µg/g µg Method: SOP25B

Laboratory Sample I.D. Number	Vial Number	Sample Uranium Content Result	Average	LLD	Amount of Standard Added	Spiked Standard or Duplicate Meas. Value	Quality Control % Recovery (R) or % Difference (D)
Blank		Ø.30					
SF960240-01		7.3		Ø.57			
SF960240-02		6.2		↓			
SF960240-03		6.6		↓			
SF960240-04		1.1		↓			
SF960240-05		7.3		5.7			
SF960240-06		8,400.		Ø.57			
SF960240-07		4.8		Ø.57			
SF960240-08		9.4		Ø.57			
SF960240-09		8.4		↓			
SF960240-10		6.2		↓			
SF960240-11		3.1		1.1			
SF960240-12		2.1		Ø.57			
SF960240-13		20,000		5.7			
SF960240-14		2.8		Ø.57			
SF960240-15		5.8		↓			
SF960240-16		2.1		↓			
SF960240-17		6.4		↓			
SF960240-18		6.0		↓			
SF960240-19		5,000		5.7			
SF960240-20		270.		Ø.57			
SPK SF960240-20					1000.	1200.	97% R
DUP SPK SF960240-20					1000.	1200.	96% R
50 STD					50.	53	110% R

Ø.801

Comments: _____

Date Assigned: 4/11/96 Due Date: 4/16 Analyst: MRFAN

Matrix: LIQUID Date Analyzed: 4/12/96

Analysis Method: 4500-NO_3-D Units of Measurement: mg/L

NO_3

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
Blank		X1	—	1.0	~~0.53~~	
100 STD			—		100.	100-R%
SF960240.01			1.5			
.02			1.6			
.03			1.2			
.04			1.0			
.05			<1.0			
.06			20			
.07			<1.0			
.08			110			
.09			1.9			
.10			3.3			
.11			8.0			
.12			910.			
.13			56			
.14			8.1			
.15			670			
.16			1.3			
.17			~~45.1~~ 45			
.18			~~45.6~~ 46			
.19			~~68~~ 690			
.20			250			
.20	SPK		—		300	92-R%
.20	SPIL		—		300	94-R%
Cont.						

2.2%

Comments: Data in SF960240.0

42
LB:
1C

[illegible] ANALYTICAL SERVICES, LLC.
ANALYSIS REPORT WORKSHEET

LB
QC
3/3

Date Assigned: 4/ Due Date: 4/ Analyst: [illegible]

Matrix: LIQUID Date Analyzed: 4/16/95

Analysis Method: 340.2 DIST Units of Measurement: mg/L

F⁻

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
Blank		X1	—	0.20	0.07	
2.0 STD			—		~~1.9~~ 2.1	100-R%
SF960240.05			0.79			
.06			~~1.8~~ 1.6			
.08			1.1			
.11			1.3			
.12			0.64			
.13			9.0			
.14			0.64			
.17			0.85			
.18			0.60			
.19			1.6			
.20			0.72			
.21			0.86			
.21	SPK		—		2.9	100-R%
.21	SPK		—		2.8	99-R%
						1.5%-D
					SPIKE=	2.0

Comments:

SF97498

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

16-Jan-98
Page: Q-1
Job: 974472E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Barium Total mg/l	Barium Dissolved mg/l	Nitrate+Nitrite as N mg/l	Fluoride mg/l
Blank	U	U	U	U
LCS (True)	10.0	10.0	1.00	20.0
LCS (Found)	10.4	10.1	1.06	20.8
LCS % Rec	104	101	106	104
Duplicate	0.05	6.13	12	U
Duplicate	0.05	6.12	11	U
RPD	2.2	0.2	4.0	NC
Spike % Rec	105	103	113	98.6

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Ra-226 Total pCi/g	+ 2σ	Th-230 Total pCi/g	+ 2σ
Duplicate	0.7	±0.5	1.3	±1.0
Duplicate	0.4	±0.4	1.1	±0.8
RER	0.30		0.12	
Std (found value)	93	±5	109	±8
Std (true value)	99		97	
Std % rec.	94		112	
Blank	0.0	±0.1	0.0	±0.2
Spike % rec.	76		92	

BARRINGER LABORATORIES, INC.
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SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Uranium Total mg/l
Duplicate	0.0040
Duplicate	0.0040
RPD	0.0
Std (found value)	1.5
Std (true value)	1.5
Std % rec.	100
Blank	U
Spike % rec.	97

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SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Uranium Total µg/g
Duplicate	91
Duplicate	91
RPD	0.0
Std (found value)	520
Std (true value)	510
Std % rec.	102
Blank	U
Spike % rec.	100

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

16-Jan-98
Page: Q-5

Kenny Schlag
SEQUOYAH FUELS
P.O. Box 610
Gore, OK 74435

Attn:
Project: SF97-0498 PO #:

Received: 17-Dec-97 09:15

Job: 974472E Status: Final

Abbreviations:

Parameters:

Ra-226	: Radium-226
Th-230	: Thorium-230

Units:

mg/l	: milligrams per liter
pCi/g	: picoCuries per gram
µg/g	: micrograms per gram

Quality codes:

