

GRID 101

Solutient
Technologies, LLC

Project Name:	AAR Livonia	Model:	N/A	NORTH ↑
Work Order #	201421	Serial #		
Surveyor Name:	mat. Crosby	Probe:		
Date:	7-16-14	Serial #		
Survey Type:	1-2 meter	Calibration Due	N/A	
GRID # 101	⊕ = Sample Location	Comments:		

1	1 Minute Integrated Count <u>N/A</u> ⊕ ✓ 1.5	2	1 Minute Integrated Count <u>N/A</u> ⊕ ✓ 4.3
3	1 Minute Integrated Count <u>N/A</u> ⊕ ✓ 2.5 ✓ 2.9	4	1 Minute Integrated Count <u>N/A</u> ⊕ ✓ 4.7 ✓ 2.2

- * All readings are presented in C.P.M
- * Each grid represents an 10 Meter x 10 Meter area.
- * Each Sub grid represents an 5 Meter x 5 Meter area.

Instrument BKG:

N/A

***** G A M M A S P E C T R U M A N A L Y S I S *****

ename: C:\My Documents\AAR\AAR\Grid Samples\AAR-101-01.CNF

Report Generated On : 10/8/2014 9:32:34 AM

Sample Location : AAR-101-01
Sample Identification : AAR-101-01
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance
Sample Description 3 :
Sample Description 4 :
Sample Type : Soil
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/16/2014 2:15:00 PM
Acquisition Started : 7/16/2014 2:16:13 PM

Live Time : 900.0 seconds
Real Time : 900.5 seconds

Dead Time : 0.06 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR-101-01

Peak Analysis Performed on: 10/8/2014 9:32:34 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	1296-	1314	1307.04	238.74	1.22	1.53E+002	35.71	5.34E+001
2	3183-	3204	3193.11	583.27	0.32	6.35E+001	16.69	2.52E+000
3	4978-	5003	4990.53	911.60	1.10	3.84E+001	17.41	9.58E+000
4	7986-	8019	8002.68	1461.84	0.21	6.70E+001	16.04	0.00E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-101-01
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
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* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 3.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
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? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 9:32:34 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	238.74	1.6952E-001	23.41
2	583.27	7.0530E-002	26.29
3	911.60	4.2691E-002	45.32
4	1461.84	7.4444E-002	23.95

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR-101-01
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
BI-212	39.86	1.10	1.6701E+001	3.30E+000	3.1101E+000
	727.17	11.80	3.3029E+000		2.3251E+000
	785.42	2.00	2.2203E+001		1.2741E+001
>	1620.56	2.75	0.0000E+000		0.0000E+000
PB-212	74.81	9.60	2.5003E+000	1.03E+000	-3.5010E+000
	77.11	17.50	1.4503E+000		9.9246E-001
	87.20	6.30	3.6195E+000		-1.8551E+000
	89.80	1.75	1.4275E+001		-5.3697E+000
	115.19	0.60	3.5515E+001		-2.7410E+000
	238.63	44.60	1.0283E+000		2.5850E+000
	300.09	3.41	8.8964E+000		7.0630E+000
BI-214	609.31	46.30	8.4378E-001	8.44E-001	4.6642E-001
	768.36	5.04	7.5109E+000		5.8191E-001
	806.17	1.23	3.2728E+001		-3.9206E+001
	934.06	3.21	1.2186E+001		7.8979E+000
	1120.29	15.10	3.2168E+000		2.2709E+000
	1155.19	1.69	2.8108E+001		-1.4979E+000
	1238.11	5.94	1.0144E+001		8.1534E+000
	1280.96	1.47	3.5488E+001		-8.9024E+000
	1377.67	4.11	1.2009E+001		1.1040E+001
	1385.31	0.78	5.8493E+001		4.8348E+001
	1401.50	1.39	2.9977E+001		-4.3390E+000
	1407.98	2.48	1.8289E+001		1.4666E+001
>	1509.19	2.19	0.0000E+000		0.0000E+000
>	1661.28	1.15	0.0000E+000		0.0000E+000
>	1729.60	3.05	0.0000E+000		0.0000E+000
>	1764.49	15.80	0.0000E+000		0.0000E+000
>	1847.44	2.12	0.0000E+000		0.0000E+000
>	2118.54	1.21	0.0000E+000		0.0000E+000
PB-214	74.81	6.33	3.7919E+000	7.67E-001	-5.3096E+000
	77.11	10.70	2.3720E+000		1.6232E+000
	87.20	3.70	6.1630E+000		-3.1588E+000
	89.80	1.03	2.4254E+001		-9.1233E+000
	241.98	7.49	5.9949E+000		-1.1390E+000
	295.21	19.20	1.5963E+000		1.8754E+000
	351.92	37.20	7.6684E-001		7.4411E-001
	785.91	1.10	4.0698E+001		1.8616E+001
AC-228	338.32	11.40	2.6767E+000	2.03E+000	2.2615E+000
	911.07	27.70	2.0284E+000		3.0071E-002
	969.11	16.60	3.5420E+000		2.0846E+000

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

***** G A M M A S P E C T R U M A N A L Y S I S *****

Filename: C:\My Documents\AAR\AAR\Grid Samples\AAR-101-02.CNF

Report Generated On : 10/8/2014 9:33:34 AM

Sample Location : AAR-101-02
Sample Identification : AAR-101-02
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance
Sample Description 3 :
Sample Description 4 :
Sample Type : Soil
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/16/2014 2:33:00 PM
Acquisition Started : 7/16/2014 2:33:59 PM

Live Time : 900.0 seconds
Real Time : 900.5 seconds

Dead Time : 0.06 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR-101-02

Peak Analysis Performed on: 10/8/2014 9:33:34 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	7987-	8020	8003.31	1461.95	0.53	8.30E+001	17.86	0.00E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-101-02
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
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* = Energy line found in the spectrum.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 3.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
-----------------	-----------------------------	-----------------------------------	------------------------------------

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 9:33:34 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	1461.95	9.2222E-002	21.51

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR-101-02
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.1126E+001	2.55E+000	-2.0555E+000
		727.17	11.80	2.5455E+000		2.5735E-001
		785.42	2.00	1.9287E+001		1.6412E+001
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	1.7993E+000	5.99E-001	-1.8992E-001
		77.11	17.50	1.0180E+000		-1.3625E-001
		87.20	6.30	2.6556E+000		-1.1269E+000
		89.80	1.75	9.9760E+000		1.3819E+000
		115.19	0.60	2.6833E+001		8.2571E-001
		238.63	44.60	5.9912E-001		-2.1500E-002
		300.09	3.41	7.1015E+000		9.8129E+000
	BI-214	609.31	46.30	6.7840E-001	6.78E-001	4.0892E-001
		768.36	5.04	6.9506E+000		5.3176E+000
		806.17	1.23	2.8963E+001		-1.9678E+001
		934.06	3.21	1.2995E+001		-2.3240E+001
		1120.29	15.10	3.0920E+000		-1.4468E+000
		1155.19	1.69	2.6032E+001		-2.9589E+001
		1238.11	5.94	8.4712E+000		4.0472E+000
		1280.96	1.47	2.8512E+001		1.7136E+000
		1377.67	4.11	8.7059E+000		5.2799E+000
		1385.31	0.78	4.9574E+001		3.3080E+001
		1401.50	1.39	3.3247E+001		2.7480E+001
		1407.98	2.48	1.8289E+001		1.4666E+001
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	2.7289E+000	7.67E-001	-2.8803E-001
		77.11	10.70	1.6649E+000		-2.2283E-001
		87.20	3.70	4.5217E+000		-1.9189E+000
		89.80	1.03	1.6950E+001		2.3478E+000
		241.98	7.49	3.6202E+000		3.5721E+000
		295.21	19.20	1.2338E+000		9.5049E-001
		351.92	37.20	7.6684E-001		3.8866E-001
		785.91	1.10	3.5087E+001		3.3247E+001
	AC-228	338.32	11.40	2.2674E+000	1.56E+000	7.5740E-001
		911.07	27.70	1.5572E+000		-1.5282E+000
		969.11	16.60	2.3716E+000		-2.6940E+000

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

***** G A M M A S P E C T R U M A N A L Y S I S *****

Filename: C:\My Documents\AAR\AAR\Grid Samples\AAR-101-03.CNF

Report Generated On : 10/8/2014 9:34:01 AM

Sample Location : AAR-101-03
Sample Identification : AAR-101-03
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance
Sample Description 3 :
Sample Description 4 :
Sample Type : Soil
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/16/2014 2:51:00 PM
Acquisition Started : 7/16/2014 2:52:05 PM

Live Time : 900.0 seconds
Real Time : 900.5 seconds

Dead Time : 0.06 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR-101-03

Peak Analysis Performed on: 10/8/2014 9:34:02 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	1299-	1314	1306.42	238.62	0.60	6.39E+001	25.28	3.41E+001
2	3182-	3203	3192.58	583.17	1.07	3.55E+001	14.68	5.50E+000
3	7987-	8020	8003.78	1462.04	0.54	8.59E+001	20.28	4.10E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-101-03
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
-----------------	------------------	-----------------	--------------	------------------------	-------------------------

* = Energy line found in the spectrum.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 3.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
-----------------	-----------------------------	-----------------------------------	------------------------------------

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 9:34:02 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	238.62	7.1043E-002	39.54
2	583.17	3.9444E-002	41.36
3	1462.04	9.5444E-002	23.61

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
Sample Geometry: 8 Oz. Can
Sample Title: AAR-101-03
Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.4542E+001	3.06E+000	-3.2627E+000
		727.17	11.80	3.0627E+000		-5.5583E-001
		785.42	2.00	1.9089E+001		-1.4459E+001
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	2.1472E+000	8.02E-001	-6.8661E-001
		77.11	17.50	1.2906E+000		8.6482E-001
		87.20	6.30	3.3056E+000		-6.7357E-002
		89.80	1.75	1.1456E+001		8.3506E-001
		115.19	0.60	3.3038E+001		1.8102E+001
		238.63	44.60	8.0228E-001		7.4416E-001
		300.09	3.41	7.9626E+000		2.7795E+000
	BI-214	609.31	46.30	7.8690E-001	7.87E-001	9.9612E-001
		768.36	5.04	7.2765E+000		6.1411E+000
		806.17	1.23	2.7061E+001		-3.3683E+001
		934.06	3.21	1.0752E+001		-2.7980E+001
		1120.29	15.10	3.2573E+000		-2.5616E+000
		1155.19	1.69	2.5594E+001		-2.4730E+001
		1238.11	5.94	9.0667E+000		5.6645E+000
		1280.96	1.47	3.3894E+001		1.0654E+001
		1377.67	4.11	1.3932E+001		4.7587E+000
		1385.31	0.78	7.2805E+001		-6.8623E+001
		1401.50	1.39	3.2464E+001		4.7608E+000
		1407.98	2.48	1.6390E+001		1.1407E+001
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	3.2565E+000	8.16E-001	-1.0413E+000
		77.11	10.70	2.1109E+000		1.4144E+000
		87.20	3.70	5.6285E+000		-1.1469E-001
		89.80	1.03	1.9463E+001		1.4188E+000
		241.98	7.49	4.7634E+000		9.9553E+000
		295.21	19.20	1.3796E+000		-1.5564E+000
		351.92	37.20	8.1589E-001		9.2514E-001
		785.91	1.10	3.5444E+001		2.6930E+000
	AC-228	338.32	11.40	2.5386E+000	1.67E+000	1.7213E+000
		911.07	27.70	1.6692E+000		-4.9224E-001
		969.11	16.60	2.6635E+000		3.3156E+000

+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

***** G A M M A S P E C T R U M A N A L Y S I S *****

Filename: C:\My Documents\AAR\AAR\Grid Samples\AAR-101-04.CNF

Report Generated On : 10/8/2014 9:35:11 AM

Sample Location : AAR-101-04
Sample Identification : AAR-101-04
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance
Sample Description 3 :
Sample Description 4 :
Sample Type : Soil
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/16/2014 3:11:00 PM
Acquisition Started : 7/16/2014 3:12:37 PM

Live Time : 900.0 seconds
Real Time : 900.6 seconds

Dead Time : 0.07 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR-101-04

Peak Analysis Performed on: 10/8/2014 9:35:11 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	7988-	8021	8004.89	1462.24	0.33	6.70E+001	16.04	0.00E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-101-04
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
-----------------	------------------	-----------------	--------------	------------------------	-------------------------

* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 3.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
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? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 9:35:11 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	1462.24	7.4444E-002	23.95

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
Sample Geometry: 8 Oz. Can
Sample Title: AAR-101-04
Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	9.9019E+000	2.51E+000	-7.4187E+000
		727.17	11.80	2.5068E+000		2.6186E+000
		785.42	2.00	1.7633E+001		1.3064E+001
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	1.8622E+000	6.54E-001	-3.7885E-002
		77.11	17.50	1.1370E+000		5.9548E-001
		87.20	6.30	2.9996E+000		1.3887E+000
		89.80	1.75	1.0143E+001		-6.0990E+000
		115.19	0.60	2.9870E+001		1.7506E+001
		238.63	44.60	6.5418E-001		7.5389E-001
		300.09	3.41	7.5452E+000		4.4585E+000
	BI-214	609.31	46.30	6.7143E-001	6.71E-001	-1.1001E-001
		768.36	5.04	7.1156E+000		2.3141E+000
		806.17	1.23	2.7061E+001		5.5528E+000
		934.06	3.21	1.1846E+001		1.2835E+001
		1120.29	15.10	3.1342E+000		-5.5382E+000
		1155.19	1.69	2.8108E+001		-3.1472E+000
		1238.11	5.94	1.0144E+001		1.3620E+001
		1280.96	1.47	3.5488E+001		3.8451E+001
		1377.67	4.11	1.0774E+001		8.6399E+000
		1385.31	0.78	5.4244E+001		-9.8485E+001
		1401.50	1.39	3.1660E+001		-9.6755E+001
		1407.98	2.48	1.9159E+001		-1.9351E+000
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	2.8242E+000	7.48E-001	-5.7455E-002
		77.11	10.70	1.8595E+000		9.7392E-001
		87.20	3.70	5.1073E+000		2.3645E+000
		89.80	1.03	1.7233E+001		-1.0362E+001
		241.98	7.49	3.7544E+000		3.8578E+000
		295.21	19.20	1.3046E+000		1.5070E-001
		351.92	37.20	7.4815E-001		5.1869E-001
		785.91	1.10	3.1678E+001		-7.1407E+000
	AC-228	338.32	11.40	2.2674E+000	1.45E+000	2.2497E-001
		911.07	27.70	1.4536E+000		3.0599E-001
		969.11	16.60	2.4731E+000		-2.8073E+000

+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

GRID 122

Solutient
Technologies, LLC

Project Name:		AAR LIVONIA		Model:		NORTH ↑
Work Order #		201421		Serial #		
Surveyor Name:		Dell REUSS		Probe:		
Date:		6-6-14		Serial #		
Survey Type:				Calibration Due		
GRID # 122		⊕ = Sample Location		Comments:		
01 1 Minute Integrated Count <u>N/A</u> ⊕ X-0.9 ⊗ X-2.3				02 1 Minute Integrated Count <u>N/A</u> ⊕ X-0.1 X 4.2 ⊗		
03 1 Minute Integrated Count ⊗ <u>N/A</u> ⊕ X-4.9 X-1.4				04 1 Minute Integrated Count <u>N/A</u> ⊕ X-2.6 X-3.1		

- * All readings are presented in C.P.M
- * Each grid represents an 10 Meter x 10 Meter area.
- * Each Sub grid represents an 5 Meter x 5 Meter area.

