

Project No. 32114
December 1999



Annual Review - 1999

Ground Water Corrective Action

**Church Rock Site
Gallup, New Mexico**

Prepared for:

UNC Mining and Milling
A Division of United Nuclear
Corporation
Gallup, New Mexico

Prepared by:

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December 30, 1999

U.S. Nuclear Regulatory Commission
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303.694.6660

Subject: **License No. SUA-1475, 1999 Ground Water Corrective Action Plan Report**

Facsimile

Dear Messrs. Surmeier and Lyssy:

303.694.4410

On behalf of United Nuclear Corporation (United Nuclear), Earth Tech, Inc. (Earth Tech) is providing this annual performance review of the ground water corrective action systems installed and operating at United Nuclear's Church Rock Mill and Tailings site near Gallup, New Mexico, pursuant to License Condition 30C. This report is for the 1999 operating year and represents the period from October 1998 through September 1999. Similar to last year, this report presents only the data collected and a summary of operations, including modifications that were made to the operations through the year. This modification in the report format was discussed with and approved by the U.S. Nuclear Regulatory Commission (NRC) and U.S. Environmental Protection Agency (EPA) in September 1998.

The 1999 annual review assesses the performance of the corrective action through 1999 and compares the assessment to the EPA's findings in its Five-Year Review Report (EPA, 1998). The EPA report presents a review of the system's performance through the 1996 operating year. This analysis of the 1999 data supports the conclusions reached by United Nuclear in previous annual reviews (Canonie Environmental Services Corp. [Canonie], 1989b, 1990, 1991, 1992b, 1993b and 1995; Smith Technology Corporation [Smith Technology], 1995 and 1996; Rust Environment and Infrastructure [Rust], 1997; Earth Tech (1998) and confirms the findings contained in EPA's Five-Year Review Report (1998).

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Mr. John J. Surmeier, Chief
Mr. Greg Lyssy
December 30, 1999
Page 2 of 8

INTRODUCTION

The corrective (or remedial) action systems for tailings seepage remediation were installed and began operating during the summer and fall of 1989. United Nuclear has submitted an annual review report at the end of each subsequent year. This report is the eleventh in the series and includes water quality analyses and water level elevations for the fourth quarter of 1998 through the third quarter of 1999 and pumping results from October 1998 through September 1999. Also included are summaries of the operation of the corrective action systems and a description of modifications made to the systems during the operating year.

SITE ORIENTATION

Figure 1 is a site map that shows the location of the extraction wells that operated during 1999, the evaporation ponds, and the reclaimed tailings areas. The figure also shows the remedial action target area for each geologic formation where the impacts of tailings seepage were originally identified and corrective action is being implemented. Additional background information on site facilities and activities is available in the previous annual reviews.

EXTRACTION SYSTEMS

Southwest Alluvium

The corrective action for the Southwest Alluvium in 1999 continued the operation of four extraction wells (801, 802, 803, and 808). The operational data are summarized in Table 1. The four wells pumped at a combined average rate of 16.76 gallons per minute (gpm) during the 1999 reporting period. A total of 7.5 million gallons of water was extracted from the target area during the 1999 reporting period, resulting in a cumulative total of 121.6 million gallons for the 10-year operating period (October 1989 through September 1999).

Extraction Well 801 continued to pump at very low rates with an average rate of 0.08 gpm in 1999. This well has pumped at a rate of less than 0.5 gpm for the last eight years. The low pumping rate is due to a combination of low formation transmissivity and progressively decreasing saturated thickness in this portion of the alluvium, which is located on the flank of the valley. In accordance with the recommendation in the EPA's Five-Year Review Report (1998) and as approved in the letter from the NRC dated July 30, 1999, the well was decommissioned at the end of July 1999.

Well 808 also continues to have reduced productivity related primarily to plugging of the pump and drop pipe by chemical precipitation. Historically this well has been the

Mr. John J. Surmeier, Chief
Mr. Greg Lyssy
December 30, 1999
Page 3 of 8

highest producer, but since July 1997 it has been operating for only 3 to 4 weeks before the pump is plugged and has to be pulled and cleaned. This well did not operate for 26 weeks during the 1999 operating year and pumped an average of less than 4 gpm. Continued cleaning and stimulation of the well may damage the casing and screen and may eventually make the installation of a replacement well desirable. In the meantime, the existing cleaning and stimulation procedures will be followed.

Zone 3

Table 2 presents the pumping rates and field pHs recorded during the 1999 operating year for each set of wells. As shown, the average weekly pumping rates for the Northeast Pump-Back, Stage I, and Stage II systems were 0.04 gpm, 2.15 gpm, and 18.98 gpm, respectively, when all the wells were operating. The total weekly pumping rate is 21.17 gpm.

The average pHs at the Northeast Pump-Back, Stage I and Stage II wells were 2.8, 4.8, and 6.2, respectively. The pH of 6.2 at the Stage II wells indicates that this water is of background quality or impacted only to a minor extent by tailings seepage. Extraction of this better quality water is consistent with the approved remedial design and has been necessary to effectively dewater the Zone 3 Target Area. However, the benefit of continuing to dewater the target area is diminishing relative to the negative impact of expanding the migration of seepage-impacted water further downdip (EPA, 1998).

Table 3 summarizes the volume extracted from Zone 3 since the system was turned on in 1989. As shown, the total volume pumped during 1999 was 9.9 million gallons, which is similar to the volume pumped in 1998. The total volume pumped since 1989 is 156.8 million gallons.

Modifications to extraction well operation were made during the 1999 operating year because of continued declines in saturation and plugging of the wells. A key issue with operating the Zone 3 extraction wells is the loss of saturated thickness caused by dewatering of the formation. The wells that meet the decommissioning criteria are discussed below and their performance data is presented on Figure 2.

Zone 3 Extraction Well Decommissioning

Ten of the Zone 3 pump-back and extraction wells continued to pump at less than 1.0 gpm during the 1999 operating year. Their low pumping rates were due to a combination of low formation transmissivity at these wells and decreasing saturated thickness. Although cleaned and stimulated in accordance with the procedures in the CAP (United Nuclear, 1989a) and RD Report (Canonie, 1989a), none of the wells produced more than 1.0 gpm. These wells averaged only 0.30 gpm per well and accounted for only 1 percent of the system production at the end of the operating year.



Mr. John J. Surmeier, Chief
Mr. Greg Lyssy
December 30, 1999
Page 4 of 8

Figure 2 graphically illustrates the loss in productivity for these wells over time. All ten wells have exhibited a steady decline in pumping rate since they began operating. In accordance with the EPA's recommendations in the Five-Year Review Report (1998) and because these wells meet the decommissioning criteria, the NRC approved their shut down in the letter dated July 30, 1999. The wells were decommissioned at the end of July 1999.

In addition, the EPA recommends that the wells located downgradient from the seepage-impacted area also be decommissioned. These wells (716, 717 and 718) are still pumping at rates greater than 1.0 gpm but, because they are located downgradient from the seepage-impacted water, they are extracting background quality water and effectively drawing the seepage-impacted water further downgradient. Review of the 1989 through 1999 data shows that these downgradient wells, although extracting background quality water, have operated as designed to help dewater the target area. However, the benefit of continued dewatering of the target area is diminishing relative to the negative impact of expanding the migration of seepage-impacted water further downgradient. As discussed in the May 11, 1999 meeting in Dallas, Texas, the EPA will issue an explanation of significant difference (ESD) to approve decommissioning these wells.

Zone 1

Corrective action for Zone 1 during the 1999 operating year consisted of continued operation of the Revised East Pump-Back wells. Table 4 summarizes the 1991 through 1999 operational data for the pump-back wells. The three Revised East Pump-Back wells continue to pump at the extremely low rates identified in the previous annual reviews. Although Well 616 exhibited an increase in pumping rate after being cleaned and stimulated, the overall rate is still very low. The three wells pumped at an average combined rate of 0.64 gpm and extracted approximately 286,000 gallons of water in 1999.

The recovery wells are all equipped with automatic controllers and typically pump for less than one hour per day because of the low rate of ground water inflow into the wells. These yields are low even with more than 50 percent saturation in the vicinity of the pump-back wells. The low productivity of the Zone 1 formation is recognized in the EPA's Five-Year Review Report (1998) and EPA recommended that the pumping wells be decommissioned and/or converted to monitoring wells. In accordance with the letter from NRC dated July 30, 1999, the Zone 1 pump-back wells were decommissioned at the end of July 1999.



Mr. John J. Surmeier, Chief
Mr. Greg Lyssy
December 30, 1999
Page 5 of 8

MASS EXTRACTED

In accordance with the requirements of the NRC and EPA, the mass of chemical constituents extracted is calculated for each of the three formations. The constituents with concentrations that exceeded NRC standards and/or EPA Applicable or Relevant and Appropriate Requirements within the target area were included in the calculation. Total dissolved solids (TDS) concentrations were not included in the mass extraction calculations because TDS are mainly composed of constituents that are included in the calculations (e.g., sulfate).

Appendix A presents the methodology and calculations used to determine the mass extracted. The results of the calculations are presented in the tables in the appendix.

PERFORMANCE MONITORING

The CAP (United Nuclear, 1989a), RD Report (Canonie, 1989a) and RAP (United Nuclear, 1989b) approved by the NRC and EPA describe the performance monitoring program. The program has been modified over time as described in the annual reports (Canonie, 1989b, 1990, 1991, 1992b, 1993b and 1995; Smith Technology, 1995 and 1996; Rust, 1997; Earth Tech, 1998) to adjust the monitoring requirements as the corrective action has taken effect. The NRC and EPA have approved all modifications.

The field and laboratory data collected from the fourth quarter 1989 through the third quarter 1999 are summarized in the tables in Appendices B (Southwest Alluvium), C (Zone 3), and D (Zone 1). The quarterly laboratory data sheets for the 1999 operating year are included at the end of the appendices. The original field and laboratory data for the period from 1989 to 1998 are included in the previous annual reviews.

Modification to Monitoring Wells

Over the past ten years, modifications to the performance monitoring system have occurred as a result of changes in the condition of several of the monitoring wells. These modifications result primarily from formation dewatering that has caused some of the wells to become dry. These dry wells are still checked quarterly to see if their condition has changed, but they no longer provide water quality or water level information. Table 5 lists the wells that have been eliminated from the monitoring system along with the date and reason for their elimination. During the 1999 operating period, one additional well was eliminated: well GW-4 in the Southwest Alluvium.

E A R T H



T E C H

Mr. John J. Surmeier, Chief
Mr. Greg Lyssy
December 30, 1999
Page 6 of 8

Performance Monitoring Results

The performance monitoring data show that water level and water quality conditions remain the same as those described in previous annual reviews (Canonie, 1989b, 1990, 1991, 1992b, 1993b and 1995; Smith Technology, 1995 and 1996; Rust, 1997; Earth Tech, 1998) and confirmed in EPA's Five-Year Review Report (1998). Water levels continue to decline in all three formations as the mine discharge water drains out of the system.

The water quality data continue to exhibit similar trends and exceedences as those reported in EPA's Five-Year Review Report. Table 6 summarizes the water quality at the point of compliance (POC) wells. These data are similar to those presented in the past three years (Smith Technology, 1996; Rust, 1997; Earth Tech, 1998), indicating that, as recognized in the EPA's Five-Year Review Report, the corrective action systems have reached the physical limit where they are no longer effectively reducing constituent concentrations. The lack of change in the data also is related to the fact that background levels of constituents, particularly sulfate, nitrate and TDS, are higher than was originally recognized in the Record of Decision (ROD) (EPA, 1988). As a result, many of the exceedences are related in whole or in part to background concentrations rather than tailings seepage.

Table 6 shows that sulfate, nitrate and TDS continue to exceed the site standards in all three formations. The EPA's Five-Year Review Report recognizes that the natural background levels for these three constituents may be higher than the levels stated in the ROD (EPA, 1988) and that these exceedences are in part the result of natural background rather than tailings seepage. Table 6 also shows that exceedences of other constituent site standards are also evident in the areas impacted by seepage. However, as discussed in the EPA Five-Year Review Report, these exceedences are also observed in areas that have not been impacted by tailings seepage and may also be related to higher background levels than were recognized in the ROD.

EVAPORATION DISPOSAL SYSTEM

The evaporation disposal system operated as designed during the 1999 operating year. Outflow from the system was primarily from the surface of the ponds and the misters. The spray guns operated only one month.

Based on the system pumping rates at the end of the third quarter 1999, it does not appear that reductions will be required during the upcoming winter months to maintain adequate storage capacity in the evaporation ponds. However, reductions may be necessary if storage capacity becomes inadequate because of unusually cold temperatures or high precipitation.

E A R T H



T E C H

Mr. John J. Surmeier, Chief
Mr. Greg Lyssy
December 30, 1999
Page 7 of 8

SUMMARY AND RECOMMENDATIONS

The results of the 1999 annual review support the conclusions reached by United Nuclear in the previous annual reviews (Canonie, 1989b, 1990, 1991, 1992b, 1993b and 1995; Smith Technology, 1995 and 1996; Rust, 1997; Earth Tech, 1998) and confirm the findings and recommendations in the EPA's Five-Year Review Report (1998), as summarized below:

Extraction Systems

- Southwest Alluvium - Continues to operate as designed. Well 801 was decommissioned in accordance with the NRC letter dated July 30, 1999. Consideration will be given to replacing Well 808; however, it is likely that the chemical precipitation problem would recur.
- Zone 3 - Continues to dewater the target area. Ten of the extraction wells were decommissioned as approved in the NRC letter dated July 30, 1999. Decommissioning the remaining extraction wells is also recommended because they are drawing seepage downgradient. The benefit of dewatering no longer outweighs the negative impact of downgradient migration of seepage-impacted water. The ESD for decommissioning these wells should be issued as soon as possible to minimize the potential for further downgradient migration of seepage.
- Zone 1 - Continues to produce water at very low rates. The remaining three extraction wells were decommissioned as approved in the NRC letter dated July 30, 1999.

Performance Monitoring

The performance monitoring data show that water level and water quality conditions remain the same as those described in previous annual reviews. The data evaluations indicated:

- Water levels continue to decline as the saturation created by the mine discharge water drains out.
- One additional monitoring well is no longer usable because of the declining water levels.
- Water quality trends remain the same. Improvement in water quality is limited by the fact that natural background concentrations of several constituents, particularly sulfate, nitrate and TDS, are higher than the



Mr. John J. Surmeier, Chief
Mr. Greg Lyssy
December 30, 1999
Page 8 of 8

standards set for the site. As a result, exceedences of site standards are in part due to natural background rather than tailings seepage.

United Nuclear is continuing to address the recommendations made by the EPA in its Five-Year Review Report. These include:

- Turning off the Zone 1 and Zone 3 extraction systems; (Completed July 30, 1999.)
- Developing a revised performance monitoring program that will designate the wells to be monitored and update the monitoring procedures used; (Submitted for Agency review and approval.)
- Abandoning the more than 100 monitoring wells that are not used for performance monitoring; (Completed Fall of 1999.)
- Performing an analysis of background concentrations for the performance monitoring constituents other than sulfate, nitrate and TDS; and
- Developing and applying for Alternate Concentration Limits or Technical Impracticability waivers for all three formations. (In progress.)

Please call Roy Blickwedel (General Electric Corporation) at (610) 992-7935; Larry Bush (United Nuclear) at (505) 722-6651; or me at (303) 804-2367 if you have any questions about the information presented herein.

Very truly yours,
Earth Tech, Inc.



Suzie du Pont
Project Manager

Enclosures

cc: Larry Bush, United Nuclear
Roy Blickwedel, General Electric Corporation

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TABLES

TABLE 1
SUMMARY OF OPERATIONAL DATA
SOUTHWEST ALLUVIUM EXTRACTION WELLS

Well No.	Annual Average Pumping Rate (gpm)										
	1990 (a)	1991 (b)	1992 (c)	1993 (d)	1994 (e)	1995 (f)	1996 (g)	1997 (h)	1998 (i)	1999 (j)	1990-99
801	1.2	0.5	0.4	0.2	0.2	0.1	0.1	0.1	0.08	0.08	0.30
802	11.1	12.5	11.9	9.0	9.8	9.7	9.1	10.1	11.02	9.62	10.39
803	2.0	2.6	2.5	3.0	3.2	3.5	3.1	2.9	3.84	3.56	3.02
808 (k)		10.0	15.5	19.9	15.6	12.3	12.2	7.2	4.34	3.50	11.17
Total Pumping Rate	14.3	25.6	30.3	32.1	28.8	25.6	24.5	20.3	19.29	16.76	24.88
Volume Pumped (millions of gallons) (l)	7.4	12.4	17.2	18.1	15.7	12.9	12.2	9.2	9.0	7.5	121.6

Notes:

- a. Average pumping rate calculated for the period between October 13, 1989 and October 12, 1990.
 - b. Average pumping rate calculated for the period between October 13, 1990 and October 11, 1991, except Well 808, which calculated for the period between June 26, 1991 (i.e., well startup) and October 11, 1991.
 - c. Average pumping rate calculated for the period between October 12, 1991 and October 8, 1992.
 - d. Average pumping rate calculated for the period between October 9, 1992 and October 8, 1993.
 - e. Average pumping rate calculated for the period between October 9, 1993 and October 14, 1994.
 - f. Average pumping rate calculated for the period between October 15, 1994 and September 29, 1995.
 - g. Average pumping rate calculated for the period between September 30, 1995 and September 27, 1996.
 - h. Average pumping rate calculated for the period between September 28, 1996 and September 26, 1997.
 - i. Average pumping rate calculated for the period between September 27, 1997 and September 25, 1998.
 - j. Average pumping rate calculated for the period between October 02, 1998 and September 27, 1999.
 - k. Well 808 began operation on June 26, 1991.
 - l. Data obtained from system flowmeter.
- gpm = gallons per minute

TABLE 2

**SUMMARY OF OPERATIONAL DATA
ZONE 3 EXTRACTION WELLS
OCTOBER 1998 - AUGUST 1999**

Well No.	Weeks Pumped (b)	Weekly Pumping Rate (c) (gpm)	Annual Pumping Rate (d) (gpm)	Average Field pH (e) (SU)
<u>Northeast Pump-Back Wells</u> 613	44	0.04	0.03	2.8
Total		0.04	0.03	2.8
<u>Stage I Wells</u> 701	44	0.54	0.45	3.6
706	42	0.86	0.69	3.7
707	45	0.26	0.22	4.6
708	35	0.10	0.07	5.3
709	45	0.13	0.11	5.3
711	26	0.17	0.08	5.4
713	32	0.09	0.06	5.8
Total		2.15	1.68	4.8
<u>Stage II Wells</u> 714 (a)	0	--	--	--
715 (a)	0	--	--	--
716	49	10.73	10.11	6.5
717	53	5.14	5.24	6.5
718	29	2.27	1.27	6.4
719	43	0.30	0.25	5.8
720	35	0.54	0.36	5.9
Total		18.98	17.23	6.2
Total - Zone 3 Extraction Wells		21.17	18.94	4.6
Total volume pumped October 1998 - September 1999 9.9 million gallons (f)				

Notes:

- a. Extraction Wells 714 and 715 were shut down on November 1, 1993, in accordance with approved license amendment of October 22, 1993.
- b. Number of weeks that each well was pumped for the period between October 02, 1998 and September 27, 1999.
- c. Calculated for the weeks when the well was pumped.
- d. Calculated for the 52-week operating year.
- e. The average field pH for a set of wells is a weighted average:

$$\text{pH} = \frac{\sum \text{gpm} \times \text{pH}}{\sum \text{gpm}}$$
- f. Data obtained from the Zone 3 system flowmeter for the period from October 02, 1998 and September 27, 1999.
gpm = gallons per minute
SU = Standard Units

TABLE 3
SUMMARY OF VOLUME EXTRACTED
ZONE 3 EXTRACTION SYSTEM
1989 THROUGH 1999

Operating Year	NE Pump-Back		Stage I		Stage II		Total All Systems	
	Volume Pumped (million gallons)	Average Field pH (f) (SU)	Volume Pumped (million gallons)	Average Field pH (f) (SU)	Volume Pumped (million gallons)	Average Field pH (f) (SU)	Volume Pumped (million gallons)	Average Field pH (f) (SU)
1989 (a)	0.80	3.6	4.5	5.5	---	---	5.3	5.2
1990 (b)	3.30	3.2	17.9	5.3	---	---	21.2	5.0
1991 (b, c)	1.60	3.4	11.2	5.1	2.7	6.3	15.5	5.8
1992 (b)	1.40	3.3	9.1	5.6	12.8	6.5	23.3	5.9
1993 (b)	0.70	3.1	6.9	5.6	11.4	6.4	19.0	6.0
1994 (b)	0.20	3.1	5.0	5.3	9.9	6.4	15.1	6.0
1995 (d)	0.20	2.9	3.4	4.8	9.5	6.4	13.1	5.9
1996 (e)	0.10	2.8	2.5	4.5	11.4	6.4	14.0	6.1
1997 (e)	0.03	2.7	1.7	4.4	8.6	6.3	10.4	6.0
1998 (e)	0.02	2.7	1.2	4.3	8.8	6.2	10.0	6.0
1999 (e)	0.02	2.8	0.9	4.1	9	6.4	9.9	6.2
Summary 1989 - 1999	8.37	3.0	64.3	5.2	84.1	6.4	156.8	5.7

Notes:

- a. The 1989 operating year is defined as the period from August 7, 1989 (startup of Stage I wells) to mid-October 1989.
- b. Operating year is from mid-October of the previous year to mid-October of the indicated year.
- c. The 1991 operating year for the Stage II Wells is the period from August 19, 1991 (startup of Stage II Wells) to mid-October 1991.
- d. Operating year is from mid-October 1994 to the end of September 1995.
- e. Operating year is from October of the previous year through September of the indicated year.
- f. Field pH is a weighted value (i.e.,

$$\text{pH} = \frac{\sum \text{gpm} \times \text{pH}}{\sum \text{gpm}}$$

SU = Standard Units

TABLE 4

**SUMMARY OF OPERATIONAL DATA
ZONE 1 REVISED EAST SYSTEM**

Pumping Rates

Well No.	Average Pumping Rate (gpm)									Percent Change 1991-99
	1991 (a)	1992 (b)	1993 (c)	1994 (d)	1995 (e)	1996 (f)	1997 (g)	1998 (h)	1999 (i)	
615	0.30	0.21	0.19	0.20	0.21	0.19	0.16	0.15	0.13	-57%
616	0.26	0.24	0.18	0.18	0.15	0.19	0.12	0.58	0.59	127%
617	0.12	0.10	0.09	0.10	0.13	0.11	0.10	0.09	0.09	-25%
EPA 7	0.28	0.22	0.21	0.21	0.00	0.00	0.00	0.00	0.00	-100%
Combined Pumping Rate	0.95	0.75	0.67	0.69	0.49	0.49	0.39	0.65	0.64	-33%
Volume Pumped (gallons)	480,000	390,000	350,000	370,000	246,000	252,000	202,000	323,000	285,847	-40%

pH of Extracted Water (in SU)

Well No.	October 1990	October 1991	October 1992	October 1993	October 1994	July 1995	July 1996	July 1997	July 1998	July 1999	Change 1990-99
615	4.3	4.3	4.6	4.0	4.0	4.3	4.2	4.6	4.3	4.2(j)	-0.1
616	5.4	5.2	5.7	5.7	5.3	5.9	4.8	5.2	5.3	5.2	-0.2
617	6.3	6.2	6.1	6.1	6.2	6.2	6.3	6.8	6.6	6.5	0.2
EPA 7	4.6	5.1	5.6	5.7	5.7	--	--	--	--	--	--
Average	5.2	5.2	5.5	5.4	5.3	5.5	5.1	5.5	5.4	5.3	0.1

Notes:

- a. Calculated for the period between October 13, 1990 and October 11, 1991.
 - b. Calculated for the period between October 12, 1991 and October 9, 1992.
 - c. Calculated for the period between October 10, 1992 and October 8, 1993.
 - d. Calculated for the period between October 9, 1993 and October 14, 1994.
 - e. Calculated for the period between October 15, 1994 and September 29, 1995.
 - f. Calculated for the period between September 30, 1995 and September 27, 1996.
 - g. Calculated for the period between September 28, 1996 and September 26, 1997.
 - h. Calculated for the period between September 27, 1997 and September 25, 1998.
 - i. Calculated for the period between October 02, 1998 and September 27, 1999.
 - j. Last pH measured before well turned off. Measured the week of March 26, 1999.
- gpm = gallons per minute
SU = Standard Units

TABLE 5

SUMMARY OF WELLS ELIMINATED FROM MONITORING NETWORK

Well	Date of Modification	Type of Modification	Reason For Modification
SOUTHWEST ALLUVIUM			
645	Jan-91	No Monitoring	Lack of recharge - area dewatered
644	Jan-93	No Monitoring	Lack of recharge - area dewatered
639	Jan-95	No Monitoring	Lack of recharge - area dewatered
29 A	Jan-95	No Monitoring	Lack of recharge - area dewatered
642	Oct-95	Water Level Only	Lack of recharge - area dewatered
642	Jan-96	No Monitoring	Lack of recharge - area dewatered
EPA 22A	Oct-97	No Monitoring	Lack of recharge - area dewatered
EPA 27	Apr-98	No Monitoring	Lack of recharge - area dewatered
GW-4	Jul-99	No Monitoring	Lack of recharge - area dewatered
Number of Wells Eliminated = 8 Total Number of Monitoring Wells = 22			
ZONE 3			
EPA 11	Jul-90	No Monitoring	Water level decline below pump, pump cemented in well - cannot be moved
EPA 3	Jan-92	No Monitoring	Lack of recharge - area dewatered
106 D	Oct-91	No Monitoring	Lack of recharge - area dewatered, well completed above base of Zone 3
EPA 17	Jul-92	No Monitoring	Lack of recharge - area dewatered, only had a maximum of 2 feet of saturation
9 D	Jul-92	No Monitoring	Lack of recharge - area dewatered, well completed above base of Zone 3
126		No Monitoring	Lack of recharge - area dewatered, well completed above base of Zone 3
EPA 12	Oct-92	Water Level Only	Lack of recharge - area dewatered
EPA 12		No Monitoring	Lack of recharge - area dewatered
501 B	Oct-93	Water Level Only	Lack of recharge - area dewatered
501 B		No Monitoring	Lack of recharge - area dewatered
EPA 18	Jan-95	No Monitoring	Water level in sump below base of Zone 3 - not representative
EPA 18	Jan-95	No Monitoring	Lack of recharge - area dewatered, only had a maximum of 5 feet of saturation
EPA 15	Jan-96	Water Level Only	Lack of recharge - area dewatered
EPA 15	Apr-96	No Monitoring	Lack of recharge - area dewatered
EPA 1	Jan-98	No Monitoring	Lack of recharge - area dewatered
411	Apr-98	No Monitoring	Filled with oil - cannot get water sample
Number of Wells Eliminated = 12 Total Number of Monitoring Wells = 20			

Note:

Shading indicates wells eliminated from monitoring during 1999 operational year.

TABLE 6
WATER QUALITY AT POC WELLS
THIRD QUARTER 1999

Location	POC	Lab TDS	SO ₄	NO ₃	Cl	Chloro-	Al	As	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Ra-226+	Th-230	Pb-210	Gross
	Well No.	(mg/l)	(mg/l)	as N	(mg/l)	form	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	Ra-228	(pCi/l)	(pCi/l)	Alpha
	NRC Std	NA	NA	NA	NA	0.001	NA	0.05	0.050	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Std	3170	2160	30.0	250	NA	5.0	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0

SW Alluvium	0509 D	6,620	3000	36.6	312	<0.00100	<0.10	<0.001	<0.01	<0.005	<0.01	<0.05	0.56	<0.10	<0.05	0.003	<0.10	0.1040	<2.9	<0.2	<1.0	9.3
	0632	6,140	2830	5.72	244	0.00180	<0.10	<0.001	<0.01	<0.005	<0.01	<0.05	0.72	<0.10	<0.05	<0.001	<0.10	0.0775	<1.5	<0.2	2.9	3.5
	EPA 22A	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
	EPA 23	4,640	2,300	56.5	86.0	<0.00100	<0.10	<0.001	<0.01	0.005	<0.01	<0.05	2.33	<0.10	<0.05	<0.001	<0.10	0.0286	<1.2	<0.2	<1.0	<1.0
	EPA 28	5,390	3,010	40.0	106	<0.00100	<0.10	<0.001	<0.01	<0.005	<0.01	<0.05	0.26	<0.10	<0.05	0.001	<0.10	0.0282	<1.6	<0.2	<1.0	<1.6
	GW 1	4,190	1,900	82.4	125	<0.00100	<0.10	<0.001	<0.01	<0.005	<0.01	<0.05	0.02	<0.10	<0.05	0.001	<0.10	0.0460	<1.2	<0.2	<1.0	<1.0
	GW 2	5,530	2,660	5.95	166	<0.00100	<0.10	<0.001	<0.01	<0.005	0.01	<0.05	0.40	<0.10	<0.05	<0.001	<0.10	0.0057	<1.2	<0.2	<1.0	2.3

Zone 3	0501 B	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
	0517	5,010	3,300	4.19	52.6	0.00440	9.96	<0.001	<0.01	0.01	0.62	<0.05	8.00	<0.10	0.50	<0.001	<0.10	0.0758	20.1	<0.2	<1.0	18.8
	0518	7,690	5,000	0.62	31.7	0.00830	69.50	<0.001	0.05	<0.005	1.11	<0.05	16.20	<0.10	1.10	<0.001	<0.10	0.0198	<4.5	7.8	<1.0	14.0
	EPA 03	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
	EPA 18	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry

Zone 1	0516 A	11,900	6,920	106	254	0.00260	<0.10	<0.001	<0.01	<0.005	<0.01	<0.05	1.67	<0.10	<0.05	<0.001	<0.10	0.0199	<1.7	<0.2	<1.0	<1.0
	0604	8,030	5,120	73.2	55.3	<0.00100	15.70	<0.001	0.01	0.009	0.42	<0.05	14.00	<0.10	0.62	<0.001	<0.10	0.0071	8.2	<0.2	<1.0	3.7
	0614	7,680	4,000	90.7	239	0.18800	<0.10	<0.001	<0.01	<0.005	<0.01	<0.05	0.23	<0.10	<0.05	0.001	<0.10	0.0672	2.1	<0.2	<1.0	<1.0
	EPA 04	4,790	2,550	<0.10	40.0	<0.00100	<0.10	<0.001	<0.01	<0.005	<0.01	<0.05	2.33	<0.10	<0.05	<0.001	<0.10	0.0013	2.4	<0.2	<1.0	1.5
	EPA 07	8,120	4,500	130	166	<0.00100	<0.10	<0.001	<0.01	<0.005	<0.01	<0.05	9.30	<0.10	<0.05	<0.001	<0.10	0.0019	<3.0	<0.2	<1.0	5.2

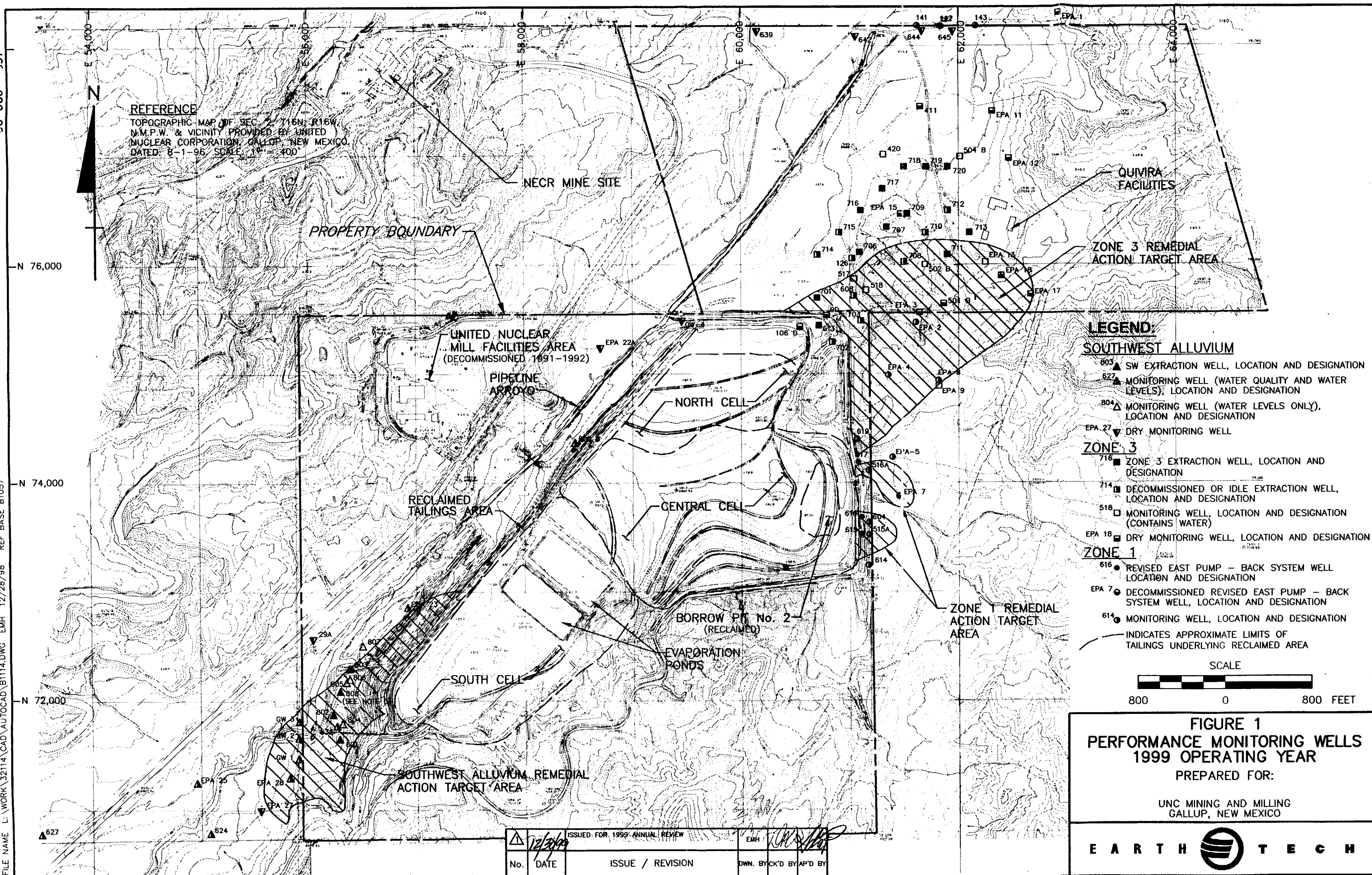
Notes:

Shading indicates an exceedance of the site cleanup standard.

"<" indicates constituent not detected above level shown.

mg/l = milligrams per liter. pCi/l = picoCuries per liter.

FIGURES



APPENDIX A

MASS EXTRACTION CALCULATIONS

TABLE OF CONTENTS

	<u>PAGE</u>
LIST OF TABLES	A-ii
LIST OF FIGURES	A-iii
1.0 INTRODUCTION	A-1
2.0 GENERAL METHODOLOGY	A-3
3.0 ZONE 3 MASS EXTRACTION	A-5
4.0 ZONE1 MASS EXTRACTION	A-8
5.0 SOUTHWEST ALLUVIUM MASS EXTRACTION	A-10

LIST OF TABLES

<u>TABLE NUMBER</u>	<u>TITLE</u>
A.1	Determination of Constituents Consistently Present in the Zone 3 Target Area
A.2	Zone 3 Mass Extraction Areas, 1989 and 1999
A.3	Zone 3 Mass Extraction 1989 to 1999
A.4	Determination of Constituents Consistently Present in the Zone 1 Target Area
A.5	Zone 1 Mass Extraction, Revised East System, October 1998 - September 1999
A.6	Zone 1 Mass Extraction, April 1989 - September 1999
A.7	Determination of Constituents Consistently Present in the Southwest Alluvium Target Area
A.8	Southwest Alluvium Mass Extraction, October 1998 - September 1999
A.9	Southwest Alluvium Mass Extraction, 1990 - 1999

LIST OF FIGURES

<u>FIGURE NUMBER</u>	<u>DRAWING NUMBER</u>	<u>TITLE</u>
A-1	86-060-B1063	Zone 3 Monitoring Well Areas of Influence
A-2	86-060-A1084	Zone 1 Well Locations
A-3	86-060-B1062	Southwest Alluvium Well Locations

APPENDIX A

MASS EXTRACTION CALCULATIONS

1.0 INTRODUCTION

This appendix presents the methodology used to calculate the mass of hazardous constituents removed by the pump-back and corrective action systems at United Nuclear Corporation's (United Nuclear's) Church Rock Site. Calculations for the mass extracted during the 1999 operating year are presented in detail and a summary of the mass extracted for the ten-year period from 1989 to 1999 is provided. Detailed calculations for mass extracted during previous years are presented in Appendix B of the 1991 Annual Review [Canonie Environmental Services Corp. (Canonie), 1991], and Appendix A of the 1992, 1993, 1994, 1995, 1996, 1997, and 1998 Annual Reviews [Canonie, 1992b, 1993b and 1995; Smith Technology Corporation (Smith Technology), 1995 and 1996; Rust Environment and Infrastructure (Rust), 1997; and Earth Tech, Inc. (Earth Tech), 1998]. Because the information shown on the figures (Zone 3 monitoring well areas of influence, and Zone 1 and Southwest Alluvium well locations) remains essentially unchanged in the last two years, the figures from the 1997 Annual Review (Rust, 1997) are reproduced in this appendix to the 1999 Annual Review. The mass extraction calculations were made for the following three areas where tailings seepage has been identified and extracted:

1. Zone 3 of the Upper Gallup Sandstone located northeast of the North Cell of the tailings impoundment. Extraction systems in Zone 3 include the Northeast Pump-Back System and the Stage I and Stage II Remedial Action Systems. Figure A-1 shows the locations of the Zone 3 Target Area, the seepage impacted area, and the extraction well systems that were operating in 1989 and in 1997/1999.

2. Zone 1 of the Upper Gallup Sandstone located north and east of Borrow Pit No. 2, which was previously used to store tailings solution and neutralized seepage. Extraction wells that operated in Zone 1 during 1999 include Wells 615, 616, and 617, which comprise the Revised East Pump-Back System. Figure A-2 shows the locations of the Zone 1 Target Area and the extraction wells.
3. The Southwest Alluvium located southwest of the South Cell of the tailings impoundment. Extraction wells in the Southwest Alluvium include Wells 801, 802, 803 and Well 808. Figure A-3 shows the locations of the Southwest Alluvium Target Area and the extraction wells.

Section 2.0 presents the general methodology used to calculate the mass extracted for all three zones. Sections 3.0, 4.0, and 5.0 present specific methodologies and assumptions that were used for individual systems. The term "mass extracted" as it is used in this report refers to the extraction of both mass and radioactivity.

2.0 GENERAL METHODOLOGY

The mass of hazardous constituents extracted for each system was, with one exception, calculated by multiplying the volumes of water pumped (as reported by United Nuclear) by the average constituent concentrations in water from the extraction wells or nearby monitoring wells. The one exception was the Zone 3 calculation where limited water quality data near the extraction wells made this methodology inappropriate. Mass extracted from Zone 3 is calculated by subtracting the estimated mass present in 1999 from the estimated mass present at the start of the corrective action.

The calculation of mass extracted was performed only for those constituents determined to be present in each remedial action target area in hazardous concentrations. This included all constituents consistently present in the target area in concentrations exceeding Nuclear Regulatory Commission (NRC) standards and/or U.S. Environmental Protection Agency (EPA) applicable or relevant and appropriate requirements (ARARs) during the initial four years of corrective action (i.e., the initial 16 quarterly sampling events). The term "consistently present" was defined as a constituent being present in at least:

1. Two target area monitoring wells during a minimum of 30 percent of the sampling events in concentrations exceeding agency standards, or
2. One target area monitoring well for more than 50 percent of the sampling events in concentrations of more than twice the agency standards

The two criteria listed above for being "consistently present" were effective in focusing the extraction calculations on the constituents that are of greatest concern within a specified target area while excluding those constituents that show only sporadic or localized exceedences.

Current EPA ARARs for nitrate as nitrogen [30 milligrams per liter (mg/l)] and sulfate (2,160 mg/l) were used in these calculations to define hazardous concentrations within the target areas. However, the Background Water Quality Report (BWQ Report) (Canonie, 1992a) and the Statistical Analysis Report (Canonie, 1993a) showed that alluvial background concentrations for these two constituents exceeded their respective ARARs. Therefore, a portion of the calculated mass extracted for nitrate and sulfate will be background mass rather than tailings seepage mass.

Total dissolved solids (TDS) are presented in concentrations exceeding the ARARs, but are not included in the mass calculations because TDS are composed of other constituents that are calculated. Consequently, calculation of mass removed for TDS would be redundant.

Constituent concentrations reported as being "less than" a specified laboratory measuring capability were assumed to be equal to zero for the purpose of calculating the mass extracted. Units of pounds, tons and microCuries proved to be the most convenient for expressing the mass or radioactivity extracted. The conversion factors are: 1 mg/l = 8.35×10^{-6} lbs/gal = 4.18×10^{-9} tons/gal and 1 pCi/l = 3.79×10^{-6} μ Ci/gal where:

mg/l = milligrams per liter
lbs/gal = pounds per gallon
tons/gal = tons per gallon
pCi/l = picoCuries per liter
 μ Ci/gal = microCuries per gallon

3.0 ZONE 3 MASS EXTRACTION

Mass extraction for Zone 3 was calculated for the mass extraction area for the period from August 1989 (i.e., Stage I system startup) to the third quarter 1999. The mass extraction area comprises the original Remedial Action Target Area, the area downgradient from the target area which was subsequently impacted by tailings seepage resulting from plume migration, and the area covered by monitoring wells located outside the seepage impacted area but within the influence of the ground water extraction wells.

Note that in the annual reports for the 1991 through 1994, mass extraction was calculated only for the target area defined in the Remedial Design Report (Canonie, 1989a). Using this method has become impractical because most of the original target area has been dewatered, and the monitoring wells remaining within the target area represent only a small part of the area undergoing remediation. Also, the area impacted by seepage has shifted northward as a consequence of the natural down-dip migration of the water as well as the operation of the ground water extraction systems. The method employed in this annual review allows for an improved estimate of the actual mass of constituents extracted by the Zone 3 remediation system.

As discussed in Section 2.0 of this appendix, the calculations of Zone 3 mass extraction use the volume of water in the mass extraction area rather than the volume of water pumped from the extraction wells. This method is used because, as shown on Figure A-1, most of the extraction wells are located outside the original Remedial Action Target Area and most of the monitoring wells within the target area are located more than 300 feet from the nearest extraction wells. As a result, assignment of water quality from the monitoring wells to distant extraction wells may not be representative of actual conditions.

Review of Table A.1 shows that the constituents consistently present within the Zone 3 target area during the first 16 quarters of operation of the remedial action system are sulfate (SO_4), nitrate as nitrogen ($\text{NO}_3\text{-N}$), aluminum (Al), arsenic (As), beryllium (Be),

cobalt (Co), lead (Pb), manganese (Mn), molybdenum (Mo), nickel (Ni), uranium (U), lead-210 (Pb-210), gross alpha, chloroform, and combined radium-226 (Ra-226) and radium-228 (Ra-228). Arsenic and molybdenum are found in higher concentrations outside of the Zone 3 seepage-impacted area, and their presence is believed to be related to background conditions rather than tailings seepage. Elevated nitrate concentrations are also believed to be related to background conditions because they are only found at two target area wells, Wells 106D and 517, both of which are located in the region of alluvial recharge.

The calculation of mass extraction from Zone 3 consists of estimating the mass of constituents that were present in the mass extraction area prior to the start of remediation in the third quarter of 1989, and the mass present as of the third quarter of 1999. The difference between the 1989 and 1999 mass values equals the mass extracted by the remediation system.

The mass of constituents present in Zone 3 is calculated by estimating the volume of water and multiplying the volume by the reported constituent concentrations. The volume of water is equal to the saturated thickness of Zone 3 measured at the monitoring wells, multiplied by the well's area of influence. Areas of influence are shown on Figure A-1. The boundaries of each area of influence are located equidistant between monitoring wells. This means that a point within an area of influence is closer to the monitoring well representing that area than to any other monitoring well. The formation is assumed to have a porosity of 10 percent for purposes of estimating the volume of water.

Because the extraction system has been dewatering Zone 3, the mass extraction area is considerably smaller in 1999 than it was in 1989. As a result, as shown on Figure A-1, several of the monitoring well areas of influence have been reconfigured. This is because the eastern part of Zone 3 (represented in 1989 by Wells EPA 3, EPA 12, EPA 17 and EPA 18) has been completely dewatered, there is insufficient saturation of Zone 3 to collect samples from Well 501B, and the water table has dropped below the screened

zone of Wells 9 D and 106 D. The 1999 mass extraction areas have been reconfigured as follows:

- The areas represented in 1989 by Wells 9 D and 106 D are represented in 1999 by Wells 517 and 518. This results in a conservative estimate of mass removal because the areas containing high concentrations of constituents of concern, represented by the water quality in Wells 517 and 518, are larger in 1999 than they were in 1989.
- The areas of influence of several monitoring wells located along the eastern boundary of saturation have been increased to incorporate parts of Zone 3 which still contain some saturated thickness but were previously represented by monitoring wells that have gone dry. For example, the area of influence of Well 504 B was increased to incorporate the remaining saturated portion of the area of influence of Well EPA-12.
- Well EPA 15 has gone dry. The area formerly calculated using data from Well EPA 15 has been divided among the areas of the surrounding monitoring wells.

Table C.1 of Appendix C lists the water quality data, Table A.2 lists the saturated thickness values and Figure A-1 shows the areas of monitoring well influence. The constituent concentrations at each well were based on the water quality data obtained from the specified quarterly monitoring event. For the purposes of the calculation, the water quality data were modified by replacing the values that were reported as less than the detection limit with a value of zero.

Table A.3 summarizes the calculation results. Only the constituents that met "consistently present" criteria are included in the table.

4.0 ZONE 1 MASS EXTRACTION

Mass extraction for Zone 1 was calculated for the Revised East System from September 26, 1990, to September 26, 1999, and for the North Cross-Dike and East systems from April 1989 to September 1990. The mass extracted by four As Low As Reasonably Achievable (ALARA) Demonstration wells between August and December 1991 is also included in the calculations.

Review of Table A.4 shows that the constituents consistently present within the Zone 1 target area were SO_4 , $\text{NO}_3\text{-N}$, Al, Co, Mn, Ni, Pb-210, chloroform and combined Ra-226 and Ra-228. The constituents SO_4 , Mn and combined Ra-226 and Ra-228 are also present in the background water in concentrations exceeding the site cleanup standards, but at smaller concentrations than observed in the target area. Nitrate, unlike in Zone 3 and the Southwest Alluvium, is not present in elevated concentrations in the Zone 1 background water located immediately downgradient of the borrow pit. The elevated nitrate in the target area originated from Zone 3 pump-back water which was stored in Borrow Pit No. 2 between 1982 and 1989.

The Revised East System, consisting of Wells 615, 616 and 617, pumped approximately 285,847 gallons between September 27, 1997, and September 26, 1999. Wells 615, 616 and 617 are not monitored for water quality; the mass extracted from these three wells is based on the water quality data collected from nearby monitoring wells. Although Well EPA 7 is considered part of the Revised East System, the pump was turned off in October 1994 due to plugging. Therefore, mass extraction from EPA 7 is not calculated.

In previous years, the calculation of mass extracted from Wells 615, 616, and 617 was based on the water quality measured in the monitoring well located nearest to each pumping well. Because the area of the center of seepage decreased substantially in 1995, this approach has been changed slightly. Based on field pH measurements, it appears that Well 615 is pumping water most similar in quality to Monitoring Well 604,

and Well 616 is best represented by Monitoring Well 515A. Mass extracted from pumping Well 617 continues to be calculated using water quality data from Monitoring Well 516A.

The water quality data from Monitoring Wells 515 A, 516 A, and 604 are presented in Table D.1 of Appendix D. The data were averaged for the pumping period (fourth quarter 1998 to third quarter 1999) for each well and each constituent. The average constituent concentration was multiplied by the volume pumped by each corresponding Revised East System well. The results of this computation for each well (average constituent concentration times volume pumped per well) were then added together to determine the quantity of mass extracted for each of the selected constituents. These results are presented in Table A.5.

Table A.6 presents a summary of the mass extracted in Zone 1 from the start of remediation in April 1989 to September 1999. The mass extracted by the Revised East System between September 1990 and October 1998 is also presented in the table. The mass extraction calculations for these years were performed in the same manner as the calculations for the 1999 operating year. Details of these calculations are presented in the previous annual reviews (Canonie, 1991, 1992b, 1993b and 1995; Smith Technology, 1995 and 1996; Rust, 1997; and Earth Tech, 1999).

In 1991, an ALARA Demonstration Program was conducted in which four wells were operated from August to December. The mass extracted by these wells was calculated in the 1993 Annual Review (Canonie, 1993b) and the results are summarized in Table A.6. Prior to 1990, pumping in Zone 1 consisted of operating the East and North Cross-Dike pump-back wells. The masses extracted by these wells between April 1989 and September 1990 were calculated in the 1991 Annual Review (Canonie, 1991). The results are summarized in Table A.6.

5.0 SOUTHWEST ALLUVIUM MASS EXTRACTION

Mass extraction for the Southwest Alluvium was calculated for each of the four extraction wells (801, 802, 803 and 808) comprising this system by multiplying the volume pumped by the constituent concentrations. The total mass extracted for the system is determined by averaging the mass extracted at each individual well.

Review of Table A.7 shows that the constituents consistently present within the Southwest Alluvium target area were SO_4 , chloride (Cl), $\text{NO}_3\text{-N}$, Mn, Ni, chloroform, and Pb-210. Although Pb-210 met the criterion for being consistently present in the target area, its erratic occurrence in the alluvium (both within and outside of the target area) indicates that its presence is not related to tailings seepage. The constituents SO_4 , Cl and $\text{NO}_3\text{-N}$, as discussed in the BWQ Report (Canonie, 1992a), are present in elevated concentrations in the background water which probably accounts for a significant portion of their target area concentrations also. The remaining three constituents (Mn, Ni and chloroform) are present in concentrations exceeding the EPA and NRC standards at Extraction Well 801 only.

The mass extracted by an individual well was calculated by multiplying the well pumping rate by the average concentration of the identified constituents at each well. The volume of water pumped by individual wells was determined by prorating the total volume of water pumped by the individual pumping rates. The total mass removed is the average constituent concentration for the system multiplied by the total volume pumped. Table A.8 presents the mass extracted for the 1999 operating year (September 27, 1998, to September 26, 1999). The average concentrations are based on the quarterly water quality data for Wells 801, 802 and 803, which are presented in Table B.2 of Appendix B. Well 808, which is not monitored for water quality, is assumed to have constituent concentrations equal to an average of Wells 802 and 803 because of its location midway between these two wells.

Table A.9 presents a summary of the mass extracted in the Southwest Alluvium from the start of remediation in October 1989 through September 1999. The mass extracted during these years is calculated in the same manner as for the 1998 operating year. Details of these calculations are presented in the previous annual reviews (Canonie, 1991, 1992b, 1993b, and 1995; Smith Technology, 1995 and 1996; Rust, 1997; and Earth Tech, 1998).

TABLES

TABLE A.1

**DETERMINATION OF CONSTITUENTS CONSISTENTLY
PRESENT IN THE ZONE 3 TARGET AREA**

Constituent	Exceedences of Standards (Jul. 89 - Apr. 93)	Target Area Well No.											Consistently Present
		106 D	9 D	518	517	502 B	501 B	EPA 9	EPA 13	EPA 3	EPA 17	EPA 18	
Cl	Rate	0-9	0-12	0-16	0-16	0-16	0-16	0-16	0-16	0-10	0-12	0-16	Yes
	Percentage	0	0	0	0	0	0	0	0	0	0	0	
NO ₃ as N	Rate	9-9	0-12	0-16	14-16	4-16	0-16	0-16	0-16	0-10	0-12	0-16	Yes
	Percentage	100	0	0	88	25	0	0	0	0	0	0	
SO ₄	Rate	9-9	12-12	16-16	16-16	16-16	16-16	16-16	16-16	10-10	12-12	16-16	Yes
	Percentage	100	100	100	94	100	100	100	100	100	100	100	
Al	Rate	9-9	12-12	16-16	0-16	12-16	16-16	1-16	0-16	0-10	0-12	0-16	Yes
	Percentage	56	100	100	0	100	100	6	0	0	0	0	
As	Rate	0-9	0-12	0-16	0-16	2-16	2-16	0-16	8-16	0-10	5-12	0-16	Yes
	Percentage	0	0	0	0	13	13	0	50	0	42	0	
Be	Rate	0-9	3-12	11-16	1-16	7-16	9-16	1-16	0-16	0-10	0-12	0-16	Yes
	Percentage	0	25	89	6	44	56	6	0	0	0	0	
Cd	Rate	0-9	3-12	6-16	0-16	1-16	2-16	1-16	1-16	0-10	1-12	0-16	No
	Percentage	0	25	38	0	6	13	6	6	0	8	0	
Co	Rate	8-9	12-12	16-16	8-16	16-16	16-16	14-16	16-16	2-10	2-12	16-16	Yes
	Percentage	89	100	100	50	100	100	88	100	20	17	100	
Pb	Rate	1-9	10-12	2-16	1-16	0-16	2-16	0-16	1-16	1-10	0-11	0-16	Yes
	Percentage	11	83	13	6	0	13	0	6	10	0	0	
Mn	Rate	9-9	12-12	16-16	10-16	16-16	16-16	16-16	16-16	10-10	12-12	16-16	Yes
	Percentage	100	100	100	63	100	100	100	100	100	100	100	
Mo	Rate	0-9	0-12	0-16	0-16	12-16	0-16	0-16	2-16	0-10	0-12	0-16	Yes
	Percentage	0	0	0	0	75	0	0	13	0	0	0	
Ni	Rate	8-9	12-12	16-16	9-16	15-16	16-16	14-16	16-16	0-10	12-12	16-16	Yes
	Percentage	89	100	100	56	94	100	88	100	0	100	100	
Se	Rate	2-9	1-12	0-16	2-16	0-16	0-16	0-16	0-16	0-10	0	0	No
	Percentage	22	8	0	13	0	0	0	0	0	0	0	
V	Rate	0-9	0-12	11-16	0-16	0-16	0-16	0-16	0-16	0-10	0-12	0-16	No
	Percentage	0	0	89	0	0	0	0	0	0	0	0	
U	Rate	0-9	0-12	12-16	0-16	7-16	10-16	0-16	0-16	0-10	0-12	0-16	Yes
	Percentage	0	0	75	0	44	63	0	0	0	0	0	
Pb-210	Rate	4-9	6-12	8-16	6-16	8-16	9-16	3-16	5-16	1-10	2-12	5-16	Yes
	Percentage	44	50	56	31	50	56	19	31	10	17	31	
Combined Ra-226, Ra-228	Rate	8-9	10-12	16-16	16-16	15-16	15-16	15-16	15-16	0-10	7-12	16-16	Yes
	Percentage	89	83	100	100	94	100	94	94	0	58	100	
Th-230	Rate	0-9	0-12	7-16	0-16	1-16	2-16	1-16	1-16	0-10	1-12	1-16	No
	Percentage	0	0	44	0	6	13	6	6	0	8	6	
Gross Alpha	Rate	1-9	2-12	5-16	1-16	5-16	4-16	0-16	0-16	0-10	0-12	0-16	Yes
	Percentage	11	17	31	6	31	25	0	0	0	0	0	
Chloroform	Rate	8-9	0-12	16-16	9-16	0-16	0-16	0-16	0-16	0-10	0-12	0-16	Yes
	Percentage	89	0	100	56	0	0	0	0	0	0	0	
Cyanide	Rate	0-9	0-12	0-16	0-16	0-16	0-16	0-16	0-16	0-10	0-12	0-16	No
	Percentage	0	0	0	0	0	0	0	0	0	0	0	
Naphthalene	Rate	0-9	0-12	0-16	0-16	0-16	0-16	0-16	1-16	0-10	0-12	0-16	No
	Percentage	0	0	0	0	0	0	0	6	0	0	0	

Notes:

1. "Rate" refers to the number of samples with exceedences of the EPA/NRC standards for the site compared to the total number of samples collected during the period from July 1989 to April 1993 (i.e., 16 sampling events).
2. "Percentage" refers to the percentage of exceedences and is calculated by dividing the number of exceedences by the total number of samples, then multiplying by 100.
3. Shading indicates an exceedence of 30 percent or greater.
4. Cadmium, vanadium and thorium-230 do not meet Criterion 1 or 2 for being consistently present.
5. Lead and molybdenum meet Criterion 2 for being consistently present.

TABLE A.2

**ZONE 3 MASS EXTRACTION AREAS
1989 AND 1999**

Well No.	1989			1999			Percent Change		
	Area of Influence (sq ft)	Saturated Thickness (ft)	Ground Water Volume (gal)	Area of Influence (sq ft)	Saturated Thickness (ft)	Ground Water Volume (gal)	Area of Influence (sq ft)	Saturated Thickness (ft)	Ground Water Volume (gal)
9 D	383,333	19.6	5,619,968		(a)			(a)	
106 D	204,709	11.8	1,806,844		(a)			(a)	
420	286,887	56.3	12,081,500	357,120	22.0	5,876,767	24%	-61%	-51%
501 B	259,296	20.2	3,917,859	0	0.0	0	-100%	-100%	-100%
502 B	286,887	48.5	10,407,687	404,240	19.4	5,866,007	41%	-60%	-44%
504 B	354,796	40.1	10,642,035	462,110	12.8	4,424,426	30%	-68%	-58%
517	243,420	42.7	7,774,737	425,730	14.3	4,553,778	75%	-67%	-41%
518	185,312	37.2	5,156,418	617,520	17.3	7,990,956	233%	-53%	55%
EPA 3	279,730	8.3	1,736,676	0	0.0	0	-100%	-100%	-100%
EPA 9	853,772	8.1	5,172,834	235,156	4.6	809,125	-72%	-43%	-84%
EPA 12	433,877	10.7	3,472,578	0	0.0	0	-100%	-100%	-100%
EPA 13	336,255	27.2	6,841,310	271,970	11.6	2,359,829	-19%	-57%	-66%
EPA 14	252,561	76.3	14,414,262	388,530	37.8	10,985,453	54%	-50%	-24%
EPA 15	368,460	60.8	16,756,971	0	0.0	0	-100%	-100%	-100%
EPA 17	104,163	1.4	109,079	0	0.0	0	-100%	-100%	-100%
EPA 18	186,826	2.5	349,365	0	0.0	0	-100%	-100%	-100%
TOTAL	5,020,284	471.7	106,260,123	3,162,376	139.8	42,866,341	-37%	-70%	-60%

Notes:

Ground water volume is equal to 10% of the formation volume, i.e., assumes 10% porosity.

a. Zone 3 is still partially saturated below the screened zones of Wells 9D and 106D. These areas of influence are now represented by Wells 517 and 518.

TABLE A.3
ZONE 3 MASS EXTRACTION 1989 TO 1999

Well	Mass Present, 1989														
	SO ₄ (tons)	NO ₃ as N (lbs)	Al (lbs)	As (lbs)	Be (lbs)	Co (lbs)	Pb (lbs)	Mn (lbs)	Mo (lbs)	Ni (lbs)	U (lbs)	Ra-226 + Ra-228 (μCi)	Pb-210 (μCi)	Gross Alpha (μCi)	Chloro- form (lbs)
9 D	118.7	117.3	2,017.8	0.00	0.00	30.50	3.75	656.97	0.00	40.36	0.36	155.49	95.85	374.9	0.00
106 D	22.1	1,010.8	120.7	0.00	0.00	2.26	0.00	181.05	0.00	3.92	0.04	95.19	15.07	154.1	0.00
420	65.2	6,052.8	0.0	1.21	0.00	0.00	0.00	141.23	918.01	0.00	2.96	416.68	73.26	311.4	0.00
501 B	66.6	6.9	3,271.4	7.98	4.25	35.99	2.62	392.57	3.60	58.89	19.96	491.49	0.00	1,429.9	0.00
502 B	143.3	2,607.1	191.2	0.09	0.00	22.60	0.00	599.64	808.21	20.86	4.72	678.46	90.72	1,203.1	0.00
504 B	134.5	4.4	22.2	10.04	0.00	12.44	0.00	222.15	2,132.66	21.33	8.89	1,306.80	0.00	2,666.0	0.00
517	67.5	2,531.8	0.0	0.00	0.00	0.00	0.00	37.65	9.09	0.00	16.36	630.58	61.88	1,299.5	0.07
518	144.8	947.2	18,083.6	0.04	6.89	73.20	4.74	1,765.30	0.00	81.81	36.25	801.26	80.13	2,345.1	1.85
EPA 03	24.3	0.3	0.0	0.04	0.00	0.44	1.02	81.21	0.00	0.00	0.15	9.87	0.00	28.3	0.00
EPA 09	77.7	3.0	9.5	0.00	0.00	5.18	0.00	194.37	0.00	3.89	0.09	131.35	41.17	80.4	0.00
EPA 12	45.7	0.6	0.0	0.03	0.00	3.19	0.00	118.88	220.37	8.70	0.05	109.24	0.00	93.4	0.00
EPA 13	98.7	805.5	12.0	0.40	0.00	26.85	0.00	354.17	85.69	33.70	0.34	230.76	70.01	137.4	0.00
EPA 14	127.0	2,034.1	95.1	0.00	0.00	4.81	0.00	75.83	0.00	6.02	2.00	349.63	0.00	174.8	0.00
EPA 15	104.0	1,847.0	0.0	0.00	0.00	0.00	0.00	181.90	69.96	0.00	5.71	469.97	82.56	139.7	0.00
EPA 17	2.1	0.1	0.2	0.20	0.00	0.07	0.00	6.28	1.09	0.22	0.05	2.81	0.50	6.0	0.00
EPA 18	5.8	0.2	0.0	0.02	0.00	0.55	0.00	19.55	0.15	0.67	0.09	16.68	0.00	10.6	0.00
TOTAL	1,248.2	17,969.2	23,823.7	20.06	11.14	218.08	12.12	5,028.75	4,248.83	280.35	98.01	5,896.25	611.14	10,454.6	1.92
Well	Mass Present, 1999														
	SO ₄ (tons)	NO ₃ as N (lbs)	Al (lbs)	As (lbs)	Be (lbs)	Co (lbs)	Pb (lbs)	Mn (lbs)	Mo (lbs)	Ni (lbs)	U (lbs)	Ra-226 + Ra-228 (μCi)	Pb-210 (μCi)	Alpha (μCi)	CHL (lbs)
420	45.1	1,953.0	2.5	0.02	0.25	0.25	0.00	97.16	18.16	1.23	2.84	60.14	0.00	60.1	0.025
502 B (a)	93.1	2.4	300.7	0.02	0.24	20.57	0.00	519.20	2.45	20.57	5.88	571.37	0.00	320.1	0.024
504 B	64.7	14.0	6.3	0.74	0.18	8.87	0.00	210.58	539.38	12.93	1.06	430.95	0.00	290.1	0.018
517	62.7	159.3	378.7	0.02	0.19	23.57	0.00	304.19	1.90	19.01	2.88	346.90	0.00	324.5	0.167
518	166.8	41.4	4,637.4	0.03	3.34	74.06	0.00	1,080.94	3.34	73.40	1.32	121.14	0.00	424.0	0.554
EPA 09	13.0	0.3	18.9	0.01	0.03	1.15	0.00	33.11	0.34	0.88	0.01	64.70	0.00	41.4	0.003
EPA 13	42.0	1.0	1.0	0.01	0.10	1.18	0.00	90.64	5.12	1.97	0.48	99.28	0.00	76.9	0.010
EPA 14	87.1	2,871.1	4.6	0.37	0.46	2.75	0.00	205.47	12.84	2.29	10.46	495.45	0.00	279.0	0.046
TOTAL	574.6	5,042.6	5,350.0	1.23	4.79	132.41	0.00	2,541.29	583.53	132.28	24.92	2,189.94	0.0	1816.1	0.85
Change	-54%	-72%	-78%	-94%	-57%	-39%	-100%	-49%	-86%	-53%	-75%	-63%	-100%	-83%	-56%

Note:

a. The mass of constituents present in the Well 501 B area of influence is calculated using water quality data from Well 502 B.