U	: Undetected
NC	: Not Calculated

Log # E-450-95

QUALITY CONTROL DATA SHEET

Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
MW 48	NO_3^- mg/L	2.5			50	46	88%	MM
MW 72	NO_3^- mg/L	0.5			50	44	87%	MM
C/S	NO_3^- mg/L	0.7			50	46	90%	MM
MW 48	U µg/l	3.168		✓		5.088	46.5% D	BC
MW 72	U µg/l	3.479			100 ✓	885	88.2%	BC
MW 74A	F^- mg/L	0.8		✓		0.8	0% D	PMM
2.0 STD	"	2.0	✓			2.0	100%	PMM
MW-072A	"	0.7		✓		0.7	0% D	PMM
2.0 STD	"	2.0	✓			2.1	105%	PMM
MW-072A	"	0.4		✓		0.4	0%	PMM
E-461 MW 12'	GApCi/l	203		✓		169	18.3% D	BC
" MW 12'	GBpCi/l	65		✓		67	3.0% D	↓
Th 230	GApCi/l	16.8	16.8 ✓			16	95.2	↓
Sr 90	GBpCi/l	196.4	196.4 ✓			180	91.6	↓
MW 74	As	7		✓		7		AV
MW 55	As	53			100 ✓	174	114	AV
E-432 Blank	RA	0						MEF
432 12.1	RA	12.1	✓			11.47	94.8	MEF
RA-QC E-432-95								
STD	pCi/L Th 230	16.8 ✓				16.3	97.2	WCK
E-461 MW-012		.11		✓		.59	11.2 D	!
E-466 MW-072 D		.31			67.2 ✓	53.0	78.1	!

Comments:

INFINITY
ANALYTICAL SERVICES, LLC.

Highway 64 & Carlile Lane
P.O. Box 1100
Gore, Oklahoma 74435
Phone (918) 489-2062 Fax (918) 489-2280

METALS QA/QC SUMMARY REPORT

Sample Series ID SF951123

The following sample identifications apply to the tables contained below:

	Spike Lab ID#	Duplicate Lab ID#
Nitrate as N	SF951123 (MW059A)	E-1118-95
Uranium	E-1123-95 (MW050B)	N/A
Metals	E-1123-95 (MW030A)/ E-1117-95-32	E-1123-95 (MW050A(DUP))

Concentration units are in mg/L unless otherwise indicated.
Recovery is given in % unless otherwise indicated.

COMPOUND	SAMPLE CONCENTRATION (mg/L)	DUPLICATE CONCENTRATION (mg/L)	% RPD	LIMITS
Nitrate as N. (Brucine)	1.400	1.600	13.00	20
Arsenic	0.021	0.021	0.00	20

$ = Concentration does not exceed 5 times the Detection Limit.
# = Value exceeds control limits
* = Value does not exceed 5 times the Detection Limit
N/A = Not available
**=Abnormal result due to much higher concentration in original sample than amount of standard added as spike.

IAS QA/QC ANALYSIS REPORT

COMPOUND	SAMPLE CONCENTRATION (mg/L)	SPIKE CONCENTRATION (mg/L)	% REC.	% LIMITS
Nitrate as N.	2860.0	3600	93	75-125
Uranium	5 µg/L	903 µg/L	90	80-120
Aluminum	0.256	1.328	107.2	75-125
Antimony	BDL < 0.005	0.036	120	75-125
Arsenic	0.088	0.132	116	75-125
Barium	0.033	1.027	99.4	75-125
Beryllium	BDL < 0.005	0.983	98.3	75-125
Cadmium	BDL < 0.007	1.029	102.9	75-125
Calcium	2.528	3.747	121.9	75-125
Chromium	BDL < 0.007	1.041	104.1	75-125
Cobalt	BDL < 0.008	1.036	103.6	75-125
Copper	0.018	1.054	103.6	75-125
Iron	0.394	1.447	105.0	75-125
Lead	BDL < 0.005	0.025	83.0	75-125
Lithium	0.037	1.308	127.1**	75-125
Magnesium	0.824	1.914	109.0	75-125
Manganese	0.006	1.035	102.9	75-125
Molybdenum	BDL < 0.005	1.053	105.3	75-125
Nickel	0.023	1.060	103.7	75-125
Phosphorous	0.213	1.296	108.3	75-125
Potassium	0.690	1.907	121.7	75-125
Selenium	BDL < 0.005	0.025	83	75-125
Silver	BDI < 0.006	0.977	97.7	75-125
Sodium	448.000	462.000	1400**	75-125
Strontium	0.081	1.079	99.8	75-125
Thallium	BDL < 0.005	0.028	93	75-125
Vanadium	BDL < 0.006	1.035	103.5	75-125
Zinc	BDL < 0.005	1.025	102.5	75-125

$ = Concentration does not exceed 5 times the Detection Limit
# = Value exceeds control limits
* = Value does not exceed 5 times the Detection Limit
N/A = Not available
**=Abnormal result due to much higher concentration in original sample than amount of standard added as spike.

IAS QA/QC ANALYSIS REPORT

COMPOUND	BLANK CONCENTRATION mg/L	LCS CONCENTRATION Conc.	Recovery	ACCEPTANCE RANGE mg/L		
Nitrate as N.	N/A	99µg/L	99%	85	-	115%
Flouride	N/A	2.000	100%	85	-	115%
Uranium	1.15 µg/L	0.99,46.8µg/L	99,94%	80	-	120%
Aluminum	<0.055	0.529		0.498	-	0.719
Antimony	0.001	0.088		0.068	-	0.108
Arsenic	0.001	0.069		0.051	-	0.080
Barium	<0.003	N/A		N/A		
Beryllium	<0.005	0.775		0.716	-	0.957
Cadmium	<0.007	0.794		0.638	-	0.870
Calcium	<0.006	N/A		N/A		
Chromium	<0.007	0.524		0.454	-	0.608
Cobalt	<0.008	1.000		0.827	-	1.030
Copper	<0.006	0.196		0.164	-	0.208
Iron	<0.017	1.300		1.150	-	1.450
Lead	0.001	0.452		0.392	-	0.564
Lithium	<0.004	1.940		1.600	-	2.400
Magnesium	<0.008			N/A		
Manganese	<0.001	3.920		3.520	-	4.280
Molybdenum	<0.012	0.387		0.308	-	0.455
Nickel	<0.013	1.140		0.959	-	1.200
Phosphorous	<0.057	1.960		1.600	-	2.400
Potassium	<0.187	N/A		N/A		
Selenium	0.001	0.092		0.069	-	0.109
Silver	<0.006	0.415		0.342	-	0.479
Sodium	<0.026	N/A		N/A		
Strontium	<0.002	0.193		0.162	-	0.220
Thallium	0.001	0.104		0.078	-	0.123
Vanadium	<0.006	1.210		1.070	-	1.350
Zinc	<0.005	0.769		0.640	-	0.813

3 = Concentration does not exceed 5 times the Detection Limit
# = Value exceeds control limits
* = Value does not exceed 5 times the Detection Limit
N/A = Not available
**=Abnormal result due to much higher concentration in original sample than amount of standard added as spike.

