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-1

The New Mexico Environment Department DOE Oversight Bureau has compiled and assessed ambient air data collected during CY 2012 Q-1. 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. 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-1
2. Map of NMED's Ambient Air Sampling Locations

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

Ambient Air Sampling Results CY 2012 Q-1

Salt Shaft
WPL1-Q1_12

	pCi/sample				nBq/m3		
Analyte	Result	±2 s TPU	MDC	Lab Flag	Result	±2 s TPU	MDC
Gross alpha	7.12E+01	1.8E+01	1.38E+00		346449	87585	6715
Gross beta	1.65E+02	2.3E+01	2.10E+00		802867	111915	10218
Am-241	7.02E-04	1.3E-02	3.35E-02	U	3	63	163
Cs-137	1.44E+00	1.7E+00	3.18E+00	U	7007	8272	15473
Pu-238	0.00E+00	1.4E-02	3.65E-02	U	0	68	178
Pu-239/240	2.60E-02	2.5E-02	3.65E-02	U	127	122	178
Sr-90	2.73E-01	3.8E-01	6.81E-01	U	1328	1849	3314
				Total Air Volume (m^3)	7604		

Far Field
WPL2-Q1_12

	pCi/sample				nBq/m3		
Analyte	Result	±2 s TPU	MDC	Lab Flag	Result	±2 s TPU	MDC
Gross alpha	6.88E+01	1.8E+01	1.10E+00		295142	77217	4719
Gross beta	1.78E+02	2.4E+01	1.97E+00		763594	102957	8451
Am 241	5.22E-03	1.4E-02	3.66E-02	U	22	60	157
Cs-137	-1.08E+00	1.8E+00	2.90E+00	U	-4633	7722	12441
Pu-238	4.11E-03	1.5E-02	3.87E-02	U	18	64	166
Pu-239/240	-4.11E-03	1.8E-02	5.88E-02	U	-18	77	252
Sr-90	2.94E-01	3.8E-01	6.68E-01	U	1261	1630	2866
				Total Air Volume (m^3)	8625		

Met Tower
WPL3-Q1_12

	pCi/sample				nBq/m3		
Analyte	Result	±2 s TPU	MDC	Lab Flag	Result	±2 s TPU	MDC
Gross alpha	6.97E+01	1.7E+01	1.44E+00		292558	71356	6044
Gross beta	1.84E+02	2.6E+01	2.00E+00		772320	109132	8395
Am-241	-2.19E-03	1.2E-02	3.09E-02	U	-9	50	130
Cs-137	1.25E+00	2.2E+00	3.80E+00	U	5247	9234	15950
Pu-238	1.23E-02	2.2E-02	4.01E-02	U	52	92	168
Pu-239/240	-2.02E-02	4.0E-02	9.33E-02	U	-85	168	392
Sr-90	2.77E-01	3.8E-01	6.63E-01	U	1163	1595	2783
				Total Air Volume (m^3)	8815		

Met Tower Duplicate
WPL7-Q1_12

	pCi/sample				nBq/m3		
Analyte	Result	±2 s TPU	MDC	Lab Flag	Result	±2 s TPU	MDC
Gross alpha	6.37E+01	1.6E+01	1.47E+00		270070	67835	6232
Gross beta	1.82E+02	2.4E+01	2.05E+00		771628	101753	8691
Am-241	1.48E-02	2.1E-02	3.29E-02	U	63	89	139
Cs-137	8.80E-01	2.6E+00	4.65E+00	U	3731	11023	19715
Pu-238	3.44E-03	1.2E-02	3.24E-02	U	15	51	137
Pu-239/240	1.03E-02	2.1E-02	4.48E-02	U	44	89	190
Sr-90	4.86E-01	4.2E-01	7.07E-01	U	2061	1781	2997
				Total Air Volume (m^3)	8727		

