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Highland Reclamation Project

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January 30, 1991

RE: Docket No. 40-8102
License No. SUA-1139

U.S. Nuclear Regulatory Commission
Uranium Recovery Field Office
P. O. Box 25325
Denver, CO 80225

Attention: R. E. Hall, Director

Re: ~~1991~~ 1990 Annual Report of Seepage Mitigation

Gentlemen:

This report is submitted in accordance with Condition 33C of License No. SUA-1139.

The locations of the wells and other major surface features noted in this report are shown on Map 1.

During 1990, the seepage mitigation pumping system operated for 304 days. It was down 57 days in the spring due to high water levels in the evaporation lagoons. Pumping rates have declined due to drawdown so this problem will probably not recur. The system was down for four days in October while the lagoon dikes were built up. The dikes had settled since construction in 1989 so additional compacted clayey earth was added to the embankments.

During 1990, wells 117, 175, 177 and 178 produced a total of 3.4 million (M) gallons from the Tailings Dam Sandstone (TDSS) aquifer (the uppermost aquifer). Since pumping began in 1989, 3.8 M gallons have been produced.

Attachment 1 provides the gallons pumped from each well each month, the average concentration of potentially hazardous constituents and the estimated mass of these constituents removed from the TDSS. A total of about 11 kilograms of non-radioactive and 334 microcuries of radioactive potentially hazardous constituents have been pumped from the uppermost aquifer since November 1989. About 64 metric tons of dissolved solids have been removed from the aquifer.

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The attached Graphs 1 through 26 chart the water levels in the monitor wells and Highland Reservoir since data collection began. Many of the well water levels peaked shortly after pumping tailings to the basin ceased and have been dropping for about six years. Attachments 2A (compliance wells), 2B (TDSS wells), 2C (background wells), 2D (ore sands wells), 2E (mine backfill wells) and 2F (Highland Reservoir) provide the 1988-1990 water quality data. These attachments are transcribed from the monitoring data provided to the NRC. Annual averages are provided for each parameter. Averages which exceed the applicable License Condition 33B standards are in bold type.

The data are discussed below by class of well.

Compliance Wells (125, 175, 176, 177):

The water levels fell in all these wells. The levels in the two mitigation wells (175, 177) became very erratic after November 1989 because of pumping drawdown. There has been some minor improvement in the water quality at Well 125 but it is not clear this is due to pumping. There has been some improvement in the radioactive parameters at the other wells. The arsenic and lead concentrations have remained below the standards in the wells. The cadmium and total radium 226+228 concentrations tend to be below or just above the standards. Chromium, nickel, thorium 230 and uranium generally remain above the standards.

Tailings Dam Sandstone Monitor Wells (TDSS) (015, 112,114, 117, 120, 127, 178, 179, 181, 183):

The water level fell in all these wells. The levels in the two mitigation wells became very erratic after pumping began as with the two mitigation compliance wells. The average decline of all the wells was about two feet in 1990. Levels have fallen from 10 to 60 feet in the monitor wells since 1984.

The annual average chemical and radionuclide concentrations have not changed very much since 1988 in the TDSS monitor wells. Some small improvement has occurred in wells 15 and 112. Well 15 is nearly dry. The pH measurement has trended downward in wells 179, 181 and 183 to the north of the tailings basin.

TDSS Background Monitor Wells (134, 172, 174, 184):

The water level of well 134 shows no trend. Level changes probably can be related to variations in recharge in the Highland area. The level at wells 172 and 182 have been falling. This is probably due to the falling tailings seepage mound. The level at 174 is erratic over about a two foot span with a slight upward trend.

Downward trends can be seen in the pH at wells 174 and 182. The Thorium-230 and Uranium concentrations at all the background wells regularly exceed the License Standards without the tailings seepage being the cause.

Clear trends are not seen for any parameters at the wells other than pH at wells 174 and 182. This relative constancy is reasonable for background wells.

Ore Sands Monitor Wells (116, 128, 129, 148):

Levels are slowly falling in all these wells. The water elevations at the west end of the basin near Highland Reservoir are far below the levels to the east. The water levels remain well below those in the overlying TDSS. Some improvement in water quality can be seen in wells 128 and 148.

Mine Backfill Wells (171, 173, 180):

The water levels are falling. The pH at well 180 may be declining. The water quality at wells 171 and 173 may show some improvement even though seepage is probably still moving through the backfill from the tailings basin.

The EPRCO 1982 study found that Highland shales and sandstones attenuate seepage constituents. The backfill is a mixture of shales and sandstones. As seepage flow through the backfill declines, more time is allowed for the attenuating interactions to occur. This may account for the improving water quality at wells 171 and 173.

Since the mine backfill contains low grade mineralized materials, elevated uranium and daughter concentrations are certainly to be expected in some saturated zones. This is seen at well 180. The radionuclide concentrations at this well are much higher than at wells 114 and 175 which are much closer to the basin.

Highland Reservoir (167):

The reservoir water level is rising about 6 feet per year. The water quality reflects essentially no impact from tailings seepage. Potentially hazardous constituents which might be expected to come from the tailings basin do not exist at elevated concentrations in the reservoir except uranium and selenium. However, the elevated uranium and selenium concentrations in the reservoir are many times greater than the concentrations in the tailings seepage. Other chemical concentrations are lower in the reservoir than in the tailings seepage. Therefore, the seepage is not the cause of the uranium and selenium concentrations in the reservoir. We surmise the concentrations reflect the interaction between the reservoir water, air and exposed mineralization around the reservoir. The concentrations are expected to fall once the mineralization is under water. This trend is already seen in radium 226.

under water. This trend is already seen in radium 226.

Summary:

The application of significant resources to seepage mitigation since November 1989 has reduced the mass of potentially hazardous constituents by about 11 KG and 334 microcuries. The seepage mound is much smaller than when the mill shut down in 1984 when pumping mill tailings to the basin ceased. The tailings seepage has not impacted the concentrations of potentially hazardous constituents in Highland Reservoir. The water levels in the TDSS, mine backfill and ore sands wells are dropping. The drop in the TDSS well water levels since 1984 has been quite large and continues at about two feet per year.

Please call me at (307) 265-7600 if there are any questions on this report.

Yours truly,

David M. Range

David M. Range
Supervisory Reclamation Engineer

DMR:jss
Attachment
c: L. Davis - WWL
J.F. Moore
J.D. Patton

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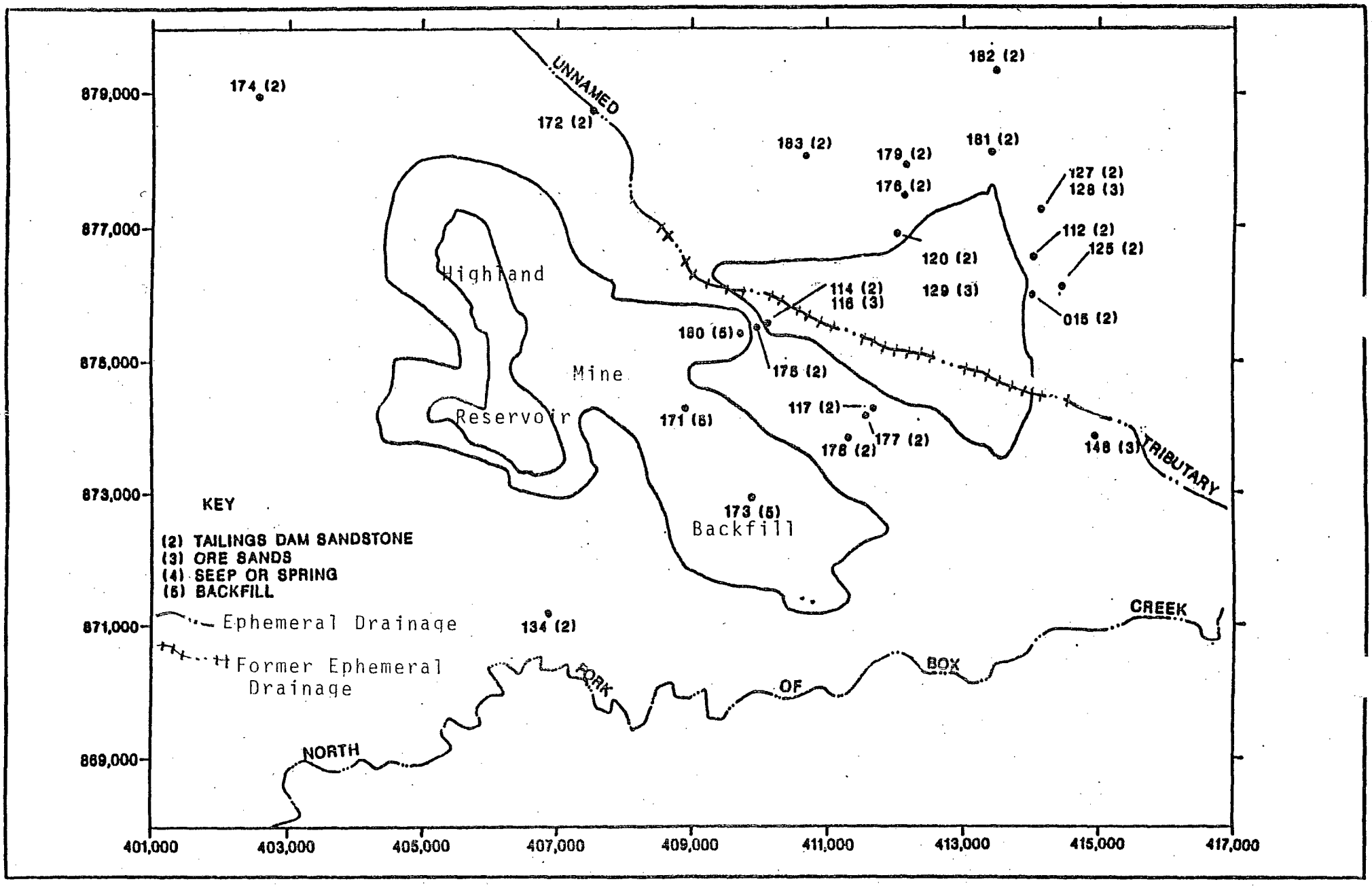


