

Table 5.1 NTS Radionuclide Emissions - 1996

Onsite Liquid Discharges

Containment <u>Ponds</u>	Curies ^(a)				
	<u>³H</u>	<u>⁹⁰Sr</u>	<u>¹³⁷Cs</u>	<u>²³⁸Pu</u>	<u>²³⁹⁺²⁴⁰Pu</u>
Area 12, E Tunnel	1.1×10^1	4.4×10^{-5}	1.5×10^{-3}	3.4×10^{-6}	2.7×10^{-5}
Area 20, Well ER-20-5	1.1×10^2				
Area 20, Well ER-20-6	8.2×10^0				
TOTAL	1.3×10^2	4.4×10^{-5}	1.5×10^{-3}	3.4×10^{-6}	2.7×10^{-5}

Airborne Effluent Releases

Facility Name <u>(Airborne Releases)</u>	Curies ^(a)	
	<u>³H^(b)</u>	<u>²³⁹⁺²⁴⁰Pu</u>
Areas 3 and 9 ^(c)		0.036
Area 5, RWMS ^(d)	3.5×10^{-1}	
Atlas Facility ^(d)	5.2×10^{-3}	
SEDAN Crater ^(d)	1.4×10^2	
Other Areas ^(c)		<u>0.24</u>
TOTAL	1.2×10^0	0.28

(a) Multiply by 3.7×10^{10} to obtain Bq. Calculated releases from laboratory spills and losses are included in Table 1.1.

(b) In the form of tritiated water vapor, primarily HTO.

(c) Resuspension from known surface deposits.

(d) Calculated from air sampler data.

Table 5.2 Airborne Gross Alpha Concentrations on the NTS - 1996

<u>Gross Alpha Concentration (10^{-15} $\mu\text{Ci}/\text{mL}$)</u>					
<u>Location</u>	<u>Number</u>	<u>Maximum</u>	<u>Minimum</u>	<u>Arithmetic Mean</u>	<u>Standard Deviation</u>
Area 1, BJV	25	3.1	0.96	1.8	0.58
Area 2, Complex	26	3.7	0.81	1.9	0.63
Area 2, 2-1 Substation	25	4.3	0.28	1.7	0.83
Area 3, Mud Plant	25	4.3	0.70	2.3	1.1
Area 3, Well ER-3-1	27	4.5	0.87	2.2	0.89
Area 4, Bunker T-4	25	3.3	0.93	1.9	0.52
Area 5, WEF North	3	2.8	1.7	2.2	0.59
Area 5, WEF South	4	3.0	1.7	2.4	0.57
Area 5, DOD Yard	27	4.0	0.90	2.1	0.70
Area 5, Well 5B	27	3.6	0.88	2.2	0.62
Area 6, Yucca	24	3.1	0.89	2.0	0.56
Area 6, CP-6	27	3.1	0.92	2.1	0.54
Area 6, Well 3	26	3.3	0.63	2.0	0.66
Area 7, UE7ns	25	5.0	0.35	1.8	0.91
Area 9, Area 9-300	27	6.5	0.87	2.6	1.2
Area 10, Gate 700 S	26	3.3	0.59	1.7	0.63
Area 10, SEDAN Crater	26	3.0	0.65	1.8	0.66
Area 11, Gate 293	26	3.4	0.93	1.9	0.55
Area 12, 12 Complex	26	2.8	0.44	1.7	0.51
Area 13, Project 57	31	4.8	0.88	2.3	0.92
Area 15, EPA Farm	26	5.4	0.59	2.0	0.96
Area 16, 3545 Substation	25	4.3	0.17	1.7	0.80
Area 18, Well UE-18t	26	3.4	0.54	1.9	0.73
Area 20, CABRIOLET	3	2.0	1.2	1.5	0.40
Area 20, SCHOONER	26	3.6	0.56	2.0	0.80
Area 20, Complex	26	3.3	0.32	1.7	0.83
Area 23, Building 790 No. 2	27	3.2	0.76	1.8	0.71
Area 23, H&S Building	27	3.1	0.22	1.8	0.72
Area 25, E-MAD N	27	4.0	0.57	1.9	0.75
Area 25, NRDS	27	4.3	0.65	2.0	0.77
Area 27, Cafeteria	22	3.2	0.95	2.0	0.61
TTR, DOUBLE TRACKS	28	32	0.34	3.7	5.9
TTR, CLEAN SLATE I	19	3.8	0.12	2.3	1.1
TTR, CLEAN SLATE III	29	5.1	1.2	2.5	1.0

Median MDC = 0.54×10^{-15} $\mu\text{Ci}/\text{mL}$

Table 5.3 Airborne Gross Beta Concentrations on the NTS - 1996

<u>Gross Beta Concentration (10^{-14} $\mu\text{Ci}/\text{mL}$)</u>						
<u>Location</u>	<u>Number</u>	<u>Maximum</u>	<u>Minimum</u>	<u>Arithmetic Mean</u>	<u>Standard Deviation</u>	<u>Mean as %DCG</u>
Area 1, BJV	51	3.5	0.83	2.0	0.58	2.2
Area 2, Complex	50	3.2	0.85	1.8	0.54	2.0
Area 2, 2-1 Substation	51	3.1	0.41	1.5	0.62	1.7

Median MDC = 1.5×10^{-15} $\mu\text{Ci}/\text{mL}$

Table 5.3 (Airborne Gross Beta Concentrations on the NTS - 1996, cont.)