TABLE A.4

**DETERMINATION OF CONSTITUENTS CONSISTENTLY
PRESENT IN THE ZONE 1 TARGET AREA**

Constituent	Exceedences of Standards (Apr. 89 - Jan. 93)	Target Area Well No.				Consistently Present
		515 A	516 A	604	EPA 7	
Cl	Rate	0-16	7-18	0-16	0-16	No
	Percentage	0	44	0	0	
NO ₃ as N	Rate	11-16	15-16	14-16	10-16	Yes
	Percentage	69	94	88	63	
SO ₄	Rate	16-16	16-16	16-16	16-16	Yes
	Percentage	100	100	100	100	
Al	Rate	14-15	14-15	15-15	8-15	Yes
	Percentage	93	93	100	53	
As	Rate	0-16	0-16	0-16	0-16	No
	Percentage	0	0	0	0	
Be	Rate	2-16	0-16	6-16	0-16	No
	Percentage	13	0	38	0	
Cd	Rate	0-16	0-16	0-16	0-16	No
	Percentage	0	0	0	0	
Co	Rate	14-15	15-15	15-15	15-15	Yes
	Percentage	93	100	100	100	
Pb	Rate	0-16	1-16	0-16	0-16	No
	Percentage	0	6	0	0	
Mn	Rate	16-16	16-16	16-16	16-16	Yes
	Percentage	100	100	100	100	
Mo	Rate	0-15	0-15	0-15	0-15	No
	Percentage	0	0	0	0	
Ni	Rate	16-16	16-16	16-16	16-16	Yes
	Percentage	100	100	100	100	
Se	Rate	2-16	1-16	0-16	3-16	No
	Percentage	13	6	0	19	
V	Rate	0-16	0-16	0-16	0-16	No
	Percentage	0	0	0	0	
U	Rate	0-16	0-16	0-16	0-16	No
	Percentage	0	0	0	0	
Pb-210	Rate	8-16	5-16	9-16	1-16	Yes
	Percentage	50	31	56	6	
Combined Ra-226, Ra-228	Rate	15-16	16-16	16-16	16-16	Yes
	Percentage	94	100	100	100	
Th-230	Rate	1-16	0-16	2-16	1-16	No
	Percentage	6	0	13	6	
Gross Alpha	Rate	1-16	2-16	3-16	0-16	No
	Percentage	6	13	19	0	
Chloroform	Rate	16-16	5-16	1-16	0-16	Yes
	Percentage	100	31	0	0	
Cyanide	Rate	1-16	1-16	0-16	1-16	No
	Percentage	6	6	0	6	
Naphthalene	Rate	0-16	2-16	0-16	0-16	No
	Percentage	0	13	0	0	

Notes:

1. "Rate" refers to the number of samples with exceedences of the EPA/NRC standards for the site compared to the total number of samples collected during the period from April 1989 to January 1993 (i.e., 16 sampling events).
2. "Percentage" refers to the percentage of exceedences and is calculated by dividing the number of exceedences by the total number of samples, then multiplying by 100.
3. Shading indicates an exceedence percentage of 30 percent or greater.
4. Beryllium and chloride do not meet Criterion 1 or 2 for being consistently present.

TABLE A.5
ZONE 1 MASS EXTRACTION
REVISED EAST SYSTEM
OCTOBER 1998 - SEPTEMBER 1999

Average Concentration

		SO ₄ (mg/l)	NO ₃ as N (mg/l)	Al (mg/l)	Co (mg/l)	Mn (mg/l)	Ni (mg/l)	Chloroform (mg/l)	Pb-210 (pCi/l)	Ra-226+ Ra-228 (pCi/l)
NRC Standard		NA	NA	NA	NA	NA	0.05	0.001	1.0	5.0
EPA Standard		2,160	30	5.0	0.05	2.6	0.2	NA	NA	5.0
Well	Volume Pumped (gallons)									
604	36,025	4,955	81.4	18.75	0.39	12.85	0.48	0.0000	0.0	9.08
515 A	22,188	4,825	62.1	0.62	0.06	12.83	0.14	0.1955	0.0	5.75
516 A	27,633	6,965	114.8	0.00	0.000	1.62	0.00	0.0024	0.0	2.59
WEIGHTED AVERAGE		5,568	87.1	8.03	0.18	9.23	0.24	0.051	0.0	6.13

Mass/Radioactivity Extracted

Well	Volume Pumped (gallons)	SO ₄ (lb)	NO ₃ as N (lb)	Al (lb)	Co (lb)	Mn (lb)	Ni (lb)	Chloroform (lb)	Pb-210 (μCi)	Ra-226+ Ra-228 (μCi)
615	36,025	1,491	24.5	5.64	0.12	3.87	0.14	0.0000	0.0	1.2
616	22,188	894	11.5	0.11	0.01	2.38	0.03	0.0362	0.0	0.5
617	27,633	1,607	26.5	0.00	0.00	0.37	0.00	0.0005	0.0	0.3
TOTAL	85,846	3,992	62.5	5.75	0.13	6.6	0.17	0.0368	0.0	2.0

Notes:

Analytical data from Well 604 represents quality of water extracted from Well 615.
 Analytical data from Well 515 A represents quality of water extracted from Well 616.
 Analytical data from Well 516 A represents quality of water extracted from Well 617.
 All averages are weighted averages (i.e., average = mass/volume).
 Conversion factors are 1 mg/l = 8.35 x 10⁻⁶ lbs/gal and 1 pCi/l = 3.79 x 10⁻⁶ μCi/gal.

TABLE A.6
ZONE 1 MASS EXTRACTION
APRIL 1989 - SEPTEMBER 1999

System	Time Period	Average Concentration									
			SO ₄ (mg/l)	NO ₃ as N (mg/l)	Al (mg/l)	Co (mg/l)	Mn (mg/l)	Ni (mg/l)	Chloroform (mg/l)	Pb-210 (pCi/l)	Ra-226+ Ra-228 (pCi/l)
		NRC Standard	NA	NA	NA	NA	NA	0.05	0.001	1.0	5.0
		EPA Standard	2,160	30	5.0	0.05	2.6	0.2	NA	NA	5.0
		Volume Pumped (million gallons)									
North Cross-Dike	(4/89 - 9/90)	3.40	4,118	34.3	38.3	NDA	13.0	NDA	NDA	NDA	5.85
East System	(4/89 - 9/90)	3.20	4,717	80.4	57.7	0.17	13.4	0.21	0.003	0.83	10.0
ALARA Demonstration	(8/12/91 - 12/2/91)	0.79	4,480	24.8	18.4	0.60	20.9	0.87	0.060	0.80	20.9
Revised East System	(9/90 - 10/91)	0.48	5,350	66.1	38.7	0.23	16.0	0.30	0.017	0.77	15.6
Revised East System	(10/91 - 10/92)	0.39	5,064	40.5	25.6	0.21	16.0	0.28	0.013	0.94	14.2
Revised East System	(10/92 - 10/93)	0.35	4,867	56.9	18.5	0.23	13.5	0.31	0.034	1.40	10.4
Revised East System	(10/93 - 10/94)	0.37	4,925	72.0	10.8	0.17	10.6	0.27	0.081	1.15	9.29
Revised East System	(10/94 - 9/95)	0.25	5,398	89.3	14.3	0.14	8.2	0.28	0.001	1.80	8.93
Revised East System	(10/95 - 9/96)	0.25	5,310	88.8	9.8	0.13	9.5	0.17	0.092	0.60	6.13
Revised East System	(10/96 - 9/97)	0.20	5,220	84.5	7.2	0.14	8.5	0.17	0.076	0.00	7.5
Revised East System	(10/97 - 9/98)	0.32	4,899	73.8	5.3	0.14	11.7	0.19	0.161	0.00	5.65
Revised East System	(10/98 - 7/99)	0.09	5,568	87.1	8.0	0.18	9.2	0.24	0.051	0.00	6.13
All Systems (a)	(4/89 - 7/99)	10.09	4,450	55.1	37.3	0.15	13.2	0.20	0.015	0.55	9.4

Mass/Radioactivity Extracted											
System	Time Period	Volume Pumped (million gallons)	SO ₄ (lb)	NO ₃ as N (lb)	Al (lb)	Co (lb)	Mn (lb)	Ni (lb)	Chloroform (lb)	Pb-210 (μCi)	Ra-226+ Ra-228 (μCi)
North Cross-Dike	(4/89 - 9/90)	3.40	116,896	974	1,088.0	NDA	370.0	NDA	NDA	NDA	75.4
East System	(4/89 - 9/90)	3.20	126,046	2,149	1,542.0	4.60	359.0	5.50	0.07	10.1	121.5
ALARA Demonstration	(8/12/91 - 12/2/91)	0.79	29,739	165	122.3	4.00	138.8	5.78	0.40	2.40	63.0
Revised East System	(9/90 - 10/91)	0.48	22,782	282	164.9	1.00	68.0	1.30	0.07	1.50	30.3
Revised East System	(10/91 - 10/92)	0.39	16,619	133	83.9	0.70	52.5	0.90	0.04	1.40	21.1
Revised East System	(10/92 - 10/93)	0.35	14,225	166	54.2	0.67	39.4	0.92	0.10	1.90	13.8
Revised East System	(10/93 - 10/94)	0.37	15,216	222	33.2	0.53	32.8	0.80	0.25	1.60	13.0
Revised East System	(10/94 - 9/95)	0.25	11,078	183	29.3	0.29	16.7	0.60	0.00	1.80	8.30
Revised East System	(10/95 - 9/96)	0.25	11,174	187	20.7	0.26	20.0	0.40	0.19	0.60	5.90
Revised East System	(10/96 - 9/97)	0.20	8,805	143	12.2	0.23	14.3	0.30	0.13	0.00	5.70
Revised East System	(10/97 - 9/98)	0.32	13,232	199	14.2	0.37	31.6	0.55	0.44	0.00	6.90
Revised East System	(10/98 - 7/99)	0.09	3,992	62	5.8	0.13	6.6	0.17	0.04	0.00	1.99
All Systems (a)	(4/89 - 7/99)	10.09	375,109	4,647	3,145	12.25	1,112	16.6	1.30	21.1	357.7

Notes:

- Average concentrations and mass extracted for Co, Ni, Chloroform and Pb-210 do not include the North Cross-Dike System from 4/89 - 9/90 because laboratory data were unavailable.
- NDA indicates that laboratory analyses are unavailable for these constituents for the indicated system and time period.
- All averages are weighted averages (i.e., average = mass/volume).
- Conversion factors are 1 mg/l = 8.35 x 10⁻⁶ lbs/gal and 1 pCi/l = 3.79 x 10⁻⁶ μCi/gal.

TABLE A.7

**DETERMINATION OF CONSTITUENTS CONSISTENTLY
PRESENT IN THE SOUTHWEST ALLUVIUM TARGET AREA**

Constituent	Exceedences of Standards (Oct. 89 - Jul. 93)	Target Area Well No.								Consistently Present
		801	802	803	632	GW 1	GW 2	GW 3	EPA 28	
Cl	Rate	6-16	0-16	0-16	14-16	0-16	0-16	0-16	0-16	Yes
	Percentage	38	0	0	88	0	0	0	0	
NO ₃ as N	Rate	4-16	16-16	12-16	16-16	16-16	14-16	16-16	16-16	Yes
	Percentage	25	100	75	100	100	88	100	100	
SO ₄	Rate	16-16	16-16	16-16	16-16	13-16	16-16	0-16	16-16	Yes
	Percentage	100	100	100	100	81	100	0	100	
Al	Rate	0-16	0-16	0-16	0-16	0-16	0-16	0-16	0-16	No
	Percentage	0	0	0	0	0	0	0	0	
As	Rate	0-16	0-16	0-16	0-16	0-16	0-16	0-16	0-16	No
	Percentage	0	0	0	0	0	0	0	0	
Be	Rate	0-16	0-16	0-16	0-16	0-16	0-16	0-16	0-16	No
	Percentage	0	0	0	0	0	0	0	0	
Cd	Rate	0-16	1-16	0-16	0-16	0-16	2-16	0-16	0-16	No
	Percentage	0	6	0	0	0	13	0	0	
Co	Rate	14-16	0-16	0-16	0-16	0-16	0-16	0-16	0-16	No
	Percentage	88	0	0	0	0	0	0	0	
Pb	Rate	0-15	0-15	0-15	0-16	0-16	1-16	0-16	0-15	No
	Percentage	0	0	0	0	0	6	0	0	
Mn	Rate	16-16	0-16	0-16	0-16	0-16	0-16	0-16	0-16	Yes
	Percentage	100	0	0	0	0	0	0	0	
Mo	Rate	0-16	0-16	0-16	0-16	0-16	0-16	0-16	0-16	No
	Percentage	0	0	0	0	0	0	0	0	
Ni	Rate	13-16	0-16	0-16	1-16	0-16	0-16	1-16	0-16	Yes
	Percentage	81	0	0	6	0	0	6	0	
Se	Rate	0-16	0-16	0-16	1-16	0-16	0-16	1-16	1-16	No
	Percentage	0	0	0	6	0	0	6	6	
V	Rate	0-16	0-16	0-16	0-16	0-16	0-16	0-16	0-16	No
	Percentage	0	0	0	0	0	0	0	0	
U	Rate	0-16	0-16	0-16	0-16	0-16	0-16	2-16	0-16	No
	Percentage	0	0	0	0	0	0	13	0	
Pb-210	Rate	4-16	5-16	1-16	4-16	8-16	4-16	4-16	4-16	Yes
	Percentage	25	31	6	25	50	25	25	25	
Combined Ra-226, Ra-228	Rate	1-16	1-16	0-16	3-16	0-16	1-16	0-16	0-16	No
	Percentage	6	6	0	19	0	6	0	0	
Th-230	Rate	0-16	0-16	0-16	0-16	0-16	1-16	0-16	0-16	No
	Percentage	0	0	0	0	0	6	0	0	
Gross Alpha	Rate	0-16	0-16	0-16	0-16	0-16	0-16	0-16	0-16	No
	Percentage	0	0	0	0	0	0	0	0	
Chloroform	Rate	14-16	1-16	0-16	0-16	0-16	0-16	0-16	0-16	Yes
	Percentage	88	6	0	0	0	0	0	0	
Cyanide	Rate	0-16	0-16	0-16	0-16	0-16	0-16	0-16	0-16	No
	Percentage	0	0	0	0	0	0	0	0	
Naphthalene	Rate	0-16	0-16	0-16	0-16	0-16	0-16	0-16	0-16	No
	Percentage	0	0	0	0	0	0	0	0	

Notes:

- "Rate" refers to the number of samples with exceedences of the EPA/NRC standards for the site compared to the total number of samples collected during the period from October 1989 to July 1993 (i.e., 16 sampling events).
- "Percentage" refers to the percentage of exceedences and is calculated by dividing the number of exceedences by the total number of samples, then multiplying by 100.
- Shading indicates an exceedence percentage of 30 percent or greater.
- Cobalt does not meet Criterion 1 or 2 for being consistently present. Manganese, nickel and chloroform meet Criterion 2 for being consistently present at Well No. 801.

TABLE A.8

**SOUTHWEST ALLUVIUM MASS EXTRACTION
OCTOBER 1998 - SEPTEMBER 1999**

Average Concentration of Extracted Water

		SO ₄ (mg/l)	Cl (mg/l)	NO ₃ as N (mg/l)	Mn (mg/l)	Ni (mg/l)	Chloroform (mg/l)	Pb-210 (pCi/l)
	NRC Standard	NA	NA	NA	NA	0.05	0.001	1
	EPA Standard	2,160	250	30	2.6	0.20	NA	NA
Well No.	Gallons Extracted							
801	34,621	4,263	228	6.1	15.78	0.00	0.0030	0.00
802	4,785,599	3,178	207	84.0	1.28	0.00	0.0012	0.00
803	1,733,460	3,200	185	39.8	1.48	0.00	0.0000	0.00
808	979,985	3,189	196	61.9	1.38	0.00	0.0006	0.00
Total	7,533,665	3,189	201	70.6	1.40	0.00	0.00087	0.00

Mass/Radioactivity Extracted

Well No.	Gallons Extracted	SO ₄ (lbs)	Cl (lbs)	NO ₃ as N (lbs)	Mn (lbs)	Ni (lbs)	Chloroform (lbs)	Pb-210 (μCi)
801	34,621	1,232	66	2	4.6	0.00	0.001	0.00
802	4,785,599	126,972	8,282	3,356	50.9	0.00	0.049	0.00
803	1,733,460	46,318	2,678	576	21.4	0.00	0.000	0.00
808	979,985	26,093	1,605	506	11.3	0.00	0.005	0.00
Total	7,533,665	200,616	12,630	4,440	88.2	0.00	0.055	0.00

Notes:

1. All averages are weighted averages (i.e., average = mass/volume).
2. Average concentration is shaded where NRC and/or EPA standard is exceeded.
3. Conversion factors are 1 mg/l = 8.35 x 10⁻⁶ lbs/gal and 1 pCi/l = 3.79 x 10⁻⁶ μCi/gal.

TABLE A.9

**SOUTHWEST ALLUVIUM MASS EXTRACTION
1990 - 1999**

Average Concentration

		SO ₄ (mg/l)	Cl (mg/l)	NO ₃ as N (mg/l)	Mn (mg/l)	Ni (mg/l)	Chloroform (mg/l)	Pb-210 (pCi/l)
	NRC Standard	NA	NA	NA	NA	0.05	0.001	1
	EPA Standard	2,160	250	30	2.6	0.20	NA	NA
Date	Gallons Extracted							
1990	7,400,000	2,695	213	105	2.26	0.01	0.0004	0.76
1991	12,400,000	2,713	217	112.6	1.20	0.01	0.0001	1.22
1992	17,200,000	2,698	211	78.5	1.00	0.001	0.00005	0.44
1993	18,100,000	2,897	212	72.3	0.88	0.0004	0.00003	0.24
1994	15,700,000	3,181	196	70.2	0.95	0.0006	0.00003	0.50
1995	12,935,534	3,204	221	67.2	1.00	0.0003	0.00002	1.04
1996	12,172,658	3,251	206	66.9	0.91	0.0000	0.00044	1.08
1997	9,191,166	3,133	239	63.7	1.17	0.0002	0.00002	0.01
1998	9,000,854	3,088	220	71.9	1.38	0.0009	0.00058	0.00
1999	7,533,665	3,189	201	70.6	1.40	0.0000	0.00087	0.00
TOTAL 1990-1999	121,633,877	2,993	213	77.1	1.13	0.0020	0.00019	0.55

Mass/Radioactivity Extracted

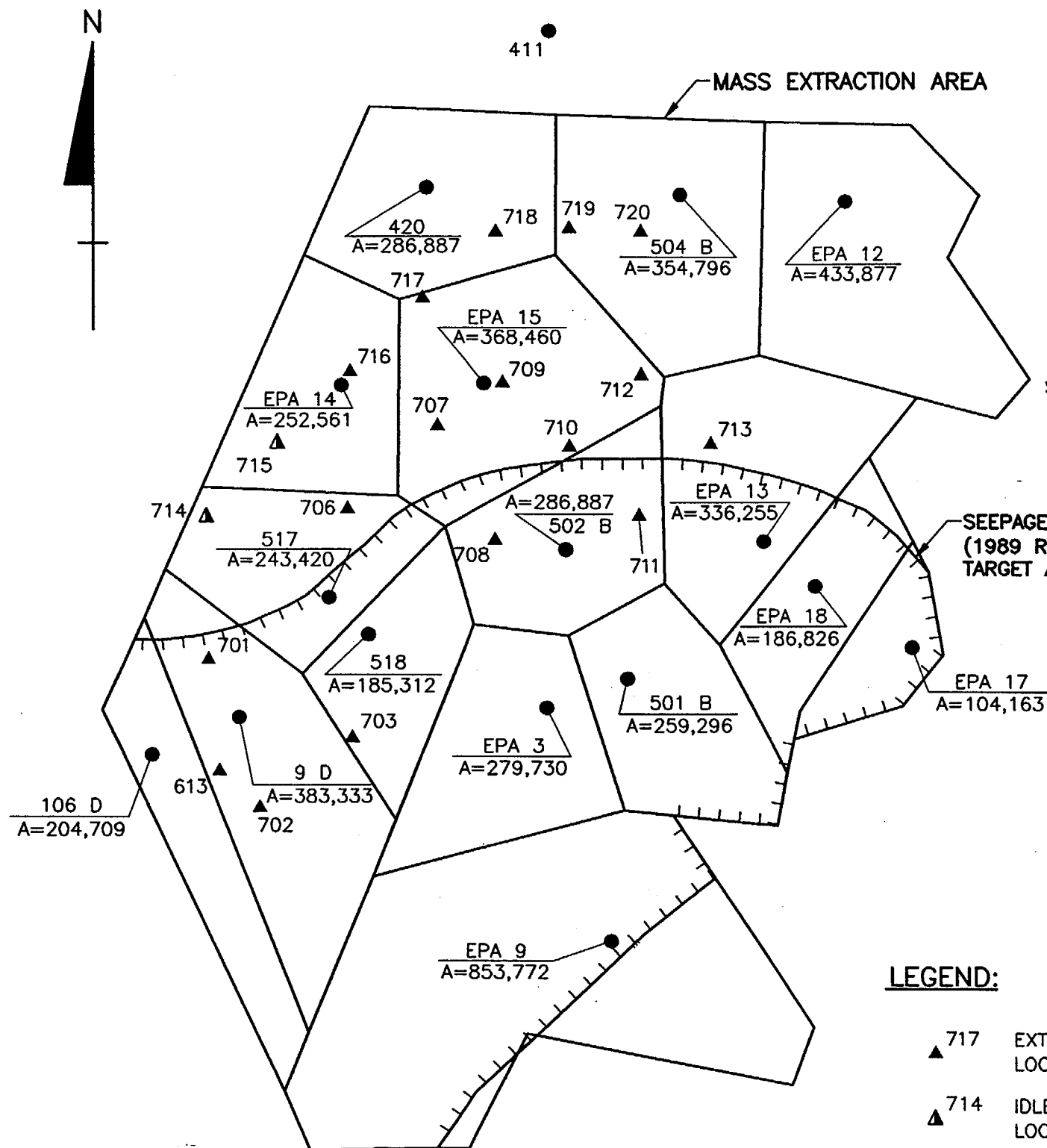
Date	Gallons Extracted	SO ₄ (lbs)	Cl (lbs)	NO ₃ (lbs)	Mn (lbs)	Ni (lbs)	Chloroform (lbs)	Pb-210 (μCi)
1990	7,400,000	165,524	13,161	6,488	139.1	0.62	0.0247	21.20
1991	12,400,000	280,904	22,468	11,659	124.0	1.04	0.0104	57.40
1992	17,200,000	387,487	30,304	11,274	141.7	0.14	0.0072	28.80
1993	18,100,000	437,838	32,041	10,927	133.7	0.06	0.0045	16.59
1994	15,700,000	417,013	25,743	9,203	124.6	0.08	0.0033	32.30
1995	12,900,000	346,070	23,871	7,258	107.6	0.03	0.0018	51.15
1996	12,300,000	330,457	21,924	6,798	93.5	0.00	0.0440	50.28
1997	9,191,166	240,447	18,343	4,892	90.0	0.01	0.0010	0.32
1998	9,000,854	232,098	16,554	5,400	104.0	0.07	0.0433	0.00
1999	7,533,665	200,616	12,630	4,440	88.2	0.00	0.0548	0.00
TOTAL 1990-1999	121,633,877	2,838,838	203,409	73,899	1059.3	2.05	0.1410	254.76

Notes:

1. All averages are weighted averages (i.e., average = mass/volume).
2. Average concentration is shaded where NRC and/or EPA standard is exceeded.
3. Conversion factors are 1 mg/l = 8.35 x 10⁻⁶ lbs/gal and 1 pCi/l = 3.79 x 10⁻⁶ μCi/gal.

FIGURES

FILE NAME: \\share\projects\test\201760\production\cadd\autocad\B1103.dwg emh 12/17/97



LEGEND:

- ▲ 717 EXTRACTION WELL LOCATION AND DESIGNATION
- ▲ 714 IDLE EXTRACTION WELL LOCATION AND DESIGNATION
- 517 MONITORING WELL LOCATION AND DESIGNATION

A=437,846 MONITORING WELL AREA OF INFLUENCE, FT²

SCALE

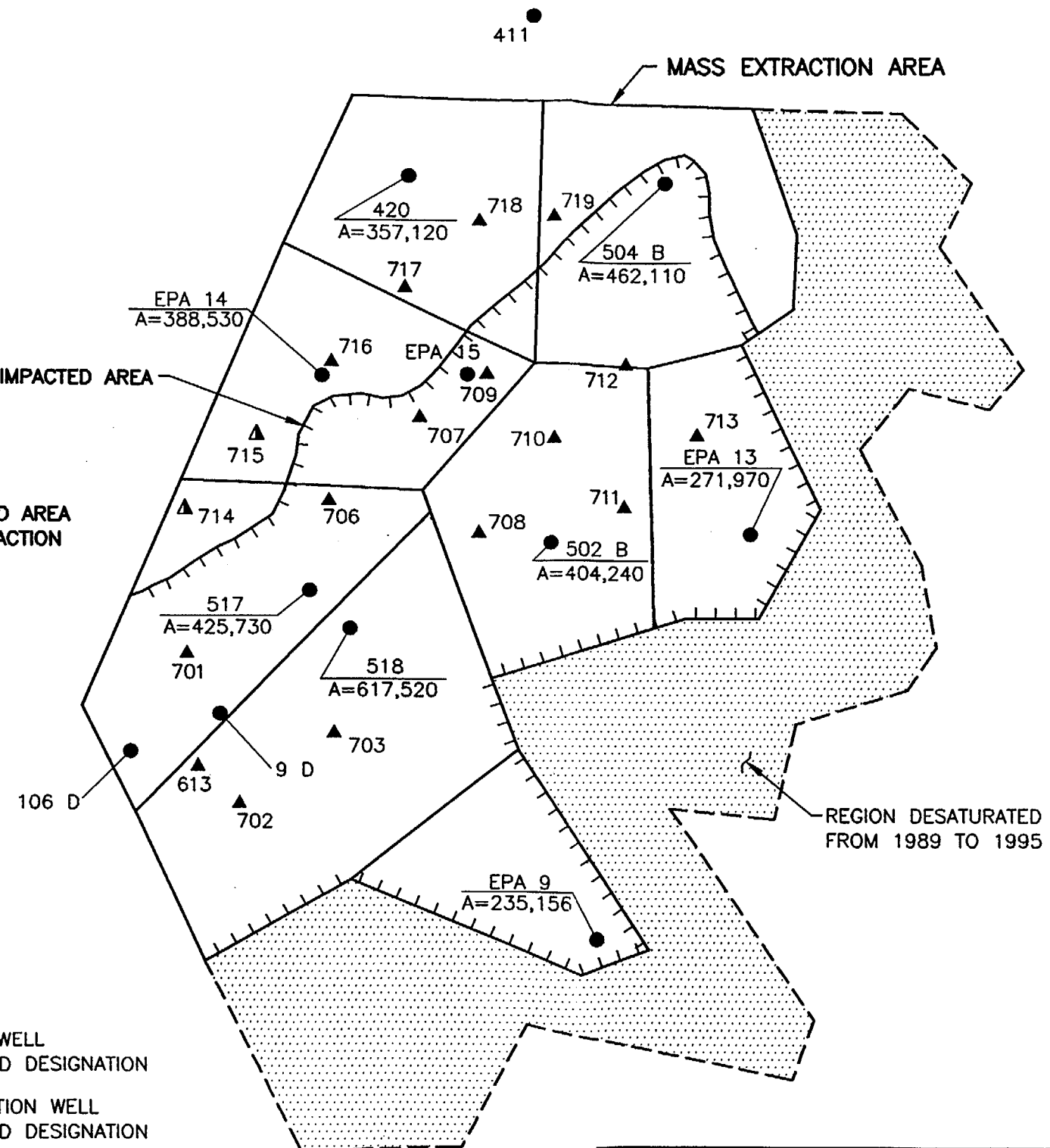
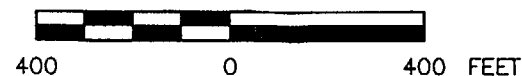
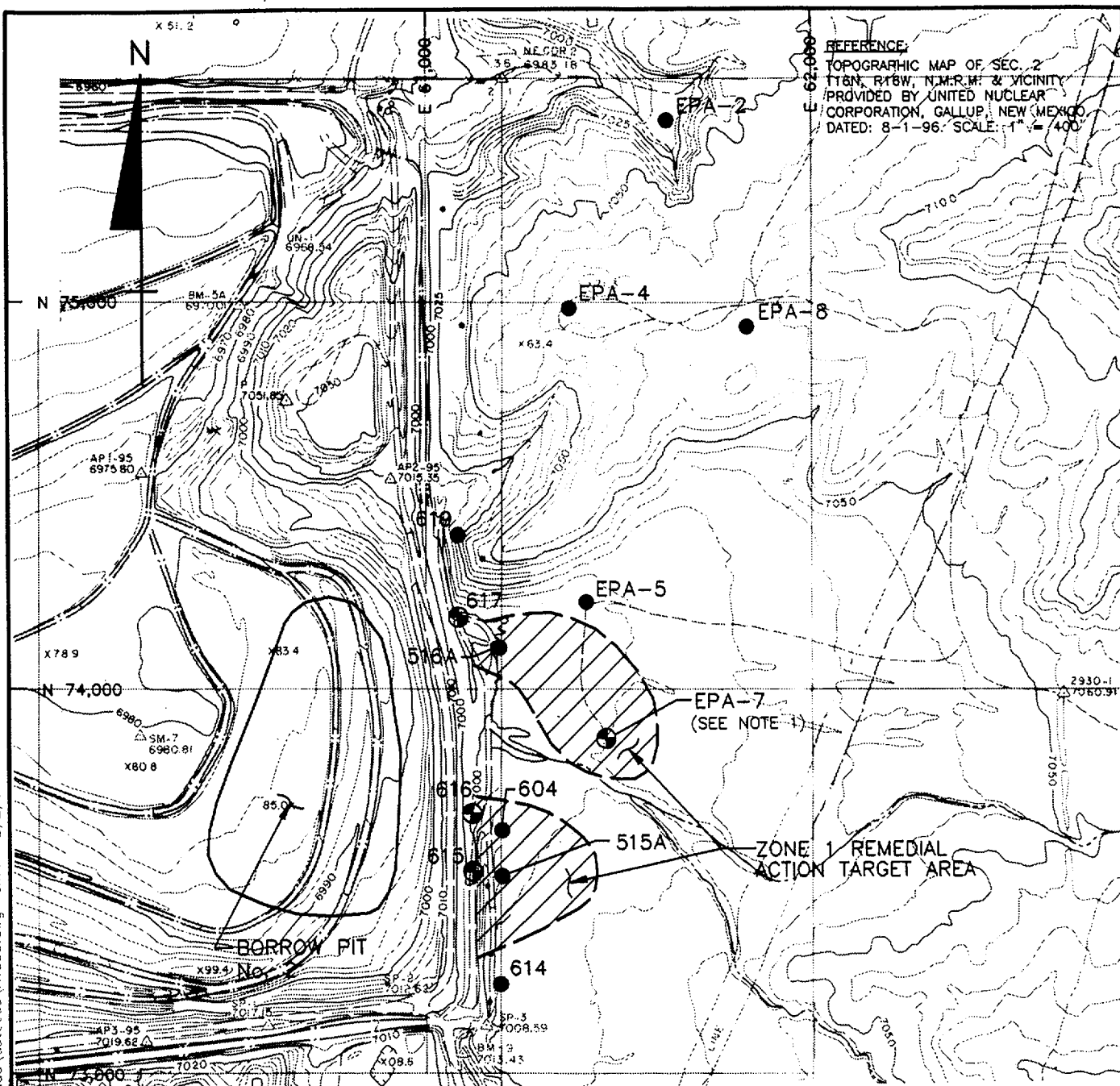


FIGURE A-1
ZONE 3 MONITORING
WELL AREAS OF INFLUENCE



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No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY



LEGEND:

- 617  REVISED EAST PUMP-BACK WELL
LOCATION AND DESIGNATION
- 619  MONITORING WELL LOCATION
AND DESIGNATION

NOTE:

1. EPA-7 SERVED AS BOTH A PUMP-BACK AND A MONITORING WELL FROM SEPTEMBER 1990 THROUGH OCTOBER 1994, WHEN IT COULD NO LONGER BE PUMPED DUE TO PLUGGING.

SCALE



400

4




400 FEET

FIGURE A-2

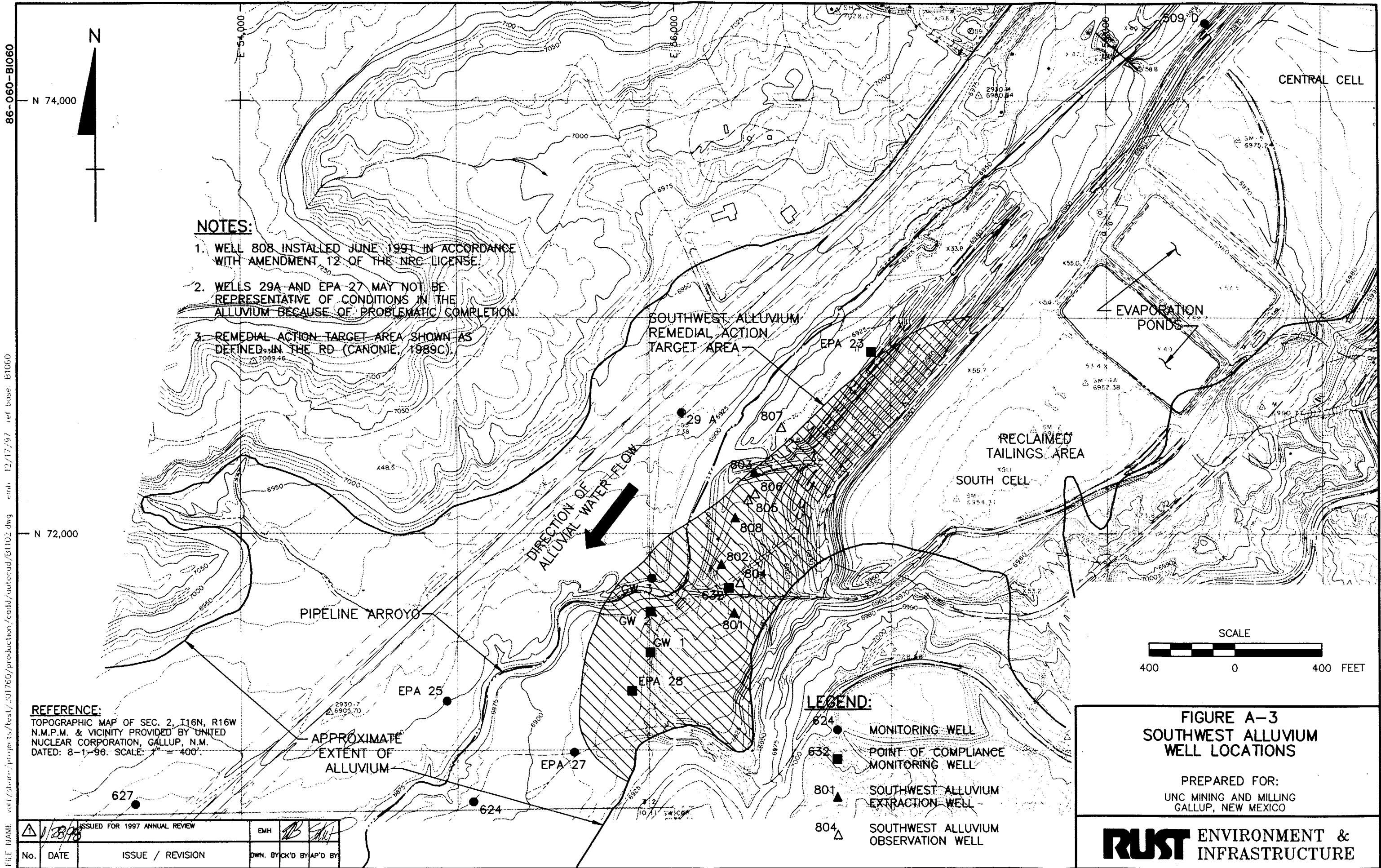
ZONE 1 WELL LOCATIONS

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RUST ENVIRONMENT & INFRASTRUCTURE



NOTES:

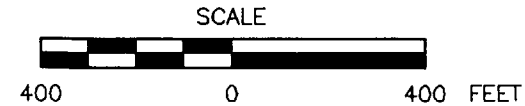
1. WELL 808 INSTALLED JUNE 1991 IN ACCORDANCE WITH AMENDMENT 12 OF THE NRC LICENSE.
2. WELLS 29A AND EPA 27 MAY NOT BE REPRESENTATIVE OF CONDITIONS IN THE ALLUVIUM BECAUSE OF PROBLEMATIC COMPLETION.
3. REMEDIAL ACTION TARGET AREA SHOWN AS DEFINED IN THE RD (CANONIE, 1989C).

REFERENCE:

TOPOGRAPHIC MAP OF SEC. 2, T16N, R16W N.M.P.M. & VICINITY PROVIDED BY UNITED NUCLEAR CORPORATION, GALLUP, N.M. DATED: 8-1-96. SCALE: 1" = 400'

LEGEND:

- 624 ● MONITORING WELL
- 632 ■ POINT OF COMPLIANCE MONITORING WELL
- 801 ▲ SOUTHWEST ALLUVIUM EXTRACTION WELL
- 804 △ SOUTHWEST ALLUVIUM OBSERVATION WELL



**FIGURE A-3
SOUTHWEST ALLUVIUM
WELL LOCATIONS**

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FILE NAME: c:\share\projects\test\201760\production\cadd\autorad\B1102.dwg c:\share\projects\test\201760\production\cadd\autorad\B1102.dwg 12/17/97 ref base: B1060

APPENDIX B

SOUTHWEST ALLUVIUM MONITORING DATA

APPENDIX B

SOUTHWEST ALLUVIUM MONITORING DATA

The Southwest Alluvium Remedial Action System was installed in August 1989 and began operating in October 1989. The initial system consisted of three extraction wells (Wells 801, 802, and 803) and four water-level observation wells (Wells 804, 805, 806, and 807). An additional extraction well, Well 808, was installed and began operating in June 1991 as required by the Nuclear Regulatory Commission and the U.S. Environmental Protection Agency. Extraction Wells 801, 802, and 803 are monitored for water quality and Observation Wells 804, 805, 806, and 807 are monitored for water level elevations on a quarterly basis.

Water level elevations and water quality data have also been collected on a quarterly basis from 18 monitoring wells located up-, down-, and cross-gradient from the tailings area. The 18 monitoring wells include Wells GW 1, GW 2, GW 3, GW 4, EPA 22A, EPA 23, EPA 25, EPA 27, EPA 28, 509 D, 632, 29 A, 624, 627, 639, 642, 644, and 645. All of these wells except for Wells EPA 27 and 29 A are completed in the alluvium. Well EPA 27 is completed partially in the alluvium and partially in the Mancos formation and Well 29 A is completed in the underlying Zone 1 formation. Consequently, water quality data collected from these two wells may not be representative of alluvial ground water conditions.

Table B.1 presents the quarterly water level and water quality data for the observation and monitoring wells from the start of remediation in the fourth quarter 1989 through the third quarter 1999. A number of wells have gone dry since the start of the remedial action. Data for these wells are included up to the time they contained insufficient water for sampling. The laboratory analytical data for 1999 are presented at the end of this appendix.

TABLE

TABLE B.1
SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

General Notes:

1. NRC standard as listed in License Condition 30, Part B.
2. EPA standard as listed in Table 2, "Contaminant-Specific Groundwater ARARs" of the ROD (EPA, 1988).
3. NA - Not applicable.
4. "-" (hyphen) indicates that the concentration is less than the laboratory reporting limits. A hyphen for combined Ra-226 and Ra-228 indicates that at least one of these constituents was less than the laboratory reporting limits, which are 0.2 and 1.0 pCi/l, respectively.
5. All values that exceed the NRC and/or EPA standards are shaded.
6. Gross alpha value excludes contribution from radon and uranium.
7. "*" (Asterisk) indicates a Point of Compliance well.
8. Reporting limit for bicarbonate changed from 0.0 mg/l to 0.1 mg/l in fourth quarter 1997.
9. Reporting limit for cadmium changed from 0.01 mg/l to 0.005 mg/l after fourth quarter 1997. The analytical method changed from EPA 200.7 (ICP) to 200.8 (ICP-MS).

Specific Notes:

Well 803 was not sampled in 3rd quarter 1999.

Well EPA 22A contained insufficient water for sampling beginning 4th quarter 1997.

Well EPA 27 contained insufficient water for sampling beginning 4th quarter 1997.

Well GW 4 contained insufficient water for sampling, 1st and 3rd quarters 1996, and 3rd Quarter 1999.

Well 29 A contained insufficient water for sampling, 1st quarter 1995.

Well 639 contained insufficient water for sampling, 1st quarter 1995.

Well 642 contained insufficient water for sampling, 4th quarter 1995.

Well 644 contained insufficient water for sampling, 1st quarter 1993.

Well 645 contained insufficient water for sampling, 1st quarter 1991.

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30	NA	NA	0.005
0029 A	10/16/1989		7.1	7.60	5,144	518	240	662	1.3	546	2,176	30.4	0.24	189	-0.00100	-0.001	-0.005
0029 A	01/04/1990	6878.60	6.9	7.28	5,080	554	233	607	0.9	528	2,333	42.5	0.09	190	-0.00100	-0.001	-0.005
0029 A	04/03/1990	6878.20	7.0	7.50	4,981	567	240	573	0.9	582	2,244	41.9	0.09	147	-0.00100	-0.001	-0.005
0029 A	07/02/1990		7.0	7.48	5,000	632	266	463	3.7	596	2,268	38	-0.05	172	-0.00100	-0.001	-0.005
0029 A	10/02/1990	6877.40	7.1	7.73	4,778	520	231	472	0.8	558	2,367	39.1	-0.05	118	-0.00100	-0.001	-0.005
0029 A	01/15/1991	6877.00	7.1	7.65	4,826	580	242	516	3.5	494	2,474	42.8	-0.05	166	-0.00100	-0.001	-0.005
0029 A	04/02/1991	6876.80	6.9	7.49	4,775	592	239	351	0.5	538	2,368	39.6	-0.05	160	-0.00100	-0.001	-0.005
0029 A	07/16/1991	6876.20	6.9	7.50	4,595	579	221	347	1.1	598	2,487	37.2	-0.05	147	-0.00100	-0.001	-0.005
0029 A	10/14/1991	6875.40	6.8	7.34	4,672	490	204	365	1.1	571	2,197	45.2	-0.05	111	-0.00100	-0.001	-0.005
0029 A	01/14/1992	6875.00	6.8	7.38	4,512	560	239	329	0.7	607	2,110	36.4	-0.05	125	-0.00100	-0.001	-0.005
0029 A	04/09/1992	6874.80	6.8	7.26	4,656	574	235	432	1.6	531	2,421	39	6.08	70.2	-0.00100	-0.001	-0.005
0029 A	07/14/1992	6873.50	6.5	7.58	4,599	644	242	419	1.4	518	2,358	37.7	5.00	129	-0.00100	-0.001	-0.005
0029 A	10/13/1992	6872.30	6.9	7.55	4,147	584	267	417	1.7	588	2,568	36.5	0.16	105	-0.00100	-0.001	-0.005
0029 A	01/12/1993	6872.10	7.0	7.60	4,274	591	219	415	3.2	558	2,520	36.7	-0.05	91.8	-0.00100	-0.001	-0.005
0029 A	04/14/1993	6872.20	7.0	7.62	4,349	569	212	373	3.1	568	2,349	39.8	0.95	96.6	-0.00100	-0.001	-0.005
0029 A	07/15/1993	6865.90	7.1	6.93	4,135	591	201	342	8.6	589	2,195	37.1	-0.05	81.6	-0.00100	-0.001	-0.005
0029 A	10/07/1993	6868.30	7.1	7.70	4,425	586	212	345	-0.1	549	2,120	35.9	-0.05	120	-0.00100	-0.001	-0.005
0029 A	01/06/1994	6870.30	7.1	7.57	4,264	567	206	370	0.3	544	2,376	35.8	-0.05	51.8	-0.00100		
0029 A	04/14/1994	6870.20	7.2	7.26	4,070	557	207	344	0.5	576	2,339	36	0.21	72.8	-0.00100		
0029 A	07/21/1994	6869.50	7.0	7.56	4,233	678	229	324	-0.1	630	2,625	33	-0.05	70.5	-0.00100		
0029 A	10/05/1994	6869.10	6.9	7.81	4,347	641	221	344	0.8	593	2,365	36.2	0.11	86.0	-0.00100		

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.02	0.01	0.05	0.05	2.60	1.00	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0029 A	10/16/1989	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	-0.05	-0.10	-0.05	0.003	-0.10	0.0396	-1.3	1.1	-1.0	1.5
0029 A	01/04/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.05	-0.10	-0.05	-0.001	-0.10	0.0390	-1.2	-0.2	-1.9	-1.0
0029 A	04/03/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.09	-0.10	-0.05	0.002	-0.10	0.0360	-1.3	-0.2	-1.9	0.9
0029 A	07/02/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.11	-0.10	-0.05	-0.001	-0.10	0.0302	1.7	0.6	-1.0	1.0
0029 A	10/02/1990	-0.10	-0.001	-0.05	-0.01	0.02	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	0.0310	-2.7	-0.2	-1.0	-1.0
0029 A	01/15/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0416	-1.2	-0.2	-1.0	-1.0
0029 A	04/02/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.002	-0.10	0.0459	-1.4	-0.2	-1.0	-1.0
0029 A	07/16/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.010	-0.10	0.0370	-1.2	-0.2	-1.0	-1.0
0029 A	10/14/1991	-0.10	0.001	-0.01	-0.01	0.02	-0.05	0.02	-0.10	-0.05	0.001	-0.10	0.0500	-1.2	-0.2	-1.0	-1.0
0029 A	01/14/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.01	-0.10	0.05	0.001	-0.10	0.0320	-1.2	-0.2	-1.8	-1.0
0029 A	04/09/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.021	-0.10	0.0390	6.8	-0.2	-1.5	2.4
0029 A	07/14/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.002	-0.10	0.0400	10.9	-0.2	-1.0	9.5
0029 A	10/13/1992	0.10	-0.001	-0.01	-0.01	0.01	-0.05	0.01	-0.10	-0.05	-0.001	-0.10	0.0270	-4.1	-0.2	-1.0	-1.0
0029 A	01/12/1993	-0.10	-0.001	-0.01	-0.01	0.03	-0.05	-0.01	-0.10	-0.05	0.011	-0.10	0.0340	-1.2	-0.2	-1.0	-1.0
0029 A	04/14/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0530	-1.4	-0.2	-1.0	-1.0
0029 A	07/15/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	-0.001	-0.10	0.1580	-1.3	-0.2	-1.0	-1.0
0029 A	10/07/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.04	-0.10	-0.05	-0.001	-0.10	0.0400	3.7	-0.2	-1.0	-1.0
0029 A	01/06/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0350	-1.6	-0.2	-1.4	-1.0
0029 A	04/14/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0430	2.5	-0.2	-1.0	3.4
0029 A	07/21/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	0.002	-0.10	0.0430	-1.2	-0.2	-1.0	-1.0
0029 A	10/05/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	0.0400	-4.1	-0.2	-1.9	6.2

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY

1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
NRC Standard		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	0.001	0.005
EPA Standard		NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30	NA	NA	NA
0509 D*	10/12/1989	6915.80	6.4	6.98	4,880	854	332	201	13.5	1,703	2,053	197	0.13	58.0	-0.00100	-0.001	-0.005
0509 D*	01/04/1990	6915.30	6.1	6.54	4,986	833	403	214	10.7	1,745	2,024	202	0.10	43.0	-0.00100	-0.001	-0.005
0509 D*	04/03/1990		6.2	6.70	5,192	794	411	210	11.2	1,877	1,996	220	0.10	39.0	-0.00100	-0.001	-0.005
0509 D*	07/03/1990		6.3	6.74	5,278	909	348	203	12.0	1,898	2,026	209	-0.05	53.4	-0.00100	-0.001	-0.005
0509 D*	10/03/1990	6912.60	6.2	7.24	5,373	847	358	252	12.2	1,819	2,118	221	-0.05	38.0	-0.00100	-0.001	-0.005
0509 D*	01/15/1991	6908.00	6.3	7.15	5,428	851	379	273	15.1	1,463	2,355	226	0.05	56.4	-0.00100	-0.001	-0.005
0509 D*	04/09/1991	6907.50	6.6	7.25	4,208	923	292	192	9.2	1,218	1,958	178	0.05	37.0	-0.00100	-0.001	-0.005
0509 D*	07/17/1991	6906.80	6.3	7.35	5,554	905	365	225	11.0	1,826	2,303	237	0.07	56.8	-0.00100	-0.001	-0.005
0509 D*	10/15/1991	6906.20	6.2	6.97	5,616	917	432	253	12.3	1,813	2,407	239	-0.05	22.5	-0.00100	-0.001	-0.005
0509 D*	01/15/1992	6905.50	6.1	7.16	4,832	782	378	228	10.2	1,206	2,226	215	-0.05	42.3	-0.00100	-0.001	-0.005
0509 D*	04/08/1992	6904.80	6.1	7.41	5,122	822	437	258	11.6	1,763	2,392	227	-0.05	33.3	-0.00100	-0.001	-0.005
0509 D*	07/07/1992	6904.00	6.0	7.80	5,151	791	413	319	16.1	1,253	2,379	182	0.15	55.6	-0.00100	-0.001	-0.005
0509 D*	10/06/1992	6903.40	6.2	8.15	5,913	913	451	293	12.1	1,946	2,358	230	-0.05	62.5	-0.00100	-0.001	-0.005
0509 D*	01/06/1993	6902.90	6.3	7.26	5,281	453	995	156	8.0	2,013	2,878	262	0.81	84.0	-0.00100	-0.001	-0.005
0509 D*	04/07/1993	6902.30	6.3	7.00	5,254	786	389	319	10.5	1,797	2,393	251	0.06	51.6	-0.00100	-0.001	-0.005
0509 D*	07/14/1993	6901.30	6.3	7.04	5,055	810	402	283	11.4	1,961	2,101	257	-0.05	47.4	-0.00100	-0.001	-0.005
0509 D*	10/06/1993	6900.60	6.5	7.00	5,090	830	424	271	11.3	1,787	2,476	231	-0.05	6.7	-0.00100	-0.001	-0.005
0509 D*	01/06/1994	6900.20	6.5	6.83	5,480	814	438	293	10.6	1,726	2,583	240	0.16	39.6	-0.00100		
0509 D*	04/12/1994	6899.50	6.5	6.75	5,766	780	452	277	11.3	1,660	2,729	256	0.51	59.3	-0.00100		
0509 D*	07/21/1994	6898.90	6.4	7.34	6,216	918	487	295	11.7	1,817	3,043	246	0.39	54.1	-0.00100		
0509 D*	10/05/1994	6898.60	6.2	7.59	6,177	901	522	319	12.8	1,800	2,749	259	0.93	54.8	-0.00100		
0509 D*	01/05/1995	6898.00	6.4	7.12	6,296	880	542	298	14.0	1,898	2,693	271	1.05	49.7	-0.00100		
0509 D*	04/05/1995	6897.30	6.5	6.92	6,165	814	494	276	12.0	1,856	2,766	302	1.63	63.0	-0.00100		
0509 D*	07/06/1995	6896.60	6.4	7.60	6,186	835	510	300	13.5	1,841	2,602	299	1.54	46.5	-0.00100		
0509 D*	10/03/1995	6896.20	6.3	7.41	6,534	820	545	296	13.6	1,928	2,825	292	2.22	50.5	-0.00100		
0509 D*	01/03/1996	6895.70	6.5	6.96	5,314	760	490	287	13.3	1,903	2,229	227	2.22	50.4	-0.00100		
0509 D*	04/02/1996	6895.10	6.5	7.67	6,804	800	610	324	15.0	1,979	3,030	342	3.86	53.6	-0.00100		
0509 D*	07/07/1996	6890.10	6.2	7.04	6,283	805	495	300	14.7	1,769	2,580	255	2.45	44.5	-0.00100		
0509 D*	10/01/1996	6889.60	6.4	6.80	6,440	818	578	308	15.2	1,900	2,795	297	3.97	86.1	-0.00100		
0509 D*	01/22/1997	6889.20	6.3	7.21	6,140	820	545	277	14.4	1,900	2,789	337	3.56	43.2	-0.00100		
0509 D*	04/08/1997	6888.50	6.5	7.64	6,430	825	581	328	15.7	1,910	2,869	345	5.09	48.4	-0.00100		
0509 D*	07/08/1997	6888.00	6.8	7.61	6,640	827	599	293	16.1	1,900	2,650	337	6.19	44.8	-0.00100		
0509 D*	10/07/1997	6887.80	6.2	7.42	6,530	807	584	302	16.2	1,920	2,850	350	6.70	44.5	-0.00100		
0509 D*	01/16/1998	6887.20	6.6	7.75	6,640	768	602	319	17.3	1,930	3,000	343	9.43	47.3	-0.00100		
0509 D*	04/07/1998	6887.00	6.4	7.24	6,390	805	610	310	16.2	1,910	2,950	274	8.49	46.0	-0.00100		
0509 D*	07/07/1998	6886.60	6.7	7.64	6,320	800	548	305	16.1	1,890	2,500	322	7.32	42.3	-0.00100		
0509 D*	10/06/1998	6886.20	6.6	7.78	6,960	815	689	353	19.9	1910	3,050	312	13.8	44.4	-0.00100		
0509 D*	01/05/1999	6885.70	6.6	7.76	6,830	761	609	289	17.1	1970	3,100	317	12.9	41.1	-0.00100		
0509 D*	04/06/1999	6885.40	6.5	7.6	3,780	805	630	289	17.6	1950	2,830	345	13.1	9.53	-0.00100		
0509 D*	07/13/1999	6884.84	6.5	7.72	6,620	762	644	314	25.1	1540	3,000	312	17.6	36.6	-0.00100		

Refer to page 1 for explanatory notes

TABLE B.1
SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.02	0.01	0.05	0.05	2.60	1.00	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0509 D*	10/12/1989	0.12	0.001	-0.05	-0.01	-0.01	-0.05	0.39	-0.10	-0.05	0.001	-0.10	0.1050	-1.8	-0.2	2.3	1.2
0509 D*	01/04/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.38	-0.10	-0.05	-0.001	-0.10	0.1070	-1.9	-0.2	3.4	2.5
0509 D*	04/03/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.43	-0.10	-0.05	-0.001	-0.10	0.1060	-1.7	-0.2	-1.0	1.4
0509 D*	07/03/1990	-0.10	-0.001	-0.05	-0.01	0.02	-0.05	0.48	-0.10	-0.05	-0.001	-0.10	0.1260	-1.4	-0.2	-1.0	-1.0
0509 D*	10/03/1990	-0.10	-0.001	-0.05	-0.01	0.02	-0.05	0.55	-0.10	-0.05	0.002	-0.10	0.0740	-1.2	-0.2	1.9	-1.0
0509 D*	01/15/1991	-0.10	-0.001	-0.01	0.01	-0.01	-0.05	0.44	-0.10	-0.05	-0.001	-0.10	0.1202	-1.8	1.0	-1.0	-1.0
0509 D*	04/09/1991	-0.10	-0.001	-0.01	0.02	-0.01	-0.05	0.91	-0.10	-0.05	0.001	-0.10	0.1274	-1.5	-0.2	2.9	-1.0
0509 D*	07/17/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.46	-0.10	-0.05	-0.001	-0.10	0.1360	-1.4	-0.2	-1.0	-1.0
0509 D*	10/15/1991	-0.10	0.001	-0.01	-0.01	0.01	-0.05	0.50	-0.10	-0.05	0.001	-0.10	0.1320	8.1	-0.2	-1.0	-1.0
0509 D*	01/15/1992	0.26	-0.001	-0.01	-0.01	-0.01	-0.05	0.70	-0.10	-0.05	0.002	-0.10	0.2200	-1.2	-0.2	-1.0	-1.0
0509 D*	04/08/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.61	-0.10	-0.05	0.004	-0.10	0.1240	-1.3	-0.2	1.9	-1.0
0509 D*	07/07/1992	0.12	-0.001	-0.01	-0.01	-0.01	-0.05	0.72	-0.10	-0.05	0.002	-0.10	0.1200	2.2	-0.2	-1.0	1.2
0509 D*	10/06/1992	0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.66	-0.10	-0.05	0.005	-0.10	0.1190	2.9	-0.2	2.3	-1.0
0509 D*	01/06/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.86	-0.10	-0.05	0.005	-0.10	0.0030	6.4	-0.2	-1.0	1.7
0509 D*	04/07/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.68	-0.10	-0.05	-0.001	-0.10	0.1420	2.2	-0.2	2.9	-1.0
0509 D*	07/14/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.74	-0.10	-0.05	-0.001	-0.10	0.0820	2.5	-0.2	-1.0	-1.0
0509 D*	10/06/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.75	-0.10	-0.05	-0.001	-0.10	0.0430	-1.9	-0.2	-1.0	-1.0
0509 D*	01/06/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.81	-0.10	-0.05	-0.001	-0.10	0.0810	-1.4	-0.2	1.1	-1.0
0509 D*	04/12/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.81	-0.10	-0.05	-0.001	-0.10	0.0820	-1.2	-0.2	-1.0	-1.0
0509 D*	07/21/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.88	-0.10	-0.05	0.004	-0.10	0.0750	5.1	-0.2	1.2	5.5
0509 D*	10/05/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.88	-0.10	-0.05	-0.001	-0.10	0.0840	2.3	-0.2	2.7	3.4
0509 D*	01/05/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.85	-0.10	-0.05	-0.001	-0.10	0.0840	2.2	-0.2	-1.0	3.2
0509 D*	04/05/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.44	-0.10	-0.05	-0.001	-0.10	0.0840	1.8	-0.2	-1.0	2.8
0509 D*	07/06/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.91	-0.10	-0.05	0.001	-0.10	0.0816	-1.2	0.4	-1.0	-1.0
0509 D*	10/03/1995	-0.10	0.003	-0.01	-0.01	-0.01	-0.05	0.82	-0.10	-0.05	0.002	-0.10	0.0840	-1.8	-0.2	-1.0	1.7
0509 D*	01/03/1996	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.79	-0.10	-0.05	0.002	-0.10	0.0900	-1.4	-0.2	1.5	2.0
0509 D*	04/02/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.86	-0.10	-0.05	-0.001	-0.10	0.1010	-1.2	-0.2	-1.0	-1.0
0509 D*	07/07/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.97	-0.10	-0.05	-0.001	-0.10	0.1430	-1.5	-0.2	-1.0	-1.0
0509 D*	10/01/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.9	-0.10	-0.05	0.007	-0.10	0.0880	-1.1	-0.2	-1.0	-1.0
0509 D*	01/22/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.85	-0.10	-0.05	-0.001	-0.10	0.0870	-0.6	-0.2	-1.0	-1.0
0509 D*	04/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.97	-0.10	-0.05	0.028	-0.10	0.0990	-1.0	-0.2	-1.0	-1.0
0509 D*	07/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.84	-0.10	-0.05	-0.001	-0.10	0.0940	-2.1	-0.2	-1.0	-1.0
0509 D*	10/07/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.21	-0.10	-0.05	-0.001	-0.10	0.0890	-1.2	-0.2	-1.0	1.0
0509 D*	01/16/1998	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.20	-0.10	-0.05	-0.001	-0.10	0.1020	-1.7	-0.2	-1.0	2.5
0509 D*	04/07/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.80	-0.10	-0.05	-0.001	-0.10	0.1010	-1.6	-0.2	-1.0	-1.0
0509 D*	07/07/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.98	-0.10	-0.05	-0.001	-0.10	0.1150	-1.6	-0.2	-1.0	-1.0
0509 D*	10/06/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.83	-0.1	-0.05	-0.001	-0.10	0.105	-1.6	-0.2	-1.0	-1.0
0509 D*	01/05/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.78	-0.1	-0.05	-0.001	-0.10	0.103	-2	-0.2	-1.0	-1.0
0509 D*	04/06/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.89	-0.1	-0.05	-0.001	-0.10	0.104	-2.1	-0.2	-1.0	-1.0
0509 D*	07/13/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.56	-0.1	-0.05	0.003	-0.10	0.104	-2.9	-0.2	-1.0	9.3