MAP 1

GROUND WATER MONITORING NETWORK

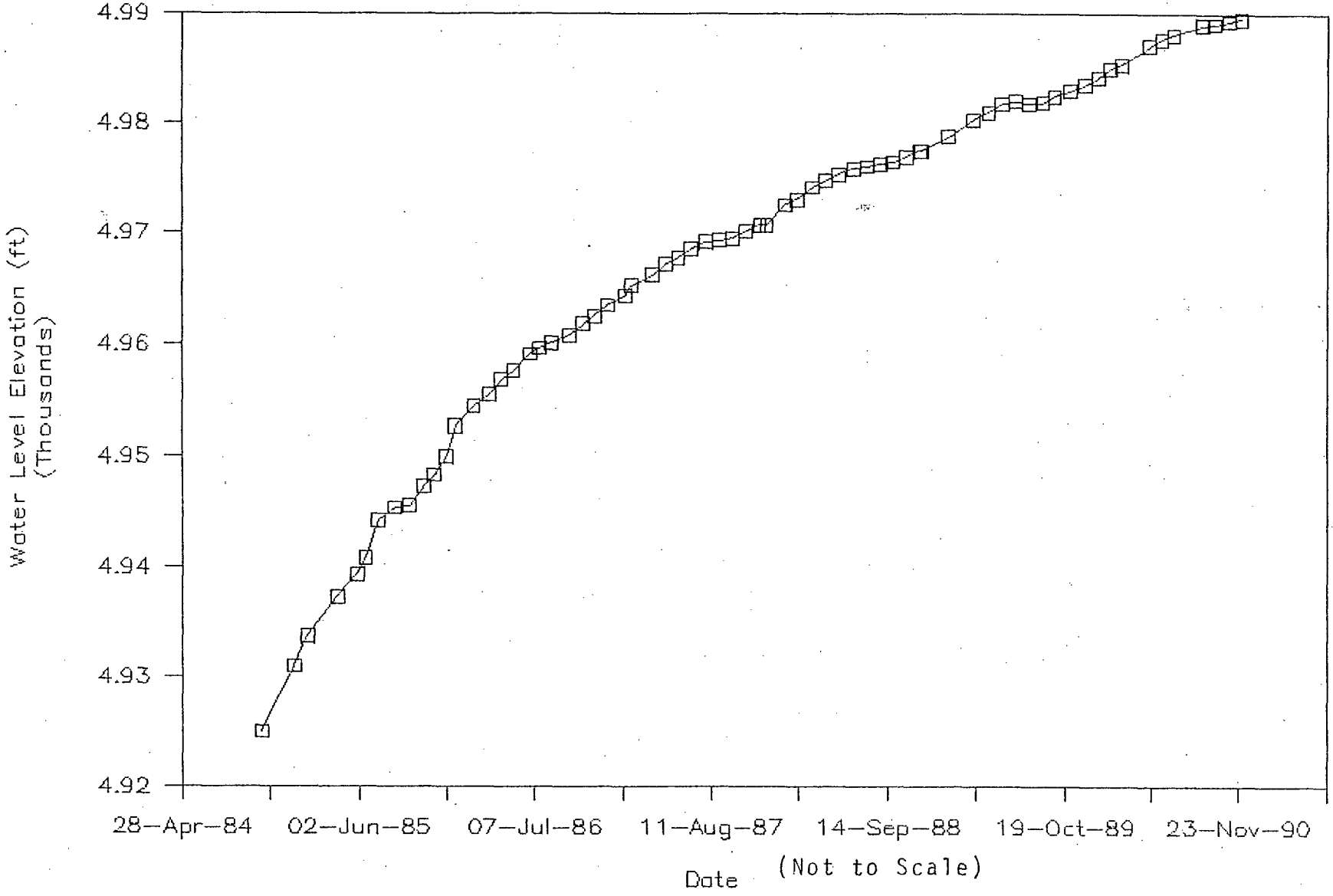
Date: January 1991

Project: Highland

GRAPH 26

ID: 167 (HIGHLAND LAKE SURFACE)

FORMATION: PIT 3-4 RESERVOIR



Reservoir Created by the Former Open Pit Mine Permitted by Wyoming Department of Environmental Quality. Reservoir is Well Outside Point of Compliance

ATTACHMENT 2A TDSS COMPLIANCE MONITOR WELLS

WELL NUMBER	WELL NAME	DATE	pH (S.U.)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	Na (mg/l)	NO3 (mg/l)	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Se (mg/l)	Grs Alpha (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)	Th230 (pCi/l)	UNAT (pCi/l)
125	TDM XXVI	02/29/88	7.4	3614	1650	190			< 0.001				1.20	< 0.001		0.70			0.70	0.70
		05/31/88	7.5	3784	2300	195			< 0.001				1.00	0.007		3.50			0.50	18.00
		08/30/88	7.3	3298	1790	208			< 0.001				1.30	0.049		0.20			0.90	63.00
		09/15/88	7.3	3567	1810	211		3.38	< 0.001	0.007	0.060	0.080	0.09	0.038	3.5	0.80	1.20	2.00	0.40	59.[illegible]
		09/29/88	7.4	3565	1670	211		2.85	< 0.001	0.009	< 0.010	< 0.020	< 0.05	0.331	1.6	0.30	3.40	3.70	0.50	59.
		10/15/88	7.6	3117	1380	211	283	2.67	< 0.001	0.008	< 0.010	< 0.020	< 0.05	0.049	3.0	0.70	3.10	3.80	0.80	58.00
		11/28/88	7.6	3108	1780	308			< 0.001				1.10	0.049		1.90			1.20	38.00
	Average 1988		7.5	3436	1769	219	283	2.97	< 0.001	0.008	< 0.003	**< 0.040**	**< 0.68**	**0.075**	2.7	1.16	2.57	3.17	**0.71**	**42.20**
		02/23/89	7.5	3141	1480	209	317	1.77	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.038	1.9	1.50	1.70	3.20	0.50	29.00
		05/22/89	7.6	2747	1710	215	369	0.46	0.002	0.012	< 0.010	< 0.020	< 0.05	< 0.001	1.2	0.30	1.20	1.50	0.40	26.00
		07/18/89	7.5	2414	1840	180	249	1.24	< 0.001	0.003	< 0.010	< 0.020	< 0.05	0.038	1.6	1.00	0.70	1.70	0.70	34.00
		10/19/89	7.4	2672	1570	230	340	0.65												
	Average 1989		7.5	2744	1650	208	318	1.03	< 0.002	< 0.006	< 0.010	< 0.020	< 0.05	< 0.026	1.4	0.93	1.20	2.13	0.53	**29.70**
		01/22/90	7.3	2871	1380	145	232	< 0.01	< 0.001	0.010	< 0.010	< 0.020	< 0.05	0.008	1.5	0.90	2.60	3.50	0.70	22.00
		05/02/90	7.7	2228	1140	125	152	0.29												
		08/23/90	7.5	2506	1500	145	227	0.43	0.001	0.004	< 0.010	< 0.020	< 0.05	< 0.001	2.5	0.40	1.50	1.90	0.20	32.00
		10/18/90	7.5	2667	1300	140	228	0.28												
	Average		7.4	2568	1330	139	210	< 0.25	< 0.001	0.007	< 0.010	< 0.020	< 0.05	< 0.005	2.0	0.65	2.55	3.20	0.45	**27.00**
175	TDM XLI	08/17/88	6.2	5685	2920	455		0.12	< 0.001	0.009	0.520	0.720	0.12	< 0.001	3.1	2.10	2.60	4.70	1.00	0.20
		09/01/88	6.2	5420	2940	449		0.92	0.001	0.010	0.580	0.730	0.16	< 0.001	8.1	1.10	10.00	11.10	0.30	2.10
		09/14/88	6.2	5298	3420	331		0.03	< 0.001	0.010	< 0.010	0.810	< 0.05	0.003	3.6	1.50	5.80	7.30	0.40	0.30
		09/28/88	6.4	4929	3270	376	291	0.12	< 0.001	0.012	0.550	0.830	0.08	< 0.001	8.2	1.00	9.40	10.40	0.60	0.70
	Average 1988		6.2	5333	3138	403	291	0.30	< 0.001	0.010	**< 0.415**	**0.772**	**< 0.11**	< 0.002	5.8	1.43	6.95	**8.38**	**0.58**	**0.83**
		01/12/89	6.5	5810	3950	410	279	0.35	< 0.001	0.012	0.200	0.900	< 0.05	0.007	7.1	2.10	6.20	8.30	1.00	0.80
		04/25/89	6.4	5766	3600	480	299	0.24	< 0.001	0.014	0.770	0.720	< 0.05	< 0.001	2.3	0.60	1.50	2.10	0.90	< 0.20
		07/14/89	6.4	5393	3000	410	284	0.07	< 0.001	0.011	0.400	0.730	< 0.05	0.001	1.6	1.30	0.80	2.10	0.90	0.30
		10/20/89	6.4	5542	3980	420	360	0.04												
		12/12/89	6.4	5526	2200	420	314	0.13	< 0.001	0.014	2.030	1.130	< 0.05	< 0.001	4.9	1.60	3.30	4.90	1.00	0.40
	Average 1989		6.4	5607	3346	428	307	0.17	< 0.001	**0.013**	**0.850**	**0.870**	< 0.05	< 0.003	4.0	1.40	2.95	4.35	**0.95**	< 0.42

