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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_Madu\ALMERA_2019\Sample_#4-2019_Shrimp.C

Report Generated On : 27/09/2019 14:40:37

Sample Title : Almera
Sample Description : Sample #4 Shrimp as is
Sample Identification : Almera
Sample Type :
Sample Geometry :

Peak Locate Threshold : 3.00
Peak Locate Range (in channels) : 1 - 65535
Peak Area Range (in channels) : 1 - 8192
Identification Energy Tolerance : 1.500 keV

Sample Size : 1.000E+000 g

Sample Taken On :
Acquisition Started : 21/06/2019 10:22:28

Live Time : 148194.4 seconds
Real Time : 148325.5 seconds

Dead Time : 0.09 %

Energy Calibration Used Done On : 04/03/2013
Efficiency Calibration Used Done On : 08/11/2010
Efficiency ID : F100AI3

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***** PEAK ANALYSIS REPORT *****
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Detector Name: DET01
Sample Title: Almera
Peak Analysis Performed on: 27/09/2019 14:40:37
Peak Analysis From Channel: 1
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	105-	112	108.25	21.26	0.64	4.69E+002	46.51	6.44E+002
	2	232-	244	236.35	46.56	0.68	3.39E+002	63.92	1.42E+003
	3	262-	279	271.00	53.41	0.70	2.07E+002	82.31	2.02E+003
	4	289-	297	293.54	57.86	0.27	3.61E-001	48.14	1.09E+003
	5	314-	329	320.37	63.16	0.84	4.90E+002	80.82	2.00E+003
M	6	374-	398	379.47	74.83	0.85	8.27E+002	45.95	1.68E+003
m	7	374-	398	390.80	77.07	0.86	1.31E+003	51.96	1.81E+003
M	8	434-	479	441.80	87.14	1.24	4.61E+002	45.25	2.35E+003
m	9	434-	479	455.58	89.86	1.25	4.74E+002	44.56	2.55E+003
m	10	434-	479	470.36	92.78	1.25	1.66E+003	60.98	2.48E+003
	11	567-	575	570.91	112.64	0.47	-1.91E+001	48.39	1.10E+003
M	12	626-	660	631.66	124.64	0.88	7.74E+001	31.67	1.50E+003
m	13	626-	660	653.91	129.04	0.88	2.48E+002	39.11	1.58E+003
	14	821-	835	826.44	163.11	0.55	9.30E+001	64.88	1.43E+003
	15	931-	948	940.85	185.71	1.09	8.15E+002	78.67	1.65E+003
	16	1049-	1069	1059.90	209.23	0.95	4.51E+002	81.90	1.72E+003
	17	1198-	1215	1208.37	238.55	1.03	1.71E+003	78.83	1.39E+003
	18	1360-	1376	1367.95	270.07	1.16	2.76E+002	58.18	9.93E+002
	19	1397-	1417	1405.99	277.58	0.67	1.63E+002	66.10	1.16E+003
M	20	1488-	1526	1494.57	295.08	0.84	1.76E+002	86.49	7.01E+002
m	21	1488-	1526	1520.27	300.15	0.84	5.28E+001	26.56	7.50E+002
	22	1651-	1668	1660.50	327.85	0.48	9.20E+001	55.28	9.11E+002
	23	1703-	1723	1712.48	338.12	1.14	6.50E+002	62.65	8.99E+002
	24	1769-	1793	1781.42	351.73	0.82	6.49E+002	65.61	8.85E+002
	25	2330-	2352	2344.02	462.86	0.95	1.19E+002	52.19	6.72E+002
	26	2572-	2599	2586.35	510.72	1.98	2.11E+003	78.77	9.10E+002
	27	2941-	2965	2952.30	583.00	1.16	5.46E+002	53.71	5.67E+002
	28	3073-	3097	3084.76	609.16	1.53	4.36E+002	51.11	5.26E+002
	29	3671-	3691	3682.70	727.26	0.99	1.59E+002	37.75	3.47E+002
	30	4222-	4243	4232.66	835.89	0.70	1.19E+002	32.15	2.43E+002
	31	4602-	4630	4614.09	911.23	1.19	6.91E+002	49.05	3.70E+002
M	32	4874-	4919	4885.05	964.75	1.46	1.20E+002	17.75	3.03E+002
m	33	4874-	4919	4906.99	969.08	1.46	3.22E+002	24.46	3.39E+002
	34	5667-	5680	5673.87	1120.55	0.53	2.14E+001	24.70	2.13E+002
	35	7382-	7419	7401.04	1461.69	1.95	3.62E+003	70.03	2.23E+002
	36	8059-	8078	8069.10	1593.64	0.31	8.80E+001	19.37	8.20E+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: Almera
Nuclide Library Used: C:\GENIE2K\CAMFILES\ALM18.NLB

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

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (Bq /g)	Activity Uncertainty
NA-22	0.555	511.00*	179.79	6.36673E-002	2.31729E-002
		1274.54	99.94		
K-40	0.939	1460.75*	10.67	3.13092E+001	1.56375E+000
MN-54	0.923	834.83*	99.97	7.54742E-002	2.03790E-002
PB-210	1.000	46.54*	4.06	2.64347E-001	2.14674E-001

* = Energy line found in the spectrum.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.500 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 (Bq /g)	Wt mean Activity Uncertainty
NA-22	0.555	6.366734E-002	2.317286E-002
K-40	0.939	3.130917E+001	1.563754E+000
MN-54	0.923	7.547415E-002	2.037899E-002
PB-210	1.000	2.643472E-001	2.146737E-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 1.000 sigma