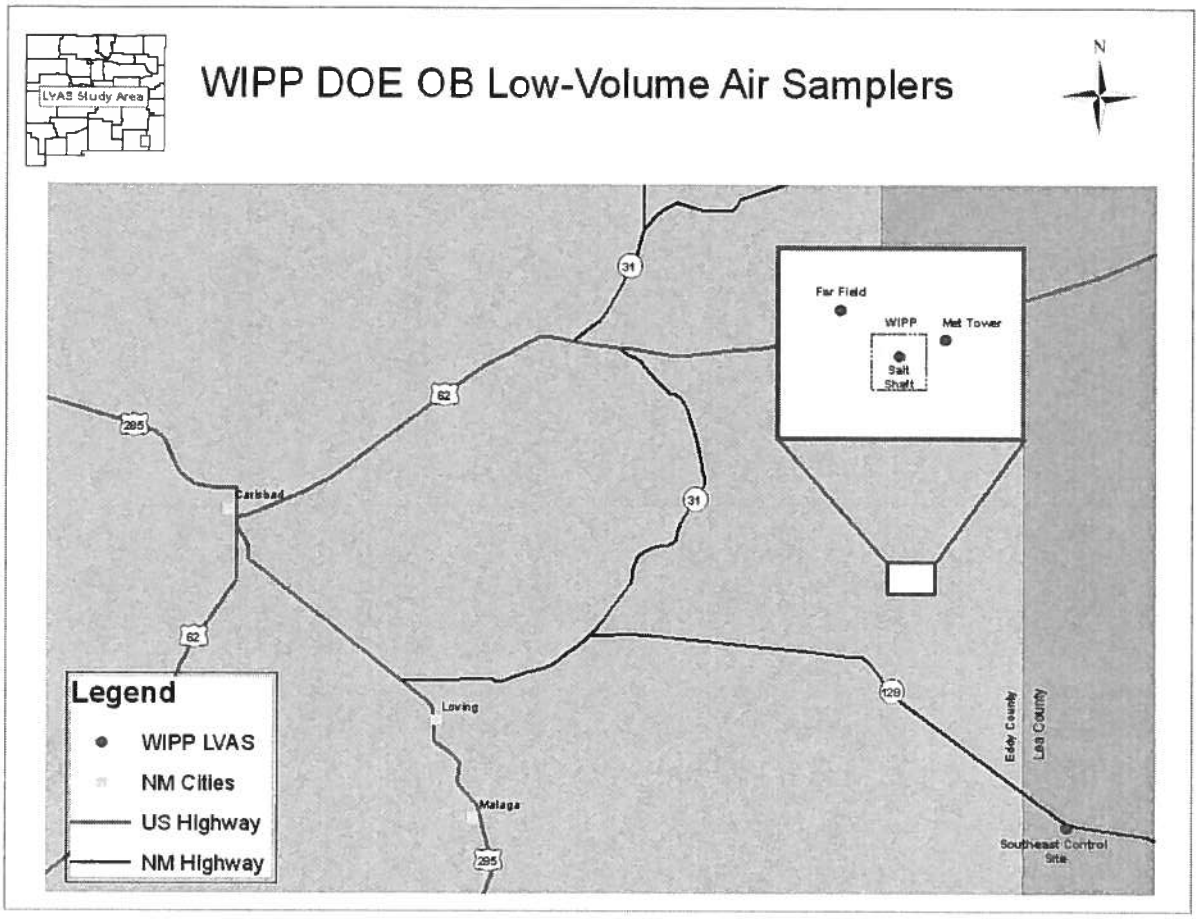
Southeast Control
WPL9-Q1_12

	pCi/sample				nBq/m3		
Analyte	Result	±2 s TPU	MDC	Lab Flag	Result	±2 s TPU	MDC
Gross alpha	6.02E+01	1.6E+01	1.42E+00		258910	68813	6107
Gross beta	1.76E+02	2.2E+01	2.22E+00		756945	94618	9548
Am-241	3.40E-03	1.2E-02	3.21E-02	U	15	52	138
Cs-137	-6.42E-01	1.5E+00	2.58E+00	U	-2761	6451	11096
Pu-238	-9.75E-03	1.3E-02	4.53E-02	U	-42	56	195
Pu-239/240	6.82E-03	2.5E-02	5.62E-02	U	29	108	242
Sr-90	6.23E-02	1.8E-01	3.26E-01	U	268	774	1402
				Total Air Volume (m^3)	8603		

Filter Blank
WPLA-Q1_12

	pCi/sample			
Analyte	Result	±2 s TPU	MDC	Lab Flag
Gross alpha	-8.60E-02	8.7E-01	1.68E+00	U
Gross beta	9.03E+00	1.9E+00	2.06E+00	
Am-241	-1.50E-06	1.6E-02	4.43E-02	U
Cs-137	4.50E-01	1.5E+00	2.63E+00	U
Pu-238	9.05E-03	1.7E-02	3.20E-02	U
Pu-239/240	2.26E-03	1.8E-02	4.86E-02	U
Sr-90	-1.64E-01	3.7E-01	6.99E-01	U

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