ATTACHMENT 2A TDSS COMPLIANCE MONITOR WELLS CONTINUED

WELL NUMBER	WELL NAME	DATE	pH (S.U.)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	Na (mg/l)	NO3 (mg/l)	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Se (mg/l)	Grs Alpha (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)	Th230 (pCi/l)	UNAT (pCi/l)
175	TDM XLI	01/16/90	6.1	3924	2480	430	324	< 0.01	< 0.001	0.014	1.970	1.190	< 0.05	0.001	1.5	1.30	1.60	2.90	1.50	0.90
		05/03/90	6.2	6080	3360	400	308	< 0.01												
		08/22/90	6.2	5864	3140	395	316	0.49	0.001	0.013	0.490	0.990	< 0.05	0.001	6.0	1.10	1.90	3.00	0.10	< 0.20
		10/19/90	6.2	7056	3850	384	274	0.43												
	Average 1990		6.2	5731	3208	402	306	< 0.24	< 0.001	**0.014**	**1.230**	**1.090**	< 0.05	0.001	3.8	1.20	1.75	2.95	**0.80**	**< 0.5**
176	TDM XLII	08/23/88	8.0	2546	950	175		0.44	< 0.001	0.003	< 0.010	0.050	< 0.05	< 0.001	4.1	1.30	2.40	3.70	1.10	0.05
		09/07/88	8.4	2345	1270	180		0.36	< 0.001	0.005	< 0.010	< 0.020	< 0.05	< 0.001	3.6	0.90	3.90	4.80	0.50	0.05
		09/21/88	8.2	2524	1410	185		0.13	< 0.001	0.007	< 0.010	0.040	< 0.05	< 0.001	3.1	1.10	3.60	4.70	0.60	1.20
		10/05/88	8.4	2390	1500	172	193	0.25	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	6.3	2.10	4.80	6.90	0.90	1.30
	Average 1988		8.2	2451	1282	178	193	0.30	< 0.001	< 0.005	< 0.010	**< 0.032**	< 0.05	< 0.001	4.3	1.35	3.68	**5.03**	**0.78**	**0.65**
		01/18/89	8.0	2641	1580	182	197	0.39	< 0.001	0.006	< 0.010	0.140	< 0.05	0.004	5.6	1.90	5.00	6.90	0.50	1.70
		04/26/89	8.2	2491	1880	215	195	< 0.01	< 0.001	0.007	< 0.010	< 0.020	< 0.05	< 0.001	3.0	0.90	2.00	2.90	0.20	< 0.20
		07/17/89	8.1	2546	1540	250	198	0.17	< 0.001	0.006	< 0.010	< 0.020	< 0.05	0.001	1.4	1.10	0.90	2.00	0.60	0.80
		10/23/89	8.3	2645	1570	205	204	0.09												
	Average 1989		8.2	2581	1642	213	198	< 0.16	< 0.001	0.006	< 0.010	**< 0.060**	< 0.05	< 0.002	3.3	1.30	2.63	3.93	0.43	**< 0.90**
		01/17/90	8.0	2066	1650	190	205	< 0.01	< 0.001	0.012	< 0.010	0.030	< 0.05	0.001	1.6	1.30	2.00	2.30	0.20	0.30
		04/24/90	7.6	2706	1100	375	238	0.08												
		08/24/90	8.1	2576	1500	172	206	0.03	< 0.001	0.008	0.030	< 0.020	< 0.05	< 0.001	2.2	0.60	2.30	2.90	0.20	< 0.20
		10/18/90	8.0	2796	1350	198	201	< 0.01												
	Average 1990		7.9	2536	1400	234	212	< 0.04	< 0.001	0.010	< 0.020	**< 0.025**	< 0.05	< 0.001	1.9	0.95	2.15	2.60	0.20	< 0.25
177	TDM XLIII	08/22/88	6.1	4974	2080	325		< 0.01	< 0.001	0.010	< 0.010	0.110	< 0.05	< 0.001	3.0	1.60	2.00	3.60	1.20	43.00
		09/07/88	6.1	4450	2250	308		0.40	< 0.001	0.016	< 0.010	0.120	< 0.05	< 0.001	3.6	0.80	4.30	5.10	0.50	69.00
		09/21/88	6.3	4526	2510	290		0.12	< 0.001	0.013	< 0.010	0.150	< 0.05	0.001	2.9	1.00	6.50	7.50	0.50	62.00
		10/18/88	6.3	5349	2470	338	283	0.15	< 0.001	0.011	< 0.010	0.140	< 0.05	< 0.001	2.8	1.20	6.90	8.10	1.00	41.00
	Average 1988		6.2	4825	2328	315	283	< 0.17	< 0.001	**0.012**	< 0.010	**0.130**	< 0.05	< 0.001	3.1	1.15	4.92	**6.07**	**0.80**	**53.75**

ATTACHMENT 2A TDSS COMPLIANCE MONITOR WELLS CONTINUED

WELL NUMBER	WELL NAME	DATE	pH (S.U.)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	Na (mg/l)	NO3 (mg/l)	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Se (mg/l)	Grs Alpha (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)	Th230 (pCi/l)	UNAT (pCi/l)
177	TOM XLIII	01/11/89	6.5	4167	2800	282	263	0.75	< 0.001	0.011	< 0.010	< 0.020	< 0.05	0.002	4.6	1.80	5.70	7.50	0.70	64.00
		04/24/89	6.4	4037	3050	460	277	0.25	< 0.001	0.011	< 0.010	< 0.020	< 0.05	< 0.001	4.0	1.60	2.40	4.00	1.80	20.00
		07/13/89	6.4	4636	2690	320	273	0.14	< 0.001	0.008	< 0.010	< 0.020	< 0.05	0.003	2.0	1.80	1.20	3.00	1.40	64.00
		10/20/89	6.4	4432	2650	310	350	0.18												
		12/18/89	6.4	4355	2290	310	280	0.44	< 0.001	0.015	0.040	0.090	< 0.05	< 0.001	3.0	1.40	1.60	3.00	1.10	47.00
	Average 1989		6.4	4325	2696	336	293	0.35	< 0.001	**0.011**	< 0.018	**< 0.038**	< 0.05	< 0.002	3.4	1.65	2.72	4.37	**1.25**	**48.80**
		01/18/90	6.3	3105	2400	290	274	< 0.01	< 0.001	0.015	< 0.010	0.060	< 0.05	0.001	2.1	1.40	1.60	3.00	0.60	36.00
		05/30/90	5.9	5022	2880	320	317	2.36												
		08/24/90	6.6	3783	2170	275	293	0.13	< 0.001	0.009	0.040	0.070	< 0.05	< 0.001	6.1	1.60	2.10	3.70	0.20	25.00
		10/19/90	6.5	4624	2500	265	277	0.14												
	Average 1990		6.3	4134	2488	288	290	< 0.66	< 0.001	**0.012**	< 0.025	**0.065**	< 0.05	< 0.001	4.1	1.50	1.85	3.35	0.40	**30.50**

ATTACHMENT 2B TOSS MONITOR WELLS

WELL NUMBER	WELL NAME	DATE	pH (S.U.)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	Na (mg/l)	NO3 (mg/l)	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Se (mg/l)	Grs Alpha (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)	Th230 (pCi/l)	UHAT (pCi/l)
015	TDH WELL D	01/27/88	6.9	3474	1420	265			< 0.001				0.80	0.002		1.70			0.70	69.00
		04/30/88	6.9	4273	1900	290			< 0.001				1.00	0.001		2.60			0.80	87.00
		07/20/88	6.9	4221	1660	380			< 0.001				0.00	0.007		1.70			2.50	186.00
		08/30/88	6.9	3423	1950	273		0.83	< 0.001	0.007	0.030	0.040	0.09	0.002	1.5	0.90	2.60	3.50	0.40	52
		09/14/88	6.8	3811	1850	308		0.64	< 0.001	0.009	< 0.010	0.060	0.09	0.001	1.7	1.20	2.20	3.40	0.60	51.00
		09/28/88	6.9	3819	1810	300	263	0.38	0.001	0.007	< 0.010	0.040	0.08	0.001	1.6	1.50	2.00	3.50	0.90	44.00
		10/25/88	6.9	4201	2300	360	245	0.72	< 0.001	0.007	< 0.010	< 0.020	< 0.05	0.008	3.1	1.50	2.00	3.50	2.40	51.00
	Average 1988		6.9	3889	1599	311	254	0.64	< 0.001	0.008	< 0.020	< 0.040	< 0.30	0.003	2.0	1.60	2.20	3.50	1.20	77.00
		01/27/89	7.4	3230	1990	346	257	0.33	< 0.001	0.007	< 0.010	0.060	< 0.05	0.001	4.3	1.80	3.20	5.00	0.70	88.00
		04/28/89	7.2	3923	2180	280	268	0.29	< 0.001	0.006	0.010	< 0.020	< 0.05	< 0.001	2.8	1.40	1.20	2.60	1.40	27.00
		07/18/89	7.4	3062	1830	270	260	0.48	< 0.001	< 0.005	< 0.010	0.040	< 0.05	0.001	1.6	1.20	0.90	2.10	0.80	42.00
		10/19/89	7.4	3296	1700	265	310	0.26												
	Average 1989		7.4	3378	1925	290	274	0.34	< 0.001	< 0.006	< 0.010	< 0.040	< 0.05	< 0.001	2.9	1.50	1.77	2.45	0.97	52.00
		01/19/90	7.0	1724	1500	290	271	<0.01	< 0.001	0.013	< 0.010	< 0.020	< 0.05	0.001	1.7	1.30	2.00	3.30	0.30	69.00
		05/01/90	7.2	3540	1780	255	243	0.08												
		08/23/90	Not Enough Water to Sample																	
		11/08/90	7.1	3610	1660	275	278	0.10												
	Average 1990		7.1	2958	1647	273	264	<0.05	<0.001	0.013	<0.010	<0.020	<0.05	0.001	1.7	1.30	2.00	3.30	0.30	69
112	TDH VII	01/30/88	7.1	3479	1340	206			< 0.001	0.004	< 0.010		< 0.05	0.100		0.90			0.70	0.10
		04/30/88	7.1	3432	1840	220			0.001	0.007	< 0.010		< 0.05	< 0.001		1.20			2.10	29.00
		07/18/88	7.0	3715	1500	215			< 0.001	0.012	0.030		< 0.05	0.195		0.80			1.00	15.00
		08/31/88	7.3	3487	1750	242		0.28	< 0.001	0.006	0.020	< 0.020	< 0.05	0.139	2.5	0.70	4.10	4.80	0.30	33.00
		09/15/88	7.1	3748	1910	202		1.16	0.005	0.008	< 0.010	0.030	0.06	0.096	2.2	1.30	5.60	6.90	0.30	20.00
		09/29/88	7.2	3977	1780	211	252	1.11	0.001	0.008	< 0.010	0.040	< 0.05	0.181	4.0	1.40	3.50	4.90	0.70	17.00
		10/14/88	7.2	4392	1770	220		1.22	< 0.001	0.008	< 0.010	< 0.020	< 0.05	0.172	6.2	0.60	4.60	1.00	1.00	11.00
	Average 1988		7.1	3747	1699	217	252	0.94	< 0.002	0.008	< 0.014	< 0.028	< 0.05	< 0.126	3.7	0.99	4.45	5.53	0.87	18.00

ATTACHMENT 2B TDSS MONITOR WELLS CONTINUED

WELL NUMBER	WELL NAME	DATE	pH (S.U.)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	Na (mg/l)	NO3 (mg/l)	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Se (mg/l)	Grs Alpha (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)	Th230 (pCi/l)	UNAT (pCi/l)
112	TDM VII	01/26/89	7.2	3208	1990	319	245	18.90	< 0.001	0.007	< 0.010	0.030	< 0.05	0.097	1.9	1.50	4.00	5.50	0.60	18.00
		04/27/89	7.5	3192	1810	260	250	12.20	< 0.001	0.007	< 0.010	< 0.020	< 0.05	< 0.001	2.3	0.90	2.00		0.30	4.90
		07/18/89	7.3	3045	1830	260	244	13.30	< 0.001	0.010	< 0.010	0.060	< 0.05	0.260	1.7	1.40	0.80			6.50
		10/19/89	7.0	3108	1900	230	309	12.00												
	Average 1989		7.3	3138	1883	267	262	14.00	< 0.001	0.008	< 0.010	< 0.037	< 0.05	< 0.119	1.3	1.27	2.27	5.50	0.45	9.[illegible]
		01/19/90	7.0	2350	1630	220	259	11.80	< 0.001	0.012	< 0.010	< 0.020	< 0.05	0.177	1.4	1.20	3.30	4.50	0.10	11.00
		05/01/90	7.2	3528	1730	225	227	11.80												
		08/23/90	7.3	3203	1520	202	263	4.47	0.001	0.009	< 0.010	< 0.020	< 0.05	0.169	2.8	0.70	1.60	2.30	0.20	10.00
		10/19/90	7.0	3578	1680	216	253	3.09												
	Average 1990		7.1	3185	1640	216	250	7.79	< 0.001	0.011	<0.010	<0.020	<0.05	0.173	2.1	0.95	2.45	3.40	0.15	10.50
114	TDM IX	01/30/88	6.5	6616	3700	360			< 0.001	0.013	< 0.100		< 0.05	0.007		1.50			0.60	< 0.10
		04/30/88	6.3	7203	5400	400			< 0.001	0.013	0.010		< 0.05	0.003		1.40			1.30	< 0.70
		07/14/88	6.1	5899	2140	275			< 0.001	0.016	0.020		0.09	0.014		1.30			1.50	0.20
		08/25/88	6.1	6310	4420	387		0.03	< 0.001	0.008	0.610	0.710	0.08	< 0.001	3.4	0.70	5.40	6.10	0.50	0.10
		09/15/88	6.0	7240	5300	388		< 0.01	< 0.001	0.011	0.620	0.820	0.10	0.008	0.7	0.90	6.80	7.70	0.70	< 0.05
		09/29/88	6.0	7216	5140	376		0.12	< 0.001	0.012	0.600	0.020	0.11	< 0.001	12.5	0.80	6.80	7.60	0.40	1.00
		10/14/88	6.1	6802	5010	359	339	0.37	< 0.001	0.020	0.120	< 0.020	< 0.05	< 0.001	10.1	1.30	8.80	10.10	0.80	< 0
	Average 1988		6.2	6755	4444	364	339	< 0.14	< 0.001	0.013	< 0.297	< 0.390	< 0.08	< 0.005	6.7	1.13	6.95	7.88	0.83	< 0
		01/26/89	6.3	5394	4420	391	302	0.17	< 0.001	0.010	0.200	0.510	< 0.05	0.004	3.2	1.50	4.00	5.50	0.70	1.10
		04/26/89	6.4	5342	7050	390	328	< 0.01	< 0.001	0.010	0.790	0.690	< 0.05	0.002						
		07/14/89	6.3	6797	4300	400	313	0.28	< 0.001	0.010	0.470	0.410	< 0.05	0.002	1.4	1.10	0.90	2.00	0.80	< 0.20
		10/23/89	6.2	6676	3980	390	390	0.17												
		12/12/89	6.1	5861	2350	400	313	0.01	< 0.001	0.014	2.080	1.170	< 0.05	< 0.001	2.9	1.00	3.60	4.60	1.80	< 0.20
	Average 1989		6.3	6014	4420	394	329	< 0.13	< 0.001	0.011	0.865	0.700	< 0.05	< 0.003	2.5	1.20	2.83	4.03	1.10	< 0.50

ATTACHMENT 2B TDSS MONITOR WELLS CONTINUED

WELL NUMBER	WELL NAME	DATE	pH (S.U.)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	Na (mg/l)	NO3 (mg/l)	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Se (mg/l)	Grs Alpha (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)	Th230 (pCi/l)	UNAT (pCi/l)
114	TDM IX	01/16/90	5.8	3347	3260	420	328	< 0.01	< 0.001	0.013	1.880	1.200	< 0.05	< 0.001	2.6	1.40	3.60	5.00	0.80	< 0.20
		05/03/90	6.2	6086	3940	600	286	< 0.01												
		08/24/90	6.3	5634	3100	400	318	0.50	0.001	0.012	0.500	0.970	< 0.05	0.002	4.3	1.80	1.60	3.40	0.30	< 0.20
		10/19/90	6.3	6306	3600	380	279	0.13												
	Average 1990		6.2	5343	3475	450	303	< 0.16	< 0.001	0.012	1.190	1.089	< 0.05	< 0.002	3.4	1.60	2.60	4.20	0.55	< 0.20
117	TDM XII	01/30/88	6.3	4514	2250	270			< 0.001	0.013	< 0.010		< 0.05	0.004		1.60			0.66	0.20
		04/30/88	6.4	4933	2670	300			0.003	0.014	< 0.010		< 0.05	0.004		2.10			1.40	57.00
		07/18/88	6.2	5044	1970	265			< 0.001	0.017	0.030		0.09	0.007		3.00			1.20	44.00
		08/25/88	6.2	4414	2320	299		0.15	0.001	0.008	< 0.010	0.070	0.08	< 0.001	4.3	1.50	6.50	8.00	1.00	55.00
		09/09/88	6.2	5064	2350	308		0.20	0.001	0.012	< 0.010	0.090	0.10	0.001	3.5	1.20	2.70	3.90	0.50	60.00
		09/23/88	6.2	4243	2740	308		0.11	< 0.001	0.011	0.020	0.020	0.06	< 0.001	5.1	1.30	6.70	8.00	0.40	51.00
		10/13/88	6.2	4664	2360	352	275	0.26	< 0.001	0.010	< 0.010	< 0.020	< 0.05	< 0.001	11.8	1.40	7.70	9.10	0.60	28.00
	Average 1988		6.2	4697	2360	300	275	0.18	< 0.002	0.012	< 0.013	< 0.050	< 0.07	< 0.003	6.2	1.70	5.90	7.25	0.82	42.17
		04/26/89	6.4	3676	2510	305	277	< 0.01	0.002	0.016	< 0.010	< 0.020	< 0.05	< 0.001	3.3	1.10	1.80	2.70	1.20	24.00
		07/13/89	6.3	4214	2650	350	267	0.30	< 0.001	0.008	< 0.010	0.080	< 0.05	0.003	1.7	1.20	0.60	1.80	0.90	14.00
		10/20/89	6.4	3941	2560	295	340	0.16												
		12/18/89	6.4	3277	2150	350	282	0.24	< 0.001	0.013	0.040	0.090	< 0.05	< 0.001	3.2	1.40	1.90	3.30	1.40	46.00
	Average 1989		6.4	3577	2468	325	292	< 0.18	< 0.002	0.012	< 0.020	< 0.063	< 0.05	< 0.002	2.7	1.23	1.43	2.60	1.17	28
		01/18/90	6.2	2812	2120	310	273	< 0.01	< 0.001	0.012	< 0.010	< 0.020	< 0.05	0.001	2.9	1.20	3.30	4.50	1.70	22.00
		05/03/90	6.3	4344	2260	255	256	< 0.01												
		08/22/90	6.5	3698	1750	228	269	0.08	< 0.001	0.009	< 0.010	0.070	< 0.05	< 0.001	2.9	0.80	1.30	2.10	0.20	19.00
		10/19/90	6.4	4339	2380	260	267	0.08												
	Average 1990		6.4	3798	2128	263	266	< 0.05	< 0.001	0.010	< 0.010	< 0.045	< 0.05	< 0.001	2.9	1.00	2.30	3.30	0.95	20.50

ATTACHMENT 2B TDSS MONITOR WELLS CONTINUED

WELL NUMBER	WELL NAME	DATE	pH (S.U.)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	Na (mg/l)	NO3 (mg/l)	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Se (mg/l)	Grs Alpha (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)	Th230 (pCi/l)	UNAT (pCi/l)
120	TDM XXI	01/30/88	7.0	3736	1460	260		< 0.01	0.002	0.008	< 0.010		< 0.05	0.004		1.40			0.50	0.20
		04/30/88	7.0	2844	1850	280			< 0.001	0.009	< 0.010		< 0.05	0.002		1.10			2.50	78.00
		07/13/88	7.2	2890	1660	235			< 0.001	0.015			0.09	0.002		1.40			1.10	< 0.50
		08/25/88	6.9	3286	1610	273		0.44	0.002	0.007	0.040	< 0.020	0.08	< 0.001	3.3	0.40	3.90	4.30	0.60	60.00
		09/09/88	6.9	4090	2050	273		0.44	0.003	0.010	< 0.010	0.070	0.09	0.001	4.1	0.70	2.90	3.60	0.60	42.00
		09/23/88	7.0	2766	1670	277		0.15	0.002	0.010	< 0.010	< 0.020	0.06	< 0.001	3.2	0.80	3.70	4.50	0.50	57.0
		10/13/88	7.0	3584	1610	280	168	0.68	< 0.001	0.010	< 0.010	< 0.020	< 0.05	0.003	5.2	0.70	6.10	6.80	0.50	48.00
	Average 1988		7.0	3314	1701	268	168	< 0.34	< 0.002	0.010	< 0.010	**< 0.040**	**< 0.07**	< 0.002	4.0	0.93	4.15	4.80	**0.90**	**< 40.81**
		01/27/89	7.2	2586	1700	346	168	0.29	0.002	0.007	< 0.010	0.030	< 0.05	< 0.001	3.1	1.30	3.70	5.00	0.40	41.00
		04/25/89	7.2	2978	1980	290	164	< 0.01	0.002	0.007	0.060	0.030	< 0.05	< 0.001	3.4	0.60	2.70	3.30	0.90	24.00
		07/17/89	7.2	3033	1460	270	160	0.07	0.003	0.004	< 0.010	0.040	< 0.05	< 0.001	1.4	0.90	0.60	1.50	0.50	16.00
		10/19/89	7.2	3187	1900	240	165	< 0.01												
	Average 1989		7.2	2946	1760	287	164	< 0.10	0.002	0.006	**< 0.040**	**0.033**	< 0.05	< 0.001	2.6	0.93	2.33	3.27	**0.60**	**27.00**
		01/16/90	6.9	2171	1600	240	158	< 0.01	0.001	0.011	< 0.010	< 0.020	< 0.05	0.001	2.7	1.00	2.30	3.30	1.50	21.00
		04/24/90	7.4	2182	1740	310	196	< 0.01												
		08/23/90	7.1	3397	1410	265	184	0.20	0.005	0.005	0.040	0.030	< 0.05	< 0.001	4.3	1.10	1.20	2.30	0.50	28.00
		10/18/90	7.2	3697	1850	395	202	0.19												
	Average 1990		7.2	2862	1650	302	205	< 0.11	0.003	0.008	< 0.025	**< 0.025**	< 0.05	< 0.001	3.5	1.05	1.75	2.80	**1.00**	**24.50**
127	TDM XXVIII	02/29/88	7.7	982	933	12			< 0.001				0.90	0.018		0.80			1.10	0.
		05/31/88	7.6	931	348	14			< 0.001				1.00	0.017		1.50			0.10	33.00
		08/31/88	7.7	909	410	13		< 0.01	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.001	1.1	0.70	1.70	2.40	0.40	49.00
		09/15/88	7.7	911	394	22		< 0.01	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.001	4.1	1.10	1.10	2.20	0.50	57.00
		09/29/88	7.8	1051	390	11		0.28	< 0.001	0.003	< 0.010	< 0.020	< 0.05	0.001	1.3	0.80	3.60	4.40	0.50	60.00
		10/18/88	7.8	818	394	12	82	0.26	< 0.001	0.003	< 0.010	< 0.020	< 0.05	0.002	1.5	0.90	2.80	3.70	0.60	31.00
		11/28/88	7.5	875	221	16			< 0.001				1.00	0.016		1.70			1.10	32.00
	Average 1988		7.7	937	441	14	82	< 0.14	< 0.001	< 0.003	< 0.010	< 0.020	**< 0.44**	0.005	2.0	1.07	2.30	3.18	**0.61**	**37.50**

ATTACHMENT 2B TDSS MONITOR WELLS CONTINUED

WELL NUMBER	WELL NAME	DATE	pH (S.U.)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	Na (mg/l)	NO3 (mg/l)	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Se (mg/l)	Grs Alpha (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)	Th230 (pCi/l)	UNAT (pCi/l)
127	TDM XXVIII	02/23/89	8.2	969	400	15	128	0.29	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.001	1.7	1.80	1.90	3.70	0.50	33.00
		05/10/89	7.9	920	490	14	112	0.19	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	2.1	1.50	1.80	3.30	0.50	25.00
		07/18/89	7.9	873	530	16	83	0.45	< 0.001	< 0.002	< 0.010	< 0.020		0.001	1.2	0.90	0.70	1.60	0.60	42.00
		10/19/89	7.9	879	440	15	91	0.35												
	Average 1989		8.0	910	465	15	104	0.32	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	1.7	1.40	1.47	2.87	**0.53**	**33.00**
		01/19/90	7.7	747	390	17	84	< 0.01	< 0.001	0.004	< 0.010	< 0.020	< 0.05	0.002	1.5	0.70	1.50	2.20	0.70	56.00
		05/01/90	8.0	852	410	55	79	< 0.01												
		08/23/90	7.8	759	298	30	86	0.65	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.001	2.1	0.60	1.30	1.90	0.20	26.00
		10/19/90	7.7	861	340	16	89	0.56												
	Average 1990		7.8	805	360	30	84	< 0.31	< 0.001	< 0.003	< 0.010	< 0.020	< 0.05	< 0.002	1.8	0.65	1.40	2.05	0.45	**41.00**
178	TDM XLIV	08/17/88	6.6	4028	1460	315		< 0.01	< 0.001	0.006	< 0.010	< 0.020	< 0.05	0.001	4.2	1.90	2.10	4.00	1.20	57.00
		09/01/88	6.6	4160	2050	334		0.36	0.002	0.006	0.050	< 0.020	0.12	0.001	5.0	1.10	6.70	7.80	0.20	36.00
		09/14/88	6.7	3999	2250	312		0.36	0.001	0.009	0.050	0.110	0.06	0.001	3.0	1.50	4.10	5.60	0.40	35.00
		09/22/88	6.7	3968	1470	326	284	0.05	0.001	0.012	0.040	0.080	0.10	0.001	3.6	1.30	4.40	5.70	0.40	37.00
	Average 1988		6.6	4039	1808	322	284	< 0.019	< 0.002	0.008	< 0.038	**< 0.060**	**< 0.08**	0.001	4.0	1.45	4.33	**5.78**	**0.55**	**41.25**
		01/11/89	6.9	3980	2900	300	271	0.31	< 0.001	0.009	< 0.010	< 0.020	< 0.05	< 0.001	2.1	1.90	3.70	5.60	0.90	31.00
		04/24/89	6.9	3227	2500	420	267	0.05	0.002	0.007	< 0.010	< 0.020	< 0.05	< 0.001	2.0	1.70	1.70	3.40	1.70	26.00
		07/13/89	7.0	4392	2800	330	273	0.08	< 0.001	0.009	0.030	0.030	< 0.05	< 0.001	1.6	1.10	0.60	1.70	1.30	75.00
		10/20/89	6.8	3923	2370	310	340	0.16												
		12/16/89	6.9	4029	1940	320	286	0.17	< 0.001	0.016	0.060	0.070	< 0.05	< 0.001	3.2	1.30	1.90	3.20	0.70	2.30
	Average 1989		6.9	3910	2502	336	287	0.15	< 0.002	0.010	< 0.030	**< 0.035**	< 0.05	< 0.001	2.2	1.50	1.98	3.48	**1.15**	**33.58**
		01/18/90	6.5	2324	1990	320	324	< 0.01	< 0.001	0.015	< 0.010	0.030	< 0.05	0.001	1.7	1.40	1.50	2.90	0.40	2.60
		05/03/90	6.9	4078	2070	320	273	< 0.01												
		08/24/90	6.8	3690	2100	290	305	0.05	< 0.001	0.014	0.050	0.050	< 0.05	< 0.001	5.2	1.30	1.60	2.90	0.20	2.60
		10/19/90	6.5	4340	2200	255	291	0.05												
	Average 1990		6.7	3608	2090	296	298	< 0.06	< 0.001	**0.014**	< 0.030	**0.040**	< 0.05	< 0.001	3.4	1.35	1.55	2.90	0.30	**2.60**

ATTACHMENT 2B TDSS MONITOR WELLS CONTINUED

WELL NUMBER	WELL NAME	DATE	pH (S.U.)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	Na (mg/l)	NO3 (mg/l)	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Se (mg/l)	Grs Alpha (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)	Th230 (pCi/l)	UNAT (pCi/l)
179	TDM XLV	08/22/88	7.5	1022	336	81		0.31	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	3.2	0.80	2.20	3.00	1.40	0.60
		09/06/88	9.0	1148	490	110		0.28	< 0.001	0.003	< 0.010	< 0.020	< 0.05	0.001	2.4	0.80	3.40	4.20	0.20	0.05
		09/20/88	8.8	1169	494	82		0.40	0.001	0.005	< 0.010	< 0.020	< 0.05	< 0.001	2.4	1.00	2.70	3.70	0.20	0.50
		10/05/88	8.7	976	542	85	172	0.37	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	2.9	1.80	4.10	5.90	0.50	< 0.05
	Average 1988		8.5	1079	465	90	172	0.34	< 0.001	< 0.003	< 0.010	< 0.020	< 0.05	< 0.001	2.7	1.10	3.10	4.20	**0.58**	< 0.[illegible]
		01/18/89	8.1	1028	510	77	160	0.28	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	1.3	1.20	2.90	4.10	0.30	0.90
		04/27/89	8.3	1012	600	230	156	0.06	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	2.1	1.20	2.70	3.90	0.80	< 0.20
		07/17/89	8.2	1015	430	80	149	0.06	0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.003	1.9	0.90	0.50	1.40	1.20	< 0.20
		10/23/89	8.3	958	500	82	175	0.07												
	Average 1989		8.2	1003	510	117	160	0.12	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.002	1.8	1.10	2.00	3.10	**0.77**	< 0.43
		01/17/90	7.9	652	458	115	159	< 0.01	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.001	1.3	1.00	1.40	2.40	0.20	0.70
		05/02/90	8.3	1036	520	85	157	< 0.01												
		08/24/90	7.8	1002	490	80	167	< 0.01	< 0.001	0.006	< 0.010	< 0.020	< 0.05	0.001	2.4	0.60	1.60	2.20	0.20	< 0.20
		10/18/90	8.5	968	425	72	163	< 0.01												
	Average 1990		8.1	914	473	88	162	< 0.01	< 0.001	< 0.004	< 0.010	< 0.020	< 0.05	0.001	1.8	0.80	1.50	2.30	0.20	< 0.45
181	TDM XLVII	08/22/88	7.6	769	274	55		< 0.01	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	3.2	1.30	2.30	3.60	1.10	5.50
		09/06/88	8.7	692	280	55		< 0.01	0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.001	1.9	1.20	1.90	3.10	0.20	5.00
		09/20/88	8.6	738	282	49		< 0.01	0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	1.1	1.00	1.60	2.60	0.30	0.
		10/04/88	8.5	719	302	51	145	0.15	< 0.001	0.003	< 0.010	< 0.020	< 0.05	< 0.001	1.7	2.40	3.10	5.50	0.40	< 0.05
	Average 1988		8.4	730	285	52	145	< 0.04	< 0.001	< 0.003	< 0.010	< 0.020	< 0.05	< 0.001	2.0	1.48	2.20	3.68	0.50	< **2.65**
		01/11/89	8.1	683	350	56	146	0.30	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.001	1.5	1.10	2.90	3.00	0.60	2.60
		04/27/89	7.9	754	400	220	148	< 0.01	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	1.1	1.70	2.50	4.20	0.70	0.30
		07/14/89	7.8	842	460	70	151	0.06	0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.003	2.0	1.30	1.20	2.50	1.10	< 0.20
		10/23/89	8.0	835	460	78	177	0.18												
	Average 1989		8.0	778	418	106	156	< 0.14	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.002	1.5	1.40	2.20	3.60	**0.80**	< **1.03**

