46142

PLUTONIUM IN SOILS

TREATABILITY STUDIES

ROCKY FLATS PLANT

OPERABLE UNIT 2

MARCH 31, 1994

APPENDIX A

VOLUME II OF II

DOCUMENT CLASSIFICATION
REVIEW WAIVER PER
CLASSIFICATION OFFICE

A-OU02-001252

Explanation regarding the Activity/MCA Data Sheets:

During the early portion of this project, the Region of Interest (ROI) was established to cover the spectrum from the left tail to the right tail of the ^{241}Am peak. During early August, 1993, it was found that this region was being overlapped by peaks originating from naturally occurring radioactive materials (NORM), specifically uranium, which was becoming concentrated by the mineral jig, the shaker table, and the centrifugal concentrator.

At this point, all samples read thereafter used a narrower ROI which was established to assume symmetry on both sides of the channel with the highest reading. This reestablishment necessitated either the reanalysis of archived samples or the recall and restripping of stored spectrums. Some stored spectrums had become corrupted, all being from the dry and wet sieving work in the early stage of the project. In these instances, the original spectrums were used in the computation of activity levels for the dry and wet sieving. On almost all occasions for the sieve data, the reestablished activity levels are near the levels of the original analysis. It is therefore assumed that the original activity levels which were not retrievable from the stored spectrums represent values close to the recomputed ROI-derived values.

In addition to this difficulty, some original Activity/MCA Data Sheets contain data from other projects which is considered to be customer confidential.

Volume 1 of Appendix A contains the reconstructed data sheets and copies of data sheets which required no reconstruction. Volume 2 of Appendix A contains copies of the original Activity/MCA Data Sheets. All customer confidential data has been obscured from these records to protect other clients.

LESAT
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INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Cs 137: 7.96 x10^-4 cps/pci 12-1-93
Cs 137: 8.26 x10^-4 cps/pci 12-2-93
Am 241: 8.26^-4 cpc/pci

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
~~1 Dec~~										
1 JAN 93	Am241-A	344	24815		18431	1000	18.431	296.2	22300	75.28
	RFBUGSSS	321	7342 ~~7899~~ SS		789	40000	0.0197	0.3	23.85	79.5

COMMENTS: _____

EXPERIMENTER _____

DATE ANALYZED _____

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER

SERIAL # AWC 5042

11/4/93 EFFICIENCY Cs^{137}: 9.086×10^{-4} CPS/pCi

11/5/93 Am^{241}: 7.905×10^{-4} CPS/pCi

11/8/93 Am^{241}: 8.122×10^{-4} CPS/pCi

11/10/93 Cs^{137} 9.327×10^{-4} CPS/pCi

11/11/93 Cs^{137} 8.980×10^{-4} CPS/pCi

MCA DATA SHEET

COUNT DATE	Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
11/[illegible]/93	11/8/93	RF110893	290	16249	4985	11264	4000	2.816	124.981	3467.1	27.74
	1-1-93	AM110893	353	25234		18112	1000	18.112	296.2	22300	75.287

COMMENTS:

EXPERIMENTER MITCH

DATE ANALYZED 11/4 TO 11/11/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY $^{241}Am = 8.865 \times 10^{-4}$ CPS/pCi
$^{241}Am_{pm} = 8.9846 \times 10^{-4}$ CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
9/29/93	AM092993	366	26213	6442	19771	1000	19.771	296.2	22300	75.287	
"	RF114215	102	980	—	413	2000	0.2065	4.073	238.73	58.61	
9/29/93	RF2B004A	190	5157		2420	13000	0.186	13.1	232	17.7	1
"	RF114216	96	1670		1214	2000	~~0.670~~ 0.607	28.670	684.7	23.88	
"	RF114217	133	1518		556	4000	0.139	17.537	156.8	8.941	
7-6 "	RFX14113	110	824		144	3401.	0.0423	0.696	47.76	68.62	585 9-12 A=50 JF
"	RF114218	65	479		250	1000.	0.250	4.153	282.0	67.90	
"	RF114219	69	419		153	1000.	0.153	19.222	172.6	8.98	
	RF114220	125	1018		149	4400	.0339	9.047	38.20	4.222	
	RF114222	79	489		146	2000	0.073	186.629	82.35	0.441	
	RF114221	48	343		226	1002	0.226	109.612	254.4	2.321	
9-28 JF	RFX14214	92	990		537	1000	0.537	28.58	605.8	21.19	
	RF2A0224	160	3616		2293	1100	2.08	244.531	2351.4	9.616	
	RF2A0225	137	2628		1668	1000	1.668	331.191	1881.6	5.68	
*	AMX92993	367	26491		20047	1000	20.047	296.2	22300	75.287	
	RF2A0228	156	3027		1744	1000	1.744	269.247	1939.9	7.20	
	RF2A0223	140	3141		2158	1000	2.158	120.535	2400.4	19.91	
	RF114224	91	686		233	3000	0.078	180.234	86.39	0.48	
	RF114223	102	972		402	3000	0.134	120.535	149.05	1.237	
	RF114225	111	996		315	4000	0.787	8.612	87.69	10.18	

COMMENTS:

EXPERIMENTER

DATE ANALYZED 9/29/93

FM-139

1 Restrip Spectrum on RF2B004A TKW

JD/11/92/REV.0

LESAT
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INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY ^{241}Am: 7.848×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
9/28/93	Am092893	360	~~17502~~ 24748	—	17502	1000	17.502	296.2	22300	75.287
"	RF607100	121	3008		2197	1000	2.197	59.43	2799.4	47.10
"	RF114212	104	1299		~~1047~~ 643	4000	0.1605	71.871	204.5	2.846
"	RF114213	111	1359		596	4,000	0.149	76.044	189.9	2.50
DELJ	RF114214	146	3540		2301	4,000	0.575	28.58	733.0	25.65
	RF114979	248	4927		1014	10000	0.1014	227.726	129.2	0.5674

COMMENTS:

EXPERIMENTER Tm / M

DATE ANALYZED 9/28/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY $^{241}Am = 7.891 \times 10^{-4}$ CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
9/27/93	AM092793	357	24712	—	17598	1,000	17.598	296.2	22300	75.287
"	RF114211	81	869	—	471	2000	0.236	6.622 ~~6.732~~	298.44	44.77
"	RF114210	81	960	—	563	2000	0.282	6.732	356.34	52.99
"	RF114207	84	948	—	519	4000	0.1298	9.184	164.43	17.90
"	RF114208	101	576	—	1205	2000	0.6025	33.379	763.53	22.87
"	RF114209	63	664	—	433	1000	0.433	8.187	548.73	67.02
	RF28008A	213	4493		1652	13048.	0.1266	11.866	160.4	13.52
	RF114X87	106	1842		1192	1000	1.192	77.575	1510.6	19.47
	~~RF114X81~~		~~3956~~							—
	RF114X81	491	16122		576	40,000	0.0144	277.231	18.25	0.0658

COMMENTS:

EXPERIMENTER TM.

DATE ANALYZED 9/27/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.756×10^{-4} CPS/pCi
9/25 Am^{241}: 8.036×10^{-4} CPS/pCi
9/26 ^{241}Am = 7.781×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1-1-93	AM092493	356	24632	7334	17298	1000.	17.298	296.2	22300	75.287
* 9-23-93	RF2B005A	519	18739		2356	40000	.0589	320.9	73.54	0.2292
9-24-93	RF2B006A	221.	3842		623	8000	.07788	269.9	100.4	0.372
9-24-93	RF2B007A	222	4048		814.	8000	.1018	144.8	131.2	0.906
5/20/93	RF114077	172	2249		295	6091	.0484	187.939	62.44	0.3323
5-20 ✓	RF114X44	322	7267		502	28351	.0177	341.013 LF 340.963	22.03	.0646
1-1-93	AM092593	352.	24849		17921	1000.		296.2	22300	75.287
9/25 5-26 ✓ *	RF114X80 RF114080	428	13579		1449	40,000	0.0362	347.128	45.08	0.130
9/26/93	AM092693	361	24683	—	17353	1,000	17.353	296.2	22300	75.287
~~"~~	~~RF114X78~~					~~40,000~~				
"	RF2B008A	124	1482	—	508	4,000	0.127	11.866	163.22	13.76
5-26-J ✓ "	RF114X78	458	14327	—	845	40,000	0.0211	163.670	27.15	0.1659

COMMENTS: * FROM 9/23
✓ 9/25 ROI

EXPERIMENTER JMITCH / T.M
DATE ANALYZED 9/24/93 9/25/93 9/26/93

FM-139

JD/11/92/REV.0

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INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 8.009×10^{-4} CPS/pCi
U^{238}: 1.505×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1-1-93	AM092393	368	25072	7211	17861	1000.	17.861	296.2	22300	75.287
9.23.93	BK092393	130	946		-96	5000				—
	RF2B004A	225	3221		116	13000	.008923	13.1	11.14	0.85
	~~RF2B005A~~	~~532~~	~~18080~~		~~743~~	~~40000~~	~~.01858~~	~~320.9~~	~~.01858~~ 23.19	~~.07227~~

COMMENTS:

EXPERIMENTER Mitch
DATE ANALYZED 9/23/93

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JD/11/92/REV.0

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INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.813×10^{-4} CPS/pCi
U^{238}: 1.514×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1-1-93	AM092293	360	24847	7423	17424	1000.	17.424	296.2	22300	75.287
	RF2B008A	224	4517		1265	8000.	0.1581	280.3	202.39	0.7220
5/20/93	RF114075	153.	1782		244	5000	.0488	259.881	62.46	0.2403
	RF2B003C	-1839	218242		-5314	40,000		275.5		—
*	RF2B003C	1512	191446		6457	40,000	0.1614	275.5	206.6	0.7499 ±0.17

COMMENTS: * MODIFIED ROI

EXPERIMENTER MITCH
DATE ANALYZED 9/22/93

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JD/11/92/REV.0

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INSTRUMENT 92x SPECTRUM MASTER
SERIAL # AWC5042
EFFICIENCY Am^{241}: 8.012×10^{-4} cps/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1-1-93	AM072193	354	24818	6950	17868	1000	17.868	296.2	22300	75.287
5/20/93	RF114075	102	780		108	2000				—
5/20/93	RF114078	207	1959		-48	4000	~~0.2355~~			—
5/20/93	RF114083	166	2677		942	4000	0.2355	136.891	293.9	2.147
5/20/93	RF114084	202	5374		2929	3929	0.7455	216.314	930.5	4.302
	RF28003A	112	1148		352	2101	0.1675	144.8	209.1	1.444
	RF655T25	485	16512		1412	40000	.0353	285.904	44.06	0.1541

COMMENTS:

EXPERIMENTER MMCH

DATE ANALYZED 9/21/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 22X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY U^{238}: 1.525×10^{-4} CPS/pCi 10/20/93
Am^{241}: 7.774×10^{-4} CPS/pCi 10/21/93

MCA DATA SHEET

10/21/93	RFWASHKS	116	1477		619	4000	.155	418.3	199.1	0.476	
1-1-93	AM102193	359	24795		17337	1000.	17.337				
10/21/93	RFWASHKS	125	1492		481	4000	.1203	418.3	154.7	0.3698	
	RF60210M	191	5947		3749	1000.	3.749	218.992	4822.5	22.02	AM
10/21/93	BK102193	305	7316		1169	40000				—	AM
~~10/22/93~~	~~RF2511SP~~										

COMMENTS:

EXPERIMENTER MITCH

DATE ANALYZED 10-20,21-93

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JD/11/92/REV.0

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TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.989×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
1-1-93	AM092093	336	24321	6505	17816	1000.	17.816	296.2	22300	75.287	
9.20.93	BK092093	69	440	—	140	2400		—		—	
9.17.93	RF114206	41	263		160	1000	0.16	16.052 (139.41)	200.3	12.48	
9.17.93	RF31X963	128	2762		1756	1000.	1.756	162.688	2198.0	13.51	±0.9848
9.17.93	RF31X901	109	1822		1083	1000	1.083	220.254	1355.6	6.155	
9/17/93	RF31X900	281	11825		7168	4000	1.792	168.426	2243.1	13.32	± 0.5221
9/17/93	RF31X902	252.	10223		6319	4000	1.58	242.848	1977.4	8.143	
9/20/93	RF2B001A	481	17717		2016	40,000	.0504	297.1	63.09	0.2163	

COMMENTS:

EXPERIMENTER MITCH

DATE ANALYZED 9/20/93

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JD/11/92/REV.0

LESAT
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INSTRUMENT 92X SPECTRUM MASTER

SERIAL # AWC 5042

EFFICIENCY $^{241}Am = 7.409 \times 10^{-4}$ CPS/pCi 9/18

$^{241}Am = 7.448 \times 10^{-4}$ CPS/pCi 9/18 pm

$^{241}Am = 7.688 \times 10^{-4}$ CPS/pCi 9/19

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
9/18/93	AM091893	367	24413	7890	16523	1000	16.523	296.2	22300	75.29
TL 9-19-93 "	RF607000	545	26524		7192	40,000	0.1798	170.2	242.68	1.426
"	AMx91893	361	24198	7587	16611	1000	16.611	296.2	22300	75.29
* "	~~RF606808~~ RF6X6808	524	18966		1675	40,000	0.0419	238.3	56.22	0.236
9/19/93	AM091993	358	24342	7196	17146	1,000	1.7146	296.2	22300	75.29
"	RF6X7000	567	27963		7679	40,000	0.1920	170.2	~~242.~~ 249.7	1.467

RCNT, KLS

COMMENTS:

EXPERIMENTER T.M.