Instrument BKG:

N/A

 ***** G A M M A S P E C T R U M A N A L Y S I S *****

Filename: C:\My Documents\AAR\AAR\Grid Samples\AAR-122-01.CNF

Report Generated On : 10/8/2014 9:29:40 AM

Sample Location : AAR
 Sample Identification : AAR-122-01
 Sample Description 1 : 8 Oz. Can
 Sample Description 2 : Grid 122 Clearance
 Sample Description 3 :
 Sample Description 4 :
 Sample Type : Clearance Sample
 Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
 Peak Locate Range (in channels) : 40 - 8192
 Peak Area Range (in channels) : 40 - 8192
 Identification Energy Tolerance : 3.000 keV

Sample Size : 2.057E+002 Grams

Sample Taken On : 6/6/2014 3:36:00 PM
 Acquisition Started : 6/6/2014 3:36:52 PM

Live Time : 600.0 seconds
 Real Time : 600.2 seconds

Dead Time : 0.03 %

Energy Calibration Used Done On : 6/4/2008
 Efficiency Calibration Used Done On : 5/23/2008
 Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR

Peak Analysis Performed on: 10/8/2014 9:29:40 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	1301-	1318	1308.96	239.09	0.45	1.27E+002	28.89	2.74E+001
2	3188-	3209	3198.44	584.24	0.68	5.13E+001	15.36	2.69E+000
3	8003-	8036	8019.34	1464.88	0.61	4.16E+001	15.93	4.42E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
-----------------	------------------	-----------------	--------------	------------------------	-------------------------

* = Energy line found in the spectrum.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 3.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
-----------------	-----------------------------	-----------------------------------	------------------------------------

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 9:29:40 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	239.09	2.1099E-001	22.82
2	584.24	8.5509E-002	29.94
3	1464.88	6.9293E-002	38.30

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.6664E+001	4.33E+000	-7.4238E+000
		727.17	11.80	4.3338E+000		3.4048E+000
		785.42	2.00	2.1570E+001		-1.2434E+001
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	3.2872E+000	1.26E+000	-4.5519E-001
		77.11	17.50	1.9323E+000		1.0998E+000
		87.20	6.30	4.2535E+000		-2.4877E+000
		89.80	1.75	1.6194E+001		-8.7892E+000
		115.19	0.60	4.3277E+001		-3.6123E-001
		238.63	44.60	1.2585E+000		2.9844E+000
		300.09	3.41	1.0520E+001		6.6460E+000
	BI-214	609.31	46.30	9.2793E-001	9.28E-001	1.1394E+000
		768.36	5.04	8.6950E+000		2.6355E-001
		806.17	1.23	3.5876E+001		-2.0694E+001
		934.06	3.21	1.8043E+001		1.6630E+000
		1120.29	15.10	3.9847E+000		8.1168E-001
		1155.19	1.69	2.9315E+001		-3.3616E+001
		1238.11	5.94	1.0820E+001		1.7627E+000
		1280.96	1.47	3.7549E+001		2.7175E+001
		1377.67	4.11	1.6116E+001		-2.6254E+001
		1385.31	0.78	8.5436E+001		7.0618E+001
		1401.50	1.39	4.1156E+001		2.7463E+001
		1407.98	2.48	2.3939E+001		1.6661E+001
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	4.9853E+000	8.85E-001	-6.9034E-001
		77.11	10.70	3.1603E+000		1.7987E+000
		87.20	3.70	7.2424E+000		-4.2358E+000
		89.80	1.03	2.7513E+001		-1.4933E+001
		241.98	7.49	7.4628E+000		1.5038E+001
		295.21	19.20	1.8545E+000		-1.4983E+000
		351.92	37.20	8.8493E-001		6.5429E-002
		785.91	1.10	3.8530E+001		-6.5129E+001
	AC-228	338.32	11.40	3.5811E+000	2.55E+000	2.0703E+000
		911.07	27.70	2.5480E+000		3.7661E+000
		969.11	16.60	3.9346E+000		1.1199E+000

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

 ***** G A M M A S P E C T R U M A N A L Y S I S *****

ename: C:\My Documents\AAR\AAR\Grid Samples\AAR-122-02.CNF

Report Generated On : 10/8/2014 9:30:23 AM

Sample Location : AAR
 Sample Identification : AAR-122-02
 Sample Description 1 : 8 Oz. Can
 Sample Description 2 : Grid 122 Clearnce
 Sample Description 3 :
 Sample Description 4 :
 Sample Type : Clearance Sample
 Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
 Peak Locate Range (in channels) : 40 - 8192
 Peak Area Range (in channels) : 40 - 8192
 Identification Energy Tolerance : 3.000 keV

Sample Size : 2.117E+002 Grams

Sample Taken On : 6/6/2014 3:36:00 PM
 Acquisition Started : 6/6/2014 3:53:19 PM

Live Time : 600.0 seconds
 Real Time : 600.2 seconds

Dead Time : 0.03 %

Energy Calibration Used Done On : 6/4/2008
 Efficiency Calibration Used Done On : 5/23/2008
 Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR

Peak Analysis Performed on: 10/8/2014 9:30:24 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	1302-	1316	1309.11	239.11	0.77	4.45E+001	18.15	1.35E+001
2	8001-	8034	8017.89	1464.61	0.29	6.18E+001	17.99	4.24E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
-----------------	------------------	-----------------	--------------	------------------------	-------------------------

* = Energy line found in the spectrum.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 3.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
-----------------	-----------------------------	-----------------------------------	------------------------------------

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 9:30:24 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	239.11	7.4217E-002	40.76
2	1464.61	1.0294E-001	29.13

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.6191E+001	3.45E+000	-6.0513E+000
		727.17	11.80	3.4450E+000		-5.2186E+000
		785.42	2.00	1.8977E+001		-1.6555E+001
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	2.4132E+000	9.21E-001	-9.7838E-001
		77.11	17.50	1.3581E+000		7.6786E-001
		87.20	6.30	3.4399E+000		-1.0462E+000
		89.80	1.75	1.3166E+001		-8.8279E+000
		115.19	0.60	3.7311E+001		-8.1087E+000
		238.63	44.60	9.2093E-001		1.1464E+000
		300.09	3.41	7.7705E+000		2.0827E-001
	BI-214	609.31	46.30	9.6281E-001	9.63E-001	6.3113E-001
		768.36	5.04	8.7250E+000		4.8876E+000
		806.17	1.23	3.4229E+001		1.4682E+001
		934.06	3.21	1.0236E+001		5.8760E+000
		1120.29	15.10	3.5822E+000		3.1308E+000
		1155.19	1.69	3.0848E+001		-7.2152E+001
		1238.11	5.94	1.2023E+001		-1.0166E+000
		1280.96	1.47	3.7525E+001		-3.0586E+001
		1377.67	4.11	1.3271E+001		-1.7201E+001
		1385.31	0.78	7.4850E+001		-6.3199E+000
		1401.50	1.39	4.7185E+001		-1.4045E+000
		1407.98	2.48	2.3260E+001		1.6189E+001
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	3.6598E+000	8.17E-001	-1.4838E+000
		77.11	10.70	2.2213E+000		1.2558E+000
		87.20	3.70	5.8572E+000		-1.7814E+000
		89.80	1.03	2.2369E+001		-1.4999E+001
		241.98	7.49	5.1862E+000		6.0519E+000
		295.21	19.20	1.5136E+000		-1.2149E-001
		351.92	37.20	8.1650E-001		-1.0708E-001
		785.91	1.10	3.3748E+001		-6.0909E+001
	AC-228	338.32	11.40	2.6389E+000	1.70E+000	-7.2656E-001
		911.07	27.70	1.6966E+000		3.1257E-001
		969.11	16.60	3.2147E+000		3.2939E+000

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

***** G A M M A S P E C T R U M A N A L Y S I S *****

Filename: C:\My Documents\AAR\AAR\Grid Samples\AAR-122-03.CNF

Report Generated On : 10/8/2014 9:31:08 AM

Sample Location : AAR
Sample Identification : AAR-122-03
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid 122 Clearance
Sample Description 3 :
Sample Description 4 :
Sample Type : Clearance Sample
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.133E+002 Grams

Sample Taken On : 6/6/2014 4:18:00 PM
Acquisition Started : 6/6/2014 4:19:21 PM

Live Time : 600.0 seconds
Real Time : 600.2 seconds

Dead Time : 0.03 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR

Peak Analysis Performed on: 10/8/2014 9:31:08 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	8001-	8034	8017.95	1464.62	0.49	6.10E+001	15.31	0.00E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
-----------------	------------------	-----------------	--------------	------------------------	-------------------------

* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 3.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
-----------------	-----------------------------	-----------------------------------	------------------------------------

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 9:31:08 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	1464.62	1.0167E-001	25.10

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.6070E+001	3.42E+000	4.6734E+000
		727.17	11.80	3.4192E+000		-3.1197E+000
		785.42	2.00	1.7534E+001		-1.5996E+001
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	1.9706E+000	7.20E-001	-7.6544E-001
		77.11	17.50	1.2418E+000		7.0390E-001
		87.20	6.30	3.2575E+000		-1.7036E-001
		89.80	1.75	1.0804E+001		-1.7566E+001
		115.19	0.60	3.6248E+001		1.3474E+001
		238.63	44.60	7.2048E-001		4.7157E-001
		300.09	3.41	7.9921E+000		-2.1763E+000
	BI-214	609.31	46.30	9.0530E-001	9.05E-001	4.2965E-001
		768.36	5.04	8.6596E+000		-4.0012E+000
		806.17	1.23	3.4598E+001		-7.1941E+000
		934.06	3.21	1.3406E+001		1.1081E+001
		1120.29	15.10	4.2336E+000		-4.8090E-001
		1155.19	1.69	3.2073E+001		2.7280E+001
		1238.11	5.94	1.0635E+001		-5.1088E+000
		1280.96	1.47	3.8244E+001		6.4232E+000
		1377.67	4.11	1.5542E+001		1.2846E+001
		1385.31	0.78	6.9829E+001		4.6596E+001
		1401.50	1.39	4.2225E+001		-9.3714E+000
		1407.98	2.48	2.2359E+001		-3.6197E+000
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	2.9886E+000	8.62E-001	-1.1609E+000
		77.11	10.70	2.0310E+000		1.1512E+000
		87.20	3.70	5.5466E+000		-2.9007E-001
		89.80	1.03	1.8357E+001		-2.9844E+001
		241.98	7.49	4.3694E+000		5.4402E+000
		295.21	19.20	1.4718E+000		4.3795E-001
		351.92	37.20	8.6172E-001		7.4603E-001
		785.91	1.10	3.3495E+001		-2.2662E+001
	AC-228	338.32	11.40	2.4749E+000	1.89E+000	1.6994E+000
		911.07	27.70	1.8893E+000		2.0471E+000
		969.11	16.60	2.6208E+000		4.8811E-001

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

 ***** GAMMA SPECTRUM ANALYSIS *****

ename: RE1A

Report Generated On : 6/6/2014 5:08:25 PM

Sample Location : AAR
 Sample Identification : AAR-122-04
 Sample Description 1 : 8 Oz. Can
 Sample Description 2 : Grid 122 Clearnce
 Sample Description 3 :
 Sample Description 4 :
 Sample Type : Clearance Sample
 Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
 Peak Locate Range (in channels) : 40 - 8192
 Peak Area Range (in channels) : 40 - 8192
 Identification Energy Tolerance : 3.000 keV

Sample Size : 2.038E+002 Grams

Sample Taken On : 6/6/2014 4:57:00 PM
 Acquisition Started : 6/6/2014 4:58:24 PM

Live Time : 600.0 seconds
 Real Time : 600

Dead Time

Energy Ca 008
 Efficiency 2008
 Efficiency

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR

Peak Analysis Performed on: 6/6/2014 5:08:26 PM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	8001-	8034	8017.80	1464.60	0.64	6.10E+001	15.31	0.00E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
-----------------	------------------	-----------------	--------------	------------------------	-------------------------

* = Energy line found in the spectrum.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 3.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide	Nuclide	Wt mean	Wt mean
Nuclide	Id	Activity	Activity
Name	Confidence	(pCi/Gram)	Uncertainty

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 6/6/2014 5:08:26 PM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak	Energy	Peak Size in	Peak CPS
No.	(keV)	Counts per Second	% Uncertainty
1	1464.60	1.0167E-001	25.10

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet

Errors quoted at 1.960 sigma

***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
Sample Geometry: 8 Oz. Can
Sample Title: AAR
Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.4105E+001	2.99E+000	4.2148E-001
		727.17	11.80	2.9880E+000		6.2307E-001
		785.42	2.00	1.8817E+001		-1.7465E+001
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	2.2686E+000	7.13E-001	-4.4688E-001
		77.11	17.50	1.2997E+000		5.8039E-001
		87.20	6.30	3.3241E+000		-1.3061E+000
		89.80	1.75	1.1792E+001		-2.6968E+000
		115.19	0.60	2.9984E+001		-1.0957E+001
		238.63	44.60	7.1255E-001		1.9003E-001
		300.09	3.41	9.4384E+000		9.7969E+000
	BI-214	609.31	46.30	9.2553E-001	9.26E-001	7.7733E-001
		768.36	5.04	8.9209E+000		9.1409E+000
		806.17	1.23	3.4886E+001		-4.8848E+001
		934.06	3.21	1.3700E+001		1.0987E+001
		1120.29	15.10	3.7988E+000		-1.6085E+000
		1155.19	1.69	3.4302E+001		-4.3865E+001
		1238.11	5.94	1.0034E+001		8.2933E+000
		1280.96	1.47	3.6782E+001		2.5600E+001
		1377.67	4.11	1.4666E+001		1.0614E+001
		1385.31	0.78	7.5459E+001		5.2519E+001
		1401.50	1.39	3.3830E+001		1.7058E+001
		1407.98	2.48	1.9058E+001		9.6096E+000
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	3.4405E+000	9.19E-001	-6.7773E-001
		77.11	10.70	2.1257E+000		9.4924E-001
		87.20	3.70	5.6600E+000		-2.2239E+000
		89.80	1.03	2.0035E+001		-4.5820E+000
		241.98	7.49	4.4218E+000		3.4454E+000
		295.21	19.20	1.6786E+000		1.9503E-001
		351.92	37.20	9.1905E-001		1.0251E+000
		785.91	1.10	3.4232E+001		1.2836E+001
	AC-228	89.95	2.10	9.2839E+000	1.70E+000	-1.5105E+001
		93.35	3.50	6.6928E+000		-2.9599E-001
		129.08	2.80	8.3833E+000		7.2451E+000
		209.28	4.40	5.3109E+000		1.1042E+000
		270.23	3.60	7.2124E+000		3.1076E+000

Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
AC-228	327.64	3.20	8.7459E+000	1.70E+000	-2.6656E-001
	338.32	11.40	2.3954E+000		-1.9574E+000
	409.51	2.13	1.3619E+001		-9.9256E+000
	463.00	4.40	6.2824E+000		3.1200E+000
	583.20	0.14	2.9265E+002		2.4641E+002
	794.70	4.60	9.5625E+000		3.8000E+000
	911.07	27.70	1.6953E+000		5.1756E-001
	964.60	5.20	1.0265E+001		1.0098E+001
	969.11	16.60	3.2851E+000		3.2994E+000
>	1587.90	3.71	0.0000E+000		0.0000E+000

+ = Nuclide identified during the nuclide identification

* = Energy line found in the spectrum

> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

GRID 123

Solutient Technologies, LLC

Project Name :	ARR L. V. 10.0.0.0	Model:	N/A	NORTH ↑
Work Order #	201421	Serial #		
Surveyor Name:	mat Crosby	Probe:		
Date:	7-2-14	Serial #		
Survey Type:	1-2 meter	Calibration Due	N/A	
GRID # 123	⊕ = Sample Location	Comments:		

<p>1</p> <p>1 Minute Integrated Count</p> <p>N/A</p> <p>2.1</p> <p>4.3</p>	<p>2</p> <p>1 Minute Integrated Count</p> <p>N/A</p> <p>3.5</p> <p>.6</p>
<p>3</p> <p>1 Minute Integrated Count</p> <p>N/A</p> <p>.9</p> <p>4.9</p>	<p>4</p> <p>1 Minute Integrated Count</p> <p>N/A</p> <p>1.4</p> <p>4.0</p>

- * All readings are presented in C.P.M
- * Each grid represents an 10 Meter x 10 Meter area.
- * Each Sub grid represents an 5 Meter x 5 Meter area.

Instrument BKG:

N/A

 ***** G A M M A S P E C T R U M A N A L Y S I S *****

Filename: C:\My Documents\AAR\AAR\Grid Samples\AAR-123-01.CNF

Report Generated On : 10/8/2014 9:25:40 AM

Sample Location : AAR-123-01
 Sample Identification : AAR-123-01
 Sample Description 1 : 8 Oz. Can
 Sample Description 2 : Grid Clearance
 Sample Description 3 :
 Sample Description 4 :
 Sample Type : Soil Waste
 Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
 Peak Locate Range (in channels) : 40 - 8192
 Peak Area Range (in channels) : 40 - 8192
 Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/2/2014 10:31:00 AM
 Acquisition Started : 7/2/2014 10:32:33 AM

Live Time : 900.0 seconds
 Real Time : 900.5 seconds

Dead Time : 0.06 %

Energy Calibration Used Done On : 6/4/2008
 Efficiency Calibration Used Done On : 5/23/2008
 Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A
Sample Title: AAR-123-01
Peak Analysis Performed on: 10/8/2014 9:25:40 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	1297-	1315	1306.80	238.69	0.95	1.97E+002	39.49	6.16E+001
2	3182-	3203	3192.69	583.19	0.60	7.18E+001	19.83	8.16E+000
3	4979-	5004	4991.00	911.69	0.72	4.24E+001	15.06	3.57E+000
4	7988-	8021	8004.79	1462.22	0.29	7.60E+001	17.09	0.00E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-123-01
 Nuclide Library Used: C:\GENIE2K\CAMFILES\COPY of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
-----------------	------------------	-----------------	--------------	------------------------	-------------------------

* = Energy line found in the spectrum.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 3.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
-----------------	-----------------------------	-----------------------------------	------------------------------------

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 9:25:40 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	238.69	2.1932E-001	20.00
2	583.19	7.9819E-002	27.60
3	911.69	4.7150E-002	35.48
4	1462.22	8.4444E-002	22.48

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR-123-01
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.6332E+001	3.61E+000	-3.7961E+000
		727.17	11.80	3.6054E+000		4.5145E+000
		785.42	2.00	1.9678E+001		-4.5704E+000
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	2.7261E+000	1.11E+000	-1.6371E+000
		77.11	17.50	1.5345E+000		6.2081E-001
		87.20	6.30	3.5663E+000		7.6864E-001
		89.80	1.75	1.2225E+001		-1.6409E+001
		115.19	0.60	3.6495E+001		3.5176E+000
		238.63	44.60	1.1087E+000		2.8528E+000
		300.09	3.41	8.5275E+000		7.1007E+000
	BI-214	609.31	46.30	8.9168E-001	8.92E-001	1.1251E+000
		768.36	5.04	7.1156E+000		3.0144E+000
		806.17	1.23	2.9327E+001		-6.7395E+001
		934.06	3.21	1.2018E+001		-1.4523E+001
		1120.29	15.10	3.2168E+000		-1.7472E+000
		1155.19	1.69	2.8108E+001		1.4246E+001
		1238.11	5.94	1.0042E+001		-2.8144E+000
		1280.96	1.47	3.2783E+001		-1.3334E+001
		1377.67	4.11	1.1286E+001		2.4000E-001
		1385.31	0.78	6.3666E+001		-3.8805E+001
		1401.50	1.39	3.8881E+001		-4.6671E+001
		1407.98	2.48	2.1535E+001		-7.7092E+000
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	4.1344E+000	8.29E-001	-2.4828E+000
		77.11	10.70	2.5097E+000		1.0153E+000
		87.20	3.70	6.0723E+000		1.3088E+000
		89.80	1.03	2.0771E+001		-2.7879E+001
		241.98	7.49	6.5628E+000		1.3612E+001
		295.21	19.20	1.4884E+000		3.9687E-001
		351.92	37.20	8.2874E-001		-4.4233E-001
		785.91	1.10	3.6146E+001		-8.7930E+000
	AC-228	338.32	11.40	3.0400E+000	2.04E+000	3.3604E+000
		911.07	27.70	2.0409E+000		2.1916E+000
		969.11	16.60	3.5643E+000		2.1684E+000

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

***** C A M M A S P E C T R U M A N A L Y S I S *****

lename: C:\My Documents\AAR\AAR\Grid Samples\AAR-123-02.CNF

Report Generated On : 10/8/2014 9:25:56 AM

Sample Location : AAR-123-02
Sample Identification : AAR-123-02
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance
Sample Description 3 :
Sample Description 4 :
Sample Type : Soil Waste
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/2/2014 11:42:00 AM
Acquisition Started : 7/2/2014 11:43:17 AM

Live Time : 900.0 seconds
Real Time : 900.5 seconds

Dead Time : 0.05 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A
Sample Title: AAR-123-02
Peak Analysis Performed on: 10/8/2014 9:25:56 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	1299-	1317	1306.62	238.66	0.78	1.24E+002	30.79	3.59E+001
2	3183-	3204	3193.56	583.35	0.52	5.29E+001	17.87	8.12E+000
3	7988-	8021	8004.70	1462.20	1.72	9.10E+001	18.70	0.00E+000

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-123-02
 Nuclide Library Used: C:\GENIE2K\CAMFILES\COPY of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
-----------------	------------------	-----------------	--------------	------------------------	-------------------------

* = Energy line found in the spectrum.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 3.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
-----------------	-----------------------------	-----------------------------------	------------------------------------

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 9:25:56 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	238.66	1.3791E-001	24.81
2	583.35	5.8757E-002	33.80
3	1462.20	1.0111E-001	20.55

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet

Errors quoted at 1.960 sigma

***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
Sample Geometry: 8 Oz. Can
Sample Title: AAR-123-02
Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.2212E+001	3.88E+000	-7.4243E+000
		727.17	11.80	3.8828E+000		3.1122E+000
		785.42	2.00	1.7633E+001		-4.0382E+000
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	2.3003E+000	8.98E-001	-1.5536E+000
		77.11	17.50	1.2972E+000		1.3035E+000
		87.20	6.30	3.5841E+000		6.4279E-001
		89.80	1.75	1.2754E+001		-7.8517E+000
		115.19	0.60	3.5911E+001		9.0814E+000
		238.63	44.60	8.9826E-001		1.8521E+000
		300.09	3.41	7.8261E+000		7.1579E+000
	BI-214	609.31	46.30	9.5640E-001	9.56E-001	1.4089E+000
		768.36	5.04	7.3555E+000		6.2455E+000
		806.17	1.23	3.1750E+001		-4.2088E+001
		934.06	3.21	1.3898E+001		-8.2570E-001
		1120.29	15.10	3.6705E+000		1.8613E+000
		1155.19	1.69	2.5148E+001		-1.1756E+001
		1238.11	5.94	9.4042E+000		-9.5865E+000
		1280.96	1.47	3.6002E+001		1.3624E+001
		1377.67	4.11	1.3531E+001		5.2959E+000
		1385.31	0.78	6.9535E+001		-4.4713E+001
		1401.50	1.39	3.8227E+001		8.6502E+000
		1407.98	2.48	1.9577E+001		1.7111E+001
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	3.4886E+000	7.48E-001	-2.3562E+000
		77.11	10.70	2.1215E+000		2.1319E+000
		87.20	3.70	6.1027E+000		1.0945E+000
		89.80	1.03	2.1670E+001		-1.3340E+001
		241.98	7.49	5.2271E+000		8.5480E+000
		295.21	19.20	1.4116E+000		5.6251E-001
		351.92	37.20	7.4815E-001		-8.7542E-002
		785.91	1.10	3.2077E+001		-3.7465E+000
	AC-228	338.32	11.40	2.6086E+000	1.87E+000	-9.1829E-001
		911.07	27.70	1.8718E+000		1.5822E+000
		969.11	16.60	3.2611E+000		2.6358E+000

+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

***** G A M M A S P E C T R U M A N A L Y S I S *****

Filename: C:\My Documents\AAR\AAR\Grid Samples\AAR-123-03.CNF

Report Generated On : 10/8/2014 9:28:32 AM

Sample Location : AAR-123-03
Sample Identification : AAR-123-03
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance
Sample Description 3 :
Sample Description 4 :
Sample Type : Soil Waste
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/2/2014 12:04:00 PM
Acquisition Started : 7/2/2014 12:05:48 PM

Live Time : 900.0 seconds
Real Time : 900.5 seconds

Dead Time : 0.05 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR-123-03

Peak Analysis Performed on: 10/8/2014 9:28:32 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	1297-	1315	1306.77	238.69	1.25	1.42E+002	29.24	2.37E+001
2	7988-	8021	8004.80	1462.22	0.91	1.02E+002	19.80	0.00E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-123-03
 Nuclide Library Used: C:\GENIE2K\CAMFILES\COPY of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
-----------------	------------------	-----------------	--------------	------------------------	-------------------------

* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 3.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide	Nuclide	Wt mean	Wt mean
Name	Id	Activity	Activity
	Confidence	(pCi/Gram)	Uncertainty

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 9:28:32 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	238.69	1.5806E-001	20.55
2	1462.22	1.1333E-001	19.41

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
Sample Geometry: 8 Oz. Can
Sample Title: AAR-123-03
Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.4328E+001	3.42E+000	-3.7103E+000
		727.17	11.80	3.4163E+000		2.2574E-001
		785.42	2.00	2.0434E+001		4.6329E+000
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	2.1866E+000	9.35E-001	-3.6469E+000
		77.11	17.50	1.3482E+000		5.1444E-001
		87.20	6.30	3.4386E+000		-1.1693E+000
		89.80	1.75	1.2493E+001		-2.4625E+000
		115.19	0.60	2.9387E+001		-6.9575E-001
		238.63	44.60	9.3524E-001		2.5341E+000
		300.09	3.41	8.0523E+000		-1.5398E+000
	BI-214	609.31	46.30	7.8690E-001	7.87E-001	9.8459E-001
		768.36	5.04	7.9572E+000		-3.7515E+000
		806.17	1.23	3.1079E+001		-5.4688E+001
		934.06	3.21	1.2679E+001		2.3059E+000
		1120.29	15.10	3.6705E+000		-4.1472E-001
		1155.19	1.69	3.2845E+001		9.4415E+000
		1238.11	5.94	8.9511E+000		-3.7010E-001
		1280.96	1.47	3.2783E+001		-7.4897E+000
		1377.67	4.11	1.3531E+001		-3.1920E+000
		1385.31	0.78	7.0644E+001		3.1698E+001
		1401.50	1.39	3.8881E+001		3.9051E+001
		1407.98	2.48	2.0386E+001		1.8740E+001
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	3.3161E+000	8.16E-001	-5.5309E+000
		77.11	10.70	2.2050E+000		8.4137E-001
		87.20	3.70	5.8549E+000		-1.9910E+000
		89.80	1.03	2.1226E+001		-4.1838E+000
		241.98	7.49	5.3762E+000		1.3695E+001
		295.21	19.20	1.4658E+000		3.0349E-001
		351.92	37.20	8.1589E-001		6.3011E-001
		785.91	1.10	3.7172E+001		-5.6896E+000
	AC-228	338.32	11.40	2.6360E+000	1.99E+000	2.0687E+000
		911.07	27.70	1.9905E+000		2.7059E+000
		969.11	16.60	2.8963E+000		-1.1941E+000

+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

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*****
*****      G A M M A   S P E C T R U M   A N A L Y S I S      *****
*****

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Filename: C:\My Documents\AAR\AAR\Grid Samples\AAR-123-04.CNF

Report Generated On : 10/8/2014 9:27:35 AM

Sample Location : AAR-123-04
 Sample Identification : AAR-123-04
 Sample Description 1 : 8 Oz. Can
 Sample Description 2 : Grid Clearance
 Sample Description 3 :
 Sample Description 4 :
 Sample Type : Soil Waste
 Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
 Peak Locate Range (in channels) : 40 - 8192
 Peak Area Range (in channels) : 40 - 8192
 Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/2/2014 12:23:00 PM
 Acquisition Started : 7/2/2014 12:23:43 PM