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30	NA	NA	0.005
0624	10/16/1989	6860.40	7.1	7.50	4,760	535	399	211	5.0	456	2,182	110	0.10	108	-0.00100	-0.001	-0.005
0624	01/10/1990	6860.10	7.2	7.32	4,642	562	363	208	3.6	473	2,370	110	0.05	118	-0.00100	-0.001	-0.005
0624	04/05/1990	6860.40	7.1	7.58	4,722	559	390	206	3.8	537	2,311	115	0.12	130	-0.00100	-0.001	-0.005
0624	07/03/1990	6859.70	7.1	7.48	4,839	553	371	195	3.9	512	2,306	113	-0.05	127	-0.00100	-0.001	-0.005
0624	10/03/1990	6859.80	7.0	7.75	4,783	565	384	215	4.0	561	2,311	117	-0.05	82.0	-0.00100	-0.001	-0.005
0624	01/15/1991	6860.00	7.1	7.55	4,886	612	405	212	5.6	528	2,468	120	-0.05	117	-0.00100	-0.001	-0.005
0624	04/02/1991	6860.10	7.2	7.68	4,832	555	362	203	3.2	524	2,428	130	-0.05	132	-0.00100	-0.001	-0.005
0624	07/17/1991	6859.20	7.1	7.75	4,689	540	335	195	2.9	595	2,602	132	0.05	159	-0.00100	-0.001	-0.005
0624	10/15/1991	6858.80	6.9	7.54	4,640	609	373	186	2.5	549	2,327	118	-0.05	93.9	-0.00100	-0.001	-0.005
0624	01/15/1992	6858.50	6.9	7.57	4,267	525	348	197	2.8	539	2,296	113	-0.05	82.0	-0.00100	-0.001	-0.005
0624	04/08/1992	6858.30	6.9	7.73	4,279	581	371	208	3.5	597	2,276	118	-0.05	83.2	-0.00100	-0.001	-0.005
0624	07/08/1992	6857.90	6.8	7.43	4,323	581	360	254	4.3	432	2,259	125	0.08	106	-0.00100	-0.001	-0.005
0624	10/06/1992	6857.50	7.0	7.56	4,704	626	364	218	2.1	593	2,304	112	-0.05	120	-0.00100	-0.001	-0.005
0624	01/07/1993	6857.10	7.0	7.71	4,698	587	348	211	3.9	586	2,245	122	-0.05	105	-0.00100	-0.001	-0.005
0624	04/07/1993	6857.10	7.0	7.50	4,111	553	307	230	15.9	581	2,172	129	-0.05	107	-0.00100	-0.001	-0.005
0624	07/14/1993	6856.60	7.0	7.11	4,803	645	361	211	2.4	748	2,307	138	-0.05	106	-0.00100	-0.001	-0.005
0624	10/07/1993	6856.40	7.1	7.62	4,371	602	326	188	1.4	700	2,107	128	-0.05	117	-0.00100	-0.001	-0.005
0624	01/06/1994	6806.00	7.2	7.41	4,425	618	345	200	2.2	694	2,241	129	-0.05	89.4	-0.00100		
0624	04/12/1994	6855.60	7.1	7.45	4,779	623	344	197	1.7	625	2,324	118	0.30	124	-0.00100		
0624	07/21/1994	6855.20	7.1	7.54	4,692	674	356	203	2.0	649	2,203	118	-0.05	115	-0.00100		
0624	10/05/1994	6855.00	6.8	7.64	4,815	661	391	212	3.8	843	2,160	137	-0.05	97.3	-0.00100		
0624	01/04/1995	6854.70	6.9	7.63	4,803	665	375	202	3.5	814	2,303	137	0.27	92.8	-0.00100		
0624	04/05/1995	6854.40	7.0	7.44	4,661	630	342	195	3.0	475	2,383	155	0.27	101	-0.00100		
0624	07/06/1995	6854.40	7.1	7.63	4,358	655	405	207	3.9	766	2,201	157	0.10	93.5	-0.00100		
0624	10/03/1995	6853.80	7.0	7.83	4,950	655	415	197	3.8	972	2,247	154	0.18	94.3	-0.00100		
0624	01/03/1996	6853.60	7.0	7.43	4,553	610	392	203	4.8	1,182	1,879	123	-0.05	97.0	-0.00100		
0624	04/02/1996	6853.20	6.8	7.92	4,942	655	430	204	4.7	1,048	2,310	150	-0.05	100	-0.00100		
0624	07/07/1996	6852.90	6.6	7.45	4,946	645	405	206	4.6	1,158	2,190	145	0.07	84.4	-0.00100		
0624	10/01/1996	6852.90	6.8	7.25	5,050	666	430	204	4.6	1,180	2,179	161	-0.05	93.0	-0.00100		
0624	01/22/1997	6852.60	6.7	7.69	4,920	675	440	202	4.8	1,070	2,146	161	-0.05	84.6	-0.00100		
0624	04/08/1997	6852.40	6.9	7.89	5,000	683	427	195	3.8	1,030	2,227	169	0.06	103	-0.00100		
0624	07/08/1997	6852.00	7.1	7.54	5,040	680	444	186	4.6	1,060	2,260	181	-0.05	92.6	-0.00100		
0624	10/07/1997	6852.50	6.5	7.66	5,140	712	459	179	3.5	1,310	2,160	166	-0.05	86.3	-0.00100		
0624	01/16/1998	6852.40	7.0	7.78	5,140	679	436	208	5.6	1,300	2,350	194	0.16	101	-0.00100		
0624	04/07/1998	6851.90	6.9	7.60	5,190	691	442	197	4.4	1,180	2,400	153	-0.05	98.7	-0.00100		
0624	07/07/1998	6851.70	7.2	7.79	5,050	679	435	206	4.4	1,080	2,400	174	-0.05	92.2	-0.00100		
0624	10/06/1998	6851.30	7.01	7.88	5,210	708	464	216	6.2	1230	2,220	175	-0.05	101	-0.00100		
0624	01/05/1999	6851.20	6.8	7.85	5,140	659	423	188	5.3	1160	2,030	172	0.18	94.2	-0.00100		
0624	04/06/1999	6851.10	6.8	7.89	5,150	692	451	188	5.4	1230	2,000	180	0.08	94.5	-0.00100		
0624	07/13/1999	6850.77	6.7	7.85	5,020	646	452	191	10.8	1070	2,070	181	0.18	88.7	-0.00100		

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.02	0.01	0.05	0.05	2.60	1.00	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0624	10/16/1989	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.003	-0.10	0.0210	-2.6	0.5	-1.0	1.8
0624	01/10/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.002	-0.10	0.0220	1.4	-0.2	-1.0	0.8
0624	04/05/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	0.003	-0.10	0.0200	-1.4	-0.2	-1.0	0.9
0624	07/03/1990	0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.001	-0.10	0.0242	-1.7	-0.2	-1.0	-1.0
0624	10/03/1990	-0.10	0.001	-0.05	-0.01	0.02	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0220	-2.0	-0.2	-1.0	-1.0
0624	01/15/1991	-0.10	-0.001	-0.01	-0.01	0.01	-0.05	0.01	-0.10	-0.05	0.001	-0.10	0.0268	-1.4	-0.2	-1.0	-1.0
0624	04/02/1991	0.13	-0.001	-0.01	-0.01	0.02	-0.05	-0.01	-0.10	-0.05	0.001	-0.10	0.0380	1.9	-0.2	-1.0	-1.0
0624	07/17/1991	0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.002	-0.10	0.0340	-1.2	-0.2	-1.0	-1.0
0624	10/15/1991	0.10	0.001	-0.01	-0.01	0.01	-0.05	0.01	-0.10	-0.05	0.002	-0.10	0.0340	2.2	-0.2	-1.0	-1.0
0624	01/15/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.002	-0.10	0.0290	-1.2	-0.2	-1.0	-1.0
0624	04/08/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.002	-0.10	0.0340	-1.2	-0.2	-1.0	-1.0
0624	07/08/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.002	-0.10	0.0300	-1.2	-0.2	-1.0	-1.0
0624	10/06/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.006	-0.10	0.0480	-1.2	-0.2	-1.0	-1.0
0624	01/07/1993	-0.10	-0.001	-0.01	-0.01	0.02	-0.05	0.02	-0.10	-0.05	0.008	-0.10	0.0430	-4.4	-0.2	-1.0	-1.0
0624	04/07/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.002	-0.10	0.0330	-5.6	-0.2	-1.0	4.8
0624	07/14/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.003	-0.10	0.0190	-1.2	-0.2	-1.0	-1.0
0624	10/07/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.003	-0.10	0.0230	-1.6	-0.2	-1.0	-1.0
0624	01/06/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0270	6.4	-0.2	-1.0	9.9
0624	04/12/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.001	-0.10	0.0430	9.9	-0.2	-1.0	11.3
0624	07/21/1994	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	-0.001	-0.10	0.0290	-1.3	-0.2	-1.0	1.8
0624	10/05/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	-0.001	-0.10	0.0350	-1.2	-0.2	-1.0	-1.0
0624	01/04/1995	-0.10	-0.001	-0.01	-0.01	-0.01	0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0330	1.9	-0.2	-1.0	2.7
0624	04/05/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0370	5.5	-0.2	-1.0	6.5
0624	07/06/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.002	-0.10	0.0405	-1.2	-0.2	-1.0	-1.0
0624	10/03/1995	-0.10	0.002	-0.01	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.013	-0.10	0.0331	-1.3	-0.2	-1.0	-1.0
0624	01/03/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.007	-0.10	0.0320	1.9	0.6	-1.0	-1.0
0624	04/02/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0330	-1.2	-0.2	-1.0	-1.0
0624	07/07/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0430	-1.3	-0.2	-1.0	-1.0
0624	10/01/1996	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.003	-0.10	0.0320	-0.6	-0.2	-1.0	-1.0
0624	01/22/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	-0.001	-0.10	0.0270	-1.1	-0.1	-1.0	-1.0
0624	04/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.014	-0.10	0.0360	-1.3	-0.2	-1.0	-1.0
0624	07/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0340	-0.6	-0.2	-1.0	-1.0
0624	10/07/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.12	-0.10	-0.05	-0.001	-0.10	0.0300	-1.2	-0.2	-1.0	-1.0
0624	01/16/1998	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.11	-0.10	-0.05	-0.001	-0.10	0.0379	-1.2	-0.2	-1.0	-1.0
0624	04/07/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0390	-1.2	-0.2	-1.0	-1.0
0624	07/07/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0409	-1.7	-0.2	-1.0	-1.0
0624	10/06/1998	-0.10	-0.001	-0.01	0.005	-0.01	-0.05	0.03	-0.1	-0.05	0.001	-0.1	0.0409	-1.7	-0.2	-1.0	-1.0
0624	01/05/1999	-0.10	-0.001	-0.01	0.006	-0.01	-0.05	0.02	-0.1	-0.05	-0.001	-0.1	0.0395	-1.2	-0.2	-1.0	-1.0
0624	04/06/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.03	-0.1	-0.05	-0.001	-0.1	0.0366	-1.2	-0.2	-1.0	-1.0
0624	07/13/1999	-0.10	-0.001	-0.01	-0.005	0.02	-0.05	0.02	-0.1	-0.05	-0.001	-0.1	0.0339	-1.2	-0.2	-1.0	-1.0

TABLE B.1
SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	0.001	0.005
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30	NA	NA	NA
0627	10/16/1989	6846.80	6.9	7.36	4,512	539	290	359	3.8	659	2,151	36.6	0.12	112	-0.00100	-0.001	-0.005
0627	01/04/1990	6846.70	6.8	7.24	4,446	571	275	351	7.8	656	2,277	39.7	0.07	113	-0.00100	-0.001	-0.005
0627	04/03/1990	6846.40	6.8	7.32	4,492	590	290	352	3.2	698	2,168	40.1	0.09	90.0	-0.00100	-0.001	-0.005
0627	07/02/1990	6846.20	6.7	7.34	4,760	613	322	325	4.5	693	2,265	41.5	-0.05	109	-0.00100	-0.001	-0.005
0627	10/02/1990	6846.20	6.8	7.60	4,551	509	270	342	2.8	644	2,404	41.6	-0.05	78.0	-0.00100	-0.001	-0.005
0627	01/15/1991	6846.20	6.8	7.77	4,537	587	309	393	5.9	617	2,480	49.0	-0.05	118	-0.00100	-0.001	-0.005
0627	04/02/1991	6846.20	6.8	7.70	4,623	533	263	331	2.7	595	2,407	45.9	-0.05	94.8	-0.00100	-0.001	-0.005
0627	07/16/1991	6845.90	6.8	7.44	4,454	525	249	335	2.8	532	2,537	45.4	0.36	97.2	-0.00100	-0.001	-0.005
0627	10/14/1991	6845.60	6.7	7.37	4,539	448	221	342	2.7	622	2,161	55.7	-0.05	104	-0.00100	-0.001	-0.005
0627	01/14/1992	6845.40	6.6	7.12	4,614	490	246	342	2.8	619	2,317	54.7	-0.05	101	-0.00100	-0.001	-0.005
0627	04/09/1992	6845.10	6.6	7.91	4,671	543	283	424	3.2	605	2,346	52.3	-0.05	68.4	-0.00100	-0.001	-0.005
0627	07/07/1992	6844.90	6.5	8.00	4,811	585	280	468	4.2	588	2,403	59.2	0.13	108	-0.00100	-0.001	-0.005
0627	10/07/1992	6844.60	6.8	7.45	4,696	563	257	484	5.0	593	2,402	56.3	-0.05	125	-0.00100	-0.001	-0.005
0627	01/07/1993	6844.40	6.8	7.88	4,615	556	264	408	2.8	576	2,324	57.4	-0.05	116	-0.00100	-0.001	-0.005
0627	04/07/1993	6844.30	6.8	7.59	4,761	546	228	448	2.3	553	2,341	61.0	-0.05	100	-0.00100	-0.001	-0.005
0627	07/14/1993	6843.80	6.9	7.21	5,045	645	255	512	2.6	570	2,476	72.5	-0.05	89.3	-0.00100	-0.001	-0.005
0627	10/07/1993	6843.60	6.9	7.57	5,187	568	239	453	2.3	532	2,548	62.4	0.05	133	-0.00100	-0.001	-0.005
0627	01/06/1994	6843.40	6.9	7.51	4,941	563	246	474	2.6	512	2,693	63.1	-0.05	61.0	-0.00100		
0627	04/13/1994	6843.20	7.0	7.15	4,767	564	242	486	2.6	510	2,428	58.5	0.12	107	-0.00100		
0627	07/21/1994	6842.90	6.9	7.53	4,899	620	259	455	2.9	529	2,908	54.6	-0.05	108	-0.00100		
0627	10/05/1994	6842.90	6.9	7.86	5,024	610	282	535	3.6	549	2,719	62.6	-0.05	137	-0.00100		
0627	01/05/1995	6842.60	6.9	7.49	5,292	634	280	530	4.2	540	2,660	58.9	0.15	105	-0.00100		
0627	04/05/1995	6842.50	6.9	7.22	5,324	540	275	505	3.9	542	2,682	66.0	0.24	125	-0.00100		
0627	07/06/1995	6842.00	6.9	7.91	5,112	585	315	490	3.6	560	2,555	61.0	-0.05	90.5	-0.00100		
0627	10/03/1995	6841.80	6.9	7.65	5,241	580	280	535	3.9	544	2,760	58.0	0.48	126	-0.00100		
0627	01/03/1996	6841.70	7.1	7.52	5,293	640	300	531	3.6	542	2,995	60.0	-0.05	131	-0.00100		
0627	04/02/1996	6841.50	7.1	8.06	5,230	570	287	530	3.6	558	2,740	65.1	-0.05	129	-0.00100		
0627	07/07/1996	6841.20	6.8	7.56	5,403	585	280	570	4.1	534	2,725	64.0	0.13	113	-0.00100		
0627	10/01/1996	6841.00	6.8	7.23	4,980	592	277	470	3.5	575	2,468	54.0	-0.05	119	-0.00100		
0627	01/22/1997	6840.80	6.8	7.85	5,020	595	290	503	3.7	577	2,673	63.3	-0.05	121	-0.00100		
0627	04/08/1997	6840.50	6.9	7.59	5,240	590	286	578	4.1	564	2,524	56.6	-0.05	153	-0.00100		
0627	07/08/1997	6840.20	7.4	7.75	5,600	616	303	543	4.3	560	2,570	64.1	-0.05	190	-0.00100		
0627	10/07/1997	6840.20	6.6	7.69	4,960	601	276	439	3.5	599	2,440	66.0	-0.05	122	-0.00100		
0627	01/16/1998	6840.00	7.3	7.91	5,260	582	289	545	4.6	682	2,850	70.6	1.28	107	-0.00100		
0627	04/07/1998	6840.20	6.9	7.74	5,200	621	294	508	3.9	590	2,400	54.6	-0.05	141	-0.00100		
0627	07/07/1998	6840.00	7.2	7.80	5,210	598	288	529	4.3	588	2,500	59.6	0.05	133	-0.00100		
0627	10/06/1998	6839.80	6.97	7.85	5,380	589	288	530	4.8	579	2,670	61.5	0.06	109	-0.00100		
0627	01/06/1999	6839.50	7.7	8.02	5,340	566	284	509	4.8	586	2,740	60	0.17	142	-0.00100		
0627	04/06/1999	6839.50	7.1	7.84	5,650	580	309	504	4.7	580	2,660	68	0.27	131	-0.00100		
0627	07/13/1999	6839.22	7	8.21	5,320	579	308	498	10.6	594	2,620	67.7	0.17	128	-0.00100		

TABLE B.1
SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	0.05	0.01	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.02	0.01	0.05	0.05	2.60	1.00	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0627	10/16/1989	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	0.002	-0.10	0.0181	-1.6	3.3	1.1	3.8
0627	01/04/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	0.0140	-3.0	-0.2	2.4	3.4
0627	04/03/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.06	-0.10	-0.05	0.001	-0.10	0.0150	-1.4	-0.2	-1.0	1.1
0627	07/02/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.05	-0.10	-0.05	-0.001	-0.10	0.0175	-1.3	-0.2	1.9	-1.0
0627	10/02/1990	-0.10	-0.001	-0.05	-0.01	0.01	-0.05	0.05	-0.10	-0.05	-0.001	-0.10	0.0140	-1.2	-0.2	-1.0	-1.0
0627	01/15/1991	0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	0.0176	-1.2	-0.2	-1.0	-1.0
0627	04/02/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	0.0490	4.8	-0.2	-1.0	1.0
0627	07/16/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	0.0140	-3.0	-0.2	-1.0	-1.0
0627	10/14/1991	-0.10	0.001	-0.01	-0.01	0.01	-0.05	0.05	-0.10	-0.05	0.002	-0.10	0.0200	-1.7	-0.2	-1.0	-1.0
0627	01/14/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.07	-0.10	-0.05	0.002	-0.10	0.0170	2.1	-0.2	-1.0	-1.0
0627	04/09/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	0.003	-0.10	0.0190	-3.1	-0.2	1.2	-1.0
0627	07/07/1992	-0.10	-0.001	-0.10	-0.01	-0.01	-0.05	0.05	-0.10	-0.05	0.001	-0.10	0.0200	-1.7	-0.2	-1.0	-1.0
0627	10/07/1992	-0.10	-0.001	-0.10	-0.01	-0.01	-0.05	0.06	-0.10	-0.05	0.003	-0.10	0.0250	2.8	-0.2	1.7	-1.0
0627	01/07/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.06	-0.10	-0.05	0.014	-0.10	0.0180	2.0	-0.2	-1.0	-1.0
0627	04/07/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.08	-0.10	-0.05	0.004	-0.10	0.0330	-1.2	-0.2	1.2	-1.0
0627	07/14/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.08	-0.10	-0.05	0.018	-0.10	0.0160	2.9	-0.2	-1.0	-1.0
0627	10/07/1993	-0.10	-0.001	-0.01	-0.01	0.02	-0.05	0.08	-0.10	-0.05	0.009	-0.10	0.0120	-1.6	-0.2	-1.0	-1.0
0627	01/06/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.08	-0.10	-0.05	0.003	-0.10	0.0150	-1.9	-0.2	-1.0	-1.0
0627	04/13/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.09	-0.10	-0.05	0.002	-0.10	0.0150	-1.8	-0.2	3.2	-1.0
0627	07/21/1994	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.09	-0.10	-0.05	0.003	-0.10	0.0170	3.2	-0.2	-1.0	4.6
0627	10/05/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.08	-0.10	-0.05	0.001	-0.10	0.0160	-1.4	-0.2	-1.0	-1.0
0627	01/05/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.09	-0.10	-0.05	-0.001	-0.10	0.0160	-1.3	-0.2	-1.0	-1.0
0627	04/05/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.07	-0.10	-0.05	-0.001	-0.10	0.0160	-2.2	-0.2	1.4	1.4
0627	07/06/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.07	-0.10	-0.05	0.003	-0.10	0.0205	-1.8	0.3	-1.0	1.4
0627	10/03/1995	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.09	-0.10	-0.05	0.019	-0.10	0.0168	-1.2	-0.2	1.7	2.0
0627	01/03/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.07	-0.10	-0.05	0.001	-0.10	0.0180	-1.7	1.2	2.4	1.2
0627	04/02/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.07	-0.10	-0.05	-0.001	-0.10	0.0190	-1.5	-0.2	-1.0	-1.0
0627	07/07/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.13	-0.10	-0.05	-0.001	-0.10	0.0240	-1.3	-0.2	-1.0	-1.0
0627	10/01/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.09	-0.10	-0.05	0.002	-0.10	0.0240	-1.0	-0.2	-1.0	-1.0
0627	01/22/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.11	-0.10	-0.05	-0.001	-0.10	0.0180	-1.5	-0.2	-1.0	-1.0
0627	04/08/1997	-0.10	-0.001	-0.01	-0.01	0.01	-0.05	0.10	-0.10	-0.05	0.195	-0.10	0.0200	-1.4	-0.2	-1.0	-1.0
0627	07/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.10	-0.10	-0.05	-0.001	-0.10	0.0200	-0.9	-0.2	-1.0	-1.0
0627	10/07/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.12	-0.10	-0.05	-0.001	-0.10	0.0230	-1.8	-0.2	-1.0	-1.0
0627	01/16/1998	-0.10	-0.001	-0.01	-0.01	0.02	-0.05	1.47	-0.10	-0.05	-0.001	-0.10	0.0222	-1.9	-0.2	-1.0	-1.0
0627	04/07/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.12	-0.10	-0.05	-0.001	-0.10	0.0221	-1.7	-0.2	-1.0	-1.0
0627	07/07/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.10	-0.10	-0.05	-0.001	-0.10	0.0233	4.2	-0.2	-1.0	-1.0
0627	10/06/1998	-0.10	-0.001	-0.01	0.005	-0.01	-0.05	0.14	-0.10	-0.05	0.001	-0.1	0.0345	-2.2	-0.2	-1.0	-1.0
0627	01/06/1999	-0.10	-0.001	-0.01	0.006	-0.01	-0.05	0.22	-0.10	-0.05	-0.001	-0.1	0.0239	-1.2	-0.2	-1.0	-1.0
0627	04/06/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.18	-0.10	-0.05	0.002	-0.1	0.0233	3.5	-0.2	-1.0	-1.0
0627	07/13/1999	-0.10	-0.001	-0.01	-0.005	0.02	-0.05	0.08	-0.10	-0.05	-0.001	-0.1	0.002	-1.8	-0.2	3.0	2.9

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30	NA	0.001	0.005
0632*	10/16/1989	6874.00	6.8	7.10	6,466	781	671	408	10.7	2,257	2,578	246	0.47	95.0	-0.00100	-0.001	-0.005
0632*	01/10/1990	6872.30	6.4	6.54	6,860	783	712	407	8.4	2,111	2,747	251	0.43	83.0	-0.00100	-0.001	-0.005
0632*	04/10/1990	6870.40	6.3	7.16	6,977	778	688	380	7.4	2,208	2,677	258	0.44	107	-0.00100	-0.001	-0.005
0632*	07/10/1990	6871.10	6.3	6.86	7,355	819	674	412	7.9	2,296	3,007	248	0.37	124	-0.00100	-0.001	-0.005
0632*	10/09/1990	6870.40	6.2	7.27	7,558	839	707	433	9.0	2,239	2,945	258	0.52	106	-0.00100	-0.001	-0.005
0632*	01/10/1991	6869.90	6.3	7.18	7,367	900	760	429	8.9	2,184	3,027	267	0.40	113	-0.00100	-0.001	-0.005
0632*	04/11/1991	6869.90	6.2	7.36	7,346	857	663	451	9.4	2,285	3,053	274	0.37	146	-0.00100	-0.001	-0.005
0632*	07/09/1991	6868.30	6.3	6.68	7,472	833	636	390	6.9	2,336	2,964	273	0.61	117	-0.00100	-0.001	-0.005
0632*	10/17/1991	6867.50	6.1	7.08	7,677	886	630	426	8.4	2,510	2,959	267	0.72	87.8	-0.00100	-0.001	-0.005
0632*	01/21/1992	6867.60	6.2	6.95	7,030	747	758	424	7.2	2,211	3,200	281	0.60	76.1	-0.00100	-0.001	-0.005
0632*	04/14/1992	6868.30	6.1	7.56	7,706	677	557	460	9.1	2,184	3,126	263	0.55	75.7	-0.00100	-0.001	-0.005
0632*	07/14/1992	6864.50	6.0	8.05	6,323	815	547	451	11.3	1,568	2,948	265	0.36	119	-0.00100	-0.001	-0.005
0632*	10/13/1992	6863.00	6.4	7.02	6,472	719	594	417	7.4	2,495	2,903	269	0.18	89.5	-0.00100	-0.001	-0.005
0632*	01/12/1993	6864.80	6.4	7.02	5,933	750	571	438	11.2	1,220	3,037	265	0.24	92.7	-0.00100	-0.001	-0.005
0632*	04/14/1993	6865.60	6.4	7.11	6,825	696	633	433	6.7	2,113	2,962	289	0.31	95.3	-0.00100	-0.001	-0.005
0632*	07/15/1993	6862.20	6.4	6.72	6,303	701	607	426	9.1	2,098	3,107	264	0.19	62.1	-0.00100	-0.001	-0.005
0632*	10/07/1993	6860.40	6.5	7.10	5,715	676	555	384	6.6	2,240	2,392	255	0.13	56.6	-0.00100	-0.001	-0.005
0632*	01/06/1994	6862.40	6.5	7.51	6,091	690	549	409	6.9	1,984	2,705	252	0.17	36.5	0.00100		
0632*	04/14/1994	6862.50	6.4	6.74	5,930	683	579	426	7.8	2,063	2,807	251	0.33	25.9	-0.00100		
0632*	07/21/1994	6862.70	6.4	7.19	6,160	745	632	383	7.5	2,123	3,080	246	0.23	30.3	-0.00100		
0632*	10/05/1994	6861.10	6.3	7.47	6,288	692	619	431	8.1	2,200	2,889	255	0.23	20.9	-0.00100		
0632*	01/10/1995	6861.70	6.4	7.45	6,458	708	655	348	8.2	2,184	2,857	250	0.41	21.9	-0.00100		
0632*	04/05/1995	6860.90	6.5	6.93	6,453	685	650	420	10.8	2,119	2,905	250	2.51	23.9	-0.00100		
0632*	07/06/1995	6860.30	6.4	7.52	6,335	696	646	393	8.5	2,281	2,647	285	0.43	24.1	-0.00100		
0632*	10/03/1995	6860.30	6.3	7.52	6,319	695	585	374	8.2	2,247	2,745	250	0.44	16.8	-0.00100		
0632*	01/04/1996	6859.10	6.5	7.59	6,294	760	625	378	7.9	2,239	2,595	250	0.22	16.4	-0.00100		
0632*	04/02/1996	6859.30	6.6	7.82	5,940	650	585	384	8.1	1,807	2,715	278	0.26	17.4	-0.00100		
0632*	07/07/1996	6858.80	6.4	7.40	6,258	671	589	397	8.8	2,035	2,749	233	0.29	10.9	0.00168		
0632*	10/01/1996	6859.30	6.5	6.92	6,280	676	602	396	8.5	2,050	2,758	255	0.20	11.5	0.00100		
0632*	01/22/1997	6858.60	6.5	7.49	6,120	670	590	379	8.7	2,130	2,740	285	0.20	10.0			
0632*	04/08/1997	6858.30	6.5	7.75	6,180	679	591	369	8.6	2,010	2,694	287	0.20	9.80	0.00105		
0632*	07/08/1997	6858.80	6.8	7.64	6,330	707	613	362	8.5	2,020	2,560	264	0.18	8.15	0.00114		
0632*	10/06/1997	6858.40	6.4	7.63	6,170	679	592	369	8.4	2,020	2,740	290	0.12	6.37	0.00148		
0632*	01/14/1998	6858.10	6.6	7.68	6,170	660	573	383	9.3	2,020	2,900	288	0.27	7.24	0.00190		
0632*	04/06/1998	6857.90	6.5	7.39	5,970	681	594	385	8.4	2,030	2,500	234	0.10	7.95	0.00190		
0632*	07/06/1998	6858.10	6.7	7.81	6,250	658	594	392	8.5	1,880	2,600	264	0.26	5.00	0.00230		
0632*	10/06/1998	6859.00	6.58	7.71	6,200	664	598	401	9.1	1,820	2,730	279	0.22	7.89	0.00240		
0632*	01/05/1999	6857.40	6.7	7.82	6,200	629	559	331	8.6	1,930	2,440	242	0.21	5.94	0.00160		
0632*	04/06/1999	6857.30	6.6	7.9	6,320	662	594	354	8.1	1,890	2,720	251	0.21	6.37	0.00150		
0632*	07/13/1999	6857.09	6.3	7.78	6,140	651	602	336	14.3	1,910	2,830	244	0.21	5.72	0.00180		

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.02	0.01	0.05	0.05	2.60	1.00	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0632*	10/16/1989	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.12	-0.10	-0.05	0.003	-0.10	0.1110	2.9	-0.2	-1.0	-1.0
0632*	01/10/1990	-0.10	-0.001	-0.05	-0.01	0.04	-0.05	0.15	-0.10	0.07	0.003	-0.10	0.0840	2.6	-0.2	-1.0	1.2
0632*	04/10/1990	-0.10	-0.001	-0.05	-0.01	0.03	-0.05	0.24	-0.10	-0.05	0.003	-0.10	0.0840	2.6	-0.2	-1.0	1.2
0632*	07/10/1990	-0.10	-0.001	-0.05	-0.01	0.01	-0.05	0.27	-0.10	-0.05	0.004	-0.10	0.0785	2.8	-0.2	-1.0	1.0
0632*	10/09/1990	-0.10	-0.001	-0.05	-0.01	0.02	-0.05	0.22	-0.10	-0.05	0.003	-0.10	0.1312	2.8	-0.2	-1.0	-1.0
0632*	01/10/1991	-0.10	0.002	-0.01	-0.01	0.02	-0.05	0.25	-0.10	0.05	0.005	-0.10	0.0795	-3.2	-0.2	-1.0	2.7
0632*	04/11/1991	-0.10	0.002	-0.01	-0.01	0.02	-0.05	0.29	-0.10	-0.05	0.005	-0.10	0.0931	-2.1	-0.2	-1.0	1.0
0632*	07/09/1991	0.14	-0.001	-0.01	-0.01	-0.01	-0.05	0.25	-0.10	-0.05	0.003	-0.10	0.0818	2.5	-0.2	-1.0	-1.0
0632*	10/17/1991	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.43	-0.10	-0.05	0.018	-0.10	0.1690	-1.8	-0.2	-1.0	-1.0
0632*	01/21/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.25	-0.10	-0.05	0.004	-0.10	0.0720	3.8	-0.2	-1.0	1.0
0632*	04/14/1992	-0.10	0.002	-0.01	-0.01	-0.01	-0.05	0.28	-0.10	-0.05	0.008	-0.10	0.0800	4.6	-0.2	-1.0	-1.0
0632*	07/14/1992	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.16	-0.10	-0.05	0.003	-0.10	0.0950	3.3	-0.2	-1.0	2.5
0632*	10/13/1992	-0.10	-0.001	-0.01	-0.01	0.02	-0.05	0.16	-0.10	-0.05	0.003	-0.10	0.1470	7.7	-0.2	-1.0	1.5
0632*	01/12/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.85	-0.10	-0.05	0.004	-0.10	0.0680	5.6	-0.2	-1.0	1.5
0632*	04/14/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.32	-0.10	-0.05	0.002	-0.10	0.1130	8.4	1.3	-1.0	8.1
0632*	07/15/1993	-0.10	-0.001	-0.01	-0.01	0.01	-0.05	0.18	-0.10	-0.05	0.005	-0.10	0.0820	-2.2	-0.2	-1.0	1.5
0632*	10/07/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.27	-0.10	-0.05	0.003	-0.10	0.0930	2.9	-0.2	-1.0	1.8
0632*	01/06/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.34	-0.10	-0.05	-0.001	-0.10	0.0820	5.0	-0.2	-1.0	7.7
0632*	04/14/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.37	-0.10	-0.05	0.001	-0.10	0.0880	4.1	-0.2	-1.0	5.5
0632*	07/21/1994	-0.10	0.002	-0.01	-0.01	-0.01	-0.05	0.39	-0.10	-0.05	0.002	-0.10	0.0900	6.0	-0.2	-1.0	8.7
0632*	10/05/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.42	-0.10	-0.05	-0.001	-0.10	0.0800	-2.0	-0.2	-1.0	1.2
0632*	01/10/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.43	-0.10	-0.05	-0.001	-0.10	0.0860	-3.0	-0.2	-1.0	3.7
0632*	04/05/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.52	-0.10	-0.05	0.002	-0.10	0.0770	4.3	-0.2	-1.0	6.0
0632*	07/06/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.50	-0.10	-0.05	0.002	-0.10	0.0954	-2.6	0.4	-1.0	4.2
0632*	10/03/1995	-0.10	0.003	-0.01	-0.01	-0.01	-0.05	0.11	-0.10	-0.05	-0.001	-0.10	0.0899	-2.1	-0.2	-1.0	2.6
0632*	01/04/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.74	-0.10	-0.05	-0.001	-0.10	0.0920	-2.7	0.3	-1.0	1.8
0632*	04/02/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.55	-0.10	-0.05	-0.001	-0.10	0.0900	-1.8	-0.2	-1.0	5.8
0632*	07/07/1996	-0.10	0.014	-0.01	-0.01	-0.01	-0.05	0.61	-0.10	-0.05	0.012	-0.10	0.0920	1.3	-0.2	-1.0	-1.0
0632*	10/01/1996	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.57	-0.10	-0.05	0.002	-0.10	0.0780	-1.3	-0.2	-1.0	3.4
0632*	01/22/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.63	-0.10	-0.05	-0.001	-0.10	0.0770	-1.9	-0.2	-1.0	-1.0
0632*	04/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.63	-0.10	-0.05	-0.001	-0.10	0.0880	4.2	-0.2	-1.0	-1.0
0632*	07/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.57	-0.10	-0.05	-0.001	-0.10	0.0770	5.8	-0.2	-1.0	-1.0
0632*	10/06/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.82	-0.10	-0.05	-0.001	-0.10	0.0750	-1.7	-0.2	-1.0	-1.0
0632*	01/14/1998	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.75	-0.10	-0.05	-0.001	-0.10	0.0890	-1.9	-0.2	-1.0	2.0
0632*	04/06/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.71	-0.10	-0.05	0.005	-0.10	0.0860	-2.6	-0.2	-1.0	-1.0
0632*	07/06/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.72	-0.10	-0.05	-0.001	-0.10	0.0859	5.1	-0.2	-1.0	-1.0
0632*	10/06/1998	-0.1	-0.001	-0.01	-0.005	-0.01	-0.05	0.74	-0.1	-0.05	-0.001	-0.1	0.144	-2.3	-0.2	-1	2.4
0632*	01/05/1999	-0.1	-0.001	-0.01	-0.005	-0.01	-0.05	0.66	-0.1	-0.05	-0.001	-0.1	0.0817	-1.2	-0.2	-1	-1
0632*	04/06/1999	-0.1	-0.001	-0.01	0.008	-0.01	-0.05	0.7	-0.1	-0.05	-0.001	-0.1	0.124	-2.7	-0.2	-1	-1
0632*	07/13/1999	-0.1	-0.001	-0.01	-0.005	-0.01	-0.05	0.72	-0.1	-0.05	-0.001	-0.1	0.0775	-1.5	-0.2	2.9	3.5

TABLE B.1

**SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999**

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	0.001	0.005
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30	NA	NA	NA
0639	01/11/1990	6939.60	6.7	7.13	4,734	444	478	186	5.6	497	2,830	37.5	0.11	3.40	-0.00100	-0.001	-0.005
0639	04/10/1990	6939.00	6.7	7.48	5,351	467	590	193	5.6	565	3,153	40.1	0.11	3.30	-0.00100	-0.001	-0.005
0639	07/10/1990	6938.60	6.7	7.08	5,461	419	583	194	5.1	583	3,265	39.0	-0.05	3.00	-0.00100	-0.001	-0.005
0639	10/09/1990	6938.40	6.7	7.59	4,043	305	464	176	6.5	516	2,452	27.1	-0.05	2.05	-0.00100	-0.001	-0.005
0639	01/17/1991	6938.00	6.2	7.25	4,672	382	508	178	6.3	508	2,944	32.0	-0.05	2.00	-0.00100	-0.001	-0.005
0639	04/10/1991	6937.80	6.5	7.51	4,523	347	531	173	7.8	551	2,690	29.2	-0.05	4.80	-0.00100	-0.001	-0.005
0639	07/10/1991	6937.40	6.5	7.26	4,877	309	449	150	5.6	555	3,046	27.6	-0.05	3.30	-0.00100	-0.001	-0.005
0639	10/17/1991	6937.00	6.4	7.37	4,899	412	531	158	7.1	626	2,803	40.8	-0.05	4.40	-0.00100	-0.001	-0.005
0639	01/21/1992	6936.80	6.4	7.20	4,330	409	510	153	5.3	620	2,792	29.4	-0.05	2.93	-0.00100	-0.001	-0.005
0639	04/13/1992	6936.70	6.3	7.54	5,005	363	499	165	6.1	618	2,922	33.5	-0.05	3.31	-0.00100	-0.001	-0.005
0639	07/14/1992	6936.50	6.3	7.36	4,857	393	507	175	6.6	616	2,845	28.0	-0.05	3.74	-0.00100	-0.001	-0.005
0639	10/13/1992	6936.40	6.4	7.55	4,661	335	437	154	6.6	619	2,801	27.0	0.13	2.10	-0.00100	-0.001	-0.005
0639	01/21/1993	6936.10	6.5	7.09	3,924	340	416	131	5.8	570	2,359	23.3	0.15	2.00	-0.00100	-0.001	-0.005
0639	04/14/1993	6936.00	6.6	7.85	3,417	301	343	123	3.7	561	1,988	18.6	0.07	2.00	-0.00100	-0.001	-0.005
0639	07/15/1993	6935.70	6.6	6.91	3,046	300	300	123	6.9	576	1,959	19.2	0.19	1.63	-0.00100	-0.001	-0.005
0639	10/06/1993	6934.60	6.6	6.76	3,060	264	321	115	3.6	539	1,862	16.8	-0.05	2.30	-0.00100	-0.001	-0.005
0639	01/05/1994	6935.60	6.5	7.38	3,018	323	325	104	3.3	559	1,781	17.0	0.22	1.38	-0.00100		
0639	04/13/1994	6935.30	6.7	7.10	3,058	303	304	104	2.8	458	1,862	15.8	0.18	1.31	-0.00100		
0639	10/05/1994	6935.50	6.6	7.99	3,398	368	348	119	2.6	373	2,142	16.3	0.15	1.61	-0.00100		

TABLE B.1

**SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999**

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.02	0.01	0.05	0.05	2.60	1.00	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0639	01/11/1990	-0.10	-0.001	-0.05	-0.01	0.04	-0.05	0.41	-0.10	-0.05	-0.001	-0.10	0.2760	-1.2	3.4	-1.0	4.0
0639	04/10/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.56	-0.10	-0.05	0.002	-0.10	0.0960	2.5	-0.2	-1.0	1.7
0639	07/10/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.89	-0.10	-0.05	0.001	-0.10	0.2416	-1.2	-0.2	-1.0	-1.0
0639	10/09/1990	-0.10	-0.001	-0.05	-0.01	0.02	-0.05	0.99	-0.10	-0.05	-0.001	-0.10	0.2623	-1.5	-0.2	-1.0	-1.0
0639	01/17/1991	0.12	-0.001	-0.01	-0.01	-0.01	-0.05	1.34	-0.10	-0.05	0.002	-0.10	0.1984	-2.4	-0.2	-1.0	1.9
0639	04/10/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.14	-0.10	-0.05	0.002	-0.10	0.1960	-1.2	-0.2	-1.0	-1.0
0639	07/10/1991	-0.10	-0.001	-0.01	-0.01	0.01	-0.05	1.47	-0.10	-0.05	0.035	-0.10	0.2739	-2.0	-0.2	-1.0	1.0
0639	10/17/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.48	-0.10	-0.05	0.002	-0.10	0.2720	-1.2	-0.2	-1.0	-1.0
0639	01/21/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.27	-0.10	-0.05	0.002	-0.10	0.1700	2.5	-0.2	-1.0	-1.0
0639	04/13/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.59	-0.10	-0.05	0.006	-0.10	0.3670	4.9	-0.2	-1.0	2.2
0639	07/14/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.41	-0.10	-0.05	0.002	-0.10	0.2450	1.9	-0.2	-1.0	-1.0
0639	10/13/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.51	-0.10	-0.05	0.003	-0.10	0.2230	4.3	-0.2	-1.0	-1.0
0639	01/21/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.07	-0.10	-0.05	0.002	-0.10	0.0940	-4.3	-0.2	-1.0	-1.0
0639	04/14/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.67	-0.10	-0.05	0.003	-0.10	0.0800	12.0	-0.2	-1.0	6.4
0639	07/15/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.44	-0.10	-0.05	0.009	-0.10	0.1090	-1.2	-0.2	-1.0	-1.0
0639	10/06/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.15	-0.10	-0.05	0.003	-0.10	0.0710	4.9	-0.2	-1.0	5.8
0639	01/05/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.71	-0.10	-0.05	-0.001	-0.10	0.1070	-4.8	-0.2	-1.0	4.8
0639	04/13/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.18	-0.10	-0.05	0.002	-0.10	0.1100	-1.3	-0.2	-1.0	-1.0
0639	10/05/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.80	-0.10	-0.05	-0.001	-0.10	0.0700	-7.2	-0.2	-1.0	10.8

TABLE B.1

**SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999**

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30	NA	NA	NA
0642	10/08/1989	6927.50	6.8	7.40	4,140	634	227	177	3.6	414	2,182	37.9	0.08	93.0	-0.00100	-0.001	-0.005
0642	01/11/1990	6926.50	6.8	7.20	4,080	628	229	174	2.6	421	2,176	26.5	0.06	85.0	-0.00100	-0.001	-0.005
0642	04/10/1990	6925.70	6.8	7.50	4,161	634	250	171	2.4	430	2,129	35.7	0.12	75.0	-0.00100	-0.001	-0.005
0642	07/10/1990	6924.80	6.9	7.30	4,232	714	263	171	1.9	426	2,209	34.0	-0.05	83.4	-0.00100	-0.001	-0.005
0642	10/09/1990	6924.10	6.7	7.62	4,168	582	242	174	3.2	415	2,319	34.4	-0.05	86.9	-0.00100	-0.001	-0.005
0642	01/17/1991	6923.50	6.7	7.58	4,131	676	268	181	2.4	414	2,323	35.1	-0.05	61.5	-0.00100	-0.001	-0.005
0642	04/10/1991	6922.80	6.8	7.84	4,110	623	273	162	4.4	432	2,216	34.1	-0.05	87.0	-0.00100	-0.001	-0.005
0642	07/10/1991	6922.20	6.7	7.49	4,089	625	257	155	2.8	423	2,309	33.1	-0.05	68.1	-0.00100	-0.001	-0.005
0642	10/17/1991	6921.60	6.7	7.52	4,093	639	233	167	3.6	442	2,229	34.5	-0.05	55.4	-0.00100	-0.001	-0.005
0642	01/21/1992	6920.60	6.8	7.35	4,133	684	223	158	2.4	425	2,307	75.0	-0.05	38.1	-0.00100	-0.001	-0.005
0642	04/13/1992	6920.00	6.7	7.43	4,096	562	238	185	3.1	399	1,851	31.5	-0.05	29.0	-0.00100	-0.001	-0.005
0642	07/14/1992	6919.30	6.4	7.72	4,196	668	266	183	3.2	405	2,518	28.4	-0.05	46.0	-0.00100	-0.001	-0.005
0642	10/13/1992	6918.50	6.8	7.59	3,909	617	260	169	3.0	422	2,721	29.0	-0.05	45.9	-0.00100	-0.001	-0.005
0642	01/21/1993	6917.60	6.9	7.52	4,295	642	268	157	3.5	422	2,575	31.6	-0.05	32.8	-0.00100	-0.001	-0.005
0642	04/14/1993	6917.00	7.0	7.95	4,460	640	283	166	2.2	453	2,621	30.4	-0.05	35.1	-0.00100	-0.001	-0.005
0642	07/15/1993	6916.20	7.0	7.02	4,023	598	266	182	5.1	478	2,657	33.0	0.08	2.20	-0.00100	-0.001	-0.005
0642	10/06/1993	6912.90	7.1	7.10	4,659	598	325	192	2.2	432	2,849	28.6	-0.05	29.5	-0.00100	-0.001	-0.005
0642	01/05/1994	6915.00	7.1	7.68	4,362	580	326	150	2.8	450	2,709	29.5	-0.05	22.3	-0.00100		
0642	04/13/1994	6914.40	7.1	7.33	4,446	610	334	149	2.80	442	2,782	30.0	0.18	21.2	-0.00100		
0642	07/21/1994	6913.70	7.1	7.37	4,667	789	374	164	4.10	471	3,117	27.3	0.08	21.3	-0.00100		
0642	10/05/1994	6913.30	7.0	7.70	4,699	649	377	178	4.50	490	2,863	29.8	0.11	20.6	-0.00100		
0642	01/05/1995	6912.60	7.0	7.57	4,800	630	379	163	5.20	505	2,823	30.7	0.17	18.2	-0.00100		
0642	04/05/1995	6912.60	7.0	7.44	4,804	583	390	156	3.92	519	2,869	30.0	0.20	17.0	-0.00100		
0642	07/06/1995	6911.60	7.0	7.99	4,613	605	377	167	5.30	527	2,781	29.0	-0.05	20.7	-0.00100		
0642	10/04/1995	6911.80	7.0														

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.02	0.01	0.05	0.05	2.60	1.00	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0642	10/08/1989	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.002	-0.10	0.0830	4.0	3.6	-1.0	6.4
0642	01/11/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.001	-0.10	0.0010	-1.2	0.2	-1.0	1.0
0642	04/10/1990	-0.10	-0.001	-0.05	-0.01	0.01	-0.05	0.10	-0.10	-0.05	0.002	-0.10	0.0360	5.7	4.3	-1.0	0.4
0642	07/10/1990	-0.10	-0.001	-0.05	-0.01	0.02	-0.05	-0.01	-0.10	-0.05	0.002	-0.10	0.0550	-1.0	-0.2	-1.0	-1.0
0642	10/09/1990	-0.10	-0.001	-0.05	-0.01	0.02	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0446	-1.2	-0.2	-1.0	-1.0
0642	01/17/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	-0.001	-0.10	0.0357	-1.2	-0.2	-1.0	-1.0
0642	04/10/1991	-0.10	-0.001	-0.01	-0.01	0.01	-0.05	-0.01	-0.10	-0.05	0.001	-0.10	0.0363	-1.2	-0.2	-1.0	-1.0
0642	07/10/1991	-0.10	-0.001	-0.01	-0.01	0.02	-0.05	-0.01	-0.10	-0.05	0.004	-0.10	0.0557	-1.8	-0.2	-1.0	-1.0
0642	10/17/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.03	-0.10	-0.05	0.002	-0.10	0.0400	-1.3	-0.2	-1.0	-1.0
0642	01/21/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.002	-0.10	0.0290	-1.5	-0.2	-1.0	-1.0
0642	04/13/1992	-0.10	-0.001	-0.01	-0.01	0.02	-0.05	0.04	-0.10	-0.05	0.002	-0.10	0.1080	-1.5	-0.2	-1.0	-1.0
0642	07/14/1992	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.05	-0.10	-0.05	0.003	-0.10	0.0500	1.5	-0.2	-1.0	-1.0
0642	10/13/1992	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	0.001	-0.10	0.0550	3.3	-0.2	-1.0	-1.0
0642	01/21/1993	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.05	-0.10	-0.05	0.003	-0.10	0.0460	-1.4	-0.2	-1.0	1.3
0642	04/14/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.16	-0.10	-0.05	0.001	-0.10	0.0600	-1.7	-0.2	-1.0	-1.0
0642	07/15/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.10	-0.10	-0.05	0.003	-0.10	0.0510	-1.5	-0.2	-1.0	-1.0
0642	10/06/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0360	1.8	-0.2	-1.0	-1.0
0642	01/05/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.05	-0.10	-0.05	-0.001	-0.10	0.0460	-1.4	-0.2	-1.0	-1.0
0642	04/13/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.07	-0.10	-0.05	0.003	-0.10	0.0430	-1.9	-0.2	-1.0	-1.0
0642	07/21/1994	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.12	-0.10	-0.05	0.006	-0.10	0.0380	5.4	-0.2	-1.0	5.3
0642	10/05/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.08	-0.10	-0.05	-0.001	-0.10	0.0390	2.4	-0.2	-1.0	3.4
0642	01/05/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.08	-0.10	-0.05	-0.001	-0.10	0.0380	-2.3	-0.2	-1.0	1.5
0642	04/05/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.09	-0.10	-0.05	0.002	-0.10	0.0420	6.3	-0.2	-1.0	7.9
0642	07/06/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.14	-0.10	-0.05	0.003	-0.10	0.0549	-1.6	-0.2	-1.0	4.8
0642	10/04/1995																

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	0.001	0.005
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30	NA	NA	NA
0644	10/08/1989	6935.70	6.8	7.50	4,778	860	227	203	5.80	676	1,776	89.3	0.10	300	-0.00100	-0.001	-0.005
0644	01/11/1990	6935.00	6.7	7.16	4,994	860	254	220	4.15	653	1,789	99.0	0.07	384	-0.00100	-0.001	-0.005
0644	04/10/1990	6934.30	6.8	7.52	5,428	854	260	222	4.20	623	1,669	100.0	0.11	396	-0.00100	-0.001	-0.005
0644	07/10/1990	6933.80	6.8	7.24	6,272	855	274	236	3.70	633	1,706	94.8	-0.05	615	-0.00100	-0.001	-0.005
0644	10/09/1990	6933.00	6.7	7.68	5,576	809	280	232	5.10	586	1,689	97.4	-0.05	377	-0.00100	-0.001	-0.005
0644	01/17/1991	6932.50	6.6	7.28	5,447	922	294	242	5.60	526	1,731	97.0	-0.05	512	-0.00100	-0.001	-0.005
0644	04/10/1991	6932.10	6.6	7.80	5,265	855	293	244	6.20	616	1,661	99.5	0.05	435	-0.00100	-0.001	-0.005
0644	07/10/1991	6931.70	6.7	7.55	5,991	845	272	218	4.20	586	1,852	96.2	0.06	534	-0.00100	-0.001	-0.005
0644	10/17/1991	6931.00	6.6	7.50	5,606	929	291	251	7.00	617	1,839	111	-0.05	401	-0.00100	-0.001	-0.005
0644	01/21/1992	6930.50	6.7	7.40	4,715	794	280	225	4.10	591	1,896	98.0	-0.05	234	-0.00100	-0.001	-0.005
0644	04/13/1992	6930.00	6.6	7.40	5,318	786	271	268	5.50	539	1,851	103	0.08	244	-0.00100	-0.001	-0.005
0644	07/14/1992	6929.00	6.3	7.38	5,770	824	270	285	6.60	464	1,884	92.1	-0.05	338	-0.00100	-0.001	-0.005
0644	10/13/1992	6929.00	6.7	7.34	5,731	771	263	241	5.40	488	2,121	97.5	0.07	250	-0.00100	-0.001	-0.005
0645	10/08/1989	6941.30	7.1	7.40	7,992	957	440	518	6.90	378	1,982	159	0.13	798	-0.00100	-0.001	0.052
0645	01/11/1990	6940.80	6.7	7.18	8,426	929	539	574	4.48	354	2,299	168	0.14	926	-0.00100	-0.001	0.074
0645	04/10/1990	6940.60	6.9	7.54	9,179	917	600	560	4.20	369	2,489	169	0.13	840	-0.00100	-0.001	-0.005
0645	07/10/1990	6940.00	7.0	7.28	10,530	829	680	637	4.20	365	2,728	157	-0.05	1225	-0.00100	-0.001	-0.005
0645	10/10/1990	6940.00	6.9	7.41	9,343	742	604	644	4.60	351	2,674	150	0.13	800	-0.00100	-0.001	0.068

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.02	0.01	0.05	0.05	2.60	1.00	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0644	10/08/1989	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.07	-0.10	-0.05	0.018	-0.10	0.0930	-1.4	0.7	-1.0	-1.0
0644	01/11/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	0.011	-0.10	0.0710	-1.3	1.2	-1.0	4.2
0644	04/10/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.04	-0.10	-0.05	0.007	-0.10	0.0690	2.1	-0.2	-1.0	1.2
0644	07/10/1990	-0.10	-0.001	-0.05	-0.01	0.01	-0.05	0.04	-0.10	-0.05	0.007	-0.10	0.1100	-1.6	-0.2	-1.0	-1.0
0644	10/09/1990	-0.10	-0.001	-0.05	-0.01	0.02	-0.05	0.04	-0.10	-0.05	0.004	-0.10	0.0656	-1.2	-0.2	-1.0	-1.0
0644	01/17/1991	0.14	-0.001	-0.01	-0.01	0.01	-0.05	0.07	-0.10	-0.05	0.002	-0.10	0.0627	6.8	-0.2	1.3	-1.0
0644	04/10/1991	-0.10	-0.001	-0.01	-0.01	0.02	-0.05	0.07	-0.10	-0.05	0.005	-0.10	0.0608	2.3	-0.2	3.8	-1.0
0644	07/10/1991	-0.10	-0.001	-0.01	-0.01	0.02	-0.05	0.05	-0.10	-0.05	0.007	-0.10	0.1133	-1.6	-0.2	-1.0	-1.0
0644	10/17/1991	0.14	-0.001	-0.01	-0.01	-0.01	-0.05	0.07	-0.10	-0.05	0.008	-0.10	0.0780	-1.6	-0.2	4.9	-1.0
0644	01/21/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.08	-0.10	-0.05	0.004	-0.10	0.0420	2.1	-0.2	-1.0	2.0
0644	04/13/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.12	-0.10	-0.05	0.008	-0.10	0.0430	-2.6	-0.2	-1.0	1.8
0644	07/14/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.15	-0.10	-0.05	0.005	-0.10	0.0800	3.9	-0.2	-1.0	-1.0
0644	10/13/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.15	-0.10	-0.05	0.012	-0.10	0.0109	-3.2	-0.2	-1.0	2.3
0645	10/08/1989	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	1.20	-0.10	-0.05	0.040	-0.10	0.0680	-1.2	-0.2	-1.0	-1.0
0645	01/11/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	1.30	-0.10	-0.05	0.022	-0.10	0.0380	-1.2	-0.2	-1.0	1.1
0645	04/10/1990	-0.10	-0.001	-0.05	-0.01	0.01	-0.05	0.90	-0.10	-0.05	0.022	-0.10	0.0410	1.5	-0.2	-1.0	1.0
0645	07/10/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.72	-0.10	-0.05	0.018	-0.10	0.0520	-1.2	1.1	-1.0	1.0
0645	10/10/1990	-0.10	-0.001	-0.05	-0.01	0.01	-0.05	0.54	-0.10	-0.05	0.016	-0.10	-0.0340	-1.8	-0.2	-1.0	-1.0

TABLE B.1
SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30	0.001	0.001	0.005
0801	10/17/1989		6.5	6.69	9,214	626	1,102	472	23.0	1,940	4,581	246	33.6	26.0	0.00180	-0.001	-0.005
0801	01/11/1990		6.5	6.74	8,830	628	997	470	14.9	2,111	4,416	262	25.1	62.0	-0.00100	-0.001	-0.005
0801	04/05/1990		6.8	7.16	5,543	774	852	500	9.1	2,103	2,946	228	9.30	115	-0.00100	-0.001	-0.005
0801	07/09/1990		6.5	6.82	9,507	626	1,095	436	15.5	2,020	4,826	254	40.0	39.6	0.00192	-0.001	-0.005
0801	10/03/1990		6.3	7.09	9,800	565	1,187	493	15.3	1,875	5,090	269	34.6	21.1	0.00160	-0.001	-0.005
0801	01/03/1991		6.1	6.84	9,316	628	1,232	482	23.6	1,930	4,650	239	32.4	31.4	0.00272	-0.001	-0.005
0801	04/11/1991		6.1	7.09	9,510	601	1,092	415	16.6	1,991	4,788	274	30.0	27.5	0.00340	-0.001	-0.005
0801	07/11/1991		6.3	7.08	9,566	620	1,142	410	12.8	1,872	5,121	240	40.0	26.5	0.00350	-0.001	-0.005
0801	10/23/1991		6.3	7.08	9,049	566	1,127	432	13.1	1,870	4,508	271	27.7	10.1	0.00330	-0.001	-0.005
0801	01/16/1992		6.2	7.28	8,946	502	961	441	13.0	1,825	4,891	247	41.5	13.6	0.00360	-0.001	-0.005
0801	04/13/1992		6.2	7.11	9,240	518	635	444	15.1	1,869	4,650	255	31.7	12.8	0.00420	-0.001	-0.005
0801	07/08/1992		6.1	7.38	8,276	635	634	539	16.0	1,915	4,512	246	28.1	38.1	0.00300	-0.001	-0.005
0801	10/08/1992		6.4	7.22	9,244	517	1,003	478	17.4	1,832	5,132	229	39.5	14.7	0.00380	-0.001	-0.005
0801	01/07/1993		6.3	7.28	8,080	555	1,030	469	14.1	1,575	4,709	249	42.8	9.9	0.00460	-0.001	-0.005
0801	04/07/1993		6.4	7.19	8,253	476	955	472	12.1	1,603	4,867	247	43.9	10.2	0.00400	-0.001	-0.005
0801	07/14/1993		6.4	6.93	8,158	555	1,011	432	13.0	1,709	4,887	247	34.0	14.7	0.00450	-0.001	-0.005
0801	10/07/1993		6.3	7.08	7,688	525	931	393	12.6	1,641	4,231	229	32.0	19.0	0.00350	-0.001	-0.005
0801	01/06/1994		6.4	6.82	7,788	522	909	438	12.6	1,540	4,519	230	32.3	28.6	0.00430		
0801	04/12/1994		6.4	6.80	8,788	515	905	415	12.8	1,454	5,061	233	42.7	9.9	0.00270		
0801	07/27/1994		6.4	7.24	8,502	599	902	382	13.3	1,530	4,930	222	35.6	25.2	0.00420		
0801	10/05/1994		6.2	7.29	8,093	564	998	440	13.1	1,619	4,544	236	29.9	10.7	0.00325		
0801	01/04/1995		6.2	6.97	8,714	635	945	425	14.7	1,599	4,925	226	45.0	9.57	0.00358		
0801	04/06/1995		6.2	6.70	8,297	560	910	402	13.1	1,652	4,455	258	31.8	10.2	0.00228		
0801	07/06/1995		6.3	7.64	8,028	535	883	405	13.7	1,627	4,335	230	30.4	8.82	0.00411		
0801	10/04/1995		6.3	7.29	8,115	535	890	406	12.1	1,619	4,668	212	24.4	11.0	0.00291		
0801	01/03/1996		6.5	7.18	7,962	629	952	414	12.3	1,620	4,640	242	16.8	9.91	0.00281		
0801	04/02/1996		6.5	7.31	8,061	550	1000	408	13.0	1,623	4,370	224	21.5	9.08	0.00336		
0801	07/17/1996		6.3	6.79	8,133	527	864	411	15.1	1,532	4,100	241	20.6	8.22	0.00432		
0801	10/08/1996		6.3	6.97	8,130	554	915	404	13.9	1,520	4,325	233	19.9	4.46	0.00360		
0801	01/28/1997		6.5	7.73	8,340	555	906	361	13.8	1,678	4,460	324	22.2	3.75	0.00349		
0801	04/08/1997		6.4	7.57	8,190	562	944	399	14.5	1,520	4,500	232	21.2	6.33	0.00350		
0801	07/08/1997		6.6	7.43	8,240	575	956	420	15.0	1,520	4,480	243	21.2	6.43	0.00342		
0801	10/08/1997		6.2	7.51	8,100	568	924	379	13.8	1,520	4,350	273	21.1	5.06	0.00410		
0801	01/20/1998		6.2	7.72	8,090	553	898	397	14.9	1,500	4,400	269	21	7.07	0.00410		
0801	04/07/1998		6.5	7.42	8,140	553	915	375	13.3	1,480	4,260	214	20.4	7.42	0.00390		
0801	07/07/1998		6.6	7.42	8,250	563	969	407	14.1	1,450	4,200	233	22.5	4.86	0.00390		
0801	10/06/1998		6.4	7.58	8,040	546	924	401	14.7	1,440	4,300	250	23.2	6.56	0.00130		
0801	01/12/1999		6.5	7.49	8,010	470	858	347	14.3	1390	4,450	222	20.3	6.05	0.00330		
0801	04/13/1999		6.4	7.65	7,940	534	902	357	13	1410	4,080	221	19.8	6.37	0.00390		
0801	07/20/1999		6.5	7.63	7,950	545	932	414	15.5	1420	4,240	220	19.7	5.51	0.00350		

