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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: HPGE

Report Generated On : 2/14/2019 10:12:13 AM

Sample Title : Fe foil E @ 3e14 fluence
Sample Description : In Rx @ 11:35:52 for 13.5 minute
Sample Identification :
Sample Type :
Sample Geometry :

Peak Locate Threshold : 3.00
Peak Locate Range (in channels) : 1 - 65535
Peak Area Range (in channels) : 1 - 65535
Identification Energy Tolerance : 0.500 keV

Sample Size : 1.000E+000

Sample Taken On :
Acquisition Started : 2/14/2019 8:37:37 AM

Live Time : 900.0 seconds
Real Time : 1051.1 seconds

Dead Time : 14.37 %

Energy Calibration Used Done On : 2/14/2019
Efficiency Calibration Used Done On : 7/27/2018
Efficiency ID : Disk Source

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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: HPGE
Sample Title: Fe foil E @ 3e14 fluence
Peak Analysis Performed on: 2/14/2019 10:12:13 AM
Peak Analysis From Channel: 1
Peak Analysis To Channel: 4096

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
	1	169-	177	173.85	134.25	0.91	1.12E+003	319.98	4.74E+004
	2	186-	195	191.06	142.70	1.15	4.23E+003	347.66	5.16E+004
	3	287-	296	292.14	192.36	1.10	7.58E+003	351.00	5.11E+004
	4	332-	338	334.89	213.36	0.49	-4.94E+002	262.44	3.66E+004
	5	547-	556	552.31	320.18	0.94	1.25E+003	319.66	4.46E+004
	6	734-	742	739.07	411.92	1.20	1.14E+003	280.79	3.63E+004
	7	872-	882	877.32	479.84	1.00	1.26E+003	329.32	4.49E+004
	8	897-	902	899.76	490.87	0.50	2.53E+002	210.68	2.49E+004
	9	935-	946	940.82	511.04	2.86	7.45E+004	462.61	5.57E+004
M	10	1033-	1052	1038.81	559.18	1.40	2.01E+004	232.87	4.61E+004
m	11	1033-	1052	1048.87	564.13	1.40	3.71E+003	169.36	4.21E+004
	12	1177-	1186	1182.96	630.00	2.07	1.41E+003	374.73	6.14E+004
	13	1215-	1226	1220.88	648.63	3.09	4.21E+003	419.84	6.83E+004
	14	1235-	1243	1238.07	657.08	1.47	1.59E+003	293.22	3.94E+004
	15	1293-	1302	1296.61	685.84	1.31	1.24E+003	276.03	3.31E+004
	16	1500-	1512	1506.26	788.84	1.46	4.32E+003	234.25	1.92E+004
	17	1592-	1604	1598.85	834.33	1.74	6.15E+003	243.94	2.03E+004
	18	1618-	1630	1624.42	846.89	1.62	1.41E+006	1220.49	3.00E+004
	19	2007-	2019	2013.77	1038.18	1.14	2.58E+002	182.05	1.25E+004
	20	2115-	2128	2121.74	1091.23	1.69	3.56E+003	196.89	1.27E+004
	21	2131-	2144	2138.29	1099.36	1.70	4.64E+004	286.18	1.29E+004
	22	2373-	2382	2376.19	1216.24	1.55	8.07E+002	135.31	7.72E+003
	23	2416-	2425	2420.98	1238.24	1.49	6.46E+002	133.87	7.65E+003
M	24	2522-	2553	2529.75	1291.69	1.82	3.15E+004	198.54	9.21E+003
m	25	2522-	2553	2546.41	1299.87	1.83	4.20E+003	98.09	9.11E+003
	26	2608-	2617	2612.79	1332.48	1.37	2.74E+002	130.21	7.37E+003
	27	2634-	2647	2640.99	1346.34	2.15	5.77E+002	173.74	1.07E+004
	28	2680-	2693	2687.10	1368.99	2.56	8.10E+002	172.83	1.05E+004
	29	2887-	2897	2894.15	1470.72	0.61	5.34E+001	147.53	9.09E+003
	30	2931-	2937	2933.30	1489.96	0.97	2.94E+001	105.81	5.89E+003
	31	2949-	2960	2956.60	1501.40	0.70	4.01E+002	161.92	1.03E+004
	32	3154-	3169	3161.74	1602.19	2.92	4.93E+003	210.65	1.31E+004
	33	3222-	3234	3230.06	1635.76	2.40	7.19E+002	159.78	9.41E+003
	34	3340-	3355	3347.65	1693.54	1.82	1.15E+003	168.05	9.00E+003
	35	3387-	3393	3389.97	1714.33	0.71	-1.58E+001	81.97	3.56E+003
	36	3578-	3594	3586.52	1810.90	2.07	1.67E+005	444.58	9.88E+003
	37	3793-	3800	3796.63	1914.13	0.93	3.03E+001	83.56	3.44E+003
	38	3837-	3851	3845.63	1938.21	2.53	5.29E+002	135.15	6.15E+003
	39	3988-	3998	3994.57	2011.39	2.30	1.74E+003	77.95	1.31E+003