Live Time : 900.0 seconds
 Real Time : 900.4 seconds

Dead Time : 0.05 %

Energy Calibration Used Done On : 6/4/2008
 Efficiency Calibration Used Done On : 5/23/2008
 Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR-123-04

Peak Analysis Performed on: 10/8/2014 9:27:35 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	7988-	8021	8004.46	1462.16	0.46	7.20E+001	16.63	0.00E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-123-04
 Nuclide Library Used: C:\GENIE2K\CAMFILES\COPY of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
-----------------	------------------	-----------------	--------------	------------------------	-------------------------

* = Energy line found in the spectrum.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 3.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
-----------------	-----------------------------	-----------------------------------	------------------------------------

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 9:27:35 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	1462.16	8.0000E-002	23.10

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
Sample Geometry: 8 Oz. Can
Sample Title: AAR-123-04
Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.0835E+001	2.58E+000	5.0826E-001
		727.17	11.80	2.5835E+000		5.9713E-002
		785.42	2.00	1.6270E+001		1.1217E+001
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	1.8622E+000	6.13E-001	5.8533E-001
		77.11	17.50	1.0095E+000		2.1518E-001
		87.20	6.30	2.5037E+000		-1.0603E+000
		89.80	1.75	9.4569E+000		-8.2191E+000
		115.19	0.60	2.7626E+001		-2.0138E+000
		238.63	44.60	6.1337E-001		2.9876E-001
		300.09	3.41	7.5928E+000		1.7658E+000
	BI-214	609.31	46.30	7.6895E-001	7.69E-001	1.7789E-001
		768.36	5.04	7.1156E+000		-6.1506E+000
		806.17	1.23	2.7453E+001		-9.7684E+000
		934.06	3.21	9.9481E+000		8.6945E+000
		1120.29	15.10	2.5241E+000		-1.3031E+000
		1155.19	1.69	2.6032E+001		-2.4003E+001
		1238.11	5.94	8.8338E+000		-6.2960E+000
		1280.96	1.47	3.3343E+001		3.3489E+001
		1377.67	4.11	9.3512E+000		-1.2120E+001
		1385.31	0.78	4.9574E+001		3.3080E+001
		1401.50	1.39	3.1660E+001		2.4588E+001
		1407.98	2.48	1.9159E+001		1.6296E+001
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	2.8242E+000	6.78E-001	8.8770E-001
		77.11	10.70	1.6510E+000		3.5192E-001
		87.20	3.70	4.2630E+000		-1.8053E+000
		89.80	1.03	1.6068E+001		-1.3964E+001
		241.98	7.49	3.7872E+000		4.2987E+000
		295.21	19.20	1.3301E+000		-4.8531E-001
		351.92	37.20	6.7838E-001		2.9392E-001
		785.91	1.10	2.9598E+001		2.1182E+001
	AC-228	338.32	11.40	2.1689E+000	1.64E+000	1.7913E+000
		911.07	27.70	1.6381E+000		9.1807E-001
		969.11	16.60	2.3367E+000		1.2302E+000

+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

GRID 124

Solutient
Technologies, LLC

Project Name:	DATE GROUND	Model:	N/A	NORTH ↑
Work Order #	201421	Serial #		
Surveyor Name:	mat cox	Probe:		
Date:	7-3-14 / 1029-14	Serial #	N/A	
Survey Type:		Calibration Due		
GRID # 124		⊕ = Sample Location		
Comments:				
1 Minute Integrated Count		1 Minute Integrated Count		
01	N/A	02	N/A	
⊕	⊕			
x 2.9	x 1.3			
x .3	x 3.4			
1 Minute Integrated Count		1 Minute Integrated Count		
N/A	N/A			
⊕	⊕			
x 4.1	x 4.0			
x 2.1	x 4.3			

- * All readings are presented in C.P.M
- * Each grid represents an 10 Meter x 10 Meter area.
- * Each Sub grid represents an 5 Meter x 5 Meter area.

Instrument BKG:

N/A

***** G A M M A S P E C T R U M A N A L Y S I S *****

ename: C:\My Documents\AAR\AAR\Grid Samples\AAR-124-01.CNF

Report Generated On : 10/8/2014 9:19:16 AM

Sample Location : AAR-124-01
Sample Identification : AAR-124-01
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance
Sample Description 3 :
Sample Description 4 :
Sample Type : Soil Waste
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/2/2014 10:13:00 AM
Acquisition Started : 7/2/2014 10:14:56 AM

Live Time : 900.0 seconds
Real Time : 900.5 seconds

Dead Time : 0.06 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A
Sample Title: AAR-124-01
Peak Analysis Performed on: 10/8/2014 9:19:16 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	1296-	1315	1306.97	238.72	0.71	3.50E+002	47.00	6.52E+001
2	1844-	1861	1852.59	338.39	0.45	9.64E+001	23.77	1.56E+001
3	2787-	2806	2796.01	510.73	0.79	8.14E+001	19.92	6.59E+000
4	3181-	3205	3193.35	583.31	1.05	1.07E+002	27.62	2.17E+001
5	4979-	5004	4991.08	911.70	0.29	8.35E+001	21.79	9.55E+000
6	5295-	5322	5308.50	969.69	0.37	4.61E+001	18.71	9.91E+000
7	7989-	8022	8005.29	1462.31	1.74	6.80E+001	16.16	0.00E+000

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-124-01
 Nuclide Library Used: C:\GENIE2K\CAMFILES\COPY of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
AC-228	0.995	338.32*	11.40	5.39536E+000	1.40273E+000
		911.07*	27.70	3.91486E+000	1.03327E+000
		969.11*	16.60	3.82254E+000	1.55749E+000

* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 3.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 1.960 sigma

 ***** INTERFERENCE CORRECTED REPORT *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
AC-228	0.995	4.299526E+000	7.338100E-001

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** UNIDENTIFIED PEAKS *****

Peak Locate Performed on: 10/8/2014 9:19:16 AM

Peak Locate From Channel: 40

Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	238.72	3.8867E-001	13.44
3	510.73	9.0458E-002	24.47
4	583.31	1.1919E-001	25.74
7	1462.31	7.5556E-002	23.77

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR-124-01
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.7759E+001	4.36E+000	1.1092E+000
		727.17	11.80	4.3608E+000		1.3403E-002
		785.42	2.00	2.2705E+001		2.2946E+001
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	3.4883E+000	1.36E+000	-7.1100E-001
		77.11	17.50	1.9667E+000		1.6720E+000
		87.20	6.30	4.7793E+000		-4.5938E+000
		89.80	1.75	1.7273E+001		-1.8657E+001
		115.19	0.60	4.1364E+001		8.8915E+000
		238.63	44.60	1.3640E+000		4.9137E+000
		300.09	3.41	1.0439E+001		1.8961E+000
	BI-214	609.31	46.30	9.3699E-001	9.37E-001	3.1547E-001
		768.36	5.04	8.7772E+000		1.6608E+000
		806.17	1.23	3.6073E+001		-9.8282E+001
		934.06	3.21	1.3605E+001		2.5778E+000
		1120.29	15.10	3.6351E+000		4.9373E+000
		1155.19	1.69	2.9276E+001		1.6013E+001
		1238.11	5.94	9.4042E+000		-1.0773E+001
		1280.96	1.47	3.5488E+001		-2.7478E+001
		1377.67	4.11	1.2903E+001		2.5955E+000
		1385.31	0.78	6.8406E+001		2.2925E+001
		1401.50	1.39	3.9523E+001		-3.2646E+001
		1407.98	2.48	2.3983E+001		-9.0244E+000
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	5.2903E+000	9.69E-001	-1.0783E+000
		77.11	10.70	3.2166E+000		2.7346E+000
		87.20	3.70	8.1377E+000		-7.8219E+000
		89.80	1.03	2.9348E+001		-3.1699E+001
		241.98	7.49	8.1270E+000		-2.7565E+000
		295.21	19.20	1.8639E+000		1.8766E+000
		351.92	37.20	9.6902E-001		3.7643E-001
		785.91	1.10	4.1003E+001		-4.2405E+001
+	AC-228	338.32*	11.40	1.4626E+000	1.11E+000	5.3954E+000
		911.07*	27.70	1.1051E+000		3.9149E+000
		969.11*	16.60	2.0548E+000		3.8225E+000

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

***** G A M M A S P E C T R U M A N A L Y S I S *****

ename: C:\My Documents\AAR\AAR\Grid Samples\AAR-124-02.CNF

Report Generated On : 10/8/2014 9:19:43 AM

Sample Location : AAR-124-02
Sample Identification : AAR-124-02
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance
Sample Description 3 :
Sample Description 4 :
Sample Type : Soil
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/2/2014 7:14:00 AM
Acquisition Started : 7/2/2014 7:14:37 AM

Live Time : 900.0 seconds
Real Time : 900.5 seconds

Dead Time : 0.05 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

```
*****
*****      P E A K      A N A L Y S I S      R E P O R T      *****
*****
```

Detector Name: RE1A
Sample Title: AAR-124-02
Peak Analysis Performed on: 10/8/2014 9:19:43 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	1298-	1314	1306.94	238.72	1.27	1.40E+002	29.16	2.57E+001
2	3183-	3204	3193.61	583.36	1.53	6.10E+001	15.31	0.00E+000
3	7988-	8021	8004.20	1462.11	0.46	8.30E+001	17.86	0.00E+000

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-124-02
 Nuclide Library Used: C:\GENIE2K\CAMFILES\COPY of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
-----------------	------------------	-----------------	--------------	------------------------	-------------------------

* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 3.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide	Nuclide	Wt mean	Wt mean
Name	Id	Activity	Activity
	Confidence	(pCi/Gram)	Uncertainty

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 9:19:43 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	238.72	1.5594E-001	20.78
2	583.36	6.7778E-002	25.10
3	1462.11	9.2222E-002	21.51

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR-124-02
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
BI-212	39.86	1.10	1.2961E+001	3.06E+000	3.6532E+000
	727.17	11.80	3.0627E+000		-8.5782E-001
	785.42	2.00	1.9089E+001		-7.1961E+001
>	1620.56	2.75	0.0000E+000		0.0000E+000
PB-212	74.81	9.60	2.2756E+000	9.30E-001	-5.0968E-001
	77.11	17.50	1.2164E+000		-6.2857E-003
	87.20	6.30	3.3823E+000		3.5960E-001
	89.80	1.75	1.1882E+001		1.7509E+000
	115.19	0.60	3.4711E+001		-3.2794E+000
	238.63	44.60	9.2979E-001		2.0580E+000
	300.09	3.41	7.8261E+000		8.3873E+000
BI-214	609.31	46.30	8.2716E-001	8.27E-001	1.5921E-001
	768.36	5.04	6.8665E+000		2.0484E+000
	806.17	1.23	3.0041E+001		1.4563E+001
	934.06	3.21	1.1494E+001		5.5965E+000
	1120.29	15.10	3.2573E+000		3.8868E+000
	1155.19	1.69	2.6462E+001		-6.7094E+000
	1238.11	5.94	1.0042E+001		-1.4508E+000
	1280.96	1.47	2.9165E+001		1.8450E+000
	1377.67	4.11	1.1034E+001		-1.6231E+000
	1385.31	0.78	5.2740E+001		3.8169E+001
	1401.50	1.39	2.7225E+001		1.7356E+001
	1407.98	2.48	1.5874E+001		-4.6694E+000
>	1509.19	2.19	0.0000E+000		0.0000E+000
>	1661.28	1.15	0.0000E+000		0.0000E+000
>	1729.60	3.05	0.0000E+000		0.0000E+000
>	1764.49	15.80	0.0000E+000		0.0000E+000
>	1847.44	2.12	0.0000E+000		0.0000E+000
>	2118.54	1.21	0.0000E+000		0.0000E+000
PB-214	74.81	6.33	3.4511E+000	7.43E-001	-7.7298E-001
	77.11	10.70	1.9894E+000		-1.0280E-002
	87.20	3.70	5.7590E+000		6.1228E-001
	89.80	1.03	2.0188E+001		2.9749E+000
	241.98	7.49	5.4770E+000		1.1213E+001
	295.21	19.20	1.3216E+000		-9.2007E-001
	351.92	37.20	7.4339E-001		4.8706E-001
	785.91	1.10	3.7840E+001		2.1256E+001
AC-228	338.32	11.40	2.6632E+000	1.83E+000	1.7389E+000
	911.07	27.70	1.8304E+000		2.8597E+000
	969.11	16.60	3.4279E+000		4.5121E+000

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

***** G A M M A S P E C T R U M A N A L Y S I S *****

Filename: C:\My Documents\AAR\AAR\Grid Samples\AAR-124-03.CNF

Report Generated On : 10/8/2014 9:24:18 AM

Sample Location : AAR-124-03
Sample Identification : AAR-124-03
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance
Sample Description 3 :
Sample Description 4 :
Sample Type : Soil
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/7/2014 1:31:00 PM
Acquisition Started : 7/7/2014 1:32:38 PM

Live Time : 900.0 seconds
Real Time : 900.6 seconds

Dead Time : 0.07 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR-124-03

Peak Analysis Performed on: 10/8/2014 9:24:18 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	7987-	8020	8003.10	1461.91	1.81	1.01E+002	21.92	4.46E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-124-03
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Cop of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide	Id	Energy	Yield	Activity	Activity
Name	Confidence	(keV)	(%)	(pCi/Gram)	Uncertainty

* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 3.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide	Nuclide	Wt mean	Wt mean
Name	Id	Activity	Activity
	Confidence	(pCi/Gram)	Uncertainty

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 9:24:18 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak	Energy	Peak Size in	Peak CPS
No.	(keV)	Counts per Second	% Uncertainty
1	1461.91	1.1171E-001	21.80

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR-124-03
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.0835E+001	2.87E+000	5.0826E-001
		727.17	11.80	2.8681E+000		2.2487E+000
		785.42	2.00	1.6270E+001		-4.7510E+000
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	1.6832E+000	6.62E-001	-3.3150E+000
		77.11	17.50	1.0511E+000		4.8288E-001
		87.20	6.30	2.7986E+000		-9.6924E-001
		89.80	1.75	9.7202E+000		-1.0439E+001
		115.19	0.60	2.9143E+001		-2.2106E+000
		238.63	44.60	6.6202E-001		5.3612E-001
		300.09	3.41	7.1522E+000		3.0459E+000
	BI-214	609.31	46.30	7.6286E-001	7.63E-001	-3.2502E-001
		768.36	5.04	6.1477E+000		6.4219E+000
		806.17	1.23	2.9687E+001		3.5941E+001
		934.06	3.21	1.0558E+001		-9.1042E+000
		1120.29	15.10	3.3366E+000		4.9898E-001
		1155.19	1.69	2.6884E+001		-6.0523E+000
		1238.11	5.94	8.5940E+000		9.4745E+000
		1280.96	1.47	2.7841E+001		2.2326E+001
		1377.67	4.11	9.9484E+000		7.1999E+000
		1385.31	0.78	5.4244E+001		-6.1787E+001
		1401.50	1.39	3.0831E+001		2.3141E+001
		1407.98	2.48	1.7369E+001		1.3037E+001
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	2.5527E+000	6.68E-001	-5.0276E+000
		77.11	10.70	1.7191E+000		7.8976E-001
		87.20	3.70	4.7653E+000		-1.6503E+000
		89.80	1.03	1.6515E+001		-1.7736E+001
		241.98	7.49	3.9467E+000		4.0096E+000
		295.21	19.20	1.2429E+000		4.4672E-001
		351.92	37.20	6.6778E-001		5.5650E-001
		785.91	1.10	3.0027E+001		1.4854E+001
	AC-228	338.32	11.40	2.3920E+000	1.45E+000	2.1782E+000
		911.07	27.70	1.4536E+000		3.1644E-001
		969.11	16.60	2.5383E+000		1.3809E+000