ED695-91

1/5

DATE 10-May-91

RUN # 21

HA-3

WICK

SAMPLE ID	CONCENTRATION U ug/l
BLK	0.0
MW-24	442.4
MW-24A	112.7
MW-87	41.3
5 PPB STD	4.8
CS 5/8	339.1
CS 5/9	437.2
100 SPIKE	551.6

HIGH RANGE

DATE 10-May-91

RUN # 21

SAMPLE ID	CONCENTRATION U ug/l
BLK	0.0
MW-26	9.2
MW-75A	1.1
MW-75A-DUP	1.6
MW-79	10.0
MW-79A-DUP	1.1
MW-79A	1.6
MW-80	3.2
MW-80A	1.6
MW-80A-DUP	1.5
MW-93	4.3
MW-83A	1.1

LOW RANGE

SCINTREX UA3 URANIUM WORK SHEET

LASER INTENSITY [illegible]

DATE: 5/10/91 Wick

VOL. STD ADD. 50 µl CONC. STD 100 + 1000

SAMPLE ID	DATE 1991	TIME	SAMPLE SIZE	BALANCE READING	READING W/O FLURAN	READING WITH FLURAN	READING STD ADD.	DILUTION FACTOR	CONC. ug/l
[illegible]			6 ml		0	.01	.35		
MW-[illegible]					0	.16 (H)	.46 (H)	100	E-0695-91
[illegible]					0	.19 (H)	.47 (H)	20	
[illegible]					0	.19	.52		
[illegible]	[illegible]					—	—	—	
[illegible]					0	.03	.36		
[illegible]-MW					0	.04	.37		
[illegible]					0	.20	.52		
[illegible]-MW					0	.03	.36		
[illegible]					0	.04	.37		
[illegible]					0	.07	.39		
[illegible]					0	.04	.38		
[illegible] MW					0	.04	.37		
[illegible]					0	.09	.41		
[illegible]					0	.03	.36		
[illegible]					0	.09 (H)	.45 (H)	20	
5 PPB STD					0	.09 (H)	.40 (H)	2	

G/N

SCINTREX UA3 URANIUM WORK SHEET

LASER INTENSITY .49

DATE: 5/10/91 [illegible]

VOL. STD ADD. 50 µl CONC. STD 1000

SAMPLE ID	DATE 1991	TIME	SAMPLE SIZE	BALANCE READING	READING W/O FLURAN	READING WITH FLURAN	READING STD ADD.	DILUTION FACTOR	CONC. ug/l
[illegible]			4 ml		0	.01	.35	1	
[illegible]	5-8		↓		0	.07	.41 (H)	200 (H)	E-0212-91
[illegible]	5-8				0	.09	.43 (H)	200 (H)	↓
100 SPIKE	5-9				0	.11	.42 (H)	200 (H)	

5/3

/

4/5

E 13-May-91

RUN # 21

UA-3
wick

SAMPLE ID	CONCENTRATION U ug/l
BLK	0.0
MW-2301-A	24.9
MW-2302-A	2.3
MW-2302-B	5.9
QC-DUP	5.9
MW-53	12.0
MW-53A	3.8
MW-53A-DUP	4.2
MW-12	2325.6

FL-1
LOW RANGE

DATE 13-May-91

d # 21

FL-1
HIGH RANGE

SAMPLE ID	CONCENTRATION U ug/l
BLK	0.0
MW-87A	338.5
MW-87A-DUP	321.0
MW-2301-B	143.3
MW-12A	14175.7
5 PPB STD	4.8

DATE 13-May-91

RUN # 21

FL-2
LOW RANGE.

SAMPLE ID	CONCENTRATION U ug/l
BLK	0.0
MW-26A	2.3

SCINTREX UA3 URANIUM WORK SHEET

LASER INTENSITY .47

DATE: 5/13/91 wick

VOL. STD ADD. 50µL CONC. STD 100 & 1000

SAMPLE ID	DATE 1991	TIME	SAMPLE SIZE	BALANCE READING	READING W/O FLURAN	READING WITH FLURAN	READING STD ADD.	DILUTION FACTOR	CONC. ug/l
BLANK					0	.01	.34	1	
MW-82A					0	.61 H	.91	20	
82A-DUP					0	.54 H	.82		
2301-A					0	.44	.73		
2301-B					0	.25 H	.54		
2302-A					0	.05	.36		
2302-B					0	.11	.40		
QC-DUP					0	.11	.40		
53					0	.23	.54		
53A					0	.07	.35		
53A-DUP					0	.08	.37		
12					0	.44	.75	2000	
12A					0	.29 H	.63	2000	
5 PPB STD					0	.19 H	.52	1	
BLANK	FL-2				0	.02	.24	1	
MW-26A	FL-2				0	.04	.29	20	