<u>Location</u>	<u>Number</u>	Gross Beta Concentration (10^{-14} $\mu\text{Ci/mL}$)				
		<u>Maximum</u>	<u>Minimum</u>	<u>Arithmetic Mean</u>	<u>Standard Deviation</u>	<u>Mean as %DCG</u>
Area 3, U3ah/at S	50	2.6	0.70	1.5	0.43	1.7
Area 3, U3ah/at E	50	3.0	0.75	1.7	0.53	1.9
Area 3, U3ah/at N	45	3.2	0.81	1.7	0.57	1.9
Area 3, U3ah/at W	50	2.6	0.69	1.6	0.51	1.8
Area 3, Mud Plant	51	4.8	0.85	2.1	0.78	2.3
Area 3, Well ER-3-1	49	3.7	0.60	1.9	0.70	2.1
Area 4, Bunker T-4	50	3.5	0.86	1.9	0.56	2.1
Area 5, RWMS Pit 5	50	3.1	0.68	1.8	0.54	2.0
Area 5, RWMS No. 4	51	3.7	1.0	2.0	0.61	2.2
Area 5, RWMS No. 5	43	3.6	1.2	2.0	0.54	2.2
Area 5, RWMS No. 6	52	3.7	0.81	1.9	0.58	2.1
Area 5, RWMS No. 7	39	3.5	0.83	1.8	0.56	2.0
Area 5, RWMS No. 8	51	3.2	1.0	1.9	0.52	2.1
Area 5, RWMS No. 9	41	3.8	0.88	2.0	0.64	2.2
Area 5, DOD Yard	51	4.2	0.95	2.0	0.69	2.2
Area 5, RWMS No. 3	43	3.9	0.76	2.0	0.56	2.2
Area 5, RWMS No. 1	52	3.2	0.86	1.9	0.53	2.1
Area 5, WEF North	3	2.5	1.2	1.8	0.66	2.0
Area 5, WEF South	4	3.1	1.8	2.4	0.68	2.7
Area 5, RWMS TP Bldg. N	51	5.6	0.69	2.2	0.98	2.4
Area 5, RWMS TP Bldg. S	50	4.5	0.80	2.0	0.82	2.2
Area 5, Well 5B	52	3.6	0.94	2.1	0.58	2.3
Area 6, Yucca	47	3.2	0.97	1.9	0.53	2.1
Area 6, CP-6	51	3.6	0.78	1.9	0.62	2.1
Area 6, Well 3	52	4.0	0.82	1.8	0.62	2.0
Area 7, UE7ns	51	3.5	0.66	1.7	0.57	1.9
Area 9, Area 9-300	53	3.4	0.61	1.7	0.59	1.9
Area 10, Gate 700 S	50	3.3	0.79	1.7	0.55	1.9
Area 10, SEDAN Crater	52	3.4	0.62	1.8	0.55	2.0
Area 11, Gate 293	52	5.3	0.93	2.0	0.73	2.2
Area 12, 12 Complex	51	2.9	0.03	1.7	0.57	1.9
Area 13, Project 57	51	3.7	0.84	1.8	0.54	2.0
Area 15, EPA Farm	51	3.4	0.84	1.7	0.55	1.9
Area 16, 3545 Substation	48	3.2	0.63	1.6	0.56	1.8
Area 18, Well UE-18t	49	3.3	0.68	1.7	0.55	1.9
Area 20, SCHOOENER	48	3.6	0.88	1.9	0.60	2.1
Area 20, Complex	52	3.0	0.33	1.5	0.57	1.7
Area 20, CABRIOLET	3	1.8	0.83	1.5	0.54	1.6
Area 23, Building 790 No. 2	53	3.6	0.86	1.8	0.56	2.0
Area 23, H&S Building	53	3.3	0.83	1.9	0.56	2.1
Area 25, E-MAD N	52	3.7	0.69	1.8	0.56	2.0
Area 25, NRDS	53	3.6	0.68	1.8	0.60	2.0
Area 27, Cafeteria	47	3.3	0.72	1.7	0.56	1.9
TTR, DOUBLE TRACKS	49	2.6	0.74	1.6	0.41	1.8
TTR, CLEAN SLATE I	18	3.7	1.1	2.1	0.70	2.4
TTR, CLEAN SLATE III	52	3.2	0.94	1.8	0.57	2.0

Median MDC = 1.5×10^{-15} $\mu\text{Ci/mL}$

Table 5.4 Airborne $^{239+240}\text{Pu}$ Concentrations on the NTS - 1996

<u>Location</u>	<u>Number</u>	<u>$^{239+240}\text{Pu}$ Concentration (10^{-17} $\mu\text{Ci/mL}$)</u>				
		<u>Maximum</u>	<u>Minimum</u>	<u>Arithmetic Mean</u>	<u>Standard Deviation</u>	<u>Mean as %DCG</u>
Area 1, BJV	4	75	2.3	22	36	11
Area 2, Complex	4	1.1	0.23	0.66	0.39	0.33
Area 2, 2-1 Substation	4	5.8	0.13	2.5	2.7	1.2
Area 3, U3ah/at South	10	25	1.9	11	7.2	5.5
Area 3, U3ah/at East	10	31	2.5	13	10	6.5
Area 3, U3ah/at North	10	80	3.9	26	23	13
Area 3, U3ah/at West	10	36	5.0	16	10	8.0
Area 3, Mud Plant	4	26	0.08	12	11	6.0
Area 3, Well ER-3-1	4	5.4	0.35	2.6	2.4	1.3
Area 4, Bunker T-4	4	8.1	2.1	4.8	2.5	2.4
Area 5, RWMS Pit 5	10	1.0	-0.076	0.32	0.37	0.16
Area 5, RWMS No. 4	10	0.82	-0.015	0.21	0.27	0.10
Area 5, RWMS No. 5	9	3.1	0.12	0.73	0.99	0.36
Area 5, RWMS No. 6	10	1.2	-0.009	0.51	0.36	0.26
Area 5, RWMS No. 7	9	7.3	0.075	1.2	2.3	0.60
Area 5, RWMS No. 8	10	1.4	0.12	0.56	0.40	0.28
Area 5, RWMS No. 9	9	0.67	0.076	0.25	0.19	0.12
Area 5, DOD	4	0.65	0.21	0.43	0.21	0.26
Area 5, RWMS No. 3	9	0.38	0.086	0.18	0.09	0.09
Area 5, RWMS No. 1	10	0.47	-0.026	0.27	0.15	0.13
Area 5, WEF North	1			2.6		1.3
Area 5, WEF South	1			2.3		1.1
Area 5, RWMS TP Bldg. N	10	0.63	-0.026	0.22	0.19	0.11
Area 5, RWMS TP Bldg. S	10	10	-0.020	1.2	3.2	0.60
Area 5, Well 5B	4	0.41	0.28	0.32	0.06	0.16
Area 6, Yucca	4	11	0.81	3.6	5.2	1.8
Area 6, CP-6	4	1.2	0.56	0.86	0.33	0.43
Area 6, Well 3	4	1.6	0.34	1.1	0.54	0.55
Area 7, UE7ns	4	45	0.50	12	22	6.0
Area 9, Area 9-300	4	61	7.9	35	25	1.8
Area 10, Gate 700 South	4	3.1	0.32	1.1	1.4	0.55
Area 10, SEDAN Crater	4	8.4	3.4	5.3	2.4	2.7
Area 11, Gate 293	4	1.9	0.50	1.0	0.65	0.5
Area 12, Complex	4	0.37	-0.007	0.20	0.16	0.1
Area 13, Project 57	4	2.9	0.43	2.1	1.1	1.1
Area 15, EPA Farm	4	24	2.2	8.7	11	4.2
Area 16, 3545 Substation	4	0.18	-0.004	0.095	0.078	0.05
Area 18, Well UE-18t	4	0.35	0.12	0.20	0.11	0.1
Area 20, SCHOONER	4	0.60	0.19	0.31	0.19	0.15
Area 20, Complex	4	0.30	0.083	0.17	0.093	0.08
Area 20, CABRIOLET	1			0.30		0.15
Area 23, Building 790 No. 2	4	1.1	0.15	0.44	0.46	0.22
Area 23, H&S Bldg.	4	0.15	0.086	0.13	0.029	0.06
Area 25, E-MAD N	4	0.71	-0.008	0.24	0.32	0.12
Area 25, NRDS	4	0.13	-0.004	0.054	0.056	0.03
Area 27, Cafeteria	4	0.26	0.11	0.16	0.071	0.08
Area 52, DOUBLE TRACKS	4	140	0.3	45	65	22
TTR, CLEAN SLATE I	2	45	2.8	24	30	12
TTR, CLEAN SLATE III	4	0.42	0.10	0.19	0.15	0.10

