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**Ambient Air Monitoring at the Waste Isolation Pilot Plant
Conducted by NMED/DOE OB for CY 2012 Q-4**

The New Mexico Environment Department DOE Oversight Bureau has compiled and assessed ambient air data collected during CY 2012 Q-4. The Bureau collected independent low-volume air samples from three locations at the WIPP site and at the Southeast Control Site located 12 miles upwind from the WIPP. Filters from the air samplers were composited by location and sent to an independent analytical laboratory for analysis of gross alpha/beta, americium-241, cesium-137, plutonium-238, plutonium-239/240, and strontium-90.

The Bureau performs environmental monitoring and oversight to assure that activities at the WIPP are protective of the public health and environment. The ambient air monitoring program is implemented to independently verify the radiological monitoring results derived by WIPP personnel, and to confirm that the operation of the WIPP is not increasing levels of radionuclides present in the ambient air as determined from preoperational studies.

Am-241, Cs-137, Pu-238, Pu-239/240 and Sr-90 were all flagged as “U” – Analyzed for, but not detected above 2sTPU and the MDC. The gross alpha/beta results aid in data analysis and are trended to improve the Bureau’s characterization of the WIPP environment.

Questions and/or comments may be addressed to Julia Marple by phone at (575) 887-9023, or by e-mail at Julia.marple@state.nm.us

Enclosures: 1. Ambient Air Sampling Results CY 2012 Q-4
2. Map of NMED’s Ambient Air Sampling Locations

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Ambient Air Sampling Results CY 2012 Q-4

Salt Shaft							
WPL1_Q4_12							
Analyte	pCi/sample			Lab Flag	nBq/m3		
	Result	±2 s TPU	MDC		Result	±2 s TPU	MDC
Gross alpha	9.32E+01	2.5E+01	1.73E+00		333565	89476	6192
Gross beta	2.89E+02	3.8E+01	2.25E+00		1034339	136003	8053
Am-241	-6.93E-03	2.0E-02	5.95E-02	U	-25	72	213
Cs-137	-2.63E-01	7.3E-01	1.21E+00	U	-941	2613	4331
Pu-238	-3.44E-03	1.5E-02	4.92E-02	U	-12	54	176
Pu-239/240	-3.44E-03	1.5E-02	4.92E-02	U	-12	54	176
Sr-90	2.80E-01	4.8E-01	7.83E-01	U	1002	1718	2802
Total Air Volume (m³)					10338		

Far Field							
WPL2_Q4_12							
Analyte	pCi/sample			Lab Flag	nBq/m3		
	Result	±2 s TPU	MDC		Result	±2 s TPU	MDC
Gross alpha	7.72E+01	1.9E+01	1.81E+00		277536	68305	6507
Gross beta	3.00E+02	3.8E+01	2.20E+00		1078508	136611	7909
Am 241	2.39E-03	2.7E-02	8.19E-02	U	9	97	294
Cs-137	2.39E-01	9.1E-01	1.58E+00	U	859	3271	5680
Pu-238	2.88E-03	1.0E-02	2.71E-02	U	10	36	97
Pu-239/240	1.25E-02	1.7E-02	2.71E-02	U	45	61	97
Sr-90	-6.34E-01	5.2E-01	8.70E-01	U	-2279	1869	3128
Total Air Volume (m³)					10292		

Met Tower							
WPL3_Q4_12							
Analyte	pCi/sample			Lab Flag	nBq/m3		
	Result	±2 s TPU	MDC		Result	±2 s TPU	MDC
Gross alpha	9.62E+01	2.5E+01	1.34E+00		326580	84870	4549
Gross beta	2.90E+02	3.8E+01	2.08E+00		984494	129003	7061
Am-241	5.84E-03	2.1E-02	5.51E-02	U	20	71	187
Cs-137	-1.02E+00	1.3E+00	2.08E+00	U	-3463	4413	7061
Pu-238	2.73E-03	9.8E-03	2.57E-02	U	9	33	87
Pu-239/240	7.27E-03	1.3E-02	2.57E-02	U	25	44	87
Sr-90	-2.79E-01	4.3E-01	7.33E-01	U	-947	1460	2488
Total Air Volume (m³)					10899		

Met Tower Duplicate

WPL7_Q4_12

Analyte	pCi/sample			Lab Flag	nBq/m3		
	Result	±2 s TPU	MDC		Result	±2 s TPU	MDC
Gross alpha	1.00E+02	2.5E+01	1.71E+00		348235	87059	5955
Gross beta	2.68E+02	3.5E+01	1.84E+00		933271	121882	6408
Am-241	-1.13E-02	2.3E-02	7.32E-02	U	-39	80	255
Cs-137	-3.07E-01	7.1E-01	1.18E+00	U	-1069	2472	4109
Pu-238	-5.02E-03	1.4E-02	4.31E-02	U	-17	49	150
Pu-239/240	6.27E-03	1.4E-02	3.54E-02	U	22	49	123
Sr-90	5.21E-02	4.7E-01	7.89E-01	U	181	1637	2748
Total Air Volume (m³) 10625							

Southeast Control

WPL9_Q4_12

Analyte	pCi/sample			Lab Flag	nBq/m3		
	Result	±2 s TPU	MDC		Result	±2 s TPU	MDC
Gross alpha	9.48E+01	2.5E+01	1.71E+00		343512	90589	6196
Gross beta	2.70E+02	3.6E+01	1.97E+00		978357	130448	7138
Am-241	-1.13E-02	1.8E-02	6.57E-02	U	-41	65	238
Cs-137	-2.58E-01	9.2E-01	1.55E+00	U	-935	3334	5616
Pu-238	-2.89E-03	1.2E-02	4.14E-02	U	-10	43	150
Pu-239/240	1.93E-02	2.0E-02	2.72E-02	U	70	72	99
Sr-90	-3.42E-02	4.5E-01	7.67E-01	U	-124	1631	2779
Total Air Volume (m³) 10211							

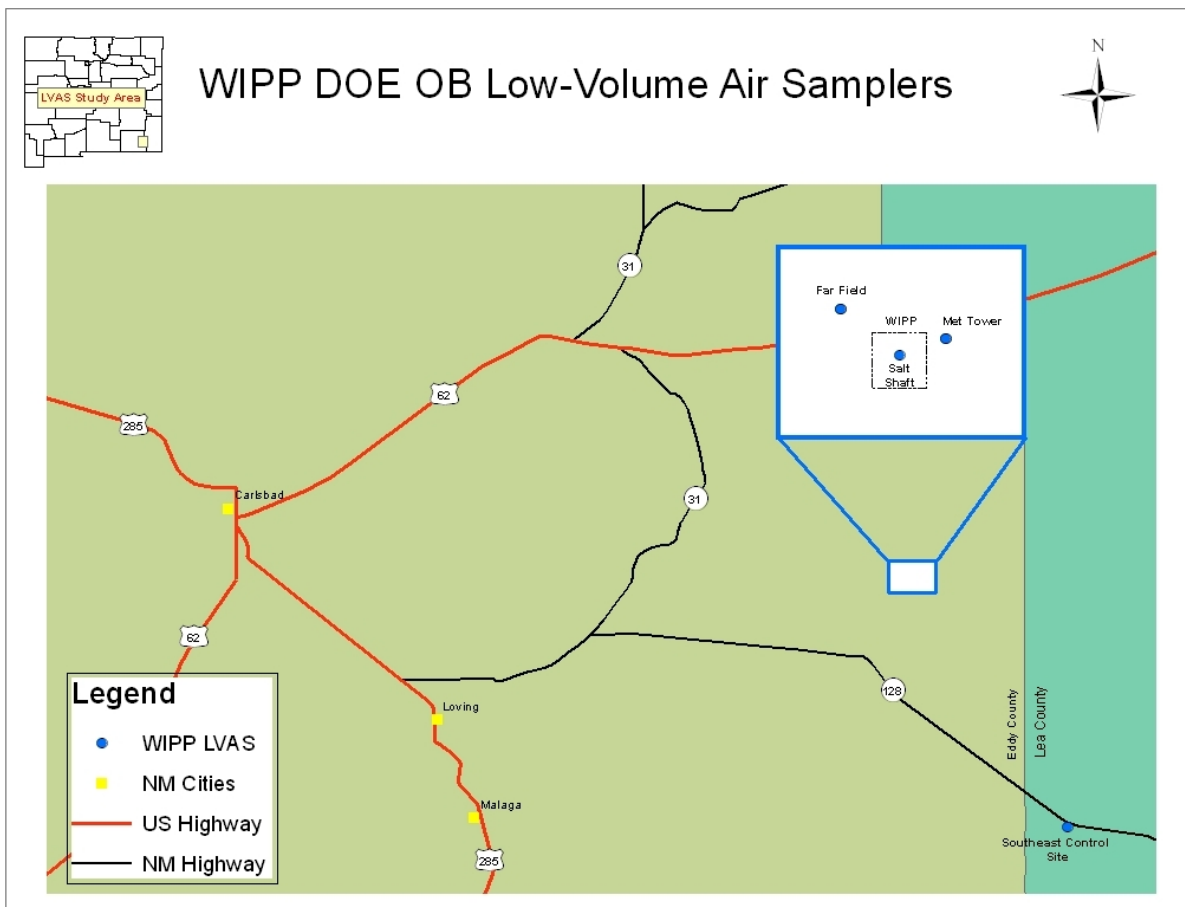
Abbreviations

TPU – Total Propagated Uncertainty

MDC – Minimum Detectable Concentration

Qualifiers/Flags

U – Analyzed for, but not detected above 2s TPU and the MDC



Map of NMED's Ambient Air Sampling Locations