SMB-141
04006394
143726

APPENDIX B
Air Sampling Data

GENERAL/EFFLUENT AIRBORNE CONCENTRATION LOG (Rev 6)

Counting Instrument:	2929	Detector:	43-10-1	Cal. Date:	4/7/2008
Serial #:	200051	Serial #:	PR125948	Cal. Due Date OK?	WARNING

Radiation Type	Counting Efficiency (fraction)	Source Nuclide	Source Number	Original Source Activity (DPM)	Source Creation Date	$T_{1/2}$ (yr)	Source Decayed Activity	Sample Count time (min)	Background Count time (min)
Alpha	0.3470	Th-230	3973-02	17,500	4/29/2002	7.54E+04	17499	20	20
Beta	0.3090	Tc-99	3975-02	17,700	4/29/2002	2.11E+05	17700	20	20

Limiting Alpha Isotope of Concern		Limiting Beta Isotope of Concern	
Isotope	10CFR20 Occupational DAC /Effluent	Isotope	10CFR20 Occupational DAC /Effluent
U-238	6.00E-14	U-238	6.00E-14

Type	Air Sample Start Date/Time	Air Sample End Date/Time	Count Date	Run Time (min)	Flow Rate (lpm)	Sample Gross Alpha (Counts)	Sample Gross Beta (Counts)	Alpha Bkg (cpm)	Beta Bkg (cpm)	Filter Efficiency (fraction)	Sample Alpha Activity (dpm)	Sample Beta Activity (dpm)	Alpha Count Concen. (uCi/cc)	Beta Count Concen. (uCi/cc)	Fraction Environ. Effluent Limit Alpha	Fraction Environ. Effluent Limit Beta	Alpha MDA (uCi/cc)	Beta MDA (uCi/cc)
R-14-BKG	4/30/08 8:00	5/1/08 16:00	05/07/08	1920	80.0	3	909	0.10	43.50	0.94	0	6	8.51E-16	1.96E-14	0.01	0.33	4.16E-15	7.03E-14
R-14-BKG	4/30/08 8:00	5/1/08 16:00	05/07/08	1920	80.0	6	934	0.10	43.50	0.94	1	10	2.60E-15	3.22E-14	0.04	0.54	4.16E-15	7.03E-14
R14-Upwind-2808-050608	5/6/08 8:00	5/9/08 16:00	05/12/08	4800	80.0	5	954	0.30	46.65	0.94	0	3	8.95E-17	4.22E-15	0.00	0.07	2.53E-15	2.91E-14
R14-Downwind-3390-050608	5/6/08 8:00	5/9/08 16:00	05/12/08	4800	80.0	7	917	0.30	46.65	0.94	0	-3	5.55E-16	-3.22E-15	0.01	-0.05	2.53E-15	2.91E-14
R14-NE-2808-051208	5/12/08 8:00	5/15/08 16:00	05/19/08	4800	80.0	3	875	0.20	43.50	0.94	0	1	-1.79E-17	1.01E-15	0.00	0.02	2.15E-15	2.81E-14
R14-NW-2773-0501208	5/12/08 8:00	5/15/08 16:00	05/19/08	4800	80.0	8	918	0.20	43.50	0.94	1	8	1.15E-15	9.65E-15	0.02	0.16	2.15E-15	2.81E-14
R14-SE-2590-0501208	5/12/08 8:00	5/15/08 16:00	05/19/08	4800	80.0	4	974	0.20	43.50	0.94	0	17	2.15E-16	2.09E-14	0.00	0.35	2.15E-15	2.81E-14
R14-SW-3390-051208	5/12/08 8:00	5/15/08 16:00	05/19/08	4800	80.0	10	907	0.20	43.50	0.94	1	6	1.61E-15	7.44E-15	0.03	0.12	2.15E-15	2.81E-14