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

***** G A M M A S P E C T R U M A N A L Y S I S *****

Filename: C:\My Documents\AAR\AAR\Grid Samples\AAR-124-04.CNF

Report Generated On : 10/8/2014 9:21:57 AM

Sample Location : AAR-124-04
Sample Identification : AAR-124-04
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance
Sample Description 3 :
Sample Description 4 :
Sample Type : Soil
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/7/2014 1:52:00 PM
Acquisition Started : 7/7/2014 1:52:36 PM

Live Time : 900.0 seconds
Real Time : 900.6 seconds

Dead Time : 0.07 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR-124-04

Peak Analysis Performed on: 10/8/2014 9:21:57 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	1297-	1315	1306.52	238.64	1.13	1.57E+002	33.58	4.02E+001
2	7987-	8020	8003.90	1462.06	0.30	7.34E+001	21.46	8.59E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-124-04
 Nuclide Library Used: C:\GENIE2K\CAMFILES\COPY of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
-----------------	------------------	-----------------	--------------	------------------------	-------------------------

* = Energy line found in the spectrum.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 3.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide	Nuclide	Wt mean	Wt mean
Name	Id	Activity	Activity
	Confidence	(pCi/Gram)	Uncertainty

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 9:21:57 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	238.64	1.7423E-001	21.42
2	1462.06	8.1565E-002	29.23

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR-124-04
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
BI-212	39.86	1.10	1.5760E+001	3.53E+000	4.4851E+000
	727.17	11.80	3.5257E+000		1.8492E+000
	785.42	2.00	1.9287E+001		-4.6731E+001
>	1620.56	2.75	0.0000E+000		0.0000E+000
PB-212	74.81	9.60	2.4548E+000	9.74E-001	2.9395E-001
	77.11	17.50	1.4092E+000		4.8007E-001
	87.20	6.30	3.6019E+000		-7.7846E-001
	89.80	1.75	1.2947E+001		-8.1886E+000
	115.19	0.60	3.7821E+001		2.7651E+001
	238.63	44.60	9.7424E-001		2.6291E+000
	300.09	3.41	8.4854E+000		-4.7030E+000
BI-214	609.31	46.30	8.3274E-001	8.33E-001	1.8201E-001
	768.36	5.04	7.9572E+000		-9.9650E-001
	806.17	1.23	3.0391E+001		-1.3726E+001
	934.06	3.21	1.1494E+001		-1.5044E+001
	1120.29	15.10	3.4518E+000		8.1412E-001
	1155.19	1.69	2.7298E+001		-5.5745E+001
	1238.11	5.94	9.4042E+000		6.3220E+000
	1280.96	1.47	3.6002E+001		3.9691E+001
	1377.67	4.11	1.0232E+001		7.6799E+000
	1385.31	0.78	5.4244E+001		4.0714E+001
	1401.50	1.39	2.9977E+001		-6.6459E+001
	1407.98	2.48	1.8289E+001		-1.6409E+000
>	1509.19	2.19	0.0000E+000		0.0000E+000
>	1661.28	1.15	0.0000E+000		0.0000E+000
>	1729.60	3.05	0.0000E+000		0.0000E+000
>	1764.49	15.80	0.0000E+000		0.0000E+000
>	1847.44	2.12	0.0000E+000		0.0000E+000
>	2118.54	1.21	0.0000E+000		0.0000E+000
PB-214	74.81	6.33	3.7229E+000	8.29E-001	4.4580E-001
	77.11	10.70	2.3048E+000		7.8517E-001
	87.20	3.70	6.1329E+000		-1.3255E+000
	89.80	1.03	2.1997E+001		-1.3913E+001
	241.98	7.49	5.8621E+000		1.5640E+001
	295.21	19.20	1.4658E+000		1.1886E+000
	351.92	37.20	8.2874E-001		6.4039E-002
	785.91	1.10	3.6491E+001		-2.3355E+001
AC-228	338.32	11.40	2.7690E+000	1.94E+000	2.5869E+000
	911.07	27.70	1.9387E+000		4.6286E-001
	969.11	16.60	3.0054E+000		-9.5324E-001

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

GRID 125

Solutient
Technologies, LLC

Project Name:	AAR LINDA	Model:	N/A	NORTH
Work Order #	201421	Serial #		
Surveyor Name:	Nat Crosby	Probe:		
Date:	7-9-14	Serial #		
Survey Type:	1-2 meter	Calibration Due	N/A	
GRID # 125		⊕ = Sample Location		
Comments:				

<p align="center">1 Minute Integrated Count</p> <p align="center">1 <u>N/A</u> ⊕</p> <p>4.2 ⊕</p> <p>3.1 ⊕</p>	<p align="center">1 Minute Integrated Count</p> <p align="center">2 <u>N/A</u></p> <p>.2 ⊕</p> <p>3.7 ⊕</p>
<p align="center">1 Minute Integrated Count</p> <p align="center"><u>N/A</u></p> <p>2.2 ⊕</p> <p>3.9 ⊕</p>	<p align="center">1 Minute Integrated Count</p> <p align="center"><u>N/A</u></p> <p>4.8 ⊕</p> <p>1.6 ⊕</p>

- * All readings are presented in C.P.M
- * Each grid represents an 10 Meter x 10 Meter area.
- * Each Sub grid represents an 5 Meter x 5 Meter area.

Instrument BKG:

N/A

***** G A M M A S P E C T R U M A N A L Y S I S *****

ename: C:\My Documents\AAR\AAR\Grid Samples\AAR-125-01.CNF

Report Generated On : 10/8/2014 10:46:27 AM

Sample Location : AAR-125-01
Sample Identification : AAR-125-01
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance
Sample Description 3 :
Sample Description 4 :
Sample Type : Soil Waste
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/2/2014 12:42:00 PM
Acquisition Started : 7/2/2014 12:43:06 PM

Live Time : 900.0 seconds
Real Time : 900.9 seconds

Dead Time : 0.10 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

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*****
***** P E A K   A N A L Y S I S   R E P O R T *****
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Detector Name: RE1A

Sample Title: AAR-125-01

Peak Analysis Performed on: 10/8/2014 10:46:27 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	404-	430	410.24	74.92	0.93	5.95E+002	98.28	4.38E+002
2	1140-	1152	1146.45	209.40	0.28	1.13E+002	40.57	1.20E+002
3	1295-	1314	1306.74	238.68	1.12	1.78E+003	100.17	2.44E+002
4	1472-	1491	1480.49	270.42	1.06	1.01E+002	42.64	1.06E+002
5	1510-	1526	1519.07	277.47	0.73	5.64E+001	36.66	9.36E+001
6	1635-	1656	1643.65	300.22	1.06	1.06E+002	40.10	8.25E+001
7	1786-	1803	1795.62	327.99	0.63	1.07E+002	35.40	6.71E+001
8	1841-	1862	1852.44	338.36	1.11	3.54E+002	52.73	9.86E+001
9	2526-	2544	2534.78	463.01	0.77	9.40E+001	29.26	3.80E+001
10	2784-	2810	2796.47	510.81	1.51	2.56E+002	39.46	3.50E+001
11	3180-	3206	3193.57	583.35	1.29	5.47E+002	52.73	4.05E+001
12	3972-	3997	3983.16	727.59	0.97	1.27E+002	32.41	3.47E+001
13	4342-	4365	4353.30	795.20	0.40	6.11E+001	21.52	1.49E+001
14	4699-	4724	4711.86	860.70	0.84	8.12E+001	21.76	9.81E+000
15	4977-	5006	4990.64	911.62	1.35	3.79E+002	46.27	3.87E+001
M 16	5269-	5321	5284.12	965.23	1.51	5.63E+001	17.11	2.28E+001
m 17	5269-	5321	5307.63	969.53	1.52	2.11E+002	29.49	9.53E+000
18	7988-	8021	8004.06	1462.09	1.30	7.56E+001	23.16	1.24E+001

First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-125-01
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
BI-212	0.675	39.86	1.10		
		727.17*	11.80	1.15016E+001	2.98806E+000
		785.42	2.00		
		1620.56	2.75		
PB-212	0.478	74.81*	9.60	2.95110E+001	5.30513E+000
		77.11	17.50		
		87.20	6.30		
		89.80	1.75		
		115.19	0.60		
		238.63*	44.60	2.19097E+001	2.14219E+000
AC-228	0.996	300.09*	3.41	1.86327E+001	7.24747E+000
		338.32*	11.40	1.98404E+001	3.37346E+000
		911.07*	27.70	1.77902E+001	2.27534E+000
		969.11*	16.60	1.74658E+001	2.52488E+000

* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 3.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
BI-212	0.675	1.150161E+001	2.988064E+000
PB-212	0.478	2.267190E+001	1.915711E+000
AC-228	0.996	1.808541E+001	1.511185E+000

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 10:46:27 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
2	209.40	1.2542E-001	35.94
4	270.42	1.1233E-001	42.17
5	277.47	6.2644E-002	65.02
7	327.99	1.1878E-001	33.11
9	463.01	1.0444E-001	31.13
10	510.81	2.8445E-001	15.41
11	583.35	6.0722E-001	9.65
13	795.20	6.7891E-002	35.22
14	860.70	9.0211E-002	26.80
M 16	965.23	6.2596E-002	30.37
18	1462.09	8.4031E-002	30.63

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR-125-01
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
+	BI-212	39.86	1.10	2.9950E+001	3.84E+000	-1.3184E+001
		727.17*	11.80	3.8371E+000		1.1502E+001
		785.42	2.00	3.5833E+001		3.1373E+001
>		1620.56	2.75	0.0000E+000		0.0000E+000
+	PB-212	74.81*	9.60	7.2863E+000	1.20E+000	2.9511E+001
		77.11	17.50	3.8977E+000		-1.2111E-001
		87.20	6.30	8.8145E+000		-5.2811E+000
		89.80	1.75	3.1734E+001		-7.4520E+000
		115.19	0.60	7.5178E+001		3.0588E+001
		238.63*	44.60	1.1968E+000		2.1910E+001
		300.09*	3.41	1.0759E+001		1.8633E+001
	BI-214	609.31	46.30	1.3199E+000	1.32E+000	-2.6002E-001
		768.36	5.04	1.3302E+001		3.0646E+001
		806.17	1.23	4.9339E+001		-1.6079E+001
		934.06	3.21	1.8242E+001		6.5904E-001
		1120.29	15.10	4.6009E+000		-6.2524E+000
		1155.19	1.69	3.7520E+001		2.6751E+001
		1238.11	5.94	1.2652E+001		1.7117E+001
		1280.96	1.47	5.1294E+001		6.3976E+001
		1377.67	4.11	1.7091E+001		1.4472E+001
		1385.31	0.78	8.9762E+001		2.6615E+001
		1401.50	1.39	5.6040E+001		5.6057E+001
		1407.98	2.48	3.0320E+001		2.7366E+001
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	9.8257E+000	1.46E+000	3.3210E-001
		77.11	10.70	6.3748E+000		-1.9807E-001
		87.20	3.70	1.5009E+001		-8.9922E+000
		89.80	1.03	5.3917E+001		-1.2661E+001
		241.98	7.49	1.6935E+001		-1.7834E+001
		295.21	19.20	2.9296E+000		1.8134E-001
		351.92	37.20	1.4607E+000		1.6577E+000
		785.91	1.10	6.6289E+001		-1.0662E+001
+	AC-228	338.32*	11.40	3.6914E+000	1.42E+000	1.9840E+001
		911.07*	27.70	2.1861E+000		1.7790E+001
		969.11*	16.60	1.4152E+000		1.7466E+001

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

***** G A M M A S P E C T R U M A N A L Y S I S *****

ename: C:\My Documents\AAR\AAR\Grid Samples\AAR-125-02-2.CNF

Report Generated On : 10/8/2014 10:47:41 AM

Sample Location : AAR-125-02
Sample Identification : AAR-125-02
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance
Sample Description 3 :
Sample Description 4 :
Sample Type : Soil
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/7/2014 11:28:00 AM
Acquisition Started : 7/7/2014 11:29:00 AM

Live Time : 900.0 seconds
Real Time : 900.6 seconds

Dead Time : 0.07 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR-125-02

Peak Analysis Performed on: 10/8/2014 10:47:42 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	7984-	8017	8000.02	1461.35	0.30	9.80E+001	19.40	0.00E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-125-02
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
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* = Energy line found in the spectrum.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 3.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide	Nuclide Id	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
Name	Confidence		

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 10:47:42 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	1461.35	1.0889E-001	19.80

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR-125-02
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.4110E+001	3.12E+000	-5.0826E-001
		727.17	11.80	3.1246E+000		5.7684E-001
		785.42	2.00	1.7849E+001		1.3715E+001
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	1.7506E+000	6.54E-001	-1.2989E+000
		77.11	17.50	1.1066E+000		1.9445E-001
		87.20	6.30	2.9562E+000		-9.0150E-001
		89.80	1.75	1.0626E+001		-1.2369E+001
		115.19	0.60	2.8647E+001		-5.0942E+000
		238.63	44.60	6.5418E-001		8.3825E-001
		300.09	3.41	7.3022E+000		3.5757E+000
	BI-214	609.31	46.30	6.8530E-001	6.85E-001	-3.2600E-001
		768.36	5.04	7.9572E+000		8.2065E+000
		806.17	1.23	2.4998E+001		-5.6985E+001
		934.06	3.21	1.4467E+001		1.9873E+001
		1120.29	15.10	3.2972E+000		2.0927E+000
		1155.19	1.69	2.8503E+001		-2.0343E+001
		1238.11	5.94	9.2932E+000		5.6118E+000
		1280.96	1.47	3.7007E+001		1.7492E+001
		1377.67	4.11	1.1533E+001		1.0971E+000
		1385.31	0.78	5.7117E+001		4.5803E+001
		1401.50	1.39	3.0831E+001		-1.0260E+001
		1407.98	2.48	1.7836E+001		1.3851E+001
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	2.6549E+000	6.89E-001	-1.9699E+000
		77.11	10.70	1.8098E+000		3.1803E-001
		87.20	3.70	5.0335E+000		-1.5350E+000
		89.80	1.03	1.8054E+001		-2.1016E+001
		241.98	7.49	3.9778E+000		5.1579E+000
		295.21	19.20	1.2338E+000		-1.2377E-001
		351.92	37.20	6.8881E-001		7.6289E-001
		785.91	1.10	3.2470E+001		3.9310E+001
	AC-228	338.32	11.40	2.3150E+000	1.38E+000	1.8753E+000
		911.07	27.70	1.3799E+000		-6.1796E-001
		969.11	16.60	2.6017E+000		8.6381E-001

