Appendix H

Summary of Direct Radiation Monitoring Data

An Environmental TLD Package

The following tables contain a bolding convention devised to help the reader, when viewing the data, to quickly see the range of detectable measurements within a data series. A data series is a set of chemical or radionuclide measurements (e.g., gross alpha, gross beta, tritium) from a single location or from similar locations. Note that some tables contain data that should not be technically evaluated under this convention.

Key to bolding convention:

Results for each constituent constitute a single data series. If a radiological result is larger than the uncertainty term, the measurement is considered positive. Otherwise, a result is considered non-detectable.

If all results in a data series are positive, the lowest and highest values are bolded.
If a data series contains some positive results, the highest value is bolded.
If all values in a data series are nondetectable, no values are bolded.

Table H-1
Summary of 2001 Quarterly Averages of Off-Site TLD Measurements (mR±2SD/quarter)

Location Number*	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Location Average
DFTLD01	19±3.8	**25±5.3**	21±4.4	18±3.7	21±4.3
DFTLD02	19±3.7	24±5.1	21±4.4	18±3.8	20±4.3
DFTLD03	17±3.4	23±4.9	17±3.7	**15±3.2**	18±3.9
DFTLD04	18±3.6	21±4.5	20±4.3	17±3.5	19±4.0
DFTLD05	18±3.6	24±5.2	22±4.5	18±3.7	21±4.3
DFTLD06	18±3.6	21±4.6	20±4.2	18±3.6	19±4.0
DFTLD07	**16±3.1**	**18±4.1**	**17±3.6**	**15±3.2**	**16±3.5**
DFTLD08	17±3.5	20±4.4	19±4.1	NA	19±4.0
DFTLD09	19±3.7	20±4.4	21±4.4	18±3.7	19±4.1
DFTLD10	**16±3.1**	20±4.4	20±4.2	18±3.6	18±3.9
DFTLD11	16±3.2	19±4.2	17±3.7	15±3.2	17±3.6
DFTLD12	18±3.6	21±4.5	20±4.2	18±3.6	19±4.0
DFTLD13	19±3.8	22±4.8	**23±4.7**	**20±4.0**	21±4.3
DFTLD14	18±3.6	21±4.6	21±4.4	18±3.8	20±4.1
DFTLD15	17±3.4	20±4.3	20±4.2	17±3.5	18±3.9
DFTLD16	17±3.5	21±4.6	21±4.4	18±3.7	19±4.1
DFTLD17**	20±3.9	23±4.8	21±4.4	19±3.8	21±4.2
DFTLD20	**16±3.1**	**18±4.1**	17±3.7	15±3.2	**16±3.5**
DFTLD21	19±3.7	22±4.8	21±4.4	18±3.8	20±4.2
DFTLD22	20±4.0	22±4.8	22±4.5	19±3.9	21±4.3
DFTLD23**	19±3.8	22±4.8	20±4.2	18±3.7	20±4.1
DFTLD37**	**21±4.1**	23±5.0	22±4.5	**20±4.0**	**21±4.4**
DFTLD41**	17±3.4	19±4.2	18±3.8	16±3.3	17±3.7

** Off-site locations are shown on Figures A-11 through A-13 (pp. A-13 through A-15).*

*** Background measurements are provided by off-site TLDs 17, 23, 37, and 41.*

NA - Not available; TLD card missing.

Conversion factor: Milliroentgen (mR) units are used to report exposure rates in air. To convert mR to mrem (dose to humans), a conversion factor of 1.03 must be applied. For example, a reported exposure rate of 18.1 mR/quarter would be equivalent to 18.6 mrem/quarter (based upon dose-equivalent phantom calibration using cesium-137).

Note: Bolding convention applied to these data. See page H-2.

Table H-2
Summary of 2001 Quarterly Averages of On-Site TLD Measurements (mR±2SD/quarter)