R14-NE-2808-051908	5/19/08 8:00	5/22/08 16:00	05/27/08	4800	80.0	9	1023	0.10	44.15	0.94	1	23	1.74E-15	2.82E-14	0.03	0.47	1.66E-15	2.83E-14
R14-NW-2773-051908	5/19/08 8:00	5/22/08 16:00	05/27/08	4800	80.0	43	937	0.10	44.15	0.94	8	9	9.65E-15	1.09E-14	0.16	0.18	1.66E-15	2.83E-14
R14-SE-2590-051908	5/19/08 8:00	5/22/08 16:00	05/27/08	4800	80.0	10	889	0.10	44.15	0.94	2	1	1.97E-15	1.21E-15	0.03	0.02	1.66E-15	2.83E-14
R14-SW-3390-051908	5/19/08 8:00	5/22/08 16:00	05/27/08	4800	80.0	6	920	0.10	44.15	0.94	1	6	1.04E-15	7.44E-15	0.02	0.12	1.66E-15	2.83E-14
R14-NE-2808-052708	5/27/08 7:00	5/29/08 16:30	06/09/08	3450	80.0	18	1127	0.40	47.05	0.94	2	30	3.84E-15	5.20E-14	0.06	0.87	3.95E-15	4.07E-14
R14-NW-2773-052708	5/27/08 7:00	5/29/08 16:30	06/09/08	3450	80.0	17	1149	0.40	47.05	0.94	2	34	3.51E-15	5.82E-14	0.06	0.97	3.95E-15	4.07E-14
R14-SE-2590-052708	5/27/08 7:00	5/29/08 16:30	06/09/08	3450	80.0	26	1069	0.40	47.05	0.94	4	21	6.43E-15	3.58E-14	0.11	0.60	3.95E-15	4.07E-14
R14-SW-3390-052708	5/27/08 7:00	5/29/08 16:30	06/09/08	3450	80.0	17	1077	0.40	47.05	0.94	2	22	3.51E-15	3.80E-14	0.06	0.63	3.95E-15	4.07E-14
R14-NE-2808-060208	6/2/08 6:00	6/5/08 16:00	06/16/08	4920	80.0	23	1032	0.80	49.60	0.94	2	6	2.43E-15	7.85E-15	0.04	0.13	3.72E-15	2.93E-14
R14-NW-2773-060208	6/2/08 6:00	6/5/08 16:00	06/16/08	4920	80.0	31	1064	0.80	49.60	0.94	4	12	4.24E-15	1.41E-14	0.07	0.24	3.72E-15	2.93E-14
R14-SE-2590-060208	6/2/08 6:00	6/5/08 16:00	06/16/08	4920	80.0	16	979	0.80	49.60	0.94	1	-2	8.38E-16	-2.55E-15	0.01	-0.04	3.72E-15	2.93E-14
R14-SW-3390-060208	6/2/08 6:00	6/5/08 16:00	06/16/08	4920	80.0	22	1059	0.80	49.60	0.94	2	11	2.20E-15	1.31E-14	0.04	0.22	3.72E-15	2.93E-14
R14-NE-2808-060908	6/9/08 6:00	6/12/08 6:00	06/16/08	4320	80.0	51	1163	0.80	49.60	0.94	7	28	1.00E-14	3.82E-14	0.17	0.64	4.24E-15	3.33E-14
R14-NW-2773-060908	6/9/08 6:00	6/12/08 6:00	06/16/08	4320	80.0	57	1177	0.80	49.60	0.94	8	30	1.16E-14	4.13E-14	0.19	0.69	4.24E-15	3.33E-14
R14-SE-2590-060908	6/9/08 6:00	6/12/08 6:00	06/16/08	4320	80.0	48	1156	0.80	49.60	0.94	7	27	9.23E-15	3.66E-14	0.15	0.61	4.24E-15	3.33E-14
R14-SW-3390-060908	6/9/08 6:00	6/12/08 6:00	06/16/08	4320	80.0	71	1188	0.80	49.60	0.94	11	32	1.52E-14	4.38E-14	0.25	0.73	4.24E-15	3.33E-14
R14-NE-2808-061608	6/16/08 6:00	6/19/08 15:00	06/23/08	4860	80.0	17	1125	0.55	48.70	0.94	2	24	1.96E-15	3.00E-14	0.03	0.50	3.21E-15	2.94E-14
R14-NW-2773-061608	6/16/08 6:00	6/19/08 15:00	06/23/08	4860	80.0	93	1292	0.55	48.70	0.94	16	51	1.94E-14	6.32E-14	0.32	1.05	3.21E-15	2.94E-14
R14-SE-2590-061608	6/16/08 6:00	6/19/08 15:00	06/23/08	4860	80.0	24	1041	0.55	48.70	0.94	3	11	3.57E-15	1.33E-14	0.06	0.22	3.21E-15	2.94E-14
R14-SW-3390-061608	6/16/08 6:00	6/19/08 15:00	06/23/08	4860	80.0	20	1082	0.55	48.70	0.94	2	17	2.65E-15	2.14E-14	0.04	0.36	3.21E-15	2.94E-14
R14-NE-2808-062308	6/23/08 6:00	6/26/08 15:00	06/30/08	4860	80.0	34	1073	0.50	51.70	0.94	5	6	6.05E-15	7.75E-15	0.10	0.13	3.08E-15	3.03E-14
R14-NW-2773-062308	6/23/08 6:00	6/26/08 15:00	06/30/08	4860	80.0	106	1329	0.50	51.70	0.94	18	48	2.26E-14	5.86E-14	0.38	0.98	3.08E-15	3.03E-14
R14-SE-2590-062308	6/23/08 6:00	6/26/08 15:00	06/30/08	4860	80.0	39	1139	0.50	51.70	0.94	6	17	7.20E-15	2.09E-14	0.12	0.35	3.08E-15	3.03E-14
R14-SW-3390-062308	6/23/08 6:00	6/26/08 15:00	06/30/08	4860	80.0	27	1105	0.50	51.70	0.94	4	11	4.44E-15	1.41E-14	0.07	0.23	3.08E-15	3.03E-14
R14-NE-2808-063008	6/30/08 6:00	7/2/08 14:30	07/07/08	4830	80.0	29	1158	0.60	48.70	0.94	4	30	4.57E-15	3.68E-14	0.08	0.61	3.35E-15	2.96E-14
R14-NW-2773-063008	6/30/08 6:00	7/2/08 14:30	07/07/08	4830	80.0	90	1271	0.60	48.70	0.94	15	48	1.87E-14	5.93E-14	0.31	0.99	3.35E-15	2.96E-14
R14-SE-2590-063008	6/30/08 6:00	7/2/08 14:30	07/07/08	4830	80.0	39	1185	0.60	48.70	0.94	6	34	6.89E-15	4.22E-14	0.11	0.70	3.35E-15	2.96E-14
R14-SW-3390-063008	6/30/08 6:00	7/2/08 14:30	07/07/08	4830	80.0	22	1098	0.60	48.70	0.94	2	20	2.95E-15	2.48E-14	0.05	0.41	3.35E-15	2.96E-14
R14-NE-2808-070708	7/7/08 6:00	7/10/08 14:00	07/14/08	4800	80.0	49	1219	1.10	53.70	0.94	6	23	7.47E-15	2.92E-14	0.12	0.49	4.39E-15	3.12E-14
R14-NW-2773-070708	7/7/08 6:00	7/10/08 14:00	07/14/08	4800	80.0	156	1558	1.10	53.70	0.94	26	78	3.24E-14	9.73E-14	0.54	1.62	4.39E-15	3.12E-14
R14-SE-2590-070708	7/7/08 6:00	7/10/08 14:00	07/14/08	4800	80.0	22	1078	1.10	53.70	0.94	1	1	1.18E-15	8.04E-16	0.02	0.01	4.39E-15	3.12E-14
R14-SW-3390-070708	7/7/08 6:00	7/10/08 14:00	07/14/08	4800	80.0	22	1063	1.10	53.70	0.94	1	-2	1.18E-15	-2.21E-15	0.02	-0.04	4.39E-15	3.12E-14
R14-NE-2808-071408	7/14/08 6:00	7/17/08 14:00	07/21/08	4800	80.0	27	1171	0.90	49.10	0.94	2	31	3.06E-15	3.80E-14	0.05	0.63	4.02E-15	2.99E-14

GENERAL/EFFLUENT AIRBORNE CONCENTRATION LOG (Rev 6)

Counting Instrument:	2929	Detector:	43-10-1	Cal. Date:	4/7/2008
Serial #:	200051	Serial #:	PR125948	Cal. Due Date OK?	WARNING

Radiation Type	Counting Efficiency (fraction)	Source Nuclide	Source Number	Original Source Activity (DPM)	Source Creation Date	$T_{1/2}$ (yr)	Source Decayed Activity	Sample Count time (min)	Background Count time (min)
Alpha	0.3470	Th-230	3973-02	17,500	4/29/2002	7.54E+04	17499	20	20
Beta	0.3090	Tc-99	3975-02	17,700	4/29/2002	2.11E+05	17700	20	20

Limiting Alpha Isotope of Concern		Limiting Beta Isotope of Concern	
Isotope	10CFR20 Occupational DAC /Effluent	Isotope	10CFR20 Occupational DAC /Effluent
U-238	6.00E-14	U-238	6.00E-14

Type	Air Sample Start Date/Time	Air Sample End Date/Time	Count Date	Run Time (min)	Flow Rate (lpm)	Sample Gross Alpha (Counts)	Sample Gross Beta (Counts)	Alpha Bkg (cpm)	Beta Bkg (cpm)	Filter Efficiency (fraction)	Sample Alpha Activity (dpm)	Sample Beta Activity (dpm)	Alpha Count Concen. (uCi/cc)	Beta Count Concen. (uCi/cc)	Fraction Environ. Effluent Limit Alpha	Fraction Environ. Effluent Limit Beta	Alpha MDA (uCi/cc)	Beta MDA (uCi/cc)
R14-NW-2773-071408	7/14/08 6:00	7/17/08 14:00	07/22/08	4800	80.0	203	1513	0.90	49.10	0.94	35	86	4.40E-14	1.07E-13	0.73	1.78	4.02E-15	2.99E-14
R14-SE-2590-071408	7/14/08 6:00	7/17/08 14:00	07/21/08	4800	80.0	84	1227	0.90	49.10	0.94	13	40	1.63E-14	4.93E-14	0.27	0.82	4.02E-15	2.99E-14
R14-SW-3390-071408	7/14/08 6:00	7/17/08 14:00	07/21/08	4800	80.0	46	1077	0.90	49.10	0.94	6	15	7.48E-15	1.91E-14	0.12	0.32	4.02E-15	2.99E-14
R14-NE-2808-072108	7/21/08 6:00	7/24/08 14:00	07/28/08	4800	80.0	46	1098	0.80	47.20	0.94	6	25	7.84E-15	3.10E-14	0.13	0.52	3.82E-15	2.93E-14
R14-NW-2773-072108	7/21/08 6:00	7/24/08 14:00	07/28/08	4800	80.0	148	1438	0.80	47.20	0.94	25	80	3.16E-14	9.93E-14	0.53	1.66	3.82E-15	2.93E-14
R14-SE-2590-072108	7/21/08 6:00	7/24/08 14:00	07/28/08	4800	80.0	36	1176	0.80	47.20	0.94	4	38	5.51E-15	4.66E-14	0.09	0.78	3.82E-15	2.93E-14
R14-SW-3390-072108	7/21/08 6:00	7/24/08 14:00	07/28/08	4800	80.0	29	1134	0.80	47.20	0.94	3	31	3.89E-15	3.82E-14	0.06	0.64	3.82E-15	2.93E-14
R14-NE-2808-072808	7/28/08 6:00	7/31/08 13:30	08/04/08	4770	80.0	31	1127	0.80	51.30	0.94	4	16	4.38E-15	2.04E-14	0.07	0.34	3.84E-15	3.07E-14
R14-NW-2773-072808	7/28/08 6:00	7/31/08 13:30	08/04/08	4770	80.0	85	1207	0.80	51.30	0.94	14	29	1.70E-14	3.66E-14	0.28	0.61	3.84E-15	3.07E-14
R14-SE-2590-072808	7/28/08 6:00	7/31/08 13:30	08/04/08	4770	80.0	28	1061	0.80	51.30	0.94	3	6	3.68E-15	7.08E-15	0.06	0.12	3.84E-15	3.07E-14
R14-SW-3390-072808	7/28/08 6:00	7/31/08 13:30	08/04/08	4770	80.0	24	1078	0.80	51.30	0.94	2	8	2.74E-15	1.05E-14	0.05	0.18	3.84E-15	3.07E-14
R14-NE-2808-080408	8/4/08 6:00	8/7/08 14:00	08/11/08	4800	80.0	22	1098	0.90	47.80	0.94	2	23	1.90E-15	2.86E-14	0.03	0.48	4.02E-15	2.95E-14
R14-NW-2773-080408	8/4/08 6:00	8/7/08 14:00	08/11/08	4800	80.0	90	1346	0.90	47.80	0.94	14	63	1.77E-14	7.84E-14	0.30	1.31	4.02E-15	2.95E-14
R14-SE-2590-080408	8/4/08 6:00	8/7/08 14:00	08/11/08	4800	80.0	64	1176	0.90	47.80	0.94	9	36	1.17E-14	4.42E-14	0.19	0.74	4.02E-15	2.95E-14
R14-SW-3390-080408	8/4/08 6:00	8/7/08 14:00	08/11/08	4800	80.0	19	1028	0.90	47.80	0.94	1	12	1.20E-15	1.45E-14	0.02	0.24	4.02E-15	2.95E-14
R14-NE-2808-081108	8/11/08 6:00	8/14/08 14:00	08/18/08	4800	80.0	32	1102	0.50	48.90	0.94	5	20	5.66E-15	2.49E-14	0.09	0.42	3.12E-15	2.98E-14
R14-NW-2773-081108	8/11/08 6:00	8/14/08 14:00	08/18/08	4800	80.0	22	1075	0.50	48.90	0.94	3	16	3.33E-15	1.95E-14	0.06	0.33	3.12E-15	2.98E-14
R14-SE-2590-081108	8/11/08 6:00	8/14/08 14:00	08/18/08	4800	80.0	41	1184	0.50	48.90	0.94	6	33	7.75E-15	4.14E-14	0.13	0.69	3.12E-15	2.98E-14
R14-SW-3390-081108	8/11/08 6:00	8/14/08 14:00	08/18/08	4800	80.0	35	1118	0.50	48.90	0.94	5	23	6.36E-15	2.82E-14	0.11	0.47	3.12E-15	2.98E-14
R14-NE-2808-081808	8/18/08 6:30	8/21/08 14:30	08/25/08	4800	80.0	25	1053	0.80	48.40	0.94	2	14	2.95E-15	1.71E-14	0.05	0.28	3.82E-15	2.97E-14
R14-NW-2773-081808	8/18/08 6:30	8/21/08 14:30	08/25/08	4800	80.0	20	1069	0.80	48.40	0.94	1	16	1.79E-15	2.03E-14	0.03	0.34	3.82E-15	2.97E-14
R14-SE-2590-081808	8/18/08 6:30	8/21/08 14:30	08/25/08	4800	80.0	31	1236	0.80	48.40	0.94	4	43	4.35E-15	5.39E-14	0.07	0.90	3.82E-15	2.97E-14