DATE ANALYZED 9/18-19/93

FM-139

JD/11/92/REV.0

* RF606808

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.930×10^{-4} CPS/pCi
Cs^{137}: 9.168×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1-1-93	AM091793	348	24685	7000	17685	1000.	17.685	296.2	22300	75.287
7.30.93	RF2A0221	104	1897		1242	2000	0.621	53.673	783.1	14.59
7.30.93	RF2A0222	121	2504		1615	2000	0.8075	53.215	1018.3	19.14
9.17.93	BK091793	78	633	—	234	3400	.0688	—	—	—
9.17.93	RF60680A	63	425		168	1000	.168	251.0	211.9	0.844
~~9.17.93~~	~~RF60680B~~	~~66~~	~~390~~		~~103~~	~~1000~~	~~0.103~~	~~238.3~~	~~129.9~~	~~0.545~~
9.17.93	RF606900	504	21940		5122	40,000.	0.1281	265.2	161.5	0.6089

COMMENTS:

EXPERIMENTER MTCH

DATE ANALYZED 9/17/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.965×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1-1-93	AM09693	346	24652	6889	17763	1000.	17.763	296.2	22300	75.287
9.13.93	RF2B070H	166	1904		49	4000		398.9		—
9.13.93	RF2B066H	157	1948		299	4000	.07475	411.7 ~~.07475~~	93.85	0.228
9.13.93	RF2B068H	181	2574		371	5000.	.0742	380.4	93.16	0.245
9.13.93	RF2B067H	169	2200		283	5000	.0566	373.8	71.06	0.910
9.13.93	RF2B068R	167	2088		218	5000	.0436	399.2	54.74	0.137 ± 0.1050
* 9.13.93	RF2B070H	523	18772		338	40000	.00845	398.9	10.61	.0266 *

COMMENTS: * ERROR EXCEEDS NET

EXPERIMENTER MITCH
DATE ANALYZED 9/16/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 22X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.864×10^{-4} CPS/pCi NIGHT

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1-1-93	AMX91593	347	24558	7021	17537	1000.	17.537	296.2	22300	75.287
9-13-93	RF2B068R	74	397		20	1000				—
9-13-93	RF2B068H	76	481		89	1000	.089	399.2	113.2	0.2835 LONG CT. REQ'D.
9-13-93	RF2B069H	414	12736		1077	40000	.02693	284.1	34.24	0.1205

COMMENTS:

EXPERIMENTER MITCH
DATE ANALYZED 9/15/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.873×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
1-1-93	AD91593	351	24798	7240	17558	1000.	17.558	296.2	22300	75.287	
9.11.93	RF2A0211	87	1264		762	1000	0.762	35.155	967.9	27.53	
9.11.93	RF2A0209	135	2956		1825	~~1000~~ 1000	1.825	108.909	2318.0	21.28	
9.11.93	RF2A0212	75	1329		987.	1000	0.987	34.502	1253.7	36.34	
9.11.93	RF2A0213	175	2597		527	~~2900~~ 6000	.08783	115.648	111.6	0.9646	
9.11.93	RF2A0215	74	539		176	1000	.176	461.953	223.5	0.4839	
9-15-93	Disch H2O	78	1116		559	1000	0.559	500 ml water	NA	NA	93 KeV
9-15-93	Disch H2O	62	542		282	1000	0.282	500 ml water	NA	NA	188 KeV
9-15-93	TAP H2O	36	148		6	1000	0.006	500 ml water	NA	NA	93 KeV
9-15-93	TAP H2O	28	162		105	1000	0.105	500 ml water	NA	NA	188 KeV
9.11.93	RF2A0214	82	591		140	1000.	0.140	180.089	177.8	0.9874	
9.11.93	RF2A0216	70	439		107	1000	0.107	363.751	135.9	—	
9.11.93	RF2A0216	105	886		144	2000.	0.072	363.751	~~135.9~~ 91.45	0.2514	
9.11.93	RF2A0217	172	5203		3414	1000.	3.414	140.899	4336.3	30.78	
9.11.93	RF2A0219	165	5230		3614	1000.	3.614	122.279	4590.4	37.54	
9.11.93	RF2A0220	158	5280		3820	1000	3.820	124.571	4852.0	38.95	
9.11.93	RF2A0218	161	4988		3448	1000	3.448	144.957	4379.5	30.21	
9.13.93	RF2B0651H	123	1166		144	3000	0.048	409.6	60.97	0.1488	
9.13.93	RF2B0676H	78	399		−27			373.8	—	—	

COMMENTS:

EXPERIMENTER MITCH / BR
DATE ANALYZED 09/15/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 22X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.803×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1-1-93	AM091493	352	24690	7288	17402	1000.	17.402	296.2	22300	75.287
9.11.93	RF2A0201	92	819		252	1000	.252	333.211	323.	0.9692
9.11.93	RF2A0203	151	2380		872	4000	0.218	252.905	279.4	1.105
9.11.93	RF2A0204	65	658		395	1000	0.395	267.758	506.22	1.891
9.11.93	RF2A0205	201	4790		2168	4000	0.542	200.955	694.6	3.456
9.11.93	RF2A0206	94	1199		629	1000	0.629	195.149	806.1	4.131
	~~RF2A0207~~	~~95~~	~~1163~~		~~549~~	~~1000~~				
9.11.93	RF2A0207	77	581		184	1000	0.184	186.960	235.8	1.261
9.14.93	RF606600	102	1160		472	1000	.472	324.8	604.9	1.862
9.11.93	RF2A0208	77.	642		226	1000	0.226	171.156	289.6	1.692
9.11.93	RF2A0210	136	2914		1755	1000	1.755	101.836	2249.1	22.09
8.16.93	RF2A0103	308	7281		857	40000	.02142	0.214	27.46	128.3

COMMENTS:

EXPERIMENTER MITCH

DATE ANALYZED 9.14.93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 22X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.632 $\times 10^{-4}$ CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1-1-93	AM091393	479	48179	14139	34040	2000.	17.020	296.2	22300	75.287
9.11.93	RF114203	47.	306		151	1000.	0.151	2.096	197.9	94.39
"	RF114204	37	237		146	1000	0.146	1.189	191.3	160.9
"	RF2A0202	66	291		-33	1000.	—	129.739	-	—
"	RF2A0200	159.	4601		2966	1000.	2.966	262.581	3886.3	14.80
"	RF114205	37	220		129	1000	0.129	0.486		
"	RF114205	94	850		223	4000	.05575	0.486	73.05	150.3
8.17.93	RF605800	147	2882		1411	4000	0.3528	27.5	462.2	16.81
OK-J 6.4.93	RF114130	132	1637		441	8000	.05513	0.782	72.24	92.37
9.11.93	RF2A0202	395	11757		496	40000	.0124	129.739	16.25	0.1252

COMMENTS:

EXPERIMENTER MITCH
DATE ANALYZED 9.13.93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.951×10^{-4} CPS/pCi
PM: Am^{241}: 7.762×10^{-4} CPS/pCi

MCA DATA SHEET

	Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
	1-1-93	AM091293	351.	24926	7194	17732	1000.	17.732	296.2	22300	75.287
LADA	6·11·93	RF114014 ~~RF114104~~	112.	973		125.	4000.	.03125	1.656	39.30	23.73
F. 6-30	6·30·93	RFX14114	182.	6217		4224	1000.	4.224	149.631	5312.5	35.50
J 7-01	6·4·93	RFX14126	141	3189		1948	1000.	1.948	245.886	2450.0	9.964
20	6·4·93	RR RR RRX14122	127	2977		2006	1000.	2.006	112.519	2523.	22.42
	9.12.93	RR2A0999	73.	1306		1008	1000	1.008	18.616	1267.8	68.10
-12 JF	9·11·93	RR SEE BELOW J RFX14200	53	201		10	1000.	—	5.332	—	REDO
-6	6·11·93	RR RFX14106	87.	1116		641	1000.	0.641	14.724	806.2	54.75
DEL 9/21	6·12·93	RR RFX14113	36	192		111	1000.	0.111	0.696	139.6	200.6
	6·4·93	RR 114202 ~~RFX14202~~	89	1776		1319	1000.	1.319	10.589	1658.9	156.66
	1-1-93	AM062093	350	24652	7095	17557	1000	17.557	296.2	22300	75.287
	9.11.93	RFX14201	42	471 ~~1815~~		264 ~~+12.373~~	1000.	0.264 ~~0.373~~	27.657	332.0 ~~469.1~~	12.01 ~~16.96~~
6/4/93		RFX14103	163 .162	4998 ~~4856~~		3409 ~~3287~~	1000	3.409 ~~3.287~~	96.276	4287.5 ~~4134.1~~	44.53 ~~42.94~~
	6·4·93	RF114130	53.	224		32	1000		0.732		—
	1-1-93	AMX91293	354	24710	7400	17310	1000.	17.310	296.2	22300	75.287
✓	9.11.93	RF114200	322.	9028.		2069	40000	.05173	5.332	66.64	12.50

COMMENTS:

EXPERIMENTER MITCH

DATE ANALYZED 9·12·93

FM-139

JD/11/92/REV.0

* KEYBOARD TROUBLE SOME FILED AS RR. INSTEAD OF RF

LESAT
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INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.889×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
1-1-93	AM091193	340	24318	6724	17594	1000	17.594	296.2	22300	75.287	
9-9-93	RF2B0630	92.	1524		1031	1000	1.031	25.6	1306.9	51.05	
"	RF2B064C	202	7381		4918	1000	4.918	202.6	6234	30.77	
8-16-93	RF2A0103	128	1145		14	6000				—	
9/8 7-30-93	RF2A0044	154	4596		3183	1000.	3.183	85.592	4034.7	47.14	±2.28
8-12-93	RF2A0089	154	1886		210	9910	.02119	0.347	26.86	77.41	±56.8
8-17-93	RF605900	519	19081		717	40000	.01793	390.	22.72	.05826	

COMMENTS:

EXPERIMENTER MITCH

DATE ANALYZED 9/11/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.963×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
1-1-93	AM091093	500.	49566	45051	35515	2000	17.7575	296.2	22300	75.287	
8.24.93	RF2A0144	101	697		25.	2000				—	REDO
9.9.93	RF2B054R	93	1766		1273	2000	1.273	30.6	1598.6	52.24	±1.908
9.9.93	RF2B055C	222	10038		7275	1700.	4.279	175.4	5374.1	30.64	
8.23.93	RF2B038T	108	1158		420	1000.	0.420	312.099	527.44	1.690	±0.4346
9.9.93	RF2B056C	175	5758		4008	1000	4.008	113.6	5033.3	44.31	
9.9.93	RF2B057C	193	8267		6231	1000	6.231	203.4	7824.9	38.47	
9.9.93	RF2B058C	200	7326		5023	1000	5.023	181.6	6307.9	34.74	
"	RF2B059C	100.	2153		1594	1000	1.594	37.3	2001.8	53.67	
"	RF2B060C	206	7412		4959	1000	4.959	216.6	6227.6	28.75	
"	RF2B061C	162	4474		2955	1000	2.955	90.5	3710.9	41.00	
"	RF2B058C	197	7211		4987	1000	4.987	181.6	6262.7	34.49	
"	RF2B062C	206	7697		5261	1000.	5.261	181.8 ~~37.3~~	6606.8	36.34 ~~177.13~~	
"	RF2B059C	97	2208		1702	1000	1.702	37.3	2137.4	57.30	
8/24/93	RF2A0144	442	13950		1272	40000	0.318 ~~1.272~~	367.237	39.93 ~~1544.1~~	0.1087 ~~4.350~~	

COMMENTS:

EXPERIMENTER MITCH

DATE ANALYZED 9/10/93

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JD/11/92/REV.0

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INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 8.111×10^{-4} CPS/pCi

MCA DATA SHEET

	Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
	1-1-93	AM09D993	343	24731	6643	18088	1000	18.088	296.2	22300	75.287	
	9.9.93	RF6006200	46	337		207	1000	0.207	15.6	255.2	16.36	
	8.24.93	RF2A0137	133	1355		185	4000	.04625	343.007	57.02	0.1662	±0.1195
128	8.10.93	RF2A0077	201	7835		5496	4000	1.374	69.855	1694.0	24.25	±0.887
	8.12.93	RF2A0090	220	7954		5061	4000	1.265	51.334	1559.6	30.38	± 1.321
	8.24.93	RF2A0152	170	2700		825	4000	.2063	323.981	254.3	0.7851	± 0.162
126 *	8/9/93	RF2A0157	152	4447		3105	1000	3.105	92.3	3828.1	41.47	±2.03
8/26 *	8/9/93	RF2A0158	153	4477		3114	1000.	3.114	91.516	3839.2	41.95	± 2.06
		~~RF2A0089~~										
8/25	8/24/93	RF2AX129	488	16753		898	40000	.02245	351.37	27.68	.07877	± 0.543

COMMENTS:

EXPERIMENTER MITCH

DATE ANALYZED 9/9/93

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JD/11/92/REV.0

* FICED ; RF2A X - - -

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INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.824×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
1-1-93	AM090893	352	24285	6837	17448	1000.	17.448	296.2	22300	75.287	
9/8/93	BK090893	134	1235.		9.	1500				—	
"	RF2A0103	103	816		143	4000		0.214			± 153.8
9/11 "	RF2AX044 ~~RF2A0044~~	160	4806		3369	1000	3.369	85.592	4306.0	50.31	± 2.389
8/12 "	RF2AX061	139	2929		1743	1000	1.743	153.104	2291.7	14.97	± 1.160
"	RF2AX079	311	2398		1295	46315 ~~40,000~~	.03566 ~~.03238~~	0.226	45.58 ~~41.38~~	201.67 ~~183.07~~	± 48.43
	~~RF2A015~~	~~349~~	~~9093~~		1582	~~40~~					

no reduction ?