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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***** AREA CORRECTION REPORT *****
***** REFERENCE PEAK/BKG. SUBTRACT *****
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Detector Name: HPGE
Sample Title: Fe foil E @ 3e14 fluence
Peak Analysis Performed on: 2/14/2019 10:12:13 AM

Ref. Peak Energy: 0.00; Reference Date:
Peak Ratio: 0.00; Uncertainty: 0.00
Background File : C:\GENIE2K\CAMFILES\1 hr background 2018.CNF

Corrected area is: Original * Peak Ratio - Background

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncert.	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	1	134.25	1.12E+003	319.98			1.12E+003	3.20E+002
	2	142.70	4.23E+003	347.66			4.23E+003	3.48E+002
	3	192.36	7.58E+003	351.00			7.58E+003	3.51E+002
	4	213.36	-4.94E+002	262.44			-4.94E+002	2.62E+002
	5	320.18	1.25E+003	319.66			1.25E+003	3.20E+002
	6	411.92	1.14E+003	280.79			1.14E+003	2.81E+002
	7	479.84	1.26E+003	329.32			1.26E+003	3.29E+002
	8	490.87	2.53E+002	210.68			2.53E+002	2.11E+002
	9	511.04	7.45E+004	462.61			7.45E+004	4.63E+002
M	10	559.18	2.01E+004	232.87			2.01E+004	2.33E+002
m	11	564.13	3.71E+003	169.36			3.71E+003	1.69E+002
	12	630.00	1.41E+003	374.73			1.41E+003	3.75E+002
	13	648.63	4.21E+003	419.84			4.21E+003	4.20E+002
	14	657.08	1.59E+003	293.22			1.59E+003	2.93E+002
	15	685.84	1.24E+003	276.03			1.24E+003	2.76E+002
	16	788.84	4.32E+003	234.25			4.32E+003	2.34E+002
	17	834.33	6.15E+003	243.94			6.15E+003	2.44E+002
	18	846.89	1.41E+006	1220.49			1.41E+006	1.22E+003
	19	1038.18	2.58E+002	182.05			2.58E+002	1.82E+002
	20	1091.23	3.56E+003	196.89			3.56E+003	1.97E+002
	21	1099.36	4.64E+004	286.18			4.64E+004	2.86E+002
	22	1216.24	8.07E+002	135.31			8.07E+002	1.35E+002
	23	1238.24	6.46E+002	133.87			6.46E+002	1.34E+002
M	24	1291.69	3.15E+004	198.54			3.15E+004	1.99E+002
m	25	1299.87	4.20E+003	98.09			4.20E+003	9.81E+001
	26	1332.48	2.74E+002	130.21			2.74E+002	1.30E+002
	27	1346.34	5.77E+002	173.74			5.77E+002	1.74E+002
	28	1368.99	8.10E+002	172.83			8.10E+002	1.73E+002
	29	1470.72	5.34E+001	147.53			5.34E+001	1.48E+002
	30	1489.96	2.94E+001	105.81			2.94E+001	1.06E+002
	31	1501.40	4.01E+002	161.92			4.01E+002	1.62E+002
	32	1602.19	4.93E+003	210.65			4.93E+003	2.11E+002
	33	1635.76	7.19E+002	159.78			7.19E+002	1.60E+002
	34	1693.54	1.15E+003	168.05			1.15E+003	1.68E+002
	35	1714.33	-1.58E+001	81.97			-1.58E+001	8.20E+001
	36	1810.90	1.67E+005	444.58			1.67E+005	4.45E+002

Peak No.	Energy (keV)	Original Area	Orig. Area Uncert.	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
37	1914.13	3.03E+001	83.56			3.03E+001	8.36E+001
38	1938.21	5.29E+002	135.15			5.29E+002	1.35E+002
39	2011.39	1.74E+003	77.95			1.74E+003	7.79E+001

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 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: Fe foil E @ 3e14 fluence
Nuclide Library Used: C:\GENIE2K\CAMFILES\STDLIB-key lines.NLB

..... IDENTIFIED NUCLIDES .....