Median MDC = 3.2×10^{-18} $\mu\text{Ci/mL}$

Table 5.5 Airborne ^{238}Pu Concentrations on the NTS - 1996

<u>Location</u>	<u>Number</u>				<u>Arithmetic Mean</u>	<u>Standard Deviation</u>	<u>Mean as %DCG</u>
		<u>Maximum</u>	<u>Minimum</u>				
Area 1, BJV	4	0.76	0.025	0.24	0.35	0.08	
Area 2, Complex	4	0.058	-0.014	0.027	0.030	<0.01	
Area 2, 2-1 Substation	4	0.24	-0.012	0.063	0.12	0.02	
Area 3, U3ah/at S	10	0.58	-0.016	0.21	0.21	0.07	
Area 3, U3ah/at E	10	0.57	-0.024	0.16	0.17	0.48	
Area 3, U3ah/at N	10	1.9	-0.076	0.43	0.63	0.14	
Area 3, U3ah/at W	10	0.60	-0.068	0.19	0.23	0.06	
Area 3, Mud Plant	4	0.32	-0.024	0.14	0.15	0.05	
Area 3, Well ER-3-1	4	0.18	-0.014	0.047	0.089	0.02	
Area 4, Bunker T-4	4	1.5	0.88	1.1	0.28	0.37	
Area 5, RWMS Pit 5	10	0.16	-0.065	0.008	0.084	<0.01	
Area 5, RWMS No. 4	10	0.11	-0.054	-0.002	0.056	<0.01	
Area 5, RWMS No. 5	9	0.26	-0.067	0.056	0.11	0.02	
Area 5, RWMS No. 6	10	0.39	-0.077	0.01	0.14	<0.01	
Area 5, RWMS No. 7	9	0.24	-0.046	0.027	0.094	<0.01	
Area 5, RWMS No. 8	10	0.15	-0.065	0.024	0.075	<0.01	
Area 5, RWMS No. 9	9	0.15	-0.16	-0.018	0.084	<0.01	
Area 5, DOD Yard	4	-0.003	-0.016	-0.008	0.006	<0.01	
Area 5, RWMS No. 3	9	0.44	-0.069	0.060	0.19	0.02	
Area 5, RWMS No. 1	10	0.052	-0.074	-0.018	0.042	<0.01	
Area 5, WEF North	1			-0.011		<0.01	
Area 5, WEF South	1			-0.013		<0.01	
Area 5, RWMS TP Bldg. N	10	0.22	-0.054	0.058	0.075	0.02	
Area 5, RWMS TP Bldg. S	10	0.21	-0.065	0.017	0.087	<0.01	
Area 5, Well 5B	4	0.033	-0.014	0.010	0.024	<0.01	
Area 6, Yucca Waste Pond	4	0.28	-0.013	0.062	0.14	0.02	
Area 6, CP-6	4	0.077	-0.014	0.031	0.049	0.01	
Area 6, Well 3	4	0.10	0.026	0.052	0.036	0.02	
Area 7, UE7ns	4	0.50	-0.006	0.15	0.023	0.05	
Area 9, 9-300 Bunker	4	0.92	0.17	0.59	0.35	0.2	
Area 10, Gate 700 S	4	0.095	-0.013	0.038	0.045	0.01	
Area 10, SEDAN Crater	4	0.63	0.11	0.37	0.25	0.12	
Area 11, Gate 293	4	0.025	-0.018	-0.001	0.018	<0.01	
Area 12, Complex	4	0.10	-0.006	0.028	0.05	0.01	
Area 13, Project 57	4	0.31	0.019	0.10	0.14	,0.04	
Area 15, EPA Farm	4	0.47	0.019	0.16	0.21	0.05	
Area 16, 3545 Substation	4	0.021	-0.019	-0.003	0.017	<0.01	
Area 18, Well UE-18t	4	0.019	-0.017	-0.002	0.015	<0.01	
Area 20, SCHOOENER	4	0.39	0.10	0.23	0.13	0.08	
Area 20, Complex	4	0.052	-0.018	0.006	0.031	<0.01	
Area 20, CABRIOLET	1			-0.01		<0.01	
Area 23, Building 790 No. 2	4	-0.003	-0.007	-0.006	0.002	<0.01	
Area 23, H&S Building	4	0.032	-0.008	0.011	0.020	<0.01	
Area 25, E-MAD N	4	0.073	-0.017	0.021	0.040	<0.01	
Area 25, NRDS	4	0.083	0.020	0.043	0.027	<0.01	
Area 27, Cafeteria	4	0.11	-0.009	0.040	0.052	0.01	
Area 52, DOUBLE TRACKS	4	1.1	-0.005	0.36	0.51	0.12	
TTR, CLEAN SLATE I	2	0.097	-0.003	0.047	0.070	0.02	
TTR, CLEAN SLATE III	4	0.023	-0.021	-0.002	0.018	<0.01	

Median MDC = $2.9 \times 10^{-18} \mu\text{Ci/mL}$

Table 5.6 Derived Limits for Radionuclides in Air and Water

<u>Radionuclide</u>	<u>DAC (Air)^(a)</u>	<u>DCG (Air)^(b)</u>	<u>DCG (Water)^(c)</u>
³ H	2×10^{-5}	1×10^{-8}	8×10^{-5}
⁴⁰ K	2×10^{-7}	9×10^{-11}	3×10^{-7}
⁸⁵ Kr ^(d)	1×10^{-4}	3×10^{-7}	-
⁸⁹ Sr	6×10^{-8}	3×10^{-11}	8×10^{-7}
⁹⁰ Sr	2×10^{-9}	9×10^{-13}	4×10^{-8}
¹³³ Xe	1×10^{-4}	5×10^{-8}	-
¹³⁷ Cs	5×10^{-5}	4×10^{-11}	1×10^{-7}
²²⁶ Ra	3×10^{-10}	1×10^{-13}	4×10^{-9}
²³⁸ Pu ^(a)	7×10^{-12}	3×10^{-15}	2×10^{-9}
²³⁹⁺²⁴⁰ Pu ^(a)	6×10^{-12}	2×10^{-15}	1×10^{-9}

- (a) DAC - The Derived Air Concentration used for limiting radiation exposures of workers. The values are based on either a stochastic effective dose equivalent of 5 rem or a nonstochastic organ dose of 50 rem, which ever is more limiting (DOE Order 5480.11). Class Y is used for plutonium.
- (b) DCG - Derived Concentration Guides are reference values for conducting radiological protection programs at operational DOE facilities and sites. The DCG values are for an effective dose equivalent of 10 mrem (0.1 mSv) (inhalation) for a year as required by 40 C.F.R. 61.92 and DOE Order 5400.5.
- (c) The values listed for beta and photon emitters in the table are based on 4 mrem committed effective dose equivalent for the radionuclide taken into the body by ingestion of water during one year (730 L).
- (d) Nonstochastic value.

Table 5.7 Summary of NTS ⁸⁵Kr Concentrations - 1996

<u>Location</u>	<u>Number</u>	<u>⁸⁵Kr Concentration (10^{-12} μCi/mL)</u>					
		<u>Maximum</u>	<u>Minimum</u>	<u>Arithmetic Mean</u>	<u>Standard Deviation</u>	<u>Mean as % DCG</u>	
Area 1, BJV	43	46	6.2	25	7.2	<0.01	
Area 19, Pahute Substa. ^(a)	38	40	2.8	25	7.8	<0.01	
Area 20, Dispensary	43	42	2.3	26	10	<0.01	
All Stations	124	46	2.3	25	8.6	<0.01	

Average MDC was 6.4×10^{-12} μ Ci/mL

- (a) Excludes anomalous value of 96 in weekly sample collected July 17, 1997.

Table 5.8 Airborne Tritium Concentrations on the NTS - 1996

<u>Location</u>	<u>Number</u>	<u>Maximum</u>	<u>Minimum</u>	<u>Arithmetic Mean</u>	<u>Standard Deviation</u>	<u>Mean as %DCG</u>
Area 1, BJV	25	3.1	-2.0	0.63	0.89	<0.01
Area 3, Mud Plant	24	3.1	-0.81	0.76	0.88	<0.01
Area 3, U-3ah/at N	13	5.0	-2.7	0.54	5.8	<0.01
Area 5, RWMS No. 1	26	5.4	-2.0	2.3	1.7	0.023
Area 5, RWMS No. 3	21	7.6	-0.054	2.7	2.0	0.027
Area 5, RWMS No. 4	27	17	0.22	5.4	4.1	0.054
Area 5, RWMS No. 5	21	65	0.59	6.1	2.1	0.061
Area 5, RWMS No. 6	26	9.3	-0.30	2.8	2.4	0.028
Area 5, RWMS No. 7	19	6.0	0.43	3.0	1.6	0.030
Area 5, RWMS No. 8	23	7.4	-0.082	2.8	2.2	0.028
Area 5, RWMS No. 9	19	6.4	1.1	3.8	1.7	0.038
Area 10, SEDAN Crater	25	26	1.5	8.5	6.9	0.085
Area 12, Complex	24	5.5	-1.2	0.84	1.3	<0.01
Area 12, E Tunnel Pond No.1	25	35	-0.48	12	9.8	0.12
Area 15, EPA Farm	23	14.	1.7	5.3	2.9	0.053
Area 23, H&S Building	24	1.1	-0.85	0.11	0.53	<0.01
All Stations	365	65	-2.7	3.7	5.8	0.037

Average MDC \pm 1 standard deviation was $(1.7 \pm 1.0) \times 10^{-6}$ pCi/mL

Table 5.9 Radioactivity in NTS Surface Waters - 1996

<u>Source of Water</u>	<u>Number of Locations</u>	<u>Annual Average Concentrations (10^{-9} μCi/mL)</u>						<u>% of DCG Range^(a)</u>
Open Reservoirs	8	12	75	-.0020	-6.2×10^{-4}	-0.060	<0.01-0.1	
Natural Springs	7	9.2	61	-0.0018	0.015	-0.084	<0.01-0.15	
Containment Ponds								
E Tunnel	3 ^(b)	121	9.7×10^5	0.31	2.6	1.1	^(c)	
Well ER-20-5	3	--	7.0×10^5	--	--	--	^(c)	
Well ER-20-6	3		1.0×10^7					
Sewage Lagoons	8	22	-48	0.00047	0.098	-0.080	^(c)	

(a) DCG based on value for drinking water (4 mrem EDE).

(b) Two ponds and an effluent.

(c) Not a potable water source.

Table 5.10 NTS Open Reservoir Gross Beta Analysis Results - 1996

<u>Location</u>	<u>Gross Beta Concentration (10^{-9} $\mu\text{Ci/mL}$)</u>	<u>Concentration as %DCG^(a)</u>
<u>Concentration</u>		
Area 2, Mud Plant Reservoir	5.3	13
Area 2, Well 2 Reservoir ^(b)	-	-
Area 3, Mud Plant Reservoir ^(b)	-	-
Area 3, Well A Reservoir	19	48
Area 5, UE-5c Reservoir	8.6	22
Area 5, Well 5B Reservoir	15	38
Area 6, Well 3 Reservoir	18	45
Area 6, Well C1 Reservoir	17	43
Area 18, Camp 17 Reservoir	15	38
Area 18, Well 8 Reservoir ^(b)	-	-
Area 19, UE-19c Reservoir ^(b)	-	-
Area 20, Well 20A Reservoir ^(b)	-	-
Area 23, Swimming Pool ^(b)	-	-
Area 25, Well J-11 Reservoir	4.6	12
Area 25, Well J-12 Reservoir	5.2	13

(a) DCG based on ^{90}Sr value for drinking water (4 mrem EDE).

(b) Reservoir was dry.

Table 5.11 NTS Natural Spring Gross Beta Analysis Results - 1996

<u>Location</u>	<u>Gross Beta Concentration (10^{-9} $\mu\text{Ci/mL}$)</u>	<u>Concentration as %DCG^(a)</u>
<u>Concentration</u>		
Area 5, Cane Spring	12	30
Area 7, Reitmann Seep	13	33
Area 12, Captain Jack	7.8	20
Area 12, Gold Meadows ^(b)	---	
Area 12, White Rock Spring	9.0	23
Area 15, Tub Spring	8.1	20
Area 16, Tippipah Spring	6.3	16
Area 29, Topopah Spring	7.9	20

Note: Annual samples only.

(a) DCG based on ^{90}Sr value for drinking water (4 mrem EDE).

(b) Pool was dry.

Table 5.12 NTS Containment Pond Gross Beta Analysis Results - 1996

Location	Number	Gross Beta Concentration (10^{-9} $\mu\text{Ci/mL}$)				
		Maximum	Minimum	Arithmetic Mean	Standard Deviation	Mean as %DCG ^(a)
Area 12, E Tunnel Effluent	4	220	61	120	72	300
Area 12, E Tunnel Pond No. 1	2	140	130	140	1.4	350
Area 12, E Tunnel Pond No. 2	1	--	--	93	--	230

(a) DCG based on ^{90}Sr value for drinking water (4 mrem EDE).

Table 5.13 NTS Drinking Water Sources - 1996

System	Supply Wells	End-Point
No. 1	Wells C1, 4, 4A	Area 6, Cafeteria Area 6, Building 6-900
No. 2	Well 8	Area 2, Restroom Area 12, Building 12-23
No. 3	Well UE-16d	Area 1, Building 101
No. 4	Wells 5B, Well 5C, and Army No. 1	Area 23, Cafeteria
No. 5	Wells J-12, J-13	Area 25, Building 4221