COMMENTS:

EXPERIMENTER MITCH / T.M.
DATE ANALYZED 9/8/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.772×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1-1-93	AM090793	349.	24494	7162.	17332	1000	17.332	296.2	22300	75.287
	RF2B007C	711	33085		-1510	10000				—
	RF2B007C	1143	74508		-2624	20000				—
8/26/93	RF2B042R	504	17433		87.	40000	.002175	337.809	2.799	.008284

COMMENTS:

EXPERIMENTER MITCH

DATE ANALYZED 9/7/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER

SERIAL # AWC 5042

EFFICIENCY Am^{241}: 7.603×10^{-4} CPS/pCi

9/5 $^{241}Am_{am}$ = 7.708×10^{-4} CPS/pCi

9/5 $^{241}Am_{pm}$ = 7.948×10^{-4} CPS/pCi

MCA DATA SHEET

	Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
	8-1-93	AM090493	353	24321	7866	16955	1000	16.955	296.2	22300	75.287	
8/27	8-26-93	RF6060500	207	3401		499	10000	.0499	280.2	65.63	0.2342	
8/23		RF28X07C ~~RF280076~~	1379	126977		-3075	40,000	Ø		Ø	Ø	
am	9-4-93	AM090593 ~~AM09X493~~	358	24371 ~~233~~		17191	1000	17.191	296.2	22300	75.29	
	"	RF2A0155	343	9093		1582	40,000	0.0396	2.558	51.31	20.06	±4.349
	9-5-93	AMX90593	359	24862		17726	1000	17.726	296.2	22300	75.29	
	"	RF2Bx42R	534	19008		822	40,000	.02055	337.809	26.66	.0789	
	9-6-93	AM090693	355	25252		18952	1000	18.952	296.2	22300	75.287	
9/1		RF2Bx45R	572	19276		-4	40,000		335.845		—	
	9-7-93	BCKGD907	82	409		10	2000		—		—	

COMMENTS:

EXPERIMENTER MITCH

DATE ANALYZED 9/4/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.735×10^{-4} CPS/pCi
Cs^{137}: 8.53×10^{-4} CPS/pCi
NIGHT: Am^{241}: 7.791×10^{-4} CPS/pCi

MCA DATA SHEET

RF606500

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1-1-93	AM090393	356.	24742	7491.	17251	1000	17.251	296.2	22300	75.287
9-26-93	~~RF606500~~ ~~RF2A0052~~	203	3369		593	10,000				
8-26-93	RF2B043R	230	3536		-86	10000				
~~1-1-93~~	~~AM090393~~ ~~AM091393~~									
1-1-93	AMX90393	352	24663	7288	17375	1000.	17.375	296.2	22300	75.287
8-26-93	RF2B043R	430	13752		1172	40000	0.0293	293.691	37.61	0.128

COMMENTS:

EXPERIMENTER MITCH/TM/SS
DATE ANALYZED 9/3/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 8.289×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
8-24-93	RF2A0130	499	18377		2451	40000	.0613	468.795	73.92	0.1577 ±0.0321

COMMENTS:

EXPERIMENTER MITCH
DATE ANALYZED 9/2/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER

SERIAL # AWC 5042

EFFICIENCY Am^{241}: 7.978×10^{-4} CPS/pCi : 9/1

Cs^{137}: 9.22×10^{-4} cps/pci 9/2

Am^{241}: 8.289×10^{-4} CPS/pCi "

MCA DATA SHEET

	Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
9-1-93	1/1/93	AM090193	359	24766	6974	17792	1000.	17,792	296.2	22300.	75.287
EL, [illegible]	8/4/93	RF2A0052	105	799		96.	4000	0.096	0.201		
	7.30.93	RF2A0051	107	2242		1627	4000	.4068	9.49	509.8 ~~.4068~~	53.72
EL 9/2	8.26.93	RF2B045R	163	1805.		134.	4000	.0335	335.845		
	"	"	240	3854		246	8500	.0289	335.845	36.28	0.108
	8.4.93	RF2A0052	334	7839		900	40,000	.0225	0.201	28.20	140.3
9-2											
	1-1-93	AM090293	351	25253	6768	18485	1000	18.485	296.2	22300	75.287
	9.2.93	RF2B053R	171	3396		1611	3000	0.537	83.9	647.8	7.722

COMMENTS:

EXPERIMENTER MITCH

DATE ANALYZED 9/1 - 9/2/93

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JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.862×10^{-4} CPS/pCi
Co^{60}: CPS/pCi
Cs^{137}: 8.842×10^{-4} CPS/pCi
U^{238}: CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
1/1/93	AM083193	366	25002	7469	17533	1000.	17.533	286.2	22300	15.287	
8/31/93	RF2B051R	85.	635.		182.	1000.	0.182	275.5	231.49	0.840	±0.3924
"	RF2B050R	66.	417.		147.	1000.	0.147	275.4	186.98	0.679	
*	OVRFLOO2					1000.					
*	UNDFLOO2					1000.					
8/31/93	BK083193	69	365.	—	62	2000.	—	—	—	—	Am^{241} ROI
31 Aug 93	RF2B052R	330	71330	—	-71	1000	—	275.4	LLD	—	
8.31.93	RF2B052R	134.	1283.		144	4000	0.036	275.4	45.79	0.1663	
8.26.93	RF2B044R	543	20306		1551	40000.	.0388	385.227	49.32	0.1280	

COMMENTS:

EXPERIMENTER MITCH
DATE ANALYZED 8/31/93

JD/11/92/REV.0

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* UNKNOWN

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.586×10^{-4} CPS/pCi
Cs^{137}: 8.122×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
1/1/93	AM083093	369	24889	7970	16919	1000	16.919	296.2	22300.	75.287	
8/20/93	RF2A0122	175.	3500		1558	1000.	1.558	144.309	2053.8	14.23	± 1.599
8/18/93	RF2A0114	159.	2942		1464.	1000.	1.464	194.17	1929.9	9.939	± 1.079
8/26/93	RF2A0156	176	4640.		2886	1000.	2.886	208.07	3804.4	18.28	± 1.115
~~8/30/93~~	~~RF2B049R~~	~~101.~~	~~945~~		~~270~~	~~1000.~~	~~0.270~~	~~167.4~~	~~355.92~~	~~2.26~~	
8/26/93	RF2B047R	129.	1598		523.	4000.	0.1308	430.595	172.36	0.4003	T.M.
DEL ~~8/30/93~~	~~RF2B049R~~	~~80~~	~~956~~		~~567.~~	~~1000.~~	~~0.567~~	~~157.4~~	~~747.4~~	~~4.749~~	
8/30/93	RF2B049R	143.	1943		613	2000.	0.3065	157.4	404.0	2.567	
8/20/93	RF2B001C	1770	198654		-11157	40000		275.3		—	

COMMENTS:

EXPERIMENTER MITCH

DATE ANALYZED 8/30/93

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JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.977×10^{-4} CPS/pCi
AmX 82993: Am^{241}: 7.890×10^{-4} CPS/pCi

MCA DATA SHEET

	Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
	1/1/93	AMO82993	349	24249	6459	17790	1000	17.790	296.2	22300	75.29	
DEL	8/29/93	RFXA0146	579	23612		3027	40000	0.7568	377.824	94.87	0.251	
	1/1/93	AMX82993	365	24757	7161	17596	1000.	17.596	296.2	22300	75.29	
	8/29/93	RF2A0146	500	17748		2382	30360.4	.07846	377.824	99.44	0.2632	± 0.0552

COMMENTS:

EXPERIMENTER T.M.

DATE ANALYZED 8/29/93

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JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER

SERIAL # AWC 5042

EFFICIENCY Am^{241}: 8.019×10^{-4} CPS/pCi

8/28 $Am^{241} = 7.897 \times 10^{-4}$ CPS/pCi

8/29 $Am^{241} = 7.977 \times 10^{-4}$ CPS/pCi

8/29 pm $Am^{241}_{x} = 7.890 \times 10^{-4}$ CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
8/26/93	RF2B043T	89.	1812		1392.	1000.	1.392	27.0	1735.9	64.29
8/27/93	RF2B048R	55.	524		319	1000.	0.319	9.8	397.8	40.59
8/23/93	RFZA0151	155.	1802		300.	4000	0.075	396.758	93.53	0.2357
8/24/93	RFZA0152	122.	1416		504.	2000	0.252	323.981	314.25	0.970
	RF2B043R	103	720		12	2000				
8/26/93	RF606508	441	14105		1900	40,000		280.2		
8/28/93	AM082893	366	24971		17612	1000	17.612	296.2	22300	75.29
"	RFXA0143	455	14562		1563	40,000	0.0391	359.251	49.48	0.138
8/29/93	AM082993	349	24249		17790	1000	17.790	296.2	22300	75.29
"	RFXA0146	579	23612		3027	40,000	0.7568 ~~3.0274~~	377.824	94.87	0.251
"	AMX82993	365	24757		17.596	1000	17.596	296.2	22300	75.29
"	~~RF-XB0146R~~	~~500.~~	~~17748~~		~~2382~~	~~40,000~~	~~.05955~~	~~379.232~~	~~75.475~~	~~0.199~~
"	RFZA0146	500.	17748		2382	30,347.4	.07849	379.232	99.482	0.2623

LOWEST REP'D

ROI = mo829 93.

COMMENTS:

EXPERIMENTER [signature]

DATE ANALYZED 8/28/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 8.019×10^{-4} CPS/pCi
Am^{241}: 7.897×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
8/26/93	RF2B0A3T	89.	1812.		1392.	1000.	1.392	27.0	1735.9	64.29	±4.111
8/27/93	RF2B048R	55.	524.		319.	1000.	0.319	9.8	397.8	40.59	
8/23/93	RF2A0151	155.	1802.		300.	4000.	0.075	396.758	93.53	0.2357	± 0.1218
8/24/93	RF2A0152	122	1416.		504.	2000.	0.252	323.981	314.25	0.970	
8/26/93	~~RF606500~~ RF606500	441	14105		1900.	40000	.0475	280.2	59.23	0.2114	
1/1/93	AM082893	366	24971	7359.	17612	1000	17.612	296.2	22300	75.29	
8/28/93	RFXA0M3	455.	14562		1563	40,000	0.0391	359.251	49.48	0.138	±0.0401

COMMENTS:

EXPERIMENTER MITCH/TIM
DATE ANALYZED 8/28/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER

SERIAL # AWC 5042

EFFICIENCY Am^{241}: 7.974×10^{-4} CPS/pCi

NIGHTS: Am^{241}: 8.019×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
1/1/93	AM082793	347.	24366.	6585.	17781.	1000.	17.781	296.2	22300.	75.287	
8/23/93	RF2B035T	82.	929.		524.	1000.	0.524	347.014	657.1	1.894	
"	RF2B034T	95.	900.		336.	1000.	0.336	366.389 ~~403.887~~	421.4 ~~421.4~~	1.150	
"	RF2B036T	101.	959.		320.	1000.	0.320	403.887	401.3	0.994	
8/24/93	RF2A014J	316	6757		404	20000.	0.0202	359.251	25.33	0.071	
8/23/93	RF2A040T	98	813.		210.	1000	0.210	366.361	263.4	0.719	±0.3355
"	RF2B037T	90.	1090		600.	1000.	0.600	316.289	752.4	2.379	
8/26/93	RF2B028F	115	2375		1622.	1000.	1.622	49.4	2034.1	41.18	
"	RF2B034C	92	1701		1231	1000.	1.231	18.0	1543.8	85.76	±6.410
"	RF2B033C	161.	4400.		2928	1000.	2.928	275.3	3671.9	13.34	
"	RF2B035C	100.	2072		1519	1000.	1.519	36.7 ~~1904.9~~	1904.9	71.35	±4.647
"	RF2B036C	98	1786		1251	1000.	1.251	18.3	1568.8	85.73	
"	RF2B037C	102	2178.		1611.	1000.	1.611	35.8	2020.3	56.43	
"	RF2B038C	88.	1570		1149.	1000.	1.149	16.9	1440.9	85.26	±6.530
"	RF2B039C	104	2177.		1574	1000.	1.574	32.5	1973.9	60.74	
"	RF606500 ~~RF606508~~	71	344		23	1000.	0.023	280.2	28.84	0.1029	low
1/1/93	AMY82793	359	24926		17884	1000.	17.884	296.2	22300	75.287	
8/26/93	RF2B028F	97.	2233		1744	1000.	1.744	47.1	2174.8	46.17	
"	RF2B04IC	155.	4326		2978	1000.	2.978	275.3	3713.7	13.49	±0.702

COMMENTS:

EXPERIMENTER MITCH

DATE ANALYZED 8/27/93

FM-139

JD/11/92/REV.0

LESAT
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INSTRUMENT 92X SPECTRUM MASTER

SERIAL # AWC 5042

EFFICIENCY $^{241}Am = 7.760 \times 10^{-4}$ CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
8/27/93	AM~~X~~82793	362	24608		17305	1000	17.305	296.2	22300	75.29	
"	RF2B042R	64	474		221	"	0.221	337.809	284.79	0.843	
"	RF2B043R	52	350		186	"	0.186	293.691	239.7	0.816	
"	RF2B044R	78	530		145	"	0.145	385.227	186.9	0.485	✓
"	RF2B045R	69	435		132	"	0.132	335.845	170.1	0.506	✓
DEL 8/27 "	RF2B046R	77	389		3	"	0.003	379.232	3.866	0.0102	REDO
"	RF2B047R	65	394		124	"	0.124	431.195	159.8	0.371	✓
"	RF2B046X	140	1562		323	4000	0.08075	379.232	104.06	0.274	✓
"	RF2A0124	121	1634		731	1000	0.731	394.873	942.0	2.386	✓ ±0.395
"	RF2A0154	83	583		144	1000	0.144	359.34	185.57	0.516	✓ ±0.298
8-24-93	RF2A0150	117	1627		794	1000	0.794	361.151	1023.2	2.833	±0.4175
8-24-93	RF2A0153	89	693		191	1000	0.191	389.588	246.13	0.632	±0.2944
8-26-93	RF2B040X	96	1714		1196	1000	1.196	25.4	1541.23	60.679	
DEL 8-23-93	RF2A0151	89	463		-53	1000		396.758		—	redo
DEL 8/19 8-24-93	RF2A0152	96	675		85	1000	0.085	323.981	109.536	0.338	—
~~8-24-93~~	~~RF2A0145~~	~~96~~	~~675~~		~~85~~	~~1000~~	~~0.085~~	~~382.253~~			
8-24-93	RF2A0145	59	554		348	1000	0.348	382.253	448.45	1.173	±0.1989
8-20-93	RF2A0123	132	1535		449	1000	0.449	311.290	578.6	1.859	±0.546
8/23/93	RF2B038T A	100	1197		594	1000	0.594	312.049	765.5	2.453	

COMMENTS:

EXPERIMENTER ~~[illegible]~~ T.M.