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

***** G A M M A S P E C T R U M A N A L Y S I S *****

ename: C:\My Documents\AAR\AAR\Grid Samples\AAR-125-03.CNF

Report Generated On : 10/8/2014 10:48:12 AM

Sample Location : AAR-125-03
Sample Identification : AAR-125-03
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance
Sample Description 3 :
Sample Description 4 :
Sample Type : Soil
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/7/2014 11:56:00 AM
Acquisition Started : 7/7/2014 11:56:54 AM

Live Time : 900.0 seconds
Real Time : 900.5 seconds

Dead Time : 0.06 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR-125-03

Peak Analysis Performed on: 10/8/2014 10:48:12 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	7986-	8019	8002.16	1461.74	0.26	7.49E+001	19.18	4.06E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-125-03
 Nuclide Library Used: C:\GENIE2K\CAMFILES\COPY of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide	Id	Energy	Yield	Activity	Activity
Name	Confidence	(keV)	(%)	(pCi/Gram)	Uncertainty

* = Energy line found in the spectrum.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 3.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
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? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 10:48:12 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	1461.74	8.3263E-002	25.60

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR-125-03
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.3889E+001	2.80E+000	6.0629E+000
		727.17	11.80	2.7999E+000		-5.1268E+000
		785.42	2.00	1.8062E+001		1.2860E+001
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	1.7670E+000	6.33E-001	-9.2008E-001
		77.11	17.50	1.0264E+000		6.0812E-001
		87.20	6.30	2.8217E+000		1.0641E+000
		89.80	1.75	1.1087E+001		-4.9392E+000
		115.19	0.60	2.7885E+001		-1.9097E+001
		238.63	44.60	6.3276E-001		6.5744E-001
		300.09	3.41	7.4004E+000		5.0548E+000
	RT-214	609.31	46.30	7.6286E-001	7.63E-001	-5.9194E-001
		768.36	5.04	6.9506E+000		2.2698E+000
		806.17	1.23	2.4998E+001		-5.6658E+001
		934.06	3.21	1.2838E+001		-1.0558E+001
		1120.29	15.10	3.3366E+000		-1.1050E+000
		1155.19	1.69	2.7298E+001		-5.0839E+000
		1238.11	5.94	8.7148E+000		3.6292E+000
		1280.96	1.47	3.2783E+001		-1.3334E+001
		1377.67	4.11	1.0507E+001		8.1599E+000
		1385.31	0.78	5.7117E+001		4.5803E+001
		1401.50	1.39	3.0831E+001		-6.6441E+000
		1407.98	2.48	1.8730E+001		-6.4325E-002
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	2.6798E+000	7.39E-001	-1.3954E+000
		77.11	10.70	1.6786E+000		9.9460E-001
		87.20	3.70	4.8046E+000		1.8119E+000
		89.80	1.03	1.8837E+001		-8.3919E+000
		241.98	7.49	3.7047E+000		3.5295E+000
		295.21	19.20	1.2785E+000		9.3382E-001
		351.92	37.20	7.3861E-001		8.0065E-001
		785.91	1.10	3.2470E+001		1.0086E+001
	AC-228	338.32	11.40	2.2834E+000	1.54E+000	1.4153E+000
		911.07	27.70	1.5404E+000		-1.4204E-001
		969.11	16.60	2.3716E+000		-4.0229E+000

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

***** G A M M A S P E C T R U M A N A L Y S I S *****

ename: C:\My Documents\AAR\AAR\Grid Samples\AAR-125-04.CNF

Report Generated On : 10/8/2014 10:48:55 AM

Sample Location : AAR-125-04
Sample Identification : AAR-125-04
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance
Sample Description 3 :
Sample Description 4 :
Sample Type : Soil
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/7/2014 1:11:00 PM
Acquisition Started : 7/7/2014 1:11:54 PM

Live Time : 900.0 seconds
Real Time : 900.6 seconds

Dead Time : 0.07 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR-125-04

Peak Analysis Performed on: 10/8/2014 10:48:55 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	7987-	8020	8003.64	1462.01	1.34	1.03E+002	22.03	4.38E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-125-04
 Nuclide Library Used: C:\GENIE2K\CAMFILES\COPY of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
-----------------	------------------	-----------------	--------------	------------------------	-------------------------

* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 3.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
-----------------	-----------------------------	-----------------------------------	------------------------------------

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 10:48:55 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	1462.01	1.1403E-001	21.47

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
Sample Geometry: 8 Oz. Can
Sample Title: AAR-125-04
Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.2212E+001	2.93E+000	-1.1981E+000
		727.17	11.80	2.9345E+000		2.5393E+000
		785.42	2.00	1.8062E+001		-8.4205E-001
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	1.7993E+000	6.59E-001	-4.1848E-001
		77.11	17.50	1.0009E+000		3.4676E-001
		87.20	6.30	2.6556E+000		-5.9666E-001
		89.80	1.75	9.2769E+000		-4.1668E+000
		115.19	0.60	3.1945E+001		2.2805E+001
		238.63	44.60	6.5942E-001		5.9892E-001
		300.09	3.41	7.3022E+000		-2.1631E+000
	BI-214	609.31	46.30	7.9862E-001	7.99E-001	2.9002E-001
		768.36	5.04	6.6070E+000		-2.0712E+000
		806.17	1.23	2.7453E+001		-4.8059E+001
		934.06	3.21	1.2186E+001		7.2454E-001
		1120.29	15.10	3.2168E+000		2.3636E-001
		1155.19	1.69	2.6032E+001		9.6478E+000
		1238.11	5.94	1.0444E+001		1.4508E+001
		1280.96	1.47	3.5488E+001		-7.1320E+000
		1377.67	4.11	1.2465E+001		1.2000E+001
		1385.31	0.78	6.1141E+001		-3.5806E+001
		1401.50	1.39	3.0831E+001		-7.0960E+000
		1407.98	2.48	1.6887E+001		1.2222E+001
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	2.7289E+000	7.62E-001	-6.3467E-001
		77.11	10.70	1.6371E+000		5.6714E-001
		87.20	3.70	4.5217E+000		-1.0159E+000
		89.80	1.03	1.5762E+001		-7.0795E+000
		241.98	7.49	3.9311E+000		7.4781E+000
		295.21	19.20	1.3385E+000		8.1709E-001
		351.92	37.20	7.6221E-001		5.6971E-001
		785.91	1.10	3.3240E+001		-9.5042E-001
	AC-228	338.32	11.40	2.2188E+000	1.56E+000	1.1829E+000
		911.07	27.70	1.5572E+000		1.3503E+000
		969.11	16.60	2.7826E+000		2.2018E+000

+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

GRID 126

Solutient
Technologies, LLC

Project Name :	AAR LUGON, A	Model:		NORTH ↑
Work Order #	201421	Serial #		
Surveyor Name:	DELL REUSS	Probe:		
Date:	7/14/14	Serial #		
Survey Type:	1-2 meter	Calibration Due		
GRID # 126	⊕ = Sample Location		Comments:	

<p align="center">1 Minute Integrated Count</p> <p align="center">1</p> <hr style="width:50%; margin: 20px auto;"/> <p align="center">⊕</p> <p align="center">X - 4.6</p> <p align="center">X - 2.2</p> <p align="center">3</p> <p align="center">⊕</p> <p align="center">X 0.1</p> <p align="center">X 1.3</p>	<p align="center">1 Minute Integrated Count</p> <p align="center">2</p> <hr style="width:50%; margin: 20px auto;"/> <p align="center">⊕</p> <p align="center">X - 0.3</p> <p align="center">X 0.6</p> <p align="center">4</p> <p align="center">⊕</p> <p align="center">X - 4.2</p> <p align="center">X 1.3</p>
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- * All readings are presented in C.P.M
- * Each grid represents an 10 Meter x 10 Meter area.
- * Each Sub grid represents an 5 Meter x 5 Meter area.

Instrument BKG: _____

***** G A M M A S P E C T R U M A N A L Y S I S *****

Filename: C:\My Documents\AAR\AAR\Grid Samples\AAR-126-01.CNF

Report Generated On : 10/8/2014 10:43:35 AM

Sample Location : AAR-126-01
Sample Identification : AAR-126-01
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance
Sample Description 3 :
Sample Description 4 :
Sample Type : Soil
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/15/2014 10:37:00 AM
Acquisition Started : 7/15/2014 10:38:16 AM

Live Time : 900.0 seconds
Real Time : 900.5 seconds

Dead Time : 0.05 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A
Sample Title: AAR-126-01
Peak Analysis Performed on: 10/8/2014 10:43:35 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	1299-	1314	1306.19	238.58	1.00	5.86E+001	22.65	2.44E+001
2	7987-	8020	8003.85	1462.05	0.45	8.40E+001	17.96	0.00E+000

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-126-01
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Cop of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
-----------------	------------------	-----------------	--------------	------------------------	-------------------------

* = Energy line found in the spectrum.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 3.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide	Nuclide Id	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
Name	Confidence		

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 10:43:35 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	238.58	6.5154E-002	38.62
2	1462.05	9.3333E-002	21.39

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR-126-01
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
BI-212	39.86	1.10	1.4960E+001	3.24E+000	5.3907E+000
	727.17	11.80	3.2447E+000		-1.3460E+000
	785.42	2.00	1.7192E+001		-1.1499E+001
>	1620.56	2.75	0.0000E+000		0.0000E+000
PB-212	74.81	9.60	1.9670E+000	7.38E-001	-1.9474E+000
	77.11	17.50	1.2302E+000		6.8184E-001
	87.20	6.30	3.1463E+000		-2.9678E-001
	89.80	1.75	1.1310E+001		-1.5231E+001
	115.19	0.60	3.1270E+001		5.2006E+000
	238.63	44.60	7.3798E-001		1.5975E+000
	300.09	3.41	7.7337E+000		3.0063E+000
BI-214	609.31	46.30	7.2521E-001	7.25E-001	5.0004E-002
	768.36	5.04	7.7376E+000		-1.6608E+000
	806.17	1.23	2.8963E+001		5.4515E+000
	934.06	3.21	1.4327E+001		1.9459E+001
	1120.29	15.10	3.2972E+000		3.9918E+000
	1155.19	1.69	2.9654E+001		1.9529E+001
	1238.11	5.94	9.6220E+000		7.2611E+000
	1280.96	1.47	3.2211E+001		-1.4574E+001
	1377.67	4.11	1.2465E+001		4.1999E+000
	1385.31	0.78	6.6083E+001		-3.3716E+001
	1401.50	1.39	3.6187E+001		5.0464E+000
	1407.98	2.48	1.9577E+001		-1.7770E+001
>	1509.19	2.19	0.0000E+000		0.0000E+000
>	1661.28	1.15	0.0000E+000		0.0000E+000
>	1729.60	3.05	0.0000E+000		0.0000E+000
>	1764.49	15.80	0.0000E+000		0.0000E+000
>	1847.44	2.12	0.0000E+000		0.0000E+000
>	2118.54	1.21	0.0000E+000		0.0000E+000
PB-214	74.81	6.33	2.9831E+000	7.58E-001	-2.9535E+000
	77.11	10.70	2.0121E+000		1.1152E+000
	87.20	3.70	5.3573E+000		-5.0532E-001
	89.80	1.03	1.9215E+001		-2.5877E+001
	241.98	7.49	4.3470E+000		6.2469E+000
	295.21	19.20	1.3633E+000		-1.2191E-001
	351.92	37.20	7.5755E-001		1.3085E-001
	785.91	1.10	3.1274E+001		-3.6133E+001
AC-228	338.32	11.40	2.2188E+000	1.57E+000	-9.4696E-001
	911.07	27.70	1.5737E+000		7.6979E-002
	969.11	16.60	2.9240E+000		2.7472E+000

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

***** G A M M A S P E C T R U M A N A L Y S I S *****

lename: C:\My Documents\AAR\AAR\Grid Samples\AAR-126-02.CNF

Report Generated On : 10/8/2014 10:44:04 AM

Sample Location : AAR-126-02
Sample Identification : AAR-126-02
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance
Sample Description 3 :
Sample Description 4 :
Sample Type : Soil
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/15/2014 12:38:00 PM
Acquisition Started : 7/15/2014 12:38:33 PM

Live Time : 900.0 seconds
Real Time : 900.6 seconds

Dead Time : 0.07 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

```
*****
*****      P E A K      A N A L Y S I S      R E P O R T      *****
*****
```

Detector Name: RE1A

Sample Title: AAR-126-02

Peak Analysis Performed on: 10/8/2014 10:44:04 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	7988-	8021	8004.64	1462.19	0.28	7.57E+001	19.51	4.34E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-126-02
 Nuclide Library Used: C:\GENIE2K\CAMFILES\COPY of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
-----------------	------------------	-----------------	--------------	------------------------	-------------------------

* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 3.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide	Nuclide Id	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
Name	Confidence		

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 10:44:04 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	1462.19	8.4066E-002	25.79