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/)	Activity Uncertainty
Na-24	0.871	1368.53*	100.00	9.26730E-004	1.98594E-004
Cr-51	0.994	320.08*	9.83	3.02555E-003	7.79707E-004
Ti-51	0.980	320.00*	95.00	7.47422E-004	1.92322E-004
Mn-56	0.984	846.75*	98.90	9.81127E-001	1.78286E-002
		1810.69*	27.20	9.22475E-001	3.82027E-002
Fe-59	0.993	1099.25*	56.50	7.34145E-002	1.92210E-003
		1291.59*	43.20	7.81035E-002	2.43740E-003
Cu-64	0.883	1345.90*	0.49	1.32605E-001	4.14462E-002
Ga-72	0.867	629.97*	26.13	2.56666E-003	6.84663E-004
		834.13*	95.45	4.21839E-003	1.83829E-004
		894.33	10.14		
As-76	0.996	559.10*	44.70	1.87077E-002	4.51959E-004
Sb-122	0.992	564.24*	70.68	2.20505E-003	1.11554E-004
W-187	0.972	479.53*	23.40	1.90644E-003	5.07567E-004
		685.81*	29.20	2.20802E-003	5.04932E-004
Au-198	0.990	411.80*	96.00	3.59320E-004	8.90722E-005

* = Energy line found in the spectrum.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 0.500 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 1.000 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 (uCi/)	Wt mean Activity Uncertainty
	Na-24	0.871	9.267299E-004	1.985945E-004
?	Cr-51	0.994	3.025554E-003	7.797074E-004
?	Ti-51	0.980	7.474223E-004	1.923218E-004
	Mn-56	0.984	9.706376E-001	1.615590E-002
	Fe-59	0.993	7.521237E-002	1.509275E-003
	Cu-64	0.883	1.326053E-001	4.144622E-002
	Ga-72	0.867	4.107321E-003	1.775405E-004
	As-76	0.996	1.870768E-002	4.519595E-004
	Sb-122	0.992	2.205049E-003	1.115537E-004
	W-187	0.972	2.058017E-003	3.579688E-004
	Au-198	0.990	3.593201E-004	8.907221E-005

? = 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

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

Peak Locate Performed on: 2/14/2019 10:12:13 AM
Peak Locate From Channel: 1
Peak Locate To Channel: 4096

	Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty	Peak Type	Tol. Nuclide
	1	134.25	1.2458E+000	28.54		
	2	142.70	4.7046E+000	8.21		
	3	192.36	8.4169E+000	4.63		
	4	213.36	-5.4890E-001	-53.12		
	8	490.87	2.8116E-001	83.26	Tol.	Cd-115
	9	511.04	8.2734E+001	0.62	Tol.	Tl-208
	13	648.63	4.6824E+000	9.96		
	14	657.08	1.7717E+000	18.39		
	16	788.84	4.8023E+000	5.42	D-Esc.	
	19	1038.18	2.8709E-001	70.46		
	20	1091.23	3.9604E+000	5.52	Tol.	Nb-96
	22	1216.24	8.9630E-001	16.77		
	23	1238.24	7.1742E-001	20.73		
m	25	1299.87	4.6638E+000	2.34	S-Esc.	
	26	1332.48	3.0420E-001	47.56	Tol.	Co-60
	29	1470.72	5.9359E-002	276.16		
	30	1489.96	3.2676E-002	359.80		
	31	1501.40	4.4600E-001	40.34		
	32	1602.19	5.4771E+000	4.27		
	33	1635.76	7.9937E-001	22.21		
	34	1693.54	1.2762E+000	14.63	Sum	
	35	1714.33	-1.7550E-002	-518.95		
	37	1914.13	3.3717E-002	275.37		
	38	1938.21	5.8726E-001	25.57		
	39	2011.39	1.9381E+000	4.47		

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

Errors quoted at 1.000 sigma