DATE ANALYZED 8/27/93

FM-139

JD/11/92/REV.0

LESAT
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INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY AM 241 = 7.786 x 10^-4 CPS/dpC

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
8/26/93	AM241826	346	24001	6636.	17,365	1000	17.365	296.2	22300	75.287	
"	RF2A0127	63	417		167	1000	0.167	19.129	214.5	11.21	± 4.230
"	RF2A0149	62	867		654	1000	0.654	30.607	840.0	27.44	± 2.602
"	RF2A0148	56 ~~261~~	511		261	"	0.261	28.230	335.2	11.87	± 2.5479 ~~11.07~~ TM
"	RF2A0142	63	682.		449.	1000	0.449	39.737	576.7	14.51	± 2.036
"	RF2A0139	72.	511		179.	1000.	0.179	374.1	229.9	0.615	± 0.2472
"	RF2A0146	100.	535		-129	1000.	—	377.824		—	REDO
"	RF2A0064	92.	935. ~~395.~~		405	1000.	0.405	210.205	520.2	2.475	
"	RF2A0147	69.	462.		163.	1000.	0.163	348.258	209.4	0.601	± 0.254
8/10/93	RF2A0065	80.	894.		513	1000	0.513	189.733	658.9	3.472	
8/20/93	RF2A0072	127.	1928.		935.	1000.	0.935	237.009	1200.9	5.067	
8/10/93	RF2A0074	142.	4155		3050	1000	3.05	149.493	3917.3	26.20	
"	RF2A0075	155.	4140		2750	1000.	2.75	169.225	3491.6	20.63	
8/24/93	RF2A0141	66.	818.		568.	1000.	0.568	39.922	721.2	18.06	± 2.123
"	RF2A0144	66.	372		90.	1000.	0.090	362.237	114.3	0.3112	± 0.2305
8/23/93	RF2B04IT	92.	821		291.	1000.	0.291	325.375	369.5	1.136	± 0.3632
8/24/93	RF2A0143	78	378		-20	1000.		359.251		—	REDO
8/23/93	RF2B039T	102.	1130		484.	1000.	0.484	295.407	621.6	2.104	± 0.4435
8/10/93	RF2A0073	131.	2221		1189	1000.	1.189	285.582	1527.1	5.347	

COMMENTS:

EXPERIMENTER MITCH / T.M.

DATE ANALYZED 8/26/93

FM-139

JD/11/92/REV.0

LESAT
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INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.607×10^{-4} CPS/pCi
Co^{60}: CPS/pCi
Cs^{137}: 8.71×10^{-4} CPS/pCi
U^{238}: CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
1/1/93	AM082693	361.	24550.	7587.	16963.	1000.	16.963	296.2	22300	75.287	
8/24/93	RF2A0134	57.	666.		475.	1000.	0.475	25.032	630.4	25.18	± 2.993
8/24/93	RF2A0135	64.	625.		371.	1000.	0.371	23.421	487.7	20.82	± 3.592
8/24/93	RF2A0136	54.	334		141.	1000.	0.141	335.65	185.4	0.552	± 0.2115
~~8/24/93~~	~~RF2A0130~~	~~324~~	~~8162~~		~~1047~~	~~80,000~~ 19,000		~~468.795~~			
8/24/93	RF2A0130	322	8233		1414.	19000	.0744	468.795	97.83	0.2087	± 0.017
8/24/93	RF2A0137	65.	339		51.	1000.	.051	343.007	67.07	0.196	± 0.244
8/24/93	RF2A0140	77	564		179	1000.	0.179	394.203	235.3	0.597	± 0.256
DEL 9/9 8/24/93	RF2A0129	63.	404.		145.	1000.	0.145	351.37	190.6	0.542	± 0.23
8/24/93	RF2A0138	55.	502.		325.	1000.	0.325	314.908	373.1	1.185	± 0.229

COMMENTS: * S. Spaulding

EXPERIMENTER MITCH

DATE ANALYZED 08/26/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.535×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
7/30/93	RF2A0044	164.	5326.		4418.	1000.	4.418	85.592	5863.3	68.50	
8/16/93	RF2A0098	96.	1788		1475.	1000	1.475	42.314	1957.5	46.26	±3.011
	RF2A0128	107.	837.		393.	1000.	0.393	23.743	521.6	21.97	±5.481
8/24/93	RF2A0130	127	634		-15	1000		468.795		—	NEED LONG CT
8/24/93	RF2A0131	90.	667.		352.	1000	.352	326.842	467.2	1.429	±0.365
8/24/93	RF2A0132	77.	506		105.	1000	0.105	313.94	139.3	0.444	±0.3255
8/24/93	RF2A0133	75	463.		84.	1000.	0.084	372.523	111.5	0.299	±0.2672

COMMENTS:

EXPERIMENTER MITCH

DATE ANALYZED 8/25/93 (CONT'D)

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.608×10^{-4} CPS/PCi
DAYS: Am^{241}: 7.535×10^{-4} CPS/PCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
8/17/93	RF605700	150.	4090		2741.	1000.	2.741	126.4	3602.8	28.50	
	RF606400	137	3406		2295	1000.	2.295	226.5	3016.6	13.32	
	RF606300	74	571		211.	1000.	0.211	276.3	277.3	1.004	
8/17/93	RF605900	84.	492.		16.	1000.	.016	390.	21.03	.0537	✓ WT
8/21/93	RF2A	303	7615		1504	40000	0.0376	0.783	49.42	63.12	✓ WT
1/1/93	AM082593	352	24138	7335	16803	1000.	16.803	~~92.3~~ 296.2	22300	75.287	
DEL 9/9	8/9/93	RF2A0157	145	4221	2980	1000.	2.980	92.3	3954.9	42.85	± 2.085
DEL 9/9	8/9/93	RF2A0158	161	5292	4431	1000.	4.431	91.516	5880.6	64.26	± 2.335
8/17/93	RF606000	125.	705.		78.	1000.	.078	261.5	103.52	0.3959	
8/17/93	RF606100	97.	734		369	1000.	0.369	157.0	489.7	3.119	
8/17/93	RF605800	91.	869.		554.	1000.	0.554	27.5	735.2	26.74	
8/21/93	RF2B032T	152.	1329		410.	1000.	0.410	292.315	544.1	1.861	
8/21/93	RF2B033T	137.	1461		730.	1000.	0.730	370.116	968.8	2.618	
8/21/93	RF2B026T	135	1385.		680.	1000.	0.680	368.827	902.5	2.447	
8/21/93	RF2B027T	152.	1347		436.	1000	0.436	369.841	578.6	1.565	
8/21/93	RF2B028T	142.	1404.		621.	1000	0.621	325.922	824.2	2.529	
8/21/93	RF2B029T	125.	1145		538.	1000	0.538	293.178	714.0 ✓	2.435 ✓	
8/21/93	RF2B030T	144	930		97	1000	0.097	318.627	128.7	0.404	
8/21/93	RF2B031T	126.	947.		319.	1000	0.319	314.654	423.4	1.345	

COMMENTS:

EXPERIMENTER MITCH

DATE ANALYZED 8/25/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER

SERIAL # AWC 5042

EFFICIENCY Am^{241}: 7.772×10^{-4} CPS/pCi

* NIGHTS AM082493: 7.608×10^{-4} CPS/pCi Am^{241}

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
8/20/93	RF2B024C	96.	1324.	626.	698.	1000.	0.698	12.9	898.1	69.62
8/23/93	RF2B025C	100.	1710.		1055.	1000.	1.055	25.0	1357.4	54.30
8/20/93	RF2B001C	1569	170953		-7689	40000		275.3		
8/23/93	RF2B023C	123.	2265.		1253.	1000.	1.253	32.9	1612.2	49.00
8/23/93	RF2B021C	110.	2208.		1461.	1000.	1.461	31.4	1879.8	59.87
8/5/93	RF2A005G	167	4485		2748	1000.	2.748	198.191	3535.8	17.84
8/23/93	RF2B017C	188	5070		2806	1000	2.806	275.2	3610.4	13.12
8/23/93	RF2B022C	78.	1319		961.	1000.	0.961	12.9	1236.5	95.85 *
* 1/1/93	AM082493	354	24317	7349	16968	1000.	16.968	296.2	22300.	75.287
8/23/93	RF2B022C	70.	1323		1058	1000.	1.058	12.9	1390.6	107.8 *
8/24/93	RF2B027F	97.	1821.		1266.	1000.	1.266	46.1	1664.0	36.10
8/24/93	RF2B026F	83.	1651.		1254	1000.	1.254	~~42.6~~ 28.0	1648.3	~~38.69~~ 58.87
8/24/93	RF2B042T	78.	1249		886.	1000.	0.886	15.8	1164.6	73.71
8/24/93	RF2B030C	78.	1144.		769.	1000.	0.769	11.8	1010.8	85.66
8/24/93	RF2B029C	68.	1149.		884.	1000.	0.884	10.9	1161.9	106.6
8/24/93	RF2B031C	76.	1720.		1410.	1000.	1.410	22.5	1853.3	82.37
8-23 8/16/93	RF2A103 RF2A0103	97.	677.		23.	4000.	.00575	0.214	7.558	35.32
8/24/93	RF2B028C	94.	1722.		1192.	1000.	1.192	22.8	1566.8	68.72
8/24/93	RF2B032C	71.	1122.		836.	1000.	0.836	10.3	1098.8	106.68

COMMENTS:

EXPERIMENTER MITCH

DATE ANALYZED 8/24/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER

SERIAL # AWC 5042

EFFICIENCY Am^{241}: 7.595×10^{-4} CPS/pCi (7.105)

NIGHT SHIFT: Am^{241}: 7.772×10^{-4} CPS/pCi
AM082393

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
8/20/93	RF240126	108.	1510.	804.	706.	1000.	0.706	53.306	929.6	17.44
8/20/93	RF2B004C	179.	2346.	2317.	29.	1000.	.029	275.4	38.18	0.139
1/1/93	~~AM241823~~ AM082393	346.	24404.	7071.	17333.	1000.	17.333	296.2	22300	75.287
8/20/93	RF2B004C	184	2570.	2327.	243.	1000.	0.243	275.4	312.7	1.14
* 8/19/93	RF2B008C	133.	1505.	~~839~~ 1266	239.	1000.	0.239	275.5	307.5	1.12
8/23/93	RF2B016C	161.	4001.	1724	2277.	1000.	2.277	275.5	2929.7	10.63
8/20/93	RF2B001C	-260	4675.		-253	1000.		275.3		
8/19/93	RF2B007C	210	3046.		-161	1000.		275.3		
8/23/93	RF2B019T	97.	1798.	605.	1193.	1000.	1.193	24.9	1535.	61.65
8/20/93	RF2B011C	90.	1383.	537.	846.	1000.	0.846	35.5	1088.5	30.66
8/20/93	RF2B009C	83	1235	448.	787.	1000.	0.787	35.6	1012.6	28.44
8/20/93	RF2B013C	68	1285.	270.	1015	1000.	1.015	33.9	1305.9	38.52
8/23/93	RF2B018F	122.	2686	953.	1733.	1000.	1.733	50.7	2229.8	43.98
8/23/93	RF2B015F	116.	2172.	893.	1279.	1000	1.279	41.3	1645.7	39.85
8/20/93	RF2B014C	119.	2703.	893.	1810.	1000.	1.810	69.9	2328.9	33.32
* 8/20/93	RF2B008C	118.	2111.	937.	1174.	1000.	1.174	51.6	1510.6	29.27
8/23/93	RF2B020C	82.	1517.	413.	1104.	1000.	1.104	25.2	1420.5	56.37
8/20/93	RF2B012C	116.	2744.	848	1896.	1000.	1.896	68.3	2439.5	35.72
8/20/93	RF2B010C	115.	2527	848	1679.	1000.	1.679	65.5	2160.3	32.98

COMMENTS: * SAME SAMP. NOS.

EXPERIMENTER MITCH

DATE ANALYZED 8/23/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER

SERIAL # AWC 5042

EFFICIENCY AM241 7.105 x 10^-4 cps/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	MDA
1-1-93	AM241823	356	23887	8043	15844	1000	15.844	296.2	22300	75.29	
8-16-93	RF2A0102	44	201	136	65	1000	0.065	0.236	91.5	387.7	±262.4
8-16-93	RF2A0103	48	203	166	37	1000	0.037	0.214	52.1	243.3	399.4 pCi/g
8-18-93	RF2A0107	113	1307	908	399	1000	0.399	385.52	561.6	1.457	±0.4125
8-18-93	RF2A0108	109	1263	833	430	1000	0.430	357.04	605.2	1.695	±0.4297
8-10-93	RF2A0070	105	1230	775	455	1000	0.455	360.2	640.4	1.778	
8-10-93	RF2A0071	108	1381	806	575	1000	0.575	407.3	809.3	1.987	
8-11-93	RF2A0084	150	3940	1457	2483	1000	2.483	216.56	3494.7	16.14	±0.9749
8-11-93	RF2A0085	131	3325	1084	2241	1000	2.241	213.13	3154.1	14.799	±0.8651
8-12-93	RF2A0088	49	192	179	13	1000	0.013	0.347	18.297	52.73	227.7 pCi/g
8-12-93	RF2A0089	87	747	537	210	4000	0.0525	0.347	73.89	212.94	
8-12-93	RF2A0091	116	2610	848	1762	1000	1.762	137.65	2479.9	18.016	±1.186
8-20-93	RF2A0115	144	3649	1350	2299	1000	2.299	81.06	3235.7	39.92	±2.500
8-20-93	RF2A0116	123	3152	950	2202	1000	2.202	54.98	3099.2	56.37	±3.149
8-20-93	RF2A0117	132	3747	1086	2661	1000	2.661	68.085	3745.2	55.01	±2.729
8-20-93	RF2A0118	125	3083	981	2102	1000	2.102	50.691	2958.5	58.36	±3.471
8-20-93	RF2A0119	133	3380	1115	2265	1000	2.265	63.72	3187.9	50.03	±2.938
8-20-93	RF2A0120	133	3227	1131	2096	1000	2.096	68.114	2950.0	43.31	±2.748
8-20-93	RF2A0125	89	1577	508	1069	1000	1.069	54.045	1504.6	27.84	±2.3178

COMMENTS:

EXPERIMENTER M Giles

DATE ANALYZED 8-23-93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am241 = 7.595x10^-4 CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
8/21/93	821BCKND	40	158	108	50	1000	0.050	~~0~~		~~N/A~~	
"	Am241821	348	24147	—	16937	1000	16.937	296.2	22300	75.29	
"	RF2A0112	160	4482	—	2915	"	2.915	158.695	3838.1	24.19	±1.3275
"	RF2A0083	137	4075	—	2973	"	2.973	61.935	3914.4	63.20	±2.912
"	RF2A0113	150	4084	—	2700	"	2.700	81.624	3554.9	43.55	±2.420
"	RF2A0082	153	3961	—	2517	"	2.517	61.059	3314.0	54.28	±3.299
"	RF2A0110	151	4204	—	2806	"	2.806	70.755	3694.5	52.22	±2.810
"	RF2A0111	153	4154	—	2710	"	2.710	92.202	3568.1	38.70	±2.185
"	RF2A0045	164	4726	—	3064	"	3.064	105.275	4034.2	38.32	±2.0511
"	RF2A0100	80	741	—	320	"	0.320	388.141	421.3	1.086	±0.2714
"	RF2A0093	75	505	—	118	"	0.118	359.177	155.37	0.433	±0.2749
"	RF2A0109	104	1158	—	439	"	0.439	312.767	578.0	1.848	±0.4378
"	RF2A0094	76	864	—	491	"	0.491	14.236	646.48	45.41	±7.0291
"	RF2A0097	76	1480	—	1152	"	1.152	42.299	1516.8	35.86	±2.3657
"	RF2A0095	50	662	—	520	"	0.520	158.144	684.7	4.33	±0.4163
"	RF2A0096	66	555	—	273	"	0.273	210.863	359.5	1.705	±0.4121
"	RF2A0106	115	1221	—	321	"	0.321	358.754	422.6	1.178	±0.4221
"	RF2A0099	67	752	—	470	"	0.470	324.242	618.83	1.909	±0.2721
"	RF2A0121	308	7289	—	776	40,000	0.0194	0.267	~~605.2~~ 27.3	~~1.695~~ 102.3	mc-8-23-93 ±37.971

COMMENTS:

EXPERIMENTER I. Muranik

DATE ANALYZED 8/21/93

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241}: 7.534×10^{-4} CPS/pCi
Co^{60} CPS/pCi
Cs^{137}: 8.808×10^{-4} CPS/pCi
U^{238}: 1.428×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
1/1/93	AM241820	354	24302	7502	16800	1000.	16.800	296.2	22300	75.287	
8/19/93	RF2B005C	203	3531	2794	737	1000	0.737	275.4	978.2	3.556	Am^{241}
8/19/93	RF2B006C	98.	926	654. ~~2782~~	272.	1000.	0.654	275.1	868.1	3.155	"
8/19/93	RF2B003C	280	5165.		~262	1000.		275.5		—	"
8/19/93	RF2B002C	131.	1476	1165.	311.	1000	0.311	275.4	412.8	1.499	" 0.631
8/5/93	RF2A005B	174	4539	1924	2615	1000.	2.615	205.281 ~~820.03~~	3470.	16.90 ~~15.77~~	Am
8/10/93	RF2A0062	38.	185	97.	88.	1000.	.088	0.213	116.8	548.4	Am
8/10/93	RF2A0063	74	568	374	194.	1000.	0.194	367.119	257.5	0.7014	Am
8/10/93	RF2A0068	96.	1049	607.	442.	1000.	0.442	309.665	586.7	1.895	Am
8/10/93	RF2A0069	102.	1067.	700.	367	1000.	0.367	281.184	487.1	1.732	Am
8/12/93	RF2A0088	297	7362	6018	1344	40000	0.0336	0.314	44.60 ~~23529~~	142.03 ~~744.3~~	Tm Am

COMMENTS:

EXPERIMENTER Mitch

DATE ANALYZED 8/20/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER

SERIAL # AWC 5042

EFFICIENCY Am^{241}: 7.826×10^{-4} CPS/pCi

Co^{60}: 7.114×10^{-4} CPS/pCi

Cs^{137}: 8.503×10^{-4} CPS/pCi

U^{238}: 1.802×10^{-4} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1/1/93	AM241819	354	24600	7149	17451	1000.	17.451	286.2	22300	15.287
8/12/93	RF2A0090	105	1994 ~~1764~~	490	1494 ~~1213~~	1000	1.494	50.334 ~~65.862~~	1909.	37.78 ~~26.99~~
8/10/93	RF2A0097	94	2016	486	1530	1000	1.53	54.94 ~~69.855~~	1955.	35.58 ~~27.99~~
~~8/5/93~~	~~RF2A0092~~	~~164~~	~~4430~~	~~1669~~	~~2761~~	~~1000~~	~~2.761~~	~~212.944~~	~~3528~~	~~16.58~~

COMMENTS:

EXPERIMENTER JRITCH

DATE ANALYZED 8/19/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT Spectrum Master 92X
SERIAL # AWC 5042
EFFICIENCY Am 241: 7.152×10^{-4} Net cps/pCi
Cs 137 : 9.14×10^{-4} Net cps/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1 Jan 93	Am^{241} 8/13	354	24165	40114	15949	1000	15.949	296.2	22300	75.29
~~8/13/93~~	~~RF6036A2~~	~~137.~~	~~868.~~		~~813.~~	~~1000.~~	~~0.813~~	~~267.1~~	~~297.8~~	~~1.12~~
8/13/93	RF6037A2	70	524	360	164.	1000.	0.164	170.7	229.3	1.34
8/13/93	RF6036A2	61.	492	263	229.	1000	.229	267.1	320.2	1.20
8/11/93	RF6035A2	452	17110.	15182	1928.	40000	4.828^{-5}	435.6	~~.0674~~ ~~1695.~~	1.556^{-4}

COMMENTS:

EXPERIMENTER MICH

DATE ANALYZED 8/13/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X SPECTRUM MASTER

SERIAL # AWC 5042

EFFICIENCY $Am^{241} = 1.242 \times 10^{-3}$ NET CPS / pCi

$Cs^{137} = 8.99 \times 10^{-4}$ cps / pCi

$U^{238} = 1.671 \times 10^{-4}$ Net CPS / pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	NET CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
8/12/93	Am^{241} 8/12	3.09	29706	2001	27705	1000	27.705	296.2	22300	75.29	
8/12/93	RF6035A2 ~~RF6035A2~~	1.95	746	332	414	1000	0.414	435.6	460.5	1.06	(RF6035 A2)
1JAN93	1/238 8/12	2.13	6099	2406	3693	1000	3.693	290.9	22100	75.97	

COMMENTS: * counted by S. Spaulding

EXPERIMENTER JR/S

DATE ANALYZED 8/12/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X

SERIAL # _____

EFFICIENCY Amx 241 = 1.2486 x 10^-3 CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
8/12/93	Amx41812	270	29441	N/A	27845	1000	27.845	296.2	22300	75.29
"	RF2A0079	44	310	"	249	"	0.249	0.226	199.4	1.102
IEL 9/8 "	~~RF2A0061~~ RFXA0061	138	3685	"	3119	"	3.119	153.108	2498.0	16.32
"	RF2A0060	140	3461	"	2866	"	2.866	147.429	2295.4	15.57

COMMENTS: _____

EXPERIMENTER T. Murarik

DATE ANALYZED 8/12/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X

SERIAL #

EFFICIENCY Am241 = 1.2613×10^{-3} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
8/11/93	AmX41811	272	29748	N/A	28129	1000	28.129	296.2	22300	75.29
"	RF2A0055	128	5131	"	4716	"	4.716	79.697	3739.0	46.92
"	RF2A0048	178	6009	"	5065	"	5.065	133.097	4015.7	30.17
"	RF2A0049	160	4802	"	4039	"	4.039	65.780	3202.3	51.008
"	RF2A0056	230	6737	"	5053	"	5.053	~~77.301~~ 79.301 TM	4006.2	~~51.83~~ TM 50.52

COMMENTS:

EXPERIMENTER T. Murari

DATE ANALYZED 8/11/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X Spectrum Master
SERIAL # AWC 5042
EFFICIENCY Am241 = 1.225×10^{-3} NETCPS/pCi
Cs 137 = 9.18×10^{-4} cps/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	NET CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1 Jan 93	AM241811	296	29551	2229	27322	1000	27.322	296.2	22300	75.29
* 9 AUG93	RF250SP	54	248	241	7	1000	.007	341.2	10.40	.0305
11 AUG93	RFATT22X	101	340	382	-42	1000	-.042	28.2	-34.29	-1.216
										**
										*
11 AUG93	RF2585PA	88	419	285	134	1000	.134	117.1	109.59	.9341
11 AUG93	RF2585PB	97	532	341	191	1000	.191	260.2	155.92	.5992
										**
										**

COMMENTS: ** counted by S Spaulding

EXPERIMENTER K. Smith
DATE ANALYZED 11 AUG 1993

FM-139

JD/11/92/REV.0

*Based on 9 AUG 1993 Efficiency Am241

LESAT
TD&RD

INSTRUMENT McA, 92x Spectrum Master
SERIAL # AWC 5042
EFFICIENCY Am 241 = 6.14×10^{-4} cps/pci
Cs 137 = 8.86×10^{-4} cps/pci

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
Jan/1/93	Am241810	350	23350	9636	13714	1000	13.714	296.2	22300	75.29
8/10/93	RF6032A2	77	656	433	223	1000	0.223	183.7	363.19	1.97
8/10/93	RF6033A2	151	2108	1680	428	4000	0.107	262.7	174.26	0.66
8/10/93	RF2512SP	57	306	285	21	1000	0.021	289.3	34.20	0.11
Cold 8/09/93	RF2510SP	53	243		−8	1000		182.7		
warm 8/09/93	RF2510SP	46	262	188	74	1000	0.074	158.3	120.52	0.76
Cold 8/09/93	RF2510SP	54	278	240	38	1000	0.038	182.7	61.88	0.33

COMMENTS:

EXPERIMENTER F. Semnani
DATE ANALYZED Aug/10/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT MCA, 92x spectrum Master
SERIAL # AWC 5042
EFFICIENCY Am 241 = 6.73×10^{-4} cps/pci
CS 137 = 7.59×10^{-4} cps/pci

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
Jan/1/93	Am241893	360	24487	9470	15017	1000	15.017	296.2	22300	75.29
8/05/93	RF2511SP	66	445	358	87	1000	0.087	261.4	129.27	0.49
8/05/93	RF2511SP	145	1948	1727	221	4000	0.055	261.4	82.09	0.31
8/05/93	RF2510SP	23	284	4	280	1000	0.28	341.2	416.04	1.21
8/09/93	KYAECL013	32	758	4	754	1000	0.754	8.558	993.41	116.07
8/06/93	RF2514A2	136	1690	1517	173	4000	0.173	417.4	257.05	0.61
8/06/93	RF2513SP	64	405	331	74	1000	0.074	294.3	109.95	0.36
8/09/93	KYAECL64	219	1616	679	937	1000	0.937	227.045	1234.51	5.43
8/09/93	KYAECL70	178	2890	426	2464	1000	2.464	290.303	3246.37	11.18

COMMENTS:

EXPERIMENTER F. Semnani
DATE ANALYZED Aug/09/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X

SERIAL # _____

EFFICIENCY AM241 = 1.2529 X10^{-3} CPS/pCi

MCA DATA SHEET

	Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
	8/7/93	AM241807	270	29604	N/A	27940	1000	27.940	296.2	22300	75.29
8-04 J	"	RF2X0030	105	1034	"	652	"	0.652	183.880	520.4	2.830
8-04 J	"	RF2X0031	128	856	"	262	"	0.262	267.734	209.1	0.781
7-30 J	"	RF2X0012	158	1505	"	601	"	0.601	439.6	479.7	1.091
7-30 J	"	RF2X0007	115	1092	"	623	"	0.623	130.374	~~748.1~~ 489.35	~~6.122~~ 3.8 Tm
7-30 J	"	RF2X0018	125	2494	"	1986	"	1.986	59.992	1585.1	26.42
7-30 J	"	RF2X0009	260	2864	"	383	"	0.383	355.038	305.7	0.861

COMMENTS: _____

EXPERIMENTER T. Murarik

DATE ANALYZED 8/7/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT MCA, 92 X Spectrum Master
SERIAL # AWC 5042
EFFICIENCY Am 241 = 1.15×10^{-3} cps/pci
Cs 137 = 8.27×10^{-4} cps/pci

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
Jan 1/93	Am241863	341	29226	3446	25780	1000	25.78	296.2	22300	75.29
8/05/93	RF2515SP	209	5694	1507	4187	1000	4.187	181.9	3640.86	20.01
* 7/30/93	RF2A0029	238	2706	2135	571	4000	0.1425	295.940	124.13	0.41

COMMENTS:

EXPERIMENTER F. Sennoni

DATE ANALYZED 8/06/93

FM-139 *SEE: 08-02-93. SAME SAMPLE HAS A DIFFERENT WT. ?! 1 DELETED

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X

SERIAL # 4-27-94

EFFICIENCY Am241 = 1.2283 $\times 10^{-3}$ CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
8/5/93	AMx41805	267	28975	N/A	27393	1000	27.393	296.2	22,300	75.29
"	RF2A0050	112	909	"	474	"	0.474	18.048	385.9	21.38
"	RF2A0047	70	272	"	97	"	0.097	~~0.204~~ 0.250	~~78.97~~ 78.97	~~392.9~~ 315.88
"	RF2A0028	65	327	"	180	"	0.180	0.205	146.544	714.8

COMMENTS:

EXPERIMENTER

DATE ANALYZED 8/5/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT MCA, 92 x Spectrum Master
SERIAL # AWC 5042
EFFICIENCY CS-137 = 8.65×10^{-4} cps/pci
Am241 = 1.22×10^{-3} cps/pci

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
8/03/93	RF2509SP	7.96	27110	21542	5568	40000	0.1392	284.9	114.09	0.40

by ← Tom.	8/1/93	Am241 804	275	29028	1664	27364	1000	27.364	296.2	22300	75.29

COMMENTS:

EXPERIMENTER F. Semnani
DATE ANALYZED Aug/05/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92 X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241} = 1.2283 x10^{-3} CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
8/5/93	AMX41805	267	28975	N/A	27393	1000	27.393	296.2	22.300	75.29
8/5/93	RF2A0050	112	909	"	474	1000	0.474	18.048	385.9	21.38
8/5/93	RF2A0047	70	272	"	97	1000	0.097	0.250	78.97	315.88
8/5/93	RF2A0028	65	327	"	180	1000	0.180	0.205	146.544	714.8

COMMENTS:

EXPERIMENTER J. Murarik

DATE ANALYZED 8/5/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT MCA, 92 X Spectrum Master
SERIAL # AWC 5042
EFFICIENCY Am241 = 1.25×10^{-3} cps/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	NET CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
Jan/1/93	Am241 83	252	29199	1155	28044	1000	28.044	296.2	22300	75.29
8/03/93	RF2A0036	14.8	1774	675	1099	1000	1.099	401.389	879.2	2.19
8/03/93	RF2A0043	121	2212	422	1790	1000	1.79	98.619	1432	14.52
8/03/93	RF2A0040	76	673	171	502	1000	0.502	21.536	401.6	18.64
DEL 8/03/93	RF2A0031	107	818	358	460	1000	0.46	282.311	368	1.30
DEL 8/03/93	RF2A0030	63	1035	99	936	1000	0.936	198.424	748.8	3.77
8/03/93	RF2A0037									
8/03/93	RF2A0035	164	1818	837	981	1000	0.981	381.988	784.8	2.05
8/03/93	RF2A0034	154	1678	741	937	1000	0.937	380.692	749.6	1.96
8/03/93	RF2A0041	76	696	171	525	1000	0.525	21.777	~~420~~	~~19.28~~
~~8/03/93~~	~~RF2A0042~~	~~66~~	~~268~~	~~138~~	~~130~~	~~1000~~	~~0.130~~	~~15.054~~	~~104~~	~~6.90~~ FD
8/03/93	RF2A0046	60	704	99	605	1000	0.605	~~24.365~~ 2.43	~~484~~ Tm	~~19.86~~ 198.6 → Tm
DEL 8/15 8/03/93	RF2A0047	42	305	50	255	1000	0.255	~~15.054~~ 0.250	~~204~~ Tm	~~13.55~~ Tm 8/16 FD
~~Jan/1/93~~	~~Am241 83~~	~~275~~								

COMMENTS:

EXPERIMENTER F. Semnani
DATE ANALYZED 8/04/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92X

SERIAL #

EFFICIENCY Am 241 = 1.227 x10^-3 CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	NET CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
8/4/93	AmX41304	275	29028	N/A	27364	1000	27.364	296.2	223.00	75.29
"	RF2A0032	~~190~~ 214 TM	1763	"	190	"	0.190	230.242	154.8	0.673
"	RF2A0039	153	1173	"	381	"	0.381	144.153	310.5	2.154
* "	UNKNOWN1	732	26382	"	8279	"	8.279	~250.	6747.4	26.99
"	RF2A0038	202	1780	"	392	"	0.392	298.23	319.5	1.071
* "	UnKnown2	164	4008	"	3191	"	3.191	~200.	2600.7	13.0
"	RF2A0037	178	1864	"	802	"	0.802	~~403.3~~ ~~496.6~~	~~653.6~~ ~~653.6~~	~~403.~~ ~~1.32~~
* "	Unknown3	~~7390~~ 530 TM	7390	"	3767	"	3.767	~200	3070.9	15.35
"	Shot-jig	104	534	"	168	"	0.168	320.7	136.9	0.427
"	RF2A0033	206	1814	"	363	"	0.363	189.478	295.8	1.56
"	RF2A0042	84	1954	"	1767	"	1.767	59.488	1440.1	24.21
"	~~RF2A0029~~ RX2A0024	104	704	"	340	"	0.340	281.252	277.1	0.99
"	RX2A0041	126	658	"	114	"	0.114	7.191	92.91	12.92
"	RX2A0015	185	2890	"	1773	"	1.773	215.959	1445.0	6.691
"	RX2A0016	208	3779	"	2306	"	2.306	250.287	1879.4	7.509

TM 1.621
TM.

remarks

COMMENTS:

EXPERIMENTER T. Murarik

DATE ANALYZED Aug. 4, 93

FM-139

JD/11/92/REV.0

* Unknown 1 is from bucket w/ Shot
* unknown 2 is from bucket w/ only Run #3 thickener
* unknown 3 " " " w/ both shot and Run #3 thi

LESAT
TD&RD

INSTRUMENT 92 X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY Am^{241} : 1.134×10^{-3} CPS/pC.

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1/1/93	Am241 82	352	28953	3671	25282	1000	25.282	296.2	22300	75.29
8/2/93	BF2A0046	88	421	283	138	1000	0.138	2.341	121.69	51.98

COMMENTS:

EXPERIMENTER M. Giles
DATE ANALYZED Aug. 2, '93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT MCA

SERIAL # AWC 5042

EFFICIENCY 1.134×10^{-3} net cps/pCi (AM241)
7.970×10^{-4} cps/pCi (CS137)

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	NET CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1 Jan 93	AM24182	352	28953	3671	25282	1000	25282	296.2	22300	75.29
2 Aug 93	RF2A0046	88	421	283	138	1000	0.138	2.341	121.69	51.98
18 Aug 93	RF2A0029	126	682	591	91	1000	0.091	281.292	80.247	0.285

COMMENTS:

EXPERIMENTER M. Giles

DATE ANALYZED Aug. 2, 1993

FM-139 * See: 08-06-93. Same Sample Has A Different Wt. ?! JF

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92 X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY 1.259 $\times 10^{-3}$ CPS/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1/1/93	AM241730	253	28931	863	28068	1000	28.068	296.2	2.23×10^{4}	75.29
7/27/93	RF21000V	181	4601	691	3910	1000	3.910	160.22	3106	19.38
7/27/93	RF2A0008	149	1157	517	640	1000	0.640	150.70	508.34	3.373
7/27/93	RF2A0011	187	1630	820	810	1000	0.810	419.21	643.4	1.535
7/27/93	RF2A0017	134	2116	388	1728	1000	1.728	49.087	1372.5	27.96
7/27/93	RF2A0013	210	2362	1031	1331	1000	1.331	363.56	1057.2	2.908
7/27/93	RF2A0016	265	4064	1632	2432	1000	2.432	250.287	1931.69	7.718
7/27/93	RF2A0019	154	874	564	310	1000	0.310	304.093	246.227	0.8097
7/27/93	RF2A0015	224	3014	1159	1855	1000	1.855	215.954	1473.39	6.823
7/27/93	RF2A0010	268	2602	1818	784	1000	0.784	435.38	622.72	1.430
7/27/93	RF2A0014	180	2686	734	1952	1000	1.952	393.995	1550.44	3.935
7/27/93	RF25075R	163	2020	607	1413	1000	1.413	251.5	1122.32	4.463
7/27/93	RF25085P	1162	29103	32386	-3283	40,000	-	377.2	—	—

COMMENTS:

EXPERIMENTER M. Giles / K. Smith
DATE ANALYZED 7/30-8/1/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT MCA
SERIAL # KWC 5042
EFFICIENCY Am241 = 1.259 X 10^{-3} Net CPS / pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	NET CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	MDL
27 July 93	RF250858	1162	29103	32386	-3283	40000	-.082075	377.2	-65.1906	-0.1728	.033159
2 AUG 93	BKG80293	78	6098	N/A	6098	1000	6.098	N/A	N/A	N/A	

COMMENTS:

EXPERIMENTER [signature]
DATE ANALYZED 7/30/93 & 8/01/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT _____

SERIAL # AWC-5042

EFFICIENCY 1.259 X 10^{-3} cps/pCi

MCA DATA SHEET

	Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	NET CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
	Jan. 1, 1993	AM241730	253	28931	863	28068	1000	28.068	296.2	2.23 X 10^4	75.29
	27 July 93	RF21000V	181	4601	691	3910	1000	3.910	160.22	3106	19.38
	27 July 93	RF2A0008	149	1157	517	640	1000	0.640	150.70	508.34	3.373
DEL 8-7	27 July 93	RF2A0018	114	2515	260	2255	1000	2.255	59.99	1791.1	29.86
	27 July 93	RF2A0011	187	1630	820	810	1000	0.810	419.21	643.4	1.535
	27 July 93	RF2A0017	134	2116	388	1728	1000	1.728	49.087	1372.5	27.96
	27 July 93	RF2A0013	210	2362	1031	1331	1000	1.331	36356	1057.2	2.908
DEL 8-7	27 July 93	RF2A0007	124	1149	353	796	1000	0.796	130.374	632.25	4.849
	27 July 93	RF2A0016	265	4064	1632	2432	1000	2.432	250.287	1931.69	7.718
	27 July 93	RF2A0019	154	874	564	310	1000	0.310	304.093	246.227	0.8097
	27 July 93	~~RF2A0016~~ RF2A0001 STM	224	3014	1159	1855	1000	1.855	215.959	1473.39	6.823
ROI Change	27 July 93	RF2A0010	268	2602	1818	784	1000	0.784	435.38	622.72	1.430
DEL 8-7	27 July 93	RF2A0009	278	2657	2030	627	1000	0.627	355.038	498.01	1.403
DEL 8-7	27 July 93	RF2A0012	160	1410	663	747	1000	0.747	439.64	593.33	1.350
	27 July 93	RF2A0014	180	2686	734	1952	1000	1.952	393.995	1550.44	3.935
	27 July 93	RF250TSP	163	2020	607	1413	1000	1.413	251.5	1122.32	4.463

COMMENTS: _____

EXPERIMENTER Michelle Giles

DATE ANALYZED July 30, 1993

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92 X SPECTRUM MASTER
SERIAL # AWC 5042
EFFICIENCY

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1/1/93	AM241727	343	30397	1536	28861	1000	28.86	296.2	22300	75.29
7/27/93	RF250400	165	3339	424	2915	1000	2.915	333.7	2252.7	6.751
7/27/93	RF250500	260	3787	1125	2662	1000	2.662	386.5	2057.1	5.32
7/27/93	RF250600	252	3455	1065	2390	1000	2.390	384.6	1949.4	5.069

COMMENTS:

EXPERIMENTER F. Semonini
DATE ANALYZED July 27, 93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT 92 x Spectrum Master
SERIAL # AWC-5042
EFFICIENCY Am 241 = 1.294 x 10^{-3} Net cps/pCi (July 27, 1993)
Cs137 = 8.478 x 10^{-4} Net cps/pCi
7/28/93 AM241 = 1.226 x 10^{-3} net cps/pCi

MCA DATA SHEET

Date of Sample	Sample Description	% Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	NET CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm	
1 jan 93	Am 241/727	343	30397	1536	28861	1000	28.86	296.2	22300	75.29	
~~27 July 93~~	~~RF250400~~	~~165~~	~~3339~~	~~2915~~	~~2915~~						KLS
~~27 July 93~~	~~RF250400~~	~~165~~	~~3339~~	~~424~~	~~2915~~	~~2~~					KLS
~~27 July 93~~	~~RF250400~~	~~165~~	~~3339~~	~~424~~	~~2915~~	~~1000~~	~~2.915~~		~~333.7~~		KLS
27 July 93	RF250400	165	3339	424	2915	1000	2.915	333.7	2252.7	6.751	
27 July 93	RF250500	260	3787	1125	2662	1000	2.662	386.5	2057.1	5.32	
27 July 93	RF250600	252	3398	1065	2333	1000	2.333	384.6	1802.9	4.688	
27 July 93	RF250600	252	3455	1065	2390	1000	2.390	384.6	1949.4	5.069	

COMMENTS:

EXPERIMENTER F. Semnani
DATE ANALYZED July 27/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT MCA 92X Spectrum Master
SERIAL # AWC-5042
EFFICIENCY Am241 1.190 x 10^{-3} Net CPS/pC:

MCA DATA SHEET

Date of Sample	Sample Description	Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	NET CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1JAN93	AM241723	342	29729	3201	26528	1000	26.528	296.2	22300	75.29
24July93	RF 60310B	173	3434	971	2463	1000	2.463	348.7	2069.8	5.936

COMMENTS:

EXPERIMENTER Keith L. [illegible]
DATE ANALYZED 7/24/93

FM-139

JD/11/92/REV.0

LESAT
TD&RD

INSTRUMENT MCA

SERIAL #

EFFICIENCY Am241 1.134 x 10^{-3} Net cps/pCi

MCA DATA SHEET

Date of Sample	Sample Description	Error +/-	Gross Count	Bkg. Count	Net Count	Count Time (Sec)	NET CPS	Sample Wgt(g)	Sample Activity pCi	Sample Activity pCi/gm
1 Jan 93	AM241716	338	29058	3777	25281	1000	25281	296.2g	22300	75.29
16 July 93	RF250100	166	4202	1038	3164	1000	3.164	239.5g	2790.1	11.65
16 July 93	RF250300	161	3711	991	2720	1000	2.72	222.9	2398.5	10.76
16 July 93	RF256200	174	3606	1187	2419	1000	2.419	212.3	2133.1	10.04

COMMENTS:

EXPERIMENTER Keith A. Smith

DATE ANALYZED 7/16/93

FM-139

JD/11/92/REV.0

LESAT
Technology Applications Division

Instrument MCA

Serial # _____

Correction Factor: Am 241 = 1.29×10^{-3} cps/pCi

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross CPS	Net CPS	Bkg CPS	Error +/- CPS	pCi	Sample Wgt.	pCi/gm
7-6-93	RF211000	1000	249.821	243.709	—	0.648	188921.71	333.08	567.96
7-6-93	RF212000	1000	217.9	212.049		0.617	164379.07	379.10	433.60
7-6-93	RF213000	1000	259.428	253.25		0.656	196317.83	355.29	552.56
7-6-93	RF215000	1000	231.017	224.57		0.64	174085.37	413.5	421.00
				N	A				

TECHNICIAN [signature]