Table 5.14 NTS Supply Well Radioactivity Averages - 1996

Description	$\mu\text{Ci/mL}$					
	Gross Beta	^3H	$^{239+240}\text{Pu}$	^{238}Pu	Gross Alpha	$^{90}\text{Sr}^{(a)}$
<u>Potable Water Supply Wells</u>						
Area 5, Well 5C	8.3×10^{-9}	1.4×10^{-9}	-2.4×10^{-12}	-2.8×10^{-12}	1.2×10^{-8}	-4.8×10^{-11}
Area 6, Well 4	7.1×10^{-9}	2.9×10^{-9}	-2.9×10^{-12}	-4.3×10^{-12}	9.3×10^{-9}	-8.4×10^{-11}
Area 6, Well 4A	6.6×10^{-9}	1.4×10^{-9}	1.7×10^{-12}	-7.9×10^{-13}	9.9×10^{-9}	2.6×10^{-11}
Area 5, Well 5B	1.2×10^{-8}	3.0×10^{-9}	-1.8×10^{-12}	-8.2×10^{-13}	6.1×10^{-9}	-3.5×10^{-11}
Area 6, Well C1	1.4×10^{-8}	4.2×10^{-9}	-2.7×10^{-12}	1.5×10^{-12}	8.3×10^{-9}	-6.4×10^{-12}
Area 6, Well C ^(a)	---	---	---	---	---	---
Area 16, Well UE-16d	6.4×10^{-9}	2.1×10^{-9}	-3.4×10^{-12}	-2.6×10^{-12}	6.7×10^{-9}	-2.6×10^{-11}
Area 18, Well 8	3.6×10^{-9}	2.9×10^{-10}	-3.5×10^{-12}	-3.0×10^{-12}	7.7×10^{-10}	-4.5×10^{-11}
Area 22, Army Well No.1	4.8×10^{-9}	5.3×10^{-9}	-2.6×10^{-12}	-2.7×10^{-12}	5.4×10^{-9}	-5.1×10^{-11}
Area 25, Well J-12	4.5×10^{-9}	-3.3×10^{-10}	-2.6×10^{-12}	-3.5×10^{-12}	1.5×10^{-9}	-1.7×10^{-11}
Area 25, Well J-13	4.6×10^{-9}	-9.8×10^{-10}	-1.1×10^{-12}	-2.9×10^{-12}	2.3×10^{-9}	-4.2×10^{-11}
<u>Non-Potable Water Supply Wells</u>						
Area 5, Well UE-5c	7.6×10^{-9}	-4.0×10^{-9}	-2.7×10^{-12}	-1.9×10^{-12}	7.4×10^{-9}	-3.3×10^{-11}
Area 19, Well UE-19c ^(a)	---	---	---	---	---	---
Area 20, Well U-20 ^(b)	2.7×10^{-9}	-1.5×10^{-8}	-6.4×10^{-12}	8.4×10^{-12}	8.4×10^{-9}	-2.4×10^{-10}
Median MDC	1.2×10^{-9}	1.4×10^{-8}	2.0×10^{-11}	1.9×10^{-11}	1.4×10^{-9}	2.9×10^{-10}

(a) Pump not operating.

(b) One sample collected, pump not operating.

Table 5.15 Radioactivity Averages for NTS Consumption Points - 1996

<u>Description</u>	<u>Gross Beta</u>	<u>³H</u>	<u>²³⁹⁺²⁴⁰Pu</u>	<u>²³⁸Pu</u>	<u>Gross Alpha</u>	<u>⁹⁰Sr^(a)</u>
Area 1, Bldg. 101 ^(b)	6.2×10^{-9}	-1.2×10^{-7}	-2.8×10^{-12}	-2.7×10^{-12}	7.5×10^{-9}	-1.2×10^{-10}
Area 2, Restroom	3.7×10^{-9}	-1.3×10^{-9}	-3.5×10^{-12}	-1.4×10^{-12}	1.0×10^{-9}	-1.6×10^{-10}
Area 6, Cafeteria	6.9×10^{-9}	-5.2×10^{-8}	-2.4×10^{-12}	-1.5×10^{-12}	8.8×10^{-9}	-8.3×10^{-11}
Area 6, Bldg. 6-900	7.1×10^{-9}	1.3×10^{-8}	-1.7×10^{-12}	-2.0×10^{-12}	8.2×10^{-9}	-5.5×10^{-11}
Area 12, Bldg. 12-23	3.8×10^{-9}	2.0×10^{-7}	-3.8×10^{-12}	-1.3×10^{-12}	7.7×10^{-10}	-3.6×10^{-11}
Area 23, Cafeteria	1.0×10^{-8}	6.3×10^{-8}	-4.1×10^{-12}	-3.8×10^{-12}	6.5×10^{-9}	-5.1×10^{-11}
Area 25, Bldg. 4221	4.7×10^{-9}	-2.0×10^{-8}	9.8×10^{-13}	-3.2×10^{-13}	1.7×10^{-9}	9.2×10^{-12}
Median MDC	1.2×10^{-9}	7.2×10^{-7}	1.9×10^{-11}	1.8×10^{-11}	1.4×10^{-9}	3.1×10^{-10}

(a) ^{90}Sr values are for one sample.
(b) One sample collected from Area 1 Ice House when Building 101 inaccessible.

Table 5.16 Radium Analysis Results for NTS Potable Water Supply Wells - 1996

<u>Location</u>	<u>Number</u>	<u>Concentrations ($10^{-9} \mu\text{Ci/mL}$)</u>			
		<u>²²⁶Ra</u> Arithmetic Mean	<u>Standard</u> <u>Deviation</u>	<u>²²⁸Ra</u> Arithmetic Mean	<u>Standard</u> <u>Deviation</u>
Area 5, Well 5B	4	1.3	1.1	0.14	0.31
Area 5, Well 5C	4	-0.23	1.4	0.23	0.46
Area 6, Well 4	4	1.5	2.0	-0.094	0.31
Area 6, Well 4A	3	1.1	0.62	0.12	0.17
Area 6, Well C ^(a)	---	---	---	---	---
Area 6, Well C-1	4	2.5	2.2	0.46	0.34
Area 16, Well UE-16d	4	2.3	1.7	0.40	0.43
Area 18, Well 8	4	1.1	1.6	-0.45	0.70
Area 23, Army Well No. 1	4	0.21	0.88	0.43	0.82
Area 25, Well J-12	4	0.96	0.67	0.14	0.40
Area 25, Well J-13	4	0.89	1.5	0.22	0.54
Median MDC		2.2		0.99	

(a) No samples, pump inoperative.

Table 5.17 Tritium Concentration in Water from Plants ($\mu\text{Ci/mL}$) by NTS Area - 1996

<u>Area</u>	<u>Mean</u>	<u>Maximum</u>	<u>Minimum</u>	<u>Number</u>
1	8.6×10^{-8}	1.1×10^{-6}	-3.0×10^{-7}	12
2	6.5×10^{-6}	2.6×10^{-5}	-2.3×10^{-7}	8
3	1.5×10^{-6}	2.1×10^{-5}	-2.5×10^{-7}	31
4	7.3×10^{-7}	5.7×10^{-6}	-1.8×10^{-7}	8

Average MDC = $4.5 \times 10^{-7} \mu\text{Ci/mL}$

Table 5.17 (Tritium Concentration in Water from Plants [$\mu\text{Ci/mL}$] by NTS Area - 1996, cont.)