Location Number*	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Location Average
DNTLD18	30±6.0	33±6.7	30±6.1	28±5.6	30±6.1
DNTLD19	21±4.2	24±5.1	23±4.8	21±4.2	22±4.6
DNTLD24	**566±111.0**	**527±103.2**	**515±101.0**	**486±95.2**	**523±102.8**
DNTLD25	23±4.6	26±5.5	25±5.2	22±4.5	24±5.0
DNTLD26	23±4.6	26±5.5	25±5.1	22±4.5	24±4.9
DNTLD27	**20±3.9**	23±4.9	22±4.5	19±3.9	21±4.3
DNTLD28	21±4.2	24±5.1	23±4.8	22±4.4	23±4.6
DNTLD29	21±4.2	25±5.2	23±4.9	20±4.1	22±4.6
DNTLD30	22±4.3	25±5.3	24±5.0	22±4.5	23±4.8
DNTLD31	**20±3.9**	**22±4.8**	**21±4.5**	**18±3.7**	**20±4.2**
DNTLD32	29±5.7	33±6.7	30±6.1	27±5.5	30±6.0
DNTLD33	30±6.0	34±7.0	34±6.8	28±5.6	32±6.4
DNTLD34	50±9.8	50±10.1	50±10.0	47±9.2	49±9.8
DNTLD35	75±14.7	69±13.7	66±13.1	63±12.4	68±13.5
DNTLD36	36±7.0	36±7.3	36±7.3	33±6.6	35±7.1
DNTLD38	33±6.4	34±7.0	32±6.5	30±6.0	32±6.5
DNTLD39	44±8.7	48±9.7	48±9.6	43±8.4	46±9.1
DNTLD40	116±22.8	117±22.9	116±22.8	106±20.7	114±22.3
DNTLD42	80±15.7	81±15.9	78±15.5	73±14.4	78±15.4
DNTLD43	29±5.8	30±6.2	29±5.9	26±5.2	28±5.8

** On-site locations are shown on Figure A-10 (p. A-12).*

Conversion factor: Milliroentgen (mR) units are used to report exposure rates in air. To convert mR to mrem (dose to humans), a conversion factor of 1.03 must be applied. For example, a reported exposure rate of 18.1 mR/quarter would be equivalent to 18.6 mrem/quarter (based upon dose-equivalent phantom calibration using cesium-137).

Note: Bolding convention applied to these data. See page H-2.

Table H-3
3rd-Quarter 2001 TLD Results and Instantaneous Exposure Rate Readings (µR/hr) With a High-Pressure Ion Chamber (HPIC) at Each Monitoring Location

Off-Site Location Number	3rd-Quarter TLD Result	August 2001 HPIC Result	On-Site Location Number	3rd-Quarter TLD Result	August 2001 HPIC Result
DFTLD01	9.33	10.00	DNTLD18	13.52	17.00
DFTLD02	9.32	9.00	DNTLD19	10.38	11.00
DFTLD03	7.69	9.00	DNTLD24	233.52	324.00
DFTLD04	9.05	9.00	DNTLD25	11.35	11.00
DFTLD05	9.77	9.00	DNTLD26	11.12	11.00
DFTLD06	8.91	10.00	DNTLD27	9.79	11.00
DFTLD07	7.46	10.00	DNTLD28	10.49	10.00
DFTLD08	8.55	10.00	DNTLD29	10.56	11.00
DFTLD09	9.40	9.00	DNTLD30	10.81	12.00
DFTLD10	8.82	9.00	DNTLD31	9.65	10.00
DFTLD11	7.69	9.00	DNTLD32	13.64	14.00
DFTLD12	8.87	10.00	DNTLD33	15.15	15.00
DFTLD13	10.27	9.00	DNTLD34	22.65	26.00
DFTLD14	9.45	9.00	DNTLD35	30.02	38.00
DFTLD15	8.91	9.00	DNTLD36	16.42	20.00
DFTLD16	9.45	9.00	DNTLD38	14.61	19.00
DFTLD17	9.50	10.00	DNTLD39	21.84	24.00
DFTLD20	7.55	9.00	DNTLD40	52.54	54.00
DFTLD21	9.50	11.00	DNTLD42	35.43	25.00
DFTLD22	9.72	11.00	DNTLD43	12.97	14.00
DFTLD23	8.86	9.00			
DFTLD37	9.72	11.00			
DFTLD41	7.96	10.00			

Note: Bolding convention not applicable to these data.