REVIEWED BY _____

DATE ANALYZED 7-6-93

DATE _____

FM-018

RDS/1/93/REV.2

LESAT
Technology Applications Division

Instrument 92X

Serial # _____

Correction Factor: Am241 = 1.2667 X 10^-3 CPS/pCi

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross ~~CPS~~ Counts	Net CPS	Bkg CPS	Error +/- ~~CPS~~	pCi	Sample Wgt.	pCi/gm
7/6/93	~~Am241~~ Amx41 706	1000	30119	28.247	N/A	286	22300	296.2	75.29
"	RF114112	"	1866	1.382	"	123	1091.0	21.913	49.79

TECHNICIAN T. Marark

REVIEWED BY _____

DATE ANALYZED 7/6/93

DATE _____

FM-018

RDS/1/93/REV.2

LESAT
Technology Applications Division

Instrument 92x

Serial # _____

TM

Correction Factor: AM241 = ~~1.29x10^-3 cps/pCi~~
1.2869 x 10^-3 cps/pCi

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross ~~cpm~~ Counts	Net CPS	Bkg CPS	Error ~~1σ cpm~~ 1σ counts	pCi	Sample Wgt.	pCi/gm
7/6/93	AM241706	1000	29954	28.697	N/A	254	22300	296.2	75.29
"	RF114110	"	5492	4.865	"	151	3780.4	94.717	39.91
"	RF114105	"	5206	4.666	"	142	3625.8	~~126.164~~ 111.348 TM	32.50
	RF114124		4822	4.042	"	162	3140.9	108.4	28.97
"	RF114123	"	6598	5.848	"	165	4544.3	154.499	29.41
"	RF114127	"	4948	4.198	"	160	3262.1	~~218.686~~ 204.026	15.99
"	RF114109	"	1570	1.366	"	85	1061.5	19.958	53.18
"	RF114107	"	1090	0.856	"	87	665.2	11.6	57.34
DEL 9-1 "	~~RF114106~~	~~" 357.7~~	~~456~~	~~0.394~~	~~"~~	~~46~~	~~306.2~~	~~14.924~~	~~20.79~~ TM
DEL-9-29-E "	RF114113	~~" 337.7~~ OK TM	362	~~0.251~~ OK	"	58	195.0	0.696	280.23
"	RF114104	~~" 1000~~ TM	401	0.219	"	73	170.2	1.656	102.76
"	RF114125	"	5227	4.623	"	148	3592.4	103.326	34.77
"	RF114128	"	3202	2.815	"	118	2187.4	176.944	12.36
"	RF114129	"	4139	3.092	"	182	2402.7	134.106	17.92
"	RF114130	"	328	0.170	"	68	132.10	0.782	168.93
"	RF114131	"	6147	4.684	"	216	3639.8	210.566	17.29
"	RF114108	"	5403	4.625		164	3593.9	106.637	33.70

TECHNICIAN T. Muranik

REVIEWED BY _____

DATE ANALYZED 7/6/93

DATE _____

RDS/1/93/REV.2

FM-018

LESAT
Technology Applications Division

Instrument 92X

Serial # _____

Correction Factor: Am241 = 1.2161 x10^-3 CPS/pCi

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross ~~CPS~~ counts	Net CPS	Bkg CPS	Error +/- ~~CPS~~ counts	pCi	Sample Wgt.	pCi/gm 75.29
7/1/93	Am241 701	1000	29591	27.118	N/A	310	22300	296.2	~~75.17~~
2EL, 9.12 — "	RF114126	"	3902	2.681	"	192	2204.6	245.886	8.97

TECHNICIAN _____

REVIEWED BY _____

DATE ANALYZED July 1, 1993

DATE _____

FM-018

RDS/1/93/REV.2

LESAT
Technology Applications Division

Instrument 92x

Serial # _____

Correction Factor: AM241 = 1.321 X 10^-3 CPS/pCi

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross ~~CPS~~ counts	Net CPS	Bkg CPS	Error ~~CPS~~ counts	pCi	Sample Wgt. g	pCi/gm
	Am241630								
6/30/93	~~Am241 66~~ Ir	1000	30212	29.454	N/A	229	22300	296.2	75.287
6/30/93	RA14114	"	7470	5.920	"	213		149.631	
6/30/93	RF114111	"	7769	6.365	"	205		156.682	
6/29/93	RF6054-C	"	785	.255	.053	117	193.04	25.408	7.597
6/29/93	RF656T-4	4000	1316	.08825	.24075	158	66.805	8.804	7.588
6/29/93	RF649T-4	4000	1511	.064	.31375	180	48.448	17.117	2.830

DEL 9-12

TECHNICIAN _____ REVIEWED BY _____

DATE ANALYZED 6/30 DATE _____

FM-018 RDS/1/93/REV.2

LESAT
Technology Applications Division

Instrument _____

Serial # _____

Correction Factor: Am-241 = 1.12×10^{-3} cps/pCi

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross CPS	Net CPS	Bkg CPS	Error +/- CPS	pCi	Sample Wgt. g	pCi/gm
1 Jan 93	Am241629	1000	28.033	25.043	—	0.319	22300	296.20	75.287
29 Jan 93	RF655T5	40,000	.6065	-0.0263	.6328	.0201	-23.48	285.904	-.0821
~~"~~	~~RF6054-C~~	~~1000~~	~~.785~~	~~.255~~				~~25.408~~	

KLS

TECHNICIAN _____ REVIEWED BY _____

DATE ANALYZED _____ DATE _____

FM-018

RDS/1/93/REV.2

LESAT
Technology Applications Division

Instrument MCA

Serial # _____

Correction Factor: Am 241 = 1.21×10^{-3} cps/pCi

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross CPS	Net CPS	Bkg CPS	Error +/- CPS	pCi	Sample Wgt.	pCi/gm
6-29-93	Am 241 6 29	1000	30.174	27.072	—	0.333	22300	296.2	75.54
6-29-93	RF 214000	1000	201.208	183.823		0.81	151919.83	389.7	389.84

TECHNICIAN _____ REVIEWED BY _____

DATE ANALYZED _____ DATE _____

LESAT
Technology Applications Division

Instrument MCA

Serial # _____

Correction Factor: Cs137 = 8.22x10^-4 cps/pci

Am241 = 1.22x10^-3 cps/pci

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross CPS	Net CPS	Bkg CPS	Error +/- CPS	pCi	Sample Wgt.	pCi/gm
6-28-93	BlKgd 6-28	500	3151	3151	—	56			
6-28-93	Am241 6-28	1000	30.02	27.239		0.321	22300	276.2	15.55
6-28-93	RF605250	1000	0.681	0.065		0.142	53.278	199.456	0.267
6-28-93	RF6053+C	1000	0.838	0.413	.425	0.109	338.524	135.202	2.503
6-28-93	RF605250	4000	.67475	.033		.066	27.05	199.456	.1356
6-28-93	RF605250	40000	.6848	.0616	.6232	.0206	50.49	199.456	.2531

N

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TECHNICIAN [signature]

REVIEWED BY _____

DATE ANALYZED 6-28-95

DATE _____

FM-018

RDS/1/93/REV.2

LESAT
Technology Applications Division

Instrument MCA

Serial # _____

Correction Factor: Am-241 = 1.26×10^{-3} Cps/pCi (6/24/93)
Am-241 = 1.22×10^{-3} Cps/pCi (6/25/93)

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross CPS	Net CPS	Bkg CPS	Error +/- CPS	pCi	Sample Wgt. (g)	pCi/gm
1Jan93	Am-241624	1000	29.610	28.188	~~0.265~~	0.265	22300	296.2	75.287
24Jun93	RF648T25	40,000	.6919	.1330	.5589	.0205	105.6	284.622	.3709
24Jun93	RF605120	4,000	.7593	.2038	.5555	.00006	~~22295.9~~ 1674.049	307.168	~~75.59~~ 19.5438
1Jan93	Am241625	1000	29.727	27.201	2.526	.311	22300	296.2	75.287

TECHNICIAN _____ REVIEWED BY _____

DATE ANALYZED _____ DATE _____

FM-018

RDS/1/93/REV.2

LESAT
Technology Applications Division

Instrument MCA

Serial # _____

Correction Factor: Cs 137A = 8.91×10^{-4} cps/pCi

Am 241A = 1.18×10^{-3} cps/pCi

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross CPS	Net CPS	Bkg CPS	Error +/- CPS	pCi	Sample Wgt. (g)	pCi/gm
18 Jun 93	RF642T25	40,000	COUNTS 22830 0.571	COUNTS 973 .0243	—	COUNTS 732	28.60 ~~28.64~~	286.705	0.072

TECHNICIAN James E. [illegible]

DATE ANALYZED 6.23.93

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DATE _____

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RDS/1/93/REV.2

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Instrument MCA

Serial # _____

Correction Factor: AM 241 A = 6/21/93 1.177×10^{-3} cps/pCi
6/22/93 1.218×10^{-3} cps/pCi

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross CPS	Net CPS	Bkg CPS	Error +/- CPS	pCi	Sample Wgt.	pCi/gm	
Jan 1, 1993	AM 241621	1000	29.352	26.257	3.095	.332	22300	296.2g	75.17	
June 21, 1993	RF643T-4	4000	~~2.935~~ 0.7238	0.283	0.4508	0.0558	240.4	46.863	5.131	
"	RF604420	"	.7718	0.0455	.7263	0.0703	38.66	323.039	.1197	
"	RF604550	"	.7365	-.0035	.74	0.07075	-2.974	196.503	-.0151	
"	RF 6046 +C	"	1.0558	0.2313	~~0.875~~ 0.8245	0.075	196.517	150.6	1.305	
~~"~~	~~RF604550~~	~~40,000~~	~~.7325~~	~~.0726~~	~~.6599~~	~~.0212~~	~~61.68~~	~~196.503~~	~~.3139~~	KLS
~~"~~	~~RF604~~									KLS
"	RF645501	40,000	.7325	.0726	.6599	.0212	61.68	196.503	.3139	
June 22, 1993	RF6047-C	4000	.5575	.2775	.28	.04525	227.8	11.2236	20.28	
JAN 1, 1993	AM 241 622	1000	29.444	27.153	2.291	.303	22300	296.2	75.17	

TECHNICIAN Keith L. Smith

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DATE ANALYZED 6/21/93
6/22/93

DATE _____

FM-018

RDS/1/93/REV.2

LESAT
Technology Applications Division

Instrument 612X

Serial # _____

Correction Factor: 6/19 Am24 = 1.1231 X10^{-3} CPS/pCi
6/20 Am241 = 1.2695 X10^{-3} CPS/pCi

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross ~~CPS~~ Counts	Net CPS	Bkg ~~CPS~~ ~~Counts~~	Error ± ~~CPS~~ Counts	pCi	Sample Wgt.	pCi/gm
6/19	Am241619	1000	28644	25.046	NA ~~336~~	336	22300	296.2	75.29
"	RF114115	"	2717	1.844	"	152	1641.9	91.354	17.97
6/20	Am241620	"	29575	28.310	"	257	22300	296.2	75.29
"	RF114116	"	1698	5.288	"	217	4165.4	~~263.616~~ ~~278.203~~	15.80
"	RF114117	"	5199	4.022	"	197	3167.4	154.385	20.52
"	RF114118	"	4496	3.322	"	195	2616.8	149.473	17.51
"	RF114119	"	4349	3.146	"	197	2478.1	110.928	22.34
"	RF114120	"	2248	1.623	"	142	1278.5	48.764	26.22
"	RF114121	"	3043	2.393	"	147	1884.99	75.066	25.11
DEL, 9-12 ✓ "	RF114122	"	3856	2.653	"	196	2689.8	112.519	18.57

TECHNICIAN V. Murarik

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DATE _____

FM-018

RDS/1/93/REV.2

LESAT
Technology Applications Division

Instrument MCA

Serial #

Correction Factor: Cs 137A = 8.05×10^{-4} cps/pci

SOIL SAMPLE LOG

Am 241A = 1.10×10^{-3} cps/pci

Date of Sample	Description	Count Time (Sec.)	Gross CPS	Net CPS	Bkg CPS	Error +/- CPS	pCi	Sample Wgt.	pCi/gm
6-17-93	BlKgd. 6-17	500	2968	2968	—	54			
✓ 6-17-93	Am 241 6 17	1000	29.09	24.497		0.37	22300	296.2	75.19
6-17-93	RF603720	1000	0.681	0.093		0.12	84.55	329.678	0.256
6-17-93	RF603850	1000	0.733	0.081		0.126	73.64	207.868	0.354
6-17-93	RF6039+C	1000	1.072	0.457		0.124	415.45	146.694	2.83
6-17-93	RF6040C-	1000	1.169	0.707		0.109	642.73	21.268	30.22

N
A

TECHNICIAN James E Price

REVIEWED BY

DATE ANALYZED 6-17-93

DATE

RDS/1/93/REV.2

FM-018

LESAT
Technology Applications Division

Instrument MCA

Serial # _____

Correction Factor: Cs137A = 7.92×10^{-4} cps/pci

SOIL SAMPLE LOG

Am241A = 1.02×10^{-3} cps/pci

Date of Sample	Description	Count Time (Sec.)	Gross CPS	Net CPS	Bkg CPS	Error +/- CPS	pCi	Sample Wgt.	pCi/gm
6-15-93	BlKgd 6 15	500	29.77	29.77	–	54			

6-15-93	Am241 6 15	1000	38.403	22.818		0.39	22300	296.2	75.53
6-15-93	RF6041T1	1000	0.571	0.158		0.098	154.901	284.814	0.54
				N					
					A				

TECHNICIAN James E Grice

REVIEWED BY _____

DATE ANALYZED 6-15-93

DATE _____

FM-018

RDS/1/93/REV.2

LESAT
Technology Applications Division

Instrument MCA

Serial # _____

Correction Factor: Am 241A = 1.04×10^{-3} cps/pCi

SOIL SAMPLE LOG

Cs 137A = 8.09×10^{-4} cps/pCi

Date of Sample	Description	Count Time (Sec.)	Gross CPS	Net CPS	Bkg CPS	Error +/- CPS	pCi	Sample Wgt.	pCi/gm
6-14-93	Am241A 14	1000	28.328	23.129	–	0.378	22300	296.2	75.08
6-14-93	RF6035C	1000	1.915	1.022		0.12	982.69	47.352	20.75