<u>Area</u>	<u>Mean</u>	<u>Maximum</u>	<u>Minimum</u>	<u>Number</u>
5	2.5×10^{-5}	2.5×10^{-4}	-2.6×10^{-7}	54
6	6.1×10^{-8}	5.2×10^{-7}	-3.1×10^{-7}	32
7	7.8×10^{-8}	3.6×10^{-7}	-1.5×10^{-7}	10
8	1.9×10^{-6}	9.8×10^{-6}	-1.1×10^{-7}	14
9	1.8×10^{-6}	1.6×10^{-5}	-1.1×10^{-7}	9
10	4.2×10^{-3}	5.0×10^{-2}	-1.5×10^{-7}	25
11	1.4×10^{-7}	3.9×10^{-7}	-2.0×10^{-7}	5
12	3.9×10^{-6}	6.3×10^{-5}	-3.5×10^{-7}	51
14	-1.9×10^{-7}	6.4×10^{-8}	-9.8×10^{-8}	5
15	6.8×10^{-7}	3.9×10^{-6}	-1.2×10^{-8}	12
16	7.4×10^{-6}	3.1×10^{-5}	-3.1×10^{-7}	5
17	1.1×10^{-6}	1.4×10^{-5}	-2.5×10^{-7}	13
18	-4.1×10^{-8}	3.7×10^{-7}	-4.3×10^{-7}	51
19	3.7×10^{-8}	1.4×10^{-6}	-4.5×10^{-7}	24
20	4.2×10^{-6}	1.1×10^{-4}	-3.8×10^{-7}	96
22	5.0×10^{-7}	4.1×10^{-6}	-3.3×10^{-7}	10
23	1.4×10^{-7}	5.0×10^{-7}	-1.5×10^{-7}	8
25	-4.3×10^{-8}	3.1×10^{-7}	-3.9×10^{-7}	47
27	1.0×10^{-7}	1.6×10^{-6}	-3.8×10^{-7}	20
29	3.2×10^{-8}	4.2×10^{-7}	-2.2×10^{-7}	12
30	1.9×10^{-7}	5.3×10^{-6}	-2.8×10^{-7}	40
ALL	1.8×10^{-4}	5.0×10^{-2}	-9.8×10^{-7}	602

Average MDC = 4.5×10^{-7} $\mu\text{Ci/mL}$

Table 5.18 NTS Boundary Gamma Monitoring Results Summary - 1996

<u>Location</u>	<u>First Quarter (mR/day)</u>	<u>Second Quarter (mR/day)</u>	<u>Third Quarter (mR/day)</u>	<u>Fourth Quarter (mR/day)</u>	<u>Annual Average (mR/d) (mR/yr)</u>
310 15E Substation	0.26	0.26	0.26	0.23	0.25 93
342 Stake C-31	0.36	0.42	0.42	0.40	0.40 150
355 Gold Meadows	0.29	0.29	0.27	(a)	0.28 100
365 Stake R-29	0.39	0.39	0.42		0.40 150
382 Stake J-41	0.33	0.36	0.36	0.35	0.35 130
383 Stake LC-4	0.47	0.45	0.44	0.44	0.45 170
384 Stake A-118	0.37	0.41	0.42	0.40	0.40 150
386 Papoose Lake Road	0.22	0.22	0.20	0.19	0.21 76
387 Gate 19-3P	0.40	0.40	0.41	(a)	0.40 150
388 Hill Top	0.37	0.34	0.35		0.35 130
389 East of U11B	0.34	0.31	0.31	0.31	0.32 120
400 Army Well No. 1	(a)	0.21	0.21	0.22	0.21 78
402 3.3 Mi. SE of Agg. Pit		0.17	0.17	0.17	0.17 61
403 Guard Station 510	0.31	0.38	0.33	0.36	0.35 130
404 Yucca Mountain	0.35	0.34	0.34	0.38	0.35 130
405 Gate 30-3P, Cat Canyon	(a)	0.44	0.43	0.51	0.45 160

(a) Missing TLD.

Table 5.19 NTS TLD Control Station Comparison, 1990-1996

<u>Area</u>	<u>Station</u>	Exposure Rate (mR/day)					
		<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>
5	Well 5B	0.34	0.36	0.31	0.39	0.34	0.30
6	CP-6	0.25	0.24	0.23	0.30	0.19	0.19
6	Yucca Oil Storage	0.32	0.33	0.31	0.37	0.27	0.26
23	Building 650 Dosimetry	0.20	0.19	0.18	0.26	0.15	0.15
23	Building 650 Roof	0.19	0.19	0.18	0.25	0.14	0.15
23	Post Office	0.23	0.24	0.23	0.30	0.21	0.20
25	HENRE Site	0.39	0.40	0.36	0.45	0.32	0.33
25	NRDS Warehouse	0.39	0.39	0.37	0.46	0.33	0.36
27	Cafeteria	0.40	0.42	0.39	0.46	0.33	0.33
Network Average		0.30	0.31	0.28	0.36	0.25	0.25

Table 5.20 Gross Beta Results for the Offsite Air Surveillance Network - 1996

Gross Beta Concentration (10^{-14} $\mu\text{Ci/mL}$ [0.37 mBq/m 3])

<u>Sampling Location</u>	<u>Number</u>	<u>Maximum</u>	<u>Minimum</u>	<u>Arithmetic Mean</u>	<u>Standard Deviation</u>
Alamo, NV	52	2.56	0.53	1.4	0.47
Amargosa Center, NV	52	4.64	0.59	1.6	0.65
Beatty, NV	52	2.95	0.53	1.5	0.48
Boulder City, NV	09	3.09	0.34	1.4	0.87
Clark Station, NV Stone Cabin Ranch	52	2.74	0.50	1.5	0.48
Goldfield, NV	51	2.72	0.49	1.4	0.52
Henderson, NV	13	3.04	0.22	1.5	0.88
Indian Springs, NV	50	2.49	0.02	1.3	0.49
Las Vegas, NV	52	2.44	0.24	1.3	0.44
Overton, NV	50	3.37	0.62	1.5	0.58
Pahrump, NV	50	2.26	0.48	1.4	0.47
Pioche, NV	50	2.21	0.66	1.4	0.44
Rachel, NV	49	2.50	0.22	1.4	0.49
Sunnyside, NV	50	2.73	-0.05	1.4	0.51
Tonopah, NV	52	2.22	0.48	1.3	0.41
Twin Springs, NV Fallini's Ranch	50	2.73	0.26	1.6	0.56
Cedar City, UT	52	3.06	0.18	1.2	0.61
Delta, UT	49	3.04	0.22	1.5	0.88
Milford, UT	53	5.74	0.19	1.5	0.82
St. George, UT	22	5.38	0.66	1.8	1.0

Mean MDC: 2.4×10^{-15} $\mu\text{Ci/mL}$ Standard Deviation of Mean MDC: 0.36×10^{-15} $\mu\text{Ci/mL}$