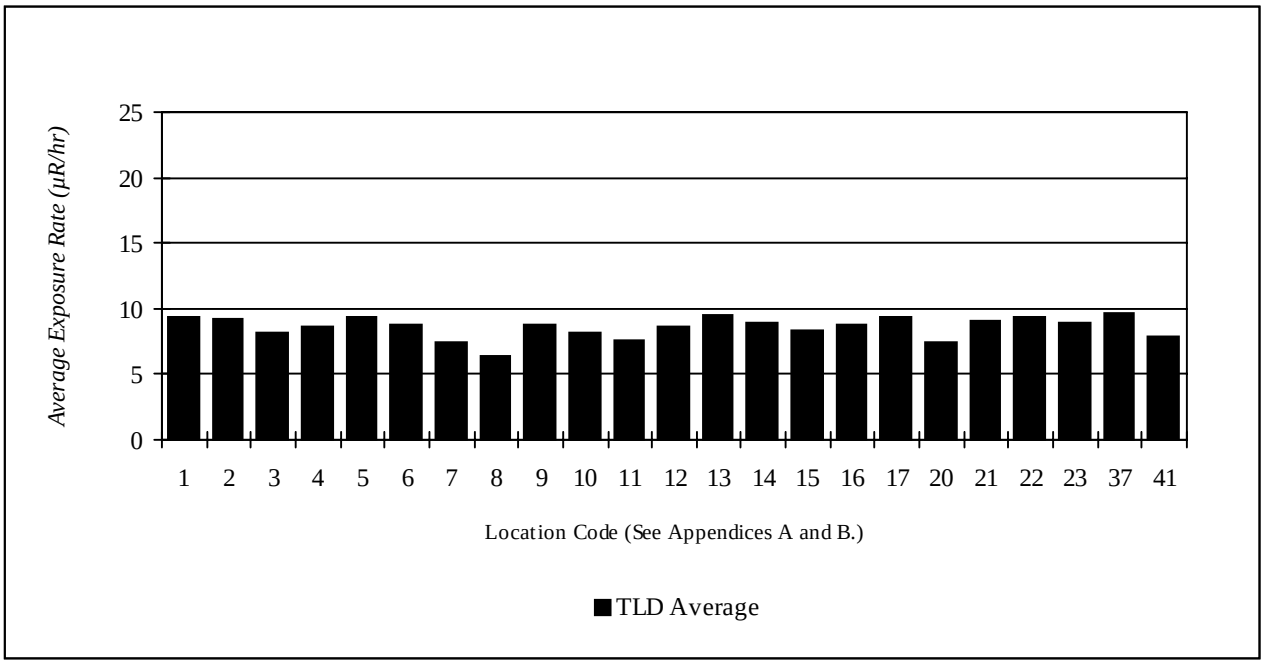

Figure H-1. 2001 Average Yearly Gamma Exposure Rates Around the WVDP

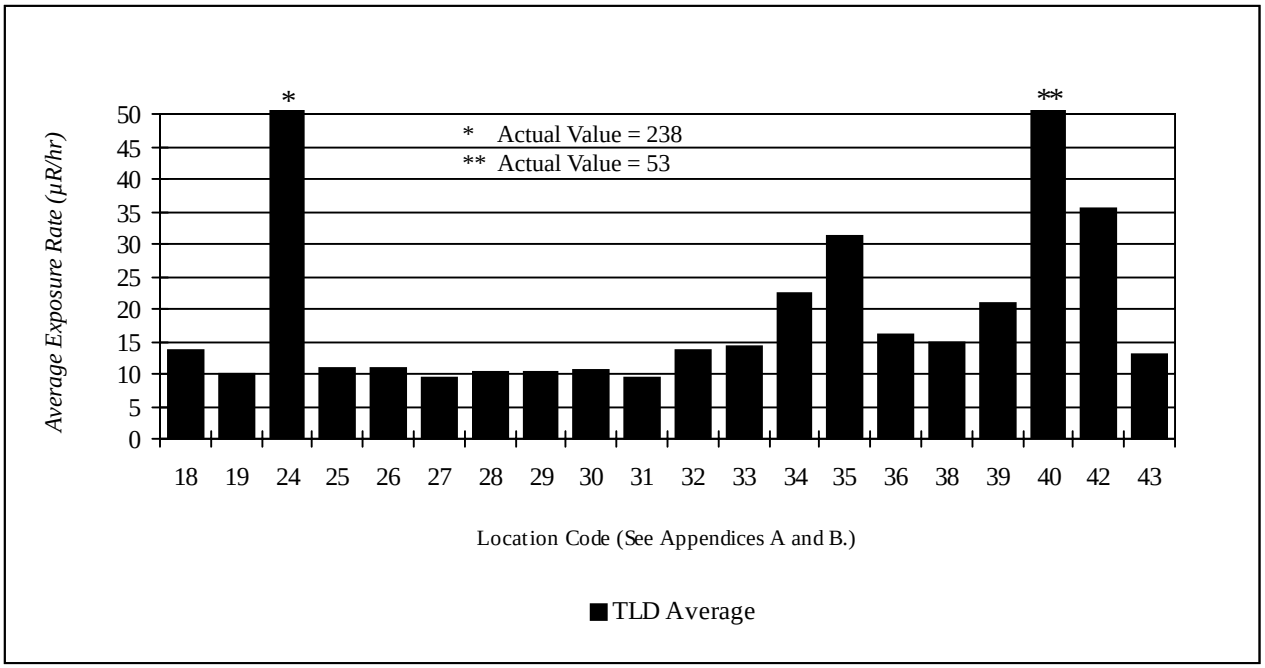

Figure H-2. 2001 Average Yearly Gamma Exposure Rates on the WVDP