ATTACHMENT 2B TDSS MONITOR WELLS CONTINUED

WELL NUMBER	WELL NAME	DATE	pH (S.U.)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	Na (mg/l)	NO3 (mg/l)	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Se (mg/l)	Grs Alpha (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)	Th230 (pCi/l)	UNAT (pCi/l)
181	TDM XLVII	01/17/90	7.6	809	460	115	172	< 0.01	< 0.001	0.003	< 0.010	< 0.020	< 0.05	0.001	1.1	0.90	1.60	2.50	0.20	23.00
		04/24/90	7.7	1072	450	95	237	< 0.01												
		08/22/90	7.7	1269	520	84	213	0.19	< 0.001	0.005	< 0.010	< 0.020	< 0.05	< 0.001	3.7	1.00	2.80	3.80	0.20	0.70
		10/18/90	7.9	1303	560	98	210	0.14												
	Average 1990		7.7	1113	498	98	210	< 0.09	< 0.001	0.004	< 0.010	< 0.020	< 0.05	< 0.001	2.4	0.95	2.20	3.15	0.20	11.
183	TDM XLIX	08/22/88	8.2	880	310	72		0.00	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	3.3	1.20	2.00	3.20	0.40	4.60
		09/06/88	8.6	890	390	70		0.39	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.002	1.6	0.70	2.00	2.70	0.30	5.50
		09/20/88	8.5	965	400	71		0.48	0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.001	1.5	1.00	2.40	3.40	0.30	4.10
		10/05/88	8.1	843	380	75	159	0.27	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	2.6	2.10	4.00	6.10	0.70	0.87
	Average 1988		8.4	894	370	72	159	0.28	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.002	2.2	1.25	2.60	3.85	0.43	3.77
		01/18/89	8.0	1018	460	103	156	0.32	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.003	1.4	1.00	2.80	3.80	0.60	0.70
		04/27/89	8.3	1060	670	120	171	0.27	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	2.9	1.00	1.90	2.90	0.90	< 0.20
		07/17/89	7.9	1128	510	80	169	0.18	< 0.001	< 0.002	< 0.010	< 0.020		0.002						
		10/23/89	8.4	1064	642	86	184	0.13												
	Average 1989		8.2	1068	570	97	170	0.22	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.002	2.2	1.00	2.35	3.35	0.75	< 0.45
		01/17/90	8.4	997	500	90	183	< 0.01	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.001	2.6	0.70	1.60	2.30	1.90	0.70
		05/02/90	8.2	1202	620	75	173	< 0.01												
		08/24/90	7.9	1376	476	96	195	0.16	< 0.001	0.004	< 0.010	< 0.020	< 0.05	< 0.001	2.6	0.70	1.50	2.20	0.10	0.
		10/18/90	7.6	1410	625	90	195	0.11												
	Average 1990		8.0	1246	555	88	186	< 0.08	< 0.001	< 0.003	< 0.010	< 0.020	< 0.05	< 0.001	2.6	0.70	1.55	2.25	1.00	0.45

ATTACHMENT 2C TDSS BACKGROUND MONITOR WELLS

WELL NUMBER	WELL NAME	DATE	pH (S.U.)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	Na (mg/l)	NO3 (mg/l)	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Se (mg/l)	Grs Alpha (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)	Th230 (pCi/l)	UNAT (pCi/l)
134	RM-4	01/07/88	8.1	975	446	12			< 0.001	< 0.002	< 0.010		< 0.05	0.053		0.60			0.40	1.70
		03/31/88	7.8	975	400	15			< 0.001	< 0.002	< 0.010		< 0.05	0.013		0.80			1.00	3.40
		06/25/88	7.6	943	410	19			< 0.001	< 0.002	< 0.010		< 0.05	0.005		0.80			0.60	0.10
		09/19/88	8.1	1014	460	13	177	0.55	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.001		1.20	2.90	4.10	1.30	10.00
		10/26/88	8.0	975	532	12	178	0.69	< 0.001	0.005	< 0.010	< 0.020	< 0.05	0.002	2.4	1.20	2.90	4.10	0.70	9.6
		11/09/88	7.9	985	540	13	184	1.02	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.013	2.8	0.60	2.80	3.40	1.30	4.60
		11/23/88	7.7	1025	555	17	184	0.05	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.001	2.6	0.90	2.70	3.60	1.40	2.40
		12/08/88	7.8	1043	600	27			< 0.001	< 0.010	< 0.010		< 0.05	0.001		1.20			0.80	2.00
	Average 1988		7.9	992	492	16	181	.58	< 0.001	< 0.004	< 0.010	< 0.020	< 0.05	0.011	2.6	0.90	2.80	3.80	**0.90**	**3.10**
		03/27/89	8.0	956	510	33	195	< 0.01	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	2.1	0.90	1.50	2.40	0.80	2.10
		06/12/89	7.9	927	540	30	229	0.29	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.004	0.5	1.10	0.80	1.90	2.00	3.40
		09/19/89	7.9	968	560	42	181	< 0.01	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	5.3	0.50	0.80	1.30	2.10	2.60
		12/20/89	7.7	1000	500	96	199	0.31												
	Average 1989		7.9	963	528	50	201	< 0.16	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.002	2.6	0.83	1.03	1.86	**1.63**	**2.70**
		03/26/90	7.7	928	600	20	205	1.22	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.001	3.8	1.60	1.50	3.10	1.10	< 0.20
		06/26/90	8.0	1027	488	17	191	0.49												
		09/07/90	8.3	1019	420	14	196	0.98	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.004	3.6	0.80	2.00	2.80	0.50	0.30
		12/01/90	7.5	987	434	11	200	0.14												
	Average 1990		7.9	990	486	16	198	0.71	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.002	3.7	1.20	1.75	2.95	**0.80**	< 0.2
172	SM - EM-5	07/29/88	7.8	719	186	16			< 0.001					0.001		5.20				21.00
		11/26/88	7.8	456	270	19	106	0.10	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001		3.10				0.70
	Average 1988		7.8	588	228	18	106	0.10	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001		4.15				**10.85**
		04/26/89	7.8	418	248	30	103	0.11	< 0.001	0.003	< 0.010	< 0.020	< 0.05	0.002	2.0	1.40	1.90	3.30	0.3	1.70
		06/12/89	7.8	485	220	34	132	0.20	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.004	3.0	1.70	0.40	2.10	1.6	0.40
		09/26/89	7.7	450	228	40	97	< 0.10	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.002	3.1	1.50	0.50	2.00	1.4	0.30
		12/20/89	7.5	627	205	15	123	0.13												
	Average 1989		7.7	495	225	30	114	< 0.14	< 0.001	< 0.003	< 0.010	< 0.020	< 0.05	0.003	2.7	1.53	0.93	2.46	**1.1**	**1.34**

ATTACHMENT 2C TDSS BACKGROUND MONITOR WELLS CONTINUED

WELL NUMBER	WELL NAME	DATE	pH (S.U.)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	Na (mg/l)	NO3 (mg/l)	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Se (mg/l)	Grs Alpha (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)	Th230 (pCi/l)	UNAT (pCi/l)
172	SM - EM-5	04/23/90	7.4	530	302	14	112	0.26	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.001	2.3	2.20	3.10	5.30	0.50	3.10
		06/26/90	7.8	595	340	13	115	0.57												
		09/07/90	7.9	520	308	20	115	0.94	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.002	3.2	1.90	2.10	4.00	0.20	0.50
		12/01/90	7.7	653	254	16	122	0.25												
	Average 1990		7.7	574	301	16	116	0.50	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.002	2.8	2.05	2.60	4.65	2.60	1.80
174	TDMXL	08/17/88	10.8	292	46	5		0.05	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.001	3.0	0.80	1.90	2.70	0.90	1.60
		09/01/88	9.4	326	106	10		0.49	0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.161	0.9	0.80	1.20	2.00	0.30	1.40
		09/14/88	9.3	327	170	10		0.22	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	1.0	1.20	1.50	2.70	0.50	2.10
		09/28/88	9.2	312	54	6	74	0.20	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	1.5	0.70	3.40	4.10	0.50	1.30
	Average 1988		9.7	314	94	8	74	0.24	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.041	1.6	0.88	2.00	2.88	0.55	1.60
		02/27/89	8.5	340	96	14	93	0.10	0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.005	1.7	1.40	1.70	3.10	0.40	< 0.20
		04/26/89	8.1	292	134	30	71	< 0.01	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	2.9	1.00	1.50	2.50	0.90	< 0.20
		07/18/89	7.9	291	95	18	67	0.03	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.006	1.5	0.50	0.60	1.10	0.60	0.20
		10/20/89	8.5	301	110	13	80	0.08												
	Average 1989		8.2	306	109	19	78	< 0.06	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.004	2.0	0.97	1.27	2.23	0.63	< 0.20
		01/22/90	7.9	298	88	26	74	0.04	< 0.001	< 0.002	0.240	< 0.020	< 0.05	0.001	1.4	1.20	1.60	2.80	0.20	1.70
		04/23/90	8.0	320	65	12	81	< 0.01												
		08/24/90	8.2	294	110	12	74	< 0.01	0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	2.7	0.70	1.80	2.50	0.20	< 0.20
		10/23/90	8.2	316	85	12	72	< 0.01												
	Average 1990		8.1	307	87	16	75	< 0.02	< 0.001	< 0.002	< 0.125	< 0.020	< 0.05	< 0.001	2.0	0.95	1.70	2.65	0.20	< 0.9[illegible]
182	TDM XLVIII	08/22/88	9.7	373	240	9		0.39	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	2.8	1.10	2.50	3.60	0.90	0.05
		09/06/88	9.9	385	182	10		0.30	0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.003	0.9	0.90	1.50	2.40	0.20	1.10
		09/20/88	9.6	403	104	11		0.26	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	0.8	1.10	1.80	2.90	0.40	0.50
		10/04/88	9.6	379	110	13	104	0.05	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	1.0	1.80	2.10	3.90	0.70	< 0.05
	Average 1988		9.7	385	159	11	104	0.25	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	1.4	1.23	1.98	3.20	0.55	< 0.42

ATTACHMENT 2C TDSS BACKGROUND MONITOR WELLS CONTINUED

WELL NUMBER	WELL NAME	DATE	pH (S.U.)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	Na (mg/l)	NO3 (mg/l)	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Se (mg/l)	Grs Alpha (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)	Th230 (pCi/l)	UNAT (pCi/l)
182	TDM XLVIII	01/18/89	9.3	341	162	14	106	0.43	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.002	0.9	0.70	1.30	2.00	0.60	0.60
		04/27/89	9.2	337	195	14	108	< 0.01	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	3.0	0.30	2.10	2.40	1.10	< 0.20
		07/14/89	8.9	350	165	18	100	0.04	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.002	1.4	1.20	0.90	2.10	0.30	0.70
		10/23/89	9.5	351	182	12	117	1.07												
	Average 1989		9.2	345	176	14	108	< 0.39	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.002	1.8	0.73	1.43	2.17	0.67	< 0.50
		01/15/90	8.9	351	149	12	107	< 0.01	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.001	0.6	0.40	1.60	2.00	0.20	0.90
		04/24/90	8.6	324	100	43	119	< 0.01												
		08/23/90	8.6	389	134	25	110	0.22	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	2.3	0.60	1.70	2.30	0.20	0.30
		10/18/90	8.6	361	157	11	107	0.18												
	Average 1990		8.7	356	135	23	111	< 0.10	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	1.4	0.50	1.65	2.15	0.20	0.60

ATTACHMENT 2D ORE SANDS MONITOR WELLS

WELL NUMBER	WELL NAME	DATE	pH (S.U.)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	Na (mg/l)	NO3 (mg/l)	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Se (mg/l)	Grs Alpha (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)	Th230 (pCi/l)	UNAT (pCi/l)
116	TDM XI	01/27/88	7.5	562	233	34			< 0.001				1.00	< 0.001		1.40			1.40	< 0.10
		04/28/88	7.4	571	240	36			< 0.001				0.80	0.006		0.90			1.50	3.60
		07/14/88	7.4	544	208	29			< 0.001				0.80	0.014		2.80			0.80	< 0.50
		10/06/88	7.7	460	254	29			0.001				1.10	< 0.001		2.20			0.60	1.10
	Average 1988		7.5	534	234	32			< 0.001				0.93	0.004		1.83			1.08	1.0[illegible]
		01/26/89	7.6	469	248	31			< 0.001				1.20	< 0.001		1.10			0.40	4.40
		04/25/89	7.5	522	2510	50	63	0.13	< 0.001	< 0.002	< 0.010	< 0.02	< 0.05	< 0.001	4.7	2.40	1.30	3.70	0.50	< 0.20
		09/27/89	7.6	687	308	170	82	0.15	< 0.001	< 0.002	< 0.010	< 0.02	< 0.05	0.007	7.9	1.50			1.50	1.60
		10/20/89	8.5	634	308	48	86	0.07												
	Average 1989		7.8	578	844	75	77	0.12	< 0.001	< 0.002	< 0.010	< 0.02	0.43	< 0.003	6.3	1.67	1.30	3.70	0.80	1.93
		01/19/90	7.4	606	260	44	77	< 0.01	< 0.001	< 0.002	< 0.010	< 0.02	< 0.05	0.002	2.6	1.20	2.60	3.80	1.30	8.00
		05/01/90	7.8	566	290	85	67	< 0.01												
		08/23/90	7.6	580	220	40	75	< 0.01	< 0.001	< 0.002	< 0.010	< 0.02	< 0.05	< 0.001	3.5	0.90	2.00	2.90	0.30	2.00
		10/19/90	7.6	689	238	42	78	< 0.01												
	Average 1990		7.6	610	252	56	74	< 0.01	< 0.001	< 0.002	< 0.010	< 0.02	< 0.05	< 0.002	3.1	1.05	2.30	3.35	0.80	5.00
128	TDM XXIX	02/29/88	11.1	424	42	13			< 0.001				0.90	< 0.001		5.50			0.20	0.00
		05/30/88	12.1	373	54	10			< 0.001				1.20	< 0.001		1.50			0.70	3.70
		08/31/88	12.3	401	58	75			0.001				0.90	< 0.001		1.40			1.20	1.5[illegible]
		12/05/88	11.9	303	60	18			< 0.001				0.99	0.003		0.70			0.60	0.80
	Average 1988		11.9	375	54	29			< 0.001				0.98	< 0.001		2.28			0.68	1.50
		02/24/89	11.5	589	166	82	159	0.11	0.001	< 0.002	< 0.01	< 0.02	1.30	0.002	1.5	1.90	1.80	3.70	0.60	< 0.20
		05/22/89	11.6	383	64	70	147	0.53	0.002	< 0.002	< 0.01	< 0.02	< 0.05	< 0.001	1.6	0.80	1.80	2.60	0.40	0.30
		07/18/89	11.2	290	36	71	25	0.10	< 0.001					0.004		0.60				0.40
		10/23/89	11.6	311	67	55	116	0.03												
	Average 1989		11.5	393	83	70	112	0.19	< 0.002	< 0.002	< 0.01	< 0.02	< 0.69	< 0.004	1.6	1.10	1.80	3.15	0.50	0.17

ATTACHMENT 2D ORE SANDS MONITOR WELLS CONTINUED

WELL NUMBER	WELL NAME	DATE	pH (S.U.)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	Na (mg/l)	NO3 (mg/l)	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Se (mg/l)	Grs Alpha (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)	Th230 (pCi/l)	UNAT (pCi/l)
128	TDM XXIX	01/22/90	11.5	335	75	59	109	< 0.01	< 0.001	< 0.001	< 0.01	< 0.02	< 0.05	0.002	1.7	1.00	1.50	2.50	0.60	2.20
		05/01/90	11.4	268	78	110	108	< 0.01												
		08/28/90	11.0	362	60	68	124	0.05	< 0.001	< 0.002	< 0.01	< 0.02	< 0.05	< 0.001	2.1	0.50	1.30	1.80	0.20	< 0.2
		10/18/90	11.2	420	70	67	128	0.06												
	Average 1990		11.3	346	71	76	117	< 0.04	< 0.001	< 0.002	< 0.01	< 0.02	< 0.05	< 0.002	1.9	0.75	1.40	1.12	0.40	< 1.2
129	TDM XXX	02/29/88	7.2	2394	1500	142			< 0.001				1.00	< 0.001		0.90			0.20	0.00
		05/31/88	7.2	2064	1350	130			< 0.001				1.40	0.004		2.60			0.50	1.20
		08/30/88	7.2	2347	850	145			0.001				0.90	< 0.001		2.40			0.90	1.10
		11/28/88	7.4	2055	1900	172			< 0.001				1.60	0.003		1.00			0.50	1.20
	Average 1988		7.2	2215	1400	147			< 0.001				1.20	< 0.002		1.72			0.52	0.88
		02/22/89	7.4	2321	1150	255	181	0.46	< 0.001	< 0.002	< 0.010	< 0.02	< 0.05	0.006	2.9	1.80	2.80	3.60	0.40	< 0.20
		05/22/89	11.8	1919	1200	155	177	0.11	< 0.001	0.005	< 0.010	< 0.02	< 0.05	< 0.001	2.4	0.80	1.70	2.50	0.50	< 0.20
		07/17/89	7.4	1563	840	140	130	0.06	< 0.001	< 0.002	< 0.010	< 0.02	< 0.05	0.003	1.7	0.80	0.60	1.40	0.50	< 0.20
		10/19/89	7.6	2191	1240	165	137	< 0.01												
	Average 1989		8.6	1998	1110	179	156	< 0.16	< 0.001	< 0.003	< 0.010	< 0.02	< 0.05	< 0.004	2.3	1.10	2.70	2.50	0.47	< 0.20
		01/16/90	7.3	1304	1070	150	131	< 0.01	< 0.001	0.007	< 0.010	< 0.02	< 0.05	0.001	2.1	0.70	1.70	2.40	1.50	< 0.10
		04/24/90	7.7	1944	840	195	157	0.12												
		08/24/90	8.8	1627	560	124	137	1.79	< 0.001	< 0.002	< 0.010	< 0.02	< 0.05	0.006	4.0	1.00	2.10	3.10	0.20	< 0.2
		10/18/90	9.4	1084	456	108	143	1.33												
	Average 1990		8.3	1490	732	144	142	< 0.81	< 0.001	< 0.005	< 0.010	< 0.02	< 0.05	0.004	3.0	0.85	1.90	2.80	0.80	< 0.20
148	TDM XXXII	01/27/88	7.0	3509	1570	267			< 0.001				0.80	< 0.001		0.50			0.60	0.60
		04/28/88	7.0	3963	2110	290			0.002				1.00	0.002		1.10			1.40	130.00
		07/20/88	6.9	3883	1480	315			0.002				1.10	0.011		0.30			1.20	123.00
		11/10/88	7.0	4036	2100	396			< 0.001				1.00	0.003		0.90			1.30	133.00
	Average 1988		7.0	3848	1815	317			< 0.002				0.98	< 0.004		0.70			1.12	97.60