Table 5.21 Gross Alpha Results for the Offsite Air Surveillance Network - 1996

<u>Sampling Location</u>		<u>Concentration (10^{-15} $\mu\text{Ci/mL}$ [$37 \mu\text{Bq/m}^3$])</u>			<u>Arithmetic Mean</u>	<u>Standard Deviation</u>
	<u>Number</u>	<u>Maximum</u>	<u>Minimum</u>			
Alamo, NV	52	5.9	0.4	1.6	0.94	
Amargosa Center, NV	52	6.6	0.0	1.6	1.1	
Beatty, NV	52	2.8	0.2	1.1	0.64	
Boulder City, NV	09	4.1	1.3	2.6	1.0	
Clark Station, NV						
Stone Cabin Ranch	52	4.5	0.5	2.0	0.72	
Goldfield, NV	51	3.2	0.2	1.0	0.60	
Henderson	13	3.6	0.8	2.3	0.84	
Indian Springs, NV	50	3.9	0.2	1.0	0.70	
Las Vegas, NV	52	2.9	0.2	1.5	0.74	
Overton, NV	50	6.3	-0.1	1.2	1.1	
Pahrump, NV	50	4.0	-0.2	1.0	0.81	
Pioche, NV	49	3.6	-0.2	0.95	0.66	
Rachel, NV	49	4.3	0.1	1.3	0.98	
Sunnyside, NV	50	1.6	0.0	0.74	0.43	
Tonopah, NV	52	2.9	-0.3	0.92	0.56	
Twin Springs, NV						
Fallini's Ranch	50	3.2	-0.1	1.2	0.77	
Cedar City, UT	52	3.5	0.2	1.6	0.78	
Delta, UT	49	7.1	0.1	1.4	1.2	
Milford, UT	53	1.6	0.0	0.74	0.43	
St. George, UT	22	3.6	-0.2	0.95	0.66	

Mean MDC: 7.7×10^{-16} $\mu\text{Ci/mL}$

Standard Deviation of Mean MDC: 2.4×10^{-16} $\mu\text{Ci/mL}$

Table 5.22 Offsite High Volume Airborne Plutonium Concentrations - 1996

<u>Composite Sampling Location</u>		<u>^{238}Pu Concentration (10^{-18} $\mu\text{Ci/mL}$)</u>			<u>Arithmetic Mean</u>	<u>Standard Deviation</u>	<u>Mean as %DCG</u> ^(a)
	<u>Number</u>	<u>Maximum</u>	<u>Minimum</u>				
Alamo, NV	18	0.54	-0.09	0.17	0.16		(b)
Goldfield, NV	17	0.51	0.00	0.21	0.16		(b)
Las Vegas, NV	11	0.86	0.24	0.11	0.27		(b)
Lathrop Wells, NV	4	1.40	0.13	0.59	0.52		(b)
Tonopah, NV	15	0.42	-0.09	0.14	0.15		(b)
Rachel, NV	7	0.94	-0.45	0.14	0.41		(b)
Amargosa Center, NV	10	0.94	-0.08	0.20	0.27		(b)

Mean MDC: 0.58×10^{-18} $\mu\text{Ci/mL}$

Standard Deviation of Mean MDC: 1.36×10^{-18} $\mu\text{Ci/mL}$

(a) Derived Concentration Guide; Established by DOE Order as 3×10^{-15} $\mu\text{Ci/mL}$.

(b) Not applicable, result less than MDC.

Note: To convert from $\mu\text{Ci/mL}$ to Bq/m^3 multiply by 3.7×10^{10} (e.g., $[1.8 \times 10^{-18}] \times [37 \times 10^9] = 67 \text{ nBq}/\text{m}^3$).

Table 5.22 (Offsite High Volume Airborne Plutonium Concentrations - 1996, cont.)

<u>Composite Sampling Location</u>	<u>Number</u>	<u>$^{239+240}\text{Pu}$ Concentration (10^{-18} $\mu\text{Ci/mL}$)</u>				
		<u>Maximum</u>	<u>Minimum</u>	<u>Arithmetic Mean</u>	<u>Standard Deviation</u>	<u>Mean as %DCG^(a)</u>
Alamo, NV	18	4.9	0.07	1.5	1.2	0.05
Goldfield, NV	17	9.7	0.06	1.7	2.2	0.06
Las Vegas, NV	11	2.2	0.00	0.86	0.64	0.03
Lathrop Wells, NV	4	115	0.70	38	46	1.3
Tonopah, NV	15	2.9	0.19	0.95	0.73	0.03
Rachel, NV	7	66	0.39	13	22	0.42
Amargosa Center, NV	10	1.6	0.23	0.69	0.42	0.02

Mean MDC: 0.53×10^{-18} $\mu\text{Ci/mL}$ Standard Deviation of Mean MDC: 0.90×10^{-18} $\mu\text{Ci/mL}$ (a) Derived Concentration Guide; Established by DOE Order as 3×10^{-15} $\mu\text{Ci/mL}$.

(b) Not applicable, result less than MDC.

Note: To convert from $\mu\text{Ci/mL}$ to Bq/m^3 multiply by 3.7×10^{10} (e.g., $[1.8 \times 10^{-18}] \times [37 \times 10^9] = 67 \text{ nBq}/\text{m}^3$).

Table 5.23 Summary of Radionuclides Detected in Milk Samples

Milk Surveillance Network
 No. of samples with results > MDC
 (Network average concentration in pCi/L)

	<u>1996</u>	<u>1995</u>	<u>1994</u>
³ H	Not Analyzed	0(37)	0(85)
⁸⁹ Sr	0(0.01)	0(0.03)	0(0.22)
⁹⁰ Sr	0(0.63)	0(0.61)	2(0.44)

Table 5.24 Summary of Gamma Exposure Rates as Measured by PIC - 1996

<u>Station</u>	<u>Number of Weekly Averages</u>	<u>Gamma Exposure Rate ($\mu\text{R/hr}$)</u>						<u>1996 Mean ($\mu\text{R/hr}$)</u>
		<u>Maximum</u>	<u>Minimum</u>	<u>Arithmetic Mean</u>	<u>Standard Deviation</u>	<u>Median</u>	<u>mR/yr</u>	
Alamo, NV	281	13.3	12.1	12.8	1.08	13.0	113	12.9
Amargosa Center, NV	267	11.6	10.5	10.9	0.73	11.0	96	11.0
Beatty, NV	283	17.0	15.9	16.3	1.08	16.0	144	16.4

Note: Multiply $\mu\text{R/hr}$ by 2.6×10^{-4} to obtain $\mu\text{C} \cdot \text{kg}^{-1} \cdot \text{hr}^{-1}$.

Table 5.24 (Summary of Gamma Exposure Rates as Measured by PIC - 1996, cont.)

Station	Number of Weekly Averages	Gamma Exposure Rate ($\mu\text{R}/\text{hr}$)						1996 Mean ($\mu\text{R}/\text{hr}$)
		Maximum	Minimum	Arithmetic Mean	Standard Deviation	Median	mR/yr	
Caliente, NV	262	15.1	13.6	14.2	0.48	14.0	125	14.3
Cedar City, UT	277	12.3	10.8	11.5	0.83	12.0	102	11.6
Complex I, NV	275	16.0	14.5	15.3	0.86	15.0	134	15.3
Delta, UT	266	12.7	11.2	12.0	0.71	12.0	105	12.0
Furnace Creek, CA	267	10.3	9.1	9.7	0.64	10.0	85	9.7
Goldfield, NV	242	15.8	14.4	15.2	1.16	15.0	133	15.2
Indian Springs, NV	253	11.9	10.8	11.2	1.06	11.0	99	11.3
Las Vegas, NV	359	10.7	8.7	9.4	0.16	9.4	82	9.4
Medlin's Ranch, NV	276	17.0	15.8	16.3	0.68	16.0	143	16.3
Milford, UT	275	18.6	17.0	17.7	0.93	18.0	155	17.7
Nyala, NV	223	12.8	11.3	12.0	0.21	12.0	105	12.0
Overton, NV	270	10.3	9.2	9.8	0.62	10.0	87	9.9
Pahrump, NV	269	8.9	7.9	8.0	0.41	8.0	71	8.1
Pioche, NV	248	12.1	10.8	11.5	2.03	12.0	101	11.5
Rachel, NV	255	17.2	15.9	16.4	1.37	17.0	145	16.5
St. George, UT	266	9.1	7.9	8.1	0.75	8.0	72	8.2
Stone Cabin Ranch, NV	274	18.4	16.9	17.5	1.22	18.0	154	17.6
Terrell's Ranch, NV	276	16.9	15.7	16.1	0.84	16.0	141	16.1
Tonopah, NV	275	18.5	17.1	17.7	1.22	18.0	156	17.8
Twin Springs, NV	262	17.7	15.7	17.6	1.0	16.0	144	16.4
Uhalde's Ranch, NV	276	18.0	16.6	17.2	0.73	17.0	152	17.3

