

TABLE I.1.2.4–1.—*Summary of 1994 Results of Radionuclides in Soils*

AREA / SAMPLE NO.	URANIUM - 234						URANIUM - 238						PLUTONIUM 239/240						TRITIUM					
	1994 AVG. (pCi/g)		1994 MAXIMUM ¹⁰ (pCi/g)		HIST. AVG. ⁵ (pCi/g)		1994 AVG. (pCi/g)		1994 MAXIMUM ¹⁰ (pCi/g)		HIST. AVG. ⁵ (pCi/g)		1994 AVG. (pCi/g)		1994 MAXIMUM ¹⁰ (pCi/g)		HIST. AVG.5 (pCi/g)		1994 AVG. (pCi/g)		1994 MAXIMUM ¹⁰ (pCi/g)		HIST. AVG. (pCi/g)	
Firing Site 4	1.02 ⁴	±0.16 ⁴	3.22	±0.32	4.96 ⁴	±0.53 ⁴	6.33 ⁴	±0.604	20.57	±1.62	35.8 ⁴	±2.45 ⁴	0.03 ⁴	0.03 ⁴	0.09	±0.07	0.01 ⁴	±0.02 ⁴	NS ³		NS ³			NS ³
Firing Site 5	1.21 ⁴	±0.17 ⁴	12.84	±1.45	1.97	±0.23	8.06 ⁴	±0.73 ⁴	92.52	±8.97	10.95	±0.6 ³	0.03 ⁴	0.03 ⁴	0.15	±0.05	0.01	±0.02	NS ³		NS ³			NS ³
Firing Site 10	0.34 ⁴	±0.08 ⁴	0.80	±0.14	1.08	±0.15	1.22 ⁴	±0.16 ⁴	4.28	±0.44	4.35	±0.25	0.03 ⁴	0.03 ⁴	0.17	±0.05	0.02	±0.02	NS ³		NS ³			NS ³
Burning Ground	0.39 ⁴	±0.08 ⁴	22.8	±1.71	0.6 ⁷	±0.13 ⁷	0.46 ⁴	±0.08 ⁴	4.89	±0.42	0.82	±0.14	0.02 ⁴	0.03 ⁴	0.12	±0.04	0.02	±0.02	0.14 ⁶	±0.55 ⁶	2.63	±1.37		FS ²
Playa 1	1.09 ⁶	±0.17 ⁶	2.75	±0.27	FS ²		0.60 ⁶	±0.11 ⁶	1.32	±0.16	FS ²		0.02 ⁶	0.03 ⁶	0.06	±0.05	FS ²		NS ³		NS ³			NS ³
Playa 2	0.28 ⁶	±0.08 ⁶	0.54	±0.09	FS ²		0.27 ⁶	±0.07 ⁶	0.56	±0.09	FS ²		0.05 ⁶	±0.04 ⁶	0.08	±0.05	FS ²		NS ³		NS ³			NS ³
Playa 3	0.49 ⁶	±0.10 ⁶	1.20	±0.17	FS ²		0.43 ⁶	±0.09 ⁶	1.40	±0.17	FS ²		0.04 ⁶	0.04 ⁶	0.09	±0.05	FS ²		0.09 ⁶	±0.60 ⁶	0.78	±1.37		FS ²
Offsite	0.25 ⁴	±0.07 ⁴	0.84	±0.12	0.61 ⁸	±0.12 ⁸	0.21 ⁴	±0.07 ⁴	0.69	±0.12	0.64 ⁸	±0.12 ⁸	0.02 ⁴	0.03 ⁴	0.09	±0.04	0.01 ⁸	±0.02 ⁸	NS ³		NS ³			NS ³
Bushland	0.35 ⁴	±0.08 ⁴	0.64	±0.10	0.58 ⁹	±0.11 ⁹	0.33 ⁴	±0.08 ⁴	0.69	±0.12	0.74 ⁹	±0.11 ⁹	0.02 ⁴	0.03 ⁴	0.07	±0.07	0.01 ⁹	±0.02 ⁹	0.1 ⁶	±1.04 ⁶	0.94	±1.48		FS ²

¹(±): Counting error at 95% confidence level.

²FS = first year sampled.

³NS = no sample collected.

⁴Averages were taken directly from Table 12.9 on page 12-21 of the *1994 Environmental Report for Pantex* unless otherwise indicated (DOE 1995b).

⁵Historical averages for each location were calculated in Table 1 by Tetra Tech using the routine surveillance data from 1988-1993 provided in the *1994 Environmental Report for Pantex Plant* (DOE 1995b).

⁶Averages were not provided in the *1994 Environmental Report for Pantex Plant* (DOE 1995b) but were calculated (See Table I. 1.2.1-3).