TABLE B.1
SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
NRC Standard EPA Standard		NA 5.0	0.05 0.05	0.05 0.02	0.01 0.01	NA 0.05	0.05 0.05	NA 2.60	NA 1.00	0.05 0.2	0.01 0.01	0.10 0.70	0.3 5.0	5.0 5.0	5.0 NA	1.0 NA	15.0 15.0
0801	10/17/1989	-0.10	-0.001	-0.05	-0.01	0.48	-0.05	31.0	-0.01	0.31	-0.001	-0.10	0.0636	-2.1	1.6	2.4	3.1
0801	01/11/1990	-0.10	-0.001	-0.05	-0.01	0.13	-0.05	19.0	-0.10	0.14	-0.001	-0.10	0.0570	-1.7	2.3	-1.0	4.0
0801	04/05/1990	-0.10	-0.001	-0.05	-0.01	0.02	-0.05	5.8	-0.10	0.15	0.001	-0.10	0.0990	-1.6	-0.2	-1.0	1.0
0801	07/09/1990	0.19	-0.001	-0.05	-0.01	0.08	-0.05	31.6	-0.10	0.17	0.001	-0.10	0.0710	-1.2	-0.2	-1.0	-1.0
0801	10/03/1990	-0.10	-0.001	-0.05	-0.01	0.18	-0.05	39.6	-0.10	0.13	-0.001	-0.10	0.0370	-2.0	-0.2	-1.0	-1.0
0801	01/03/1991	0.59	-0.001	-0.01	0.01	0.20	-0.05	32.4	-0.10	0.17	-0.001	-0.10	0.0654	-2.8	-0.2	-1.0	2.0
0801	04/11/1991	0.19	-0.001	-0.01	-0.01	0.13	-0.05	30.1	-0.10	0.13	-0.001	-0.10	0.0470	-2.1	-0.2	-1.0	1.0
0801	07/11/1991	0.12	-0.001	-0.01	-0.01	0.08	-0.05	32.0	-0.10	-0.05	0.001	-0.10	0.1228	3.9	-0.2	2.4	2.0
0801	10/23/1991	0.63	-0.001	-0.01	-0.01	0.09	-0.05	34.0	-0.10	0.10	-0.001	-0.10	0.1860	5.3	-0.2	-1.0	-1.0
0801	01/16/1992	-0.10	-0.001	-0.01	-0.01	0.11	-0.05	32.5	-0.10	0.12	0.005	-0.10	0.0310	4.0	-0.2	1.5	-1.0
0801	04/13/1992	0.18	-0.001	-0.01	-0.01	0.09	-0.05	31.3	-0.10	0.10	0.005	-0.10	0.0340	1.5	-0.2	-1.0	-1.0
0801	07/08/1992	0.23	-0.001	-0.01	-0.01	0.03	-0.05	24.3	-0.10	-0.05	0.001	-0.10	0.0400	-1.9	-0.2	-1.0	-1.0
0801	10/08/1992	0.30	-0.001	-0.01	-0.01	0.06	-0.05	37.0	-0.10	0.07	-0.001	-0.10	0.0220	-2.7	-0.2	-1.0	1.9
0801	01/07/1993	-0.10	-0.001	-0.01	-0.01	0.12	-0.05	45.3	-0.10	-0.05	0.006	-0.10	0.0300	-1.7	-0.2	-1.0	-1.0
0801	04/07/1993	-0.10	-0.001	0.00	-0.01	0.11	-0.05	45.1	-0.10	0.16	-0.001	-0.10	0.0690	-1.4	-0.2	1.8	-1.0
0801	07/14/1993	-0.10	-0.001	-0.01	-0.01	0.08	-0.05	30.0	-0.10	0.10	-0.001	-0.10	0.0280	4.5	-0.2	-1.0	-1.0
0801	10/07/1993	-0.10	-0.001	-0.01	-0.01	0.09	-0.05	31.9	-0.10	-0.05	-0.001	-0.10	0.0350	4.8	-0.2	-1.0	2.0
0801	01/06/1994	0.70	-0.001	-0.01	-0.01	0.09	-0.05	33.4	-0.10	0.09	-0.001	-0.10	0.0470	2.3	-0.2	-1.0	3.9
0801	04/12/1994	0.36	-0.001	-0.01	-0.01	0.12	-0.05	34.3	-0.10	0.15	-0.001	-0.10	0.0390	-1.9	-0.2	3.2	-1.0
0801	07/27/1994	-0.10	-0.001	-0.01	-0.01	0.10	-0.05	20.5	-0.10	0.09	0.001	-0.10	0.0360	6.3	-0.2	1.9	5.5
0801	10/05/1994	0.44	-0.001	-0.01	-0.01	-0.01	-0.05	20.4	-0.10	0.07	-0.001	-0.10	0.0360	2.5	-0.2	1.0	3.5
0801	01/04/1995	0.51	-0.001	-0.01	-0.01	0.06	-0.05	31.5	-0.10	0.09	-0.001	-0.10	0.0340	-2.2	-0.2	-1.0	2.9
0801	04/06/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	23.4	-0.10	-0.05	-0.001	-0.10	0.0390	4.0	-0.2	1.9	5.4
0801	07/06/1995	-0.10	-0.001	-0.01	-0.01	0.03	-0.05	23.0	-0.10	-0.05	0.001	-0.10	0.0435	3.0	0.3	-1.0	4.8
0801	10/04/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	18.1	-0.10	-0.05	-0.001	-0.10	0.0380	-2.3	0.6	-1.0	1.1
0801	01/03/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	18.6	-0.10	-0.05	-0.001	-0.10	0.0420	-2.3	-0.2	3.1	2.0
0801	04/02/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	17.0	-0.10	-0.05	-0.001	-0.10	0.0630	-1.3	-0.2	2.9	3.0
0801	07/17/1996	-0.10	-0.001	-0.01	-0.01	0.01	-0.05	19.5	-0.10	-0.05	-0.001	-0.10	0.0510	-1.9	1.1	-1.0	1.2
0801	10/08/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	17.1	-0.10	-0.05	-0.001	-0.10	0.0460	-1.8	-0.2	-1.0	-1.0
0801	01/28/1997	-0.10	-0.001	-0.01	-0.01	0.02	-0.05	19.4	-0.10	0.06	-0.001	-0.10	0.0280	-2.9	-0.2	6.3	1.2
0801	04/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	20.2	-0.10	-0.05	-0.001	-0.10	0.0400	-1.4	-0.2	-1.0	-1.0
0801	07/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	17.0	-0.10	-0.05	-0.001	-0.10	0.0390	4.5	-0.2	-1.0	-1.0
0801	10/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	21.8	-0.10	-0.05	-0.001	-0.10	0.0390	-2	-0.2	-1.0	-1.0
0801	01/20/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	19.7	-0.10	-0.05	-0.001	-0.10	0.0430	-2.3	-0.2	-1.0	-1.0
0801	04/07/1998	-0.10	-0.001	0.01	-0.005	-0.01	-0.05	16.5	-0.10	0.75	-0.001	-0.10	0.0439	-2.2	-0.2	-1.0	-1.0
0801	07/07/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	20.8	-0.10	-0.05	-0.001	-0.10	0.0411	3.3	-0.2	-1.0	-1.0
0801	10/06/1998	-0.1	-0.001	-0.01	0.005	-0.01	-0.05	17.3	-0.10	-0.05	0.001	-0.1	0.0262	-2.2	-0.2	-1	-1.0
0801	01/12/1999	-0.1	-0.001	-0.01	-0.005	-0.01	-0.05	16.2	-0.10	-0.05	-0.001	-0.1	0.0433	-1.8	-0.2	-1	-1.0
0801	04/13/1999	-0.1	-0.001	-0.01	0.006	-0.01	-0.05	17	-0.10	-0.05	-0.001	-0.1	0.0389	-2.7	-0.2	-1	-1.0
0801	07/20/1999	-0.1	-0.001	-0.01	0.006	0.02	-0.05	12.6	-0.10	-0.05	-0.001	-0.1	0.0405	4.6	-0.2	-1	-1.0

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30	NA	NA	NA
0802	10/17/1989		6.5	6.89	6,744	944	519	374	6.7	2,288	2,371	221	0.22	113	-0.00100	-0.001	-0.005
0802	01/11/1990		6.5	6.98	6,978	849	530	350	5.1	2,547	2,663	229	0.17	124	-0.00100	-0.001	-0.005
0802	04/05/1990		6.5	6.80	6,854	877	570	380	5.2	2,416	2,528	230	0.12	128	-0.00100	-0.001	-0.005
0802	07/09/1990		6.6	7.02	6,937	866	605	378	5.6	2,347	2,625	213	-0.05	133	-0.00100	-0.001	-0.005
0802	10/03/1990		6.6	7.18	6,698	944	586	383	5.6	1,940	2,606	224	-0.05	89.7	-0.00100	-0.001	-0.005
0802	01/03/1991		6.5	7.22	6,727	898	649	397	8.6	2,318	2,691	230	0.08	152	-0.00100	-0.001	-0.005
0802	04/11/1991		6.3	7.65	6,711	893	615	382	6.1	2,171	2,561	240	-0.05	165	-0.00100	-0.001	-0.005
0802	07/11/1991		6.4	7.21	7,065	829	624	335	4.6	1,940	2,857	218	-0.08	127	-0.00100	-0.001	-0.005
0802	10/23/1991		6.4	7.41	6,795	800	543	362	4.6	2,250	2,775	237	0.36	99.0	-0.00100	-0.001	-0.005
0802	01/16/1992		6.3	7.10	6,541	765	657	363	4.4	1,662	2,916	235	0.57	117	-0.00100	-0.001	-0.005
0802	04/13/1992		6.2	6.84	7,383	852	592	393	5.5	2,404	2,730	234	0.09	81.3	-0.00100	-0.001	-0.005
0802	07/08/1992		6.2	7.32	5,929	841	608	445	6.2	1,777	2,615	235	0.16	100	-0.00100	-0.001	-0.005
0802	10/08/1992		6.8	7.21	7,274	809	648	456	8.2	2,245	3,057	228	-0.05	136	-0.00100	-0.001	-0.005
0802	01/07/1993		6.8	7.46	6,306	782	660	397	6.0	2,150	2,960	236	0.14	105	-0.00100	-0.001	-0.005
0802	04/07/1993		6.5	7.15	6,486	732	644	421	4.1	2,223	3,023	237	0.50	93.9	-0.00100	-0.001	-0.005
0802	07/14/1993		6.4	7.00	7,413	861	720	393	4.6	2,208	3,183	241	0.32	78.3	-0.00100	-0.001	-0.005
0802	10/07/1993		6.4	6.98	6,416	659	700	354	4.2	1,972	2,935	218	0.39	110	-0.00100	-0.001	-0.005
0802	01/06/1994		6.4	6.75	6,614	749	641	389	4.0	2,125	3,228	224	1.00	80.3	-0.00100		
0802	04/12/1994		6.3	6.99	7,568	731	706	367	4.7	2,047	3,596	184	1.24	96.2	-0.00100		
0802	07/27/1994		6.4	7.35	7,680	866	715	355	5.3	2,237	3,484	217	1.03	106	-0.00100		
0802	10/05/1994		6.3	7.45	7,578	790	826	389	5.8	2,288	3,277	225	1.47	97.3	-0.00100		
0802	01/04/1995		6.6	7.29	7,845	853	756	376	6.5	2,323	3,436	240	1.66	86.1	-0.00100		
0802	04/06/1995		6.5	6.75	7,761	786	714	380	5.18	2,269	3,551	268	1.82	93.0	-0.00100		
0802	07/06/1995		6.4	7.43	7,216	750	735	375	5.8	2,257	3,310	236	1.83	84.6	-0.00100		
0802	10/04/1995		6.5	7.56	7,003	738	754	369	5.3	2,208	3,301	190	2.23	88.4	-0.00100		
0802	01/03/1996		6.4	7.92	7,477	817	805	361	5.5	2,166	3,530	222	1.84	85.8	-0.00100		
0802	04/02/1996		6.4	7.37	7,595	796	845	380	11.4	2,250	3,560	227	1.88	88.4	-0.00100		
0802	07/17/1996		6.3	6.96	7,488	701	723	366	6.0	2,196	3,164	236	1.60	91.2	-0.00121		
0802	10/08/1996		6.7	7.25	7,600	756	778	357	6.4	2,200	3,291	220	1.70	78.5	-0.00100		
0802	01/28/1997		6.5	7.84	7,350	745	720	301	6.0	2,142	3,215	317	1.23	79.1	-0.00100		
0802	04/08/1997		6.4	7.44	7,270	756	740	336	6.6	2,090	3,190	240	1.53	80.1	-0.00100		
0802	07/08/1997		6.7	7.38	7,430	786	759	335	6.7	2,140	2,930	236	1.37	82.0	-0.00100		
0802	10/08/1997		6.5	7.45	7,330	789	750	336	6.4	2,160	3,050	252	1.38	82.8	-0.00100		
0802	01/20/1998		6.2	7.72	7,320	766	721	356	7.6	2,120	3,350	242	1.49	83.3	-0.00100		
0802	04/07/1998		6.6	7.30	7,310	776	723	340	6.7	2,120	3,010	212	1.20	90.8	-0.00120		
0802	07/07/1998		6.8	7.42	7,350	758	726	348	6.6	2,180	2,900	224	1.26	86.6	-0.00100		
0802	10/06/1998		6.43	7.64	7,340	796	757	361	7.2	2,110	3,230	210	1.13	85.4	-0.00150		
0802	01/12/1999		6.6	7.55	7,190	734	686	298	7.4	2,110	3,260	207	1.28	88.1	-0.00100		
0802	04/13/1999		6.4	7.65	7,320	783	732	323	6.8	2,090	3,080	205	1.23	86.2	-0.00150		
0802	07/20/1999		6.5	7.58	7,350	760	743	370	9.8	2,120	3,180	207	1.18	76.2	-0.00140		

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.02	0.01	0.05	0.05	2.60	1.00	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0802	10/17/1989	-0.10	-0.001	-0.05	-0.01	0.01	-0.05	0.20	-0.01	-0.05	-0.001	-0.10	0.1540	-1.6	-0.2	-1.0	1.5
0802	01/11/1990	-0.10	-0.001	-0.05	-0.01	0.04	-0.05	0.21	-0.10	-0.05	-0.001	-0.10	0.1640	-1.3	1.3	-1.0	1.8
0802	04/05/1990	-0.10	-0.001	-0.05	-0.01	0.02	-0.05	0.21	-0.10	-0.05	-0.001	-0.10	0.1280	-1.7	-0.2	1.2	1.1
0802	07/09/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.23	-0.10	-0.05	0.001	-0.10	0.1230	-1.2	-0.2	-1.0	-1.0
0802	10/03/1990	-0.10	0.001	-0.05	-0.01	0.02	-0.05	0.20	-0.10	-0.05	-0.001	-0.10	0.1812	1.4	-0.2	1.4	-1.0
0802	01/03/1991	-0.10	-0.001	-0.01	0.01	0.01	-0.05	0.23	-0.10	0.05	0.001	-0.10	0.0218	2.0	-0.2	-1.0	-1.0
0802	04/11/1991	-0.10	-0.001	-0.01	0.03	0.01	-0.05	0.18	-0.10	-0.05	-0.001	-0.10	0.1568	-1.2	-0.2	2.1	-1.0
0802	07/11/1991	-0.10	-0.001	-0.01	-0.01	0.01	-0.05	0.24	-0.10	-0.05	0.001	-0.10	0.1983	-1.2	-0.2	2.1	-1.0
0802	10/23/1991	-0.10	-0.001	-0.01	-0.01	0.02	-0.05	0.28	-0.10	-0.05	-0.001	-0.10	0.2200	-2.3	-0.2	-1.0	-1.0
0802	01/16/1992	-0.10	-0.001	-0.01	-0.01	0.02	-0.05	0.35	-0.10	-0.05	-0.001	-0.10	0.1440	-1.5	-0.2	-1.0	-1.0
0802	04/13/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.44	-0.10	-0.05	0.004	-0.10	0.0450	-1.2	-0.2	2.7	-1.0
0802	07/08/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.40	-0.10	-0.05	0.001	-0.10	0.1400	5.6	-0.2	-1.0	1.5
0802	10/08/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.40	-0.10	-0.01	0.002	-0.10	0.1240	-1.8	-0.2	-1.0	-1.0
0802	01/07/1993	-0.10	-0.001	-0.01	-0.01	0.01	-0.05	0.44	-0.10	-0.05	0.006	-0.10	0.1270	-1.2	-0.2	-1.0	-1.0
0802	04/07/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.57	-0.10	-0.05	0.001	-0.10	0.2490	-1.2	-0.2	-1.0	-1.0
0802	07/14/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.53	-0.10	-0.05	0.003	-0.10	0.1540	-1.5	-0.2	-1.0	-1.0
0802	10/07/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.52	-0.10	-0.05	0.004	-0.10	0.1430	4.8	-0.2	1.6	-1.0
0802	01/06/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.55	-0.10	-0.05	-0.001	-0.10	0.1480	2.1	-0.2	-1.0	3.9
0802	04/12/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.72	-0.10	-0.05	0.001	-0.10	0.1760	-1.2	-0.2	-1.0	-1.0
0802	07/27/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.57	-0.10	-0.05	0.003	-0.10	0.1650	-1.8	-0.2	-1.0	-1.0
0802	10/05/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.57	-0.10	-0.05	-0.001	-0.10	0.1530	-1.8	-0.2	-1.0	-1.0
0802	01/04/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.78	-0.10	-0.05	-0.001	-0.10	0.1420	2.6	-0.2	-1.0	3.9
0802	04/06/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.76	-0.10	-0.05	-0.001	-0.10	0.1590	-1.2	-0.2	2.6	-1.0
0802	07/06/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.69	-0.10	-0.05	0.002	-0.10	0.1883	-1.3	-0.2	-1.0	1.5
0802	10/04/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.73	-0.10	-0.05	0.024	-0.10	0.1570	-1.3	-0.2	-1.0	1.4
0802	01/03/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.09	-0.10	-0.05	0.022	-0.10	0.1680	-1.4	-0.2	3.6	-1.0
0802	04/02/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.80	-0.10	-0.05	-0.001	-0.10	0.1670	-1.2	-0.2	-1.0	1.2
0802	07/17/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.81	-0.10	-0.05	-0.001	-0.10	0.0860	-1.2	-0.2	-1.0	-1.0
0802	10/08/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.06	-0.10	-0.05	-0.001	-0.10	0.1710	-1.0	-0.2	-1.0	-1.0
0802	01/28/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.93	-0.10	-0.05	-0.001	-0.10	0.1710	-0.6	-0.2	-1.0	-1.0
0802	04/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.98	-0.10	-0.05	0.021	-0.10	0.1810	-1.9	-0.2	-1.0	1.9
0802	07/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.97	-0.10	-0.05	-0.001	-0.10	0.1800	-1.1	-0.2	-1.0	-1.0
0802	10/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.26	-0.10	-0.05	-0.001	-0.10	0.1760	-1.2	-0.2	-1.0	-1.0
0802	01/20/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	1.25	-0.10	-0.05	-0.001	-0.10	0.1980	-1.2	-0.2	-1.0	-1.0
0802	04/07/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	1.18	-0.10	-0.05	-0.001	-0.10	0.1860	-1.2	-0.2	-1.0	-1.0
0802	07/07/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	1.19	-0.10	-0.05	-0.001	-0.10	0.2080	-1.6	-0.2	-1.0	-1.0
0802	10/06/1998	-0.10	-0.001	-0.01	0.005	-0.01	-0.05	1.2	-0.10	-0.05	0.001	-0.10	0.207	-1.2	-0.2	-1.0	-1.0
0802	01/12/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	1.29	-0.10	-0.05	-0.001	-0.10	0.211	-1.2	-0.2	-1.0	-1.0
0802	04/13/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	1.48	-0.10	-0.05	-0.001	-0.10	0.19	-1.2	-0.2	-1.0	-1.0
0802	07/20/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	1.13	-0.10	-0.05	-0.001	-0.10	0.196	-1.5	-0.2	-1.0	-1.0

TABLE B.1
SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	0.001	0.005
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30	NA	NA	NA
0803	10/17/1989		6.7	6.91	4,852	722	337	208	12.2	1,379	2,258	108	1.75	34.0	-0.00100	-0.001	-0.005
0803	01/11/1990		6.6	7.16	5,212	769	371	241	9.8	1,647	2,387	133	1.29	36.0	-0.00100	-0.001	-0.005
0803	04/05/1990		6.7	7.02	5,394	822	410	245	9.4	1,696	2,321	138	1.35	42.0	-0.00100	-0.001	-0.005
0803	07/09/1990		6.6	7.18	5,416	891	417	233	9.8	1,625	2,382	127	0.92	42.2	-0.00100	-0.001	-0.005
0803	10/03/1990		6.5	7.29	5,618	861	336	245	12.0	1,659	2,299	151	0.36	40.0	-0.00100	-0.001	-0.005
0803	01/03/1991		6.6	7.25	5,305	779	384	256	31.8	1,598	2,439	144	1.41	57.5	-0.00100	-0.001	-0.005
0803	04/11/1991		6.5	7.65	5,244	820	416	263	11.3	1,702	2,376	158	0.85	63.0	-0.00100	-0.001	-0.005
0803	07/11/1991		6.5	7.27	5,616	745	349	219	9.1	1,690	2,547	195	0.89	71.3	-0.00100	-0.001	-0.005
0803	10/23/1991		6.6	7.39	5,402	786	448	263	9.5	1,273	2,446	174	1.25	55.3	-0.00100	-0.001	-0.005
0803	01/16/1992		6.5	7.19	5,155	706	398	255	9.8	1,375	2,451	160	1.66	51.8	-0.00100	-0.001	-0.005
0803	04/13/1992		6.3	7.01	5,265	685	360	242	10.3	1,571	2,346	180	1.87	19.1	-0.00100	-0.001	-0.005
0803	07/08/1992		6.2	7.46	4,617	804	384	272	11.5	1,611	2,192	137	1.90	25.4	-0.00100	-0.001	-0.005
0803	10/08/1992		6.5	7.79	5,982	827	464	347	14.0	1,952	2,661	185	0.75	15.7	-0.00100	-0.001	-0.005
0803	01/07/1993		6.3	7.32	5,851	851	430	305	12.1	1,879	2,522	185	1.08	38.8	-0.00100	-0.001	-0.005
0803	04/07/1993		6.4	7.14	5,631	773	481	324	8.7	1,806	2,666	176	0.90	45.3	-0.00100	-0.001	-0.005
0803	07/14/1993		6.6	7.24	6,726	895	452	303	9.8	1,878	2,833	178	1.09	21.7	-0.00100	-0.001	-0.005
0803	10/07/1993		6.5	7.20	5,445	821	451	262	10.2	2,000	2,482	174	1.12	33.4	-0.00100	-0.001	-0.005
0803	01/06/1994		6.7	7.12	5,648	776	460	307	9.2	1,656	2,754	170	0.92	31.6	-0.00100		
0803	04/12/1994		6.5	7.10	6,510	770	519	292	9.9	1,743	3,205	175	1.03	28.0	-0.00100		
0803	07/27/1994		6.5	7.41	6,003	909	456	303	11.3	1,890	2,956	172	0.74	24.0	-0.00100		
0803	10/05/1994		6.3	7.49	5,943	846	503	302	10.6	1,845	2,713	163	1.28	31.3	-0.00100		
0803	01/04/1995		6.4	7.16	6,350	928	539	300	12.1	1,948	2,865	184	1.12	34.3	-0.00100		
0803	04/06/1995		6.4	6.73	6,220	810	498	281	10.1	1,935	3,018	196	1.03	22.7	-0.00100		
0803	07/06/1995		6.5	7.41	6,150	840	535	305	11.2	1,848	2,870	198	0.88	30.7	-0.00100		
0803	10/04/1995		6.8	7.36	6,000	786	556	284	9.9	2,017	2,840	180	1.09	33.6	-0.00100		
0803	01/03/1996		6.5	7.16	6,427	893	609	307	10.3	1,929	3,160	174	0.62	30.6	-0.00100		
0803	04/02/1996		6.6	7.43	6,557	831	639	310	10.8	2,014	3,160	198	0.66	32.5	-0.00100		
0803	07/17/1996		6.3	6.70	6,277	735	490	287	11.2	1,967	2,869	184	0.98	29.0	-0.00100		
0803	10/08/1996		6.4	7.03	6,930	809	675	310	11.5	2,022	3,202	173	0.52	33.2	-0.00100		
0803	01/28/1997		6.5	7.87	6,250	795	550	251	10.9	1,847	3,176	229	0.99	25.6	-0.00100		
0803	04/08/1997		6.4	7.52	6,130	804	559	258	11.2	1,800	2,914	181	1.21	25.4	-0.00100		
0803	07/08/1997		6.6	7.39	6,240	830	575	335	6.7	1,790	2,930	236	1.15	24.9	-0.00100		
0803	10/08/1997		6.3	7.60	6,760	821	649	298	11.7	1,990	2,870	168	0.58	33.9	-0.00100		
0803	01/20/1998		6.3	7.75	6,840	798	648	309	13	2,000	3,400	218	0.76	38.7	-0.00100		
0803	04/07/1998		6.5	7.40	6,870	802	657	296	11.5	1,990	3,010	181	0.56	35.8	-0.00100		
0803	07/07/1998		6.4	7.40	6,940	785	667	310	11.9	2,020	3,000	198	0.64	51.8	-0.00100		
0803	10/06/1998		6.44	7.56	6,880	818	695	302	12.5	19810	3,200	193	0.6	39.4	-0.00100		
0803	01/12/1999		6.6	7.63	6,980	745	642	272	11.9	1990	3,300	184	0.71	39.1	-0.00100		
0803	04/13/1999		6.5	7.65	6,910	801	692	280	11.5	1960	3,100	178	0.77	40.9	-0.00100		

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.02	0.01	0.05	0.05	2.60	1.00	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0803	10/17/1989	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	1.80	-0.01	-0.05	-0.001	-0.10	0.2060	-1.2	-0.2	-1.0	1.0
0803	01/11/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	1.50	-0.10	-0.05	-0.001	-0.10	0.1160	-2.1	1.3	-1.0	1.6
0803	04/05/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	1.00	-0.10	-0.05	-0.001	-0.10	0.0900	-1.5	-0.2	-1.0	0.9
0803	07/09/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.98	-0.10	-0.05	-0.001	-0.10	0.1350	-1.2	-0.2	-1.0	-1.0
0803	10/03/1990	-0.10	-0.001	-0.05	-0.01	0.01	-0.05	0.90	-0.10	-0.05	-0.001	-0.10	0.1711	-1.2	-0.2	-1.0	-1.0
0803	01/03/1991	-0.10	-0.001	-0.01	0.01	0.01	-0.05	1.00	-0.10	-0.05	-0.001	-0.10	0.1292	-1.9	-0.2	-1.0	-1.0
0803	04/11/1991	-0.10	-0.001	-0.01	-0.01	0.02	-0.05	0.82	-0.10	-0.05	-0.001	-0.10	0.0853	-1.6	-0.2	-1.0	-1.0
0803	07/11/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.58	-0.10	-0.05	0.007	-0.10	0.1322	-1.3	-0.2	-1.0	-1.0
0803	10/23/1991	-0.10	-0.001	-0.01	-0.01	0.02		0.57	-0.10	-0.05	-0.001	-0.10	0.1350	-2.6	-0.2	-1.0	-1.0
0803	01/16/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.47	-0.10	-0.05	0.003	-0.10	0.0560	-1.3	-0.2	-1.0	-1.0
0803	04/13/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.43	-0.10	-0.05	0.002	-0.10	0.1380	-1.2	-0.2	-1.0	-1.0
0803	07/08/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.30	-0.10	-0.05	-0.001	-0.10	0.0400	-1.3	-0.2	-1.0	-1.0
0803	10/08/1992	-0.10	-0.001	-0.01	-0.01	0.01	-0.05	0.61	-0.10	-0.05	-0.001	-0.10	0.0680	-1.8	-0.2	-1.0	-1.0
0803	01/07/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.64	-0.10	-0.05	0.003	-0.10	0.0850	-1.2	-0.2	-1.0	-1.0
0803	04/07/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.98	-0.10	-0.05	-0.001	-0.10	0.1700	-1.3	-0.2	-1.0	-1.0
0803	07/14/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.03	-0.10	-0.05	-0.001	-0.10	0.0620	-1.6	-0.2	-1.0	-1.0
0803	10/07/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.12	-0.10	-0.05	-0.001	-0.10	0.0690	-1.2	-0.2	-1.0	-1.0
0803	01/06/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.92	-0.10	-0.05	-0.001	-0.10	0.0700	-1.5	-0.2	-1.0	-1.0
0803	04/12/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.72	-0.10	-0.05	-0.001	-0.10	0.1000	-1.6	-0.2	-1.0	-1.0
0803	07/27/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.17	-0.10	-0.05	0.004	-0.10	0.1080	-1.3	-0.2	-1.0	1.4
0803	10/05/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.34	-0.10	-0.05	-0.001	-0.10	0.0680	-1.2	-0.2	-1.0	-1.0
0803	01/04/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.08	-0.10	-0.05	-0.001	-0.10	0.0710	-1.8	-0.2	-1.0	-1.0
0803	04/06/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.10	-0.10	-0.05	-0.001	-0.10	0.0740	-1.2	-0.2	1.1	-1.0
0803	07/06/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.16	-0.10	-0.05	0.001	-0.10	0.0860	-1.2	-0.2	-1.0	1.3
0803	10/04/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.07	-0.10	-0.05	0.002	-0.10	0.0790	-1.2	-0.2	-1.0	-1.0
0803	01/03/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.17	-0.10	-0.05	0.002	-0.10	0.0830	1.2	0.3	1.5	1.0
0803	04/02/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.14	-0.10	-0.05	-0.001	-0.10	0.0820	-1.2	-0.2	-1.0	-1.0
0803	07/17/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.52	-0.10	-0.05	-0.001	-0.10	0.0680	-1.4	-0.2	-1.0	-1.0
0803	10/08/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.14	-0.10	-0.05	-0.001	-0.10	0.0790	-0.6	-0.2	-1.0	-1.0
0803	01/28/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.53	-0.10	-0.05	-0.001	-0.10	0.0560	-0.6	-0.2	-1.0	-1.0
0803	04/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.70	-0.10	-0.05	0.002	-0.10	0.0690	-0.6	-0.2	-1.0	-1.0
0803	07/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.97	-0.10	-0.05	-0.001	-0.10	0.0670	-1.4	-0.2	-1.0	-1.0
0803	10/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.38	-0.10	-0.05	-0.001	-0.10	0.0810	-1.2	-0.2	-1.0	-1.0
0803	01/20/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	1.59	-0.10	-0.05	-0.001	-0.10	0.0940	-1.2	-0.2	-1.0	-1.0
0803	04/07/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	1.43	-0.10	-0.05	0.001	-0.10	0.0901	-1.2	-0.2	-1.0	-1.0
0803	07/07/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	1.52	-0.10	-0.05	-0.001	-0.10	0.0974	-1.2	-0.2	-1.0	-1.0
0803	10/06/1998	-0.10	-0.001	-0.01	0.005	-0.01	-0.05	1.42	-0.10	-0.05	0.001	-0.10	0.0976	-1.2	-0.2	-1.0	-1.0
0803	01/12/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	1.47	-0.10	-0.05	-0.001	-0.10	0.0984	-1.2	-0.2	-1.0	-1.0
0803	04/13/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	1.55	-0.10	-0.05	-0.001	-0.10	0.0889	-1.2	-0.2	-1.0	-1.0

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30	NA	NA	NA
EPA 22A*	10/08/1989	6913.70	6.9	7.56	1,310	269	55	88.2	4.3	521	605	11.4	0.06	0.26	-0.00100	-0.001	-0.005
EPA 22A*	01/17/1990	6912.90	6.8	6.96	1,478	311	57	86.7	3.4	556	677	11.7	0.07	0.25	-0.00100	-0.001	-0.005
EPA 22A*	04/19/1990	6911.90	6.9	7.31	1,448	310	63	82.9	3.2	576	845	11.5	0.06	0.21	-0.00100	-0.001	-0.005
EPA 22A*	07/17/1990	6910.80	6.9	7.28	1,505	317	60	80.4	3.6	583	681	11.6	-0.05	0.12	-0.00100	-0.001	-0.005
EPA 22A*	10/16/1990	6910.00	6.8	7.79	1,536	301	60	81.2	3.4	547	704	10.9	-0.05	0.20	-0.00100	-0.001	-0.005
EPA 22A*	01/10/1991	6909.50	6.9	7.98	1,551	324	69	84.7	7.1	533	754	16.7	-0.05	0.21	-0.00100	-0.001	-0.005
EPA 22A*	04/16/1991	6908.80	6.8	7.66	1,494	299	61	80.0	3.7	521	720	10.2	-0.05	0.21	-0.00100	-0.001	-0.005
EPA 22A*	07/09/1991	6908.30	6.8	7.42	1,532	291	54	75.0	3.1	540	663	11.5	0.17	0.09	-0.00100	-0.001	-0.005
EPA 22A*	10/22/1991	6907.70	6.8	7.24	1,430	282	55	84.1	3.0	549	685	16.2	0.16	-0.01	-0.00100	-0.001	-0.005
EPA 22A*	01/23/1992	6906.90	6.8	7.76	1,416	308	52	82.2	3.3	540	676	11.4	-0.05	-0.01	-0.00100	-0.001	-0.005
EPA 22A*	04/02/1992	6906.30	6.8	7.70	1,453	294	61	95.8	3.4	556	727	11.0	-0.05	-0.10	-0.00100	-0.001	-0.005
EPA 22A*	07/16/1992	6905.20	6.9	7.43	1,456	268	59	74.3	3.6	538	714	12.2	-0.05	0.70	-0.00100	-0.001	-0.005
EPA 22A*	10/15/1992	6904.50	6.9	7.51	1,603	306	60	83.9	2.9	548	744	11.4	-0.05	-0.10	-0.00100	-0.001	-0.005
EPA 22A*	01/13/1993	6903.90	7.0	7.47	1,497	314	60	81.0	3.3	545	746	15.9	-0.05	-0.10	-0.00100	-0.001	-0.005
EPA 22A*	04/15/1993	6903.20	7.0	7.52	1,631	341	54	88.4	1.9	548	777	12.5	-0.05	0.60	-0.00100	-0.001	-0.005
EPA 22A*	07/21/1993	6902.30	7.0	7.83	1,635	333	62	98.0	4.3	558	859	11.8	-0.05	0.33	-0.00100	-0.001	-0.005
EPA 22A*	10/12/1993	6899.70	7.0	7.40	1,699	352	63	92.5	2.1	551	847	11.2	-0.05	0.33	-0.00100	-0.001	-0.005
EPA 22A*	01/11/1994	6900.90	7.0	7.92	1,748	343	69	72.9	1.7	492	938	11.4	0.12	0.91	-0.00100		
EPA 22A*	04/19/1994	6900.40	6.7	7.77	1,595	315	62	82.8	2.8	483	815	11.8	-0.05	0.68	-0.00100		
EPA 22A*	07/27/1994	6899.80	6.8	7.68	1,548	392	59	85.1	2.0	510	877	9.8	-0.05	0.46	-0.00100		
EPA 22A*	10/11/1994	6899.10	6.9	7.71	1,611	341	59	95.3	2.5	538	829	11.0	-0.05	0.99	-0.00100		
EPA 22A*	01/11/1995	6898.50	6.9	8.00	1,726	352	63	87.0	3.0	534	828	12.3	0.12	0.92	-0.00100		
EPA 22A*	04/11/1995	6898.10	6.9	7.62	1,585	325	66	88.0	2.5	547	751	10.5	0.06	1.09	-0.00100		
EPA 22A*	07/11/1995	6897.50	7.0	7.84	1,820	394	85	87.0	2.6	503	974	14.3	1.97	1.92	-0.00100		
EPA 22A*	10/10/1995	6896.90	7.2	8.22	1,553	313	63	95.0	2.6	549	724	12.0	-0.05	1.12	-0.00100		
EPA 22A*	01/09/1996	6896.30	7.3	7.49	1,724	329	68	94.0	2.7	549	824	11.5	-0.05	1.73	-0.00100		
EPA 22A*	04/10/1996	6895.70	7.2	7.93	1,782	350	74.5	83.5	2.5	550	881	12.4	0.06	1.85	-0.00100		
EPA 22A*	07/17/1996	6895.30	7.0	7.52	1,815	326	72.4	93.6	2.7	548	816	12.1	0.05	1.29	-0.00100		
EPA 22A*	10/08/1996	6894.50	6.9	7.48	2,040	401	92.0	93.0	3.0	543	1,041	16.7	0.07	1.44	0.00100		
EPA 22A*	01/28/1997	6893.70	7.0	7.97	2,070	488	104.0	83.0	2.83	538	1,178	20.4	0.06	4.07	-0.00100		
EPA 22A*	04/15/1997	6893.10	6.8	7.95	2,050	409	94.0	91.6	2.9	537	1,074	16.2	0.06	4.27	-0.00100		
EPA 22A*	07/15/1997	6892.60	6.9	8.15	1,940	351	80.8	91.1	2.7	521	955	17.2	0.05	3.79	-0.00100		

TABLE B.1

**SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999**

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	0.05	0.01	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.02	0.01	0.05	0.05	2.60	1.00	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
EPA 22A*	10/08/1989	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.08	-0.10	-0.05	-0.001	-0.10	0.0290	-1.9	5.9	4.1	7.8
EPA 22A*	01/17/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.09	-0.10	-0.05	0.001	-0.10	0.0280	2.1	3.1	-1.0	3.5
EPA 22A*	04/19/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.09	-0.10	-0.05	0.001	-0.10	0.0270	-1.5	-0.2	-1.0	-1.0
EPA 22A*	07/17/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	-0.001	-0.10	0.0359	-1.2	-0.2	-1.0	-1.0
EPA 22A*	10/16/1990	-0.10	-0.001	-0.05	-0.01	0.03	-0.05	0.11	-0.10	-0.05	-0.001	-0.10	0.0254	-1.2	-0.2	-1.0	-1.0
EPA 22A*	01/10/1991	-0.10	-0.001	-0.01	-0.01	0.01	-0.05	0.10	-0.10	-0.05	-0.001	-0.10	0.0241	-1.7	-0.2	-1.7	1.1
EPA 22A*	04/16/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.12	-0.10	-0.05	-0.001	-0.10	0.0210	-1.9	-0.2	-1.0	-1.0
EPA 22A*	07/09/1991	-0.10	-0.001	-0.01	-0.01	0.01	-0.05	0.10	-0.10	-0.05	-0.001	-0.10	0.0338	-1.6	-0.2	-1.0	-1.0
EPA 22A*	10/22/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.10	-0.10	-0.05	-0.001	-0.10	0.0130	-1.3	-0.2	-1.0	-1.0
EPA 22A*	01/23/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.11	-0.10	-0.05	0.001	-0.10	0.0360	4.3	-0.2	-1.0	2.0
EPA 22A*	04/02/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.11	-0.10	-0.05	-0.001	-0.10	0.0100	1.8	-0.2	-1.0	-1.0
EPA 22A*	07/16/1992	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.11	-0.10	-0.05	0.001	-0.10	0.0280	1.9	-0.2	-1.0	-1.0
EPA 22A*	10/15/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.11	-0.10	-0.05	-0.001	-0.10	0.0090	3.7	-0.2	-2.2	-1.0
EPA 22A*	01/13/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.11	-0.10	-0.05	-0.001	-0.10	0.0410	-2.8	-0.2	-1.0	-1.0
EPA 22A*	04/15/1993	-0.10	-0.001	-0.01	-0.01	0.02	-0.05	0.12	-0.10	-0.05	-0.001	-0.10	0.0390	-2.0	-0.2	-1.0	1.5
EPA 22A*	07/21/1993	-0.10	-0.001	-0.01	-0.01	0.01	-0.05	0.11	-0.10	-0.05	-0.001	-0.10	0.0390	-1.6	-0.2	-1.8	-1.0
EPA 22A*	10/12/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.12	-0.10	-0.05	-0.001	-0.10	0.0450	-1.6	-0.2	-2.0	-1.0
EPA 22A*	01/11/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.13	-0.10	-0.05	-0.001	-0.10	0.0450	-1.2	-0.2	-1.0	-1.0
EPA 22A*	04/19/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.12	-0.10	-0.05	-0.001	-0.10	0.0340	1.9	-0.2	-1.1	2.8
EPA 22A*	07/27/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.10	-0.10	-0.05	-0.001	-0.10	0.0350	10.5	-0.2	-1.0	13.7
EPA 22A*	10/11/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.11	-0.10	-0.05	-0.001	-0.10	0.0360	-1.8	-0.2	-5.4	-1.0
EPA 22A*	01/11/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.13	-0.10	-0.05	-0.001	-0.10	0.0510	3.1	-0.2	-1.0	4.4
EPA 22A*	04/11/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.10	-0.10	-0.05	-0.001	-0.10	0.0310	1.9	-0.2	-1.0	2.7
EPA 22A*	07/11/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.15	-0.10	-0.05	-0.001	-0.10	0.0420	-1.4	-0.2	-1.0	1.5
EPA 22A*	10/10/1995	-0.10	0.003	-0.01	-0.01	-0.01	-0.05	0.11	-0.10	-0.05	-0.001	-0.10	0.0360	5.1	-0.2	-1.0	2.3
EPA 22A*	01/09/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.10	-0.10	-0.05	-0.001	-0.10	0.0380	-1.4	0.8	-1.0	-1.0
EPA 22A*	04/10/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.09	-0.10	-0.05	-0.001	-0.10	0.0480	2.5	-0.2	-1.0	1.4
EPA 22A*	07/17/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.15	-0.10	-0.05	-0.001	-0.10	0.0480	-1.7	-0.2	-1.0	-1.0
EPA 22A*	10/08/1996	-0.01	0.002	-0.01	-0.01	-0.01	-0.05	0.17	-0.10	-0.05	-0.001	-0.10	0.0510	-2.6	-0.2	-1.0	2.2
EPA 22A*	01/28/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.15	-0.10	-0.05	-0.001	-0.10	0.0320	-1.6	-0.2	-1.0	1.2
EPA 22A*	04/15/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.18	-0.10	-0.05	-0.001	-0.10	0.0430	-2.0	-0.2	-1.0	3.7
EPA 22A*	07/15/1997	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.27	-0.10	-0.05	0.003	-0.10	0.0320	-1.3	-0.2	-1.0	-1.0

TABLE B.1
SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard EPA Standard	NA NA	NA NA	NA NA	NA 3,170	NA NA	NA NA	NA NA	NA NA	NA NA	NA 2,160	NA 250	NA NA	NA 30	NA NA	NA NA	NA NA
EPA 23*	10/08/1989	6896.70	6.3	7.10	4,930	682	397	173	14.1	1,086	2,339	91.0	0.53	91.0	-0.00100	-0.001	-0.005
EPA 23*	01/17/1990	6896.30	6.4	6.66	4,882	669	391	174	10.9	1,074	2,278	90.9	0.53	89.0	-0.00100	-0.001	-0.005
EPA 23*	04/18/1990	6895.60	6.5	6.88	4,988	610	363	165	9.9	1,104	2,241	89.9	0.64	80.0	-0.00100	-0.001	-0.005
EPA 23*	07/13/1990	6894.70	6.6	6.86	4,780	678	413	173	11.2	1,106	2,243	89.7	0.31	82.9	-0.00100	-0.001	-0.005
EPA 23*	10/11/1990	6894.50	6.5	7.03	4,580	657	403	173	10.8	1,076	2,374	99.0	0.50	80.1	-0.00100	-0.001	-0.005
EPA 23*	01/09/1991	6893.90	6.5	7.10	4,876	688	418	177	27.0	1,070	2,406	97.5	0.51	95.0	-0.00100	-0.001	-0.005
EPA 23*	04/16/1991	6893.60	6.4	7.90	4,876	604	387	165	11.1	1,059	2,408	90.0	0.43	115	-0.00100	-0.001	-0.005
EPA 23*	07/09/1991	6892.90	6.3	6.81	5,029	616	393	163	9.0	1,122	2,347	93.7	0.56	81.8	-0.00100	-0.001	-0.005
EPA 23*	10/23/1991	6892.40	6.3	7.17	4,870	626	393	173	10.2	1,059	2,257	101	0.80	67.5	-0.00100	-0.001	-0.005
EPA 23*	01/16/1992	6891.70	6.4	7.42	4,916	619	382	168	9.8	979	2,376	100	1.00	94.3	-0.00100	-0.001	-0.005
EPA 23*	04/02/1992	6891.50	6.3	7.27	4,901	669	360	211	12.0	1,096	2,408	89.3	0.73	94.3	-0.00100	-0.001	-0.005
EPA 23*	07/16/1992	6890.20	6.5	7.08	5,173	682	349	201	11.4	1,093	2,390	93.4	0.40	74.4	-0.00100	-0.001	-0.005
EPA 23*	10/15/1992	6889.30	6.6	7.11	4,866	655	339	170	11.5	1,091	2,373	88.2	0.70	48.4	-0.00100	-0.001	-0.005
EPA 23*	01/14/1993	6889.20	6.6	7.30	4,647	622	358	155	11.1	1,054	2,404	78.6	1.20	39.5	-0.00100	-0.001	-0.005
EPA 23*	04/15/1993	6888.90	6.7	7.08	4,777	669	349	176	8.8	1,094	2,361	93.1	0.75	56.6	-0.00100	-0.001	-0.005
EPA 23*	07/21/1993	6887.50	6.7	7.48	4,450	671	347	180	11.0	1,137	2,207	87.8	0.93	53.0	-0.00100	-0.001	-0.005
EPA 23*	10/11/1993	6885.70	6.7	7.06	4,749	753	372	155	9.0	1,059	2,225	79.6	0.91	52.4	-0.00100	-0.001	-0.005
EPA 23*	01/10/1994	6886.70	6.6	7.42	4,712	681	346	179	8.4	1,007	2,547	85.2	0.90	41.5	-0.00100		
EPA 23*	04/19/1994	6886.60	6.4	7.63	4,823	632	342	160	10.1	997	2,460	84.9	1.07	49.5	-0.00100		
EPA 23*	07/27/1994	6886.00	6.5	7.40	4,720	748	344	144	9.7	1,061	2,369	88.4	0.80	52.1	-0.00100		
EPA 23*	10/10/1994	6885.40	6.7	7.45	4,891	701	404	174	10.0	1,175	2,599	92.2	1.20	54.4	-0.00100		
EPA 23*	01/11/1995	6885.30	6.6	7.21	4,852	690	352	156	10.4	1,142	2,333	96.7	1.41	56.3	-0.00100		
EPA 23*	04/11/1995	6885.00	6.5	7.21	4,914	710	388	162	9.7	1,152	2,414	108	1.64	53.4	-0.00100		
EPA 23*	07/10/1995	6884.10	6.6	7.50	4,865	695	401	176	10.3	1,227	2,303	113	2.28	61.4	-0.00100		
EPA 23*	10/09/1995	6883.80	6.5	7.66	4,379	675	380	155	9.4	1,122	2,194	83.3	1.31	32.7	-0.00100		
EPA 23*	01/08/1996	6883.30	6.4	7.35	4,421	690	390	162	10.1	1,114	2,267	86.0	1.39	42.5	-0.00100		
EPA 23*	04/09/1996	6883.10	6.7	7.67	4,880	725	411	150	9.7	1,172	2,440	95.3	1.51	45.0	-0.00100		
EPA 23*	07/17/1996	6882.50	6.5	7.07	4,518	620	350	135	10.0	1,048	2,368	68.0	1.09	8.94	-0.00100		
EPA 23*	10/08/1996	6882.30	6.5	7.18	4,670	658	378	150	10.1	1,094	2,269	81.1	1.04	25.8	-0.00100		
EPA 23*	01/27/1997	6881.80	6.6	7.83	4,720	650	370	152	10.3	1,138	2,403	99.0	1.19	32.9	-0.00100		
EPA 23*	04/04/1997	6883.20	6.5	7.71	4,980	733	431	164	10.4	1,210	2,351	116.0	1.88	34.5	-0.00100		
EPA 23*	07/14/1997	6881.10	6.5	7.56	4,810	699	400	145	10.0	1,130	2,190	99.0	1.39	33.4	-0.00100		
EPA 23*	10/14/1997	6880.40	6.5	7.71	4,840	728	427	175	10.4	1,180	2,450	113.0	1.7	40	-0.00100		
EPA 23*	01/19/1998	6881.10	6.6	7.64	4,490	647	369	134	10.5	1,050	2,730	71.4	1.41	1.93	-0.00100		
EPA 23*	04/13/1998	6880.40	6.7	7.37	4,840	711	416	167	10.7	1,180	2,250	90.8	2.05	49.3	-0.00100		
EPA 23*	07/13/1998	6880.10	6.7	7.73	5,060	710	424	170	10.7	1,190	2,200	98.9	2.32	46	-0.00100		
EPA 23*	10/06/1998	6880.40	6.63	7.95	4,620	668	390	151	10.5	1,110	2,300	78.2	3.05	59.2	-0.00100		
EPA 23*	01/12/1999	6880.10	6.7	7.72	4,740	653	374	142	9.7	1,180	2,100	95.6	2.45	61.6	-0.00100		
EPA 23*	04/13/1999	6880.00	6.6	7.68	4,670	684	375	145	9.6	1,140	2,290	92.2	2.09	29.2	-0.00100		
EPA 23*	07/20/1999	6879.91	6.7	7.67	4,640	690	402	134	12	1,120	2,300	86	2.65	56.5	-0.00100		

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.02	0.01	0.05	0.05	2.60	1.00	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
EPA 23*	10/08/1989	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	1.90	-0.10	-0.05	0.001	-0.10	0.0400	-1.2	9.8	-1.0	10.2
EPA 23*	01/17/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	1.90	-0.10	-0.05	-0.001	-0.10	0.0350	2.2	1.3	1.5	1.5
EPA 23*	04/18/1990	-0.10	0.002	-0.05	-0.01	-0.01	-0.05	1.60	-0.10	-0.05	-0.016	-0.10	0.0310	-1.4	-0.2	-1.0	-1.0
EPA 23*	07/13/1990	-0.10	-0.001	-0.05	-0.01	0.01	-0.05	2.11	-0.10	-0.05	-0.001	-0.10	0.0388	-1.2	-0.2	-1.0	-1.0
EPA 23*	10/11/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	2.07	-0.10	-0.05	-0.001	-0.10	0.0378	-1.9	-0.2	-1.0	-1.0
EPA 23*	01/09/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	2.01	-0.10	-0.05	0.001	-0.10	0.0491	-1.2	-0.2	-1.0	-1.0
EPA 23*	04/16/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	2.08	-0.10	-0.05	-0.001	-0.10	0.0230	-1.2	-0.2	-1.0	-1.0
EPA 23*	07/09/1991	0.17	-0.001	-0.01	-0.01	-0.01	-0.05	1.95	-0.10	-0.05	-0.001	-0.10	0.0436	-1.4	-0.2	-1.0	-1.0
EPA 23*	10/23/1991	0.14	-0.001	-0.01	-0.01	-0.01		2.18	-0.10	-0.05	-0.001	-0.10	0.0510	-1.2	-0.2	-1.0	-1.0
EPA 23*	01/16/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	2.28	-0.10	-0.05	-0.001	-0.10	0.0320	-1.3	-0.2	-1.0	-1.0
EPA 23*	04/02/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	2.27	-0.10	-0.05	0.013	-0.10	0.0310	-3.8	-0.2	-1.0	-1.0
EPA 23*	07/16/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	2.23	-0.10	-0.05	0.001	-0.10	0.0320	4.3	-0.2	-1.0	1.3
EPA 23*	10/15/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	2.69	-0.10	-0.05	-0.001	-0.10	0.0380	3.0	-0.2	1.1	1.8
EPA 23*	01/14/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	2.68	-0.10	-0.05	-0.001	-0.10	0.0350	-2.0	-0.2	-1.0	-1.0
EPA 23*	04/15/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	2.61	-0.10	-0.05	-0.001	-0.10	0.0280	-1.3	-0.2	-1.0	-1.0
EPA 23*	07/21/1993	-0.10	-0.001	-0.01	0.02	0.02	-0.05	2.89	-0.10	-0.05	-0.001	-0.10	0.0360	-1.2	-0.2	-1.0	-1.0
EPA 23*	10/11/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	2.74	-0.10	-0.05	0.001	-0.10	0.0280	-1.6	-0.2	-1.0	-1.0
EPA 23*	01/10/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	2.95	-0.10	-0.05	-0.001	-0.10	0.0350	-3.9	-0.2	-1.0	6.7
EPA 23*	04/19/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	2.63	-0.10	-0.05	-0.001	-0.10	0.0390	-1.2	-0.2	-1.0	-1.0
EPA 23*	07/27/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	2.75	-0.10	-0.05	0.001	-0.10	0.0320	4.0	-0.2	-1.0	5.4
EPA 23*	10/10/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	2.82	-0.10	-0.05	-0.001	-0.10	0.0360	-0.7	-0.2	1.9	-1.0
EPA 23*	01/11/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	2.75	-0.10	-0.05	-0.001	-0.10	0.0460	3.1	-0.2	1.9	4.5
EPA 23*	04/11/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	3.00	-0.10	-0.05	-0.001	-0.10	0.0340	-1.2	-0.2	-1.0	-1.0
EPA 23*	07/10/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	3.03	-0.10	-0.05	0.002	-0.10	0.0380	-1.3	-0.2	-1.0	3.3
EPA 23*	10/09/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	3.52	-0.10	-0.05	0.004	-0.10	0.0330	3.6	-0.2	-1.0	-1.0
EPA 23*	01/08/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	3.40	-0.10	-0.05	0.003	-0.10	0.0370	-1.2	-0.2	1.9	-1.0
EPA 23*	04/09/1996	-0.10	0.002	-0.01	-0.01	-0.01	-0.05	3.29	-0.10	-0.05	-0.001	-0.10	0.0400	-1.2	-0.2	-1.0	-1.0
EPA 23*	07/17/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	4.20	-0.10	-0.05	-0.001	-0.10	0.0250	-1.2	-0.2	-1.0	-1.0
EPA 23*	10/08/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	3.65	-0.10	-0.05	-0.001	-0.10	0.0310	-0.8	-0.2	-1.0	-1.0
EPA 23*	01/27/1997	-0.10	0.003	-0.01	-0.01	-0.01	-0.05	3.41	-0.10	-0.05	0.005	-0.10	0.0260	-0.6	-0.2	-1.0	-1.0
EPA 23*	04/04/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	3.39	-0.10	-0.05	0.005	-0.10	0.0350	-0.6	-0.2	-1.0	-1.0
EPA 23*	07/14/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	3.45	-0.10	-0.05	0.001	-0.10	0.0330	-1.0	-0.2	-1.0	-1.0
EPA 23*	10/14/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	3.69	-0.10	-0.05	0.003	-0.10	0.0390	-1.2	-0.2	-1.0	-1.0
EPA 23*	01/19/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	4.83	-0.10	-0.05	-0.001	-0.10	0.0240	-1.8	-0.2	-1.0	-1.0
EPA 23*	04/13/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	3.53	-0.10	-0.05	-0.001	-0.10	0.0405	-1.2	-0.2	-1.0	-1.0
EPA 23*	07/13/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	3.69	-0.10	-0.05	-0.001	-0.10	0.0448	-1.2	-0.2	-1.0	-1.0
EPA 23*	10/06/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	2.83	-0.10	-0.05	-0.001	-0.10	0.0288	-1.2	-0.2	-1.0	-1.0
EPA 23*	01/12/1999	-0.10	-0.001	-0.01	0.005	-0.01	-0.05	2.75	-0.10	-0.05	-0.001	-0.10	0.0443	-1.2	-0.2	-1.0	-1.0
EPA 23*	04/13/1999	-0.10	-0.001	-0.01	0.005	-0.01	-0.05	2.96	-0.10	-0.05	-0.001	-0.10	0.0313	-1.2	-0.2	-1.0	-1.0
EPA 23*	07/20/1999	-0.10	-0.001	-0.01	0.005	-0.01	-0.05	2.33	-0.10	-0.05	-0.001	-0.10	0.0286	-1.2	-0.2	-1.0	-1.0

TABLE B.1
SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
		NRC Standard EPA Standard	NA NA	NA NA	NA 3,170	NA NA	NA NA	NA NA	NA NA	NA NA	NA 2,160	NA 250	NA NA	NA 30	0.001 NA	0.001 NA	0.005 NA
EPA 25	10/08/1989	6861.10	6.7	7.54	3,200	650	150	107	10.0	619	1,745	31.7	0.05	36.0	-0.00100	-0.001	-0.005
EPA 25	01/17/1990	6861.50	6.6	6.70	3,252	625	147	106	7.8	615	1,656	31.7	0.05	30.0	-0.00100	-0.001	-0.005
EPA 25	04/18/1990	6861.20	6.7	6.88	3,299	640	148	103	7.3	647	1,619	34.1	0.05	35.0	-0.00100	-0.001	-0.005
EPA 25	07/13/1990	6860.60	6.7	7.18	3,343	642	164	101	8.6	677	1,628	34.1	-0.05	34.4	-0.00100	-0.001	-0.005
EPA 25	10/10/1990	6860.70	6.8	7.32	3,422	711	155	105	8.1	653	1,724	38.0	-0.05	35.9	-0.00100	-0.001	-0.005
EPA 25	01/09/1991	6861.00	6.8	7.20	3,248	655	152	111	12.0	667	1,624	39.4	-0.05	43.5	-0.00100	-0.001	-0.005
EPA 25	04/16/1991	6860.80	6.6	7.90	3,300	633	150	107	7.6	650	1,640	40.2	-0.05	54.5	-0.00100	-0.001	-0.005
EPA 25	07/09/1991	6860.90	6.4	7.14	3,461	607	153	95	6.7	677	1,718	39.2	0.15	55.0	-0.00100	-0.001	-0.005
EPA 25	10/24/1991	6859.60	6.5	7.47	3,399	639	432	105	7.3	722	1,672	62.5	0.31	38.0	-0.00100	-0.001	-0.005
EPA 25	01/24/1992	6859.30	6.5	7.51	3,123	619	153	102	7.0	691	1,669	45.7	0.14	23.5	-0.00100	-0.001	-0.005
EPA 25	04/03/1992	6859.20	6.4	7.51	3,414	564	138	129	8.9	752	1,781	45.4	0.22	43.9	-0.00100	-0.001	-0.005
EPA 25	07/16/1992	6858.50	6.5	7.48	3,076	623	161	156	10.1	740	1,804	49.3	0.18	44.9	-0.00100	-0.001	-0.005
EPA 25	10/15/1992	6858.10	6.7	7.03	3,529	673	147	120	8.8	769	1,725	51.6	-0.05	38.9	-0.00100	-0.001	-0.005
EPA 25	01/12/1993	6857.80	6.7	7.36	3,591	725	162	112	9.5	766	1,631	52.6	-0.05	50.7	-0.00100	-0.001	-0.005
EPA 25	04/15/1993	6857.70	6.7	7.65	3,674	793	151	123	6.4	1,049	1,818	59.4	0.06	41.1	-0.00100	-0.001	-0.005
EPA 25	07/20/1993	6857.00	6.7	7.52	3,503	696	151	127	7.1	817	1,709	62.7	0.07	38.7	-0.00100	-0.001	-0.005
EPA 25	10/11/1993	6855.10	6.8	7.26	3,584	707	152	95	6.5	805	1,699	59.3	0.05	40.8	-0.00100	-0.001	-0.005
EPA 25	01/10/1994	6856.60	6.8	7.59	3,639	662	163	99	6.3	790	1,771	67.8	0.12	38.6	-0.00100		
EPA 25	04/20/1994	6856.30	6.8	7.07	3,486	647	151	112	6.5	791	1,672	67.0	0.18	47.1	-0.00100		
EPA 25	07/26/1994	6855.80	6.7	7.60	3,663	783	181	115	7.4	822	1,681	70.4	-0.05	54.7	-0.00100		
EPA 25	10/10/1994	6855.70	6.7	7.60	3,704	764	187	129	7.8	907	1,909	73.9	0.13	47.1	-0.00100		
EPA 25	01/10/1995	6855.40	6.8	7.50	3,734	840	137	120	8.4	889	1,779	78.7	0.13	47.1	-0.00100		
EPA 25	04/11/1995	6855.20	6.1	7.35	3,686	806	200	136	13.7	915	1,849	91.0	0.34	50.1	-0.00100		
EPA 25	07/10/1995	6855.20	6.9	7.53	3,576	715	198	133	7.6	697	1,716	88.0	0.26	58.9	-0.00100		
EPA 25	10/09/1995	6854.70	6.9	7.80	3,789	745	202	148	7.2	791	1,696	80.0	0.14	62.9	-0.00100		
EPA 25	01/08/1996	6854.30	6.8	7.36	3,963	745	212	139	6.9	841	1,826	71.0	-0.05	86.4	-0.00100		
EPA 25	04/09/1996	6854.00	6.9	7.76	3,942	790	206	135	7.2	937	1,766	87.4	0.11	62.6	-0.00100		
EPA 25	07/17/1996	6853.70	6.7	7.10	3,928	710	182	145	7.9	964	1,816	95.0	0.07	67.2	-0.00100		
EPA 25	10/08/1996	6853.60	6.7	7.09	4,000	767	199	144	7.9	981	1,742	89.0	0.08	59.6	-0.00100		
EPA 25	01/27/1997	6853.30	6.7	7.99	3,960	760	200	135	8.1	952	1,939	117.0	0.06	60.8	-0.00100		
EPA 25	04/04/1997	6854.20	6.5	7.96	4,020	851	215	142	8.3	981	1,777	100.0	-0.05	78.9	-0.00100		
EPA 25	07/14/1997	6852.90	6.7	7.70	4,070	803	205	135	7.7	986	1,670	101.0	0.06	71.5	-0.00100		
EPA 25	10/14/1997	6853.00	6.6	7.71	4,010	835	213	140	7.9	933	1,800	115.0	0.08	77.7	-0.00100		
EPA 25	01/20/1998	6852.80	6.5	7.83	4,080	739	206	155	7.9	952	1,930	96.4	0.19	75.3	-0.00100		
EPA 25	04/13/1998	6852.70	6.9	7.33	4,060	799	210	156	8.3	1,020	1,700	87.3	-0.05	76.9	-0.00100		
EPA 25	07/13/1998	6852.60	6.9	7.64	4,210	804	213	155	8.5	1,040	1,680	92.6	-0.05	78.4	-0.00100		
EPA 25	10/06/1998	6853.20	6.77	8.14	3,950	771	214	158	8.6	886	1,730	89.3	0.13	69.7	-0.00100		
EPA 25	01/12/1999	6853.00	6.8	7.86	4,060	733	197	137	8	930	1,600	89.5	0.08	78.5	-0.00100		
EPA 25	04/13/1999	6852.70	6.8	7.97	4,040	813	196	146	7.8	969	1,620	93.6	0.05	75	-0.00100		
EPA 25	07/20/1999	6852.68	6.8	7.85	4,040	762	226	140	9	941	1,740	84	0.07	72.4	-0.00100		

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	0.05	0.01	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.02	0.01	0.05	0.05	2.60	1.00	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
EPA 25	10/08/1989	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.22	-0.10	-0.05	0.001	-0.10	0.0220	-2.0	-0.2	1.2	1.1
EPA 25	01/17/1990	-0.10	-0.001	-0.05	-0.01	0.02	-0.05	0.21	-0.10	-0.05	-0.001	-0.10	0.0190	2.2	0.7	-1.0	1.0
EPA 25	04/18/1990	-0.10	-0.001	-0.05	-0.01	0.02	-0.05	0.30	-0.10	-0.05	0.001	-0.10	0.0190	-1.5	-0.2	-1.0	1.4
EPA 25	07/13/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.18	-0.10	-0.05	-0.001	-0.10	0.0194	-1.2	-0.2	-1.0	-1.0
EPA 25	10/10/1990	-0.10	-0.001	-0.05	-0.01	0.01	-0.05	0.20	-0.10	-0.05	-0.001	-0.10	0.0206	-1.2	-0.2	-1.0	-1.0
EPA 25	01/09/1991	-0.10	-0.001	-0.01	-0.01	0.01	-0.05	0.23	-0.10	-0.05	-0.001	-0.10	0.0277	-1.2	-0.2	-1.0	-1.0
EPA 25	04/16/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.25	-0.10	-0.05	-0.001	-0.10	0.0170	-1.2	-0.2	1.5	-1.0
EPA 25	07/09/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.22	-0.10	-0.05	-0.001	-0.10	0.0231	-1.2	-0.2	1.7	-1.0
EPA 25	10/24/1991	-0.10	-0.001	-0.01	-0.01	0.01		0.24	-0.10	-0.05	-0.001	-0.10	0.0490	-3.7	-0.2	-1.0	-1.0
EPA 25	01/24/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.24	-0.10	-0.05	0.001	-0.10	0.0270	-1.7	-0.2	-1.0	-1.0
EPA 25	04/03/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.22	-0.10	-0.05	-0.001	-0.10	0.0390	-5.2	-0.2	-1.0	-1.0
EPA 25	07/16/1992	-0.10	0.007	-0.01	-0.01	0.02	-0.05	0.35	-0.10	-0.05	0.003	-0.10	0.0410	-1.2	-0.2	7.0	-1.0
EPA 25	10/15/1992	-0.05	-0.001	-0.01	-0.01	-0.01	-0.05	0.23	-0.10	-0.05	-0.001	-0.10	0.0220	2.8	-0.2	5.7	1.9
EPA 25	01/12/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.22	-0.10	-0.05	0.010	-0.10	0.0180	-1.2	-0.2	-1.0	-1.0
EPA 25	04/15/1993	-0.10	-0.001	-0.01	-0.01	0.02	-0.05	0.23	-0.10	-0.05	-0.001	-0.10	0.0250	-1.2	-0.2	1.9	-1.0
EPA 25	07/20/1993	-0.10	-0.001	-0.01	-0.01	0.03	-0.05	0.24	-0.10	-0.05	-0.001	-0.10	0.0250	-1.2	-0.2	-1.0	-1.0
EPA 25	10/11/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.21	-0.10	-0.05	-0.001	-0.10	0.0230	-1.2	-0.2	3.5	-1.0
EPA 25	01/10/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.29	-0.10	-0.05	-0.001	-0.10	0.0620	-3.0	-0.2	5.2	5.2
EPA 25	04/20/1994	-0.10	0.002	-0.01	-0.01	-0.01	-0.05	0.21	-0.10	-0.05	-0.001	-0.10	0.0400	0.7	-0.2	-1.0	1.9
EPA 25	07/26/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.26	-0.10	-0.05	-0.001	-0.10	0.0520	-1.2	-0.2	-1.0	-1.0
EPA 25	10/10/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.25	-0.10	-0.05	-0.001	-0.10	0.0460	-0.7	-0.2	-1.0	-1.0
EPA 25	01/10/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.29	-0.10	-0.05	-0.001	-0.10	0.0510	-1.2	-0.2	4.3	-1.0
EPA 25	04/11/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.46	-0.10	-0.05	-0.001	-0.10	0.0520	-3.1	-0.2	-1.0	2.0
EPA 25	07/10/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.37	-0.10	-0.05	0.001	-0.10	0.0590	-2.5	-0.2	-1.0	6.6
EPA 25	10/09/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.51	-0.10	-0.05	0.001	-0.10	0.0690	-4.5	1.4	-1.0	3.2
EPA 25	01/08/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.25	-0.10	-0.05	-0.001	-0.10	0.0090	-1.2	-0.2	-1.0	-1.0
EPA 25	04/09/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.46	-0.10	-0.05	-0.001	-0.10	0.0660	-1.4	-0.2	-1.0	-1.0
EPA 25	07/17/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.39	-0.10	-0.05	-0.001	-0.10	0.1890	-1.2	-0.2	-1.0	-1.0
EPA 25	10/08/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.41	-0.10	-0.05	-0.001	-0.10	0.0780	-0.6	-0.2	-1.0	-1.0
EPA 25	01/27/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.51	-0.10	-0.05	-0.001	-0.10	0.0630	-0.6	-0.2	-1.0	-1.0
EPA 25	04/04/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.29	-0.10	-0.05	0.006	-0.10	0.0950	-0.6	-0.2	-1.0	-1.0
EPA 25	07/14/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.32	-0.10	-0.05	0.001	-0.10	0.0820	-0.6	-0.2	-1.0	-1.0
EPA 25	10/14/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.44	-0.10	-0.05	0.001	-0.10	0.0930	-2.1	-0.2	-1.0	-1.0
EPA 25	01/20/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.36	-0.10	-0.05	-0.001	-0.10	0.0940	-1.7	-0.2	-1.0	-1.0
EPA 25	04/13/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.35	-0.10	-0.05	-0.001	-0.10	0.0999	-1.2	-0.2	-1.0	-1.0
EPA 25	07/13/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.31	-0.10	-0.05	-0.001	-0.10	0.1040	-1.2	-0.2	-1.0	-1.0
EPA 25	10/06/1998	-0.10	-0.001	-0.01	0.005	-0.01	-0.05	0.61	-0.10	-0.05	0.001	-0.10	0.0987	-1.4	-0.2	-1.0	-1.0
EPA 25	01/12/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.76	-0.10	-0.05	-0.001	-0.10	0.151	-1.8	-0.2	-1.0	-1.0
EPA 25	04/13/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.55	-0.10	-0.05	-0.001	-0.10	0.0096	-1.8	-0.2	-1.0	-1.0
EPA 25	07/20/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.3	-0.10	-0.05	-0.001	-0.10	0.103	2.9	-0.2	-1.0	2.2

