



NEW MEXICO
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Station A Exhaust Air Monitoring at the Waste Isolation Pilot Plant/ New Mexico conducted by NMED/DOE OB, January – June 2009

The New Mexico Environment Department (NMED) DOE Oversight Bureau has compiled and assessed data collected from Station A for January through June 2009. The accompanying data report shows results for selected analytes as determined by ALS / Paragon Analytical Services, with graphs indicating these results in $\text{nBq/m}^3 \pm 2\text{TU}$ (Total Propagated Uncertainty) and a Table of Analytical Laboratory Results.

For Cs-137, Sr-90, U-235 and U-238, there were no results above the sample MDC. In April, Pu-238 showed a result above the sample MDC, but below the requested MDC. In January and May, U-234 showed results above the sample MDC, but below the requested MDC. April's results for Am 241 and Pu-239 / 240 were above both the sample MDC and the requested MDC.

April's Am-241 result of $1736 \pm 836 \text{ nBq/m}^3$ was above the pre-operational Baseline of $25 \pm 177 \text{ nBq/m}^3$ (n=18) as determined by the Environmental Evaluation Group (EEG-90). April's Pu-239 / 240 result of $7731 \pm 2051 \text{ nBq/m}^3$ was above the pre-operational Baseline of $25 \pm 200 \text{ nBq/m}^3$ (n=20) as determined by the Environmental Evaluation Group (EEG-90).

Staff is currently awaiting results for April from both WRES and CEMRC for comparison.

Response

Questions and or comments may be addressed to Thomas Kesterson by phone at (575)-887-6851, by e-mail at thomasl.kesterson@state.nm.us, or to the address in the above letterhead.

- Enclosures:
- (1) Graph 1– Results for Am-241 from Station A, January – June, 2009.
 - (2) Graph 2 – Results for Cs-137 from Station A, January – June, 2009.
 - (3) Graph 3– Results for Pu-238 from Station A, January – June, 2009.
 - (4) Graph 4 – Results for Pu-239/240 from Station A, January – June, 2009.
 - (5) Graph 5 – Results for Sr-90 from Station A, January – June, 2009.
 - (6) Graph 6 – Results for U-234 from Station A, January – June, 2009.
 - (7) Graph 7 – Results for U-235 from Station A, January – June, 2009.
 - (8) Graph 8 – Results for U-238 from Station A, January – June, 2009.
 - (9) Table 1 – Laboratory Results for Selected Analytes from Station A, January – June, 2009.
 - (10) Definitions

Cc: Dan Ferguson, Site Regulatory Specialist, DOE / CBFO
Thomas Skibitski, Bureau Chief, NMED DOE OB