ATTACHMENT 2D ORE SANDS MONITOR WELLS CONTINUED

WELL NUMBER	WELL NAME	DATE	pH (S.U.)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	Na (mg/l)	NO3 (mg/l)	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Se (mg/l)	Grs Alpha (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)	Th230 (pCi/l)	UNAT (pCi/l)
148	TDM XXXII	02/24/89	7.5	3668	1540	319	289	0.47	< 0.001	< 0.002	< 0.010	< 0.02	< 0.05	0.120	1.9	1.60	2.40	4.00	0.60	64.00
		05/11/89	7.4	3499	2080	310	339	0.12	0.002	0.013	< 0.010	< 0.02	< 0.05	< 0.001	1.2	0.60	1.30	1.90	0.50	57.00
		08/29/89	7.2	3422	1770	280	271	0.55	0.001	0.010	0.010	< 0.02	0.05	0.001	2.0	0.80	1.40	2.20	0.90	103.00
		11/20/89	7.1	3428	1710	265	239	0.03												
	Average 1989		7.3	3504	1755	294	284	0.29	< 0.002	< 0.008	< 0.010	< 0.02	< 0.05	< 0.041	1.7	1.00	1.70	2.70	0.67	75.00
		02/05/90	7.0	2655	1660	290	292	< 0.01	< 0.001	0.008	< 0.010	< 0.02	< 0.05	< 0.001	1.3	0.80	0.90	1.70	0.70	71.00
		05/03/90	7.4	3518	1720	310	168	< 0.01												
		08/27/90	7.6	3604	1490	268	255	0.90	0.002	0.010	< 0.010	< 0.02	< 0.05	0.007	6.6	0.90	1.60	2.50	0.20	63.00
		11/08/90	7.4	3648	1350	265	268	0.11												
	Average 1990		7.4	3606	1555	283	246	< 0.26	< 0.002	0.009	< 0.010	< 0.02	< 0.05	< 0.004	4.0	0.85	1.20	2.10	0.45	67.00

ATTACHMENT 2E MINE BACKFILL MONITOR WELLS

WELL NUMBER	WELL NAME	DATE	pH (S.U.)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	Na (mg/l)	NO3 (mg/l)	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Se (mg/l)	Grs Alpha (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)	Th230 (pCi/l)	UNAT (pCi/l)
171	TDM XXXVII	05/31/88	7.5	750	428	46			< 0.001					0.011		2.20				14.20
		12/09/88	7.5	749	400	55	82		< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001		0.90				15.00
	Average 1988		7.5	750	414	50	82		< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.006		1.55				14.60
		03/20/89	7.3	727	400	44	97	< 0.01	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	1.7	0.60	1.80	2.40	0.20	2.80
		06/13/89	7.5	736	400	52	118	0.02	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.003	1.2	1.00	0.50	1.50	0.70	1.60
		09/27/89	7.6	689	400	40	78	0.13	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	2.7	0.90	0.60	1.50	0.80	1.10
		12/21/89	7.1	805	310	38	90	0.10												
	Average 1989		7.4	739	378	43	96	< 0.06	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.002	1.9	0.80	1.00	1.80	0.60	1.80
		05/01/90	7.4	806	340	30	90	< 0.01	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	1.7	0.90	4.80	5.70	0.60	0.40
		06/27/90	7.4	848	396	60	98	0.62												
		09/07/90	8.2	743	324	23	95	0.90	0.003	< 0.002	< 0.010	< 0.020	< 0.05	0.003	4.1	1.00	2.20	3.20	0.40	4.30
		12/01/90	7.7	810	350	30	94	0.11												
	Average 1990		7.7	802	352	36	94	< 0.41	< 0.002	< 0.002	< 0.010	< 0.020	< 0.05	< 0.002	2.9	0.95	3.50	4.45	0.50	2.35
173	TDM XXXIX	08/24/88	7.0	637	264	70		< 0.01	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.003		0.80	2.40	2.20	0.70	6.00
		09/09/88	7.4	739	200	69		0.09	0.002	< 0.002	< 0.010	< 0.020	< 0.05	0.001	1.0	0.50	0.60	1.10	0.60	5.10
		09/23/88	8.0	629	474	60		0.06	0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001		0.60	3.20	3.80	0.60	6.40
		10/13/88	7.6	510	290	63	71	0.05	< 0.001	0.003	< 0.010	< 0.020	< 0.05	< 0.001	2.4	1.20	3.40	4.60	0.50	6.30
	Average 1988		7.5	628	307	66	71	< 0.06	< 0.002	< 0.003	< 0.010	< 0.020	< 0.05	< 0.002	1.7	0.80	2.40	3.20	0.60	5.95
		01/12/89	7.8	604	275	98	74	0.24	0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.003	2.8	0.90	3.00	3.90	0.20	4.40
		04/24/89	7.8	626	400	125	71	0.03	0.002	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	2.8	1.00	1.80	2.80	0.60	0.70
		07/13/89	7.4	602	290	85	69	0.13	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.004	1.7	1.00	0.80	1.80	0.80	0.20
		10/23/89	7.8	635	300	74	79	0.10												
	Average 1989		7.7	617	316	96	73	0.12	< 0.002	< 0.002	< 0.010	< 0.020	< 0.05	< 0.003	2.4	0.97	1.90	2.87	0.53	1.77

ATTACHMENT 2E MINE BACKFILL MONITOR WELLS CONTINUED

WELL NUMBER	WELL NAME	DATE	pH (S.U.)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	Na (mg/l)	NO3 (mg/l)	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Se (mg/l)	Grs Alpha (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)	Th230 (pCi/l)	UNAT (pCi/l)
173	XXXIX	01/15/90	7.5	563	262	76	74	< 0.01	0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.001	0.7	0.40	1.90	2.30	0.20	< 0.10
		04/23/90	7.5	604	232	90	79	< 0.01												
		08/23/90	8.1	652	220	78	77	0.09	0.003	< 0.002	< 0.010	< 0.020	< 0.05	0.001	3.7	1.00	0.20	1.20	0.20	2.00
		10/19/90	7.8	653	238	72	76	0.09												
	Average 1990		7.7	618	238	79	76	< 0.05	0.002	< 0.002	< 0.010	< 0.020	< 0.05	0.001	2.2	0.70	1.05	1.80	0.20	< 1.0[illegible]
180	TDM XLVI	08/23/88	7.3	2212	930	155		0.25	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	3.5	3.90	2.40	6.30	0.90	632.00
		09/07/88	7.1	2298	1250	180		0.09	0.001	0.007	< 0.010	< 0.020	< 0.05	0.002	16.4	2.00	8.10	10.10	0.40	620.00
		09/21/88	6.9	2717	1610	242		0.11	0.002	0.003	< 0.010	< 0.020	< 0.05	0.003	10.4	1.50	5.20	6.70	0.50	528.00
		10/05/88	7.4	1688	238	185	171	0.01	< 0.001	0.009	< 0.010	< 0.020	< 0.05	0.001	7.5	3.60	7.60	10.20	1.00	574.00
	Average 1988		7.2	2228	1007	190	171	0.12	< 0.002	< 0.005	< 0.010	< 0.020	< 0.05	< 0.002	7.0	2.75	5.80	8.55	0.70	588.00
		01/12/89	7.4	2189	1100	173	162	0.44	0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.002	10.8	5.90	5.00	10.90	2.60	528.00
		04/25/89	7.4	1797	1400	175	150	< 0.01	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	< 0.001	4.3	3.20	2.90	6.10	4.00	166.00
		08/29/89	6.8	2697	1320	215	197	0.01	0.001	0.006	0.010	0.020	0.05	0.001	6.1	5.70	1.50	7.20	0.80	385.00
		10/20/89	6.9	2299	1380	215	190	0.08												
	Average 1989		7.1	2246	1300	194	175	< 0.14	< 0.001	< 0.005	< 0.010	< 0.020	< 0.05	< 0.002	7.1	4.90	3.10	8.00	2.50	360.00
		01/16/90	7.1	1606	1100	175	163	< 0.01	< 0.001	0.004	< 0.010	< 0.020	< 0.05	0.002	2.1	1.70	1.70	3.40	0.30	499.00
		04/24/90	6.9	2400	1160	255	269	< 0.01												
		08/23/90	7.0	2327	920	200	179	0.03	0.001	0.007	< 0.010	< 0.020	< 0.05	0.009	4.2	4.90	2.30	7.20	0.40	459.0
		10/19/90	7.1	2311	1110	158	177	0.28												
	Average 1990		7.0	2161	1072	197	197	< 0.08	< 0.001	0.006	< 0.010	< 0.020	< 0.05	0.006	3.2	3.30	2.00	5.30	0.35	479.00

ATTACHMENT 2F HIGHLAND RESERVOIR

WELL NUMBER	WELL NAME	DATE	pH (S.U.)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	Na (mg/l)	NO3 (mg/l)	As (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Se (mg/l)	Grs Alpha (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)	Th230 (pCi/l)	UNAT (pCi/l)
167	HIGHLAND	02/29/88	7.8	611	300	22			0.002					0.017		7.70				1780.00
	RESERVOIR	05/31/88	8.0	621				<	0.001					0.268		9.00				1952.00
		08/31/88	8.0	726	364	24	103	0.83	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.132		12.10				2526.00
		11/26/88	8.1	665				<	0.001					0.194		6.80				2138.00
	Average 1988		8.8	656	332	23	103	0.83	< 0.002	< 0.002	< 0.010	< 0.020	< 0.05	0.153		8.90				2099.[illegible]
		01/13/89	7.8	677	450	31			0.001					0.155		5.00				2084.00
		05/23/89	8.1	677				<	0.001					0.195		3.60				1906.00
		08/29/89	8.1	683	360	34	107	0.53	0.001	0.003	< 0.010	< 0.020	< 0.05	0.063		5.70				1665.00
	Average 1989		8.0	679	405	32	107	0.53	< 0.001	0.003	< 0.010	< 0.020	< 0.05	0.138		4.80				1885.00
		01/18/90	7.8	770	340	28			< 0.001					0.141		2.00				1917.00
		08/28/90	8.7	731	312	32	105	0.63	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.163		4.80				461.00
	Average 1990		8.2	750	326	30	105	0.63	< 0.001	< 0.002	< 0.010	< 0.020	< 0.05	0.152		3.40				1189.00