⁷This value is based on historical sample locations (BG-SS-01 to -04) because (BG-SS-05 to BG-SS-11) are new sampling locations as of 1994 (See Table I.1.2.1-3).

⁸This value is based on historical sample locations (OS-SS -01,-04,-05,-10,-18,-20,-21,-22,-24,-25,-27 to -32) and was calculated (See Table I.1.2.1-6).

⁹This value is based on historical sample location (OS-SS-32) because (PB-SS-01) is a new sampling location.

¹⁰Maximum value as reported in the *1994 Environmental Report for Pantex Plant* (DOE 1995b: Tables 12.3, 12.4, 12.5, and 12.6).

Source: DOE 1995b:12-8 through 12-14

TABLE I.1.2.4–2.—*Summary of 1994 Results of Metals in Soils*

AREA	ALUMINUM (mg/kg)	BORON ⁷ (mg/kg)	CADMIUM (mg/kg)	CHROMIUM ⁴ (mg/kg)	COBALT (mg/kg)	COPPER (mg/kg)	MAGNESIUM (mg/kg)	MANGANESE (mg/kg)	MOLYBDENUM (mg/kg)	MERCURY (mg/kg)	NICKEL (mg/kg)	SILVER (mg/kg)	ZINC (mg/kg)										
"CLEANUP" LEVELS ²																							
Surf Soil (0'-2')	not determined	not determined	1.59	27.8 ⁵	not determined	19.4	not determined	not determined	not determined	0.2	21.5	51.1	3070										
Subsurf Soil (2'-432')	not determined	not determined	4.0	69.0 ⁵	not determined	48.6	not determined	not determined	not determined	0.2	55.0	51.1	3070										
RBCs ³																							
Industrial Levels	1,000,000	180,000	not reported	not reported	120,000	not reported	not determined	10,000	10,000	not reported	not reported	not reported	not reported										
Residential Levels	78,000	7,000	not reported	not reported	4,700	not reported	not determined	390	390	not reported	not reported	not reported	not reported										
BURNING GROUND																							
1994 Mean Avg	15,362	±3,940	13	±7	0.7	±0.1	20	±7.0	7.5	±1.0	13	±2.0	2750	±519	442	±52	NC ¹	NC ¹	14	±2.0	NC ¹	51	±8.0
1994 Mean Max	17,700	±2,000	13	±7	0.7	±0.1	22	±5.3	7.9	±1.6	14	±1.7	3,200	±350	520	±150	NC ¹	NC ¹	15	±1.6	NC ¹	55	±8.7
PLAYA 3																							
1994 Mean Avg	17,168	±4,950	NC ¹	0.8	±0.2	20	±8.0	8.1	±2.0	17	±2.1	2,750	±620	460	±215	NC ¹	NC ¹	14	±2.3	NC ¹	75	±15.5	
1994 Mean Max	19,250	±4,900	NC ¹	0.8	±0.2	22	±6.6	9.6	±3.0	18	±1.8	2,800	±620	640	±310	NC ¹	NC ¹	16	±2.4	NC ¹	76	±18.0	
BUSHLAND																							
1994 Mean Avg	20,000	±3,800	NC ¹	NC ¹	26	±6.7	7.2	±0.9	16	±3.7	3,900	±480	385	±155	NC ¹	NC ¹	14	±1.1	NC ¹	56	±6.8		
1994 Mean Max	21,000	±4,000	NC ¹	NC ¹	26	±7.2	7.2	±0.9	16	±5.9	4,000	±500	390	±190	NC ¹	NC ¹	14	±1.5	NC ¹	58	±9.2		

¹NC = mean was not calculated if fewer than four observations were above detection limits.

²"Cleanup" Levels are based on TNRCC Risk Reduction Standards (DOE 1994).

³EPA III - Risk Based Concentrations (RBCs): Soil Ingestion by Residential Standards (EPA 1995).

⁴Assume metal is Chromium III. Note: "Cleanup" levels for Hexavalent Chromium is 10 mg/kg for surface and subsurface soils. RBCs for Chromium IV is 10,000 mg/kg for Industrial levels and 390 mg/kg for Residential levels.

⁵"Cleanup" Levels for Chromium IV are 10 mg/kg for both surface and subsurface soils.

⁶RBC Levels for Chromium IV: Industrial is 10,000 mg/kg and Residential is 390 mg/kg.

⁷Boron, listed in summary table 12.7 in the 1994 *Environmental Report for Pantex Plant* (DOE 1995b) as a metal, is not a metal.

Sources: DOE 1995b:12-15 through 12-19; DOE 1994; EPA 1995