Note: Multiply $\mu\text{R}/\text{hr}$ by 2.6×10^{-4} to obtain $\mu\text{C} \cdot \text{kg}^{-1} \cdot \text{hr}^{-1}$.

Table 5.25 BN Offsite Boundary Line Monitoring Data - 1996

Remote Sensing Laboratory/Nellis

Station <u>ID#</u>	Description	1st Qtr. (mR)	2nd Qtr. (mR)	3rd Qtr. (mR)	4th Qtr. (mR)	CY-96 (mR)
RS-022	SE Fence--Near Gate	21.3	19.3	19.1	20.9	81
RS-023	SE Fence--Near Gate	21.0	19.3	18.7	20.8	80
RS-024	S Fence--Center	19.5 ^(a)	16.7	18.7	55	
RS-025	S Fence--Center	19.3	17.5	16.7	18.6	72
RS-026	SW Fence--Near Gate	17.2	15.4	14.3	15.2	62
RS-027	SW Fence--Near Gate	16.9	15.1	13.7	15.5	61
RS-028	NW Fence--Near Gate	19.8	15.7	14.0	16.4	66
RS-029	NW Fence--Near Gate	17.8	15.7	14.0	15.8	63
RS-030	N Fence--Center	20.7	18.1	23.6	19.4	82
RS-031	N Fence--Center	20.1	18.7	17.3	19.4	76
RS-032	NE Fence--Near Corner	16.6	14.8	13.1	15.5	60
RS-033	NE Fence--Near Corner	17.5	14.5	13.7	15.8	61
RS-098	Control - 1	26.0	27.4	24.7	28.6	107
RS-099	Control - 2	26.3	26.8	25.0	29.0	107

(a) Not available, missing data.

Table 5.25 (BN Offsite Boundary Line Monitoring Data - 1996, cont.)

<u>North Las Vegas Facility</u>						
Station <u>ID#</u>	Description	1st Qtr. (mR)	2nd Qtr. (mR)	3rd Qtr. (mR)	4th Qtr. (mR)	CY-96 (mR)
LV-055	NW Corner Fence/Gate C6	19.7	19.4	21.6	19.6	80
LV-056	NW Corner Fence/Gate C6	20.6	18.8	20.1	19.6	79
LV-057	N Fence--West End A-12	18.5	14.5	16.1	15.1	64
LV-058	N Fence--West End A-12	23.1	15.4	16.1	15.9	70
LV-059	N Fence--West End A-4	18.8	14.8	16.1	15.6	65
LV-060	N Fence--West End A-4	19.1	14.8	16.6	15.9	66
LV-061	NE Corner Fence/A-12	17.0	13.3	14.6	13.6	59
LV-062	NE Corner Fence/A-12	16.5	13.9	15.8	13.6	60
LV-063	E Fence/Center A-Complex	16.7	13.0	15.5	14.2	59
LV-064	E Fence/Center A-Complex	17.0	13.3	15.5	13.7	60
LV-065	NLV Badge Off (A-7)/A-2	16.2	12.7	14.6	13.1	57
LV-066	NLV Badge Off (A-7)/A-2	15.9	12.7	15.2	13.1	57
LV-067	E Fence/North End B-Complex	17.3	(a)	15.8	14.5	48
LV-068	E Fence/North End B-Complex	17.3		14.5	16.1	62
LV-069	E Fence/South End B-Complex	17.9	14.8	16.9	15.1	65
LV-070	E Fence/South End B-Complex	26.6	14.8	18.7	14.8	75
LV-071	S Fence/Center/Next to Sub	17.9	14.8	16.9	15.3	65
LV-072	S Fence/Center/Next to Sub	18.2	14.8	16.6	15.4	65
LV-073	SW Corner/Gate C-1	19.7	14.2	15.8	14.2	64
LV-074	SW Corner/Gate C-1	17.6	14.2	16.3	14.5	63
LV-075	C-1 W End Guard Gate	22.0	18.0	20.1	(a)	60
LV-076	C-1 W End Guard Gate	21.8	17.7	19.0		77
LV-077	W Fence/Gate C-3	18.2	14.8	16.9	15.4	65
LV-078	W Fence/Gate C-3	18.8	14.8	16.3	(a)	50
LV-079	NW End A-13/Double G	18.8	15.0	16.3		65
LV-080	NW End A-13/Double G	19.4	14.5	16.9	15.9	67
LV-098	Control - 1	18.8	10.4	11.1	9.7	50
LV-099	Control - 2	19.1	10.4	11.7	9.1	50
<u>Special Technologies Laboratory</u>						
ST197	Bldg. 226, West Fence	18.2	20.2	21.7	20.9	81
ST198	Bldg. 226, West Fence	18.5	19.6	21.4	21.5	81
ST199	Bldg. 229-C, L Side of Sliding Gate	19.9	20.4	22.2	22.4	85
ST200	Bldg. 229-C, L Side of Sliding Gate	18.8	21.3	23.4	23.3	87
ST201	Bldg. 227, E Fence	17.0	19.9	22.2	22.1	81
ST202	Bldg. 227, E Fence	16.7	20.5	22.0	21.8	81
ST205	Bldg. 227, NE Corner Step	16.4	20.7	21.4	21.8	80
ST206	Bldg. 227, NE Corner Step	17.9	20.5	27.5	22.4	88
ST207	Bldg. 227, NE Fence	19.6	21.3	21.7	23.3	86
ST208	Bldg. 227, NE Fence	20.5	21.3	21.9	23.0	87
ST209	Bldg. 227, Behind CF Shed	19.6	21.3	25.0	23.0	89
ST210	Bldg. 227, Behind CF Shed	19.3	21.3	23.1	22.4	86
ST213	Bldg. 227, SE Fence Corner	19.3	21.9	23.1	24.2	89
ST214	Bldg. 227, SE Fence Corner	19.4	21.3	22.8	23.3	87
ST141	Bldg. 227, Rear on Fence	21.7	22.5	24.0	19.4	88
Control		14.1	16.4	18.4	19.7	69
Control		15.2	16.7	18.7	20.3	71

(a) Not available, missing data.



Rainier Mesa and Stockdale Wash