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

Peak Locate Performed on: 27/09/2019 14:40:37
Peak Locate From Channel: 1
Peak Locate To Channel: 8192

	Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty	Peak Type	Tol. Nuclide
	1	21.26	-7.2228E-004	-57.38		
	3	53.41	1.1767E-003	51.55	Tol.	BA-133
	4	57.86	2.4382E-006	13322.0		
	5	63.16	-3.2212E-004	-181.02		
M	6	74.83	5.5816E-003	5.55		
m	7	77.07	7.7667E-003	5.59		
M	8	87.14	3.1123E-003	9.81	Tol.	CS-136
m	9	89.86	3.1965E-003	9.41		
m	10	92.78	2.9912E-003	19.86	Sum	
	11	112.64	-1.2888E-004	-253.33		
M	12	124.64	5.2244E-004	40.90		
m	13	129.04	1.6743E-003	15.76		
	14	163.11	1.0843E-004	477.75	Tol.	CS-136
	15	185.71	7.5306E-004	87.81		
	16	209.23	3.0417E-003	18.17		
	17	238.55	9.5565E-003	6.36		
	18	270.07	1.8631E-003	21.07		
	19	277.58	-9.4910E-004	-58.04	Tol.	BA-133
M	20	295.08	1.1856E-003	49.23		
m	21	300.15	3.5647E-004	50.28		
	22	327.85	6.2101E-004	60.06		
	23	338.12	4.3829E-003	9.65		
	24	351.73	3.7464E-003	12.91		
	25	462.86	8.0130E-004	43.95		
	27	583.00	3.0290E-003	13.25		
	28	609.16	2.2857E-003	17.18		
	29	727.26	1.0719E-003	23.77		
	31	911.23	4.3477E-003	8.45		
M	32	964.75	8.0852E-004	14.82		
m	33	969.08	1.9616E-003	10.48		
	34	1120.55	8.9045E-005	227.11		
	36	1593.64	3.7967E-004	41.66		

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:
Sample Title: Almera
Nuclide Library Used: C:\GENIE2K\CAMFILES\ALM18.NLB

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (Bq /g)	Nuclide MDA (Bq /g)	Activity (Bq /g)
+	NA-22	511.00*	179.79	7.5699E-002	7.57E-002	6.3667E-00
		1274.54	99.94	1.0927E-001		-9.6983E-00
+	K-40	1460.75*	10.67	1.5462E+000	1.55E+000	3.1309E+00
	CO-58	810.78	99.45	8.6443E-002	8.64E-002	-6.4464E-00
>		1674.73	0.52	0.0000E+000		0.0000E+00
	CO-60	1173.23	99.85	1.1517E-001	1.02E-001	1.8676E-00
		1332.50	99.98	1.0193E-001		-7.5898E-00
	I-131	80.18	2.62	1.6758E+000	8.68E-002	-9.4033E-00
		284.30	6.06	1.1207E+000		2.4926E-00
		364.48	81.20	8.6811E-002		-1.6467E-00
		636.97	7.27	1.1399E+000		-2.0343E+00
		722.89	1.80	5.2810E+000		1.2557E+00
	BA-133	53.16	2.20	1.4288E+000	1.12E-001	1.2636E+00
		79.62	2.62	1.6367E+000		-9.4809E-00
		81.00	34.10	1.1200E-001		-1.5908E-00
		160.61	0.64	8.3855E+000		4.6794E+00
		223.23	0.45	1.3513E+001		1.2491E+00
		276.40	7.16	8.9786E-001		1.1944E+00
		302.85	18.33	3.4353E-001		-1.0376E-00
		356.02	62.05	1.1183E-001		1.0213E-00
		383.85	8.94	7.1867E-001		-5.6600E-00
	CS-134	475.35	1.46	4.8306E+000	9.21E-002	-4.2025E-00
		563.23	8.38	8.9716E-001		3.6074E-00
		569.32	15.43	4.8606E-001		3.9938E-00
		604.70	97.60	9.2096E-002		-1.5296E-00
		795.84	85.40	1.0213E-001		-8.8125E-00
		801.93	8.73	9.9997E-001		-1.3370E+00
		1038.57	1.00	1.0240E+001		7.6349E+00
		1167.94	1.80	6.2144E+000		-6.4036E+00
		1365.15	3.04	3.1579E+000		2.2815E+00
	CS-136	66.88	4.79	7.3462E-001	9.01E-002	1.1228E-00
		86.36	5.18	8.6039E-001		2.7978E-00
		153.25	5.75	9.6721E-001		-3.9957E-00
		163.92	3.39	1.6605E+000		1.2200E+00
		176.60	10.00	5.9319E-001		4.7406E-00
		273.65	11.10	6.2772E-001		7.8778E-00
		340.55	42.20	1.8691E-001		4.7491E-00
		818.51	99.70	9.0134E-002		-6.6608E-00
		1048.07	80.00	1.3162E-001		-4.9499E-00
		1235.36	20.00	6.6973E-001		1.1818E+00
	CS-137	661.66	85.21	9.5752E-002	9.58E-002	-3.0174E-00
+	PB-210	46.54*	4.06	7.0612E-001	7.06E-001	2.6435E-00

Nuclide Name	Energy (keV)	Yield (%)	Line MDA (Bq /g)	Nuclide MDA (Bq /g)	Activity (Bq /g)
AM-241	26.34	2.31	2.6160E+000	8.82E-002	-1.1891E+00
	59.54	35.92	8.8199E-002		2.3410E-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