R14-SW-3390-081808	8/18/08 6:30	8/21/08 14:30	08/25/08	4800	80.0	38	1115	0.80	48.40	0.94	5	24	5.98E-15	2.96E-14	0.10	0.49	3.82E-15	2.97E-14
R14-NE-2808-082508	8/25/08 6:30	8/28/08 13:00	09/02/08	4710	80.0	24	1027	0.80	51.10	0.94	2	1	2.77E-15	1.02E-15	0.05	0.02	3.89E-15	3.10E-14
R14-NW-2773-082508	8/25/08 6:30	8/28/08 13:00	09/02/08	4710	80.0	24	1055	0.80	51.10	0.94	2	5	2.77E-15	6.76E-15	0.05	0.11	3.89E-15	3.10E-14
R14-SE-2590-082508	8/25/08 6:30	8/28/08 13:00	09/02/08	4710	80.0	18	1034	0.80	51.10	0.94	1	2	1.35E-15	2.46E-15	0.02	0.04	3.89E-15	3.10E-14
R14-SW-3390-082508	8/25/08 6:30	8/28/08 13:00	09/02/08	4710	80.0	46	1123	0.80	51.10	0.94	6	16	7.99E-15	2.07E-14	0.13	0.34	3.89E-15	3.10E-14
R14-NE-2808-090208	9/2/08 6:30	9/4/08 13:00	09/08/08	4710	80.0	25	983	1.10	48.70	0.94	2	1	1.92E-15	1.84E-15	0.03	0.03	4.48E-15	3.03E-14
R14-NW-2773-090208	9/2/08 6:30	9/4/08 13:00	09/08/08	4710	80.0	46	987	1.10	48.70	0.94	5	2	6.90E-15	2.66E-15	0.11	0.04	4.48E-15	3.03E-14
R14-SE-2590-090208	9/2/08 6:30	9/4/08 13:00	09/08/08	4710	80.0	35	1085	1.10	48.70	0.94	3	18	4.29E-15	2.27E-14	0.07	0.38	4.48E-15	3.03E-14
R14-SW-3390-090208	9/2/08 6:30	9/4/08 13:00	09/08/08	4710	80.0	31	1074	1.10	48.70	0.94	3	16	3.34E-15	2.05E-14	0.06	0.34	4.48E-15	3.03E-14
R14-NE-2808-090808	9/9/08 12:00	9/12/08 7:30	09/15/08	4770	80.0	18	1066	0.70	51.10	0.94	1	7	1.69E-15	8.90E-15	0.03	0.15	3.63E-15	3.06E-14
R14-NW-2773-090808	9/8/08 8:00	9/12/08 7:30	09/15/08	5730	80.0	22	1028	0.70	51.10	0.94	2	1	2.19E-15	1.01E-15	0.04	0.02	3.02E-15	2.55E-14
R14-SE-2590-090808	9/8/08 8:30	9/12/08 7:30	09/15/08	5700	80.0	41	1095	0.70	51.10	0.94	6	12	5.93E-15	1.24E-14	0.10	0.21	3.03E-15	2.56E-14
R14-SW-3390-090808	9/8/08 8:30	9/10/08 9:00	09/15/08	2910	80.0	13	986	0.70	51.10	0.94	0	-6	8.57E-16	-1.19E-14	0.01	-0.20	5.94E-15	5.02E-14
R14-NE-2808-091508	9/15/08 6:30	9/17/08 14:00	09/22/08	3330	80.0	17	1083	1.00	49.50	0.94	0	15	5.44E-16	2.71E-14	0.01	0.45	6.10E-15	4.34E-14
R14-NW-2773-091508	9/15/08 6:30	9/17/08 14:00	09/22/08	3330	80.0	14	1001	1.00	49.50	0.94	0	2	-4.67E-16	3.20E-15	-0.01	0.05	6.10E-15	4.34E-14
R14-SE-2590-091508	9/15/08 6:30	9/17/08 14:00	09/22/08	3330	80.0	20	1036	1.00	49.50	0.94	1	7	1.56E-15	1.34E-14	0.03	0.22	6.10E-15	4.34E-14