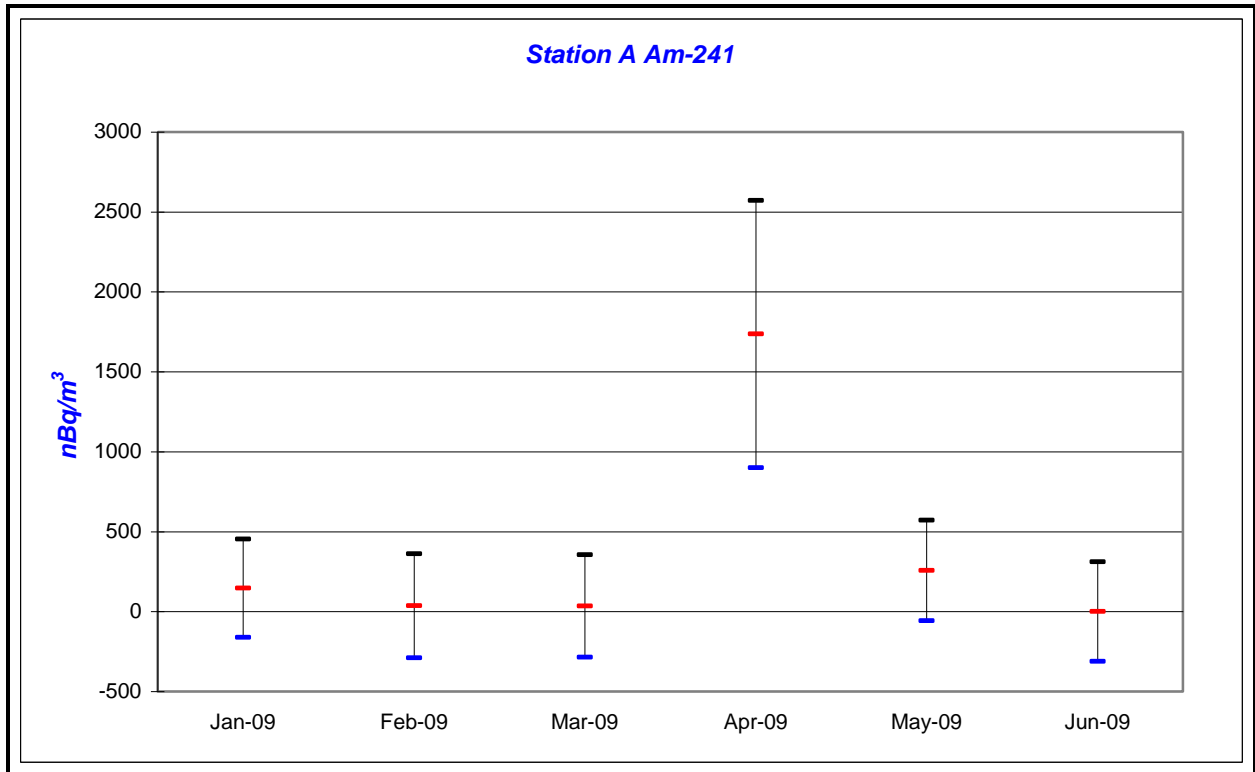
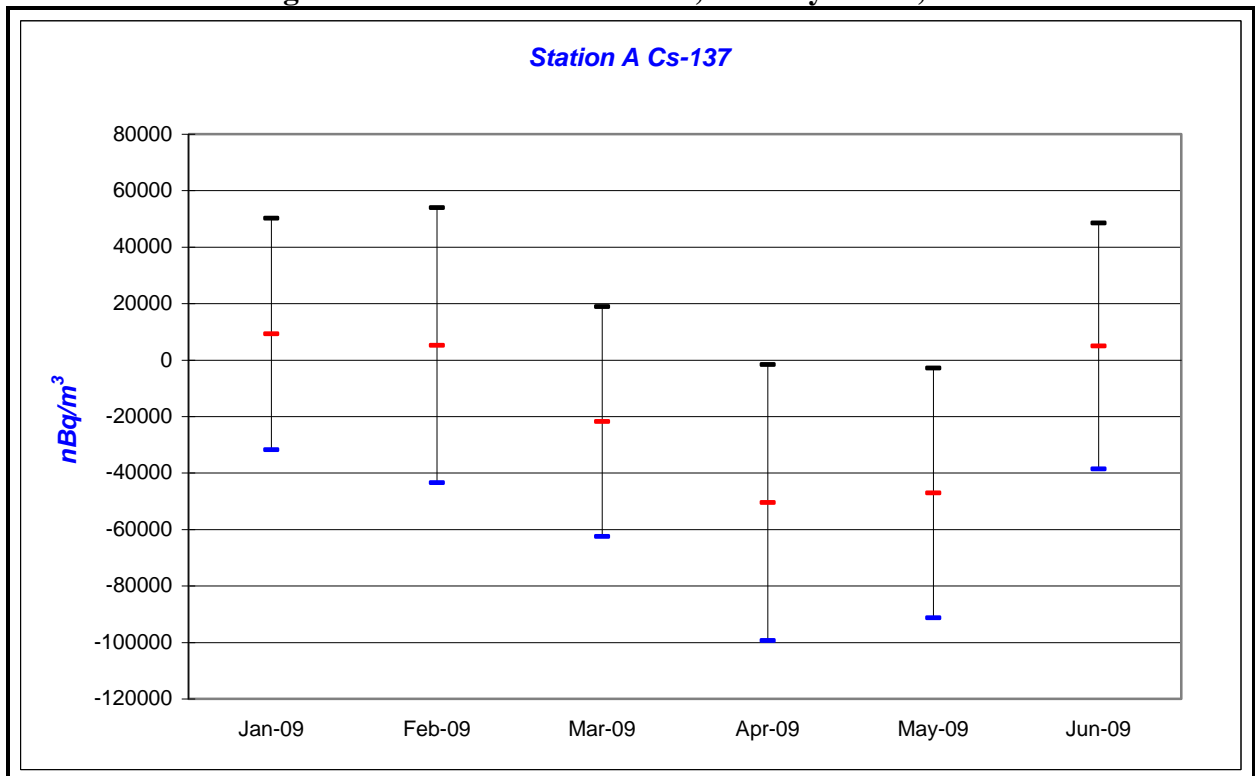


Figure 1: Am-241 from Station A, January - June, 2009.

Figure 2: Cs-137 from Station A, January - June, 2009.



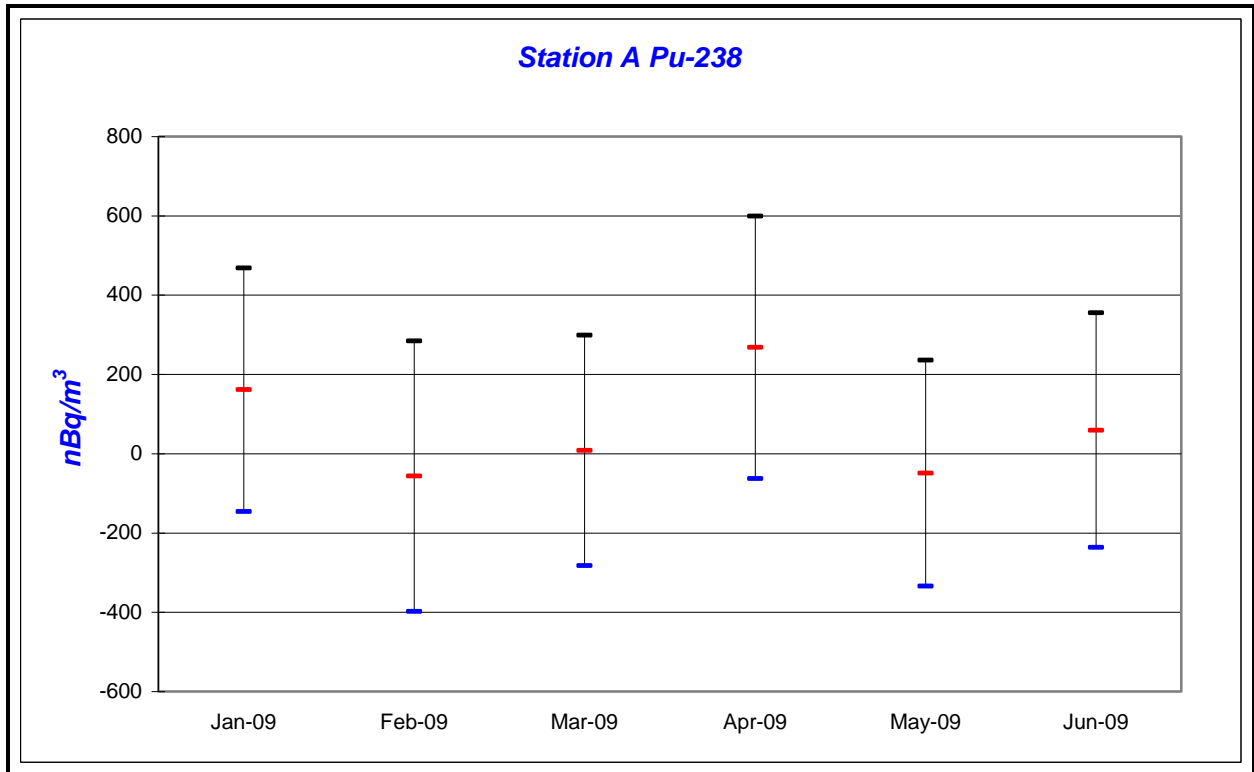
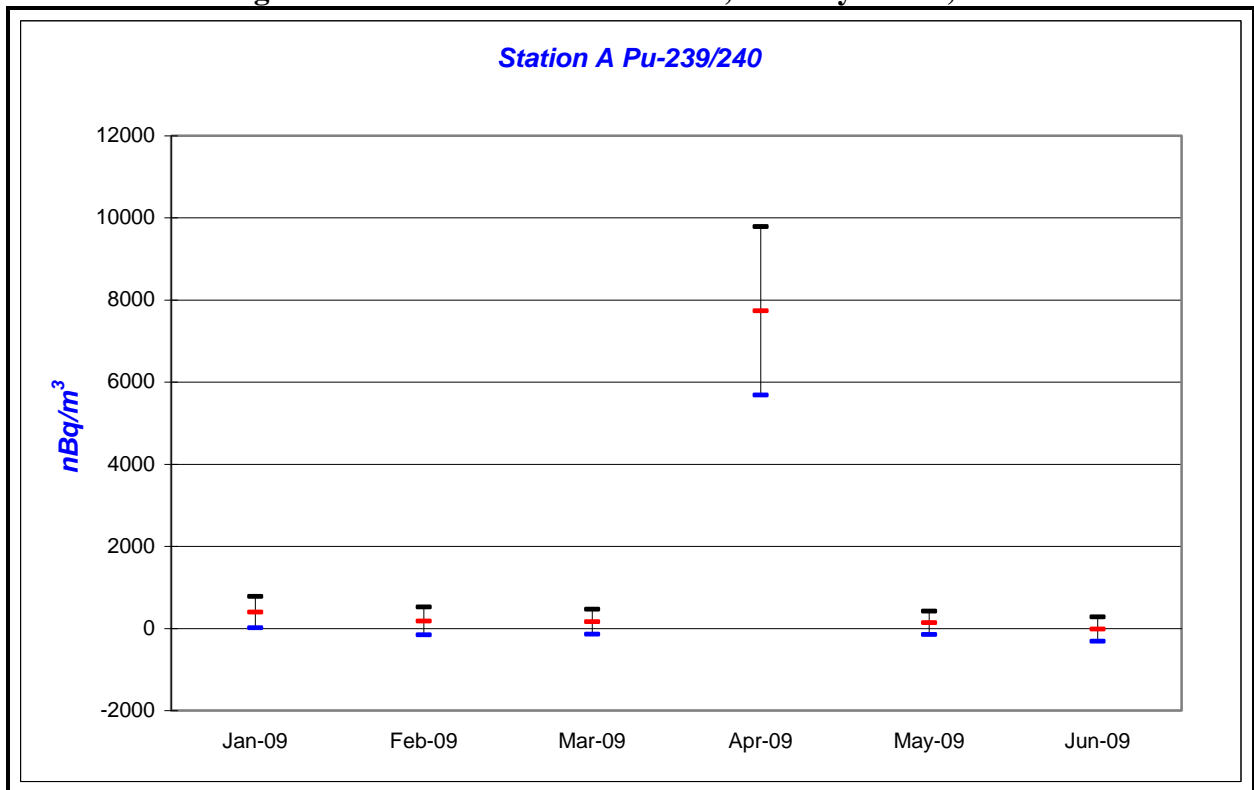


Figure 3: Pu-238 from Station A, January - June, 2009.

Figure 4: Pu-239/240 from Station A, January - June, 2009.



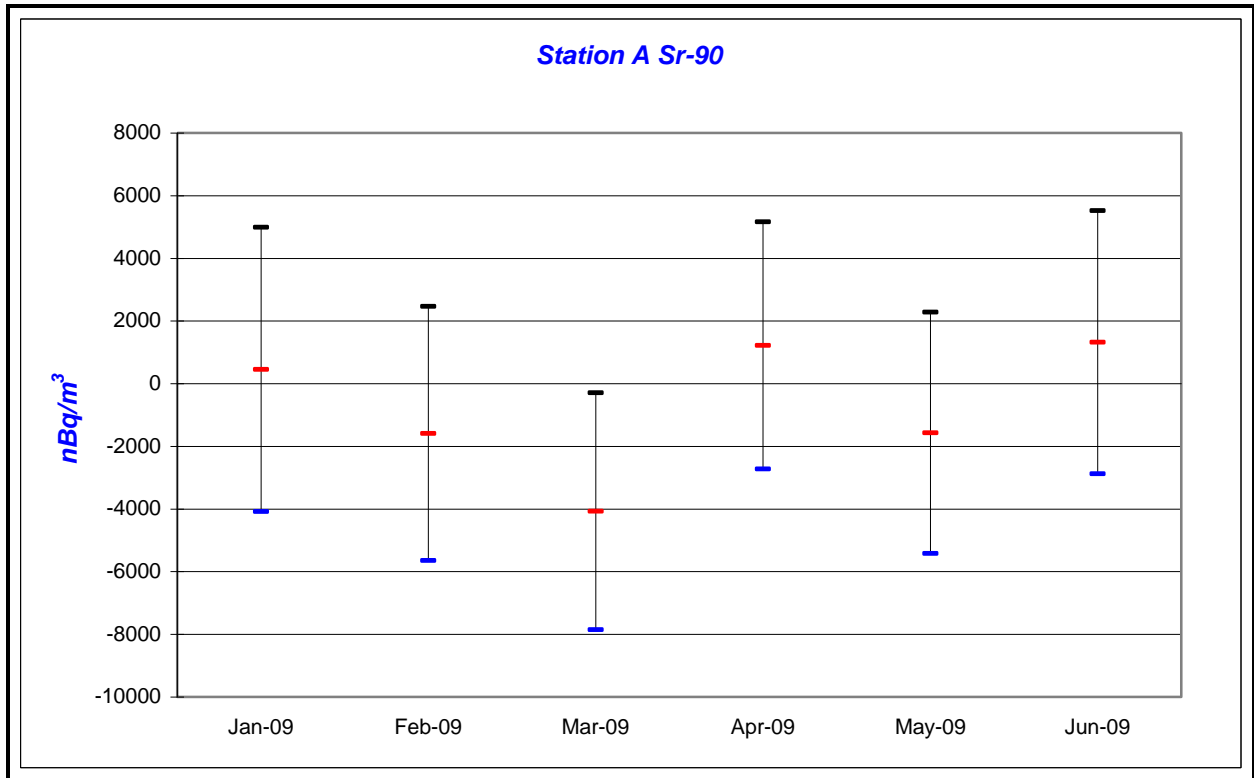
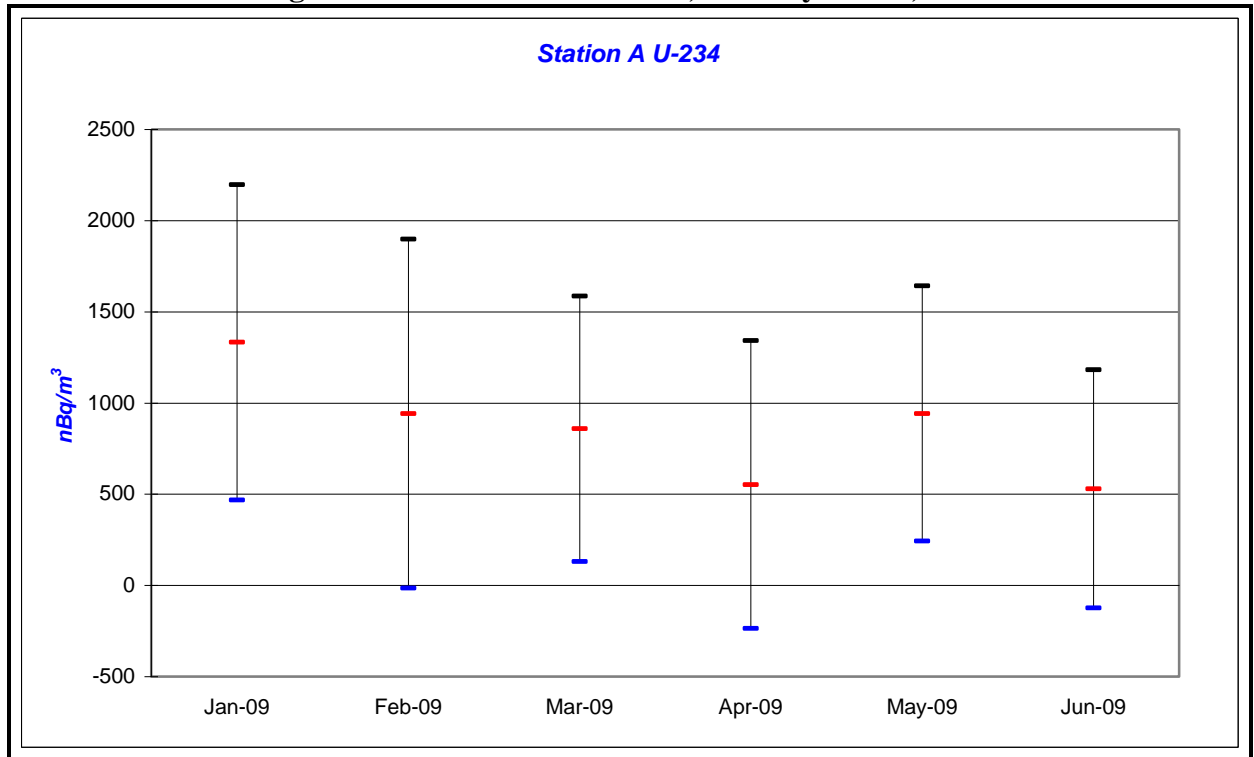


Figure 5: Sr-90 from Station A, January - June, 2009.

Figure 6: U-234 from Station A, January - June, 2009.



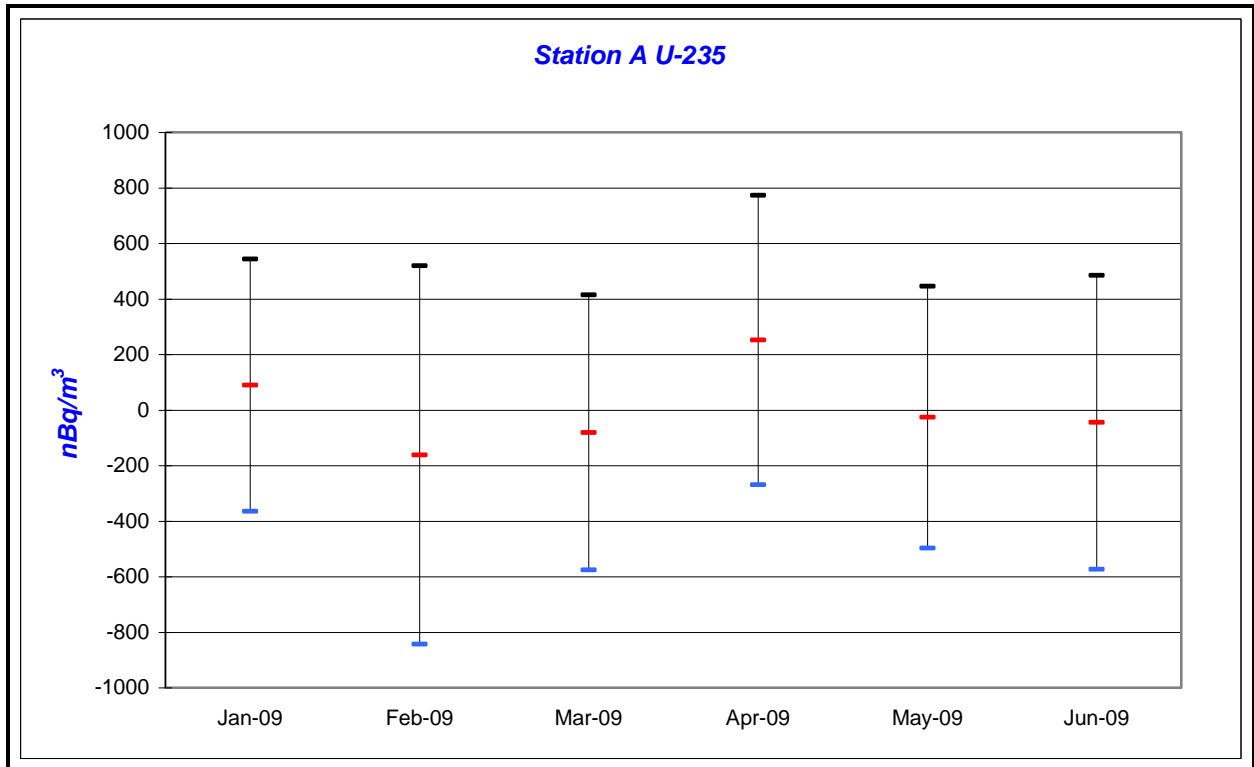


Figure 7: U-235 from Station A, January - June, 2009.

Figure 8: U-238 from Station A, January - June, 2009.

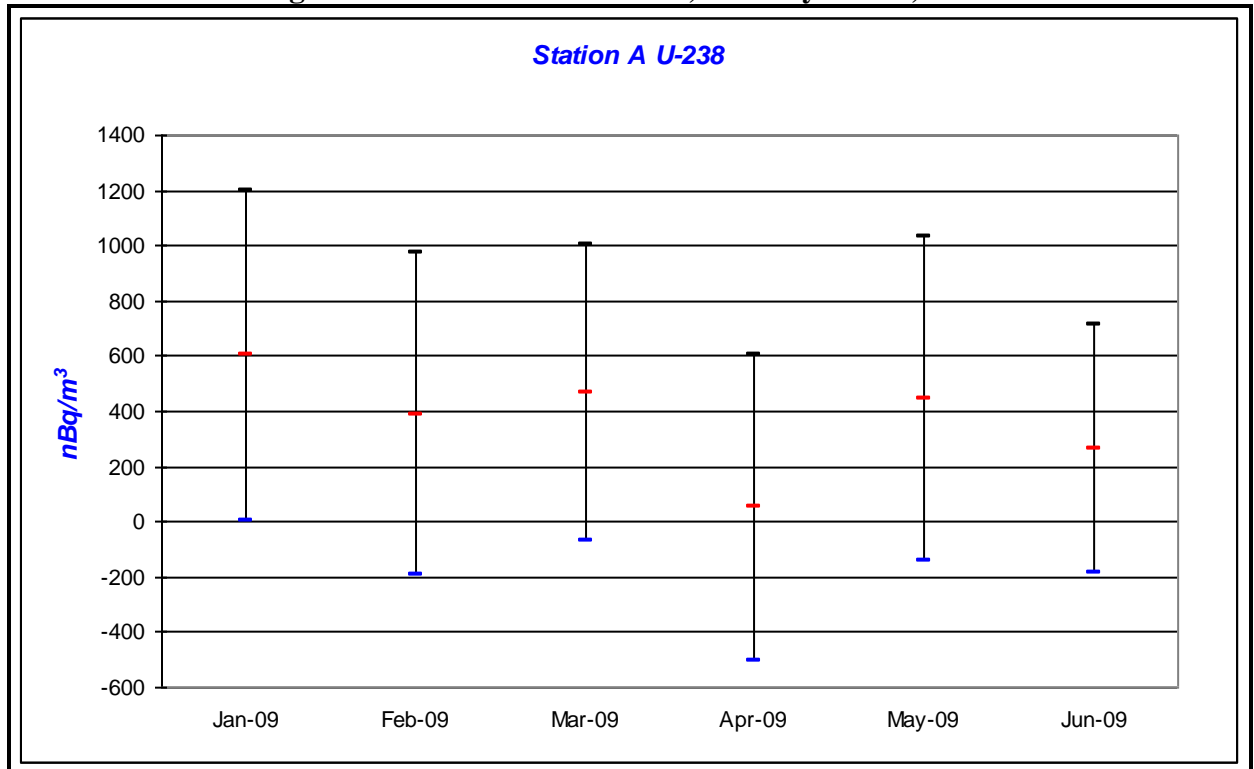


Table 1 – Laboratory Results for Selected Analytes from Station A, January – June, 2009.

Analyte	Month	Result	2TPU	MDA	Flag	Result	2TPU
		(pCi/composite)				(nBq/m ³)	
Am-241	Jan-09	0.010	0.021	0.031	U	146	307
	Feb-09	0.002	0.020	0.035	U	36	325
	Mar-09	0.002	0.022	0.038	U	35	320
	Apr-09	0.110	0.053	0.030		1736	836
	May-09	0.018	0.022	0.033	U	257	314
	Jun-09	0.000	0.020	0.015	U	0	311
Cs-137	Jan-09	0.063	2.800	4.600	U	9221	40981
	Feb-09	0.320	3.000	5.000	U, M	5192	48677
	Mar-09	-1.500	2.800	4.700	U	-21826	40742
	Apr-09	-3.200	3.100	5.500	U, M	-50491	48913
	May-09	-3.300	3.100	5.400	U, M	-47092	44238
	Jun-09	0.320	2.800	4.800	U	4978	43556
Pu-238	Jan-09	0.0110	0.0210	0.0150	U	161	307
	Feb-09	-0.0035	0.0210	0.0360	U	-57	341
	Mar-09	0.0006	0.0200	0.0400	U	8	291
	Apr-09	0.0170	0.0210	0.0150	LT	268	331
	May-09	-0.0030	0.0200	0.0350	U	-49	285
	Jun-09	0.0040	0.0190	0.0280	U	59	296
Pu-239/240	Jan-09	0.027	0.026	0.030	U	395	381
	Feb-09	0.011	0.021	0.016	U	178	341
	Mar-09	0.011	0.021	0.016	U	160	306
	Apr-09	0.490	0.130	0.030		7731	2051
	May-09	0.010	0.020	0.029	U	136	285
	Jun-09	-0.001	0.019	0.042	U	-17	296

Table 1 – Laboratory Results for Selected Analytes from Station A, January – June, 2009.

Analyte	Month	Result	2TPU	MDA	Flag	Result	2TPU
		(pCi/composite)				(nBq/m ³)	
Sr-90	Jan-09	0.031	0.31	0.70	U	454	4537
	Feb-09	-0.098	0.25	0.58	U	-1590	4056
	Mar-09	-0.280	0.26	0.62	U	-4074	3783
	Apr-09	0.077	0.25	0.56	U	1215	3945
	May-09	-0.110	0.27	0.64	U	-1570	3853
	Jun-09	0.085	0.27	0.59	U	1322	4200
U-234	Jan-09	0.091	0.059	0.069	LT	1332	864
	Feb-09	0.058	0.059	0.094	U	941	957
	Mar-09	0.059	0.050	0.067	U	858	728
	Apr-09	0.035	0.050	0.098	U	552	789
	May-09	0.066	0.049	0.050	LT	942	699
	Jun-09	0.034	0.042	0.072	U	529	653
U-235	Jan-09	0.006	0.031	0.046	U	89	454
	Feb-09	-0.010	0.042	0.083	U	-162	681
	Mar-09	-0.006	0.034	0.059	U	-81	495
	Apr-09	0.016	0.033	0.048	U	252	521
	May-09	-0.002	0.033	0.072	U	-26	471
	Jun-09	-0.003	0.034	0.050	U	-44	529
U-238	Jan-09	0.041	0.041	0.061	U	600	600
	Feb-09	0.024	0.036	0.063	U	389	584
	Mar-09	0.032	0.037	0.056	U	466	538
	Apr-09	0.003	0.035	0.090	U	49	552
	May-09	-0.002	0.033	0.072	U	442	585
	Jun-09	0.017	0.029	0.057	U	264	451

Defintions:

Qualifiers / Flags

U – Result is less than the sample specific MDC.

LT – Results is less than Requested MDC, greater than sample specific MDC.

Y1 – Chemical yield is in control at 100 – 110%. Quantitative yield is assumed.

Y2 – Chemical yield outside default limits.

L – LCS recovery below lower control limit.

H – LCS recovery above upper control limit.

P – LCS recovery within control limits.

M – The requested MDC was not met.

M3 – The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU – Total Propagated Uncertainty

MDC – Minimum Detectable Concentration