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

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OYSTER CREEK NUCLEAR GENERATING STATION CHEMISTRY DEPARTMENT

Detector Name : DET01

Report Generated On : 4/18/09 3:30:14 PM

Spectral Data File Name : C:\PCNT2K\CAMFILES\1LSOLMDA
 \2000058.CNF
Po-60 1.12 E-6
 : *Cs-137 1.83 E-7*

Sample Title : 1-L Solid Releas
 Sample Description : Soil near CST; 5' depth
 User ID : kg
 Sample Type : 20
 Sample Geometry : 1-L Marinelli

Peak Locate Threshold : 3.00
 Peak Locate Range (in channels) : 1 - 4096
 Peak Area Range (in channels) : 100 - 4096
 Identification Energy Tolerance : 1.000 keV

Sample Size : 841.00 grams

Sample Taken On : 4/18/09 1:30:34 AM
 Acquisition Started : 4/18/09 1:58:36 PM
 Decay Time : 7.48E+002 Minutes

Live Time : 5794.0 Seconds
 Real Time : 5797.5 Seconds
 Dead Time : 0.06 %

Energy Calibration Used Done On : 1/8/09
 Efficiency Calibration Used Done On : 1/8/09

F-15

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***** BACKGROUND SUBTRACT REPORT *****

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Detector Name: DET01
Sample Title: 1-L Solid Releas
Peak Analysis Performed on: 4/18/09 3:30:15 PM

Peak Subtracted	Energy (keV)	Original Area	Orig. Uncert.	Ambient Background	Backgr. Uncert.	Subtracted Area
1	238.55	1.89E+002	29.34			1.89E+002
2.93E+001						
2	295.11	7.75E+001	19.06			7.75E+001
1.91E+001						
3	351.71	9.41E+001	19.72			9.41E+001
1.97E+001						
4	510.34	7.62E+001	15.83			7.62E+001
1.58E+001						
5	582.75	4.78E+001	14.47			4.78E+001
1.45E+001						
6	609.06	6.52E+001	14.49			6.52E+001
1.45E+001						
7	661.37	1.14E+002	15.87			1.14E+002
1.59E+001						
8	968.70	2.61E+001	10.47			2.61E+001
1.05E+001						
9	1172.80	4.90E+002	24.46			4.90E+002
2.45E+001						
10	1332.14	4.33E+002	21.40			4.33E+002
2.14E+001						
11	1460.59	4.83E+001	7.41			4.83E+001
7.41E+000						

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

Errors quoted at 1.000 sigma

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

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Detector Name: DET01
Sample Geometry: 1-L Marinelli
Sample Title: 1-L Solid Releas
Nuclide Library Used: C:\GENIE2K\CAMFILES\AnSolMDA.NLB

Activity (uCi/gram)	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (uCi/gram)	Nuclide MDA (uCi/gram)
1.86E-007	CS-134	563.23	8.38	7.31E-007	5.83E-008
4.71E-008		569.32	15.43	3.95E-007	
6.17E-009		604.70	97.60	5.83E-008	-
2.86E-008		795.84	85.40	1.06E-007	
1.49E-008		801.93	8.73	9.06E-007	
6.50E-008		1365.15	3.04	1.63E-006	-
1.83E-007	+ CS-137	661.65*	85.12	9.21E-008	9.21E-008

+ = 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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***** 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

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Sample Title: 1-L Solid Releas
Nuclide Library Used: C:\GENIE2K\CAMFILES\AnSolMDA.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/gram)	Activity Uncertainty
K-40	0.992	1460.81*	10.67	1.27E-006	1.96E-007
CO-60	0.977	1173.22*	100.00	1.13E-006	6.00E-008
		1332.49*	100.00	1.12E-006	5.97E-008
CS-137	0.988	661.65*	85.12	1.83E-007	2.58E-008
PB-212	0.709	87.20	6.30		
		89.80	1.75		
		238.63*	44.60	2.10E-007	3.29E-008
		300.09	3.41		
BI-214	0.655	609.31*	46.30	1.78E-007	3.97E-008
		934.06	3.21		
		1764.49	15.80		
PB-214	0.688	87.20	3.70		
		89.80	1.03		
		241.98	7.49		
		295.21*	19.20	2.44E-007	6.03E-008
		351.92*	37.20	1.83E-007	3.85E-008

* = Energy line found in the spectrum.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 sigma

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 ***** INTERFERENCE CORRECTED REPORT *****
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Nuclide Name	Nuclide Id Confidence	Wt mean Activity (uCi/gram)	Wt mean Activity Uncertainty
K-40	0.992	1.27E-006	1.96E-007
CO-60	0.977	1.12E-006	4.23E-008
CS-137	0.988	1.83E-007	2.58E-008
X BI-211	0.575		
PB-212	0.709	2.10E-007	3.29E-008
BI-214	0.655	1.78E-007	3.97E-008
PB-214	0.688	2.01E-007	3.24E-008
Total Activity		3.16E-006	

? = 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 1.000 sigma

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

Peak Locate Performed on: 4/18/09 3:30:15 PM
 Peak Locate From Channel: 100
 Peak Locate To Channel: 4096

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
4	510.34	1.32E-002	20.77
5	582.75	8.25E-003	30.29
8	968.70	4.50E-003	40.16

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

Errors quoted at 1.000 sigma