TABLE B.1
SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30	NA	NA	0.005
EPA 27	10/04/1989	6864.80	8.1	7.80	4,734	550	242	329	22.4	196	2,266	74.5	0.09	150	-0.00100	-0.001	-0.005
EPA 27	01/23/1990	6865.00	8.0	7.40	4,680	538	268	340	17.0	223	2,217	78.8	0.11	180	-0.00100	-0.001	-0.005
EPA 27	04/18/1990	6864.70	7.9	7.55	4,775	530	260	340	13.4	283	2,160	79.6	0.08	182	-0.00100	-0.001	-0.005
EPA 27	07/13/1990	6864.10	8.9	7.74	4,731	562	239	348	20.4	167	2,073	79.7	-0.05	202	-0.00100	-0.001	-0.005
EPA 27	10/16/1990	6864.20	8.2	7.78	4,786	558	238	372	16.8	183	2,324	89.4	0.05	196	-0.00100	-0.001	-0.005
EPA 27	01/10/1991	6864.30	7.7	7.60	4,274	574	288	381	17.1	143	2,074	83.8	0.13	171	-0.00100	-0.001	-0.005
EPA 27	04/16/1991	6864.30	7.6	8.12	4,727	547	228	350	16.3	179	2,296	85.3	-0.05	256	-0.00100	-0.001	-0.005
EPA 27	07/09/1991	6863.80	7.5	7.68	4,925	528	253	326	14.9	121	2,420	81.3	-0.05	200	-0.00100	-0.001	-0.005
EPA 27	10/23/1991	6863.30	7.7	7.70	4,461	452	146	359	19.4	122	2,229	98.0	0.31	141	-0.00100	-0.001	-0.005
EPA 27	01/23/1992	6863.00	7.8	7.47	4,570	519	196	335	13.0	129	2,103	92.1	-0.05	125	-0.00100	-0.001	-0.005
EPA 27	04/03/1992	6862.90	7.3	7.87	4,087	581	248	416	18.7	208	2,443	82.5	-0.05	194	-0.00100	-0.001	-0.005
EPA 27	07/16/1992	6862.10	8.2	7.76	4,239	454	225	441	17.0	73.4	2,224	99.0	-0.05	160	-0.00100	-0.001	-0.005
EPA 27	10/15/1992	6861.60	7.9	7.76	4,534	566	213	374	17.3	75.4	2,302	99.1	-0.05	147	-0.00100	-0.001	-0.005
EPA 27	01/12/1993	6861.00	7.9	7.85	4,498	571	217	395	16.1	116	2,386	98.9	-0.05	195	-0.00100	-0.001	-0.005
EPA 27	04/15/1993	6861.00	7.9	7.86	4,612	472	237	389	10.2	96.3	2,260	111	0.07	150	-0.00100	-0.001	-0.005
EPA 27	07/21/1993	6860.40	8.5	7.87	4,408	519	198	387	15.5	81.6	2,195	104	-0.05	141	-0.00100	-0.001	-0.005
EPA 27	10/12/1993	6858.70	8.1	6.79	3,844	551	183	314	14.1	74.7	2,175	101	0.05	92.5	-0.00100	-0.001	-0.005
EPA 27	01/11/1994	6859.70	8.1	7.75	4,266	501	183	320	13.0	103	2,181	97.8	-0.05	122	-0.00100		
EPA 27	04/19/1994	6859.30	6.5	8.12	4,020	509	172	373	15.3	80.6	2,073	107	0.20	143	-0.00100		
EPA 27	07/27/1994	6859.00	8.0	7.77	3,954	568	143	307	16.7	58.6	2,060	108	-0.05	148	-0.00100		
EPA 27	10/11/1994	6858.60	8.0	7.83	4,264	565	223	377	12.1	67.8	2,245	108	0.09	141	-0.00100		
EPA 27	01/11/1995	6858.20	8.3	7.54	4,030	552	151	337	16.3	74.8	2,066	113	0.16	190	-0.00100		
EPA 27	04/11/1995	6858.10	7.5	8.02	4,125	541	169	354	15.6	63.1	2,054	118	0.21	149	-0.00100		
EPA 27	07/11/1995	6857.80	7.9	7.90	3,897	550	134	332	15.6	64.6	1,872	118	0.05	129	-0.00100		
EPA 27	10/10/1995	6857.40	7.9	8.18	3,760	535	128	360	18.2	54.2	1,796	108	-0.05	121	-0.00100		
EPA 27	01/09/1996	6857.10	7.9	7.90	3,743	530	126	328	16.1	62.2	1,929	116	-0.05	132	-0.00100		
EPA 27	04/10/1996	6856.80	8.4	7.97	3,875	552	133	324	14.1	57.6	2,080	126	0.07	123	-0.00100		
EPA 27	07/17/1996	6856.50	7.8	7.82	3,730	560	118	348	16.4	45.5	2,009	124	-0.05	143	-0.00100		
EPA 27	10/08/1996	6856.20	7.7	8.04	3,720	524	127	343	16.5	40.4	1,865	112	0.13	121	-0.00100		
EPA 27	01/28/1997	6855.90	7.7	7.64	3,720	530	135	336	15.4	39.8	1,910	156	0.18	113	-0.00100		
EPA 27	04/15/1997	6855.90	7.1	7.65	3,660	564	111	332	16.8	31.1	1,876	120	0.06	139	-0.00100		
EPA 27	07/15/1997	6855.60	7.5	7.58	3,710	547	127	317	16.3	31.0	1,790	123	0.08	116	-0.00100		

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.02	0.01	0.05	0.05	2.60	1.00	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
EPA 27	10/04/1989	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	-0.01	0.03	-0.05	0.006	-0.10	0.0320	2.4	-0.2	-1.0	1.1
EPA 27	01/23/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.005	-0.10	0.0460	-1.7	1.4	-1.0	1.7
EPA 27	04/18/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.005	-0.10	0.0270	-1.2	-0.2	-1.0	-1.0
EPA 27	07/13/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.002	-0.10	0.0213	-1.2	0.8	1.0	-1.0
EPA 27	10/16/1990	-0.10	-0.001	-0.05	-0.01	0.04	-0.05	-0.01	-0.10	-0.05	0.003	-0.10	0.0282	-1.2	-0.2	-1.0	-1.0
EPA 27	01/10/1991	-0.10	-0.001	-0.01	-0.01	0.02	-0.05	0.01	-0.10	-0.05	0.006	-0.10	0.0286	-1.8	-0.2	-1.0	1.2
EPA 27	04/16/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.004	-0.10	0.0240	-1.2	-0.2	-1.0	-1.0
EPA 27	07/09/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.005	-0.10	0.0347	-1.4	-0.2	-1.0	-1.0
EPA 27	10/23/1991	-0.10	-0.001	-0.01	-0.01	0.01	-0.05	0.01	-0.10	-0.05	0.006	-0.10	0.0320	-1.2	-0.2	-1.0	-1.0
EPA 27	01/23/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.001	-0.10	0.0390	1.5	-0.2	-1.0	-1.0
EPA 27	04/03/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.006	-0.10	0.0140	-1.2	-0.2	-1.0	-1.0
EPA 27	07/16/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.006	-0.10	0.0240	3.1	-0.2	-1.0	-1.0
EPA 27	10/15/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.007	-0.10	0.0290	6.0	-0.2	-1.0	-1.0
EPA 27	01/12/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.031	-0.10	0.0110	-1.2	-0.2	-1.0	-1.0
EPA 27	04/15/1993	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.011	-0.10	0.0230	-1.2	-0.2	-1.0	-1.0
EPA 27	07/21/1993	-0.10	0.001	-0.01	-0.01	0.01	-0.05	0.02	-0.10	-0.05	0.013	-0.10	0.0180	-1.2	-0.2	-1.0	-1.0
EPA 27	10/12/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.011	-0.10	0.0190	-1.5	-0.2	-1.0	-1.0
EPA 27	01/11/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.010	-0.10	0.0230	-1.9	-0.2	-1.0	3.5
EPA 27	04/19/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.009	-0.10	0.0190	-1.2	-0.2	-1.0	-1.0
EPA 27	07/27/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.007	-0.10	0.0140	4.7	-0.2	-1.0	6.8
EPA 27	10/11/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.008	-0.10	0.0210	-1.3	-0.2	-1.0	-1.0
EPA 27	01/11/1995	-0.10	0.002	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.011	-0.10	0.0170	-2.8	-0.2	-1.0	4.3
EPA 27	04/11/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.011	-0.10	0.0140	-1.2	-0.2	-1.0	-1.0
EPA 27	07/11/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.012	-0.10	0.0110	-1.2	-0.2	-1.0	-1.0
EPA 27	10/10/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.035	-0.10	0.0094	1.7	-0.2	-1.0	-1.0
EPA 27	01/09/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.038	-0.10	0.0110	-1.2	-0.2	-1.0	-1.0
EPA 27	04/10/1996	-0.10	0.002	-0.01	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.009	-0.10	0.0130	-1.2	-0.2	-1.0	-1.0
EPA 27	07/17/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	-0.001	-0.10	0.0100	-3.1	-0.2	-1.0	-1.0
EPA 27	10/08/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.009	-0.10	0.0120	-0.6	-0.2	-1.0	-1.0
EPA 27	01/28/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.08	-0.10	-0.05	0.015	-0.10	0.0060	-0.6	-0.2	-1.0	-1.0
EPA 27	04/15/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.042	-0.10	0.0030	-0.6	-0.2	-1.0	-1.0
EPA 27	07/15/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.019	-0.10	0.0060	-0.6	-0.2	-1.0	-1.0

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard EPA Standard	NA NA	NA NA	NA NA	NA 3,170	NA NA	NA NA	NA NA	NA NA	NA NA	NA 2,160	NA 250	NA NA	NA 30	NA NA	NA NA	NA NA
EPA 28*	10/04/1989	6867.70	6.5	7.20	4,989	565	475	216	14.1	738	2,720	107	-0.05	113	-0.00100	-0.001	-0.005
EPA 28*	01/23/1990	6867.70	6.6	6.80	4,904	525	468	227	10.4	756	2,434	116	0.09	75.0	-0.00100	-0.001	-0.005
EPA 28*	04/18/1990	6867.30	6.8	7.12	4,977	542	428	207	9.9	815	2,330	117	0.12	69.0	-0.00100	-0.001	-0.005
EPA 28*	07/13/1990	6866.20	6.7	7.21	5,037	541	440	212	10.0	821	2,210	126	-0.05	74.2	-0.00100	-0.001	-0.005
EPA 28*	10/16/1990	6866.70	6.5	7.21	5,306	548	231	387	17.7	522	3,005	111	-0.05	62.5	-0.00100	-0.001	-0.005
EPA 28*	01/10/1991	6866.70	6.6	7.17	5,138	542	487	232	13.8	627	2,732	115	-0.05	68.0	-0.00100	-0.001	-0.005
EPA 28*	04/16/1991	6866.70	6.5	7.76	5,194	497	470	222	11.8	632	2,824	123	-0.05	68.0	-0.00100	-0.001	-0.005
EPA 28*	07/09/1991	6866.20	6.4	7.07	5,350	477	463	208	10.1	551	2,940	107	-0.05	68.0	-0.00100	-0.001	-0.005
EPA 28*	10/23/1991	6865.40	6.4	7.50	5,170	488	499	225	11.4	534	2,792	114	0.28	52.3	-0.00100	-0.001	-0.005
EPA 28*	01/23/1992	6865.10	6.4	7.37	5,268	490	448	213	10.2	583	2,786	111	0.14	40.6	-0.00100	-0.001	-0.005
EPA 28*	04/03/1992	6865.30	6.5	7.46	4,613	505	448	263	12.6	612	2,934	110	0.22	72.1	-0.00100	-0.001	-0.005
EPA 28*	07/16/1992	6864.40	6.6	7.20	5,042	517	489	246	13.6	561	2,916	110	0.10	35.4	-0.00100	-0.001	-0.005
EPA 28*	10/15/1992	6863.20	6.7	7.21	5,249	509	486	236	10.9	550	3,015	106	-0.05	55.5	-0.00100	-0.001	-0.005
EPA 28*	01/12/1993	6862.60	6.6	7.16	5,095	546	482	244	13.9	584	2,973	110	-0.05	77.9	-0.00100	-0.001	-0.005
EPA 28*	04/16/1993	6863.00	6.7	7.49	5,230	534	483	251	10.0	744	2,981	122	0.08	63.0	-0.00100	-0.001	-0.005
EPA 28*	07/21/1993	6862.20	6.7	7.49	4,999	546	474	249	12.5	561	2,968	98.9	-0.05	49.5	-0.00100	-0.001	-0.005
EPA 28*	10/12/1993	6859.60	7.0	7.18	5,002	525	450	223	10.6	603	2,913	109	-0.05	48.6	-0.00100	-0.001	-0.005
EPA 28*	01/11/1994	6861.10	7.0	7.73	5,378	544	473	236	10.6	562	3,132	101	-0.05	52.8	-0.00100		
EPA 28*	04/19/1994	6860.90	6.7	7.71	5,077	481	452	232	12.6	527	2,901	108	0.06	56.2	-0.00100	-0.001	-0.005
EPA 28*	07/27/1994	6860.50	6.7	7.45	5,476	611	527	197	12.7	559	3,177	102	-0.05	59.2	-0.00100		
EPA 28*	10/11/1994	6860.00	6.7	7.69	5,491	545	574	241	13.0	614	3,325	97.5	0.06	38.6	-0.00100		
EPA 28*	01/11/1995	6859.70	6.7	7.65	5,614	510	576	202	12.9	586	3,257	96.7	0.13	48.2	-0.00100		
EPA 28*	04/11/1995	6859.70	6.7	7.39	5,089	532	496	217	11.8	601	3,028	124	0.15	28.6	-0.00100		
EPA 28*	07/11/1995	6859.30	6.9	7.85	4,851	535	505	219	11.5	554	2,850	115	-0.05	51.7	-0.00100		
EPA 28*	10/10/1995	6858.80	6.9	7.94	4,825	520	495	229	12.0	549	2,802	101	-0.05	47.2	-0.00100		
EPA 28*	01/09/1996	6858.40	7.0	7.29	5,029	535	520	207	11.6	528	2,979	112	-0.05	55.3	-0.00100		
EPA 28*	04/10/1996	6858.00	7.1	7.73	5,273	508	500	209	10.8	556	3,165	124	0.07	48.5	-0.00100		
EPA 28*	07/17/1996	6857.80	7.0	7.08	5,267	525	550	227	12.1	531	3,045	112	-0.05	125	-0.00100		
EPA 28*	10/08/1996	6857.60	7.0	7.23	5,260	538	498	223	11.8	360	2,849	108	0.07	47.3	-0.00100		
EPA 28*	01/28/1997	6857.40	7.0	7.73	5,270	545	500	194	11.2	642	2,935	157	0.06	47.2	-0.00100		
EPA 28*	04/15/1997	6857.30	7.0	7.61	5,350	574	555	213	12.1	544	3,280	116	-0.05	52.6	-0.00100		
EPA 28*	07/15/1997	6857.00	6.8	7.83	5,360	539	506	206	11.7	531	2,810	119	0.05	44.6	-0.00100		
EPA 28*	10/15/1997	6857.10	6.7	7.83	5,290	585	543	217	11.5	667	3,010	145	0.05	49.5	-0.00100		
EPA 28*	01/20/1998	6857.20	6.7	8.07	5,330	531	514	224	12.8	540	3,250	121	0.16	51.4	-0.00100		
EPA 28*	04/14/1998	6856.90	7.0	7.41	5,430	549	556	221	12.6	539	2,990	95.4	-0.05	44.5	-0.00100		
EPA 28*	07/14/1998	6856.70	7.0	7.88	5,630	538	543	228	12.8	544	2,900	101	-0.05	41.7	-0.00100		
EPA 28*	10/06/1998	6858.40	6.82	7.94	5,230	526	525	227	12.4	535	3,050	104	0.11	39.5	-0.00100		
EPA 28*	01/12/1999	6917.90	6.9	8.02	5,380	468	504	204	12.8	538	3,100	101	0.08	43.7	-0.00100		
EPA 28*	04/13/1999	6857.70	6.8	8.05	5,360	544	550	214	11.9	533	2,930	106	0.08	45.1	-0.00100		
EPA 28*	07/20/1999	6856.36	6.9	7.94	5,390	528	556	235	15	557	3,010	106	0.05	40	-0.00100		

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.02	0.01	0.05	0.05	2.60	1.00	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
EPA 28*	10/04/1989	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.19	-0.10	-0.05	0.002	-0.10	0.0410	-3.7	4.6	-1.0	8.4
EPA 28*	01/23/1990	-0.10	-0.001	-0.05	-0.01	0.01	-0.05	0.18	-0.10	-0.05	0.002	-0.10	0.0450	3.4	1.8	-1.0	3.2
EPA 28*	04/18/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.17	-0.10	-0.05	0.001	-0.10	0.2600	-1.8	-0.2	-1.0	1.3
EPA 28*	07/13/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.17	-0.10	-0.05	-0.001	-0.10	0.0378	-1.4	-0.2	-1.0	-1.0
EPA 28*	10/16/1990	-0.10	-0.001	-0.05	-0.01	0.01	-0.05	0.23	-0.10	-0.05	-0.001	-0.10	0.0206	-1.8	-0.2	-1.0	-1.0
EPA 28*	01/10/1991	-0.10	-0.001	-0.01	0.01	0.02	-0.05	0.21	-0.10	-0.05	0.002	-0.10	0.0268	-3.4	-0.2	-1.0	3.1
EPA 28*	04/16/1991	-0.10	-0.001	-0.01	0.01	-0.01	-0.05	0.18	-0.10	-0.05	-0.001	-0.10	0.0270	4.0	-0.2	-1.0	-1.0
EPA 28*	07/09/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.20	-0.10	-0.05	-0.001	-0.10	0.0302	2.5	-0.2	-1.0	2.0
EPA 28*	10/23/1991	-0.10	-0.001	-0.01	-0.01	0.01	-0.05	0.21	-0.10	-0.05	-0.001	-0.10	0.0500	-1.7	-0.2	-1.0	-1.0
EPA 28*	01/23/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.23	-0.10	-0.05	0.001	-0.10	0.0240	4.3	-0.2	-1.0	-1.0
EPA 28*	04/03/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.23	-0.10	-0.05	0.008	-0.10	0.0190	1.6	-0.2	-1.0	-1.0
EPA 28*	07/16/1992	-0.10	-0.001	-0.01	-0.01	0.02	-0.05	0.23	-0.10	-0.05	0.001	-0.10	0.0230	-2.7	-0.2	-1.0	1.9
EPA 28*	10/15/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.21	-0.10	-0.05	-0.001	-0.10	0.0290	-1.9	-0.2	-1.0	-1.0
EPA 28*	01/12/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.24	-0.10	-0.05	0.016	-0.10	0.0260	3.7	-0.2	-1.0	-1.0
EPA 28*	04/15/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.24	-0.10	-0.05	-0.001	-0.10	0.0280	-1.6	-0.2	-1.0	-1.0
EPA 28*	07/21/1993	-0.10	-0.001	-0.01	-0.01	0.01	-0.05	0.25	-0.10	-0.05	-0.001	-0.10	0.0290	-1.5	-0.2	-1.0	-1.0
EPA 28*	10/12/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.24	-0.10	-0.05	0.001	-0.10	0.0380	-2.0	-0.2	-1.0	-1.0
EPA 28*	01/11/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.27	-0.10	-0.05	-0.001	-0.10	0.0270	4.6	-0.2	-1.0	7.7
EPA 28*	04/19/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.32	-0.10	-0.05	-0.001	-0.10	0.0260	-1.7	-0.2	-1.0	7.2
EPA 28*	07/27/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.25	-0.10	-0.05	0.002	-0.10	0.0190	-1.1	-0.2	-1.0	-1.0
EPA 28*	10/11/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.26	-0.10	-0.05	-0.001	-0.10	0.0240	-4.7	-0.2	-1.0	3.9
EPA 28*	01/11/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.30	-0.10	-0.05	-0.001	-0.10	0.0260	4.9	-0.2	-1.0	6.9
EPA 28*	04/11/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.27	-0.10	-0.05	-0.001	-0.10	0.0250	-1.4	-0.2	-1.0	-1.0
EPA 28*	07/11/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.25	-0.10	-0.05	0.002	-0.10	0.0260	-2.3	-0.2	-1.0	6.9
EPA 28*	10/10/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.23	-0.10	-0.05	0.002	-0.10	0.0270	2.0	0.5	-1.0	1.5
EPA 28*	01/09/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.29	-0.10	-0.05	0.005	-0.10	0.0270	-1.6	-0.2	-1.0	-1.0
EPA 28*	04/10/1996	-0.10	0.002	-0.01	-0.01	-0.01	-0.05	0.27	-0.10	-0.05	-0.001	-0.10	0.0330	-1.2	-0.2	-1.0	-1.0
EPA 28*	07/17/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.22	-0.10	-0.05	-0.001	-0.10	0.0320	-2.8	-0.2	-1.0	-1.0
EPA 28*	10/08/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.27	-0.10	-0.05	-0.001	-0.10	0.0380	-1.5	-0.2	-1.0	-1.0
EPA 28*	01/28/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.27	-0.10	-0.05	-0.001	-0.10	0.0230	-0.6	-0.2	-1.0	-1.0
EPA 28*	04/15/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.24	-0.10	-0.05	0.005	-0.10	0.0220	-0.6	-0.2	-1.0	-1.0
EPA 28*	07/15/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.19	-0.10	-0.05	0.001	-0.10	0.0250	-0.6	-0.2	-1.0	-1.0
EPA 28*	10/15/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.23	-0.10	-0.05	0.002	-0.10	0.0350	5.1	-0.2	-1.0	-1.0
EPA 28*	01/20/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.23	-0.10	-0.05	-0.001	-0.10	0.0280	-1.7	-0.2	-1.0	-1.0
EPA 28*	04/14/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.31	-0.10	-0.05	-0.001	-0.10	0.0261	-2.6	-0.2	-1.0	2.9
EPA 28*	07/14/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.31	-0.10	-0.05	-0.001	-0.10	0.0431	-1.7	-0.2	-1.0	-1.0
EPA 28*	10/06/1998	-0.10	-0.001	-0.01	0.005	-0.01	-0.05	0.18	-0.10	-0.05	0.001	-0.10	0.0315	-1.2	-0.2	-1.0	-1.0
EPA 28*	01/12/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.3	-0.10	-0.05	-0.001	-0.10	0.0324	-1.6	-0.2	-1.0	-1.0
EPA 28*	04/13/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.32	-0.10	-0.05	-0.001	-0.10	0.0251	-1.2	-0.2	-1.0	-1.0
EPA 28*	07/20/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.26	-0.01	-0.05	0.001	-0.01	0.0282	-1.6	-0.2	-1.0	-1.6

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard EPA Standard	NA NA	NA NA	NA NA	NA 3,170	NA NA	NA NA	NA NA	NA NA	NA NA	NA 2,160	NA 250	NA NA	NA 30	NA NA	NA NA	NA NA
GW 1*	10/16/1989	6868.90	7.0	7.02	5,376	856	431	331	3.8	2,030	1,931	236	0.13	110	-0.00100	-0.001	-0.005
GW 1*	01/10/1990	6868.30	6.4	6.54	5,658	774	408	349	2.8	1,903	2,079	239	0.25	111	-0.00100	-0.001	-0.005
GW 1*	04/05/1990	6868.20	6.3	6.98	5,732	818	430	350	2.8	2,001	2,118	243	0.13	119	-0.00100	-0.001	-0.005
GW 1*	07/03/1990	6867.20	6.4	6.92	6,154	953	501	343	4.5	2,098	2,252	241	-0.05	109	-0.00100	-0.001	-0.005
GW 1*	10/03/1990	6867.60	6.3	7.26	5,879	780	425	350	4.0	1,785	2,214	238	-0.05	68.3	-0.00100	-0.001	-0.005
GW 1*	01/16/1991	6867.60	6.4	7.12	6,092	909	483	380	3.3	1,573	2,373	247	-0.05	97.5	-0.00100	-0.001	-0.005
GW 1*	04/02/1991	6867.70	6.3	7.10	5,780	817	459	344	3.5	1,478	2,476	237	0.05	108	-0.00100	-0.001	-0.005
GW 1*	07/17/1991	6866.80	6.5	7.21	6,236	821	478	326	4.8	1,893	2,626	236	-0.05	90.9	-0.00100	-0.001	-0.005
GW 1*	10/15/1991	6866.10	6.3	6.90	6,275	900	519	349	3.8	2,020	2,460	247	-0.05	57.8	-0.00100	-0.001	-0.005
GW 1*	01/15/1992	6865.90	6.3	7.05	5,446	695	457	360	3.9	1,617	2,445	239	-0.05	78.2	-0.00100	-0.001	-0.005
GW 1*	04/08/1992	6865.70	6.2	7.43	4,775	769	481	364	4.4	1,813	2,538	217	0.08	75.8	-0.00100	-0.001	-0.005
GW 1*	07/08/1992	6864.80	6.0	7.37	4,964	801	403	454	5.6	1,610	2,493	231	0.13	115	-0.00100	-0.001	-0.005
GW 1*	10/06/1992	6863.70	6.3	6.90	6,008	800	504	389	3.2	1,809	2,370	220	-0.05	110	-0.00100	-0.001	-0.005
GW 1*	01/07/1993	6863.40	6.4	7.73	5,223	676	421	348	5.3	1,807	2,206	234	0.06	117	-0.00100	-0.001	-0.005
GW 1*	04/07/1993	6863.90	6.4	7.22	5,681	681	401	372	5.6	1,579	2,269	199	-0.05	119	-0.00100	-0.001	-0.005
GW 1*	07/14/1993	6862.70	6.4	7.23	6,630	807	438	337	4.3	1,610	2,370	211	0.05	118	-0.00100	-0.001	-0.005
GW 1*	10/07/1993	6862.20	6.7	7.29	5,196	719	433	310	3.0	1,792	1,952	228	-0.05	124	-0.00100	-0.001	-0.005
GW 1*	01/06/1994	6861.80	6.8	7.38	5,051	704	394	335	2.9	1,635	2,075	218	0.11	101	-0.00100		
GW 1*	04/12/1994	6861.60	6.7	7.15	5,216	685	409	316	3.9	1,485	2,256	175	0.30	115	-0.00100		
GW 1*	07/21/1994	6861.10	6.7	6.97	5,415	828	417	283	5.3	1,519	2,371	185	0.13	118	-0.00100		
GW 1*	10/05/1994	6860.70	6.5	7.45	5,567	745	446	323	5.1	1,355	2,250	177	0.23	111	-0.00100		
GW 1*	01/04/1995	6860.50	6.5	7.39	5,732	788	441	295	4.7	1,364	2,483	166	0.72	104	-0.00100		
GW 1*	04/05/1995	6860.30	6.6	7.03	5,397	698	420	282	3.9	1,443	2,400	186	0.36	110	-0.00100		
GW 1*	07/06/1995	6859.90	6.5	7.65	5,180	665	428	285	3.9	1,183	2,255	170	0.10	99.4	-0.00100		
GW 1*	10/03/1995	6859.30	6.6	7.53	5,292	640	419	270	3.2	1,218	2,265	137	0.29	105	-0.00100		
GW 1*	01/03/1996	6858.90	6.6	6.8	5,086	605	405	274	3.5	1,211	2,079	135	0.07	115	-0.00100		
GW 1*	04/02/1996	6858.60	6.6	7.55	5,078	594	388	274	3.7	1,160	2,162	140	0.09	116	-0.00100		
GW 1*	07/07/1996	6858.40	6.3	7.08	5,119	605	395	290	3.6	1,169	2,155	160	0.21	109	-0.00100		
GW 1*	10/01/1996	6858.40	6.5	6.99	5,080	624	422	264	3.9	1,170	2,063	158	0.10	116	-0.00100		
GW 1*	01/22/1997	6858.10	6.4	7.36	4,790	625	415	266	4.16	1,130	2,003	148	0.10	107	-0.00100		
GW 1*	04/08/1997	6858.30	6.6	7.90	4,830	636	403	241	4.2	1,080	2,047	173	0.24	117	-0.00100		
GW 1*	07/08/1997	6857.70	6.9	7.68	4,800	634	379	229	4.4	1,040	2,050	173	0.30	116	-0.00100		
GW 1*	10/07/1997	6857.80	6.3	7.35	4,750	619	364	245	4.7	1,070	1,980	145	0.38	114	-0.00100		
GW 1*	01/15/1998	6857.50	6.8	7.9	4,650	616	349	251	5.6	1,020	2,100	157	0.71	112	-0.00100		
GW 1*	04/07/1998	6857.50	6.6	7.48	4,440	597	331	220	4.2	872	2,000	121	0.13	97.9	-0.00100		
GW 1*	07/07/1998	6857.50	6.8	7.7	4,360	587	317	224	4.8	815	1,800	132	0.37	122	-0.00100		
GW 1*	10/06/1998	6857.00	6.72	7.88	4,370	632	331	228	5.7	801	2,020	125	0.06	95.9	-0.00100		
GW 1*	01/05/1999	6856.90	6.7	7.75	4,450	597	304	197	5.4	853	1,830	124	0.29	91.5	-0.00100		
GW 1*	04/06/1999	6856.80	6.7	7.65	4,300	610	264	209	5.1	738	1,820	115	0.43	91.8	-0.00100		
GW 1*	07/13/1999	6857.06	6.7	7.8	4,190	611	304	183	9.7	770	1,900	125	0.47	82.4	-0.00100		

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.02	0.01	0.05	0.05	2.60	1.00	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
GW 1*	10/16/1989	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.08	-0.10	-0.05	0.001	-0.10	0.0979	-1.4	4.0	1.5	3.7
GW 1*	01/10/1990	-0.10	0.001	-0.05	-0.01	-0.01	-0.05	0.09	-0.10	-0.05	0.002	-0.10	0.0900	2.1	-0.2	1.3	1.2
GW 1*	04/05/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.10	-0.10	-0.05	0.002	-0.10	0.0870	-1.5	-0.2	1.2	0.8
GW 1*	07/03/1990	-0.10	-0.001	-0.05	-0.01	0.01	-0.05	0.10	-0.10	-0.05	0.001	-0.10	0.1160	-1.2	-0.2	-1.0	-1.0
GW 1*	10/03/1990	-0.10	0.003	-0.05	0.01	0.03	-0.05	0.12	-0.10	-0.05	0.001	-0.10	0.0800	-1.7	-0.2	-1.0	-1.0
GW 1*	01/16/1991	0.18	-0.001	-0.01	-0.01	0.02	-0.05	0.12	-0.10	-0.05	0.001	-0.10	0.1110	-1.2	-0.2	-1.0	-1.0
GW 1*	04/02/1991	0.19	-0.001	-0.01	0.01	0.02	-0.05	0.13	-0.10	-0.05	0.001	-0.10	0.1300	-1.4	-0.2	-1.0	-1.0
GW 1*	07/17/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.15	-0.10	-0.05	0.002	-0.10	0.1040	-1.2	-0.2	2.3	-1.0
GW 1*	10/15/1991	0.36	-0.001	-0.01	-0.01	0.01	-0.05	0.12	-0.10	-0.05	-0.001	-0.10	0.1500	4.9	-0.2	-1.0	-1.0
GW 1*	01/15/1992	-0.10	-0.001	-0.01	-0.01	0.01	-0.05	0.13	-0.10	-0.05	-0.001	-0.10	0.1050	-1.3	-0.2	-1.0	-1.0
GW 1*	04/08/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.12	-0.10	-0.05	-0.001	-0.10	0.0940	-1.3	-0.2	-1.0	-1.0
GW 1*	07/08/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.11	-0.10	-0.05	0.001	-0.10	0.0700	2.0	-0.2	2.2	-1.0
GW 1*	10/06/1992	0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.13	-0.10	-0.05	0.007	-0.10	0.0490	-1.8	-0.2	1.2	-1.0
GW 1*	01/07/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.11	-0.10	-0.05	0.007	-0.10	0.0970	2.9	-0.2	-1.0	-1.0
GW 1*	04/07/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.14	-0.10	-0.05	0.002	-0.10	0.1000	-4.5	-0.2	2.2	3.9
GW 1*	07/14/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.14	-0.10	-0.05	0.004	-0.10	0.0990	-1.9	-0.2	3.3	-1.0
GW 1*	10/07/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.13	-0.10	-0.05	0.005	-0.10	0.0750	4.4	-0.2	-1.0	-1.0
GW 1*	01/06/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.11	-0.10	-0.05	-0.001	-0.10	0.0690	6.8	-0.2	-1.0	9.5
GW 1*	04/12/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.10	-0.10	-0.05	0.001	-0.10	0.0890	1.9	-0.2	1.9	2.8
GW 1*	07/21/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.12	-0.10	-0.05	0.001	-0.10	0.0820	-2.2	-0.2	1.1	1.4
GW 1*	10/05/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.09	-0.10	-0.05	0.001	-0.10	0.0820	-1.2	-0.2	3.1	-1.0
GW 1*	01/04/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.11	-0.10	-0.05	-0.001	-0.10	0.0690	3.3	-0.2	-1.0	4.6
GW 1*	04/05/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.09	-0.10	-0.05	-0.001	-0.10	0.0740	3.9	-0.2	-1.0	4.9
GW 1*	07/06/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.002	-0.10	0.0623	-1.4	-0.2	-1.0	-1.0
GW 1*	10/03/1995	-0.10	0.003	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.019	-0.10	0.0559	-1.2	-0.2	-1.0	-1.0
GW 1*	01/03/1996	-0.10	0.002	-0.01	-0.01	-0.01	-0.05	0.07	-0.10	-0.05	0.027	-0.10	0.0580	-1.2	-0.2	-1.0	-1.0
GW 1*	04/02/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	-0.001	-0.10	0.0500	-1.2	-0.2	-1.0	-1.0
GW 1*	07/07/1996	-0.10	0.002	-0.01	-0.01	-0.01	-0.05	0.07	-0.10	-0.05	0.006	-0.10	0.0600	-1.3	-0.2	-1.0	-1.0
GW 1*	10/01/1996	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.07	-0.10	-0.05	0.002	-0.10	0.0510	-0.6	-0.2	-1.0	-1.0
GW 1*	01/22/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.04	-0.10	-0.05	-0.001	-0.10	0.0430	-0.6	-0.2	-1.0	-1.0
GW 1*	04/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.06	-0.10	-0.05	0.015	-0.10	0.0490	-0.6	-0.2	-1.0	-1.0
GW 1*	07/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.05	-0.10	-0.05	-0.001	-0.10	0.0480	-0.9	-0.2	-1.0	-1.0
GW 1*	10/07/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.05	-0.10	-0.05	-0.001	-0.10	0.0540	-1.2	-0.2	-1.0	-1.0
GW 1*	01/15/1998	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.07	-0.10	-0.05	-0.001	-0.10	0.0539	-2.0	-0.2	-1.0	-1.0
GW 1*	04/07/1998	-0.10	0.002	-0.01	-0.005	-0.01	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	0.0460	-1.2	-0.2	-1.0	-1.0
GW 1*	07/07/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	0.0464	-1.2	-0.2	-1.0	-1.0
GW 1*	10/06/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	0.0500	-1.2	-0.2	-1.0	1.2
GW 1*	01/05/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	0.0509	-2.2	-0.2	-1.0	-1.0
GW 1*	04/06/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0461	-1.2	-0.2	-1.0	-1.0
GW 1*	07/13/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.02	-0.10	-0.05	0.001	-0.10	0.0460	-1.2	-0.2	-1.0	-1.0

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30	NA	0.001	0.005
GW 2*	10/16/1989	6870.10	7.0	7.05	5,584	789	479	266	11.7	1,818	2,314	181	0.10	76.0	-0.00100	-0.001	-0.005
GW 2*	01/10/1990	6869.70	6.7	7.02	5,470	752	421	264	8.8	1,451	2,329	184	0.08	84.0	-0.00100	-0.001	-0.005
GW 2*	04/05/1990	6869.40	6.5	7.06	5,277	862	391	256	8.1	1,730	2,226	183	0.11	113	-0.00100	-0.001	-0.005
GW 2*	07/03/1990	6868.90	6.3	6.91	5,179	801	667	286	9.9	2,001	2,161	195	-0.05	52.2	-0.00100	-0.001	-0.005
GW 2*	10/03/1990	6868.70	6.5	7.25	5,801	888	522	289	9.4	1,602	2,395	193	-0.05	61.9	-0.00100	-0.001	-0.005
GW 2*	01/16/1991	6868.90	6.6	7.11	5,775	926	458	297	8.3	1,552	2,444	202	0.05	88.2	-0.00100	-0.001	-0.005
GW 2*	04/02/1991	6868.80	6.5	6.90	5,621	812	432	280	8.1	1,465	2,560	206	-0.05	102	-0.00100	-0.001	-0.005
GW 2*	07/17/1991	6867.50	6.5	7.30	5,820	790	430	258	8.5	1,769	2,638	199	0.05	131	-0.00100	-0.001	-0.005
GW 2*	10/15/1991	6866.80	6.2	6.89	6,209	737	579	287	9.0	2,011	2,868	197	-0.05	28.8	-0.00100	-0.001	-0.005
GW 2*	01/15/1992	6866.90	6.2	7.11	5,127	765	428	259	7.9	1,278	2,285	187	-0.05	51.6	-0.00100	-0.001	-0.005
GW 2*	04/08/1992	6867.00	6.2	7.53	5,275	725	531	286	10.3	1,687	2,613	177	-0.05	22.9	-0.00100	-0.001	-0.005
GW 2*	07/08/1992	6865.20	6.1	7.24	6,313	802	581	402	12.8	1,931	3,194	171	0.07	54.0	-0.00100	-0.001	-0.005
GW 2*	10/06/1992	6864.10	6.4	7.26	5,590	901	422	316	8.8	1,563	2,256	166	-0.05	100	-0.00100	-0.001	-0.005
GW 2*	01/07/1993	6864.20	6.4	7.62	5,795	730	521	296	10.1	1,763	2,584	177	-0.05	64.0	-0.00100	-0.001	-0.005
GW 2*	04/07/1993	6864.70	6.5	7.24	5,140	670	430	314	6.9	1,529	2,250	173	-0.05	79.8	-0.00100	-0.001	-0.005
GW 2*	07/14/1993	6863.00	6.7	7.18	5,500	776	437	308	7.7	1,612	2,501	178	0.05	79.8	-0.00100	-0.001	-0.005
GW 2*	10/07/1993	6862.60	6.8	7.44	4,812	693	371	268	6.9	1,386	2,107	159	0.05	111	-0.00100	-0.001	-0.005
GW 2*	01/06/1994	6861.60	6.8	7.14	5,185	673	461	277	7.4	1,556	2,444	170	0.16	68.1	-0.00100		
GW 2*	04/12/1994	6862.30	6.7	7.03	5,006	748	355	250	7.0	1,536	2,238	165	0.24	80.5	-0.00100		
GW 2*	07/21/1994	6861.60	6.7	7.35	5,402	774	470	247	8.6	1,614	2,859	170	0.06	52.0	-0.00100		
GW 2*	10/05/1994	6861.20	6.4	7.51	5,969	727	590	288	10.0	1,707	2,683	177	-0.05	29.9	-0.00100		
GW 2*	01/04/1995	6861.20	6.4	7.16	6,044	748	561	270	10.9	1,703	2,866	174	0.27	25.3	-0.00100		
GW 2*	04/05/1995	6861.70	6.5	6.91	6,020	660	635	285	10.4	1,745	2,955	170	0.19	23.1	-0.00100		
GW 2*	07/06/1995	6862.40	6.5	7.49	5,305	760	475	265	8.6	1,409	2,404	194	0.27	48.1	-0.00100		
GW 2*	10/03/1995	6862.60	6.3	7.45	5,826	655	600	268	9.5	1,791	2,841	178	0.20	17.7	-0.00100		
GW 2*	01/03/1996	6859.60	6.4	6.91	5,302	595	575	280	9.7	1,802	2,409	133	-0.05	16.7	-0.00100		
GW 2*	04/02/1996	6859.40	6.5	7.64	6,059	622	550	282	10.0	1,732	2,936	167	-0.05	24.1	-0.00100		
GW 2*	07/07/1996	6859.10	6.3	7.19	6,246	600	595	286	10.4	1,643	2,870	155	0.10	20.5	-0.00100		
GW 2*	10/01/1996	6859.30	6.4	6.99	6,280	628	673	289	10.3	1,670	2,955	166	-0.05	12.9	-0.00100		
GW 2*	01/22/1997	6858.90	6.3	7.43	6,100	600	620	275	10.2	1,690	2,945	177	-0.05	10.2	-0.00100		
GW 2*	04/08/1997	6858.70	6.6	7.77	5,910	667	572	259	9.7	1,630	2,851	193	-0.05	19.8	-0.00100		
GW 2*	07/08/1997	6858.60	6.8	7.33	6,090	666	631	255	9.9	1,640	2,720	182	-0.05	10.7	-0.00100		
GW 2*	10/07/1997	6858.90	6.2	7.21	6,090	618	610	266	9.7	1,630	3,050	170	-0.05	10.7	-0.00100		
GW 2*	01/16/1998	6858.50	6.5	7.52	5,990	653	582	271	9.9	1,640	3,000	188	0.13	16.0	-0.00100		
GW 2*	04/07/1998	6858.40	6.4	7.8	5,880	638	596	248	9.9	1,500	2,700	174	-0.05	8.96	-0.00100		
GW 2*	07/07/1998	6858.60	6.1	7.8	5,880	638	596	248	9.9	1,500	2,700	174	-0.05	8.96	-0.00100		
GW 2*	10/06/1998	6860.30	6.48	7.59	5,800	651	602	253	10.7	1,500	2,770	165	0.16	8.73	-0.00100		
GW 2*	01/05/1999	6858.20	6.7	7.88	5,780	588	552	217	9.8	1,460	2,900	168	0.07	7.04	-0.00100		
GW 2*	04/06/1999	6858.20	6.4	7.57	5,710	580	582	221	9.6	1,410	2,500	162	0.07	6.12	-0.00100		
GW 2*	07/13/1999	6857.98	6.6														

TABLE B.1
SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.02	0.01	0.05	0.05	2.60	1.00	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
GW 2*	10/16/1989	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.31	-0.10	-0.05	0.001	-0.10	0.1960	3.8	1.0	1.5	15.0
GW 2*	01/10/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.19	-0.10	-0.05	-0.001	-0.10	0.1830	-0.3	1.0	-1.0	2.3
GW 2*	04/05/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.41	-0.10	-0.05	0.001	-0.10	0.2050	-0.6	-0.2	1.3	0.8
GW 2*	07/03/1990	-0.10	-0.001	-0.05	-0.01	0.01	-0.05	0.48	-0.10	-0.05	-0.001	-0.10	0.1460	-0.5	-0.2	-1.0	-1.0
GW 2*	10/03/1990	-0.10	-0.001	-0.05	-0.01	0.02	-0.05	0.55	-0.10	-0.05	-0.001	-0.10	0.2215	-0.3	-0.2	-1.0	-1.0
GW 2*	01/16/1991	-0.10	-0.001	-0.01	0.01	-0.01	-0.05	0.39	-0.10	-0.05	0.002	-0.10	0.2404	-0.3	-0.2	-1.0	-1.0
GW 2*	04/02/1991	-0.10	-0.001	-0.01	0.02	0.01	-0.05	0.51	-0.10	-0.05	0.001	-0.10	0.1370	-1.9	-0.2	-1.0	-1.0
GW 2*	07/17/1991	-0.10	-0.001	-0.01	0.03	-0.01	-0.05	0.50	-0.10	-0.05	0.001	-0.10	0.1520	-1.2	-0.2	-1.0	-1.0
GW 2*	10/15/1991	0.27	-0.001	-0.01	-0.01	-0.01	-0.05	0.55	-0.10	-0.05	-0.001	-0.10	0.1970	-3.3	-0.2	-1.0	-1.0
GW 2*	01/15/1992	-0.10	-0.001	-0.01	-0.01	0.03	-0.05	0.48	-0.10	-0.05	-0.001	-0.10	0.1530	-1.5	-0.2	2.2	-1.0
GW 2*	04/05/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.46	-0.10	-0.05	0.006	-0.10	0.1650	-1.2	-0.2	2.4	-1.0
GW 2*	07/08/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.40	-0.10	-0.05	0.001	-0.10	0.1300	-1.2	-0.2	-1.0	-1.0
GW 2*	10/06/1992	-0.10	-0.001	-0.01	-0.01	-0.01	0.06	0.15	-0.10	-0.05	0.002	-0.10	0.2420	2.1	-0.2	-1.0	-1.0
GW 2*	01/07/1993	-0.10	-0.001	-0.01	-0.01	0.02	-0.05	0.25	-0.10	-0.05	0.005	-0.10	0.1810	8.7	-0.2	-1.0	-1.0
GW 2*	04/07/1993	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.12	-0.10	-0.05	0.001	-0.10	0.2000	4.8	-0.2	-1.0	-1.0
GW 2*	07/14/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.22	-0.10	-0.05	0.001	-0.10	0.0840	-3.3	-0.2	-1.0	-1.0
GW 2*	10/07/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.06	-0.10	-0.05	0.001	-0.10	0.1180	2.8	-0.2	-1.0	-1.0
GW 2*	01/06/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.11	-0.10	-0.05	-0.001	-0.10	0.1160	5.1	-0.2	1.8	8.5
GW 2*	04/12/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.29	-0.10	-0.05	-0.001	-0.10	0.2010	-2.2	-0.2	3.2	1.4
GW 2*	07/21/1994	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.13	-0.10	-0.05	0.002	-0.10	0.1170	8.3	-0.2	-1.0	12.5
GW 2*	10/05/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.32	-0.10	-0.05	-0.001	-0.10	0.0940	-1.4	-0.2	1.4	-1.0
GW 2*	01/04/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.35	-0.10	-0.05	-0.001	-0.10	0.0870	4.3	-0.2	-1.0	5.7
GW 2*	04/05/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.42	-0.10	-0.05	-0.001	-0.10	0.0710	1.5	-0.2	4.4	2.2
GW 2*	07/06/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.14	-0.10	-0.05	0.002	-0.10	0.1959	-2.7	-0.2	-1.0	2.8
GW 2*	10/03/1995	-0.10	0.002	-0.01	-0.01	-0.01	-0.05	0.39	-0.10	-0.05	-0.001	-0.10	0.0751	-1.2	-0.2	1.8	-1.0
GW 2*	01/03/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.39	-0.10	-0.05	-0.001	-0.10	0.0710	-1.2	-0.2	2.4	-1.0
GW 2*	04/02/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.44	-0.10	-0.05	-0.001	-0.10	0.1180	-1.2	-0.2	-1.0	-1.0
GW 2*	07/07/1996	-0.10	0.003	-0.01	-0.01	-0.01	-0.05	0.49	-0.10	-0.05	0.001	-0.10	0.0990	-1.2	-0.2	-1.0	-1.0
GW 2*	10/01/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.43	-0.10	-0.05	0.002	-0.10	0.0700	-0.6	1.0	-1.0	-1.0
GW 2*	01/22/1997	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.35	-0.10	-0.05	-0.001	-0.10	0.0540	-0.6	-0.2	-1.0	-1.0
GW 2*	04/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.41	-0.10	-0.05	-0.001	-0.10	0.1310	-0.6	-0.2	-1.0	-1.0
GW 2*	07/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.29	-0.10	-0.05	-0.001	-0.10	0.0610	-1.1	-0.2	-1.0	-1.0
GW 2*	10/07/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.38	-0.10	-0.05	-0.001	-0.10	0.0620	-1.2	-0.2	-1.0	-1.0
GW 2*	01/16/1998	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.38	-0.10	-0.05	-0.001	-0.10	0.0953	-1.2	-0.2	-1.0	-1.0
GW 2*	04/07/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.30	-0.10	-0.05	-0.001	-0.10	0.0656	-1.7	-0.2	-1.0	-1.0
GW 2*	07/07/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.30	-0.10	-0.05	-0.001	-0.10	0.0656	-1.7	-0.2	-1.0	-1.0
GW 2*	10/06/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.33	-0.10	-0.05	-0.001	-0.10	0.0732	-1.6	-0.2	-1.0	-1.0
GW 2*	01/05/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.35	-0.10	-0.05	-0.001	-0.10	0.0662	-3.3	-0.2	-1.0	-1.0
GW 2*	04/06/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.34	-0.10	-0.05	-0.001	-0.10	0.0594	-1.2	-0.2	-1.0	-1.0
GW 2*	07/13/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.34	-0.10	-0.05	-0.001	-0.10	0.0594	-1.2	-0.2	-1.0	-1.0

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard EPA Standard	NA NA	NA NA	NA NA	NA 3,170	NA NA	NA NA	NA NA	NA NA	NA NA	NA 2,160	NA 250	NA NA	NA 30	0.001 NA	0.001 NA	0.005 NA
GW 3	10/16/1989	6870.40	6.8	7.51	4,658	802	256	210	7.0	1,214	1,704	150	0.11	141	-0.00100	-0.001	-0.005
GW 3	01/04/1990	6870.20	6.4	6.74	4,784	890	259	217	5.1	1,452	1,847	177	0.13	146	-0.00100	-0.001	-0.005
GW 3	04/03/1990	6869.60	6.8	7.18	4,859	888	280	218	5.1	1,362	1,775	170	0.11	111	-0.00100	-0.001	-0.005
GW 3	07/02/1990	6869.20	6.4	7.00	4,794	954	276	195	6.9	1,418	1,841	164	-0.05	147	-0.00100	-0.001	-0.005
GW 3	10/02/1990	6869.10	6.6	7.18	4,699	770	245	211	5.1	1,222	1,911	169	-0.05	102	-0.00100	-0.001	-0.005
GW 3	01/16/1991	6869.10	6.5	7.12	4,805	928	290	229	8.8	1,057	2,004	189	-0.05	148	-0.00100	-0.001	-0.005
GW 3	04/02/1991	6869.00	6.5	7.15	4,935	897	272	221	4.7	1,043	1,990	185	-0.05	162	-0.00100	-0.001	-0.005
GW 3	07/16/1991	6867.80	6.6	7.09	4,829	828	255	212	5.4	1,526	2,011	103	0.17	37.5	-0.00100	-0.001	-0.005
GW 3	10/14/1991	6866.90	6.4	6.84	5,094	739	226	227	4.7	1,330	1,856	197	-0.05	87.2	-0.00100	-0.001	-0.005
GW 3	01/14/1992	6867.20	6.4	7.01	4,589	794	262	212	5.8	1,345	1,762	172	-0.05	90.1	-0.00100	-0.001	-0.005
GW 3	04/09/1992	6867.20	6.5	7.32	4,757	836	267	261	7.4	1,114	1,874	179	0.14	86.8	-0.00100	-0.001	-0.005
GW 3	07/07/1992	6865.40	6.3	7.42	4,877	785	295	274	7.6	964	1,907	111	0.08	112	-0.00100	-0.001	-0.005
GW 3	10/07/1992	6864.20	6.5	7.32	4,766	849	273	288	9.3	1,537	1,932	182	-0.05	120	-0.00100	-0.001	-0.005
GW 3	01/07/1993	6864.30	6.4	7.48	5,105	903	260	244	6.0	1,610	1,968	188	-0.05	134	-0.00100	-0.001	-0.005
GW 3	04/07/1993	6864.90	6.4	7.07	4,791	851	248	277	4.7	1,419	1,879	183	-0.05	112	-0.00100	-0.001	-0.005
GW 3	07/14/1993	6863.40	6.4	7.09	4,780	989	270	293	5.7	1,745	1,913	201	-0.05	94.7	-0.00100	-0.001	-0.005
GW 3	10/07/1993	6862.70	6.6	7.22	4,614	889	252	238	6.1	1,540	1,813	71.8	0.05	119	-0.00100	-0.001	-0.005
GW 3	01/06/1994	6862.70	6.5	7.04	4,960	889	251	261	5.6	1,573	1,836	177	0.11	107	-0.00100		
GW 3	04/13/1994	6863.00	6.6	6.86	4,709	866	244	234	5.7	1,525	1,825	167	0.39	113	-0.00100		
GW 3	07/21/1994	6861.80	6.5	7.16	4,790	953	256	250	6.2	1,512	1,943	160	0.13	106	-0.00100		
GW 3	10/05/1994	6861.50	6.3	7.59	4,949	942	250	271	6.7	1,481	1,938	165	0.25	117	-0.00100		
GW 3	01/05/1995	6861.50	6.4	7.34	5,101	990	263	256	7.4	1,532	1,938	152	0.32	95.4	-0.00100		
GW 3	04/05/1995	6862.30	6.5	7.07	4,978	920	240	224	5.2	1,519	2,090	210	0.41	104	-0.00100		
GW 3	07/06/1995	6860.80	6.4	7.50	4,792	914	281	252	6.3	1,519	1,858	171	0.27	96.4	-0.00100		
GW 3	10/03/1995	6860.20	6.5	7.41	5,055	905	267	232	5.8	1,512	1,905	174	0.41	99.1	-0.00100		
GW 3	01/03/1996	6859.80	6.5	6.96	4,495	805	240	235	6.1	1,521	1,650	138	-0.05	106	-0.00100		
GW 3	04/02/1996	6859.80	6.4	7.64	5,010	875	275	260	7.0	1,510	1,915	155	-0.05	111	-0.00100		
GW 3	07/07/1996	6859.70	6.3	7.13	4,844	865	260	245	7.4	1,434	1,860	150	0.14	102	-0.00100		
GW 3	10/01/1996	6859.70	6.4	6.99	4,970	909	277	239	6.7	1,480	1,884	141	0.05	115	-0.00100		
GW 3	01/22/1997	6859.40	6.4	7.51	4,770	885	275	228	7.3	1,480	1,937	166	0.11	114	-0.00100		
GW 3	04/08/1997	6859.30	6.5	7.59	4,990	892	277	227	6.6	1,430	1,994	171	0.06	117	-0.00100		
GW 3	07/08/1997	6859.20	6.8	7.53	5,060	933	282	223	7.4	1,390	1,810	158	0.11	121	-0.00100		
GW 3	10/07/1997	6859.40	6.2	7.44	5,010	879	267	231	6.9	1,370	1,870	155	-0.05	114	-0.00100		
GW 3	01/16/1998	6859.20	6.7	7.72	4,980	858	265	246	8.1	1,330	2,000	154	0.28	128	-0.00100		
GW 3	04/07/1998	6859.10	6.6	7.51	4,980	895	273	234	6.7	1,300	1,800	128	0.06	130	-0.00100		
GW 3	07/07/1998	6859.00	6.8	7.74	4,930	883	276	244	7.8	1,200	2,100	139	0.1	117	-0.00100		
GW 3	10/06/1998	6858.60	6.66	7.75	4,850	871	268	236	7	1,220	1,980	134	0.11	220	-0.00100		
GW 3	01/05/1999	6858.50	6.8	7.85	3,810	671	193	163	8.9	987	1,400	95.2	0.21	85.9	-0.00100		
GW 3	04/06/1999	6858.50	6.7	7.64	4,600	811	218	202	8.4	1,170	1,710	131	0.11	103	-0.00100		
GW 3	07/13/1999	6858.34	6.7	7.9	4,610	824	259	205	12.3	1,170	1,830	126	0.09	119	-0.00100		

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.02	0.01	0.05	0.05	2.60	1.00	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
GW 3	10/16/1989	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	1.50	-0.10	-0.05	0.005	-0.10	0.1320	-1.5	3.3	-1.0	4.1
GW 3	01/04/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	1.50	-0.10	-0.05	0.002	-0.10	0.1320	-1.9	-0.2	-1.0	1.2
GW 3	04/03/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	1.20	-0.10	-0.05	0.001	-0.10	0.1030	-2.0	-0.2	-1.0	1.5
GW 3	07/02/1990	-0.10	-0.001	-0.05	-0.01	0.01	-0.05	1.29	-0.10	-0.05	-0.001	-0.10	0.1360	1.4	-0.2	-1.0	-1.0
GW 3	10/02/1990	-0.10	-0.001	-0.05	0.01	0.01	-0.05	1.50	-0.10	-0.05	-0.001	-0.10	0.0940	-1.2	-0.2	-1.0	-1.0
GW 3	01/16/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.45	-0.10	-0.05	-0.001	-0.10	0.1387	-1.2	-0.2	-1.0	-1.0
GW 3	04/02/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.43	-0.10	-0.05	0.002	-0.10	0.0700	-1.3	-0.2	-1.0	-1.0
GW 3	07/16/1991	-0.10	-0.001	-0.01	-0.01	0.01	-0.05	1.40	-0.10	-0.05	-0.001	-0.10	0.1280	-1.3	-0.2	-1.0	-1.0
GW 3	10/14/1991	-0.10	-0.001	-0.01	-0.01	0.02	-0.05	1.11	-0.10	-0.05	0.001	-0.10	0.1400	-1.2	-0.2	-1.0	-1.0
GW 3	01/14/1992	0.16	-0.001	-0.01	-0.01	0.02	-0.05	1.61	-0.10	-0.05	0.001	-0.10	0.0800	-1.2	-0.2	-1.0	-1.0
GW 3	04/09/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.21	-0.10	-0.05	0.002	-0.10	0.1550	4.2	-0.2	-1.0	-1.0
GW 3	07/07/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.25	-0.10	-0.05	0.002	-0.10	0.1200	-2.9	-0.2	-1.0	-1.0
GW 3	10/07/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.92	-0.10	-0.05	0.002	-0.10	0.3310	-1.8	-0.2	-1.0	3.3
GW 3	01/07/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.71	-0.10	-0.05	0.005	-0.10	0.6020	3.7	-0.2	-1.0	-1.0
GW 3	04/07/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.64	-0.10	-0.05	0.001	-0.10	0.2190	-1.6	-0.2	-1.0	-1.0
GW 3	07/14/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.81	-0.10	-0.05	0.001	-0.10	0.1350	4.6	-0.2	-1.0	1.8
GW 3	10/07/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.79	-0.10	-0.05	0.002	-0.10	0.0800	-1.6	-0.2	-1.0	-1.0
GW 3	01/06/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.92	-0.10	-0.05	-0.001	-0.10	0.0990	-1.8	-0.2	-1.0	-1.0
GW 3	04/13/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.89	-0.10	-0.05	-0.001	-0.10	0.0960	-2.7	-0.2	-1.0	1.9
GW 3	07/21/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	2.26	-0.10	-0.05	-0.001	-0.10	0.0820	-1.4	-0.2	-1.0	-1.0
GW 3	10/05/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.87	-0.10	-0.05	-0.001	-0.10	0.0830	-1.3	-0.2	-1.0	1.5
GW 3	01/05/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.97	-0.10	-0.05	-0.001	-0.10	0.0780	3.4	-0.2	-1.0	4.8
GW 3	04/05/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.91	-0.10	-0.05	-0.001	-0.10	0.0800	-1.5	-0.2	-1.0	-1.0
GW 3	07/06/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.92	-0.10	-0.05	0.002	-0.10	0.0882	-1.2	-0.2	-1.0	-1.0
GW 3	10/03/1995	-0.10	0.003	-0.01	-0.01	-0.01	-0.05	1.93	-0.10	-0.05	0.012	-0.10	0.0868	-1.3	-0.2	-1.0	-1.0
GW 3	01/03/1996	-0.10	0.002	-0.01	-0.01	-0.01	-0.05	1.74	-0.10	-0.05	0.014	-0.10	0.0810	-1.4	0.4	-1.0	-1.0
GW 3	04/02/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.82	-0.10	-0.05	-0.001	-0.10	0.0870	-1.2	-0.2	-1.0	-1.0
GW 3	07/07/1996	-0.10	0.01	-0.01	-0.01	-0.01	-0.05	1.99	-0.10	-0.05	-0.001	-0.10	0.1000	-1.3	1.2	-1.0	-1.0
GW 3	10/01/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.92	-0.10	-0.05	0.001	-0.10	0.0720	-0.6	0.4	-1.0	-1.0
GW 3	01/22/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.92	-0.10	-0.05	-0.001	-0.10	0.0720	-1.1	-0.2	-1.0	-1.0
GW 3	04/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.93	-0.10	-0.05	0.020	-0.10	0.0860	-0.6	-0.2	-1.0	-1.0
GW 3	07/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	1.70	-0.10	-0.05	-0.001	-0.10	0.0610	-0.9	-0.2	-1.0	-1.0
GW 3	10/07/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	2.19	-0.10	-0.05	-0.001	-0.10	0.0650	-1.2	-0.2	-1.0	-1.0
GW 3	01/16/1998	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	2.00	-0.10	-0.05	-0.001	-0.10	0.0721	-2.3	-0.2	-1.0	3.8
GW 3	04/07/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	1.79	-0.10	-0.05	-0.001	-0.10	0.0632	-1.2	-0.2	-1.0	-1.0
GW 3	07/07/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	1.69	-0.10	-0.05	-0.001	-0.10	-0.0003	-1.5	-0.2	-1.0	-1.0
GW 3	10/06/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	1.76	-0.10	-0.05	-0.001	-0.10	0.0607	-1.7	-0.2	-1.0	-1.0
GW 3	01/05/1999	-0.10	-0.001	-0.01	0.007	-0.01	-0.05	1.41	-0.10	-0.05	-0.001	-0.10	0.0475	-1.2	-0.2	-1.0	-1.0
GW 3	04/06/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	1.82	-0.10	-0.05	-0.001	-0.10	0.0518	-1.2	-0.2	-1.0	-1.0
GW 3	07/13/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	1.69	-0.10	-0.05	-0.001	-0.10	0.0047	-1.2	-0.2	-1.0	-1.0

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard EPA Standard	NA NA	NA NA	NA NA	NA 3,170	NA NA	NA NA	NA NA	NA NA	NA NA	NA 2,160	NA 250	NA NA	NA 30	0.001 NA	0.001 NA	0.005 NA
GW 4	10/12/1989	6915.00	7.2	7.48	4,078	680	202	202	18.0	793	1,822	50.2	0.21	134	-0.00100	-0.001	-0.005
GW 4	01/04/1990	6914.60	7.2	7.28	4,036	728	222	198	14.1	775	1,780	51.7	0.11	134	-0.00100	-0.001	-0.005
GW 4	04/03/1990	6913.60	7.1	7.40	4,193	740	212	194	14.0	789	1,707	52.4	0.09	120	-0.00100	-0.001	-0.005
GW 4	07/02/1990	6912.70	6.8	7.30	4,326	830	214	167	13.8	866	1,651	54.7	-0.05	176	-0.00100	-0.001	-0.005
GW 4	10/03/1990	6912.40	6.9	7.31	4,135	699	198	198	14.4	732	1,610	56.2	-0.05	116	-0.00100	-0.001	-0.005
GW 4	01/15/1991	6912.40	7.0	7.29	4,064	759	213	189	13.3	731	1,678	54.6	-0.05	176	-0.00100	-0.001	-0.005
GW 4	04/02/1991	6912.70	7.1	7.59	3,990	641	183	180	12.4	550	1,660	46.3	-0.05	162	-0.00100	-0.001	-0.005
GW 4	07/17/1991	6914.40	7.1	7.55	3,981	578	190	164	12.9	527	1,703	41.2	0.08	132	-0.00100	-0.001	-0.005
GW 4	10/15/1991	6913.80	7.0	7.26	3,880	698	214	165	13.4	732	1,826	43.8	-0.05	67.6	-0.00100	-0.001	-0.005
GW 4	01/15/1992	6913.10	7.0	7.03	3,779	619	189	163	11.8	623	1,803	38.7	-0.05	77.4	-0.00100	-0.001	-0.005
GW 4	04/07/1992	6912.20	7.0	7.19	3,334	579	177	185	14.1	602	1,621	38.7	0.06	78.2	-0.00100	-0.001	-0.005
GW 4	07/08/1992	6911.50	7.0	7.59	3,506	661	190	233	14.7	636	1,663	40.7	0.20	108	-0.00100	-0.001	-0.005
GW 4	10/06/1992	6910.90	7.1	7.35	3,857	762	204	187	13.2	585	1,727	42.0	-0.05	162	-0.00100	-0.001	-0.005
GW 4	01/06/1993	6910.40	7.1	7.72	3,595	667	175	180	12.6	714	1,454	49.1	0.13	138	-0.00100	-0.001	-0.005
GW 4	04/06/1993	6910.30	7.2	7.63	3,898	665	177	192	10.6	736	1,694	51.2	-0.05	137	-0.00100	-0.001	-0.005
GW 4	07/13/1993	6910.50	7.1	7.13	4,181	727	195	168	12.6	755	1,820	47.0	0.10	125	-0.00100	-0.001	-0.005
GW 4	10/06/1993	6910.60	7.3	7.45	4,081	694	177	170	11.3	780	1,700	42.1	-0.05	124	-0.00100	-0.001	-0.005
GW 4	01/06/1994	6911.60	7.2	7.71	3,798	656	169	171	10.7	798	1,689	40.2	0.17	82.4	-0.00100		
GW 4	04/13/1994	6911.70	7.1	7.20	3,682	658	170	157	11.1	752	1,688	39.1	0.30	109	-0.00100		
GW 4	07/20/1994	6910.80	7.1	7.09	3,676	727	195	157	12.0	733	1,729	40.1	0.18	110	-0.00100		
GW 4	10/04/1994	6910.70	7.1	7.78	3,849	721	198	181	12.0	712	1,796	45.6	0.13	119	-0.00100		
GW 4	01/05/1995	6910.30	7.1	7.42	3,937	746	192	168	13.0	738	1,697	45.6	0.22	122	-0.00100		
GW 4	04/04/1995	6910.40	7.2	7.47	3,989	790	216	182	12.8	805	1,844	49.0	0.44	141	-0.00100		
GW 4	07/06/1995	6909.40	7.2	7.63	3,957	740	207	183	15.2	610	1,740	58.0	0.85	141	-0.00100		
GW 4	10/03/1995	6909.20	7.1	7.82	4,277	715	213	172	12.6	630	1,692	51.0	3.01	165	-0.00100		
GW 4	01/02/1996	6909.20															
GW 4	04/02/1996	6909.20	7.1	7.83	4,092	718	193	166	12.4	706	1,688	46.6	0.37	148	-0.00100		
GW 4	07/09/1996	6908.60															
GW 4	10/01/1996	6908.50	6.9	7.66	3,900	743	194	165	12.1	806	1,671	44.0	0.28	126	-0.00100		
GW 4	01/22/1997	6908.60	6.6	7.70	3,490	740	195	146	11.1	773	1,739	48.0	0.10	116	-0.00100		
GW 4	04/08/1997	6908.50	7.2	7.75	3,840	744	196	149	11.3	680	1,734	46.0	0.07	119	-0.00100		
GW 4	07/08/1997	6908.80	7.3	7.77	3,890	730	192	144	11.0	667	1,710	46.2	0.12	111	-0.00100		
GW 4	10/07/1997	6909.60	6.7	7.7	3,950	736	183	153	11.3	798	1,610	44.0	0.06	106	-0.00100		
GW 4	01/16/1998	6910.50	7.2	7.94	3,880	712	188	162	12.1	817	1,800	44.2	0.22	105	-0.00100		
GW 4	04/07/1998	6910.50	7.0	7.69	3,890	715	192	153	11.3	777	1,600	35.0	-0.05	95.6	-0.00100		
GW 4	07/07/1998	6910.30	7.2	7.8	3,870	700	190	163	11.8	797	1,600	38.7	0.12	86.9	-0.00100		
GW 4	10/06/1998	6910.20	7.18	7.92	3,840	714	198	165	13	670	1,780	42.4	0.28	105	-0.00100		
GW 4	01/05/1999	6910.00	7.3	7.78	3,810	650	182	151	11.3	622	1,620	41.4	0.13	75.7	-0.00100		
GW 4	04/06/1999	6910.40	7.2	7.99	3,810	675	179	146	11.5	644	1,620	50.1	0.26	100	-0.00100		
GW 4	07/13/1999	6909.25	7.2														

TABLE B.1

SOUTHWEST ALLUVIUM DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.02	0.01	0.05	0.05	2.60	1.00	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
GW 4	10/12/1989	0.12	-0.001	-0.05	-0.01	-0.01	-0.05	0.04	-0.10	-0.05	0.008	-0.10	0.0770	-2.2	-0.2	1.1	2.0
GW 4	01/04/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.05	-0.10	-0.05	0.005	-0.10	0.0770	-3.9	-0.2	-1.0	3.1
GW 4	04/03/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	0.006	-0.10	0.0770	-2.0	0.4	-1.0	1.7
GW 4	07/02/1990	-0.10	-0.001	-0.05	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.004	-0.10	0.0756	-1.2	-0.2	-1.0	-1.0
GW 4	10/03/1990	-0.10	0.001	-0.05	-0.01	0.02	-0.05	0.11	-0.10	-0.05	-0.001	-0.10	0.0590	-2.9	-0.2	-1.0	-1.0
GW 4	01/15/1991	0.24	-0.001	-0.01	-0.01	0.01	-0.05	0.04	-0.10	-0.05	0.004	-0.10	0.0647	-1.8	-0.2	-1.0	1.2
GW 4	04/02/1991	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.08	-0.10	-0.05	0.005	-0.10	0.0480	-1.2	-0.2	2.2	-1.0
GW 4	07/17/1991	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.14	-0.10	-0.05	0.008	-0.10	0.0440	-1.2	-0.2	-1.0	-1.0
GW 4	10/15/1991	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.14	-0.10	-0.05	0.008	-0.10	0.0440	-2.2	-0.2	-1.0	-1.0
GW 4	01/15/1992	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.10	-0.10	-0.05	0.006	-0.10	0.1240	-2.1	-0.2	-1.0	-1.0
GW 4	04/07/1992	-0.10	0.004	-0.01	-0.01	-0.01	-0.05	0.06	-0.10	-0.05	0.019	-0.10	0.0700	7.3	-0.2	6.3	-1.0
GW 4	07/08/1992	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.05	-0.10	-0.05	0.004	-0.10	0.0470	2.8	-0.2	-1.0	-1.0
GW 4	10/06/1992	0.10	0.002	-0.01	-0.01	-0.01	-0.05	0.05	0.10	-0.05	0.016	-0.10	0.0860	1.3	-0.2	-1.0	-1.0
GW 4	01/06/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.06	-0.10	-0.05	0.015	-0.10	0.1110	-3.3	-0.2	-1.0	5.1
GW 4	04/06/1993	-0.10	0.001	-0.01	-0.01	-0.01	-0.05	0.05	-0.10	-0.05	0.010	-0.10	0.0810	-1.3	-0.2	2.8	-1.0
GW 4	07/13/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.04	-0.10	-0.05	0.016	-0.10	0.0640	-1.2	-0.2	3.2	-1.0
GW 4	10/06/1993	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.05	-0.10	-0.05	0.007	-0.10	0.0730	-1.5	-0.2	1.2	1.9
GW 4	01/06/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.08	-0.10	-0.05	0.007	-0.10	0.0520	6.6	-0.2	1.6	10.6
GW 4	04/13/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.04	-0.10	-0.05	0.004	-0.10	0.0670	-1.9	-0.2	6.8	-1.0
GW 4	07/20/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.007	-0.10	0.0670	15.3	-0.2	-1.0	22.9
GW 4	10/04/1994	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.004	-0.10	0.0870	-1.2	-0.2	-1.0	-1.0
GW 4	01/05/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.07	-0.10	-0.05	0.002	-0.10	0.0620	-2.1	-0.2	-1.0	1.3
GW 4	04/04/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.04	-0.10	-0.05	0.005	-0.10	0.0720	-1.6	-0.2	-1.0	-1.0
GW 4	07/06/1995	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.09	-0.10	-0.05	0.012	-0.10	0.0374	-1.9	0.4	-1.0	-1.0
GW 4	10/03/1995	-0.10	0.004	-0.01	-0.01	-0.01	-0.05	0.09	-0.10	-0.05	0.019	-0.10	0.0711	-1.3	-0.2	-1.0	1.3
GW 4	01/02/1996																
GW 4	04/02/1996	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0650	-1.3	-0.2	-1.0	-1.0
GW 4	07/09/1996																
GW 4	10/01/1996	0.19	0.001	-0.01	-0.01	-0.01	-0.05	0.08	-0.10	-0.05	0.007	-0.10	0.0630	-1.3	0.8	-1.0	-1.0
GW 4	01/22/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.07	-0.10	-0.05	0.003	-0.10	0.0600	-0.6	-0.2	-1.0	-1.0
GW 4	04/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.10	-0.10	-0.05	0.274	-0.10	0.0660	-0.6	-0.2	-1.0	-1.0
GW 4	07/08/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.12	-0.10	-0.05	-0.001	-0.10	0.0630	-3.1	-0.2	-1.0	2.9
GW 4	10/07/1997	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.16	-0.10	-0.05	0.004	-0.10	0.0660	-1.5	-0.2	-1.0	-1.0
GW 4	01/16/1998	-0.10	-0.001	-0.01	-0.01	-0.01	-0.05	0.04	-0.10	-0.05	0.005	-0.10	0.0714	-1.2	-0.2	-1.0	-1.0
GW 4	04/07/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.1	-0.10	-0.05	0.037	-0.10	0.0729	-1.5	-0.2	-1.0	-1.0
GW 4	07/07/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.09	-0.10	-0.05	0.024	-0.10	0.0734	-1.5	-0.2	-1.0	-1.0
GW 4	10/06/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.21	-0.10	-0.05	0.005	-0.10	0.0782	-1.2	-0.2	-1.0	-1.0
GW 4	01/05/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.11	-0.10	-0.05	0.009	-0.10	0.0744	-2.2	-0.2	-1.0	-1.0
GW 4	04/06/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.1	-0.10	-0.05	0.007	-0.10	0.0715	-1.8	-0.2	-1.0	-1.0
GW 4	07/13/1999																

LABORATORY ANALYTICAL DATA
1999



ENERGY LABORATORIES, INC.

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MAILING: P.O. BOX 3258 • CASPER, WY 82602

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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

509D	509D	509D
98-64139	99-10592	99-24257
10-06-98	01-05-99	04-06-99
November 22, 1998	February 13, 1999	April 30, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	815	761	805
Magnesium	Mg	mg/L	0.01	689	609	630
Sodium	Na	mg/L	0.05	353	289	289
Potassium	K	mg/L	0.10	19.9	17.1	17.6
Bicarbonate	HCO ₃	mg/L	0.10	1910	1970	1950
Sulfate	SO ₄	mg/L	1.0	3050	3100	2830
Chloride	Cl	mg/L	1.0	312	317	345
Ammonium as N	NH ₄	mg/L	0.05	13.8	12.9	13.1
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	44.4	41.1	9.53

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	6960	6830	6780
pH		std. units	0.10	7.78	7.76	7.60

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	0.83	0.78	0.89
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	mg/L	0.0003	0.105	0.103	0.104
Radium 226	²²⁶ Ra	pCi/L	0.2	0.6	1.0	1.1
Radium Error Estimate ±				0.1	0.3	0.4
Radium 228	²²⁸ Ra	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±						
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±						

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		106.81	108.74	101.32
Cation	meq		115.07	102.78	106.76
WYDEQ A/C Balance	%	-5 - +5	3.72	-2.82	2.61
Calc TDS	mg/L		6409	6278	5952
TDS A/C Balance	dec. %	0.80 - 1.20	1.09	1.09	1.14

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COMPLETE ANALYTICAL SERVICES

UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE:
 REPORT DATE:
 QUARTER REPRESENTED:
 UNC SUBMITTAL #:

509D	509D	509D
99-10592	99-24257	99-35510
01-05-99	04-06-99	07-13-99
February 13, 1999	April 30, 1999	August 17, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	761	805	762
Magnesium	Mg	EPA 200.7	mg/L	0.01	609	630	644
Sodium	Na	EPA 200.7	mg/L	0.05	289	289	314
Potassium	K	EPA 200.7	mg/L	0.10	17.1	17.6	25.1
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	1970	1950	1540
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	3100	2830	3000
Chloride	Cl	EPA 200.7	mg/L	1.0	317	345	312
Ammonium as N	NH ₄	EPA 350.1	mg/L	0.05	12.9	13.1	17.6
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	41.1	9.53	36.6

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	6830	6780	6620
pH		SM 4500-H B.	std. units	0.10	7.76	7.60	7.72

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	0.78	0.89	0.56
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	0.003
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium	²³⁵ U	EPA 200.8	mg/L	0.0003	0.103	0.104	0.104
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	1.0	1.1	1.9
Radium Error Estimate ±					0.3	0.4	0.4
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±							
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	< 1.0	9.3
G. Alpha Error Estimate ±							1.1

Trace Organics							
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range			
Anion	meq		108.74	101.32	99.15	
Cation	meq		102.78	106.76	107.36	
WYDEQ A/C Balance	%	-5 - +5	-2.82	2.61	3.98	
Calc TDS	mg/L		6278	5952	6013	
TDS A/C Balance	dec. %	0.80 - 1.20	1.09	1.14	1.10	



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

624	624	624
98-64141	99-10594	99-24259
10-06-98	01-05-99	04-06-99
November 22, 1998	February 13, 1999	April 30, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	708	659	692
Magnesium	Mg	mg/L	0.01	464	423	451
Sodium	Na	mg/L	0.05	216	188	188
Potassium	K	mg/L	0.10	6.2	5.3	5.4
Bicarbonate	HCO ₃	mg/L	0.10	1230	1160	1230
Sulfate	SO ₄	mg/L	1.0	2220	2030	2000
Chloride	Cl	mg/L	1.0	175	172	180
Ammonium as N	NH ₄	mg/L	0.05	< 0.05	0.18	0.08
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	101	94.2	94.5

Non-Metals						
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	5210	5140	5150
pH		std. units	0.10	7.88	7.85	7.89

Trace Metals						
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	0.006	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	0.03	0.02	0.03
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics						
Uranium (U ²³⁸)	Nat U	mg/L	0.0003	0.0409	0.0395	0.0366
Radium 226 (Ra ²²⁶)	²²⁶ Ra	pCi/L	0.2	0.7	< 0.2	< 0.2
Radium Error Estimate ±				0.1		
Radium 228 (Ra ²²⁸)	²²⁸ Ra	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±						
Thorium 230 (Th ²³⁰)	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210 (Pb ²¹⁰)	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±						

Trace Organics						
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range			
Anion	meq		78.56	72.88	73.65
Cation	meq		83.63	76.53	80.51
WYDEQ A/C Balance	%	-5 - +5	3.13	2.44	4.45
Calc TDS	mg/L		4852	4475	4550
TDS A/C Balance	dec. %	0.80 - 1.20	1.07	1.15	1.13

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COMPLETE ANALYTICAL SERVICES

UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE:
 REPORT DATE:
 QUARTER REPRESENTED:
 UNC SUBMITTAL #:

624	624	624
99-10594	99-24259	99-35512
01-05-99	04-06-99	07-13-99
February 13, 1999	April 30, 1999	August 17, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	659	692	646
Magnesium	Mg	EPA 200.7	mg/L	0.01	423	451	452
Sodium	Na	EPA 200.7	mg/L	0.05	188	188	191
Potassium	K	EPA 200.7	mg/L	0.10	5.3	5.4	10.8
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	1160	1230	1070
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	2030	2000	2070
Chloride	Cl	EPA 200.7	mg/L	1.0	172	180	181
Ammonium as N	NH ₄	EPA 350.1	mg/L	0.05	0.18	0.08	0.18
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	94.2	94.5	88.7

Non-Metals		Method	Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	5140	5150	5020
pH		SM 4500-H B.	std. units	0.10	7.85	7.89	7.85

Trace Metals		Method	Units	Reporting Limit	Results	Results	Results
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	0.006	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	0.02
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	0.02	0.03	0.02
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Method	Units	Reporting Limit	Results	Results	Results
Uranium (U ²³⁸)	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0395	0.0366	0.0339
Radium 226 (Ra ²²⁶)	²²⁶ Ra	EPA 903.0	pCi/L	0.2	0.7	< 0.2	< 0.2
Radium Error Estimate ±					0.1		
Radium 228 (Ra ²²⁸)	²²⁸ Ra	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±							
Thorium 230 (Th ²³⁰)	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210 (Pb ²¹⁰)	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±							

Trace Organics		Method	Units	Reporting Limit	Results	Results	Results
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range			
Anion	meq			72.88	73.65	72.10
Cation	meq			76.53	80.51	78.57
WYDEQ A/C Balance	%	-5 - +5		2.44	4.45	4.30
Calc TDS	mg/L			4475	4550	4479
TDS A/C Balance	dec. %	0.80 - 1.20		1.15	1.13	1.12



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

627	627	627
98-64137	99-10598	99-24263
10-06-98	01-06-99	04-06-99
November 22, 1998	February 13, 1999	April 30, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	589	566	580
Magnesium	Mg	mg/L	0.01	288	284	309
Sodium	Na	mg/L	0.05	530	509	504
Potassium	K	mg/L	0.10	4.8	4.8	4.7
Bicarbonate	HCO ₃	mg/L	0.10	579	586	580
Sulfate	SO ₄	mg/L	1.0	2670	2740	2660
Chloride	Cl	mg/L	1.0	61.5	60.0	68.0
Ammonium as N	NH ₄	mg/L	0.05	0.06	0.17	0.27
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	109	142	131

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	5380	5340	5650
pH		std. units	0.10	7.85	8.02	7.84

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	0.006	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	0.14	0.22	0.18
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	0.002
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	mg/L	0.0003	0.0345	0.0239	0.0233
Radium 226	²²⁶ Ra	pCi/L	0.2	1.2	< 0.2	1.0
Radium Error Estimate ±				0.1		0.3
Radium 228	²²⁸ Ra	pCi/L	1.0	2.6	< 1.0	2.5
Radium Error Estimate ±				1.3		0.3
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±						

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		74.63	78.52	76.20
Cation	meq		76.64	74.26	76.82
WYDEQ A/C Balance	%	-5 - +5	1.33	-2.79	0.41
Calc TDS	mg/L		4916	5086	4997
TDS A/C Balance	dec. %	0.80 - 1.20	1.09	1.05	1.13

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COMPLETE ANALYTICAL SERVICES

UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE:
 REPORT DATE:
 QUARTER REPRESENTED:
 UNC SUBMITTAL #:

627	627	627
99-10598	99-24263	99-35516
01-06-99	04-06-99	07-13-99
February 13, 1999	April 30, 1999	August 17, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	566	580	579
Magnesium	Mg	EPA 200.7	mg/L	0.01	284	309	308
Sodium	Na	EPA 200.7	mg/L	0.05	509	504	498
Potassium	K	EPA 200.7	mg/L	0.10	4.8	4.7	10.6
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	586	580	594
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	2740	2660	2620
Chloride	Cl	EPA 200.7	mg/L	1.0	60.0	68.0	67.7
Ammonium as N	NH ₄	EPA 350.1	mg/L	0.05	0.17	0.27	0.17
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	142	131	126

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	5340	5650	5320
pH		SM 4500-H B.	std. units	0.10	8.02	7.84	8.21

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	0.006	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	0.02
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	0.22	0.18	0.08
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	0.002	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0239	0.0233	0.0020
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	< 0.2	1.0	0.8
Radium Error Estimate ±						0.3	0.2
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	< 1.0	2.5	< 1.0
Radium Error Estimate ±						0.3	
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	3.0
Lead Error Estimate ±							0.4
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	< 1.0	2.9
G. Alpha Error Estimate ±							0.8

Trace Organics							
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range			
Anion		meq		78.52	76.20	75.23
Cation		meq		74.26	76.82	76.57
WYDEQ A/C Balance		%	-5 - +5	-2.79	0.41	0.88
Calc TDS		mg/L		5086	4997	4939
TDS A/C Balance		dec. %	0.80 - 1.20	1.05	1.13	1.08



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

632	632	632
98-64133	99-10596	99-24261
10-06-98	01-05-99	04-06-99
November 22, 1998	February 13, 1999	April 30, 1999
Fourth '98	First '99	Second '99
TE 1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	664	629	662
Magnesium	Mg	mg/L	0.01	598	559	594
Sodium	Na	mg/L	0.05	401	331	354
Potassium	K	mg/L	0.10	9.1	8.6	8.1
Bicarbonate	HCO ₃	mg/L	0.10	1820	1930	1890
Sulfate	SO ₄	mg/L	1.0	2730	2440	2720
Chloride	Cl	mg/L	1.0	279	242	251
Ammonium as N	NH ₄	mg/L	0.05	0.22	0.21	0.21
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	7.89	5.94	6.37

Non-Metals						
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	6200	6200	6320
pH		std. units	0.10	7.71	7.82	7.90

Trace Metals						
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	0.008
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	0.74	0.66	0.70
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics						
Uranium	²³⁸ U	mg/L	0.0003	0.144	0.0817	0.124
Radium 226	²²⁶ Ra	pCi/L	0.2	1.3	< 0.2	1.7
Radium Error Estimate ±				0.1		0.4
Radium 228	²²⁸ Ra	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±						
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±						

Trace Organics						
Chloroform		µg/L	1.0	2.4	1.6	1.5

Quality Assurance Data		Target Range			
Anion	meq		95.13	89.71	95.18
Cation	meq		100.77	92.71	98.26
WYDEQ A/C Balance	%	-5 - +5	2.88	1.64	1.60
Calc TDS	mg/L		5627	5202	5563
TDS A/C Balance	dec. %	0.80 - 1.20	1.10	1.19	1.14

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COMPLETE ANALYTICAL SERVICES

UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE:
 REPORT DATE:
 QUARTER REPRESENTED:
 UNC SUBMITTAL #:

632	632	632
99-10596	99-24261	99-35514
01-05-99	04-06-99	07-13-99
February 13, 1999	April 30, 1999	August 17, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	629	662	651
Magnesium	Mg	EPA 200.7	mg/L	0.01	559	594	602
Sodium	Na	EPA 200.7	mg/L	0.05	331	354	336
Potassium	K	EPA 200.7	mg/L	0.10	8.6	8.1	14.3
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	1930	1890	1910
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	2440	2720	2830
Chloride	Cl	EPA 200.7	mg/L	1.0	242	251	244
Ammonium as N	NH ₄	EPA 350.1	mg/L	0.05	0.21	0.21	0.21
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	5.94	6.37	5.72

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	6200	6320	6140
pH		SM 4500-H B.	std. units	0.10	7.82	7.90	7.78

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	0.008	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	0.66	0.70	0.72
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium	Nat _U	EPA 200.8	mg/L	0.0003	0.0817	0.124	0.0775
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	< 0.2	1.7	0.5
Radium Error Estimate ±						0.4	0.2
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±							
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	2.9
Lead Error Estimate ±							0.4
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	< 1.0	3.5
G. Alpha Error Estimate ±							0.8

Trace Organics							
Chloroform		EPA 601	µg/L	1.0	1.6	1.5	1.8

Quality Assurance Data		Target Range			
Anion	meq		89.71	95.18	97.55
Cation	meq		92.71	98.26	97.76
WYDEQ A/C Balance	%	-5 - +5	1.64	1.60	0.11
Calc TDS	mg/L		5202	5563	5659
TDS A/C Balance	dec. %	0.80 - 1.20	1.19	1.14	1.09



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 23	EPA 23	EPA 23
98-64595	99-10954	99-24823
10-13-98	01-12-99	04-13-99
December 6, 1998	February 26, 1999	May 16, 1999
Fourth '98	First '99	Second '99
TE-2-10-98	TE-2-1-99	TE-4-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	668	653	684
Magnesium	Mg	mg/L	0.01	390	374	375
Sodium	Na	mg/L	0.05	151	142	145
Potassium	K	mg/L	0.10	10.5	9.7	9.6
Bicarbonate	HCO ₃	mg/L	0.10	1110	1180	1140
Sulfate	SO ₄	mg/L	1.0	2300	2100	2290
Chloride	Cl	mg/L	1.0	78.2	95.6	92.2
Ammonium as N	NH ₄	mg/L	0.05	3.05	2.45	2.09
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	59.2	61.6	29.2

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	4620	4740	4670
pH		std. units	0.10	7.95	7.72	7.68

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	0.005	0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	2.83	2.75	2.96
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	mg/L	0.0003	0.0288	0.0443	0.0313
Radium 226	²²⁶ Ra	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Radium Error Estimate ±						
Radium 228	²²⁸ Ra	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±						
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±						

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/l	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		72.54	70.19	71.08
Cation	meq		73.12	70.58	72.32
WYDEQ A/C Balance	%	-5 - +5	0.39	0.28	0.87
Calc TDS	mg/L		4422	4243	4301
TDS A/C Balance	dec. %	0.80 - 1.20	1.04	1.12	1.09

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 23	EPA 23	EPA 23
99-10954	99-24823	99-35982
01-12-99	04-13-99	07-20-99
February 26, 1999	May 16, 1999	August 26, 1999
First '99	Second '99	Third '99
TE-2-1-99	TE-4-4-99	TE-6-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	653	684	690
Magnesium	Mg	EPA 200.7	mg/L	0.01	374	375	402
Sodium	Na	EPA 200.7	mg/L	0.05	142	145	134
Potassium	K	EPA 200.7	mg/L	0.10	9.7	9.6	12.0
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	1180	1140	1120
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	2100	2290	2300
Chloride	Cl	EPA 200.7	mg/L	1.0	95.6	92.2	86.0
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	2.45	2.09	2.65
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	61.6	29.2	56.5

Non-Metals		Method	Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	4740	4670	4640
pH		SM 4500-H B.	std. units	0.10	7.72	7.68	7.67

Trace Metals		Method	Units	Reporting Limit	Results	Results	Results
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	0.005	0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	2.75	2.96	2.33
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Method	Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0443	0.0313	0.0286
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Radium Error Estimate ±							
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±							
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±							

Trace Organics		Method	Units	Reporting Limit	Results	Results	Results
Chloroform		EPA 601	µg/l	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range	Results	Results	Results
Anion		meq		70.19	71.08	72.74
Cation		meq		70.58	72.32	74.46
WYDEQ A/C Balance		%	-5 - +5	0.28	0.87	1.17
Calc TDS		mg/L		4243	4301	4440
TDS A/C Balance		dec. %	0.80 - 1.20	1.12	1.09	1.05



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 25	EPA 25	EPA 25
98-64596	99-10955	99-24824
10-13-98	01-12-99	04-13-99
December 6, 1998	February 26, 1999	May 16, 1999
Fourth '98	First '99	Second '99
TE-2-10-98	TE-2-1-99	TE-4-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	771	733	813
Magnesium	Mg	mg/L	0.01	214	197	196
Sodium	Na	mg/L	0.05	158	137	146
Potassium	K	mg/L	0.10	8.6	8.0	7.8
Bicarbonate	HCO ₃	mg/L	0.10	886	930	969
Sulfate	SO ₄	mg/L	1.0	1730	1600	1620
Chloride	Cl	mg/L	1.0	89.3	89.5	93.6
Ammonium as N	NH ₄	mg/L	0.05	0.13	0.08	0.05
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	69.7	78.5	75.0

Non-Metals						
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	3950	4060	4040
pH		std. units	0.10	8.14	7.86	7.97

Trace Metals						
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	0.61	0.76	0.55
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics						
Uranium	²³⁸ U	mg/L	0.0003	0.0987	0.151	0.0996
Radium 226	²²⁶ Ra	pCi/L	0.2	0.4	0.8	< 0.2
Radium Error Estimate ±				0.1	0.3	
Radium 228	²²⁸ Ra	pCi/L	1.0	< 1.0	< 1.0	1.6
Radium Error Estimate ±						0.2
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±						

Trace Organics						
Chloroform		µg/l	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range			
Anion	meq		58.06	56.71	57.63
Cation	meq		63.53	59.29	63.58
WYDEQ A/C Balance	%	-5 - +5	4.50	2.22	4.91
Calc TDS	mg/L		3723	3578	3694
TDS A/C Balance	dec. %	0.80 - 1.20	1.06	1.13	1.09

UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE:
 REPORT DATE:
 QUARTER REPRESENTED:
 UNC SUBMITTAL #:

EPA 25	EPA 25	EPA 25
99-10955	99-24824	99-35983
01-12-99	04-13-99	07-20-99
February 26, 1999	May 16, 1999	August 26, 1999
First '99	Second '99	Third '99
TE-2-1-99	TE-4-4-99	TE-6-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	733	813	762
Magnesium	Mg	EPA 200.7	mg/L	0.01	197	196	226
Sodium	Na	EPA 200.7	mg/L	0.05	137	146	140
Potassium	K	EPA 200.7	mg/L	0.10	8.0	7.8	9.0
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	930	969	941
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	1600	1620	1740
Chloride	Cl	EPA 200.7	mg/L	1.0	89.5	93.6	84.0
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	0.08	0.05	0.07
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	78.5	75.0	72.4

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	4060	4040	4040
pH		SM 4500-H B.	std. units	0.10	7.86	7.97	7.85

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	0.76	0.55	0.30
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.151	0.0996	0.103
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	0.8	< 0.2	1.5
Radium Error Estimate ±					0.3		0.2
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	< 1.0	1.6	1.4
Radium Error Estimate ±						0.2	0.1
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	< 1.0	2.2
G. Alpha Error Estimate ±							0.5

Trace Organics							
Chloroform		EPA 601	µg/l	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range			
Anion	meq		56.71	57.63	59.21
Cation	meq		59.29	63.58	63.28
WYDEQ A/C Balance	%	-5 - +5	2.22	4.91	3.32
Calc TDS	mg/L		3578	3694	3753
TDS A/C Balance	dec. %	0.80 - 1.20	1.13	1.09	1.08



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 28	EPA 28	EPA 28
98-64594	99-10953	99-24822
10-13-98	01-12-99	04-13-99
December 6, 1998	February 26, 1999	May 16, 1999
Fourth '98	First '99	Second '99
TE-2-10-98	TE-2-1-99	TE-4-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	526	468	544
Magnesium	Mg	mg/L	0.01	525	504	550
Sodium	Na	mg/L	0.05	227	204	214
Potassium	K	mg/L	0.10	12.4	12.8	11.9
Bicarbonate	HCO ₃	mg/L	0.10	535	538	533
Sulfate	SO ₄	mg/L	1.0	3050	3100	2930
Chloride	Cl	mg/L	1.0	104	101	106
Ammonium as N	NH ₄	mg/L	0.05	0.11	0.08	0.08
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	39.5	43.7	45.1

Non-Metals						
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	5230	5380	5360
pH		std. units	0.10	7.94	8.02	8.05

Trace Metals						
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	0.18	0.30	0.32
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometric						
Uranium	²³⁸ U	mg/L	0.0003	0.0315	0.0324	0.0251
Radium 226	²²⁶ Ra	pCi/L	0.2	< 0.2	0.6	< 0.2
Radium Error Estimate ±					0.2	
Radium 228	²²⁸ Ra	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±						
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±						

Trace Organics						
Chloroform		µg/l	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range			
Anion	meq		78.16	79.37	75.99
Cation	meq		80.27	74.63	82.68
WYDEQ A/C Balance	%	-5 - +5	1.39	-3.08	-4.22
Calc TDS	mg/L		4887	4853	4823
TDS A/C Balance	dec. %	0.80 - 1.20	1.07	1.11	1.11

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COMPLETE ANALYTICAL SERVICES

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 28	EPA 28	EPA 28
99-10953	99-24822	99-35981
01-12-99	04-13-99	07-20-99
February 26, 1999	May 16, 1999	August 26, 1999
First '99	Second '99	Third '99
TE-2-1-99	TE-4-4-99	TE-6-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	468	544	528
Magnesium	Mg	EPA 200.7	mg/L	0.01	504	550	556
Sodium	Na	EPA 200.7	mg/L	0.05	204	214	235
Potassium	K	EPA 200.7	mg/L	0.10	12.8	11.9	15.0
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	538	533	557
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	3100	2930	3010
Chloride	Cl	EPA 200.7	mg/L	1.0	101	106	106
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	0.08	0.08	0.05
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	43.7	45.1	40.0

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	5380	5360	5390
pH		SM 4500-H B.	std. units	0.10	8.02	8.05	7.94

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	0.30	0.32	0.26
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometric							
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0324	0.0251	0.0282
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	0.6	< 0.2	0.6
Radium Error Estimate ±					0.2		0.2
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±							
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	< 1.0	1.6
G. Alpha Error Estimate ±							0.4

Trace Organics							
Chloroform		EPA 601	µg/l	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range			
Anion		meq		79.37	75.99	77.68
Cation		meq		74.63	82.68	83.36
WYDEQ A/C Balance		%	-5 - +5	-3.08	4.22	3.53
alc TDS		mg/L		4853	4823	4906
TDS A/C Balance		dec. %	0.80 - 1.20	1.11	1.11	1.10



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

GW-1	GW-1	GW-1
98-64140	99-10593	99-24258
10-06-98	01-05-99	04-06-99
November 22, 1998	February 13, 1999	April 30, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	632	597	610
Magnesium	Mg	mg/L	0.01	331	304	264
Sodium	Na	mg/L	0.05	228	197	209
Potassium	K	mg/L	0.10	5.7	5.4	5.1
Bicarbonate	HCO ₃	mg/L	0.10	801	853	738
Sulfate	SO ₄	mg/L	1.0	2020	1830	1820
Chloride	Cl	mg/L	1.0	125	124	115
Ammonium as N	NH ₄	mg/L	0.05	0.06	0.29	0.43
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	95.9	91.5	91.8

Non-Metals						
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	4370	4450	4300
pH		std. units	0.10	7.88	7.75	7.65

Trace Metals						
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	0.03	0.03	0.02
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics						
Uranium	²³⁸ U	mg/L	0.0003	0.0500	0.0509	0.0461
Radium 226	²²⁶ Ra	pCi/L	0.2	< 0.2	1.2	< 0.2
Radium Error Estimate ±					0.3	
Radium 228	²²⁸ Ra	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±						
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	1.2	< 1.0	< 1.0
G. Alpha Error Estimate ±				0.2		

Trace Organics						
Chloroform		µg/l.	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range			
Anion	meq		65.59	62.14	59.81
Cation	meq		69.26	63.92	61.76
WYDEQ A/C Balance	%	-5 - +5	2.72	1.41	1.60
Calc TDS	mg/l.		4167	3890	3799
TDS A/C Balance	dec. %	0.80 - 1.20	1.05	1.14	1.13

UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE:
 REPORT DATE:
 QUARTER REPRESENTED:
 UNC SUBMITTAL #:

GW-1	GW-1	GW-1
99-10593	99-24258	99-35511
01-05-99	04-06-99	07-13-99
February 13, 1999	April 30, 1999	August 17, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	597	610	611
Magnesium	Mg	EPA 200.7	mg/L	0.01	304	264	304
Sodium	Na	EPA 200.7	mg/L	0.05	197	209	183
Potassium	K	EPA 200.7	mg/L	0.10	5.4	5.1	9.7
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	853	738	770
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	1830	1820	1900
Chloride	Cl	EPA 200.7	mg/L	1.0	124	115	125
Ammonium as N	NH ₄	EPA 350.1	mg/L	0.05	0.29	0.43	0.47
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	91.5	91.8	82.4

Non-Metals		Method	Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	4450	4300	4190
pH		SM 4500-H B.	std. units	0.10	7.75	7.65	7.80

Trace Metals		Method	Units	Reporting Limit	Results	Results	Results
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	0.03	0.02	0.02
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Method	Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0509	0.0461	0.0460
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	1.2	< 0.2	< 0.2
Radium Error Estimate ±					0.3		
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±							
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	1.2	< 1.0	< 1.0
G. Alpha Error Estimate ±					0.2		

Trace Organics		Method	Units	Reporting Limit	Results	Results	Results
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range	Results	Results	Results
Anion		meq		62.14	59.81	61.61
Cation		meq		63.92	61.76	64.13
WYDEQ A/C Balance		%	-5 - +5	1.41	1.60	2.00
Calc TDS		mg/L		3890	3799	3883
TDS A/C Balance		dec. %	0.80 - 1.20	1.14	1.13	1.08

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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

GW-2	GW-2	GW-2
98-64142	99-10595	99-24260
10-06-98	01-05-99	04-06-99
November 22, 1998	February 13, 1999	April 30, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	651	588	580
Magnesium	Mg	mg/L	0.01	602	552	582
Sodium	Na	mg/L	0.05	253	217	221
Potassium	K	mg/L	0.10	10.7	9.8	9.6
Bicarbonate	HCO ₃	mg/L	0.10	1500	1460	1410
Sulfate	SO ₄	mg/L	1.0	2770	2900	2500
Chloride	Cl	mg/L	1.0	165	168	162
Ammonium as N	NH ₄	mg/L	0.05	0.16	0.07	0.07
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	8.73	7.04	6.12

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	5800	5780	5710
pH	-	std. units	0.10	7.59	7.88	7.57

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	0.33	0.35	0.34
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	mg/L	0.0003	0.0732	0.0662	0.0594
Radium 226	²²⁶ Ra	pCi/L	0.2	0.6	2.3	< 0.2
Radium Error Estimate ±				0.1	0.4	
Radium 228	²²⁸ Ra	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±						
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±						

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		87.57	89.59	80.20
Cation	meq		94.03	85.12	87.39
WYDEQ A/C Balance	%	-5 - +5	3.56	-2.56	4.29
Calc TDS	mg/L		5241	5196	4787
TDS A/C Balance	dec. %	0.80 - 1.20	1.11	1.11	1.19

UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE:
 REPORT DATE:
 QUARTER REPRESENTED:
 UNC SUBMITTAL #:

GW-2	GW-2	GW-2
99-10595	99-24260	99-35513
01-05-99	04-06-99	07-13-99
February 13, 1999	April 30, 1999	August 17, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	588	580	594
Magnesium	Mg	EPA 200.7	mg/L	0.01	552	582	562
Sodium	Na	EPA 200.7	mg/L	0.05	217	221	223
Potassium	K	EPA 200.7	mg/L	0.10	9.8	9.6	14.5
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	1460	1410	1350
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	2900	2500	2660
Chloride	Cl	EPA 200.7	mg/L	1.0	168	162	166
Ammonium as N	NH ₄	EPA 350.1	mg/L	0.05	0.07	0.07	0.06
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	7.04	6.12	5.95

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	5780	5710	5530
pH	-	SM 4500-H B.	std. units	0.10	7.88	7.57	7.90

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	0.35	0.34	0.40
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0662	0.0594	0.0057
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	2.3	< 0.2	< 0.2
Radium Error Estimate ±					0.4		
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±							
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	< 1.0	2.3
G. Alpha Error Estimate ±							0.7

Trace Organics							
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range			
Anion	meq		89.59	80.20	82.65	
Cation	meq		85.12	87.39	86.64	
WYDEQ A/C Balance	%	-5 - +5	-2.56	4.29	2.36	
Calc TDS	mg/L		5196	4787	4921	
TDS A/C Balance	dec. %	0.80 - 1.20	1.11	1.19	1.12	



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

GW-3	GW-3	GW-3
98-64136	99-10597	99-24262
10-06-98	01-05-99	04-06-99
January 8, 1999	February 13, 1999	April 30, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	871	671	811
Magnesium	Mg	mg/L	0.01	268	193	218
Sodium	Na	mg/L	0.05	236	163	202
Potassium	K	mg/L	0.10	7.0	8.9	8.4
Bicarbonate	HCO ₃	mg/L	0.10	1220	987	1170
Sulfate	SO ₄	mg/L	1.0	1980	1400	1710
Chloride	Cl	mg/L	1.0	134	95.2	131
Ammonium as N	NH ₄	mg/L	0.05	0.11	0.21	0.11
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	220	85.9	103

Non-Metals						
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	4850	3810	4600
pH		std. units	0.10	7.75	7.85	7.64

Trace Metals						
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	0.007	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	1.76	1.41	1.82
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics						
Uranium	²³⁸ U	mg/L	0.0003	0.0607	0.0475	0.0518
Radium 226	²²⁶ Ra	pCi/L	0.2	0.7	< 0.2	< 0.2
Radium Error Estimate ±				0.1		
Radium 228	²²⁸ Ra	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±						
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Polonium 210	²¹⁰ Po	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Polonium Error Estimate ±						
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±						

Trace Organics						
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range			
Anion	meq		80.74	54.16	65.85
Cation	meq		76.44	57.05	67.83
WYDEQ A/C Balance	%	-5 - +5	-2.74	2.60	1.48
Calc TDS	mg/L		5083	3467	4124
TDS A/C Balance	dec. %	0.80 - 1.20	0.95	1.12	1.12

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COMPLETE ANALYTICAL SERVICES

UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE:
 REPORT DATE:
 QUARTER REPRESENTED:
 UNC SUBMITTAL #:

GW-3	GW-3	GW-3
99-10597	99-24262	99-35515
01-05-99	04-06-99	07-13-99
February 13, 1999	April 30, 1999	August 17, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	671	811	824
Magnesium	Mg	EPA 200.7	mg/L	0.01	193	218	259
Sodium	Na	EPA 200.7	mg/L	0.05	163	202	205
Potassium	K	EPA 200.7	mg/L	0.10	8.9	8.4	12.3
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	987	1170	1170
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	1400	1710	1830
Chloride	Cl	EPA 200.7	mg/L	1.0	95.2	131	126
Ammonium as N	NH ₄	EPA 350.1	mg/L	0.05	0.21	0.11	0.09
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	85.9	103	119

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	3810	4600	4610
pH		SM 4500-H B.	std. units	0.10	7.85	7.64	7.90

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	0.007	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	1.41	1.82	1.69
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0475	0.0518	0.0047
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	0.7	< 0.2	< 0.2
Radium Error Estimate ±					0.1		
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±							
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Polonium 210	²¹⁰ Po	RMO-3008, USAEC	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Polonium Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±							

Trace Organics							
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range			
Anion	meq			54.16	65.85	69.35
Cation	meq			57.05	67.83	72.12
WYDEQ A/C Balance	%	-5 - +5		2.60	1.48	1.96
alc TDS	mg/L			3407	4124	4370
DS A/C Balance	dec. %	0.80 - 1.20		1.12	1.12	1.05



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

GW-4	GW-4	GW-4
98-64138	99-10591	99-24256
10-06-98	01-05-99	04-06-99
November 22, 1998	February 13, 1999	April 30, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	714	650	675
Magnesium	Mg	mg/L	0.01	198	182	179
Sodium	Na	mg/L	0.05	165	151	146
Potassium	K	mg/L	0.10	13.0	11.3	11.5
Bicarbonate	HCO ₃	mg/L	0.10	670	622	644
Sulfate	SO ₄	mg/L	1.0	1780	1620	1620
Chloride	Cl	mg/L	1.0	42.4	41.4	50.1
Ammonium as N	NH ₄	mg/L	0.05	0.28	0.13	0.26
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	105	75.7	100

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	3840	3810	3810
pH		std. units	0.10	7.92	7.78	7.99

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	0.21	0.11	0.10
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	0.005	0.009	0.007
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	mg/L	0.0003	0.0782	0.0744	0.0715
Radium 226	²²⁶ Ra	pCi/L	0.2	< 0.2	1.2	0.8
Radium Error Estimate ±					0.3	0.3
Radium 228	²²⁸ Ra	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±						
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Polonium 210	²¹⁰ Po	pCi/L	1.0	3.2	< 1.0	< 1.0
Polonium Error Estimate ±				0.2		
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±						

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		56.76	50.52	52.86
Cation	meq		59.75	54.55	55.34
WYDEQ A/C Balance	%	-5 - +5	2.57	3.83	2.29
Calc TDS	mg/L		3713	3302	3447
TDS A/C Balance	dec. %	0.80 - 1.20	1.03	1.15	1.11

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COMPLETE ANALYTICAL SERVICES

UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

GW-4	GW-4	GW-4
98-64138	99-10591	99-24256
10-06-98	01-05-99	04-06-99
November 22, 1998	February 13, 1999	April 30, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	714	650	675
Magnesium	Mg	mg/L	0.01	198	182	179
Sodium	Na	mg/L	0.05	165	151	146
Potassium	K	mg/L	0.10	13.0	11.3	11.5
Bicarbonate	HCO ₃	mg/L	0.10	670	622	644
Sulfate	SO ₄	mg/L	1.0	1780	1620	1620
Chloride	Cl	mg/L	1.0	42.4	41.4	50.1
Ammonium as N	NH ₄	mg/L	0.05	0.28	0.13	0.26
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	105	75.7	100

Non-Metals						
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	3840	3810	3810
pH		std. units	0.10	7.92	7.78	7.99

Trace Metals						
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	0.21	0.11	0.10
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	0.005	0.009	0.007
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics						
Uranium	²³⁸ U	mg/L	0.0003	0.0782	0.0744	0.0715
Radium 226	²²⁶ Ra	pCi/L	0.2	< 0.2	1.2	0.8
Radium Error Estimate ±					0.3	0.3
Radium 228	²²⁸ Ra	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±						
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Polonium 210	²¹⁰ Po	pCi/L	1.0	3.2	< 1.0	< 1.0
Polonium Error Estimate ±				0.2		
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±						

Trace Organics						
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range				
Anion	meq			56.76	50.52	52.86
Cation	meq			59.75	54.55	55.34
WYDEQ A/C Balance	%	-5 - +5		2.57	3.83	2.29
Calc TDS	mg/L			3713	3302	3447
TDS A/C Balance	dec. %	0.80 - 1.20		1.03	1.15	1.11



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

801	801	801
98-64132	99-10952	99-24819
10-06-98	01-12-99	04-13-99
November 22, 1998	February 26, 1999	May 16, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-2-1-99	TE-4-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	546	470	534
Magnesium	Mg	mg/L	0.01	924	858	902
Sodium	Na	mg/L	0.05	401	347	357
Potassium	K	mg/L	0.10	14.7	14.3	13.0
Bicarbonate	HCO ₃	mg/L	0.10	1440	1390	1410
Sulfate	SO ₄	mg/L	1.0	4300	4450	4060
Chloride	Cl	mg/L	1.0	250	222	221
Ammonium as N	NH ₄	mg/L	0.05	23.2	20.3	19.8
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	6.56	6.05	6.37

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	8040	8010	7940
pH		std. units	0.10	7.58	7.49	7.65

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	0.006
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	17.3	16.2	17.0
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	mg/L	0.0003	0.0262	0.0433	0.0389
Radium 226	²²⁶ Ra	pCi/L	0.2	1.2	0.8	< 0.2
Radium Error Estimate ±				0.2	0.2	
Radium 228	²²⁸ Ra	pCi/L	1.0	< 1.0	< 1.0	2.5
Radium Error Estimate ±						0.2
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±						

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/l	1.0	1.3	3.3	3.9

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		120.70	122.18	114.38
Cation	meq		124.73	112.80	120.08
WYDEQ A/C Balance	%	-5 - +5	1.64	-3.99	2.43
Calc TDS	mg/L		7232	7125	6863
TDS A/C Balance	dec. %	0.80 - 1.20	1.11	1.12	1.16

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COMPLETE ANALYTICAL SERVICES

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

801	801	801
99-10952	99-24819	99-35979
01-12-99	04-13-99	07-20-99
February 26, 1999	May 16, 1999	August 26, 1999
First '99	Second '99	Third '99
TE-2-1-99	TE-4-4-99	TE-6-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	470	534	545
Magnesium	Mg	EPA 200.7	mg/L	0.01	858	902	932
Sodium	Na	EPA 200.7	mg/L	0.05	347	357	414
Potassium	K	EPA 200.7	mg/L	0.10	14.3	13.0	15.5
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	1390	1410	1420
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	4450	4060	4240
Chloride	Cl	EPA 200.7	mg/L	1.0	222	221	220
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	20.3	19.8	19.7
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	6.05	6.37	5.51

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	8010	7940	7950
pH		SM 4500-H B.	std. units	0.10	7.49	7.65	7.63

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	0.006	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	0.02
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	16.2	17.0	12.6
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0433	0.0389	0.0405
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	0.8	< 0.2	0.9
Radium Error Estimate ±					0.2		0.2
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	< 1.0	2.5	3.7
Radium Error Estimate ±						0.2	0.2
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	< 1.0	1.0
G. Alpha Error Estimate ±							0.4

Trace Organics							
Chloroform		EPA 601	µg/l	1.0	3.3	3.9	3.5

Quality Assurance Data			Target Range			
Anion		meq		122.18	114.38	118.20
Cation		meq		112.80	120.08	125.42
WYDEQ A/C Balance		%	-5 - +5	-3.99	2.43	2.96
Calc TDS		mg/L		7125	6863	7139
TDS A/C Balance		dec. %	0.80 - 1.20	1.12	1.16	1.11



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

802	802	802
98-64134	99-10951	99-24820
10-06-98	01-12-99	04-13-99
November 22, 1998	February 26, 1999	May 16, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-2-1-99	TE-4-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	796	734	783
Magnesium	Mg	mg/L	0.01	757	686	732
Sodium	Na	mg/L	0.05	361	298	323
Potassium	K	mg/L	0.10	7.2	7.4	6.8
Bicarbonate	HCO ₃	mg/L	0.10	2110	2110	2090
Sulfate	SO ₄	mg/L	1.0	3230	3260	3060
Chloride	Cl	mg/L	1.0	210	207	205
Ammonium as N	NH ₄	mg/L	0.05	1.13	1.28	1.23
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	85.4	88.1	86.2

Non-Metals						
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	7340	7190	7320
pH		std. units	0.10	7.64	7.55	7.65

Trace Metals						
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	1.20	1.29	1.48
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics						
Uranium	²³⁸ U	mg/L	0.0003	0.207	0.211	0.190
Radium 226	²²⁶ Ra	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Radium Error Estimate ±						
Radium 228	²²⁸ Ra	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±						
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±						

Trace Organics						
Chloroform		µg/l	1.0	1.5	1.0	1.5

Quality Assurance Data		Target Range			
Anion	meq		113.90	114.63	109.94
Cation	meq		118.92	107.19	114.55
WYDEQ A/C Balance	%	-5 - +5	2.16	-3.36	2.05
Calc TDS	mg/L		6797	6641	6540
TDS A/C Balance	dec. %	0.80 - 1.20	1.08	1.08	1.12

UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE:
 REPORT DATE:
 QUARTER REPRESENTED:
 UNC SUBMITTAL #:

802	802	802
99-10951	99-24820	99-35980
01-12-99	04-13-99	07-20-99
February 26, 1999	May 16, 1999	August 26, 1999
First '99	Second '99	Third '99
TE-2-1-99	TE-4-4-99	TE-6-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	734	783	760
Magnesium	Mg	EPA 200.7	mg/L	0.01	686	732	743
Sodium	Na	EPA 200.7	mg/L	0.05	298	323	370
Potassium	K	EPA 200.7	mg/L	0.10	7.4	6.8	9.8
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	2110	2090	2120
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	3260	3060	3160
Chloride	Cl	EPA 200.7	mg/L	1.0	207	205	207
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	1.28	1.23	1.18
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	88.1	86.2	76.2

Non-Metals		Method	Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	7190	7320	7350
pH		SM 4500-H B.	std. units	0.10	7.55	7.65	7.58

Trace Metals		Method	Units	Reporting Limit	Results	Results	Results
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	1.29	1.48	1.13
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Method	Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.211	0.190	0.196
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	< 0.2	< 0.2	0.5
Radium Error Estimate ±							0.2
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±							
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	< 1.0	1.0
G. Alpha Error Estimate ±							0.4

Trace Organics		Method	Units	Reporting Limit	Results	Results	Results
Chloroform		EPA 601	µg/l	1.0	1.0	1.5	1.4

Quality Assurance Data			Target Range	Results	Results	Results
Anion		meq		114.63	109.94	111.86
Cation		meq		107.19	114.55	116.41
WYDEQ A/C Balance		%	-5 - +5	-3.36	2.05	1.99
Calc TDS		mg/L		6641	6540	6650
TDS A/C Balance		dec. %	0.80 - 1.20	1.08	1.12	1.11

UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

803	803	803
98-64135	99-10950	99-24821
10-06-98	01-12-99	04-13-99
November 22, 1998	February 26, 1999	May 16, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-2-1-99	TE-4-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	818	745	801
Magnesium	Mg	mg/L	0.01	695	642	692
Sodium	Na	mg/L	0.05	302	272	280
Potassium	K	mg/L	0.10	12.5	11.9	11.5
Bicarbonate	HCO ₃	mg/L	0.10	1980	1990	1960
Sulfate	SO ₄	mg/L	1.0	3200	3300	3100
Chloride	Cl	mg/L	1.0	193	184	178
Ammonium as N	NH ₄	mg/L	0.05	0.60	0.71	0.77
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	39.4	39.1	40.9

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	6880	6980	6910
pH		std. units	0.10	7.56	7.63	7.65

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	1.42	1.47	1.55
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	mg/L	0.0003	0.0976	0.0984	0.0889
Radium 226	²²⁶ Ra	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Radium Error Estimate ±						
Radium 228	²²⁸ Ra	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±						
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±						

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/l	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		107.38	109.35	104.65
Cation	meq		112.40	103.02	110.34
WYDEQ A/C Balance	%	-5 - +5	2.29	-2.98	2.64
Calc TDS	mg/L		6387	6325	6226
TDS A/C Balance	dec. %	0.80 - 1.20	1.08	1.10	1.11

APPENDIX C

ZONE 3 MONITORING DATA

APPENDIX C

ZONE 3 MONITORING DATA

Remedial action in Zone 3 has consisted of the operation of the Northeast Pump-Back Wells (Wells 600, 608, 610, 613, and 672) and installation and operation of 12 Stage I Extraction Wells (Wells 701-703 and 705-713) in mid-1989 and seven Stage II Extraction Wells (Wells 714-720) in mid-1991. Remedial action has been monitored since the third quarter 1989 by measurement of ground water levels and ground water sampling and analyses at 19 Zone 3 monitoring wells (Wells 106 D, 9D, 517, 518, 504 B, 502 B, 501 B, 420, 411, EPA 18, EPA 17, EPA 15, EPA 14, EPA 13, EPA 12, EPA 11, EPA 9, EPA 3, and EPA 1). Well 126 was added to the monitoring program in the third quarter 1990 to measure water-levels in accordance with the requirements of the Nuclear Regulatory Commission (NRC) and the U.S. Environmental Protection Agency (EPA).

At the end of the 1993 operating year, the extraction and performance monitoring systems for Zone 3 were modified with the approval of the NRC and EPA. Modifications included discontinuing pumping at 10 low-producing extraction wells (Wells 600, 608, 610, 672, 702, 703, 705, 710, 712, and 713) and at two extraction wells which were intercepting background water (Wells 714 and 715). Water levels were measured at seven of these former extraction wells (Wells 608, 702, 703, 710, 712, 714, and 715) during 1999 to augment the existing monitoring system.

Table C.1 presents the quarterly water level and water quality data for the monitoring wells from the start-up of the Stage I wells in the third quarter 1989 through the third quarter 1999. The Zone 3 ground water extraction system and declining recharge from the alluvium have resulted in dewatering a large portion of the Zone 3 Remedial Action Target Area and consequently, many of the monitoring wells have gone dry since 1989. For these wells, water level and water quality data are presented for the period of time prior to their dewatering. The laboratory analytical data for 1999 are presented at the end of this appendix.

TABLES

TABLE C.1
ZONE 3 DATA SUMMARY
1989 - 1999

General Notes:

1. NRC standard as listed in License Condition 30, Part B.
2. EPA standard as listed in Table 2, "Contaminant-Specific Groundwater ARARs" of the ROD (EPA, 1988).
3. NA - Not applicable.
4. "-" (hyphen) indicates that the concentration is less than the laboratory reporting limits. A hyphen for combined Ra-226 and Ra-228 indicates that at least one of these constituents was less than the laboratory reporting limits, which are 0.2 and 1.0 pCi/l, respectively.
5. All values that exceed the NRC and/or EPA standards are shaded.
6. Gross alpha value excludes contribution from radon and uranium.
7. "*" (Asterisk) indicates a Point of Compliance well.
8. Reporting limit for bicarbonate changed from 0.0 mg/l to 0.1 mg/l in fourth quarter 1997.
9. Reporting limit for cadmium changed from 0.01 mg/l to 0.005 mg/l after fourth quarter 1997. The analytical method changed from EPA 200.7 (ICP) to 200.8 (ICP-MS).

Specific Notes:

Well 9 D contained insufficient water for sampling, 4th quarter 1992.
Well 106 D contained insufficient water for sampling, 3rd quarter 1991.
Well 501 B* contained insufficient water for sampling, 4th quarter 1993.
Well EPA 3* contained insufficient water for sampling, 1st quarter 1992.
The water level in EPA-11 fell below the pump inlet after 2nd quarter 1990. The pump is cemented in place and cannot be lowered.
Well EPA 12 contained insufficient water for sampling, 4th quarter 1992.
Well EPA 15 contained insufficient water for sampling, 1st quarter 1996.
Well EPA 17 contained insufficient water for sampling, 3rd quarter 1992.
Well EPA 18 contained insufficient water for sampling, 1st quarter 1995.
Well EPA 1 contained insufficient water for sampling, 1st quarter 1997.
Well 411 contained insufficient water for sampling, 2nd quarter 1998.

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
		NRC Standard EPA Standard	NA NA	NA NA	NA 3,170	NA NA	NA NA	NA NA	NA NA	NA NA	NA 2,160	NA 250.0	NA NA	NA 30.0	0.001 NA	0.001 NA	0.005 NA
0009 D	07/18/1989	6910.50	4.6	4.56	7,365	465	963	158	10.7	1.0	5,061	100.0	0.79	2.50	-0.00100	-0.0010	-0.005
0009 D	10/12/1989	6908.00	4.4	4.10	8,276	439	1,013	159	13.4	0.0	5,508	108.0	0.87	2.40	-0.00100	-0.0010	-0.005
0009 D	01/04/1990	6902.30	4.4	4.04	8,330	431	940	160	10.0	0.0	5,597	94.4	0.60	0.55	-0.00100	-0.0010	-0.005
0009 D	04/10/1990	6910.00	4.4	4.41	7,222	447	856	160	9.1	0.0	4,688	99.1	1.08	6.30	-0.00100	-0.0010	-0.005
0009 D	07/10/1990	6904.10	4.4	4.14	8,932	473	1,012	153	9.5	0.0	6,126	101.0	0.37	0.26	-0.00100	-0.0010	-0.005
0009 D	10/09/1990	6903.70	4.3	4.21	9,372	435	1,094	172	9.7	0.0	6,551	124.0	0.24	0.10	-0.00100	-0.0010	-0.005
0009 D	01/15/1991	6902.30	4.5	4.37	7,769	469	887	159	11.6	0.0	5,383	113.0	0.65	0.12	-0.00100	-0.0010	-0.005
0009 D	04/09/1991	6903.70	4.2	4.18	9,518	485	1,106	163	10.7	0.0	6,305	80.2	1.04	0.39	-0.00100	-0.0010	-0.005
0009 D	07/09/1991	6899.40	4.3	4.40	8,444	412	883	141	8.9	0.0	5,661	44.1	1.18	0.05	-0.00100	-0.0010	-0.005
0009 D	10/14/1991	6899.30	4.1	4.35	8,948	363	717	160	8.3	0.0	5,904	191.0	2.30	-0.01	-0.00100	-0.0010	-0.005
0009 D	01/21/1992	6898.60	4.3	4.31	8,112	444	1,028	153	10.2	0.0	5,648	108.0	1.11	1.24	-0.00100	-0.0010	-0.005
0009 D	04/07/1992	6897.80	4.3	4.09	8,593	426	767	185	11.5	0.0	5,628	124.0	1.31	-0.10	-0.00100	-0.0010	-0.005

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.70	0.3	5.0	5.0	NA	15.0
	EPA Standard	5.00	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0009 D	07/18/1989	43.00	-0.001	-0.050	-0.01	0.65	0.08	14.00	-0.10	0.86	-0.001	-0.10	0.0077	7.3	1.1	4.5	17.6
0009 D	10/12/1989	90.00	-0.001	-0.050	-0.01	0.94	0.37	17.00	-0.01	1.20	-0.001	-0.10	0.0180	4.2	0.0	1.5	3.5
0009 D	01/04/1990	96.00	-0.001	-0.050	0.01	1.00	0.14	18.00	-0.10	1.40	-0.001	-0.10	0.0120	5.7	-0.2	6.7	1.9
0009 D	04/10/1990	46.00	-0.001	-0.050	0.01	0.75	0.12	15.00	-0.10	0.97	-0.001	-0.10	0.0395	4.9	-0.2	1.5	3.0
0009 D	07/10/1990	155.00	-0.001	-0.050	-0.01	0.83	0.15	19.30	-0.10	1.56	-0.001	-0.10	0.0170	10.3	-0.2	-1.0	5.0
0009 D	10/09/1990	153.00	-0.001	-0.050	0.02	1.52	0.13	23.00	-0.10	2.18	-0.001	-0.10	0.0157	11.8	-0.2	-1.8	4.0
0009 D	01/15/1991	50.40	-0.001	0.020	0.01	0.71	0.09	12.80	-0.10	0.88	-0.001	-0.10	0.0065	7.4	-0.2	2.7	6.2
0009 D	04/09/1991	115.00	-0.001	-0.050	0.02	0.83	0.13	13.10	-0.10	1.18	-0.001	-0.10	0.0098	13.1	1.2	-1.0	6.0
0009 D	07/09/1991	76.80	-0.001	0.020	0.01	0.79	-0.05	17.00	-0.10	1.09	-0.001	-0.10	0.0062	5.4	-0.2	-1.0	3.0
0009 D	10/14/1991	128.00	-0.001	-0.010	0.01	1.30	-0.05	22.10	-0.10	1.83	-0.001	-0.10	0.0470	-7.6	-0.2	-1.0	7.0
0009 D	01/21/1992	55.10	0.001	0.010	0.02	0.74	0.26	17.10	-0.10	1.07	0.026	-0.10	0.0090	10.5	-0.2	-1.0	9.3
0009 D	04/07/1992	150.00	-0.001	0.040	-0.01	1.24	0.27	22.00	-0.10	1.78	-0.001	-0.10	0.0220	24.1	-0.2	-1.0	15.8

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
		NRC Standard EPA Standard	NA NA	NA NA	NA 3,170	NA NA	NA NA	NA NA	NA NA	NA NA	NA 2,160	NA 250.0	NA NA	NA 30.0	0.001 NA	0.001 NA	0.005 NA
0106 D	07/18/1989	6909.10	4.2	4.66	4,068	476	425	113	17.3	2.0	2,926	45.7	1.12	67.00	-0.00100	-0.0010	-0.005
0106 D	10/11/1989	6906.80	4.7	4.76	4,182	465	332	113	21.2	6.8	2,562	46.3	0.97	52.00	0.00330	-0.0010	0.005
0106 D	01/04/1990	6905.90	4.3	4.37	4,150	466	339	110	16.4	0.0	2,502	47.5	0.86	66.00	0.00230	-0.0010	-0.005
0106 D	04/10/1990	6904.20	4.3	4.93	4,180	483	350	110	17.0	6.8	2,452	48.2	1.54	58.00	0.00190	-0.0010	-0.005
0106 D	07/10/1990	6903.20	4.6	4.76	4,259	455	332	99.4	15.1	8.5	2,439	44.2	0.14	84.30	0.00280	-0.0010	-0.005
0106 D	10/09/1990	6902.30	4.5	4.99	4,256	437	342	113	14.6	9.8	2,536	50.0	0.13	52.00	0.00860	-0.0010	-0.005
0106 D	01/15/1991	6902.40	4.8	6.35	4,121	545	383	112	13.3	65	2,563	56.0	0.12	57.50	0.01000	-0.0010	-0.005
0106 D	04/09/1991	6903.00	5.2	6.69	4,014	591	380	117	11.6	125	2,481	55.3	0.10	67.00	0.01770	-0.0010	-0.005
0106 D	07/09/1991	6901.90	4.9	5.89	4,247	575	360	99.0	13.7	20	2,770	156.0	0.49	44.30	0.00622	-0.0010	-0.005

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.00	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0106 D	07/18/1989	8.00	-0.001	-0.050	-0.01	0.15	-0.05	12.00	-0.10	0.28	-0.001	-0.10	0.0029	13.9	4.5	2.2	22.5
0106 D	10/11/1989	6.50	-0.001	-0.050	-0.01	0.16	0.08	12.00	0.06	0.25	0.031	-0.10	0.0450	10.8	-0.2	4.7	3.5
0106 D	01/04/1990	7.40	-0.001	-0.050	-0.01	0.14	-0.05	12.00	-0.10	0.27	-0.001	-0.10	0.0020	17.7	-0.2	2.8	6.7
0106 D	04/10/1990	7.80	-0.001	-0.050	-0.01	0.12	-0.05	12.00	-0.10	0.29	0.001	-0.10	0.0320	11.3	-0.2	-1.0	6.0
0106 D	07/10/1990	6.50	-0.001	-0.050	-0.01	0.12	-0.05	12.40	-0.10	0.25	-0.001	-0.10	0.0107	7.3	-0.2	1.9	3.0
0106 D	10/09/1990	4.30	-0.001	-0.050	-0.01	0.11	-0.05	11.60	-0.10	0.24	-0.001	-0.10	0.0041	6.9	-0.2	-1.0	2.0
0106 D	01/15/1991	0.77	-0.001	-0.010	-0.01	0.07	-0.05	7.70	0.18	0.10	-0.001	-0.10	0.0074	-1.8	-0.2	-1.0	1.1
0106 D	04/09/1991	0.29	-0.001	-0.050	-0.01	0.04	-0.05	4.20	0.21	-0.05	-0.001	-0.10	0.0069	9.4	-0.2	-1.0	5.0
0106 D	07/09/1991	0.90	-0.001	-0.010	-0.01	0.07	-0.05	7.90	0.20	0.10	0.040	-0.10	0.0085	6.7	-0.2	-1.0	3.0

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250.0	NA	30.0	NA	NA	NA
0411	07/23/1989	6866.20	6.2	6.45	2,458	454	125	107	6.4	246	1,563	17.9	0.41	0.04	-0.00100	-0.0010	-0.005
0411	10/11/1989	6864.90	6.3	6.90	2,628	470	128	110	9.5	243	1,688	20.0	0.55	0.09	-0.00100	-0.0010	-0.005
0411	01/03/1990	6863.70	6.0	6.50	2,534	440	116	112	6.8	256	1,509	19.8	0.39	0.08	-0.00100	-0.0010	-0.005
0411	04/03/1990	6862.30	6.0	6.60	2,545	431	117	109	6.6	270	1,444	19.7	0.33	0.08	-0.00100	-0.0010	-0.005
0411	07/02/1990	6861.20	5.8	6.60	2,602	475	114	102	6.0	267	1,483	19.0	0.20	0.08	-0.00100	-0.0010	-0.005
0411	10/02/1990	6860.30	6.2	6.85	2,527	406	110	109	6.5	266	1,607	20.1	0.11	0.05	-0.00100	-0.0010	-0.005
0411	01/03/1991	6859.50	6.2	6.49	2,746	468	126	117	15.7	262	1,492	19.4	0.45	0.23	-0.00100	-0.0010	-0.005
0411	04/10/1991	6859.20	6.0	7.23	2,600	467	118	111	7.8	277	1,453	22.3	0.19	0.05	-0.00100	-0.0010	-0.005
0411	07/16/1991	6858.20	6.1	6.63	2,705	419	110	113	6.3	278	1,742	22.3	0.38	0.02	-0.00100	-0.0010	-0.005
0411	10/14/1991	6855.30	6.0	7.28	2,851	414	99	123	5.8	271	1,640	28.6	0.30	0.02	-0.00100	-0.0010	-0.005
0411	01/14/1992	6854.70	5.8	7.78	2,939	467	128	119	6.5	255	1,765	23.1	0.80	-0.01	-0.00100	-0.0010	-0.005
0411	04/07/1992	6854.90	5.9	7.82	3,064	475	144	140	8.4	401	1,847	26.1	0.37	-0.10	-0.00100	-0.0010	-0.005
0411	07/07/1992	6853.30	5.6	8.09	3,340	473	170	144	9.6	244	2,034	28.7	0.49	0.10	-0.00100	-0.0010	-0.005
0411	10/06/1992	6850.90	6.0	8.15	3,860	634	239	139	9.2	259	2,352	27.4	0.44	6.05	-0.00100	-0.0010	-0.005
0411	01/06/1993	6851.20	6.0	6.79	3,091	530	208	127	10.6	246	2,137	30.4	1.13	4.10	-0.00100	-0.0010	-0.005
0411	04/06/1993	6851.30	6.1	6.65	3,308	510	200	140	8.0	245	2,257	35.1	0.84	1.80	-0.00100	-0.0010	-0.005
0411	07/16/1993	6846.90	6.6	6.25	3,412	586	242	166	12.2	321	2,420	39.6	0.68	4.40	-0.00100	-0.0010	-0.005
0411	10/06/1993	6848.00	7.1	6.81	4,026	614	285	149	9.3	340	2,591	41.3	0.33	14.30	-0.00100	-0.0010	-0.005
0411	01/05/1994	6841.60	6.8	6.69	4,298	557	276	149	9.3	303	2,540	45.8	0.55	12.50	-0.00100		
0411	04/14/1994	6847.40	7.1	6.51	4,008	620	274	146	9.8	294	2,634	42.1	1.06	8.80	-0.00100		
0411	07/21/1994	6846.40	6.8	6.79	4,253	645	287	141	9.6	293	2,883	38.1	0.43	10.80	-0.00100		
0411	10/05/1994	6846.20	6.8	7.36	4,053	636	286	141	9.9	274	2,509	36.9	0.99	5.17	-0.00100		
0411	01/10/1995	6845.40	6.6	7.65	4,276	675	213	139	11.0	295	2,754	40.5	0.71	5.55	-0.00100		
0411	04/11/1995	6842.90	6.6	6.35	4,320	645	283	152	9.5	182	2,862	50.0	0.64	5.86	-0.00100		
0411	07/11/1995	6844.40	6.9	7.67	4,038	605	315	147	9.4	379	2,471	49.4	1.40	26.40	-0.00100		
0411	10/03/1995	6842.90	6.8	8.06	4,526	645	322	162	9.1	383	2,684	47.0	0.46	27.3	-0.00100		
0411	01/04/1996	6845.40	7.1	6.69	4,445	630	310	173	9.5	382	2,655	45.3	0.06	29.2	-0.00100		
0411	04/02/1996	6844.50	7.0	7.67	4,338	604	300	146	9.8	366	2,666	40.0	0.2	8.92	-0.00100		
0411	07/17/1996	6844.10	7.0	6.80	4,459	580	290	168	10.1	410	2,730	52.1	0.25	28.1	-0.00100		
0411	10/08/1996	6844.20	6.9	7.61	4,370	611	318	151	10.1	429	2,542	45.6	0.3	45.4	-0.00100		
0411	01/28/1997	6844.30	6.8	7.83	4,350	610	315	144	10.1	468	2,726	56.0	0.63	13.2	-0.00100		
0411	04/15/1997	6844.20	7.1	7.77	4,470	671	358	159	10.7	451	2,610	51.0	0.22	29.1	-0.00100		
0411	07/15/1997	6844.10	6.9	7.83	4,510	659	342	159	9.6	437	2,750	54.8	0.2	33.9	-0.00100		
0411	10/15/1997	6844.00	6.8	7.93	4,490	685	350	154	10.2	433	2,620	62.3	0.32	30.3	-0.00100		
0411	01/20/1998	6844.00	6.7	7.95	4,390	634	323	178	10.4	439	2,700	57.5	0.46	31.2	-0.00100		

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.00	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0411	07/23/1989	-0.10	0.020	-0.050	-0.01	0.05	-0.05	2.70	2.00	0.11	-0.001	-0.10	0.0543	13.0	10.2	-1.0	14.6
0411	10/11/1989	-0.10	0.031	-0.050	-0.01	0.06	-0.05	3.00	2.50	0.09	-0.001	-0.10	0.0810	6.4	-0.2	-1.0	6.0
0411	01/03/1990	-0.10	0.018	-0.050	-0.01	0.03	-0.05	2.30	1.80	0.07	-0.001	-0.10	0.0550	9.1	-0.2	-1.0	8.2
0411	04/03/1990	-0.10	0.018	-0.050	-0.01	0.05	-0.05	2.50	2.40	0.08	-0.001	-0.10	0.0500	7.1	-0.2	-1.0	5.3
0411	07/02/1990	-0.10	0.009	-0.050	-0.01	0.04	-0.05	2.44	1.77	0.07	-0.001	-0.10	0.0592	10.3	-0.4	-1.0	5.0
0411	10/02/1990	-0.10	0.018	-0.050	-0.01	0.06	-0.05	2.42	1.93	0.06	-0.001	-0.10	0.0490	7.3	-0.2	-1.0	7.5
0411	01/03/1991	-0.10	0.029	-0.010	-0.01	0.06	-0.05	2.72	1.95	0.11	-0.001	-0.10	0.1131	10.6	-0.2	-1.0	7.0
0411	04/10/1991	-0.10	0.029	-0.010	-0.01	0.05	-0.05	2.01	1.34	0.06	-0.001	-0.10	0.0549	13.0	-0.2	-1.0	6.0
0411	07/16/1991	-0.10	0.035	-0.010	-0.01	0.04	-0.05	2.37	1.89	-0.05	-0.001	-0.10	0.0400	8.2	-0.2	-1.0	5.0
0411	10/14/1991	0.23	0.062	-0.010	-0.01	0.06	-0.05	2.92	2.96	0.09	-0.001	-0.10	0.0590	6.5	-0.2	-1.0	6.0
0411	01/14/1992	-0.10	0.088	-0.010	-0.01	0.06	-0.05	2.96	2.73	0.09	0.002	-0.10	0.0390	10.1	-0.2	-1.0	5.0
0411	04/07/1992	-0.10	0.087	-0.010	-0.01	0.06	-0.05	3.95	3.50	0.05	-0.001	-0.10	0.0650	9.2	-0.2	-1.0	4.9
0411	07/07/1992	-0.10	0.044	-0.010	-0.01	0.08	-0.05	3.62	4.11	0.08	0.003	-0.10	0.0200	9.5	-0.2	-1.0	6.5
0411	10/06/1992	0.20	0.022	-0.010	-0.01	0.09	-0.05	4.41	6.60	0.11	0.003	-0.10	0.1540	13.6	-0.2	-1.0	5.3
0411	01/06/1993	-0.10	0.022	-0.010	-0.01	0.09	-0.05	4.65	5.38	0.14	0.004	-0.10	0.1290	12.6	-0.2	-1.0	6.9
0411	04/06/1993	-0.10	0.011	-0.010	-0.01	0.10	-0.05	5.50	6.41	0.13	-0.001	-0.10	0.2050	16.3	-0.2	-1.0	6.9
0411	07/16/1993	0.14	0.017	-0.010	-0.01	0.12	-0.05	4.48	8.50	0.14	-0.001	-0.10	0.1270	8.3	-0.2	-1.0	5.2
0411	10/06/1993	-0.10	0.013	-0.010	-0.01	0.10	-0.05	4.00	8.38	0.13	-0.001	-0.10	0.1450	10.1	-0.2	-1.0	4.0
0411	01/05/1994	-0.10	0.011	-0.010	-0.01	0.08	-0.05	4.07	6.90	0.08	-0.001	-0.10	0.1820	9.4	-0.2	-1.0	11.8
0411	04/14/1994	-0.10	0.010	-0.010	-0.01	0.10	-0.05	4.07	7.96	0.10	-0.001	-0.10	0.1870	15.2	-0.2	-1.0	19.3
0411	07/21/1994	-0.10	0.008	-0.010	-0.01	0.13	-0.05	4.68	9.23	0.17	-0.001	-0.10	0.1860	17.6	-0.2	-1.0	23.2
0411	10/05/1994	-0.10	0.009	-0.010	-0.01	0.08	-0.05	4.42	6.59	0.13	0.004	-0.10	0.1560	19.8	-0.2	-1.0	26.5
0411	01/10/1995	-0.10	0.009	-0.010	-0.01	0.13	-0.05	3.68	11.50	0.12	-0.001	-0.10	0.2460	15.3	-0.2	-1.0	18.3
0411	04/11/1995	-0.10	0.004	-0.010	-0.01	0.08	-0.05	4.38	8.74	0.08	-0.001	-0.10	0.2380	13.0	-0.2	-1.0	16.3
0411	07/11/1995	-0.10	0.012	-0.010	-0.01	0.01	-0.05	3.48	9.60	0.08	-0.001	-0.10	0.2150	7.6	-0.2	-1.0	10.7
0411	10/03/1995	-0.10	0.014	-0.010	-0.01	0.09	-0.05	3.18	10.60	0.07	0.002	-0.10	0.2669	9.4	-0.2	-1.0	14.7
0411	01/04/1996	-0.10	0.006	-0.010	-0.01	0.08	-0.05	3.80	8.80	0.07	-0.001	-0.10	0.2870	9.6	-0.2	-1.0	5.7
0411	04/02/1996	-0.10	0.014	-0.010	-0.01	0.08	-0.05	3.39	10.00	0.06	-0.001	-0.10	0.3060	7.6	-0.2	-1.0	4.8
0411	07/17/1996	-0.10	0.007	-0.010	-0.01	0.09	-0.05	3.39	10.00	0.06	-0.001	-0.10	0.2810	9.7	-0.2	-1.0	8.2
0411	10/08/1996	-0.10	0.012	-0.010	-0.01	0.07	-0.05	3.38	9.97	0.06	-0.001	-0.10	0.1640	11.3	-0.2	-1.0	2.4
0411	01/28/1997	-0.10	0.013	-0.010	-0.01	0.06	-0.05	3.11	10.70	-0.05	0.002	-0.10	0.1450	4.6	0.5	-1.0	4.5
0411	04/15/1997	-0.10	0.013	-0.010	-0.01	0.06	-0.05	3.04	10.50	-0.05	-0.001	-0.10	0.2350	7.2	-0.2	-1.0	5.8
0411	07/15/1997	-0.10	0.014	-0.010	-0.01	0.08	-0.05	2.70	9.80	0.05	0.002	-0.10	0.2120	6.7	-0.2	-1.0	3.9
0411	10/15/1997	-0.10	0.010	-0.010	-0.01	0.10	0.05	2.96	9.85	0.06	0.002	-0.10	0.2500	9.3	-0.2	-1.0	4.2
0411	01/20/1998	-0.10	0.007	-0.010	-0.005	0.10	-0.05	3.33	11.10	0.05	-0.001	-0.10	0.2440	7.9	-0.2	-1.0	3.1

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	0.001	0.005
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250.0	NA	30.0	NA	NA	NA
0420	07/23/1989	6882.00	6.3	6.52	2,239	438	110	99.0	5.8	285	1,293	16.5	0.56	60.00	-0.00100	-0.0010	-0.005
0420	10/11/1989	6879.70	6.4	6.84	2,328	402	112	96.8	8.5	244	1,594	18.7	0.77	4.80	-0.00100	-0.0010	-0.005
0420	01/03/1990	6878.30	5.9	6.20	2,680	431	141	100	7.1	196	1,602	19.1	1.43	2.10	-0.00100	-0.0010	-0.005
0420	04/03/1990	6876.80	5.9	6.40	2,725	439	149	97.0	7.1	209	1,532	18.4	1.29	0.15	-0.00100	-0.0010	-0.005
0420	07/02/1990	6875.70	6.0	6.56	2,708	464	140	91.7	6.2	226	1,577	18.7	0.77	0.87	-0.00100	-0.0010	-0.005
0420	10/02/1990	6874.60	6.1	6.57	2,777	412	151	91.5	7.1	198	1,771	18.8	0.66	-0.01	-0.00100	-0.0010	-0.005
0420	01/03/1991	6874.00	6.2	7.30	2,729	478	135	105	27.0	248	1,574	18.0	0.82	6.80	-0.00100	-0.0010	-0.005
0420	04/10/1991	6874.00	6.0	6.99	2,635	483	143	102	7.9	269	1,480	19.1	0.54	5.70	-0.00100	-0.0010	-0.005
0420	07/16/1991	6872.40	5.9	6.43	2,840	492	114	87.3	6.9	205	1,888	17.5	1.10	0.11	-0.00100	-0.0010	-0.005
0420	10/14/1991	6866.70	5.9	7.01	2,982	593	133	94.1	6.1	217	1,819	21.6	1.20	0.07	-0.00100	-0.0010	-0.005
0420	01/14/1992	6868.50	5.9	8.17	2,806	426	148	93.1	6.4	243	1,831	17.8	1.30	2.00	-0.00100	-0.0010	-0.005
0420	04/07/1992	6868.70	5.8	7.89	2,962	453	164	99.2	8.3	265	1,890	16.2	1.40	-0.10	-0.00100	-0.0010	-0.005
0420	07/07/1992	6862.80	5.7	7.71	3,097	494	202	98.9	8.6	244	1,750	18.3	1.78	0.20	-0.00100	-0.0010	-0.005
0420	10/06/1992	6861.90	6.0	6.83	3,098	537	180	100	7.8	114	1,991	23.2	1.20	-0.10	-0.00100	-0.0010	-0.005
0420	01/06/1993	6864.30	5.9	6.58	2,512	455	152	86.0	6.7	119	1,675	19.3	1.29	-0.10	-0.00100	-0.0010	-0.005
0420	04/06/1993	6864.60	6.0	6.83	2,505	413	118	111	5.4	222	1,658	24.4	0.42	1.90	-0.00100	-0.0010	-0.005
0420	07/13/1993	6859.60	6.0	6.26	2,704	435	169	100	7.2	143	1,818	21.1	0.83	0.70	-0.00100	-0.0010	-0.005
0420	10/06/1993	6858.40	6.0	5.81	2,947	497	165	95.4	6.6	85	2,062	20.6	0.87	0.80	-0.00100	-0.0010	-0.005
0420	01/05/1994	6859.80	6.2	6.45	2,915	475	145	97.7	6.3	181	1,855	21.1	0.66	2.58	-0.00100		
0420	04/13/1994	6859.70	6.2	6.22	2,930	504	167	92.6	6.5	91	2,024	22.6	1.66	0.76	-0.00100		
0420	07/20/1994	6857.10	6.1	6.28	3,540	602	192	102	7.2	89	2,338	22.6	1.28	-0.10	-0.00100		
0420	10/04/1994	6857.40	6.0	7.18	3,297	593	186	111	7.6	133	2,245	25.3	1.19	2.26	-0.00100		
0420	01/04/1995	6856.90	6.0	6.70	3,434	593	188	105	7.6	116	2,204	25.3	1.48	1.13	-0.00100		
0420	04/04/1995	6856.50	6.1	6.36	3,395	579	179	107	7.1	145	2,237	31.0	1.09	2.09	-0.00100		
0420	07/07/1995	6855.10	6.2	7.57	3,074	530	135	108	6.5	207	1,882	25.7	0.46	6.35	-0.00100		
0420	10/03/1995	6854.30	6.4	7.61	3,117	544	142	118	6.5	305	1,821	28.0	0.24	7.17	-0.00100		
0420	01/03/1996	6853.70	6.7	7.14	3,084	545	162	115	6.1	322	1,856	26.4	-0.05	8.66	-0.00100		
0420	04/02/1996	6852.90	6.9	7.85	3,165	588	140	122	6.2	344	1,890	30.2	0.1	18.4	-0.00100		
0420	07/07/1996	6852.20	6.7	7.40	3,225	586	134	127	6.6	332	1,816	30.2	0.24	16.7	-0.00100		
0420	10/01/1996	6851.60	6.5	6.97	3,250	614	146	131	6.6	339	1,821	30.4	-0.05	22.8	-0.00100		
0420	01/21/1997	6851.80	5.9	7.83	3,120	620	150	123	6.3	377	1,926	36.2	0.07	24.3	-0.00100		
0420	04/08/1997	6851.50	6.8	7.96	3,250	659	159	126	6.3	359	1,944	34.6	0.06	23.8	-0.00100		
0420	07/08/1997	6850.60	7.3	7.92	3,360	614	165	136	6.5	364	1,940	36	0.06	25.6	-0.00100		
0420	10/07/1997	6850.00	6.6	7.78	3,450	683	149	131	6.2	388	1,900	38.8	0.06	31.5	-0.00100		
0420	01/16/1998	6850.00	7.0	7.83	3,500	664	141	142	6.6	388	2,000	39.2	0.32	43.5	-0.00100		
0420	04/07/1998	6849.60	6.5	7.45	3,510	659	149	135	6	340	1,800	34.9	0.08	38.5	-0.00100		
0420	07/07/1998	6850.20	6.9	7.58	3,420	660	149	144	6.1	415	1,900	35.5	0.16	34.7	-0.00100		
0420	10/06/1998	6849.10	6.78	7.88	3,530	657	123	148	6.9	415	2,000	36.3	1.77	37.3	-0.00100		
0420	01/05/1999	6848.40	6.8	7.82	3,600	672	123	136	5.5	422	183	34.1	-0.05	32.2	-0.00100		
0420	04/06/1999	6848.10	6.5	7.96	3,640	672	144	137	6.4	388	1,870	39.5	0.11	328.5	-0.00100		
0420	07/13/1999	6847.68	6.4	8.07	3,560	708	111	123	7	411	1,840	34.6	0.09	39.8	-0.00100		

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.00	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0420	07/23/1989	-0.10	0.012	-0.050	-0.01	-0.01	-0.05	1.40	9.10	-0.05	0.001	-0.10	0.0293	9.1	-0.2	1.6	6.8
0420	10/11/1989	0.16	0.029	-0.050	-0.01	-0.01	-0.05	1.60	8.10	-0.05	0.002	-0.10	0.0220	7.8	-0.2	1.9	3.5
0420	01/03/1990	-0.10	0.055	-0.050	-0.01	-0.01	-0.05	2.20	6.00	-0.05	-0.001	-0.10	0.0070	10.6	-0.2	3.3	6.8
0420	04/03/1990	-0.10	0.058	-0.050	-0.01	-0.01	-0.05	3.00	4.80	-0.05	-0.001	-0.10	0.0040	8.8	-0.2	1.9	3.6
0420	07/02/1990	-0.10	0.024	-0.050	-0.01	0.02	-0.05	2.57	6.00	-0.05	-0.001	-0.10	0.0087	5.3	-0.2	1.5	3.0
0420	10/02/1990	-0.10	0.034	-0.050	-0.01	-0.01	-0.05	3.39	4.20	-0.05	-0.001	-0.10	0.0030	6.3	-0.2	-1.0	5.0
0420	01/03/1991	-0.10	0.024	-0.010	0.01	-0.01	-0.05	2.16	4.90	-0.05	-0.001	-0.10	0.0162	5.0	-0.2	-1.0	3.0
0420	04/10/1991	-0.10	0.027	-0.010	-0.01	0.01	-0.05	2.51	5.34	-0.05	-0.001	-0.10	0.0127	8.1	-0.2	1.1	3.0
0420	07/16/1991	-0.10	0.040	-0.010	-0.01	-0.01	-0.05	3.25	3.54	-0.05	-0.001	-0.10	0.0030	8.4	-0.2	2.2	5.0
0420	10/14/1991	-0.10	0.066	-0.010	-0.01	-0.01	-0.05	4.05	2.42	-0.05	-0.001	-0.10	0.0720	7.0	-0.2	-1.0	6.0
0420	01/14/1992	-0.10	0.053	-0.010	-0.01	-0.01	-0.05	3.42	2.45	-0.05	-0.001	-0.10	0.0070	5.0	0.8	1.3	2.0
0420	04/07/1992	-0.10	0.032	-0.010	-0.01	-0.01	-0.05	4.98	1.76	-0.05	-0.001	-0.10	0.0260	12.4	-0.2	-1.0	2.7
0420	07/07/1992	0.13	0.036	-0.010	-0.01	-0.01	-0.05	4.25	2.35	-0.05	0.001	-0.10	0.0200	8.5	-0.2	-1.0	3.9
0420	10/06/1992	0.30	0.111	-0.010	-0.01	-0.01	-0.05	4.25	1.60	-0.05	0.002	-0.10	-0.0003	16.5	-0.2	-1.0	4.7
0420	01/06/1993	-0.10	0.104	-0.010	-0.01	-0.01	-0.05	4.17	1.38	-0.05	0.004	-0.10	0.0270	11.7	-0.2	-1.0	10.9
0420	04/06/1993	-0.10	0.044	-0.010	-0.01	-0.01	-0.05	2.52	2.30	-0.05	0.001	-0.10	0.0240	4.8	-0.2	-1.0	2.9
0420	07/13/1993	-0.10	0.100	-0.010	-0.01	0.02	-0.05	4.03	1.81	-0.05	-0.001	-0.10	0.0030	12.2	-0.2	3.0	5.7
0420	10/06/1993	0.10	0.064	-0.010	-0.01	0.02	-0.05	3.94	1.88	0.07	-0.001	-0.10	0.0050	10.7	-0.2	1.2	6.0
0420	01/05/1994	0.11	0.061	-0.010	-0.01	-0.01	-0.05	3.06	1.44	-0.05	-0.001	-0.10	0.0080	6.0	-0.2	1.4	7.9
0420	04/13/1994	-0.10	0.020	-0.010	-0.01	-0.01	-0.05	4.07	1.17	-0.05	-0.001	-0.10	0.0020	11.8	-0.2	-1.0	15.4
0420	07/20/1994	0.10	0.012	-0.010	-0.01	0.01	-0.05	5.00	1.03	-0.05	-0.001	-0.10	0.0060	19.4	-0.2	-1.0	23.9
0420	10/04/1994	-0.10	0.006	-0.010	-0.01	-0.01	-0.05	5.56	1.20	-0.05	-0.001	-0.10	0.0110	7.4	-0.2	-1.0	8.3
0420	01/04/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	3.42	1.43	-0.05	-0.001	-0.10	0.0040	8.1	-0.2	-1.0	9.6
0420	04/04/1995	-0.10	0.007	-0.010	-0.01	0.02	-0.05	3.45	1.21	-0.05	-0.001	-0.10	0.0080	9.5	-0.2	-1.0	12.1
0420	07/07/1995	-0.10	0.002	-0.010	-0.01	-0.01	-0.05	0.14	-0.10	-0.05	-0.001	-0.10	0.0205	8.9	-0.2	-1.0	7.5
0420	10/03/1995	-0.10	0.005	-0.010	-0.01	-0.01	-0.05	2.08	0.76	-0.05	-0.001	-0.10	0.0363	7.9	0.6	-1.0	5.7
0420	01/03/1996	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	1.88	0.64	-0.05	0.001	-0.10	0.0392	-3.7	0.8	1.6	3.7
0420	04/02/1996	-0.10	0.003	-0.010	-0.01	-0.01	-0.05	1.90	0.54	-0.05	-0.001	-0.10	0.1000	4.7	-0.2	-1.0	3.2
0420	07/07/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.98	0.59	-0.05	-0.001	-0.10	0.0510	10.2	-0.2	3.1	2.1
0420	10/01/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.90	0.61	-0.05	0.003	-0.10	0.0440	-3.1	-0.2	-1.0	2.1
0420	01/21/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.10	0.59	-0.05	-0.001	-0.10	0.0430	-3.2	-0.2	-1.0	1.6
0420	04/08/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.03	0.52	-0.05	0.007	-0.10	0.0500	8.9	-0.2	-1.0	6
0420	07/08/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.97	0.73	-0.05	-0.001	-0.10	0.0530	-3.8	-0.2	-1.0	2.5
0420	10/07/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.30	0.54	-0.05	-0.001	-0.10	0.0490	5.2	-0.2	-1.0	1.9
0420	01/16/1998	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.60	0.56	-0.05	-0.001	-0.10	0.0515	-3.4	-0.2	-1.0	3.6
0420	04/07/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	1.94	0.40	-0.05	-0.001	-0.10	0.0495	-4.5	-0.2	-1.0	4
0420	07/07/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	1.98	0.40	-0.05	0.001	-0.10	0.0567	-3.2	-0.2	-1.0	3.7
0420	10/06/1998	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	1.89	0.42	-0.05	-0.001	-0.10	0.0674	4.8	-0.2	-1.0	3.2
0420	01/05/1999	-0.10	-0.001	-0.01	0.007	-0.01	-0.05	1.97	0.37	-0.05	-0.001	-0.10	0.054	3.5	-0.2	-1.0	4.7
0420	04/06/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	2.01	0.56	-0.05	-0.001	-0.10	0.0556	3.2	0.8	-1.0	4.7
0420	07/13/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	1.98	0.37	-0.05	-0.001	-0.10	0.0578	2.2	-0.2	-1.0	2.7

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard EPA Standard	NA NA	NA NA	NA NA	NA 3,170	NA NA	NA NA	NA NA	NA NA	NA NA	NA 2,160	NA 250.0	NA NA	NA 30.0	NA NA	NA NA	NA NA
0501 B*	07/20/1989	6889.00	3.1	3.13	5,722	443	492	106	17.5	0.0	4,074	24.2	1.36	0.21	-0.00100	-0.0010	-0.005
0501 B*	10/08/1989	6887.90	3.2	3.29	5,594	454	540	110	20.2	0.0	3,758	36.2	1.06	0.20	-0.00100	-0.0010	-0.005
0501 B*	01/10/1990	6885.30	3.7	2.98	5,622	449	529	115	14.9	0.0	3,570	26.6	1.01	0.42	-0.00100	-0.0010	-0.005
0501 B*	04/10/1990	6884.60	4.4	2.86	5,716	447	576	110	14.3	0.0	3,592	30.0	1.02	0.23	-0.00100	-0.0010	-0.005
0501 B*	07/10/1990	6883.30	4.5	3.01	5,738	511	578	111	15.5	0.0	3,756	25.6	0.48	0.26	-0.00100	-0.0010	-0.005
0501 B*	10/09/1990	6882.30	4.2	4.25	5,845	403	511	120	16.7	0.0	3,678	57.3	0.39	0.05	-0.00100	-0.0010	-0.005
0501 B*	01/11/1991	6881.40	3.8	3.45	5,791	484	592	105	16.0	0.0	3,862	28.2	0.84	-0.01	-0.00100	-0.0010	-0.005
0501 B*	04/10/1991	6880.70	3.6	3.62	5,924	483	591	89.1	18.2	0.0	3,834	27.1	0.99	-0.01	-0.00100	-0.0010	-0.005
0501 B*	07/09/1991	6879.90	3.7	3.43	6,105	412	512	94.7	15.4	0.0	3,937	28.7	1.27	-0.01	-0.00100	-0.0010	-0.005
0501 B*	10/17/1991	6879.40	3.6	3.81	6,099	476	483	117	17.9	0.0	3,822	37.9	1.30	-0.01	-0.00100	-0.0010	-0.005
0501 B*	01/21/1992	6878.80	3.4	4.02	6,099	420	555	101	15.7	0.0	4,151	24.5	-0.05	-0.01	-0.00100	-0.0010	-0.005
0501 B*	04/14/1992	6878.40	3.3	3.62	6,113	417	472	100	17.8	0.0	3,824	28.0	1.17	-0.10	-0.00100	-0.0010	-0.005
0501 B*	07/14/1992	6877.90	3.2	2.99	6,203	362	539	129	21.4	0.0	4,209	28.6	0.52	-0.10	-0.00100	-0.0010	-0.005
0501 B*	10/13/1992	6877.50	3.6	3.33	5,832	455	563	113	19.4	0.0	3,601	27.9	0.97	-0.10	-0.00100	-0.0010	-0.005
0501 B*	01/21/1993	6877.10	3.5	3.11	6,118	408	544	101	16.5	0.0	4,100	21.4	0.98	-0.10	-0.00100	-0.0010	-0.005
0501 B*	04/14/1993	6876.90	3.4	3.01	6,140	439	532	108	13.7	0.0	3,936	29.7	0.99	-0.10	-0.00100	-0.0010	-0.005
0501 B*	07/15/1993	6876.20	3.5	3.02	4,976	492	544	105	15.8	0.0	3,778	28.0	0.85	-0.10	-0.00100	0.0012	-0.005

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	1.0	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.00	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0501 B*	07/20/1989	100.00	0.244	0.130	-0.01	1.10	0.08	12.50	0.11	1.80	-0.001	-0.10	0.6100	33.1	5.4	-1.0	96.3
0501 B*	10/08/1989	70.00	0.046	0.090	-0.01	0.83	0.07	11.00	0.03	1.20	-0.001	-0.10	0.4690	22.4	15.0	-1.0	34.7
0501 B*	01/10/1990	29.00	0.030	-0.050	-0.01	0.59	-0.05	9.80	-0.10	0.80	-0.001	-0.10	0.2120	16.4	-0.2	-1.0	11.2
0501 B*	04/10/1990	22.00	0.026	-0.050	-0.01	0.64	-0.05	12.00	-0.10	0.79	-0.001	-0.10	0.1250	17.2	-0.2	-1.0	10.4
0501 B*	07/10/1990	22.90	0.014	-0.050	-0.01	0.41	-0.05	12.21	-0.10	0.74	-0.001	-0.10	0.1610	16.6	-0.2	-1.0	10.0
0501 B*	10/09/1990	26.80	0.029	0.050	-0.01	0.68	-0.05	13.50	-0.10	0.88	-0.001	-0.10	0.2099	22.8	-0.2	-1.4	14.0
0501 B*	01/11/1991	24.70	0.020	0.050	-0.01	0.68	-0.05	12.40	-0.10	0.83	-0.001	-0.10	0.2768	25.9	-0.2	1.5	13.4
0501 B*	04/10/1991	25.62	0.030	-0.010	-0.01	0.60	-0.05	8.12	-0.10	0.69	-0.001	-0.10	0.3332	22.5	-0.2	5.9	17.7
0501 B*	07/09/1991	40.84	0.016	0.060	-0.01	0.70	-0.05	12.21	-0.10	0.86	-0.001	-0.10	0.4356	18.2	-0.2	-1.0	9.0
0501 B*	10/17/1991	52.00	0.022	0.090	0.01	0.80	-0.05	15.24	-0.10	1.14	-0.001	-0.10	0.5918	15.5	-0.2	2.4	10.0
0501 B*	01/21/1992	63.20	0.073	-0.010	0.02	0.86	0.05	13.90	-0.10	1.15	0.002	-0.10	0.4340	31.0	-0.2	1.3	19.0
0501 B*	04/14/1992	37.10	0.021	0.080	-0.01	0.82	-0.05	13.80	-0.10	0.95	-0.001	-0.10	0.3790	22.1	-0.2	1.6	9.2
0501 B*	07/14/1992	35.60	0.013	0.063	-0.01	0.98	-0.05	13.10	-0.10	1.07	-0.001	-0.10	0.5390	15.6	-0.2	-1.0	10.2
0501 B*	10/13/1992	36.10	0.025	-0.010	0.02	0.77	-0.05	13.60	-0.10	0.85	-0.001	-0.10	0.5290	27.9	-0.2	3.3	16.9
0501 B*	01/21/1993	39.20	0.021	-0.010	-0.01	0.63	-0.05	12.50	-0.10	1.01	-0.001	-0.10	0.2250	13.9	-0.2	2.6	9.0
0501 B*	04/14/1993	42.00	0.040	0.080	-0.01	0.99	-0.05	13.60	-0.10	1.14	-0.001	-0.10	0.4210	18.3	-0.2	1.7	7.8
0501 B*	07/15/1993	40.40	0.018	0.051	-0.01	0.71	-0.05	11.60	-0.10	0.75	-0.001	-0.10	0.1800	12.0	-0.2	-1.0	7.5

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	0.001	0.005
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250.0	NA	30.0	NA	NA	NA
0502 B	07/23/1989	6892.40	5.3	5.64	5,131	559	501	186	13.7	63.0	3,298	51.0	2.94	30.00	-0.00100	-0.0010	-0.005
0502 B	10/11/1989	6888.10	5.1	5.66	5,192	513	483	184	18.7	50.8	3,563	55.3	1.26	38.00	-0.00100	-0.0010	-0.005
0502 B	01/03/1990	6885.70	4.9	5.38	5,364	501	495	184	16.1	33.9	3,347	52.0	2.80	39.00	-0.00100	-0.0010	-0.005
0502 B	04/03/1990	6883.90	4.7	5.28	5,400	491	500	180	15.5	28.7	3,296	55.8	2.17	39.00	-0.00100	-0.0010	-0.005
0502 B	07/02/1990	6882.70	4.4	4.53	5,536	575	542	162	15.9	1.4	3,487	54.5	2.38	31.60	-0.00100	-0.0010	-0.005
0502 B	10/02/1990	6881.40	4.7	5.22	5,143	435	453	159	15.4	12.2	3,377	51.4	0.80	10.50	-0.00100	-0.0010	-0.005
0502 B	01/04/1991	6880.60	4.8	4.50	5,193	457	469	165	23.7	0.0	3,214	53.0	3.54	12.40	-0.00100	-0.0010	-0.005
0502 B	04/09/1991	6880.00	4.4	4.57	5,227	527	508	158	20.0	5.0	3,410	36.3	4.00	14.00	-0.00100	-0.0010	-0.005
0502 B	07/16/1991	6879.20	4.3	4.72	5,129	520	526	138	25.8	5.0	3,760	54.4	5.63	12.60	-0.00100	-0.0010	-0.005
0502 B	10/14/1991	6878.10	4.1	3.88	5,184	384	349	139	20.7	0.0	3,233	61.3	6.80	10.20	-0.00100	-0.0010	-0.005
0502 B	01/14/1992	6876.70	3.7	4.03	4,850	420	382	110	15.3	0.0	3,470	114.0	6.30	2.40	-0.00100	-0.0010	-0.005
0502 B	04/07/1992	6875.70	3.7	3.44	5,134	439	388	111	16.6	0.0	3,407	41.7	12.20	-0.10	-0.00100	-0.0010	-0.005
0502 B	07/07/1992	6874.50	3.6	3.67	5,229	513	461	97	16.4	0.0	3,424	20.4	9.10	-0.10	-0.00100	-0.0010	-0.005
0502 B	10/06/1992	6873.10	3.8	3.18	5,350	488	440	101	16.8	0.0	3,695	24.4	6.30	0.24	-0.00100	-0.0010	-0.005
0502 B	01/06/1993	6870.10	3.7	3.41	4,292	421	394	92	20.3	0.0	3,594	16.8	6.70	-0.10	-0.00100	-0.0010	-0.005
0502 B	04/06/1993	6870.20	3.7	3.24	4,837	409	367	111	19.0	0.0	3,579	43.0	7.20	-0.10	-0.00100	-0.0010	-0.005
0502 B	07/13/1993	6869.30	4.1	4.11	4,892	464	456	119	19.9	0.0	3,741	51.1	6.97	-0.10	-0.00100	-0.0010	-0.005
0502 B	10/06/1993	6865.40	4.2	3.94	4,832	450	432	121	16.1	0.0	3,706	35.9	6.69	8.10	-0.00100	-0.0010	-0.005
0502 B	01/05/1994	6867.20	4.1	2.89	5,012	475	435	128	14.6	0.0	3,674	45.0	6.63	18.20	-0.00100		
0502 B	04/13/1994	6867.20	4.2	3.45	5,054	486	432	127	14.3	0.0	3,656	37.4	10.20	-0.10	-0.00100		
0502 B	07/21/1994	6867.20	4.3	3.59	5,603	552	501	116	14.2	0.0	4,100	29.0	6.23	-0.10	-0.00100		
0502 B	10/05/1994	6867.20	4.3	4.23	5,017	470	489	129	14.0	0.0	3,739	29.4	5.86	-0.10	-0.00100		
0502 B	01/05/1995	6866.50	4.1	4.27	5,078	457	488	125	14.4	0.0	3,662	33.3	7.90	-0.10	-0.00100		
0502 B	04/05/1995	6866.40	4.2	3.89	5,106	484	494	122	13.6	0.0	3,860	24.2	6.40	-0.10	-0.00100		
0502 B	07/06/1995	6866.10	4.4	4.18	5,090	455	478	118	13.1	0.0	3,615	31.0	6.46	-0.10	-0.00100		
0502 B	10/04/1995	6866.10	4.5	4.42	4,852	445	470	123	12.8	0.0	3,555	29.0	5.39	0.3	-0.00100		
0502 B	01/04/1996	6866.10	4.2	3.82	5,022	470	485	122	13.3	0.0	3,710	29.3	3.16	-0.1	-0.00100		
0502 B	04/02/1996	6865.70	4.8	4.47	5,428	478	525	119	13.5	0.0	3,810	31.2	3.62	-0.1	-0.00100		
0502 B	07/07/1996	6865.40	4.5	3.40	5,317	460	475	120	14.2	0.0	3,550	34.0	3.83	0.11	-0.00100		
0502 B	10/01/1996	6865.50	4.7	3.72	5,570	480	517	123	13.9	0.0	3,648	29.3	3.58	-0.1	-0.00100		
0502 B	01/21/1997	6865.70	4.8	4.01	5,570	485	525	116	14.0	0.0	3,755	32.1	4.54	-0.1	-0.00100		
0502 B	04/08/1997	6864.80	4.7	4.39	5,610	506	550	145	13.4	0.0	3,960	31.2	3.03	-0.1	-0.00100		
0502 B	07/08/1997	6864.40	5.7	4.20	5,710	516	557	125	14.8	0.0	4,000	32.9	3.94	-0.1	-0.00100		
0502 B	10/08/1997	6865.00	4.3	3.75	5,700	492	523	110	13.1	-0.1	3,590	34.0	4.01	-0.1	-0.00100		
0502 B	01/16/1998	6864.20	4.8	4.62	5,720	479	522	118	14.3	2.1	3,700	33.5	5.14	-0.1	-0.00100		
0502 B	04/07/1998	6864.30	4.3	3.99	5,730	485	536	113	13.0	0.1	3,570	28.6	3.27	-0.1	-0.00100		
0502 B	07/07/1998	6864.90	4.6	4.11	5,570	480	536	115	13.6	-0.1	3,500	29.7	3.85	-0.1	-0.00100		
0502 B	10/06/1998	6865.10	4.46	4.54	5,840	500	559	120	14.7	-0.1	3,720	28.3	0.9	-0.1	-0.00100		
0502 B	01/05/1999	6863.90	4.2	4.53	5,870	483	568	124	12.7	-0.1	4,000	29.6	3.72	-0.1	-0.00100		
0502 B	04/06/1999	6864.00	4.5	4.79	5,880	472	545	108	13.2	4	3,730	34.7	3.54	-0.1	-0.00100		
0502 B	07/13/1999	6863.30	4.7	3.9	5,820	487	580	100	14.2	-0.1	3,800	24.9	3.25	-0.1	-0.00100		

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.00	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0502 B	07/23/1989	2.20	0.001	-0.050	-0.01	0.26	-0.05	6.90	9.30	0.24	0.003	-0.10	0.0543	17.2	-0.2	2.3	30.5
0502 B	10/11/1989	2.20	0.009	-0.050	-0.01	0.19	-0.05	5.70	23.00	0.21	0.010	-0.10	0.0640	9.8	18.1	4.1	23.0
0502 B	01/03/1990	16.00	0.009	-0.050	-0.01	0.21	-0.05	5.80	22.00	0.27	0.003	-0.10	0.1130	13.8	-0.2	6.7	9.3
0502 B	04/03/1990	8.50	0.012	-0.050	-0.01	0.27	-0.05	7.00	19.00	0.32	0.004	-0.10	0.0640	15.8	-0.2	2.8	9.4
0502 B	07/02/1990	22.70	0.027	-0.050	-0.01	0.28	-0.05	6.90	9.10	0.33	0.003	-0.10	0.2040	27.4	-0.2	7.9	15.0
0502 B	10/02/1990	2.40	0.014	-0.050	-0.01	0.39	-0.05	9.00	5.20	0.38	0.002	-0.10	0.0540	16.0	-0.2	-1.0	15.0
0502 B	01/04/1991	22.40	0.024	0.030	-0.01	0.52	-0.05	11.10	2.10	0.55	0.002	-0.10	0.2080	30.0	-0.2	-1.0	18.0
0502 B	04/09/1991	15.70	0.003	-0.050	-0.01	0.40	-0.05	8.51	0.68	0.44	0.001	-0.10	0.2058	26.2	-0.2	-1.0	12.0
0502 B	07/16/1991	1.00	0.009	-0.010	-0.01	0.59	-0.05	12.58	0.85	0.66	-0.001	-0.10	0.3230	23.5	-0.2	2.9	13.0
0502 B	10/14/1991	54.20	0.004	0.012	-0.01	0.68	-0.05	13.60	1.01	0.78	0.001	-0.10	0.2800	29.8	-0.2	-1.0	16.0
0502 B	01/14/1992	74.70	0.023	0.130	-0.01	0.67	-0.05	14.60	2.41	0.84	0.004	-0.10	0.3440	4.5	-0.2	-1.0	3.0
0502 B	04/07/1992	89.50	0.040	0.140	-0.01	0.71	-0.05	17.70	2.30	0.74	-0.001	-0.10	0.5670	30.7	-0.2	2.0	12.7
0502 B	07/07/1992	92.20	0.088	0.120	-0.01	0.75	-0.05	15.10	1.17	0.72	0.001	-0.10	0.4300	24.0	-0.2	-1.0	8.4
0502 B	10/06/1992	68.70	0.036	0.130	0.01	0.79	-0.05	14.30	1.00	0.89	0.004	-0.10	0.5520	26.5	-0.2	-1.0	10.4
0502 B	01/06/1993	96.90	0.036	0.130	0.02	0.77	-0.05	16.00	0.60	1.02	-0.001	-0.10	0.7150	38.7	-0.2	-1.0	19.9
0502 B	04/06/1993	101.00	0.696	0.140	-0.01	0.75	-0.05	15.23	1.15	0.05	0.003	-0.10	0.8120	34.8	-0.2	3.3	11.5
0502 B	07/13/1993	87.00	0.018	-0.005	-0.01	0.97	-0.05	14.20	0.74	1.09	-0.001	-0.10	0.4780	17.0	-0.2	-1.0	8.5
0502 B	10/06/1993	57.80	0.004	0.090	-0.01	0.74	-0.05	12.40	0.51	0.93	-0.001	-0.10	0.1770	21.8	-0.2	2.0	9.0
0502 B	01/05/1994	57.10	0.007	0.080	-0.01	0.85	-0.05	12.60	0.41	0.78	-0.001	-0.10	0.3470	16.2	-0.2	1.1	20.4
0502 B	04/13/1994	54.50	0.005	0.050	-0.01	0.70	-0.05	10.50	0.41	0.79	-0.001	-0.10	0.3320	14.4	-0.2	3.8	18.3
0502 B	07/21/1994	44.20	0.003	0.040	-0.01	0.82	-0.05	12.00	0.35	0.97	-0.001	-0.10	0.2050	19.2	-0.2	4.4	24.3
0502 B	10/05/1994	26.70	0.004	0.030	-0.01	0.64	-0.05	9.18	0.28	0.70	-0.001	-0.10	0.1880	13.3	-0.2	1.2	16.6
0502 B	01/05/1995	32.30	-0.001	0.040	-0.01	0.72	-0.05	10.50	0.20	0.85	-0.001	-0.10	0.2110	16.9	-0.2	-1.0	19.2
0502 B	04/05/1995	27.20	0.003	0.030	-0.01	0.81	-0.05	11.10	0.19	0.74	-0.001	-0.10	0.1910	17.0	-0.2	2.0	21.3
0502 B	07/06/1995	16.90	0.005	0.020	-0.01	0.69	-0.05	9.65	0.19	0.77	-0.001	-0.10	0.1321	14.5	-0.2	2.0	24.0
0502 B	10/04/1995	13.30	0.001	0.020	-0.01	0.66	-0.05	9.20	0.15	0.73	-0.001	-0.10	0.1290	23.6	-0.2	-1.0	16.6
0502 B	01/04/1996	16.10	0.002	0.020	-0.01	0.66	-0.05	10.30	0.12	0.72	-0.001	-0.10	0.1340	21.7	-0.2	2.7	11.6
0502 B	04/02/1996	12.10	0.001	0.020	-0.01	0.63	-0.05	9.08	0.11	0.66	-0.001	-0.10	0.1540	19.6	2.1	-1.0	11.2
0502 B	07/07/1996	16.90	0.002	-0.010	-0.01	0.68	-0.05	10.30	0.13	0.74	-0.001	-0.10	0.1480	30.8	0.6	5.3	16.2
0502 B	10/01/1996	13.60	0.001	0.020	-0.01	0.62	-0.05	9.60	-0.10	0.68	0.002	-0.10	0.1050	28.9	1.1	-1.0	16.3
0502 B	01/21/1997	18.30	0.002	0.020	-0.01	0.63	-0.05	10.70	-0.10	0.67	-0.001	-0.10	0.1380	29.4	-0.2	-1.0	8.2
0502 B	04/08/1997	9.48	-0.001	0.010	-0.01	0.54	-0.05	5.30	0.67	0.48	-0.001	-0.10	0.1200	35.8	-0.2	-1.0	26.1
0502 B	07/08/1997	15.10	-0.001	-0.010	-0.01	0.59	-0.05	10.10	-0.10	0.58	-0.001	-0.10	0.1320	26.1	-0.2	4.6	12.7
0502 B	10/08/1997	7.71	0.008	0.010	-0.01	0.66	-0.05	11.40	0.11	0.63	-0.001	-0.10	0.0890	26.0	-0.2	-1.0	10.7
0502 B	01/16/1998	11.80	0.003	0.010	-0.01	0.58	-0.05	10.70	0.11	0.64	-0.001	0.10	0.1300	28.7	-0.2	-1.0	21.2
0502 B	04/07/1998	8.50	-0.001	0.010	0.005	0.50	-0.05	9.35	-0.10	0.52	-0.001	-0.10	0.1260	36.2	-0.2	-1.0	11.9
0502 B	07/07/1998	8.32	-0.001	0.010	0.006	0.50	-0.05	10.20	0.14	0.53	-0.001	-0.10	0.1310	36.9	-0.2	-1.0	18.0
0502 B	10/06/1998	6.74	0.005	0.010	0.006	0.5	-0.05	9.7	0.11	0.54	-0.001	-0.10	0.1210	30.6	-0.2	-1.0	15.4
0502 B	01/05/1999	8.16	-0.001	0.010	0.006	0.47	-0.05	9.65	-0.10	0.52	-0.001	-0.10	0.1350	26.8	-0.2	-1.0	18.1
0502 B	04/06/1999	6.86	-0.001	0.010	0.009	0.55	-0.05	10.5	-0.10	0.54	-0.001	-0.10	0.1250	29.6	1.4	-1.0	27.1
0502 B	07/13/1999	6.14	-0.001	0.010	0.006	0.42	-0.05	10.6	-0.10	0.42	-0.001	-0.10	0.1200	25.7	1.4	-1.0	14.4

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250.0	NA	30.0	NA	NA	NA
0504 B	07/23/1989	6868.10	6.2	6.50	4,631	515	440	172	10.5	293	3,027	37.9	0.49	0.05	-0.00100	-0.0010	-0.005
0504 B	10/11/1989	6867.30	5.9	6.68	4,674	491	384	150	13.8	271	2,947	39.0	0.58	0.23	-0.00100	-0.0010	-0.005
0504 B	01/03/1990	6865.90	5.7	6.36	4,468	597	373	146	11.0	217	2,793	35.9	0.70	0.05	-0.00100	-0.0010	-0.005
0504 B	04/03/1990	6864.60	6.0	6.30	4,822	503	407	144	10.8	203	2,751	36.9	0.79	0.08	-0.00100	-0.0010	-0.005
0504 B	07/02/1990	6863.50	5.6	6.32	4,598	554	424	143	10.6	229	2,931	33.2	0.36	0.06	-0.00100	-0.0010	-0.005
0504 B	10/02/1990	6862.70	5.8	6.71	4,631	469	456	146	10.5	198	3,067	33.7	0.39	0.02	-0.00100	-0.0010	-0.005
0504 B	01/03/1991	6862.70	5.7	6.25	4,687	534	446	140	31.6	166	3,022	32.5	0.86	0.08	-0.00100	-0.0010	-0.005
0504 B	04/09/1991	6861.70	5.6	6.51	4,678	531	437	134	13.5	159	2,979	30.9	0.74	0.07	-0.00100	-0.0010	-0.005
0504 B	07/16/1991	6860.70	5.6	6.30	4,769	535	392	132	10.8	161	3,427	33.1	0.91	0.10	-0.00100	-0.0010	-0.005
0504 B	10/14/1991	6857.30	5.8	6.62	4,495	456	269	131	8.3	245	2,640	39.2	0.44	0.03	-0.00100	-0.0010	-0.005
0504 B	01/14/1992	6855.40	5.4	6.06	5,014	502	378	161	10.8	121	3,119	40.3	3.10	-0.01	-0.00100	-0.0010	-0.005
0504 B	04/07/1992	6855.90	5.4	6.21	5,112	500	473	162	13.1	207	3,372	31.4	0.92	-0.10	-0.00100	-0.0010	-0.005
0504 B	07/07/1992	6855.80	5.1	7.63	5,218	578	463	194	14.1	50.9	3,248	41.0	0.63	-0.10	-0.00100	-0.0010	-0.005
0504 B	10/06/1992	6851.70	5.4	5.85	5,061	593	430	185	13.9	63.4	3,278	37.3	0.84	-0.10	-0.00100	-0.0010	-0.005
0504 B	01/21/1993	6849.90	5.4	5.90	4,440	525	378	159	14.3	38.1	3,194	43.2	0.93	-0.10	-0.00100	-0.0010	-0.005
0504 B	04/14/1993	6849.90	5.6	6.50	4,825	519	494	171	10.4	82.8	3,373	37.6	0.76	-0.10	-0.00100	-0.0010	-0.005
0504 B	07/15/1993	6848.40	5.6	4.91	4,659	540	464	160	14.8	13.2	3,430	41.2	0.93	-0.10	-0.00100	-0.0010	-0.005
0504 B	10/06/1993	6844.70	5.7	5.67	4,372	543	385	155	11.0	27.6	3,129	33.5	0.60	0.20	-0.00100	-0.0010	-0.005
0504 B	01/05/1994	6847.00	5.7	6.01	5,244	578	450	145	10.6	58.5	3,491	38.7	0.80	-0.10	-0.00100		
0504 B	04/13/1994	6846.50	5.8	6.01	5,083	580	433	138	10.6	47.9	3,448	37.9	1.82	-0.10	-0.00100		
0504 B	07/21/1994	6846.30	5.9	6.25	4,998	600	452	135	11.1	62.8	3,467	32.3	0.91	-0.10	-0.00100		
0504 B	10/05/1994	6846.30	5.8	6.56	5,208	604	489	176	12.5	68.3	3,421	35.5	1.40	-0.10	-0.00100		
0504 B	01/05/1995	6844.80	5.8	6.41	4,827	570	406	152	12.2	117	3,232	35.8	1.38	-0.10	-0.00100		
0504 B	04/05/1995	6845.00	5.8	7.46	5,199	527	487	145	11.3	35.4	3,710	37.1	1.49	-0.10	-0.00100		
0504 B	07/06/1995	6845.10	6.3	6.51	4,787	515	470	145	11.7	58.7	3,298	33.5	1.64	-0.10	-0.00100		
0504 B	10/04/1995	6844.10	6.0	6.70	4,530	490	450	151	11.6	71.1	3,315	33.0	1.36	0.23	-0.00100		
0504 B	01/04/1996	6843.30	6.2	6.44	4,519	530	455	156	11.3	92.0	3,116	32.0	0.66	1.68	-0.00100		
0504 B	04/02/1996	6843.10	7.0	6.82	5,270	530	515	59.4	13.1	61.5	3,630	37.5	0.74	-0.1	-0.00100		
0504 B	07/07/1996	6842.70	6.0	6.22	5,316	515	475	153	13.4	44.0	3,440	39.2	0.67	-0.1	-0.00100		
0504 B	10/01/1996	6842.20	6.3	6.00	5,260	539	509	154.0	12.7	53.7	3,427	34.6	0.62	-0.1	-0.00100		
0504 B	01/21/1997	6843.90	6.1	5.61	5,220	515	525	149.0	14.1	8.5	3,530	34.2	0.72	-0.1	-0.00100		
0504 B	04/08/1997	6842.10	6.1	6.92	5,180	537	534	145.0	12.5	76.3	3,640	37.5	0.61	-0.1	-0.00100		
0504 B	07/08/1997	6841.30	7.1	6.53	5,390	564	565	153	13.8	42.6	3,850	37.7	0.67	-0.1	-0.00100		
0504 B	10/08/1997	6841.70	5.7	6.40	5,350	531	519	141	12.3	26.0	3,430	37.5	0.78	0.15	-0.00100		
0504 B	01/16/1998	6841.20	5.8	6.60	5,360	517	520	152	13.4	32.7	3,500	36.4	1.12	0.1	-0.00100		
0504 B	04/07/1998	6841.00	5.7	5.91	5,420	518	529	146	12.3	19.2	3,350	32.4	0.76	-0.1	-0.00100		
0504 B	07/07/1998	6841.00	6.0	4.34	5,140	503	519	153	12.7	-0.1	3,550	33.0	0.96	-0.1	-0.00100		
0504 B	10/06/1998	6841.20	5.7	6.33	5,340	543	555	158	13.8	29.7	3,500	32.7	3.99	0.29	-0.00100		
0504 B	01/05/1999	6841.00	5.6	6.36	5,340	463	524	141	12.3	38	3,700	33	0.7	0.19	-0.00100		
0504 B	04/06/1999	6841.20	5.5	6.53	5,370	508	542	140	12.4	31	3,440	38.6	0.8	-0.1	-0.00100		
0504 B	07/13/1999	6840.81	6.5	6.51	5,350	522	558	132	13.3	28	3,500	32	0.75	0.38	-0.00100		