TECHNICIAN James E Pori

REVIEWED BY _____

DATE ANALYZED 6-11-93

DATE _____

FM-018

RDS/1/93/REV.2

LESAT
Technology Applications Division

Instrument MCA (92X)

Serial # _____

Correction Factor: Am-241 = 2.44 X10^{-3} cps/PCi

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross CPS	Net CPS	Bkg CPS	Error +/- CPS	pCi	Sample Wgt. (g)	pCi/gm
1 Jun 93	Am-241610	1000	57.404	54.454	—	0.532	22300	296.2	75.287
10 Jun 93	RF603020	1000	0.986	0.05	—	0.164	20.491	403.5	0.051
10 Jun 93	RF6032C	1000	1.458	0.760	—	0.144	311.475	127.5	2.443

TECHNICIAN B.K. White

REVIEWED BY _____

DATE ANALYZED 10 Jun 93

DATE _____

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RDS/1/93/REV.2

LESAT
Technology Applications Division

Instrument MCA (92X)

Serial # _____

Correction Factor: Am-241 = 9.36×10^{-4} cps/pCi
Cs-137 = 8.60×10^{-4} cps/pCi

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross CPS	Net CPS	Bkg CPS	Error +/- CPS	pCi	Sample Wgt. (g)	pCi/gm
1 Jun 93	AM241 608	1000	25.792	20.883		0.355	22300	296.2g	75.287
8 Jun 93	RF60260C	500	1.678	0.672		0.210	717.949	395.8	1.814
8 Jun 93	RF60270C	500	1.418	0.866		0.158	925.214	325.0	2.847
8 Jun 93	RF60280C	500	1.534	0.99		0.158	1057.692	371.7	2.846
8 Jun 93	RF6UPLIQ	1000	29.885	26.683		0.517	31026.744	129.402	239.77

TECHNICIAN B.K. White

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DATE ANALYZED 8 Jun 93

DATE _____

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LESAT
Technology Applications Division

Instrument 92X

Serial #

Correction Factor: Am241 = 1.174×10^{-3} CPS/pCi

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross ~~CPS~~ Counts	Net CPS	Bkg CPS	Error ~~CPS~~ Counts	pCi	Sample Wgt.	pCi/gm
6/4/93	Am241 604	1000	28291	26.183	N/A	294	22300	296.2 ~~246.687~~	75.29
"	RF114094	"	6304	4.742	"	222	4039.2	~~177.704~~	16.37
"	RF114095	"	6141	4.684	"	215	3989.8	177.704	22.45
"	RF114096	"	1817	1.460	"	108	1235.1	35.309	34.98
"	RF114098	"	5456	4.119	"	206	3508.5	152.758	22.97
"	RF114097	"	6636	5.210	"	214	4437.8	247.334	17.94
"	RF114099	"	6770	5.344	"	214	4551.96	208.371	21.85
"	RF114100	"	2179	1.535	"	141	1307.5	32.659	40.03
"	RF114101	"	3996	2.810	"	191	2393.5	75.432	31.52
"	RF114102	"	5833	4.640	"	197	3952.3	110.143	35.88
DEL 9/12 "	RF114103	"	5597	4.259	"	206	3627.8	96.276	37.68

TECHNICIAN T. Murarik

REVIEWED BY

DATE ANALYZED 6/4/93

DATE

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FM-018

LESAT
Technology Applications Division

Instrument MCA

Serial # _____

Correction Factor: Cs 137 = 8.98 X 10^-4 cps/pCi
Am 241 = 9.60 X 10^-4 cps/pCi

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross CPS	Net CPS	Bkg CPS	Error +/- CPS	pCi	Sample Wgt.	pCi/gm
6-3-93	AM241-63	1000	22.262	21.428		0.212	22300	278.8	74.70
6-3-93	RF111000	1000	2.219	1.422		0.147	1481.25	262.0	5.65
6-3-93	RF31X000	1000	2.438	1.796		0.134	187083	293.0	6.38
6-3-93	BlKgd 63	500	3163	3163		56			

TECHNICIAN James E Price

DATE ANALYZED 6-3-93

REVIEWED BY _____

DATE _____

RDS/1/93/REV.2

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LESAT
Technology Applications Division

Instrument 92 X'

Serial # _____

Correction Factor: Am241 = 1.2596 x 10^{-3} cps/pCi

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross ~~CPS~~ counts	Net CPS	Bkg CPS	Error ± 1σ ~~CPS~~ counts	pCi	Sample Wgt.	pCi/gm
6/2/93	AM241602	1000	29262	28.089	N/A	255	22300	296.2	75.29
"	RF114088	"	4559	3.646	"	180	~~149.066~~ 2895.9	149.066	19.43
"	RF114089	"	4373	3.688	"	158	2927.9	157.052	18.64
"	RF114090	"	3750	2.834	"	178	2249.9	138.834	16.21
"	RF114091	"	3446	2.728	"	159	2165.8	122.997	17.61
"	RF114092	"	3785	3.135	"	153	2488.9	134.910	18.45
"	RF114093	"	3455	2.992	"	132	2375.4	125.984	18.85

TECHNICIAN T. Merrill

REVIEWED BY _____

DATE ANALYZED 6/2/93

DATE _____

RDS/1/93/REV.2

FM-018

LESAT
Technology Applications Division

Instrument 92x-17911

Serial # _____

Correction Factor: Am 241 = 1.208 x10^{-3} CPS/pCi
Am 241 (late) = 1.242 x10^{-3} " "

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross ~~CPS~~ Counts	Net CPS	Bkg ~~cps~~	Error ±1 ~~CPS~~ Counts	pCi	Sample Wgt.	pCi/gm
June 1	Am241601	1000	28391	26.948	N/A	262	22300	296.2	75.29
"	RF114084	"	1744	1.264	"	123	1046.4	216.314	4.84
"	Amx41601	"	28884	27.705	"	249	22300	296.2	75.29
"	RF114085	"	1573	1.239	"	104	997.58 ~~1025.7~~	116.494 ~~116.494~~	8.856 ~~8.804~~
"	RF114086	"	1283	0.883	"	112	710.95	109.701	6.481
ELE 9-27 "	RF114087	"	2319	1.864	"	123	1500.8	77.579	19.35

TECHNICIAN T. Munnell

DATE ANALYZED June 1, '93

REVIEWED BY _____

DATE _____

RDS/1/93/REV.2

FM-018

LESAT
Technology Applications Division

Instrument 92x

Serial # _____

Correction Factor: Am241 = 1.238×10^{-3} CPS/pCi

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross ~~CPS~~ Counts	Net CPS	Bkg ~~CPS~~ Counts	Error +/- ~~CPS~~ Counts	pCi	Sample Wgt.	pCi/gm
5/27/93	AM241527	1000	29600	27.612	~~293~~ N/A	293	296.2	22300	75.29
"	RF114082	"	983	0.387	"	134	312.60	183.722	1.701
"	RF114083	"	941	0.546	"	103	481.42	~~183.722~~ 136.847	3.517

TECHNICIAN T. Marshall

DATE ANALYZED 5/27/93

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DATE _____

FM-018

RDS/1/93/REV.2

LESAT
Technology Applications Division

Instrument 92x

Serial # _____

Correction Factor: AM241 = 1.311 x 10^-3 CPS/pC.
Am241 (Interp) = 1.262 x 10^-3 CPS/pC.

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross ~~CPS~~ Counts	Net CPS	Bkg CPS	Error +/- ~~CPS~~ Counts	pCi	Sample Wgt.	pCi/gm
5/26/93	AM241526	1000	28682	26.997	N/A	275	296.2	22300	75.29
"	RF114071	"	7775	6.596	"	202	5446.7	237.013	22.98
"	RF114074	"	3172	2.805	"	116	2316.27	52.687	43.96
~~"~~	~~RF114075~~								
"	AMX41526	1000	28894	28.136	N/A	224	~~22300~~ ~~296.2~~	~~246.2~~ ~~22300~~	75.29
"	RF114075	"	603	0.269	"	100	213.15	259.881	0.821
"	RF114076	"	673	0.155	"	123	122.82	171.465	0.716
"	RF114077	"	598	0.025	"	129	19.81	187.939	0.105
9-26 "	RF114078	"	619	0.073	"	126	57.84	163.670	0.353
9-25 "	RF114079	"	763	0.429	"	100	339.94	227.726	1.493
9-25 "	RF114080	"	573	0.177	"	108	140.25	347.128	0.404
9-27 "	RF114081	"	569	0.139	"	112	114.78	277.231	0.414

TECHNICIAN T. Merrill

REVIEWED BY _____

DATE ANALYZED May 26, 1993

DATE _____

M-018

RDS/1/93/REV.2

LESAT
Technology Applications Division

Instrument 92X

Serial # _____

Correction Factor: Am 241 = 1.275 x10^{-3} CPS/pCi

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross ~~CPS~~ counts	Net CPS	Bkg CPS	Error +/- ~~CPS~~ counts	pCi	Sample Wgt.	pCi/gm
5/25/93	AM24525	1000	28837	28.431	N/A	201	22300	296.2	75.29
"	RF114066	"	7007	6.357	"	160	4985.4	246.665	20.21

TECHNICIAN T. Mc[illegible] 5/25/93

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DATE ANALYZED 5/26 T^

DATE _____

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RDS/1/93/REV.2

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Technology Applications Division

Instrument 92 X

Serial # _____

Correction Factor: Am 241 = 1.256 X 10^-3 CPS/pCi

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross ~~CPS~~ Counts	Net CPS	Bkg CPS	Error +/- ~~CPS~~ Counts	pCi	Sample Wgt.	pCi/gm
5/24/93	AM241524	1000	28722	28.016	N/A	221	22300	296.2	75.29
"	RF114073	"	6774	5.916	"	176	4710.2	203.309	23.17
"	RF114072	"	6679	5.670	"	188	4514.3	205.385 ~~251.503~~	21.98
"	RF114067	"	7540	6.502	"	192	5176.8	251.503	20.58
"	RF114061	"	4237	3.261	"	179	2596.3	206.675	12.56
"	RF114068	"	3610	2.814	"	162	2240.4	141.013	15.89
"	RF114070	"	6719	5.435	"	208	4327.2	215.357	20.09

TECHNICIAN T. Manuel

REVIEWED BY _____

DATE ANALYZED 5/24/93

DATE _____

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LESAT
Technology Applications Division

Instrument 92x

Serial # _____

Correction Factor: Am241 = 1.2700 x10^{-3} cps/pCi
~~Am241 (late) =~~

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross ~~cps~~ Counts	Net CPS	Bkg CPS	Error +/- ~~cps~~ Counts	pCi	Sample Wgt.	pCi/gm
5/23/93	AM241523	1000	28425	28.320	N/A	216	22300	296.2	75.29
"	RF114060	"	3645	3.243	"	122	2553.5	184.813	13.817
"	RF114063	"	3300	2.478	"	163	1951.18	237.011	8.232
"	RF114058	"	2624	1.982	"	144	1560.63	230.253	6.778
"	RF114064	"	3389	2.837	"	138	2233.9	171.654	13.014
"	RF114065	"	4963	4.411	"	143	3473.2	224.276	15.486
"	RF114069	"	4135	3.310	"	166	2606.3	238.319	10.936
	~~AMX41523~~								

TECHNICIAN T. Smith

REVIEWED BY _____

DATE ANALYZED 5/23/93

DATE _____

RDS/1/93/REV.2

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Technology Applications Division

Instrument 92X

Serial # 179-11

Correction Factor: Am = 1.2187×10^{-3} CPS/pCi

SOIL SAMPLE LOG

Date of Sample	Description	Count Time (Sec.)	Gross ~~CPS~~ Counts	Net CPS	Bkg CPS	Error +/- ~~CPS~~ Counts	pCi	Sample Wgt.	pCi/gm
5/20/93	AM241521	1000	28446	27.176	N/A	259	22300	296.2	75.29
"	RF114057	"	2035	1.317	"	154	1080.7	194.758	5.549
"	RF114059	"	1942	0.964	"	178	791.0	168.154	4.704

TECHNICIAN [signature]

DATE ANALYZED 5/20/93

REVIEWED BY

DATE

27.12 63.29

AWC
A Lockheed Company

Instrument 92X

Serial # 128-11

Efficiency: Am241 = 1.235×10^{-3} cps/pCi
Amx41 = 1.174×10^{-3} " "

SOIL SAMPLE LOG

Date of Sample	Air +/-	Description	Gross Count	Count Time (Sec.)	CPS	Bkg.	Net Count	Sample Wgt.	pCi	pCi/gm
5/20/93	245	Am241520	28699	1000	27.546	N/A	27546	296.2	~~.0223~~ 22300	75.29
"	118	RF114043	2657	"	2.244	"	2244	151.739	1817.0	11.97
"	302	AMX41520	28326	"	26.182	"	26182	296.2	22300	75.29
"	132	RF114054	645	"	0.076	"	76	240.999	64.74	0.27
"	108	RF114062	587	"	0.207	"	207	194.336	176.32	0.907
"	148	RF114055	674	"	0	"	0	191.372	0	0
5/21/93 "	123	RF114044	484	"	0	"	0	341.013	0	0
"	152	RF114056	826	"	.068	"	68	186.050	57.92	0.311

TECHNICIAN [signature]

DATE ANALYZED 5/20/93

FM-018

GB/2-92/Rev.1

AWC
A Lockheed Company

Instrument 92X

Serial # 179-11

Efficiency: AM241 = 1.254 x 10^-3 CPS/cpi

SOIL SAMPLE LOG

Date of Sample	Air +/-	Description	Gross Count	Count Time (Sec.)	CPS	Bkg.	Net Count	Sample Wgt.	pCi	pCi/gm
5/18/93	245	AM241518	29003	1000	27.955	N/A	27955	296.2	22300	75.29
"	100	RF000007	799	"	0.486	"	486	21.939	38756	17.67
"	84	RF000008	402	"	0.173	"	173	227.91	13746	0.605
"	101	RF000009	669	"	0.346	"	346	352.025	~~274.~~ 273.42	0.784
"	79	RF000010	535	"	0.342	"	342	279.662	~~272.27~~ 272.92	0.975

TECHNICIAN [signature]

DATE ANALYZED 5/18/93

FM-018

GB/2-92/Rev.1