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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:\GENIE2K\CAMFILES\UNC 2017\IMC Samples\IMC-1451\W6H-IMC-145

Report Generated On : 3/21/2017 3:24:54 PM

Sample Title : W6H-IMC-1451-S-P-5
Sample Description : UNC 2017
Sample Identification : W6H-IMC-1451-S-P
Sample Type :
Sample Geometry : Cylinder

Peak Locate Threshold : 3.00
Peak Locate Range (in channels) : 40 - 8192
Peak Area Range (in channels) : 40 - 8192
Identification Energy Tolerance : 1.000 keV

Sample Size : 3.055E+002 GRAMS

Sample Taken On : 2/28/2017 12:00:00 PM
Acquisition Started : 3/21/2017 2:42:17 PM

Live Time : 1800.0 seconds
Real Time : 1800.6 seconds

Dead Time : 0.04 %

Energy Calibration Used Done On : 3/9/2017
Efficiency Calibration Used Done On : 3/21/2017
Efficiency ID : H-IMC-1451-S-P-5

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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: 8381
Sample Title: W6H-IMC-1451-S-P-5
Peak Analysis Performed on: 3/21/2017 3:24:51 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
M	1	297-	312	299.98	74.99	0.54	9.29E+001	21.88	3.85E+001
m	2	297-	312	308.67	77.16	0.55	5.31E+001	17.40	3.85E+001
F	3	2425-	2437	2431.25	608.12	1.03	2.93E+001	13.28	1.95E+001
F	4	5818-	5842	5830.92	1458.53	2.51	1.72E+002	26.20	2.08E+001

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

Errors quoted at 1.960 sigma

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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: W6H-IMC-1451-S-P-5
Nuclide Library Used: C:\GENIE2K\CAMFILES\UNC 2017 8381.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 : 1.000 keV
Nuclide confidence index threshold = 0.10
Errors quoted at 1.960 sigma

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***** 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 *****
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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: 3/21/2017 3:24:51 PM
Peak Locate From Channel: 40
Peak Locate To Channel: 8192

	Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty	Peak Type	Tol. Nuclide
M	1	74.99	5.1616E-002	23.55		
m	2	77.16	2.9481E-002	32.78		
F	3	608.12	1.6267E-002	45.35		
F	4	1458.53	9.5318E-002	15.27		

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

Errors quoted at 1.960 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: 8381
Sample Geometry: Cylinder
Sample Title: W6H-IMC-1451-S-P-5
Nuclide Library Used: C:\GENIE2K\CAMFILES\UNC 2017 8381.NLB

Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GRAM)	Nuclide MDA (pCi/GRAM)	Activity (pCi/GRAM)	Dec. Leve (pCi/GRAM
K-40	1460.82	10.66	3.242E+000	3.24E+000	9.355E+000	1.560E+00
CO-60	1173.23	99.85	1.332E-001	1.33E-001	-6.919E-002	6.113E-00
	1332.49	99.98	1.403E-001		-9.637E-002	6.412E-00
CS-137	661.66	85.10	1.194E-001	1.19E-001	8.167E-002	5.570E-00
BI-212	727.33	6.67	1.526E+000	1.53E+000	-7.586E-001	7.075E-00
	785.37	1.10	1.049E+001		-1.644E+000	4.886E+00
	1620.50	1.47	8.977E+000		-1.831E+000	4.012E+00
PB-212	238.63	43.60	6.078E-002	6.08E-002	3.486E-002	2.717E-00
	300.09	3.30	1.275E+000		-2.564E-001	5.862E-00
BI-214	609.32	45.49	2.568E-001	2.57E-001	2.364E-001	1.214E-00
	665.45	1.53	6.663E+000		1.035E+000	3.107E+00
	768.36	4.89	2.353E+000		-2.466E-001	1.097E+00
	806.18	1.26	8.990E+000		5.085E+000	4.176E+00
	934.06	3.11	4.187E+000		1.655E+000	1.947E+00
	1120.29	14.92	1.067E+000		3.799E-001	4.984E-00
	1155.21	1.63	1.005E+001		-2.370E+000	4.698E+00
	1238.12	5.83	2.950E+000		4.748E-001	1.378E+00
	1280.98	1.43	1.058E+001		-2.050E+000	4.886E+00
	1377.67	3.99	3.267E+000		-2.854E-001	1.479E+00
	1401.52	1.33	1.140E+001		3.932E+000	5.231E+00
	1407.99	2.39	6.144E+000		-6.126E-001	2.810E+00
	1509.21	2.13	5.154E+000		-7.577E-001	2.266E+00
	1729.59	2.88	4.554E+000		-3.980E-001	2.021E+00
	1764.49	15.30	1.022E+000		6.686E-001	4.618E-00
	1847.43	2.03	6.385E+000		2.056E+000	2.807E+00
PB-214	53.23	1.08	3.602E+000	1.88E-001	-1.613E+000	1.633E+00
	241.99	7.25	3.331E-001		-4.944E-001	1.469E-00
	295.22	18.42	2.345E-001		5.872E-003	1.082E-00
	351.93	35.60	1.877E-001		1.158E-001	8.835E-00
	785.96	1.06	1.099E+001		5.702E-001	5.123E+00
U-234	53.20	0.12	3.151E+001	3.15E+001	-1.411E+001	1.429E+00
	120.90	0.04	6.651E+001		1.448E+001	3.039E+00
U-235	105.60	1.31	1.977E+000	2.55E-002	8.771E-001	9.120E-00
	109.19	1.66	1.571E+000		6.235E-001	7.253E-00
	143.76	10.96	2.461E-001		2.043E-001	1.135E-00
	163.36	5.08	3.123E-001		-1.603E-002	1.344E-00
	185.71	57.00	2.554E-002		2.043E-003	1.069E-00
	202.12	1.08	6.281E-001		-1.600E-001	1.986E-00
	205.32	5.02	1.366E-001		1.856E-002	4.317E-00
U-238	63.29	3.70	1.149E+000	8.81E-001	5.624E-001	5.367E-00
	92.60	4.23	8.806E-001		4.830E-001	4.159E-00
	766.42	0.32	3.565E+001		1.161E+001	1.662E+00

Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GRAM)	Nuclide MDA (pCi/GRAM)	Activity (pCi/GRAM)	Dec. Leve (pCi/GRAM
U-238	1001.03	0.84	1.472E+001	8.81E-001	-8.295E+000	6.791E+00

+ = 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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**** L I N E A C T I V I T Y C O N S I S T E N C Y E V A L U A T O R ***
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Analysis using Key Line Activities
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Filename: C:\GENIE2K\CAMFILES\UNC 2017\IMC Samples\IMC-1451\W6H-IMC-145

Equation used to calculate plot: ln(Ratio) = A + B*ln(Energy)
where: Ratio = Activity/KL Activity

Notes:
'^' Denotes Key Line energy
* All uncertainties quoted at 1.96 sigma