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR-126-02
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.2717E+001	2.83E+000	-3.8949E+000
		727.17	11.80	2.8342E+000		2.1897E+000
		785.42	2.00	1.7414E+001		2.7880E+000
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	1.8153E+000	5.82E-001	1.4888E-001
		77.11	17.50	9.5696E-001		-1.3882E-001
		87.20	6.30	2.9121E+000		2.8152E-001
		89.80	1.75	9.6333E+000		-1.5186E+001
		115.19	0.60	2.6833E+001		-4.8947E+000
		238.63	44.60	5.8152E-001		6.0506E-001
		300.09	3.41	7.1015E+000		9.1684E-002
	BI-214	609.31	46.30	7.9278E-001	7.93E-001	3.1566E-001
		768.36	5.04	7.2765E+000		6.3705E+000
		806.17	1.23	2.8594E+001		-6.4720E+000
		934.06	3.21	1.0359E+001		9.5226E+000
		1120.29	15.10	3.3366E+000		4.9898E-001
		1155.19	1.69	2.9276E+001		-2.4209E-001
		1238.11	5.94	9.0667E+000		5.5391E+000
		1280.96	1.47	3.1628E+001		9.1604E+000
		1377.67	4.11	1.0507E+001		8.1599E+000
		1385.31	0.78	5.9834E+001		-2.6082E+000
		1401.50	1.39	3.5478E+001		7.5439E+000
		1407.98	2.48	1.7836E+001		-2.9308E+001
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	2.7530E+000	7.29E-001	2.2579E-001
		77.11	10.70	1.5651E+000		-2.2705E-001
		87.20	3.70	4.9584E+000		4.7934E-001
		89.80	1.03	1.6367E+001		-2.5802E+001
		241.98	7.49	3.3532E+000		3.2927E+000
		295.21	19.20	1.3046E+000		1.9658E+000
		351.92	37.20	7.2894E-001		7.9301E-001
		785.91	1.10	3.0865E+001		-2.3276E+001
	AC-228	338.32	11.40	2.0296E+000	1.67E+000	-7.9661E-002
		911.07	27.70	1.6692E+000		2.3440E+000
		969.11	16.60	2.5060E+000		1.5666E+000

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

***** G A M M A S P E C T R U M A N A L Y S I S *****

ename: C:\My Documents\AAR\AAR\Grid Samples\AAR-126-03.CNF

Report Generated On : 10/8/2014 10:45:17 AM

Sample Location : AAR-126-03
Sample Identification : AAR-126-03
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance
Sample Description 3 :
Sample Description 4 :
Sample Type : Soil
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/15/2014 11:15:00 AM
Acquisition Started : 7/15/2014 11:16:29 AM

Live Time : 900.0 seconds
Real Time : 900.5 seconds

Dead Time : 0.06 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR-126-03

Peak Analysis Performed on: 10/8/2014 10:45:17 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	7988-	8021	8004.95	1462.25	0.63	8.37E+001	20.24	4.29E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-126-03
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
-----------------	------------------	-----------------	--------------	------------------------	-------------------------

* = Energy line found in the spectrum.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 3.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide	Nuclide	Wt mean	Wt mean
Name	Id	Activity	Activity
	Confidence	(pCi/Gram)	Uncertainty

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 10:45:17 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak	Energy	Peak Size in	Peak CPS
No.	(keV)	Counts per Second	% Uncertainty
1	1462.25	9.3011E-002	24.18

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet

Errors quoted at 1.960 sigma

***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
Sample Geometry: 8 Oz. Can
Sample Title: AAR-126-03
Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.2717E+001	2.62E+000	2.1601E+000
		727.17	11.80	2.6210E+000		1.5548E+000
		785.42	2.00	1.8272E+001		-1.1515E+000
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	1.8153E+000	6.22E-001	-9.0194E-001
		77.11	17.50	1.0009E+000		3.5493E-001
		87.20	6.30	2.5037E+000		-1.0442E+000
		89.80	1.75	9.8916E+000		-1.4372E+000
		115.19	0.60	2.4284E+001		1.1779E+001
		238.63	44.60	6.2176E-001		7.7706E-001
		300.09	3.41	7.3515E+000		3.7522E+000
	BI-214	609.31	46.30	7.4429E-001	7.44E-001	-1.0301E-001
		768.36	5.04	7.0336E+000		6.4730E-001
		806.17	1.23	2.9327E+001		4.1155E+000
		934.06	3.21	1.2838E+001		2.3806E+000
		1120.29	15.10	3.4139E+000		7.0908E-001
		1155.19	1.69	2.8503E+001		3.1956E+001
		1238.11	5.94	8.4712E+000		9.1784E+000
		1280.96	1.47	3.2783E+001		5.4742E+000
		1377.67	4.11	9.9484E+000		-2.9520E+001
		1385.31	0.78	5.8493E+001		4.8348E+001
		1401.50	1.39	3.2464E+001		-7.3642E+001
		1407.98	2.48	1.8289E+001		-2.6141E+000
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	2.7530E+000	6.89E-001	-1.3679E+000
		77.11	10.70	1.6371E+000		5.8049E-001
		87.20	3.70	4.2630E+000		-1.7779E+000
		89.80	1.03	1.6806E+001		-2.4419E+000
		241.98	7.49	3.7047E+000		2.4220E+000
		295.21	19.20	1.1777E+000		5.5169E-001
		351.92	37.20	6.8881E-001		1.6464E-001
		785.91	1.10	3.2858E+001		-3.3620E+000
	AC-228	338.32	11.40	2.1857E+000	1.51E+000	1.4772E+000
		911.07	27.70	1.5064E+000		-1.0249E+000
		969.11	16.60	2.7826E+000		2.3078E+000

+ = Nuclide identified during the nuclide identification

* = Energy line found in the spectrum

> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

***** G A M M A S P E C T R U M A N A L Y S I S *****

Filename: C:\My Documents\AAR\AAR\Grid Samples\AAR-126-04.CNF

Report Generated On : 10/8/2014 10:45:42 AM

Sample Location : AAR-126-04
Sample Identification : AAR-126-04
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance
Sample Description 3 :
Sample Description 4 :
Sample Type : Soil
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 7/15/2014 10:54:00 AM
Acquisition Started : 7/15/2014 10:55:36 AM

Live Time : 900.0 seconds
Real Time : 900.5 seconds

Dead Time : 0.06 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR-126-04

Peak Analysis Performed on: 10/8/2014 10:45:42 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	7988-	8021	8004.97	1462.25	0.50	8.40E+001	17.96	0.00E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-126-04
 Nuclide Library Used: C:\GENIE2K\CAMFILES\COPY of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
-----------------	------------------	-----------------	--------------	------------------------	-------------------------

* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 3.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
-----------------	-----------------------------	-----------------------------------	------------------------------------

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 10:45:42 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	1462.25	9.3333E-002	21.39

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet

Errors quoted at 1.960 sigma

 N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR-126-04
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.2467E+001	3.16E+000	3.5579E+000
		727.17	11.80	3.1551E+000		7.0215E-001
		785.42	2.00	1.8480E+001		1.0617E+001
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	1.8311E+000	5.51E-001	8.4411E-001
		77.11	17.50	1.0429E+000		8.6396E-001
		87.20	6.30	2.4774E+000		-1.8702E+000
		89.80	1.75	9.9760E+000		-9.2612E-002
		115.19	0.60	2.8647E+001		1.1673E+000
		238.63	44.60	5.5087E-001		-1.2574E-001
		300.09	3.41	7.4973E+000		7.7161E-001
	BI-214	609.31	46.30	7.6895E-001	7.69E-001	-5.7970E-002
		768.36	5.04	6.4277E+000		9.4114E-001
		806.17	1.23	3.2080E+001		7.0936E-001
		934.06	3.21	1.0943E+001		-7.1220E+000
		1120.29	15.10	3.0920E+000		1.8360E+000
		1155.19	1.69	2.6032E+001		2.6146E+001
		1238.11	5.94	9.1807E+000		-1.0511E+001
		1280.96	1.47	2.9165E+001		2.4807E+001
		1377.67	4.11	8.7059E+000		-1.3985E+001
		1385.31	0.78	4.9574E+001		3.3080E+001
		1401.50	1.39	2.9977E+001		2.1695E+001
		1407.98	2.48	1.6887E+001		1.2222E+001
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	2.7770E+000	7.58E-001	1.2802E+000
		77.11	10.70	1.7057E+000		1.4130E+000
		87.20	3.70	4.2182E+000		-3.1844E+000
		89.80	1.03	1.6950E+001		-1.5735E-001
		241.98	7.49	3.2781E+000		-1.2586E+000
		295.21	19.20	1.4037E+000		-3.6228E-001
		351.92	37.20	7.5755E-001		3.5339E-001
		785.91	1.10	3.3619E+001		1.3190E+001
	AC-228	338.32	11.40	2.2023E+000	1.64E+000	-6.7941E-002
		911.07	27.70	1.6381E+000		1.5346E+000
		969.11	16.60	2.8115E+000		2.3536E+000

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

GRID 156

Solutient
Technologies, LLC

Project Name:	AAR LIV 21A	Model:		NORTH
Work Order #	201421	Serial #		
Surveyor Name:	Dell REUSS	Probe:	N/A	
Date:	6-18-14	Serial #		
Survey Type:	Soil 1-2 meter	Calibration Due		
GRID # 156-		⊕ = Sample Location Comments:		

<div style="display: flex; justify-content: space-between;"> 01 1 Minute Integrated Count </div> <div style="text-align: center; margin-top: 20px;"> <u>N/A</u> </div> <div style="text-align: center; margin-top: 40px;"> ⊕ </div> <div style="margin-top: 20px;"> X - 4.2 </div> <div style="margin-top: 20px;"> X - 4.6 </div>	<div style="display: flex; justify-content: space-between;"> 02 1 Minute Integrated Count </div> <div style="text-align: center; margin-top: 20px;"> <u>N/A</u> </div> <div style="text-align: center; margin-top: 40px;"> ⊕ </div> <div style="margin-top: 20px;"> X - 2.2 </div> <div style="margin-top: 20px;"> X - 1.5 </div>
<div style="display: flex; justify-content: space-between;"> 03 1 Minute Integrated Count </div> <div style="text-align: center; margin-top: 20px;"> <u>N/A</u> </div> <div style="text-align: center; margin-top: 40px;"> ⊕ </div> <div style="margin-top: 20px;"> X - 4 </div> <div style="margin-top: 20px;"> X - 0.3 </div>	<div style="display: flex; justify-content: space-between;"> 04 1 Minute Integrated Count </div> <div style="text-align: center; margin-top: 20px;"> <u>N/A</u> </div> <div style="text-align: center; margin-top: 40px;"> ⊕ </div> <div style="margin-top: 20px;"> X - 1.9 </div> <div style="margin-top: 20px;"> X - 3.7 </div>

* All readings are presented in C.P.M

* Each grid represents an 10 Meter x 10 Meter area.

* Each Sub grid represents an 5 Meter x 5 Meter area.

Instrument BKG:

N/A

***** G A M M A S P E C T R U M A N A L Y S I S *****

Filename: C:\My Documents\AAR\AAR\Grid Samples\AAR-156-01.CNF

Report Generated On : 10/8/2014 10:37:16 AM

Sample Location : AAR
Sample Identification : AAR-156-01
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance 156-01
Sample Description 3 :
Sample Description 4 :
Sample Type : Grid Clearance
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 6/18/2014 3:55:00 PM
Acquisition Started : 6/18/2014 3:55:46 PM

Live Time : 900.0 seconds
Real Time : 900.5 seconds

Dead Time : 0.05 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR

Peak Analysis Performed on: 10/8/2014 10:37:17 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	1296-	1316	1307.72	238.86	0.87	3.36E+002	51.67	9.98E+001
2	1843-	1863	1853.66	338.59	1.30	9.44E+001	24.67	1.76E+001
3	3183-	3205	3194.14	583.45	1.06	1.05E+002	26.54	2.02E+001
4	4980-	5005	4992.91	912.04	0.89	9.33E+001	22.71	9.66E+000
5	5297-	5324	5310.34	970.02	0.56	4.73E+001	18.65	9.66E+000
6	7991-	8024	8007.79	1462.77	0.36	4.87E+001	24.88	2.13E+001

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
AC-228	0.987	338.32*	11.40	5.28432E+000	1.44821E+000
		911.07*	27.70	4.38019E+000	1.07878E+000
		969.11*	16.60	3.92774E+000	1.55334E+000

* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 3.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
AC-228	0.987	4.519335E+000	7.558151E-001

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 10:37:17 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	238.86	3.7361E-001	15.37
3	583.45	1.1645E-001	25.33
6	1462.77	5.4099E-002	51.10

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.8428E+001	4.51E+000	-2.9787E+000
		727.17	11.80	4.5082E+000		4.2413E+000
		785.42	2.00	2.1161E+001		-2.3325E+001
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	3.2321E+000	1.38E+000	-2.5420E+000
		77.11	17.50	1.8982E+000		1.7893E+000
		87.20	6.30	4.7396E+000		-4.2641E+000
		89.80	1.75	1.7132E+001		3.7195E+000
		115.19	0.60	4.1533E+001		1.9534E+001
		238.63	44.60	1.3847E+000		5.6335E+000
		300.09	3.41	9.4023E+000		1.0935E+001
	BI-214	609.31	46.30	9.7068E-001	9.71E-001	9.7409E-001
		768.36	5.04	8.1706E+000		3.0756E-001
		806.17	1.23	3.1416E+001		-6.4249E+001
		934.06	3.21	1.2995E+001		8.7899E+000
		1120.29	15.10	3.8088E+000		-1.8202E+000
		1155.19	1.69	3.1116E+001		4.5997E+000
		1238.11	5.94	8.0907E+000		8.2902E+000
		1280.96	1.47	3.9396E+001		4.8373E+001
		1377.67	4.11	1.2240E+001		1.1520E+001
		1385.31	0.78	6.2418E+001		-4.1350E+001
		1401.50	1.39	3.6881E+001		3.4712E+001
		1407.98	2.48	1.8730E+001		2.2836E+000
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	4.9018E+000	9.13E-001	-3.8551E+000
		77.11	10.70	3.1045E+000		2.9265E+000
		87.20	3.70	8.0702E+000		-7.2605E+000
		89.80	1.03	2.9107E+001		6.3196E+000
		241.98	7.49	8.2224E+000		1.0273E+000
		295.21	19.20	1.6101E+000		8.1863E-001
		351.92	37.20	9.1334E-001		-8.3940E-002
		785.91	1.10	3.9138E+001		-1.0844E+000
+	AC-228	338.32*	11.40	1.6258E+000	1.11E+000	5.2843E+000
		911.07*	27.70	1.1142E+000		4.3802E+000
		969.11*	16.60	2.0176E+000		3.9277E+000

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

R

***** G A M M A S P E C T R U M A N A L Y S I S *****

Filename: C:\My Documents\AAR\AAR\Grid Samples\AAR-156-02.CNF

Report Generated On : 10/8/2014 10:37:51 AM

Sample Location : AAR
Sample Identification : AAR-156-02
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance 156-02
Sample Description 3 :
Sample Description 4 :
Sample Type : Grid Clearance
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 6/18/2014 4:19:00 PM
Acquisition Started : 6/18/2014 4:20:17 PM

Live Time : 900.0 seconds
Real Time : 900.4 seconds

Dead Time : 0.05 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR

Peak Analysis Performed on: 10/8/2014 10:37:51 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	1297-	1316	1307.49	238.82	0.97	4.25E+002	57.08	1.21E+002
2	1844-	1864	1854.11	338.67	0.71	1.01E+002	30.15	3.70E+001
3	3184-	3206	3194.95	583.60	1.04	1.70E+002	30.16	1.73E+001
4	4981-	5006	4993.10	912.07	0.56	9.01E+001	22.60	9.92E+000
5	5296-	5323	5309.20	969.82	0.69	5.78E+001	19.90	1.02E+001
6	7992-	8025	8008.61	1462.92	0.75	7.13E+001	21.40	8.74E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR

Nuclide Library Used: C:\GENIE2K\CAMFILES\COPY of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
AC-228	0.988	338.32*	11.40	5.65820E+000	1.75157E+000
		911.07*	27.70	4.22737E+000	1.07302E+000
		969.11*	16.60	4.79575E+000	1.65946E+000

* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 3.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
AC-228	0.988	4.659296E+000	8.012570E-001

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 10:37:51 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	238.82	4.7235E-001	13.43
3	583.60	1.8861E-001	17.77
6	1462.92	7.9181E-002	30.03

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
	BI-212	39.86	1.10	1.9072E+001	4.55E+000	-2.2509E+000
		727.17	11.80	4.5494E+000		8.1620E+000
		785.42	2.00	2.4756E+001		-5.4209E+001
>		1620.56	2.75	0.0000E+000		0.0000E+000
	PB-212	74.81	9.60	3.4483E+000	1.54E+000	-6.5543E+000
		77.11	17.50	2.1893E+000		3.1244E+000
		87.20	6.30	5.1460E+000		-7.2865E-001
		89.80	1.75	1.8233E+001		-5.6312E+000
		115.19	0.60	4.2531E+001		-2.6088E+001
		238.63	44.60	1.5380E+000		7.1133E+000
		300.09	3.41	1.0094E+001		9.5228E+000
	BI-214	609.31	46.30	9.3699E-001	9.37E-001	1.0669E+000
		768.36	5.04	8.9060E+000		8.3348E+000
		806.17	1.23	4.1920E+001		-6.7962E+001
		934.06	3.21	1.3304E+001		-1.0910E+001
		1120.29	15.10	3.5264E+000		-1.8813E+000
		1155.19	1.69	3.0395E+001		1.8259E+001
		1238.11	5.94	1.0245E+001		7.5390E+000
		1280.96	1.47	3.4965E+001		-3.0771E+001
		1377.67	4.11	1.2687E+001		-1.9671E+001
		1385.31	0.78	6.6083E+001		6.3616E+001
		1401.50	1.39	3.9523E+001		1.1622E+001
		1407.98	2.48	2.0777E+001		1.9555E+001
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	5.2297E+000	9.32E-001	-9.9402E+000
		77.11	10.70	3.5806E+000		5.1100E+000
		87.20	3.70	8.7622E+000		-1.2407E+000
		89.80	1.03	3.0978E+001		-9.5676E+000
		241.98	7.49	9.0546E+000		3.8958E+001
		295.21	19.20	1.7732E+000		2.6086E-001
		351.92	37.20	9.3229E-001		-2.6463E-001
		785.91	1.10	4.7435E+001		-2.0407E+001
+	AC-228	338.32*	11.40	2.2971E+000	1.14E+000	5.6582E+000
		911.07*	27.70	1.1383E+000		4.2274E+000
		969.11*	16.60	2.0602E+000		4.7957E+000

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

 ***** G A M M A S P E C T R U M A N A L Y S I S *****

ename: C:\My Documents\AAR\AAR\Grid Samples\AAR-156-03.CNF

Report Generated On : 10/8/2014 10:38:56 AM

Sample Location : AAR-156-03
 Sample Identification : AAR-156-03
 Sample Description 1 : 8 Oz. Can
 Sample Description 2 : Grid Clearance 156-03
 Sample Description 3 :
 Sample Description 4 :
 Sample Type : Grid Clearance
 Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
 Peak Locate Range (in channels) : 40 - 8192
 Peak Area Range (in channels) : 40 - 8192
 Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 6/18/2014 4:41:00 PM
 Acquisition Started : 6/18/2014 4:42:04 PM

Live Time : 900.0 seconds
 Real Time : 900.6 seconds

Dead Time : 0.06 %

Energy Calibration Used Done On : 6/4/2008
 Efficiency Calibration Used Done On : 5/23/2008
 Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A

Sample Title: AAR-156-03

Peak Analysis Performed on: 10/8/2014 10:38:56 AM

Peak Analysis From Channel: 40

Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	401-	432	422.06	77.08	0.72	3.03E+002	79.93	2.72E+002
2	1141-	1154	1147.72	209.63	1.01	6.57E+001	30.08	6.13E+001
3	1299-	1316	1307.36	238.79	0.95	7.30E+002	72.81	1.95E+002
4	1790-	1805	1797.22	328.28	0.75	5.67E+001	23.45	2.83E+001
5	1842-	1863	1853.32	338.53	1.00	1.84E+002	34.94	3.56E+001
6	1919-	1935	1927.84	352.14	0.28	4.68E+001	25.27	3.82E+001
7	2528-	2545	2536.00	463.23	0.28	4.45E+001	20.80	2.05E+001
8	2787-	2810	2798.58	511.20	0.35	1.22E+002	31.90	3.57E+001
9	3181-	3208	3194.98	583.61	1.46	2.74E+002	40.73	3.50E+001
10	3328-	3349	3338.86	609.89	0.26	5.89E+001	24.41	2.51E+001
11	3974-	3997	3985.50	728.01	0.78	5.05E+001	26.02	3.05E+001
12	4980-	5008	4993.41	912.13	1.17	1.90E+002	29.93	9.87E+000
13	5297-	5324	5310.31	970.02	0.64	8.01E+001	28.35	2.89E+001
14	7992-	8025	8008.08	1462.82	1.29	6.86E+001	18.91	4.45E+000

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

ors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR-156-03
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
BI-212	0.668	39.86	1.10		
		727.17*	11.80	4.56383E+000	2.36395E+000
		785.42	2.00		
		1620.56	2.75		
PB-212	0.575	74.81	9.60		
		77.11*	17.50	8.22025E+000	2.23977E+000
		87.20	6.30		
		89.80	1.75		
		115.19	0.60		
		238.63*	44.60	8.97060E+000	1.14719E+000
BI-214	0.444	300.09	3.41		
		609.31*	46.30	1.17879E+000	4.94145E-001
		768.36	5.04		
		806.17	1.23		
		934.06	3.21		
		1120.29	15.10		
		1155.19	1.69		
		1238.11	5.94		
		1280.96	1.47		
		1377.67	4.11		
		1385.31	0.78		
		1401.50	1.39		
		1407.98	2.48		
		1509.19	2.19		
		1661.28	1.15		
		1729.60	3.05		
AC-228	0.986	1764.49	15.80		
		1847.44	2.12		
		2118.54	1.21		
		338.32*	11.40	1.03239E+001	2.13323E+000
		911.07*	27.70	8.92307E+000	1.44579E+000
		969.11*	16.60	6.64954E+000	2.36400E+000

* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 3.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
BI-212	0.668	4.563834E+000	2.363950E+000
PB-212	0.575	8.814666E+000	1.021053E+000
BI-214	0.444	1.178791E+000	4.941447E-001
AC-228	0.986	8.810207E+000	1.067775E+000

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 10:38:56 AM

Peak Locate From Channel: 40

Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
2	209.63	7.3036E-002	45.76
4	328.28	6.3007E-002	41.36
6	352.14	5.2039E-002	53.95
7	463.23	4.9440E-002	46.74
8	511.20	1.3587E-001	26.08
9	583.61	3.0441E-001	14.87
14	1462.82	7.6168E-002	27.58

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR-156-03
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
+	BI-212	39.86	1.10	2.2920E+001	3.58E+000	-1.2991E+001
		727.17*	11.80	3.5797E+000		4.5638E+000
		785.42	2.00	2.9912E+001		-9.7157E+001
>		1620.56	2.75	0.0000E+000		0.0000E+000
+	PB-212	74.81	9.60	4.7291E+000	1.06E+000	-6.8236E-002
		77.11*	17.50	3.3653E+000		8.2203E+000
		87.20	6.30	6.5533E+000		-6.4658E+000
		89.80	1.75	2.3004E+001		7.4964E+000
		115.19	0.60	5.5049E+001		-2.3773E+000
		238.63*	44.60	1.0640E+000		8.9706E+000
		300.09	3.41	1.3623E+001		2.5137E+001
+	BI-214	609.31*	46.30	7.0012E-001	7.00E-001	1.1788E+000
		768.36	5.04	1.1257E+001		-9.8150E-001
		806.17	1.23	4.5225E+001		-1.1640E+002
		934.06	3.21	1.6289E+001		-1.3743E+001
		1120.29	15.10	4.6009E+000		6.3914E+000
		1155.19	1.69	3.2845E+001		-4.0521E+001
		1238.11	5.94	1.0735E+001		-1.5231E+000
		1280.96	1.47	3.9855E+001		1.8783E+001
		1377.67	4.11	1.5424E+001		1.9200E+001
		1385.31	0.78	8.2696E+001		-3.1172E+001
		1401.50	1.39	4.1382E+001		-1.1932E+001
		1407.98	2.48	2.3312E+001		8.0625E+000
>		1509.19	2.19	0.0000E+000		0.0000E+000
>		1661.28	1.15	0.0000E+000		0.0000E+000
>		1729.60	3.05	0.0000E+000		0.0000E+000
>		1764.49	15.80	0.0000E+000		0.0000E+000
>		1847.44	2.12	0.0000E+000		0.0000E+000
>		2118.54	1.21	0.0000E+000		0.0000E+000
	PB-214	74.81	6.33	7.1722E+000	1.16E+000	-1.0349E-001
		77.11	10.70	4.7037E+000		1.4543E-001
		87.20	3.70	1.1158E+001		-1.1009E+001
		89.80	1.03	3.9084E+001		1.2737E+001
		241.98	7.49	1.1876E+001		7.0933E+001
		295.21	19.20	2.4285E+000		8.6194E-001
		351.92	37.20	1.1584E+000		-1.2251E-001
		785.91	1.10	5.6827E+001		-3.8885E+001
+	AC-228	338.32*	11.40	2.2801E+000	1.14E+000	1.0324E+001
		911.07*	27.70	1.1402E+000		8.9231E+000
		969.11*	16.60	3.3252E+000		6.6495E+000

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

***** G A M M A S P E C T R U M A N A L Y S I S *****

ename: C:\My Documents\AAR\AAR\Grid Samples\AAR-156-04.CNF

Report Generated On : 10/8/2014 10:39:37 AM

Sample Location : AAR
Sample Identification : AAR-156-04
Sample Description 1 : 8 Oz. Can
Sample Description 2 : Grid Clearance 156-04
Sample Description 3 :
Sample Description 4 :
Sample Type : Grid Clearance
Sample Geometry : 8 Oz. Can

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 3.000 keV

Sample Size : 2.003E+002 Grams

Sample Taken On : 6/18/2014 3:33:00 PM
Acquisition Started : 6/18/2014 3:36:28 PM

Live Time : 900.0 seconds
Real Time : 900.5 seconds

Dead Time : 0.05 %

Energy Calibration Used Done On : 6/4/2008
Efficiency Calibration Used Done On : 5/23/2008
Efficiency ID :

***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: RE1A
Sample Title: AAR
Peak Analysis Performed on: 10/8/2014 10:39:37 AM
Peak Analysis From Channel: 40
Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	7991-	8024	8007.91	1462.79	0.34	7.74E+001	23.45	1.26E+001

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: AAR
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Gram)	Activity Uncertainty
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* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 3.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 1.960 sigma

 ***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Gram)	Wt mean Activity Uncertainty
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? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

***** U N I D E N T I F I E D P E A K S *****

Peak Locate Performed on: 10/8/2014 10:39:37 AM
 Peak Locate From Channel: 40
 Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	1462.79	8.6015E-002	30.29

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet

Errors quoted at 1.960 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: RE1A
 Sample Geometry: 8 Oz. Can
 Sample Title: AAR
 Nuclide Library Used: C:\GENIE2K\CAMFILES\Copy of Stdlib.nlb

Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Gram)	Nuclide MDA (pCi/Gram)	Activity (pCi/Gram)
BI-212	39.86	1.10	1.1409E+001	2.77E+000	-6.7769E+000
	727.17	11.80	2.7651E+000		6.9479E-001
	785.42	2.00	1.7849E+001		5.5519E+000
>	1620.56	2.75	0.0000E+000		0.0000E+000
PB-212	74.81	9.60	2.0935E+000	7.38E-001	-1.8029E+000
	77.11	17.50	1.2164E+000		4.6267E-001
	87.20	6.30	2.8446E+000		-1.9388E+000
	89.80	1.75	1.0225E+001		-7.7699E+000
	115.19	0.60	3.1041E+001		9.4848E+000
	238.63	44.60	7.3798E-001		1.2698E+000
	300.09	3.41	7.7800E+000		6.6819E+000
BI-214	609.31	46.30	6.9888E-001	6.99E-001	2.3356E-001
	768.36	5.04	7.2765E+000		-3.3269E+000
	806.17	1.23	2.8963E+001		-5.0509E+000
	934.06	3.21	1.3304E+001		-1.0092E+001
	1120.29	15.10	3.2168E+000		3.7817E+000
	1155.19	1.69	2.9654E+001		1.5843E+001
	1238.11	5.94	8.9511E+000		-1.0490E+000
	1280.96	1.47	3.2783E+001		3.2249E+001
	1377.67	4.11	9.9484E+000		7.1999E+000
	1385.31	0.78	5.9834E+001		5.0892E+001
	1401.50	1.39	3.4752E+001		3.0373E+001
	1407.98	2.48	2.0386E+001		1.8740E+001
>	1509.19	2.19	0.0000E+000		0.0000E+000
>	1661.28	1.15	0.0000E+000		0.0000E+000
>	1729.60	3.05	0.0000E+000		0.0000E+000
>	1764.49	15.80	0.0000E+000		0.0000E+000
>	1847.44	2.12	0.0000E+000		0.0000E+000
>	2118.54	1.21	0.0000E+000		0.0000E+000
PB-214	74.81	6.33	3.1750E+000	6.52E-001	-2.7343E+000
	77.11	10.70	1.9894E+000		7.5670E-001
	87.20	3.70	4.8435E+000		-3.3012E+000
	89.80	1.03	1.7373E+001		-1.3201E+001
	241.98	7.49	4.4169E+000		6.6415E+000
	295.21	19.20	1.3551E+000		-1.5139E-001
	351.92	37.20	6.5152E-001		1.6888E-001
	785.91	1.10	3.1678E+001		-6.6163E+000
AC-228	338.32	11.40	2.3150E+000	1.76E+000	2.3764E+000
	911.07	27.70	1.7591E+000		-1.3528E+000
	969.11	16.60	2.7826E+000		2.4067E+000

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction