

SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lieutenant Governor

NEW MEXICO ENVIRONMENT DEPARTMENT

DOE Oversight Bureau

406 North Guadalupe Street
Carlsbad, New Mexico 88220
Phone (575) 885-9023 Fax (575) 887-9283
www.nmenv.state.nm.us



DAVE MARTIN
Secretary

BUTCH TONGATE
Deputy Secretary

JAMES H. DAVIS, Ph.D.
Director
Resource Protection Division

Ambient Air Monitoring at the Waste Isolation Pilot Plant Conducted by NMED/DOE OB for CY 2012 Q-2

The New Mexico Environment Department DOE Oversight Bureau has compiled and assessed ambient air data collected during CY 2012 Q-2. 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 collected bi-weekly and composited by location. The samples were 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 obtained 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. Gross alpha/beta results were reported at the usual background levels, but are not included in this report due to a potential mix-up of samples on the laboratory’s part.

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-2
2. Map of NMED’s Ambient Air Sampling Locations

Distribution: George Basabilvaso, DOE/CBFO
Thomas Skibitski, Chief, DOE OB
Julia Marple, Environmental Scientist, DOE OB/WOS

Ambient Air Sampling Results CY 2012 Q-2

Salt Shaft

WPL1_Q2_12

Analyte	pCi/sample			Lab Flag	nBq/m3		
	Result	±2 s TPU	MDC		Result	±2 s TPU	MDC
Am-241	5.72E-03	1.5E-02	3.28E-02	U	23	60	131
Cs-137	-5.62E-01	1.0E+00	1.67E+00	U	-2240	3980	6650
Pu-238	-4.15E-03	1.8E-02	5.45E-02	U	-17	72	217
Pu-239/240	1.14E-02	1.9E-02	3.56E-02	U	45	76	142
Sr-90	-6.54E-02	3.5E-01	6.49E-01	U	-260	1390	2580
Total Air Volume (m³)					9293		

Far Field

WPL2_Q2_12

Analyte	pCi/sample			Lab Flag	nBq/m3		
	Result	±2 s TPU	MDC		Result	±2 s TPU	MDC
Am 241	-5.18E-03	1.4E-02	4.81E-02	U	-18	47	163
Cs-137	5.17E-01	9.0E-01	1.57E+00	U	1750	3050	5320
Pu-238	6.41E-03	1.6E-02	3.67E-02	U	22	54	124
Pu-239/240	7.47E-03	2.0E-02	4.59E-02	U	25	68	155
Sr-90	1.37E-02	3.4E-01	6.32E-01	U	46	1150	2140
Total Air Volume (m³)					10923		

Met Tower

WPL3_Q2_12

Analyte	pCi/sample			Lab Flag	nBq/m3		
	Result	±2 s TPU	MDC		Result	±2 s TPU	MDC
Am-241	3.20E-03	1.1E-02	3.01E-02	U	12	43	117
Cs-137	1.64E-01	6.6E-01	1.15E+00	U	635	2560	4450
Pu-238	-1.19E-02	1.4E-02	5.28E-02	U	-46	54	204
Pu-239/240	-1.65E-02	2.4E-02	7.10E-02	U	-64	93	275
Sr-90	5.81E-02	3.2E-01	5.90E-01	U	225	1240	2280
Total Air Volume (m³)					9556		

Met Tower Duplicate

WPL7_Q2_12

Analyte	pCi/sample			Lab Flag	nBq/m3		
	Result	±2 s TPU	MDC		Result	±2 s TPU	MDC
Am-241	-1.83E-03	1.6E-02	4.54E-02	U	-6	54	153
Cs-137	-3.17E-01	1.2E+00	2.06E+00	U	-1070	4040	6940
Pu-238	6.63E-03	1.7E-02	3.79E-02	U	22	57	128
Pu-239/240	5.52E-03	1.2E-02	3.12E-02	U	19	40	105
Sr-90	2.22E-01	3.2E-01	5.67E-01	U	748	1080	1910
Total Air Volume (m³)					10981		

Southeast Control

WPL9_Q2_12

Analyte	pCi/sample			Lab Flag	nBq/m3		
	Result	± 2 s TPU	MDC		Result	± 2 s TPU	MDC
Am-241	-2.21E-03	1.2E-02	3.12E-02	U	-8	42	109
Cs-137	-1.96E-01	1.1E+00	1.77E+00	U	-687	3860	6200
Pu-238	-6.65E-03	1.3E-02	4.71E-02	U	-23	46	165
Pu-239/240	-9.50E-04	2.0E-02	5.23E-02	U	-3	70	183
Sr-90	-5.88E-01	5.4E-01	9.88E-01	U	-2060	1890	3460
Total Air Volume (m ³)					10557		

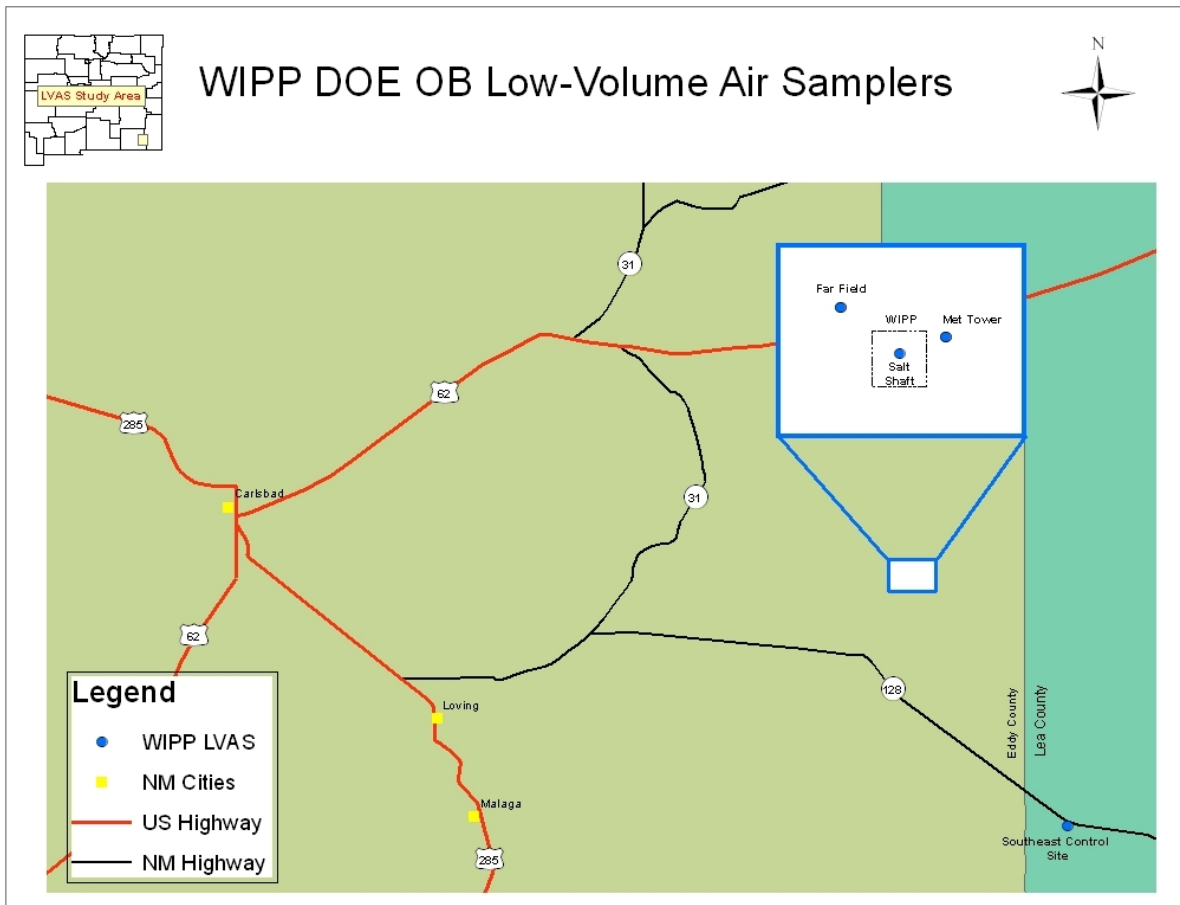
Abbreviations

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