5/5

ANALYSIS REPORT WORKSHEET
URANIUM ANALYSIS

Date Assigned: _____ Due Date: _____ Analyst: BC

Matrix: Aqueous Date Analyzed: 4-23-96

Units of Measurement (Circle One): (µg/l) µg/g µg Method: 50f25B

Laboratory Sample I.D. Number	Vial Number	Sample Uranium Content Result	Average	LLD	Amount of Standard Added	Spiked Standard or Duplicate Meas. Value	Quality Control % Recovery (R) or % Difference (D)
Blank		0.64					
SF960268-01		5.6		0.57			
SF960268-02		4.9					
SF960268-03		4.6					
SF960268-04		5.0					
SF960268-05		1.0					
SF960268-07		0.91					
SF960268-09		<0.57					
SF960268-10		<0.57					
SF960268-11		<0.57					
SF960268-12		<0.57					
SF960268-13		<0.57					
SF960268-14		0.67					
SF960268-15		<0.57					
SF960268-16		<0.57					
SF960268-17		<0.57		✓			
SPK SF960268-17					1000	1100.	110% R
DUP SPK SF960268-17					1000	1100.	110% R
50 STD					50.	55.	110% R

0% D

Comments: 4 NC - E # 504

INFINITY ANALYTICAL SERVICES, LLC.
ANALYSIS REPORT WORKSHEET

2/3

Date Assigned: 4/18/96 Due Date: ~~4/25/96~~ 4/23/96 Analyst: [illegible]

Matrix: LIQUID Date Analyzed: 4/19

Analysis Method: 4500NO3-D Units of Measurement: MG/L

NO3

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
Blank		X1	—	1.0	0.94	
100 STD		—	—	—	100	100-12%
SI-960268.01		X10	6,700	10		
.02		X10	2,600	10		
.03		X10	2,400	10		
.04		X10	4,000	10		
.05		X1	160	1.0		
.06			11			
.07			29			
.08			2.8			
.09			3.4			
.10			4.0			
.11			4.0			
.12			3.3			
.13			<1.0			
.14			2.5			
.15			6.8			
.16			5.7			
.17			4.9			
.17	SPK		—		61	110-R %
.17	SPK	—	—	—	61	110-R %
						0.54-%D

Comments:

Date Assigned: 4/1 Due Date: 4/24 Analyst: M. Fom LB

Matrix: LIQUID Date Analyzed: 4/24/95 3C

Analysis Method: 340.2 DIST Units of Measurement: MG/L 3/3

F⁻

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
Blank		X1	→	0.2	0.06	
2.0			—		2.2	110-R %
SF960278			0.43			
SF960281			0.30			
SF960262.05			2.2			
SF960268.01			4.6			
.02			2.4			
.03			2.6			
.04			3.1			
.05			0.92			
.06			2.0			
.07			1.0			
.12 ~~.08~~			1.4			
.16			0.70			
.17		—	1.0	—		
.18		X3	1.8	0.6		
.18			~~7.4~~		7.4	94-R %
.18			~~7.5~~		7.5	96-R %
						1.6-D %
					Spike=	6.0

Comments: Due Date late Because of ~~[illegible]~~ numerous Samples for F⁻ MCF

Data in SF960278

SF98148

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15-Jun-98
Page: Q-1
Job: 981969E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Nitrate+Nitrite as N

Sample Id	mg/l
Blank	U
LCS (True)	1.00
LCS (Found)	1.00
LCS % Rec	100
Duplicate	U
Duplicate	U
RPD	NC
Spike % Rec	75.9

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15-Jun-98
Page: Q-2
Job: 981969E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Lead Total mg/l
Blank	U
LCS (True)	0.100
LCS (Found)	0.114
LCS % Rec	114
Duplicate	0.024
Duplicate	0.025
RPD	6.1
Spike % Rec	118

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15-Jun-98
Page: Q-3
Job: 981969E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Arsenic Total mg/l
Blank	U
LCS (True)	0.050
LCS (Found)	0.054
LCS % Rec	108
Duplicate	U
Duplicate	U
RPD	NC
Spike % Rec	110

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15-Jun-98
Page: Q-4
Job: 981969E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Fluoride mg/l
Blank	U
LCS (True)	20.0
LCS (Found)	20.2
LCS % Rec	101
Duplicate	U
Duplicate	U
RPD	NC
Spike % Rec	87.7

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15-Jun-98
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Job: 981969E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Ammonia as N mg/l	TSS mg/l
Blank	U	U
LCS (True)	2.00	5000
LCS (Found)	1.91	4880
LCS % Rec	95.7	97.6
Duplicate	U	14
Duplicate	U	12
RPD	NC	15.4
Spike % Rec	91.4	NA

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15-Jun-98
Page: Q-6
Job: 981969E
Status: Final

SEQUOYAH FUELS

QUALITY CONTROL REPORT

Nitrate as N

Sample Id	mg/kg
Blank	U
LCS (True)	9.10
LCS (Found)	9.60
LCS % Rec	105
Duplicate	U
Duplicate	U
RPD	NC
Spike % Rec	113

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SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Gross Alpha Total pCi/l	+ 2σ	Gross Beta Total pCi/l	+ 2σ
Duplicate	13	±7	29	±9
Duplicate	21	±10	14	±9
RER	0.48		0.77	
Std (found value)	104	±4	98	±2
Std (true value)	103		89	
Std % rec.	101		110	
Blank	0.0	±0.1	0.2	±0.4
Spike % rec.	119		98	

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SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Ra-226 Total pCi/l	± 2σ
Duplicate	6.78	±0.64
Duplicate	6.20	±2.98
RER	0.13	
Std (found value)	86.7	±2.3
Std (true value)	104.0	
Std % rec.	83	
Blank	0	±0.0602
Spike % rec.	98	

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SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Uranium Total mg/l
Duplicate	2.7
Duplicate	2.7
RPD	0.0
Std (found value)	1.5
Std (true value)	1.5
Std % rec.	100
Blank	U
Spike % rec.	101

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SEQUOYAH FUELS

QUALITY CONTROL REPORT

Sample Id	Uranium Total mg/l
Duplicate	0.0033
Duplicate	0.0032
RPD	2.4
Std (found value)	1.6
Std (true value)	1.5
Std % rec.	107
Blank	U
Spike % rec.	103

BARRINGER LABORATORIES, INC.
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15-Jun-98
Page: Q-11

Kenny Schlag
SEQUOYAH FUELS
P.O. Box 610
Gore, OK 74435

Attn: S Munson
Received: 20-Apr-98 09:30
Project: SF98-0148
PO #:

Job: 981969E
Status: Final

Abbreviations:

Parameters:

TSS	: Total Suspended Solids
Ra-226	: Radium-226

Units:

mg/l	: milligrams per liter
mg/kg	: milligrams per kilogram
pCi/l	: picoCuries per liter

Quality codes:

NA	: Not Analyzed
U	: Undetected
*U	: Undetected and see case narrative
*	: See case narrative
NC	: Not Calculated

Log # E-446-95

QUALITY CONTROL DATA SHEET

Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
Trip Blank	NO_3	.5			50 ✓	56.6	112	BC
MW-062	U µg/l	3.619		✓		3.516	2.9% Diff	BC
SEQ-007A	U µg/l	3.051 ∅			100 ✓	897	89.4%	BC
MW-074A	F mg/l	∅.8		✓		∅.8	0%D	[illegible]
2.0 STD	"	2.0	✓			2.0	100%	[illegible]
MW-072A	"	∅.7		✓		∅.7	0%D	[illegible]
2.0 STD	"	2.0	✓			2.1	105%	[illegible]
MW-072A	"	∅.4		✓		∅.4	0%D	[illegible]
461 MW 12	GA pCi/l	203		✓		169	18.3%D	BC
" MW 12	GB pCi/l	65		✓		67	3.0%D	BC
-406 Th 230	GA pCi/l	16.8	16.8 ✓			16	95.2%	BC
" Sr 90	GB pCi/l	196.4	196.4 ✓			180	91.6%	BC
9 STD	pCi/L TH 230	16.8	16.8 ✓			13.1	78.2	DJK
MW RW #2	1	.38		✓		.39	2.6	1
.0423 2207 (QTR)	1	.31			42.2 ✓	45.7	17.8	1
-0434 Blank	RA	∅						NEF
E432 12.1 STD	RA	12.1	✓			11.47	94.8	NEF
RA QC E432								
04 MW-086 A	pCi/L RA 226	.60		✓		.53	12.3 D	DJK
95 STD	" "	12.1	12.1 ✓			13.8	114 %	DJK

Comments:

INFINITY ANALYTICAL SERVICES, L.L.C.
ANALYSIS REPORT WORKSHEET
URANIUM ANALYSIS

1/3

Date Assigned: _____ Due Date: _____ Analyst: BC

Matrix: Aqueous Date Analyzed: 4-22-96

Units of Measurement (Circle One): µg/l µg/g µg Method: SOP25B

Laboratory Sample I.D. Number	Vial Number	Sample Uranium Content Result	Average	LLD	Amount of Standard Added	Spiked Standard or Duplicate Meas. Value	Quality Control % Recovery (R) or % Difference (D)
Blank		0.30					
SF960243-01		~~7.1~~ 6.8		0.57			
SF960243-02		~~8.8~~ 8.5		0.57			
* SF960243-03		<1.4		1.4			
SF960243-04		5.6		0.57			
SF960243-05		1.2					
SF960243-06		0.97					
SF960243-07		<0.57					
SF960243-08		<0.57					
SF960243-09		2.0					
* SF960243-10		<1.4		1.4			
SF960243-11		1.0		0.57			
SPK SF960243-11					1000.	1000.	100% R
DUP SPK SF960243-11					1000.	1100.	110% R 3.8%
50.0 STD					50.	55.	110% R

Comments: HNO_3 & H_2SO_4

* HNO3 only

Date Assigned: 4/12 Due Date: 4/17 Analyst: [illegible]

Matrix: LIQUID Date Analyzed: 4/12/96 LB 2/3

Analysis Method: 4500 NO3-D Units of Measurement: mg/L

NO3 ~~0~~ c

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
Blank		X1	—	1.0	~~0~~.73	
100.STD			—		100	100-R%
SF-960243.01			2.8			
.02			8.3			
.03			1.0			
.04			3.8			
.05			1.2			
.06			1.1			
.07			1.1			
.08			1.5			
.09			1.2			
.10			1.0			
.11			1.0			
.11	SPK		—		51	99-R%
.11	SPK	⊥	—	⊥	51	99-R% ~~0~~.20=

Comments:

ANALYSIS REPORT WORKSHEET

Date Assigned: 4/12/96 Due Date: 4/17/96 Analyst: METTON

Matrix: LIQUID Date Analyzed: 4/22/96

Analysis Method: 340.2 DIST Units of Measurement: mg/L

3 LB IC

F⁻

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
Blank		X1	—	0.20	0.05	
2.0 STD			—		2.01	100-R%
SF960243.01			2.1			
.02			2.3			
.03			2.2			
.04			2.0			
.05			1.4			
.06			1.9			
.07			1.2			
.08			1.0			
.09			1.7			
.10			2.9			
.11			1.9			
SF960254.06			~~70~~ 0.65			
.12			~~0~~ 0.74			
.14			2.9			
.15			1.3			
.16			5.5			
.17			0.78			
.18			1.1			
.30			0.93			
.31			0.91			
.31	SPK		—		3.1	110-R%
.31	SPK		—		3.1	110-R%
						0.40-D%

Comments: Data in SF960243 SPIKE=2.0

INFINITY
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Gore, Oklahoma 74435
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QA/QC ANALYSIS REPORT

Sample Series ID SF951128

The following sample identifications apply to the tables contained below:

	Spike Lab ID#	Duplicate Lab ID#
Nitrate as N	E-1128-95 (MW076A)	E-1128-95 (MW087A)
Flouride	N/A	N/A
Uranium	E-1128-95 (MW076A)	E-1128-95 (MW103A)
Metals	E-1128-95 (MW012A)	E-1131-95 (MW026A)

Concentration units are in mg/L unless otherwise indicated.
Recovery is given in % unless otherwise indicated.

COMPOUND	SAMPLE CONCENTRATION (mg/L)	DUPLICATE CONCENTRATION (mg/L)	% RPD	LIMITS
Nitrate as N.	50 (SPIKE)	54 (SPIKE)	3.60	20
Arsenic	0.053	0.049	7.80	20
Uranium	BDL < 5 µg/L	BDL < 5 µg/L	0	20
Thallium	BDL < 0.005	0.015 (SPIKE)	6.5	20

$ = Concentration does not exceed 5 times the Detection Limit
# = Value exceeds control limits
* = Value does not exceed 5 times the Detection Limit
N/A = Not available
**=Abnormal result due to much higher concentration in original sample than amount of standard added as spike.

IAS QA/QC ANALYSIS REPORT

COMPOUND	SAMPLE CONCENTRATION (mg/L)	SPIKE CONCENTRATION (mg/L)	% REC.	% LIMITS
Nitrate as N.	0.9	56	110	75-125
Uranium	25 µg/L	895 µg/L	87	80-120
Aluminum	0.256	1.328	107.2	75-125
Antimony	BDL < 0.005	0.033	110	75-125
Arsenic	0.154	0.173	63	75-125
Barium	0.033	1.027	99.4	75-125
Beryllium	BDL < 0.005	0.983	98.3	75-125
Cadmium	BDL < 0.007	1.029	102.9	75-125
Calcium	2.528	3.747	121.9	75-125
Chromium	BDL < 0.007	1.041	104.1	75-125
Cobalt	BDL < 0.008	1.036	103.6	75-125
Copper	0.018	1.054	103.6	75-125
Iron	0.394	1.447	105.0	75-125
Lead	BDL < 0.005	0.031	103.0	75-125
Lithium	0.037	1.308	127.1#	75-125
Magnesium	0.824	1.914	109.0	75-125
Manganese	0.006	1.035	102.9	75-125
Molybdenum	BDI < 0.012	1.053	105.3	75-125
Nickel	0.023	1.060	103.7	75-125
Phosphorous	0.213	1.296	108.3	75-125
Potassium	0.690	1.907	121.7	75-125
Selenium	BDL < 0.005	0.031	103	75-125
Silver	BDL < 0.006	0.977	97.7	75-125
Sodium	448	462.000	1400**	75-125
Strontium	0.081	1.079	99.8	75-125
Thallium	BDL < 0.005	0.016/0.015	53/50	75-125
Vanadium	BDL < 0.006	1.035	103.5	75-125
Zinc	BDL < 0.005	1.025	102.5	75-125

$ = Concentration does not exceed 5 times the Detection Limit
# = Value exceeds control limits
* = Value does not exceed 5 times the Detection Limit
N/A = Not available
**=Abnormal result due to much higher concentration in original sample than amount of standard added as spike.

COMPOUND	BLANK CONCENTRATION mg/L	LCS CONCENTRATION Conc.	Recovery	ACCEPTANCE RANGE mg/L		
Nitrate as N.	N/A	99µg/L	99%	85	-	115%
Flouride	N/A	2.000	100%	85	-	115%
Uranium	1.15 µg/L	0.99,46.8µg/L	99%,94%	80	-	120%
Aluminum	<0.055	0.529		0.498	-	0.719
Antimony	0.001	0.088		0.068	-	0.108
Arsenic	0.001	0.069		0.051	-	0.080
Barium	<0.003	N/A		N/A		
Beryllium	<0.005	0.775		0.716	-	0.957
Cadmium	<0.007	0.794		0.638	-	0.870
Calcium	<0.006	N/A		N/A		
Chromium	<0.007	0.524		0.454	-	0.608
Cobalt	<0.008	1.000		0.827	-	1.030
Copper	<0.006	0.196		0.164	-	0.208
Iron	<0.017	1.300		1.150	-	1.450
Lead	0.001	0.452		0.392	-	0.564
Lithium	<0.004	1.940		1.600	-	2.400
Magnesium	<0.008			N/A		
Manganese	<0.001	3.920		3.520	-	4.280
Molybdenum	<0.012	0.387		0.308	-	0.455
Nickel	<0.013	1.140		0.959	-	1.200
Phosphorous	<0.057	1.960		1.600	-	2.400
Potassium	<0.187	N/A		N/A		
Selenium	0.001	0.092		0.069	-	0.109
Silver	<0.006	0.415		0.342	-	0.479
Sodium	<0.026	N/A		N/A		
Strontium	<0.002	0.193		0.162	-	0.220
Thallium	0.001	0.104		0.078	-	0.123
Vanadium	<0.006	1.210		1.070	-	1.350
Zinc	<0.005	0.769		0.640	-	0.813

$ = Concentration does not exceed 5 times the Detection Limit
# = Value exceeds control limits
* = Value does not exceed 5 times the Detection Limit
N/A = Not available
**=Abnormal result due to much higher concentration in original sample than amount of standard added as spike.

INFINITY ANALYTICAL SERVICES, L.L.C.
ANALYSIS REPORT WORKSHEET
URANIUM ANALYSIS

1/3

Date Assigned: _____ Due Date: _____ Analyst: BC

Matrix: Aqueous Date Analyzed: 4-17-96

Units of Measurement (Circle One): (µg/l) µg/g µg Method: SOP25B

Laboratory Sample I.D. Number	Vial Number	Sample Uranium Content Result	Average	LLD	Amount of Standard Added	Spiked Standard or Duplicate Meas. Value	Quality Control % Recovery (R) or % Difference (D)
Blank		Ø.30					
SF960237-01		1.8		Ø.57			
SF960237-02		<Ø.57		Ø.57			
SF960237-03		<Ø.57		Ø.57			
SF960237-04		<Ø.57		Ø.57			
SF960237-05		<Ø.57		Ø.57			
SF960237-06		4,700		Ø.57			
SF960237-07		Ø.84		Ø.57			
SF960237-08		Ø.70		Ø.57			
SF960237-09		1.7		1.1			
SF960237-10		2.2		Ø.57			
SF960237-11		5.8		Ø.57			
SF960237-12		4.0		Ø.57			
SF960237-13		<Ø.57		Ø.57			
SF960237-14		2.5		Ø.57			
SF960237-15		47.		Ø.57			
SF960237-16		1.0		Ø.57			
SF960237-17		Ø.96		Ø.57			
SF960237-18		<Ø.57		Ø.57			
SF960237-19		8.5		Ø.57			
SF960237-20		8.7		Ø.57			
SPF SF960237-20					1000.	920.	91% R
DUP SPK SF960237-20					1000.	920.	91% R
50 STD					50.	53.	100% R

Ø.10%

Comments: HNO_3 & H_2SO_4

Date Assigned: 4/10/96 Due Date: 4/15/96 Analyst: MCFAUL

Matrix: LIQUID Date Analyzed: 4/18/96

Analysis Method: 4500-NO3-D Units of Measurement: Mg/L

NO3-Probe

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
BLANK		X1	—	1.0	0.49	
100 STD			—		98	98-R%
SF960237.01			1.2			
.02			1.3			
.03			4.9			
.04			3.4			
.05			0.9			
.06			5.8			
.07			1.7			
.08			2.0			
.09			1.7			
.10			1.0			
.11			1.2			
.12			1.1			
.13			1.0			
.14			<1.0			
.15			4.6			
.16			6.5			
.17			2.2			
.18			1.1			
.19			1.9			
.20			1.6			
.20	SPK		—		~~52.752~~	100-R%
.20	SPK		—		~~51.652~~	100-R%

Comments: RAW Data in SF960237

... ANALYTICAL SERVICES, LLC.
ANALYSIS REPORT WORKSHEET

Date Assigned: ~~4/15/96~~ 4/10 Due Date: ~~4/16/96~~ 4/15 Analyst: MEFinn

Matrix: LIQUID Date Analyzed: 4/15

Analysis Method: 340.2 DIST Units of Measurement: mg/L

3/3

F⁻

Laboratory Sample I.D. Number	Sample Amount	Dilution Factor	Sample Analysis Result	LLD	Spike or Standard Result	Quality Control % Recovery (R) or % Difference (D)
Blank			—	0.20	0.15	~~0.15~~
STD-2.0			—		2.0	100-R%
SF960237.01			0.31			
.02			0.45			
.03			1.7			
.06		X2	1.1	0.40		
.19			1.4	0.20		
.20			1.4			
.20	SPK		—		3.5	-100-R%
.20	SPK		—		3.5	100-R%
						0-% D
					SPIKE=	2.0

Comments: DIL - SF96027.06 - Sample-QNS at 300 mls - took 150 mls (DIL FACTOR X2) MEF

INFINITY
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QA/QC ANALYSIS REPORT

Sample Series ID SF951117

The following sample identifications apply to the tables contained below:

	Spike Lab ID#	Duplicate Lab ID#
Nitrate as N	E-1117-95-22 (MW091A)	Trip Blank
Flouride	N/A	N/A
Uranium	Trip Blank	N/A
Metals	E-1117-95-32 (MW062A)/ (MW105B)	E-1117-95-32 (MW105B)

Concentration units are in mg/L unless otherwise indicated.
Recovery is given in % unless otherwise indicated.

COMPOUND	SAMPLE CONCENTRATION (mg/L)	DUPLICATE CONCENTRATION (mg/L)	% RPD	LIMITS
Nitrate as N.	50 (SPIKE)	54 (spike)	0.18	20
Arsenic	BDL < 0.005	BDL < 0.005	0.00	20

$ = Concentration does not exceed 5 times the Detection Limit
# = Value exceeds control limits
* = Value does not exceed 5 times the Detection Limit
N/A = Not available
**=Abnormal result due to much higher concentration in original sample than amount of standard added as spike.

IAS QA/QC ANALYSIS REPORT

COMPOUND	SAMPLE CONCENTRATION (mg/L)	SPIKE CONCENTRATION (mg/L)	% REC.	% LIMITS
Nitrate as N.	BDL < 1.0	45	89	75-125
Uranium	BDL < 5.0 µg/L	830 µg/L	83	80-120
Aluminum	0.256	1.328	107.2	75-125
Antimony	BDL < 0.005	0.037	123	75-125
Arsenic	0.096	0.145	76	75-125
Barium	0.033	1.027	99.4	75-125
Beryllium	BDL < 0.005	0.983	98.3	75-125
Cadmium	BDL < 0.007	1.029	102.9	75-125
Calcium	2.528	3.747	121.9	75-125
Chromium	BDL < 0.007	1.041	104.1	75-125
Cobalt	BDL < 0.008	1.036	103.6	75-125
Copper	0.018	1.054	103.6	75-125
Iron	0.394	1.447	105.0	75-125
Lead	BDL < 0.005	0.025	83.0	75-125
Lithium	0.037	1.308	127.1#	75-125
Magnesium	0.824	1.914	109.0	75-125
Manganese	0.006	1.035	102.9	75-125
Molybdenum	BDL < 0.005	1.053	105.3	75-125
Nickel	0.023	1.060	103.7	75-125
Phosphorous	0.213	1.296	108.3	75-125
Potassium	0.690	1.907	121.7	75-125
Selenium	BDL < 0.005	0.026	87	75-125
Silver	BDL < 0.006	0.977	97.7	75-125
Sodium	448	462	1400**	75-125
Strontium	0.081	1.079	99.8	75-125
Thallium	BDL < 0.005	0.030	100	75-125
Vanadium	BDL < 0.006	1.035	103.5	75-125
Zinc	BDL < 0.005	1.025	102.5	75-125

$ = Concentration does not exceed 5 times the Detection Limit
# = Value exceeds control limits
* = Value does not exceed 5 times the Detection Limit
N/A = Not available
**=Abnormal result due to much higher concentration in original sample than amount of standard added as spike.

COMPOUND	BLANK CONCENTRATION mg/L	LCS CONCENTRATION Conc.	Recovery	ACCEPTANCE RANGE mg/L
Nitrate as N.	BDL < 1.0	0.990	99%	85 - 115%
Flouride	N/A	0.209	105%	85 - 115%
Uranium	0.64 µg/L	0.98,49.1µg/L	98%,98%	80 - 120%
Aluminum	<0.055	0.529		0.498 - 0.719
Antimony	0.000	0.092		0.068 - 0.108
Arsenic	0.002	0.072		0.051 - 0.080
Barium	<0.003	N/A		N/A
Beryllium	<0.005	0.775		0.716 - 0.957
Cadmium	<0.007	0.794		0.638 - 0.870
Calcium	<0.006	N/A		N/A
Chromium	<0.007	0.524		0.454 - 0.608
Cobalt	<0.008	1.000		0.827 - 1.030
Copper	<0.006	0.196		0.164 - 0.208
Iron	<0.017	1.300		1.150 - 1.450
Lead	0.000	0.469		0.392 - 0.564
Lithium	<0.004	1.940		1.600 - 2.400
Magnesium	<0.008			N/A
Manganese	<0.001	3.920		3.520 - 4.280
Molybdenum	<0.012	0.387		0.308 - 0.455
Nickel	<0.013	1.140		0.959 - 1.200
Phosphorous	<0.057	1.960		1.600 - 2.400
Potassium	<0.187	N/A		N/A
Selenium	<0.000	0.091		0.069 - 0.109
Silver	<0.006	0.415		0.342 - 0.479
Sodium	<0.026	N/A		N/A
Strontium	<0.002	0.193		0.162 - 0.220
Thallium	<0.000	0.082		0.078 - 0.123
Vanadium	<0.006	1.210		1.070 - 1.350
Zinc	<0.005	0.769		0.640 - 0.813

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Sheet1

SF960665

QC DATA PROJECT: 960522

PARAMETER	BLANK	LCS (%REC)	MD(RPD)	MS(%REC)
URANIUM	<1	99%	3%	73%
NITRATE AS(N)			NC	100%
FLUORIDE			0	101%

Sheet1

SF960754

QC DATA PROJECT: 960665

PARAMETER	BLANK	LCS (%REC)	MD(RPD)	MS(%REC)
URANIUM	<1	131%	NC	113%
NITRATE AS(N)			NC	104%
FLUORIDE			0.8%	81%

Sheet1

SF960652

QC DATA PROJECT: 960501

PARAMETER	BLANK	LCS (%REC)	MD(RPD)	MS(%REC)
URANIUM	3.2	85%	4%	102%
NITRATE AS(N)	0.4		0.2%	98%
FLUORIDE			NC	114%

Log # ~~E-544-95~~
E-820-95

QUALITY CONTROL DATA SHEET

Sample ID	Analysis	Conc	STD	DUP	SPK	Conc	% Rec	Tech
STA3 SPK	~~Ø~~ U	Ø			1000 ✓	860	86.0%	BC
STA 3 - Dup	NO3	36.9			50 ✓	85.1	97.9	
STA 5 - Dup	F- mg/L	Ø.32		✓		Ø.34		
2.0 STD	F- mg/L	2.0	✓			2.3	115%	
STA-11	Rapcifl	Ø			12.1 ✓	13.4	111%	BC

Comments:

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Highway 64 & Carlile Lane
P.O. Box 1100
Gore, Oklahoma 74435
Phone (918) 489-2062 Fax (918) 489-2280

QA/QC ANALYSIS REPORT

Sample Series ID E-1157-95 January 18, 1996

The following sample identifications apply to the tables contained below:

	Spike Lab ID#	Duplicate Lab ID#
Nitrate as N	E-1157-95 (STA-11)	N/A
Fluoride	N/A	N/A
Uranium	E-1157-95 (STA-1)	N/A
Radium-226	E-1146-95 (Comb. Stream)	N/A
Thorium-230	E-1157-95 (STA-9)	N/A

COMPOUND	SAMPLE CONCENTRATION	SPIKE CONCENTRATION	% REC.	% LIMITS
Nitrate as N	0.40 (mg/l)	46 (mg/l)	91	80-120
Uranium	1.0 (ug/l)	810 (ug/l)	81	80-120
Radium-226	0.10 (pCi/l)	11 (pCi/l)	93	80-120
Thorium-230	0.80 (pCi/l)	65 (pCi/l)	95	80-120

COMPOUND	STANDARD CONCENTRATION	LCS CONCENTRATION	% REC.	% LIMITS
Nitrate as N	Calibration curve analyzed.	N/A	N/A	N/A
Fluoride	Calibration curve analyzed.	N/A	N/A	N/A
Radium-226	2.4 (pCi/l)	2.4 (pCi/l)	100	80-120
Thorium-230	17 (pCi/l)	16 (pCi/l)	93	80-120

$ = Sample concentration does not exceed 5 times the Detection Limit

* = Matrix interferences see file case narrative.

N/A = Not available

**=Abnormal result due to much higher concentration in original sample than amount of standard added as spike.

@ = Results agree within their respective errors.