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.00	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0504 B	07/23/1989	0.25	0.113	-0.050	-0.01	0.14	-0.05	2.50	24.00	0.24	0.001	-0.10	0.1000	32.4	-0.2	-1.0	66.1
0504 B	10/11/1989	0.20	0.054	-0.050	0.00	0.26	-0.05	3.10	9.90	0.37	-0.001	-0.10	0.1220	23.3	11.1	2.7	27.5
0504 B	01/03/1990	0.22	0.025	-0.050	-0.01	0.16	-0.05	2.30	4.20	0.25	0.001	-0.10	0.2860	28.2	1.6	5.7	18.1
0504 B	04/03/1990	-0.10	0.017	-0.050	-0.01	0.30	-0.05	4.10	7.80	0.52	0.001	-0.10	0.1010	29.2	-0.2	1.6	12.5
0504 B	07/02/1990	-0.10	0.023	-0.050	-0.01	0.28	-0.05	3.80	8.32	0.45	0.001	-0.10	0.1468	36.2	-0.2	3.3	20.0
0504 B	10/02/1990	-0.10	0.021	-0.050	-0.01	0.34	-0.05	3.60	13.30	0.46	-0.001	-0.10	0.1300	31.2	-0.2	-1.0	20.0
0504 B	01/03/1991	-0.10	0.002	-0.010	0.01	0.49	-0.05	4.85	3.60	0.60	0.001	-0.10	0.3797	38.9	-0.2	-1.0	25.0
0504 B	04/09/1991	-0.10	0.001	-0.050	-0.01	0.35	-0.05	4.39	2.83	0.49	-0.001	-0.10	0.1470	40.9	-0.2	-1.0	25.0
0504 B	07/16/1991	-0.10	-0.001	-0.010	-0.01	0.43	-0.05	4.47	2.70	0.54	-0.001	-0.10	0.2790	28.0	-0.2	3.2	16.0
0504 B	10/14/1991	-0.10	0.573	-0.010	-0.01	0.22	-0.05	2.96	69.90	0.30	-0.001	-0.10	0.1400	9.0	-0.2	-1.0	7.0
0504 B	01/14/1992	-0.10	0.340	-0.010	-0.01	0.50	-0.05	5.08	43.40	0.67	-0.001	-0.10	0.0290	22.2	-0.2	-1.0	16.0
0504 B	04/07/1992	-0.10	0.035	-0.010	-0.01	0.53	-0.05	7.10	9.60	0.63	0.002	-0.10	0.1240	20.1	-0.2	-1.0	7.6
0504 B	07/07/1992	-0.10	0.388	-0.010	-0.01	0.70	-0.05	6.66	56.40	0.88	0.001	-0.10	0.0200	13.0	-0.2	-1.0	8.5
0504 B	10/06/1992	1.10	0.257	-0.010	-0.01	0.66	-0.05	6.88	49.80	0.91	0.002	-0.10	0.0420	20.4	-0.2	-1.0	12.5
0504 B	01/21/1993	1.30	0.181	-0.010	-0.01	0.57	-0.05	7.05	45.40	0.90	-0.001	-0.10	0.0330	13.3	-0.2	4.7	10.0
0504 B	04/14/1993	0.10	0.042	-0.010	-0.01	-0.01	-0.05	5.94	12.70	0.67	-0.001	-0.10	0.1760	20.8	-0.2	-1.0	10.5
0504 B	07/15/1993	1.17	0.139	-0.010	-0.01	1.00	-0.05	6.68	12.40	1.27	0.002	-0.10	0.0640	17.0	-0.2	-1.0	9.9
0504 B	10/06/1993	0.17	0.170	-0.010	-0.01	0.52	-0.05	4.94	7.00	0.70	-0.001	-0.10	0.0510	21.5	-0.2	-1.0	15.0
0504 B	01/05/1994	-0.10	0.041	-0.010	-0.01	0.46	-0.05	6.00	3.40	0.54	-0.001	-0.10	0.0850	37.1	-0.2	-1.0	46.1
0504 B	04/13/1994	-0.10	0.019	-0.010	-0.01	0.52	-0.05	6.09	4.97	0.73	-0.001	-0.10	0.0590	31.1	-0.2	2.6	29.0
0504 B	07/21/1994	0.15	0.012	-0.010	-0.01	0.45	-0.05	5.80	1.03	0.60	-0.001	-0.10	0.0840	41.6	-0.2	2.5	53.4
0504 B	10/05/1994	-0.10	0.010	-0.010	-0.01	0.36	-0.05	5.14	5.36	0.54	-0.001	-0.10	0.0810	28.3	-0.2	2.0	35.4
0504 B	01/05/1995	-0.10	0.009	-0.010	-0.01	0.37	-0.05	4.62	0.85	0.51	-0.001	-0.10	0.1230	39.7	-0.2	-1.0	49.0
0504 B	04/05/1995	-0.10	0.011	-0.010	-0.01	0.54	-0.05	6.20	2.67	0.56	-0.001	-0.10	0.0730	31.6	-0.2	-1.0	39.2
0504 B	07/06/1995	-0.10	0.010	-0.010	-0.01	0.47	-0.05	5.63	2.11	0.58	-0.001	-0.10	0.0792	27.0	-0.2	1.3	51.9
0504 B	10/04/1995	-0.10	0.008	-0.010	-0.01	0.47	-0.05	5.50	0.77	0.61	-0.001	-0.10	0.0780	34.8	-0.2	-1.0	25.5
0504 B	01/04/1996	-0.10	0.005	-0.010	-0.01	0.43	-0.05	4.79	0.52	0.50	-0.001	-0.10	0.1190	37.1	-0.2	3.4	27.4
0504 B	04/02/1996	-0.10	0.01	-0.010	-0.01	0.50	-0.05	5.73	0.41	0.61	-0.001	-0.10	0.0880	36.2	-0.2	-1.0	23.3
0504 B	07/07/1996	-0.10	0.01	-0.010	-0.01	0.49	-0.05	6.04	0.47	0.63	-0.001	-0.10	0.0810	47.5	0.7	2.3	20.4
0504 B	10/01/1996	-0.10	0.005	-0.010	-0.01	0.48	-0.05	5.66	0.36	0.60	0.002	-0.10	0.0720	40.1	0.8	-1.0	25.2
0504 B	01/21/1997	0.16	0.017	-0.010	-0.01	0.41	-0.05	6.00	0.64	0.57	-0.001	-0.10	0.0570	48.9	-0.2	-1.0	14.1
0504 B	04/08/1997	-0.10	-0.001	-0.010	-0.01	0.37	-0.05	5.30	0.67	0.48	-0.001	-0.10	0.1060	43.9	-0.2	-1.0	43.7
0504 B	07/08/1997	0.17	0.017	-0.010	-0.01	0.38	-0.05	5.81	1.38	0.49	-0.001	-0.10	0.0680	43.2	-0.2	-1.0	17.0
0504 B	10/08/1997	0.16	0.02	-0.010	-0.01	0.45	-0.05	6.71	4.69	0.56	-0.001	-0.10	0.0870	34.7	-0.2	-1.0	16.3
0504 B	01/16/1998	1.15	0.025	-0.010	-0.01	0.41	-0.05	6.37	6.75	0.57	-0.001	-0.10	0.1610	39.2	-0.2	-1.0	42.0
0504 B	04/07/1998	0.22	0.024	-0.010	-0.005	0.32	-0.05	5.40	7.43	0.43	-0.001	-0.10	0.0594	36.9	-0.2	-1.0	18.7
0504 B	07/07/1998	0.23	0.013	-0.010	-0.005	0.31	-0.05	5.78	8.79	0.44	-0.001	-0.10	0.0359	34.6	-0.2	-1.0	20.0
0504 B	10/06/1998	0.24	0.019	-0.010	-0.005	0.31	-0.05	5.48	9.2	0.446	-0.001	-0.10	0.0378	29.1	-0.2	-1.0	15.8
0504 B	01/05/1999	0.33	0.025	-0.010	0.007	0.3	-0.05	5.6	12.4	0.42	-0.001	-0.10	0.0435	34.4	-0.2	-1.0	32
0504 B	04/06/1999	0.37	0.015	-0.010	-0.005	0.33	-0.05	5.8	9.48	0.43	-0.001	-0.10	0.0531	36.3	-0.2	-1.0	50
0504 B	07/13/1999	0.17	0.02	-0.010	-0.005	0.24	-0.05	5.7	14.6	0.35	-0.001	-0.10	0.0288	25.7	-0.2	-1.0	17.3

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard EPA Standard	NA NA	NA NA	NA NA	NA 3,170	NA NA	NA NA	NA NA	NA NA	NA NA	NA 2,160	NA 250.0	NA NA	NA 30.0	0.001 NA	0.001 NA	0.005 NA
0517*	07/23/1989	6899.70	6.0	6.51	3,617	543	291	111	4.5	303	2,079	20.9	0.53	39.00	0.00110	-0.0010	-0.005
0517*	10/11/1989	6893.20	6.1	6.50	3,738	507	290	117	6.8	298	2,199	21.8	0.31	43.00	-0.00100	-0.0010	-0.005
0517*	01/03/1990	6894.80	5.4	5.90	4,096	523	318	138	8.1	168	2,434	27.9	0.74	46.00	-0.00100	-0.0010	-0.005
0517*	04/03/1990	6892.60	5.6	6.24	4,306	515	360	140	8.1	220	2,556	28.3	0.90	44.00	-0.00100	-0.0010	-0.005
0517*	07/02/1990	6892.90	5.6	6.20	4,318	526	387	127	7.0	231	2,456	26.1	0.26	47.80	-0.00100	-0.0010	-0.005
0517*	10/16/1990	6892.60	5.5	6.30	4,083	440	532	131	7.2	170	2,574	22.8	0.36	27.10	-0.00100	-0.0010	-0.005
0517*	01/16/1991	6893.60	5.7	6.42	4,235	554	385	157	8.1	227	2,706	27.5	0.25	49.30	-0.00100	-0.0010	-0.005
0517*	04/10/1991	6894.50	5.7	6.80	4,204	541	376	136	6.2	284	2,370	31.4	0.27	61.00	-0.00100	-0.0010	-0.005
0517*	07/16/1991	6891.60	5.6	6.42	4,550	546	353	136	6.8	215	3,014	50.3	0.25	67.00	0.00260	-0.0010	-0.005
0517*	10/14/1991	6887.60	5.5	6.39	5,348	452	393	175	6.2	142	3,173	77.6	0.39	30.30	0.00320	-0.0010	-0.005
0517*	01/14/1992	6888.80	5.3	6.04	5,847	490	544	185	7.2	117	3,571	76.9	1.76	36.10	0.00320	-0.0010	-0.005
0517*	04/07/1992	6888.80	5.3	7.19	5,539	518	495	199	8.1	103	3,457	61.7	2.32	26.70	0.00340	-0.0010	-0.005
0517*	07/07/1992	6884.70	5.2	6.91	5,413	528	480	195	9.7	85.4	3,334	66.3	3.78	40.50	0.00400	-0.0010	-0.005
0517*	10/06/1992	6882.60	5.2	6.73	5,109	530	451	186	7.0	73.2	3,169	62.9	3.29	41.80	0.00410	-0.0010	-0.005
0517*	01/06/1993	6883.20	5.3	6.88	4,169	459	374	148	6.9	75.6	2,856	75.8	1.13	48.10	0.00670	-0.0010	-0.005
0517*	04/06/1993	6884.20	5.3	6.08	4,493	458	438	183	6.1	71.0	3,066	74.1	3.76	34.50	0.00700	-0.0010	-0.005
0517*	07/13/1993	6882.10	5.4	5.64	5,166	557	498	195	9.4	46.1	3,734	77.5	11.9	38.50	0.00880	-0.0010	-0.005
0517*	10/10/1993	6880.10	4.8	4.49	5,918	589	508	185	10.3	1.8	3,901	79.6	26.9	39.30	-0.00100	-0.0010	-0.005
0517*	01/05/1994	6880.00	4.9	4.60	5,674	518	461	195	11.0	5.7	3,740	88.4	6.52	33.80	0.00950		
0517*	04/13/1994	6879.70	4.3	4.29	5,770	515	479	204	12.0	0.0	3,883	108.0	7.25	27.80	0.00850		
0517*	07/20/1994	6878.60	5.1	4.36	6,115	604	516	177	11.7	0.0	4,308	85.9	34.2	32.90	-0.00100		
0517*	10/04/1994	6878.00	4.8	4.33	6,218	554	551	204	12.5	0.0	4,563	82.5	22.4	42.50	0.00450		
0517*	01/04/1995	6877.20	4.7	4.46	5,507	517	465	178	11.0	0.0	3,665	66.2	40.4	40.30	0.00320		
0517*	04/04/1995	6876.80	5.2	4.72	4,608	514	338	143	6.5	6.5	2,999	54.0	17.8	44.90	0.00140		
0517*	07/06/1995	6875.90	4.7	4.57	4,312	500	365	142	6.7	1.8	3,040	48.0	36.1	16.40	0.00176		
0517*	10/03/1995	6875.10	4.6	4.39	5,058	465	469	185	11.0	0.0	3,745	12.7	41.4	7.29	0.00425		
0517*	01/03/1996	6874.40	4.5	4.10	5,807	510	530	174	10.1	0.0	4,100	61.2	28.6	1.51	0.00505		
0517*	04/02/1996	6874.00	4.6	4.44	5,804	481	550	170	10.5	0.0	3,995	61.9	27.8	1.38	0.00521		
0517*	07/07/1996	6873.80	4.5	4.33	5,635	460	485	175	10.6	0.0	3,590	67.0	24.9	1.44	0.00526		
0517*	10/01/1996	6873.60	4.8	4.30	5,520	477	518	182	10.5	0.0	3,578	66.0	22.5	1.35	0.00246		
0517*	01/21/1997	6873.50	4.5	4.73	5,210	485	515	175	10.2	6.3	3,585	68.0	21.1	1.47	0.00487		
0517*	04/08/1997	6873.30	5.1	4.69	5,260	485	526	169	9.9	4.0	3,710	69.5	18.8	1.11	0.00422		
0517*	07/08/1997	6872.70	5.1	4.59	5,350	487	517	179	10.4	2.4	3,470	71.6	20.1	2.58	0.00446		
0517*	10/07/1997	6872.60	4.5	4.35	5,310	504	503	165	9.9	-0.1	3,390	74.0	21.4	4.08	0.00608		
0517*	01/15/1998	6872.40	4.5	4.63	5,240	507	506	172	10.1	3.3	3,600	64.7	20	4.63	0.00510		
0517*	04/07/1998	6872.50	4.5	4.57	5,250	478	486	164	9.2	2.0	3,240	58.8	17.7	4.23	0.00570		
0517*	07/07/1998	6872.40	4.8	4.45	5,170	480	486	173	9.7	-0.1	3,500	61.8	18.7	4.83	0.00590		
0517*	10/06/1998	6872.20	4.56	4.56	5,170	506	505	171	10.2	1.4	3,420	59.9	40.9	5.59	0.00440		
0517*	01/05/1999	6871.80	4.6	4.6	5,220	433	477	158	9	2	3,500	57.8	17	4.12	0.00450		
0517*	04/06/1999	6870.90	4.5	4.72	5,110	472	478	156	9.4	4	3,260	62.5	15.3	4.45	0.00360		
0517*	07/13/1999	6871.32	4.6	4.09	5,010	392	493	149	10	-0.1	3,300	52.6	14.4	4.19	0.00440		

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
NRC Standard		NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
EPA Standard		5.00	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0517*	07/23/1989	-0.10	-0.001	-0.050	-0.01	-0.01	-0.05	0.58	0.14	-0.05	0.001	-0.10	0.2520	21.4	-0.2	2.1	44.1
0517*	10/11/1989	-0.10	-0.001	-0.050	-0.01	0.01	0.06	0.64	0.18	-0.05	0.013	-0.10	0.1960	8.5	-0.2	2.8	4.7
0517*	01/03/1990	0.11	-0.001	-0.050	-0.01	0.01	-0.05	1.30	0.32	-0.05	0.110	-0.10	0.0880	13.4	-0.2	4.5	10.5
0517*	04/03/1990	0.11	-0.001	-0.050	-0.01	0.03	-0.05	2.00	0.16	-0.05	-0.001	-0.10	0.0900	19.5	-0.2	1.0	10.8
0517*	07/02/1990	0.10	-0.001	-0.050	-0.01	0.01	-0.05	1.81	0.20	-0.05	0.001	-0.10	0.1360	10.5	-0.2	1.2	10.0
0517*	10/16/1990	-0.10	-0.001	-0.050	-0.01	0.04	-0.05	2.89	0.10	-0.09	-0.001	-0.10	0.0460	12.5	-0.2	-1.0	10.0
0517*	01/16/1991	-0.10	-0.001	-0.050	-0.01	0.04	-0.05	2.37	-0.10	-0.05	0.001	-0.10	0.0814	11.0	-0.2	-1.0	11.3
0517*	04/10/1991	-0.10	-0.001	-0.010	-0.01	0.06	-0.05	2.93	0.17	0.11	0.001	-0.10	0.1666	16.4	-0.2	-1.0	8.0
0517*	07/16/1991	-0.10	-0.001	-0.010	-0.01	0.04	-0.05	2.63	0.06	0.01	-0.001	-0.10	0.1490	15.6	-0.2	-1.0	9.0
0517*	10/14/1991	0.12	0.001	-0.010	-0.01	0.12	-0.05	4.46	0.10	0.06	-0.001	-0.10	0.0300	11.2	-0.2	-1.0	5.0
0517*	01/14/1992	0.13	-0.001	-0.010	-0.01	0.13	-0.05	5.29	0.11	0.09	0.026	-0.10	0.0120	19.9	-0.2	1.3	14.0
0517*	04/07/1992	-0.10	0.002	-0.010	-0.01	0.12	-0.05	5.69	-0.10	0.10	0.020	-0.10	0.0300	19.8	-0.2	1.3	6.6
0517*	07/07/1992	0.15	-0.001	0.094	-0.01	0.12	-0.05	4.27	-0.10	0.07	0.001	-0.10	0.0060	20.6	-0.2	-1.0	6.9
0517*	10/06/1992	0.10	-0.001	-0.005	-0.01	0.13	-0.05	3.92	-0.10	0.12	0.005	-0.10	0.0070	36.7	-0.2	-1.0	8.9
0517*	01/06/1993	0.10	-0.001	-0.010	0.01	0.10	-0.05	3.38	-0.10	0.11	0.003	-0.10	0.0110	45.9	-0.2	-1.0	10.6
0517*	04/06/1993	-0.10	-0.001	-0.005	-0.01	0.11	-0.05	4.66	-0.10	0.11	0.002	-0.10	0.0070	29.0	-0.2	-1.0	6.9
0517*	07/13/1993	0.86	-0.001	-0.005	-0.01	0.20	-0.05	7.27	-0.10	0.17	0.001	-0.10	0.0030	28.8	-0.2	3.6	10.9
0517*	10/10/1993	11.20	-0.001	-0.005	-0.01	0.32	-0.05	12.20	-0.10	0.38	-0.001	-0.10	0.0030	50.1	-0.2	-1.0	20.5
0517*	01/05/1994	11.10	-0.001	-0.010	-0.01	0.31	-0.05	11.60	-0.10	0.27	-0.001	-0.10	0.0170	64.1	-0.2	1.1	69.8
0517*	04/13/1994	96.00	-0.001	-0.010	-0.01	0.67	-0.05	18.50	-0.10	0.72	-0.001	-0.10	0.0680	61.5	-0.2	4.5	81.9
0517*	07/20/1994	22.90	-0.001	-0.010	-0.01	0.41	-0.05	12.30	-0.10	0.32	-0.001	-0.10	0.0300	54.5	-0.2	-1.0	69.9
0517*	10/04/1994	67.10	-0.001	-0.010	-0.01	0.67	-0.05	18.10	0.11	0.51	-0.001	-0.10	0.0610	38.6	-0.2	-1.0	48.0
0517*	01/04/1995	42.40	-0.001	-0.010	-0.01	0.28	-0.05	10.50	-0.10	0.27	-0.001	-0.10	0.0500	57.1	-0.2	-1.0	69.3
0517*	04/04/1995	10.50	-0.001	-0.010	-0.01	0.14	-0.05	5.65	-0.01	0.11	-0.001	-0.10	0.0430	34.7	-0.2	-1.0	43.8
0517*	07/06/1995	14.40	-0.001	-0.010	-0.01	0.21	-0.05	6.21	-0.01	0.17	-0.001	-0.10	0.0684	36.2	1.0	3.8	69.1
0517*	10/03/1995	47.00	0.004	-0.010	-0.01	0.16	-0.05	3.00	-0.10	-0.05	0.007	-0.10	0.1421	53.9	1.9	-1.0	94.8
0517*	01/03/1996	40.00	0.001	0.020	-0.01	0.83	-0.05	13.70	-0.10	0.79	0.002	-0.10	0.1250	29.0	1.9	1.8	44.6
0517*	04/02/1996	27.30	-0.001	0.010	-0.01	0.82	-0.05	12.20	-0.10	0.72	-0.001	-0.10	0.1490	31.8	1.4	21.4	34.6
0517*	07/07/1996	21.20	-0.001	0.010	-0.01	0.78	-0.05	12.10	-0.10	0.71	-0.001	-0.10	0.1130	33.1	1.3	5.4	25.5
0517*	10/01/1996	16.60	-0.001	-0.010	-0.01	0.71	-0.05	10.90	-0.10	0.66	0.002	-0.10	0.0870	30.6	1.5	-1.0	29.5
0517*	01/21/1997	15.80	0.001	-0.010	-0.01	0.67	-0.05	10.50	-0.10	0.60	-0.001	-0.10	0.0760	27.6	-0.2	-1.0	12.0
0517*	04/08/1997	11.20	-0.001	-0.010	-0.01	0.62	-0.05	9.18	-0.10	0.56	-0.001	-0.10	0.0770	35.0	-0.2	-1.0	58.5
0517*	07/08/1997	14.40	-0.001	-0.010	-0.01	0.64	-0.05	10.50	-0.10	0.51	-0.001	-0.10	0.0820	25.9	-0.2	-1.0	13.3
0517*	10/07/1997	18.20	-0.001	-0.010	-0.01	0.77	-0.05	11.30	-0.10	0.66	-0.001	-0.10	0.1110	24.7	0.9	-1.0	10.5
0517*	01/15/1998	14.40	-0.001	-0.010	-0.01	0.59	-0.05	9.00	-0.10	0.54	-0.001	-0.10	0.0932	23.9	-0.2	-1.0	44.3
0517*	04/07/1998	12.70	-0.001	-0.010	0.007	0.55	-0.05	8.15	-0.10	0.49	-0.001	-0.10	0.0901	29.4	-0.2	6.1	19.7
0517*	07/07/1998	13.50	-0.001	-0.010	0.008	0.55	-0.05	8.64	-0.10	0.50	-0.001	-0.10	0.0885	26.4	-0.2	-1.0	23.4
0517*	10/06/1998	12.2	-0.001	-0.010	0.009	0.54	-0.05	7.78	-0.10	0.44	-0.001	-0.10	0.0936	24.4	-0.2	-1.0	9.9
0517*	01/05/1999	12.3	-0.001	-0.010	0.008	0.55	-0.05	8.11	-0.10	0.45	-0.001	-0.10	0.0924	21.0	-0.2	-1.0	28.7
0517*	04/06/1999	12.3	-0.001	-0.010	0.01	0.59	-0.05	8.20	-0.10	0.46	-0.001	-0.10	0.0851	40.9	-0.2	-1.0	61.8
0517*	07/13/1999	9.96	-0.001	-0.010	0.01	0.62	-0.05	8.00	-0.10	0.50	-0.001	-0.10	0.0758	20.1	-0.2	-1.0	18.8

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	0.001	0.005
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250.0	NA	30.0	NA	NA	NA
0518*	07/23/1989	6897.20	3.3	3.44	9,675	443	764	236	35.8	0.0	6,727	64.6	123	22.00	0.04300	-0.0010	-0.005
0518*	10/11/1989	6892.90	3.2	3.32	10,260	417	770	223	46.8	0.0	6,908	133.0	77.2	29.00	0.04200	-0.0010	-0.005
0518*	01/03/1990	6890.20	3.0	3.00	10,370	440	748	228	30.0	0.0	6,962	108.0	40.4	18.70	0.02370	-0.0010	-0.005
0518*	04/03/1990	6888.20	2.9	3.26	10,524	431	850	223	29.2	0.0	6,989	84.0	52.0	28.00	0.01560	-0.0010	-0.005
0518*	07/10/1990	6886.80	3.3	2.95	9,505	415	768	198	22.3	0.0	6,226	67.0	34.4	16.00	0.02610	-0.0010	-0.005
0518*	10/09/1990	6885.60	3.1	3.30	11,417	439	900	248	27.5	0.0	7,573	87.9	45.2	20.60	0.01720	-0.0010	-0.005
0518*	01/04/1991	6885.10	3.4	3.62	7,402	476	168	158	33.5	0.0	4,846	85.7	12.6	0.58	0.01890	-0.0010	-0.005
0518*	04/10/1991	6887.30	3.8	4.11	7,370	471	686	119	14.2	0.0	4,597	38.3	8.8	-0.01	0.01630	-0.0010	-0.005
0518*	07/16/1991	6885.60	3.7	3.64	7,248	467	685	136	12.8	0.0	5,539	23.8	7.6	-0.01	0.01990	-0.0010	-0.005
0518*	10/14/1991	6883.90	3.6	3.30	7,257	363	493	145	11.1	0.0	4,652	41.8	7.2	-0.01	0.01750	-0.0010	-0.005
0518*	01/14/1992	6884.10	3.6	3.79	7,008	385	645	128	12.9	0.0	4,442	66.8	9.3	-0.01	0.01750	-0.0010	-0.005
0518*	04/07/1992	6885.10	3.7	3.44	7,028	419	581	150	15.5	0.0	4,452	32.7	6.87	-0.10	0.01850	-0.0010	-0.005
0518*	07/07/1992	6881.60	3.4	3.07	8,076	428	574	244	25.5	0.0	5,279	47.8	17.0	-0.10	0.01600	-0.0010	-0.005
0518*	10/13/1992	6879.70	3.5	2.99	8,062	447	613	168	17.8	0.0	5,260	48.2	17.3	-0.10	0.01600	-0.0010	-0.005
0518*	01/21/1993	6882.50	3.7	2.97	5,822	447	613	168	14.7	0.0	4,456	51.6	4.6	-0.10	0.01600	-0.0010	-0.005
0518*	04/14/1993	6883.50	4.2	3.00	5,278	448	530	100	14.0	0.0	3,993	53.7	15.0	-0.10	0.01450	-0.0010	-0.005
0518*	07/15/1993	6879.80	3.6	3.06	5,485	433	569	146	14.0	0.0	3,940	34.1	6.4	-0.10	0.01740	-0.0010	-0.005
0518*	10/10/1993	6876.00	3.7	3.03	5,631	438	651	131	12.5	0.0	4,358	38.2	8.3	-0.10	0.01420	-0.0010	-0.005
0518*	01/05/1994	6880.40	3.6	2.79	6,074	499	619	138	11.3	0.0	4,350	36.3	7.93	0.13	-0.00100		
0518*	04/13/1994	6881.30	3.8	3.08	5,991	510	618	122	13.1	0.0	4,246	32.0	10.8	-0.10	0.01610		
0518*	07/21/1994	6881.30	4.0	3.17	5,944	481	609	126	13.7	0.0	4,218	24.6	7.69	-0.10	0.01400		
0518*	10/05/1994	6881.40	4.0	3.84	5,869	463	652	138	14.5	0.0	4,296	31.3	10.7	-0.10	0.01000		
0518*	01/05/1995	6880.90	3.9	3.84	5,872	476	623	128	15.0	0.0	4,462	33.6	14.4	-0.10	0.01410		
0518*	04/05/1995	6880.90	3.9	3.30	7,021	628	718	140	14.2	0.0	5,113	29.6	12.8	-0.10	0.01150		
0518*	07/06/1995	6880.30	4.4	3.10	6,818	622	595	133	12.6	0.0	4,765	34.2	16.5	-0.10	0.01370		
0518*	10/04/1995	6880.20	3.6	3.08	4,162	618	314	173	6.2	0.0	3,064	28.7	5.22	-0.1	0.01690		
0518*	01/04/1996	6880.10	3.2	3.11	7,039	670	660	145	10.5	0.0	5,245	33.4	9.0	-0.1	0.01530		
0518*	04/02/1996	6880.20	3.4	3.50	7,408	661	700	141	11.6	0.0	5,180	37.3	9.2	0.13	0.01470		
0518*	07/07/1996	6879.50	3.5	3.24	5,648	453	691	155	12.5	0.0	5,139	42.8	13.0	1.2	0.01560		
0518*	10/01/1996	6879.20	3.8	3.31	7,580	448	688	144	12.9	0.0	4,928	35.8	8.95	0.25	0.01320		
0518*	01/21/1997	6879.70	4.0	3.26	7,340	440	680	147	13.8	0.0	4,920	34.3	9.21	2.28	0.01390		
0518*	04/08/1997	6848.80	3.3	3.55	7,480	469	720	138	13.3	0.0	5,250	38.7	8.4	1.75	0.01220		
0518*	07/08/1997	6878.40	3.7	3.56	7,630	488	742	148	14.6	0.0	5,370	41.0	8.3	2.46	0.01060		
0518*	10/08/1997	6878.40	3.0	3.43	7,460	460	698	141	13.9	-0.1	4,990	39.4	9.3	2.87	0.00680		
0518*	01/16/1998	6878.30	3.7	3.73	7,650	453	683	145	15.1	-0.1	5,000	39.4	9.5	1.89	0.01180		
0518*	04/07/1998	6878.30	3.7	3.48	7,600	454	702	184	13.8	-0.1	4,920	35.9	8.4	2.84	0.01110		
0518*	07/07/1998	6877.90	3.7	3.64	7,020	446	692	137	14.4	-0.1	4,600	33.7	8.3	1.44	0.00980		
0518*	10/06/1998	6877.80	3.35	3.66	7,050	466	723	144	15.9	-0.1	4,800	35.8	4.48	1.89	0.01000		
0518*	01/06/1999	6839.70	3.3	3.54	7,640	482	724	150	14.2	-0.1	5,000	38.7	8.24	2.26	0.00830		
0518*	04/06/1999	6839.80	3.3	3.75	7,380	436	699	125	14.4	-0.1	4,800	43.5	7.28	1.37	0.00830		
0518*	07/13/1999	6877.28	3.5	3.62	7,690	464	737	129	16.1	-0.1	5,000	31.7	7.17	0.62	0.00830		

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Al		As		Be		Cd		Co		Pb		Mn		Mo		Ni		Se		V		U		Ra-226+ Ra-228		Th-230		Pb-210		Gross Alpha (pCi/l)
		(mg/l)	NA	(mg/l)	0.05	(mg/l)	0.05	0.017	(mg/l)	0.01	(mg/l)	NA	(mg/l)	0.05	NA	(mg/l)	2.60	(mg/l)	NA	(mg/l)	0.05	(mg/l)	0.01	(mg/l)	0.10	0.3	5.0	5.0	(pCi/l)	5.0	(pCi/l)	
NRC Standard		5.00		0.05		0.017		0.01		0.05		0.05		2.60		1.0		0.2		0.01		0.70		5.0		5.0		NA		NA		15.0
EPA Standard		5.00		0.05		0.017		0.01		0.05		0.05		2.60		1.0		0.2		0.01		0.70		5.0		5.0		NA		NA		15.0
0518*	07/23/1989	420.00	0.001	0.160	-0.01	1.70	0.11	41.00	-0.10	1.90	0.001	-0.10	0.8420	41.0	17.9	4.1	120.0															
0518*	10/11/1989	500.00	-0.001	0.190	0.03	1.80	0.19	44.00	-0.01	2.10	0.006	1.00	1.0800	22.7	55.8	5.0	70.1															
0518*	01/03/1990	410.00	0.001	0.160	0.01	1.90	-0.05	41.00	-0.01	2.10	-0.001	0.22	0.9880	14.6	42.0	5.1	54.0															
0518*	04/03/1990	430.00	0.001	0.180	-0.01	2.10	-0.05	50.00	-0.01	2.50	-0.001	0.16	0.8010	13.0	10.2	2.2	15.0															
0518*	07/10/1990	289.00	-0.001	0.130	0.01	1.17	-0.05	36.50	-0.10	1.81	0.001	0.26	1.0770	8.4	6.8	-1.0	15.0															
0518*	10/09/1990	406.00	0.002	0.210	0.01	2.75	-0.05	51.00	-0.10	3.23	-0.001	0.90	1.7860	22.9	4.0	-1.0	22.0															
0518*	01/04/1991	128.00	-0.001	0.060	-0.01	1.00	-0.05	19.80	-0.10	1.31	0.001	0.26	0.7028	12.7	6.2	-1.0	15.5															
0518*	04/10/1991	62.10	-0.001	-0.010	-0.01	0.70	-0.05	11.13	-0.10	0.80	-0.001	0.11	0.3920	18.1	1.6	1.5	12.1															
0518*	07/16/1991	64.90	-0.001	0.060	0.02	0.96	-0.05	16.40	-0.10	0.94	-0.001	-0.10	0.3040	9.8	-0.2	4.6	4.0															
0518*	10/14/1991	73.20	-0.001	0.060	0.02	0.97	-0.05	16.80	-0.10	0.81	-0.001	0.12	0.4500	5.5	-0.2	-1.0	5.0															
0518*	01/14/1992	63.10	-0.001	-0.030	0.02	1.43	-0.05	14.00	-0.10	0.92	-0.001	0.14	0.2580	18.0	-0.2	1.9	12.0															
0518*	04/07/1992	41.20	-0.003	-0.030	0.03	0.86	-0.05	18.10	-0.10	0.68	-0.001	-0.10	0.2680	22.5	-0.2	-1.0	5.9															
0518*	07/07/1992	161.00	-0.001	-0.010	-0.01	1.13	-0.05	20.80	-0.10	1.09	-0.001	0.22	0.8600	7.2	-0.2	-1.0	5.6															
0518*	10/13/1992	123.00	-0.001	-0.010	0.02	1.17	-0.05	20.30	-0.10	1.06	-0.001	0.40	1.2200	13.1	16.1	-1.0	6.9															
0518*	01/21/1993	32.50	0.001	-0.010	-0.01	0.42	-0.05	11.80	-0.10	0.83	-0.001	-0.10	0.1890	11.2	2.2	3.7	8.5															
0518*	04/14/1993	39.10	0.001	-0.010	-0.01	0.93	-0.05	13.70	-0.10	1.05	-0.001	-0.10	0.2520	29.4	-2.0	1.9	9.7															
0518*	07/15/1993	51.00	-0.001	-0.010	-0.01	0.90	-0.05	14.40	-0.10	0.80	-0.001	0.15	0.1700	6.5	-2.0	-1.0	4.7															
0518*	10/10/1993	68.00	0.003	0.060	-0.01	0.75	-0.05	14.80	-0.10	0.92	-0.001	-0.10	0.2890	8.0	21.2	1.2	30.5															
0518*	01/05/1994	65.60	-0.001	0.060	-0.01	0.93	-0.05	16.80	-0.10	0.80	-0.001	0.10	0.3310	6.5	12.1	3.1	18.6															
0518*	04/13/1994	56.70	0.001	0.030	-0.01	0.77	-0.05	12.60	-0.10	0.80	-0.001	0.16	0.3060	14.8	-0.2	2.0	19.7															
0518*	07/21/1994	53.40	-0.001	0.020	-0.01	0.86	-0.05	14.50	-0.10	0.73	-0.001	-0.10	0.2370	26.0	-0.2	7.6	34.6															
0518*	10/05/1994	37.90	0.001	-0.010	-0.01	1.04	-0.05	9.65	-0.10	0.84	0.004	-0.10	0.3020	26.3	-0.2	-1.0	36.2															
0518*	01/05/1995	62.20	-0.001	-0.010	-0.01	0.96	-0.05	15.00	-0.10	0.90	-0.001	0.15	0.3210	18.8	25.2	-1.0	47.9															
0518*	04/05/1995	64.00	0.001	0.040	0.02	0.97	-0.05	15.40	-0.10	0.88	-0.001	0.23	0.3320	23.2	8.6	2.4	38.9															
0518*	07/06/1995	85.00	0.002	0.060	-0.01	0.98	-0.05	15.90	-0.10	0.81	-0.001	0.28	0.5747	16.5	17.7	1.9	36.6															
0518*	10/04/1995	-0.10	0.002	-0.01	-0.01	0.14	-0.05	0.26	-0.10	-0.05	0.003	-0.10	0.0530	-2.5	-0.2	-1.0	4.3															
0518*	01/04/1996	98.50	0.001	0.05	-0.01	1.01	-0.05	15.50	-0.10	0.91	-0.001	0.16	0.4720	13.7	25.0	4.2	17.6															
0518*	04/02/1996	97.00	-0.001	0.05	-0.01	1.02	-0.05	15.40	-0.10	0.87	-0.001	0.13	0.5670	15.8	16.2	-1.0	28.3															
0518*	07/07/1996	122.00	-0.001	-0.01	-0.01	1.14	-0.05	17.30	-0.10	1.08	-0.001	0.14	0.5480	14.2	23.2	8.2	49.2															
0518*	10/01/1996	100.00	-0.001	0.06	-0.01	1.06	-0.05	15.90	-0.10	0.99	-0.001	-0.10	0.4200	7.0	18.6	-1.0	31.3															
0518*	01/21/1997	100.00	0.002	0.06	-0.01	1.08	-0.05	16.20	-0.10	1.01	-0.001	0.19	0.3560	7.8	18.6	-1.0	11.7															
0518*	04/08/1997	104.00	-0.001	0.06	-0.01	1.06	-0.05	17.50	-0.10	1.02	-0.001	0.16	0.4450	7.0	-0.2	5.5	23.9															
0518*	07/08/1997	106.00	-0.001	0.06	-0.01	1.14	-0.05	18.50	-0.10	0.98	-0.001	-0.10	0.3680	-9.7	16.7	-1.0	18.5															
0518*	10/08/1997	110.00	-0.001	0.07	-0.01	1.28	-0.05	18.70	-0.10	1.17	-0.001	-0.10	0.3670	-7.6	13.1	-1.0	11.9															
0518*	01/16/1998	87.30	-0.001	0.06	-0.01	1.18	-0.05	17.30	-0.10	1.16	-0.001	-0.10	0.3840	-7.8	9.0	-1.0	9.6															
0518*	04/07/1998	70.40	-0.001	0.06	0.007	1.05	-0.05	15.00	-0.10	1.04	-0.001	-0.10	0.3720	-6.0	12.3	-1.0	12.0															
0518*	07/07/1998	75.80	-0.001	0.06	0.009	1.05	-0.05	16.20	-0.10	1.00	-0.001	-0.10	0.3470	-8.6	9.2	-1.0	17.0															
0518*	10/06/1998	90.4	0.001	0.06	0.007	1.16	-0.05	17.5	-0.10	1.06	-0.001	-0.10	0.3630	-7.9	8	-1.0	16.6															
0518*	01/06/1999	80.4	-0.001	0.06	0.011	1.26	-0.05	17.2	-0.10	1.37	-0.001	-0.10	0.3450	-7.5	9.4	-1.0	9.5															
0518*	04/06/1999	76.6	-0.001	0.06	0.01	1.15	-0.05	16.6	-0.10	1.15	-0.001	-0.10	0.3280	-6.4	4.1	-1.0	15.3															
0518*	07/13/1999	69.5	-0.001	0.05	-0.005	1.11	-0.05	16.2	-0.10	1.10	-0.001	-0.10	0.0198	-3.5	7.8	-1.0	1.4															

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250.0	NA	30.0	NA	NA	NA
EPA 01	07/25/1989	6804.30	6.5	6.40	4,590	648	380	161	10.2	427	2,852	29.3	0.83	0.01	-0.00100	-0.0010	-0.005
EPA 01	10/04/1989	6804.50	6.6	6.73	4,522	620	352	158	13.4	466	2,844	25.9	0.32	0.01	-0.00100	-0.0010	-0.005
EPA 01	01/16/1990	6804.20	6.4	6.56	4,632	576	352	161	10.6	458	2,842	29.5	0.46	0.02	-0.00100	-0.0010	-0.005
EPA 01	04/17/1990	6803.80	6.3	6.76	4,714	593	244	156	10.2	468	2,662	30.4	0.63	0.07	-0.00100	-0.0010	-0.005
EPA 01	07/12/1990	6803.10	6.4	6.78	4,725	583	360	151	10.8	482	2,652	29.7	0.26	0.10	-0.00100	-0.0010	-0.005
EPA 01	10/16/1990	6802.90	6.3	7.19	4,706	633	388	172	12.8	448	2,800	32.0	0.36	0.11	-0.00100	-0.0010	-0.005
EPA 01	01/08/1991	6802.30	6.4	6.70	4,730	628	384	159	29.0	436	2,719	66.0	0.51	0.05	-0.00100	-0.0010	-0.005
EPA 01	04/16/1991	6802.20	6.3	7.74	4,746	608	368	161	11.2	480	2,596	34.1	0.46	0.29	-0.00100	-0.0010	-0.005
EPA 01	07/03/1991	6801.80	6.4	6.99	4,494	560	333	141	9.0	488	2,905	31.8	0.21	-0.01	-0.00100	-0.0010	-0.005
EPA 01	10/22/1991	6801.40	6.4	7.14	4,713	584	344	156	10.2	483	2,853	38.1	0.32	-0.01	-0.00100	-0.0010	-0.005
EPA 01	01/22/1992	6801.00	6.3	7.31	4,824	584	344	148	9.7	452	2,905	36.2	-0.05	-0.01	-0.00100	-0.0010	-0.005
EPA 01	04/02/1992	6800.50	6.1	7.35	4,238	566	365	188	12.3	462	2,813	34.5	0.46	-0.01	-0.00100	-0.0010	-0.005
EPA 01	07/15/1992	6799.10	6.2	7.01	4,765	582	375	173	11.5	459	2,868	36.1	0.42	-0.10	-0.00100	-0.0010	-0.005
EPA 01	10/12/1992	6798.60	6.3	6.93	4,708	567	342	155	11.5	425	3,104	35.5	0.53	-0.10	-0.00100	-0.0010	-0.005
EPA 01	01/13/1993	6798.10	6.3	6.96	4,557	574	320	171	12.5	423	2,834	36.0	0.48	-0.10	-0.00100	-0.0010	-0.005
EPA 01	04/15/1993	6797.90	6.3	8.00	4,149	532	376	165	9.2	373	2,836	31.2	0.17	0.60	-0.00100	-0.0010	-0.005
EPA 01	07/20/1993	6797.50	6.4	7.10	4,178	601	326	145	10.7	421	2,769	33.0	0.24	-0.10	-0.00100	0.0016	-0.005
EPA 01	10/12/1993	6796.30	6.8	6.92	4,118	578	326	155	9.2	404	2,815	30.2	0.08	-0.10	-0.00100	-0.0010	-0.005
EPA 01	01/11/1994	6796.90	6.7	7.66	4,656	566	339	132	9.1	333	3,005	28.4	-0.05	0.60	-0.00100		
EPA 01	04/20/1994	6796.50	6.6	6.67	4,260	560	342	132	8.7	345	2,874	27.6	0.62	0.16	-0.00100		
EPA 01	07/26/1994	6797.40	6.7	7.51	4,000	570	348	129	8.8	328	2,726	27.6	0.12	0.14	-0.00100		
EPA 01	10/11/1994	6795.90	6.7	7.84	4,596	622	383	157	10.3	349	3,145	26.6	0.36	0.58	-0.00100		
EPA 01	01/10/1995	6795.60	6.6	7.60	4,626	705	261	144	12.0	309	2,941	28.9	0.46	0.44	-0.00100		
EPA 01	04/11/1995	6795.90	6.8	6.98	4,431	616	318	131	9.6	360	2,885	31.9	0.57	0.12	-0.00100		
EPA 01	07/11/1995	6795.30	7.0	7.93	4,039	595	356	132	9.6	367	2,673	28.7	0.36	0.52	-0.00100		
EPA 01	10/10/1995	6795.20	6.9	7.81	4,085	600	355	144	10.1	334	2,730	24.5	0.31	0.24	-0.00100		
EPA 01	01/10/1996	6794.90	7.1	7.34	4,572	595	360	129	9.1	276	2,935	33.0	0.06	0.31	-0.00100		
EPA 01	04/10/1996	6794.80	7.5	7.88	4,540	615	370	128	10.2	248	3,000	26.1	0.07	0.22	-0.00100		
EPA 01	07/17/1996	6794.70	7.0	7.29	4,458	560	330	135	10.4	242	2,925	25.2	0.05	-0.1	-0.00100		
EPA 01	10/08/1996	6794.50	7.0	7.43	4,440	635	377	134	10.2	248	2,926	24.1	0.11	-0.1	-0.00100		
EPA 01	07/15/1997	6801.00	6.1	7.67	4,630	628	375	134	10.4	200	3,000	25.2	0.08	0.14	-0.00100		
EPA 01	10/15/1997	6794.80		7.87	4,600	638	394	137	10.2	196	3,050	31.4	0.54	0.24	-0.00100		

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.00	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
EPA 01	07/25/1989	0.39	0.149	-0.050	0.01	-0.01	-0.05	4.70	62.00	-0.05	-0.001	-0.10	0.0034	1.4	1.8	-1.0	3.0
EPA 01	10/04/1989	0.45	0.156	-0.050	0.01	-0.01	-0.05	4.90	50.00	-0.05	-0.001	-0.10	0.0050	-1.2	-0.2	-1.0	-1.0
EPA 01	01/16/1990	0.20	0.142	-0.050	-0.01	-0.01	-0.05	5.00	49.00	-0.05	-0.001	-0.10	0.0040	-1.2	-0.2	1.6	1.8
EPA 01	04/17/1990	0.41	0.183	-0.050	-0.01	-0.01	-0.05	5.00	46.00	-0.05	-0.001	-0.10	0.0030	-1.2	-0.2	-1.0	1.3
EPA 01	07/12/1990	-0.10	0.195	-0.050	-0.01	0.05	-0.05	5.45	40.30	-0.05	-0.001	-0.10	0.0068	-1.2	-0.2	-1.0	-1.0
EPA 01	10/16/1990	-0.10	0.318	-0.050	-0.01	0.02	-0.05	4.86	41.20	-0.05	-0.001	-0.10	0.0062	-1.2	-0.2	2.0	-1.0
EPA 01	01/08/1991	-0.10	0.181	-0.010	0.01	0.03	-0.05	5.18	43.10	-0.05	-0.001	-0.10	0.0054	-1.2	-0.2	-1.0	-1.0
EPA 01	04/16/1991	-0.10	0.193	-0.010	-0.01	0.02	-0.05	4.88	38.40	-0.05	-0.001	-0.10	0.0050	-1.2	-0.2	-1.0	-1.0
EPA 01	07/03/1991	-0.10	0.190	-0.010	-0.01	0.03	-0.05	4.37	35.90	-0.05	-0.001	-0.10	0.0118	-1.4	-0.2	-1.0	-1.0
EPA 01	10/22/1991	-0.10	0.242	-0.010	-0.01	0.01	-0.05	4.00	35.30	-0.05	-0.001	-0.10	0.0041	-1.2	-0.2	3.2	-1.0
EPA 01	01/22/1992	-0.10	0.210	-0.010	-0.01	0.03	-0.05	4.43	42.10	-0.05	-0.001	-0.10	0.0070	-2.0	-0.2	-1.0	1.0
EPA 01	04/02/1992	-0.10	0.175	-0.010	0.01	0.03	-0.05	4.76	41.30	-0.05	-0.001	-0.10	0.0920	-1.2	-0.2	1.3	-1.0
EPA 01	07/15/1992	-0.10	0.176	-0.010	0.01	0.03	-0.05	4.68	36.90	-0.05	-0.001	-0.10	0.0070	-1.6	-0.2	-1.0	-1.0
EPA 01	10/12/1992	0.12	0.303	-0.010	-0.01	0.02	-0.05	4.45	35.00	-0.05	-0.001	-0.10	0.0110	-1.5	-0.2	-1.0	-1.0
EPA 01	01/13/1993	-0.10	0.059	-0.010	0.01	-0.01	-0.05	4.07	31.20	-0.05	-0.001	-0.10	0.0040	-1.2	-0.2	-1.0	-1.0
EPA 01	04/15/1993	-0.10	0.060	-0.010	-0.01	-0.01	-0.05	4.31	35.30	0.06	-0.001	-0.10	0.0160	-3.3	-0.2	-1.0	-1.0
EPA 01	07/20/1993	-0.10	0.047	-0.010	-0.01	-0.01	-0.05	4.31	31.90	-0.05	-0.001	-0.10	0.0210	-2.2	-0.2	4.7	-1.0
EPA 01	10/12/1993	-0.10	0.107	-0.010	0.01	0.02	-0.05	3.47	35.50	-0.05	-0.001	-0.10	0.0090	-1.8	-0.2	-1.0	-1.0
EPA 01	01/11/1994	-0.10	0.050	-0.010	-0.01	0.02	-0.05	3.84	39.70	0.19	-0.001	-0.10	0.0170	-5.6	-0.2	1.8	9.1
EPA 01	04/20/1994	-0.10	0.071	-0.010	-0.01	-0.01	-0.05	3.02	28.10	-0.05	-0.001	-0.10	0.0080	-1.2	-0.2	-1.0	-1.0
EPA 01	07/26/1994	-0.10	0.055	-0.010	-0.01	0.05	-0.05	4.13	30.00	0.14	-0.001	-0.10	0.0080	3.4	-0.2	1.4	4.9
EPA 01	10/11/1994	-0.10	0.050	-0.010	-0.01	0.05	-0.05	3.47	31.50	0.12	-0.001	-0.10	0.0100	-1.2	-0.2	3.5	-1.0
EPA 01	01/10/1995	-0.10	0.089	-0.010	-0.01	0.05	-0.05	3.60	34.10	0.20	-0.001	-0.10	0.0090	1.6	-0.2	1.1	2.4
EPA 01	04/11/1995	-0.10	0.036	-0.010	-0.01	0.03	-0.05	3.58	28.40	0.05	-0.001	-0.10	0.0050	-1.2	-0.2	-1.0	-1.0
EPA 01	07/11/1995	-0.10	0.043	-0.010	-0.01	-0.01	-0.05	3.59	28.10	-0.05	-0.001	-0.10	0.0060	-1.2	-0.2	11.0	1.1
EPA 01	10/10/1995	-0.10	0.037	-0.010	-0.01	0.04	-0.05	3.60	28.10	0.07	-0.001	-0.10	0.0120	-1.2	-0.2	2.7	1.3
EPA 01	01/10/1996	-0.10	0.016	-0.010	-0.01	0.04	-0.05	3.48	26.90	0.08	-0.001	-0.10	0.0098	-1.6	-0.2	-1.0	-1.0
EPA 01	04/10/1996	-0.10	0.017	-0.010	-0.01	0.05	-0.05	3.21	28.50	0.09	-0.001	-0.10	0.0120	2.0	-0.2	-1.0	-1.0
EPA 01	07/17/1996	-0.10	0.015	-0.010	-0.01	0.10	-0.05	3.54	24.60	0.18	-0.001	-0.10	0.0087	-1.2	-0.2	-1.0	-1.0
EPA 01	10/08/1996	-0.10	0.019	-0.010	-0.01	0.11	-0.05	3.34	23.80	0.20	-0.001	-0.10	0.0078	-1.2	-0.2	-1.0	-1.0
EPA 01	07/15/1997	-0.10	0.009	-0.010	-0.01	0.18	-0.05	4.04	11.50	0.18	-0.001	-0.10	0.0080	-1.2	-0.2	-1.0	-1.0
EPA 01	10/15/1997	-0.10	0.01	-0.010	-0.01	0.28	-0.05	4.73	10.40	0.21	-0.001	-0.10	0.0100	-1.2	-0.2	-1.0	-1.0

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard EPA Standard	NA NA	NA NA	NA NA	NA 3,170	NA NA	NA NA	NA NA	NA NA	NA NA	NA 2,160	NA 250.0	NA NA	NA 30.0	NA NA	NA NA	NA NA
EPA 09	07/26/1989	6911.00	6.1	5.54	5,122	543	558	122	11.9	122	3,598	28.1	0.43	0.07	-0.00100	-0.0010	-0.005
EPA 09	10/05/1989	6911.20	4.8	6.06	5,382	507	580	118	15.0	92.5	3,566	28.3	0.62	0.07	-0.00100	-0.0010	-0.005
EPA 09	01/16/1990	6911.20	5.7	6.15	4,982	458	498	125	12.0	214	3,210	23.8	0.38	0.15	-0.00100	-0.0010	-0.005
EPA 09	04/17/1990	6911.10	5.5	6.00	5,133	479	492	130	11.5	274	3,261	28.0	0.46	0.18	-0.00100	-0.0010	-0.005
EPA 09	07/17/1990	6910.80	4.9	4.30	5,971	494	619	115	11.7	0.0	4,248	26.8	0.45	0.03	-0.00100	-0.0010	-0.005
EPA 09	10/16/1990	6910.90	4.7	4.29	5,548	494	554	117	12.5	50.0	3,753	33.7	0.41	0.02	-0.00100	-0.0010	-0.005
EPA 09	01/08/1991	6910.70	5.3	6.19	5,309	548	569	131	16.0	105	3,561	31.1	0.49	-0.01	-0.00100	-0.0010	-0.005
EPA 09	04/17/1991	6910.90	5.3	6.25	5,360	458	543	124	13.2	68.0	3,576	27.3	0.43	0.03	-0.00100	-0.0010	-0.005
EPA 09	07/03/1991	6910.70	4.8	6.27	4,927	453	516	107	10.2	121	3,446	37.7	0.50	0.20	-0.00100	-0.0010	-0.005
EPA 09	10/22/1991	6910.80	5.0	5.97	5,269	475	501	119	11.1	122	3,555	33.2	0.42	-0.01	-0.00100	-0.0010	-0.005
EPA 09	01/22/1992	6911.60	5.2	5.29	6,127	484	567	110	11.1	14.7	4,132	27.7	0.93	0.49	-0.00100	-0.0010	-0.005
EPA 09	04/02/1992	6910.60	5.4	6.61	5,681	576	609	133	15.1	60.9	4,137	34.4	0.73	-0.10	-0.00100	-0.0010	-0.005
EPA 09	07/15/1992	6909.70	5.8	3.88	6,008	496	573	122	12.4	0.0	3,956	66.8	0.28	0.10	-0.00100	-0.0010	-0.005
EPA 09	10/14/1992	6909.70	5.3	3.90	6,070	479	537	109	12.0	0.0	3,996	51.0	0.45	-0.10	-0.00100	-0.0010	-0.005
EPA 09	01/13/1993	6909.50	5.6	7.06	5,015	493	475	116	12.1	105	3,403	24.4	0.67	-0.10	-0.00100	-0.0010	-0.005
EPA 09	04/15/1993	6909.60	5.3	6.44	4,596	425	494	126	9.9	62.3	3,487	27.9	0.45	0.20	-0.00100	-0.0010	-0.005
EPA 09	07/20/1993	6909.80	5.6	5.94	4,554	493	464	117	10.9	54.8	3,250	30.0	0.25	-0.10	-0.00100	-0.0010	-0.005
EPA 09	10/12/1993	6907.00	5.9	5.89	4,633	497	490	115	10.8	86.4	3,399	27.3	0.42	-0.10	-0.00100	-0.0010	-0.005
EPA 09	01/12/1994	6908.00	4.4	2.87	5,738	535	556	101	11.8	0.0	4,110	55.2	0.58	0.13	-0.00100		
EPA 09	04/20/1994	6908.70	5.4	3.62	5,771	550	556	108	10.0	0.0	4,149	30.0	1.82	-0.10	-0.00100		
EPA 09	07/26/1994	6909.50	5.2	6.16	4,732	540	479	115	10.3	31.3	3,472	28.0	0.46	-0.10	-0.00100		
EPA 09	10/11/1994	6908.40	5.0	3.63	5,664	508	603	119	11.3	0.0	4,045	28.7	1.08	-0.10	-0.00100		
EPA 09	01/10/1995	6908.20	5.3	4.92	6,144	560	650	117	13.3	10.3	4,239	28.9	1.78	-0.10	-0.00100		
EPA 09	04/11/1995	6908.60	6.2	6.04	5,264	550	526	120	11.5	119	3,500	15.7	1.15	-0.10	-0.00100		
EPA 09	07/11/1995	6907.90	5.9	6.06	5,046	498	540	120	11.5	34.1	3,485	29.8	1.04	-0.10	-0.00100		
EPA 09	10/10/1995	6908.00	5.7	6.95	5,003	510	530	120	11.6	70.8	3,475	27.0	0.88	-0.10	-0.00100		
EPA 09	01/09/1996	6907.60	5.6	5.94	5,085	485	550	109	11.3	52.8	3,790	28.4	0.24	-0.10	-0.00100		
EPA 09	04/10/1996	6907.60	5.9	6.20	5,494	525	575	107	11.7	27.5	3,905	28.2	0.35	-0.10	-0.00100		
EPA 09	07/17/1996	6907.40	5.9	5.58	5,615	505	555	117	12.1	23.4	3,816	32.0	0.31	-0.10	-0.00100		
EPA 09	10/08/1996	6907.40	5.7	4.44	5,590	542	609	116	12.1	0.0	3,943	29.0	0.33	-0.10	-0.00100		
EPA 09	01/28/1997	6912.30	5.8	6.07	5,510	500	545	109	11.7	29.3	3,695	30.8	0.35	-0.10	-0.00100		
EPA 09	04/15/1997	6907.20	5.4	5.72	5,740	532	616	112	12.1	21.2	4,040	31.3	0.38	-0.10	-0.00100		
EPA 09	07/15/1997	6906.80	5.2	5.27	5,780	515	606	109	12.0	7.4	3,560	32.5	0.39	-0.10	-0.00100		
EPA 09	10/15/1997	6906.70	5.6	4.49	5,860	507	632	110	11.7	-0.1	3,990	37.7	0.54	-0.10	-0.00100		
EPA 09	01/20/1998	6907.10	4.8	5.64	5,670	504	595	119	13.1	9.27	4,200	34.4	0.82	-0.10	-0.00100		
EPA 09	04/14/1998	6906.80	4.9	4.22	5,840	510	610	107	11.3	-0.1	3,720	30.7	0.50	-0.10	-0.00100		
EPA 09	07/14/1998	6906.60	4.6	4.45	5,820	488	611	115	12.3	-0.1	3,700	30.1	0.52	-0.10	-0.00100		
EPA 09	10/06/1998	6907.90	3.83	4.56	5,820	484	622	116	12.6	1.2	4,000	29.1	1.08	0.23	-0.00100		
EPA 09	01/12/1999	6917.50	4.3	4.58	5,870	423	601	107	11.8	-0.1	4,000	28.9	0.55	-0.10	-0.00100		
EPA 09	04/13/1999	6907.80	4.1	4.45	5,860	472	624	105	11.8	-0.1	3,750	38.9	0.66	-0.10	-0.00100		
EPA 09	07/20/1999	6907.51	3.8	4.18	5,930	492	634	104	13.1	-0.1	3,860	32.9	0.48	-0.10	-0.00100		

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard EPA Standard	NA 5.00	0.05 0.05	0.05 0.017	0.01 0.01	NA 0.05	0.05 0.05	NA 2.60	NA 1.0	0.05 0.02	0.01 0.01	0.10 0.70	0.3 5.0	5.0 5.0	5.0 NA	1.0 NA	15.0 15.0
EPA 09	07/26/1989	0.22	-0.001	-0.050	-0.01	0.12	-0.05	4.50	-0.10	0.09	-0.001	-0.10	0.0020	6.7	6.5	2.1	4.1
EPA 09	10/05/1989	1.00	-0.001	-0.050	-0.01	0.11	-0.05	4.00	-0.01	0.08	-0.001	-0.10	0.0030	7.0	2.2	-1.0	9.1
EPA 09	01/16/1990	-0.10	-0.001	-0.050	-0.01	0.08	-0.05	2.80	-0.01	-0.05	-0.001	-0.10	0.0030	3.1	-0.2	-1.0	2.5
EPA 09	04/17/1990	0.25	0.001	-0.050	0.01	0.09	-0.05	3.70	-0.10	0.05	-0.001	-0.10	0.0020	5.2	-0.2	-1.0	4.6
EPA 09	07/17/1990	6.00	-0.009	-0.050	-0.01	0.21	-0.05	6.79	-0.10	0.19	-0.001	-0.10	0.0078	20.4	-0.2	-1.0	10.0
EPA 09	10/16/1990	1.10	0.001	-0.050	-0.01	0.14	-0.05	4.74	0.10	0.16	-0.001	-0.10	0.0021	13.6	-0.2	-1.0	9.0
EPA 09	01/08/1991	0.61	-0.001	-0.010	-0.01	0.29	-0.05	6.35	-0.10	0.29	-0.001	-0.10	0.0562	5.2	-0.2	-1.0	4.0
EPA 09	04/17/1991	4.90	-0.001	-0.010	-0.01	0.24	-0.05	5.77	-0.10	0.29	-0.001	-0.10	0.0220	19.3	-0.2	-1.0	14.0
EPA 09	07/03/1991	1.52	0.002	-0.010	-0.01	0.19	-0.05	5.09	-0.10	0.17	-0.001	-0.10	0.0137	11.6	-0.2	-1.0	7.0
EPA 09	10/22/1991	1.58	0.001	-0.010	-0.01	0.12	-0.05	4.48	-0.10	0.10	-0.001	-0.10	0.0062	5.1	-0.2	2.7	4.0
EPA 09	01/22/1992	1.01	0.013	-0.010	-0.01	0.21	-0.05	6.16	-0.10	0.22	-0.001	-0.10	0.0070	9.2	-0.2	-1.0	5.0
EPA 09	04/02/1992	2.50	0.014	0.020	0.02	0.02	-0.05	7.86	-0.10	0.29	-0.001	-0.10	0.0020	12.2	-0.2	-1.0	0.4
EPA 09	07/15/1992	1.25	0.010	-0.010	-0.01	0.23	-0.05	6.61	-0.10	0.22	-0.001	-0.10	0.0060	14.4	-0.2	1.3	5.9
EPA 09	10/14/1992	2.36	0.018	-0.010	-0.01	0.28	-0.05	7.63	-0.10	0.27	-0.001	-0.10	0.0020	18.5	-0.2	-1.0	9.9
EPA 09	01/13/1993	-0.10	0.003	-0.010	-0.01	0.04	-0.05	2.66	0.14	0.10	-0.001	-0.10	0.0050	10.7	-0.2	-1.0	4.1
EPA 09	04/15/1993	0.18	-0.001	-0.010	-0.01	0.06	-0.05	3.16	-0.10	0.08	-0.001	-0.10	0.0020	5.4	-0.2	-1.0	3.4
EPA 09	07/20/1993	-0.10	-0.001	-0.010	-0.01	0.07	-0.05	3.08	0.11	-0.05	-0.001	-0.10	0.0060	8.3	-0.2	-1.0	3.5
EPA 09	10/12/1993	1.22	-0.001	-0.010	-0.01	0.14	-0.05	4.41	-0.10	0.14	-0.001	-0.10	0.0050	16.8	-0.2	1.2	10.0
EPA 09	01/12/1994	31.10	0.029	0.090	-0.01	0.60	-0.05	9.64	0.42	0.85	-0.001	-0.10	0.1220	26.7	-0.2	-1.0	33.2
EPA 09	04/20/1994	3.30	0.021	-0.010	-0.01	0.21	-0.05	6.90	0.19	0.24	-0.001	-0.10	0.0030	22.0	-0.2	-1.0	26.4
EPA 09	07/26/1994	0.81	-0.001	-0.010	-0.01	0.10	-0.05	4.29	0.11	-0.05	-0.001	-0.10	0.0010	10.4	-0.2	-1.0	13.1
EPA 09	10/11/1994	1.10	-0.001	-0.010	-0.01	0.15	-0.05	4.49	-0.10	0.15	-0.001	-0.10	0.0020	9.8	-0.2	5.0	10.7
EPA 09	01/10/1995	5.54	0.012	-0.010	-0.01	0.27	-0.05	7.76	-0.10	0.28	-0.001	-0.10	0.0030	25.0	-0.2	1.2	28.2
EPA 09	04/11/1995	0.18	0.002	-0.010	-0.01	0.07	-0.05	3.59	-0.10	-0.05	-0.001	-0.10	0.0010	6.9	-0.2	-1.0	8.5
EPA 09	07/11/1995	-0.10	0.003	-0.010	-0.01	0.02	-0.05	0.85	-0.10	-0.05	-0.001	-0.10	0.0006	8.1	0.4	-1.0	16.7
EPA 09	10/10/1995	0.15	0.001	-0.010	-0.01	0.08	-0.05	3.88	-0.10	0.07	-0.001	-0.10	0.0015	6.0	-0.2	-1.0	11.4
EPA 09	01/09/1996	1.87	-0.001	-0.010	-0.01	0.17	-0.05	5.15	-0.10	0.14	-0.001	-0.10	0.0024	13.9	-0.2	-1.0	8.7
EPA 09	04/10/1996	0.34	0.001	-0.010	-0.01	0.11	-0.05	4.20	-0.10	0.09	-0.001	-0.10	0.0008	8.9	-0.2	-1.0	10.2
EPA 09	07/17/1996	0.56	-0.001	-0.010	-0.01	0.15	-0.05	4.94	-0.10	0.12	-0.001	-0.10	0.0007	11.8	-0.2	-1.0	7.3
EPA 09	10/08/1996	0.50	0.001	-0.010	-0.01	0.13	-0.05	4.61	-0.10	0.11	-0.001	-0.10	-0.0003	16.6	-0.2	-1.0	9.2
EPA 09	01/28/1997	0.50	-0.001	-0.010	-0.01	0.12	-0.05	4.25	-0.10	0.09	0.002	-0.10	-0.0003	16.9	2.7	-1.0	10.7
EPA 09	04/15/1997	0.81	-0.001	-0.010	-0.01	0.15	-0.05	5.03	-0.10	0.12	-0.001	-0.10	-0.0003	17.2	-0.2	-1.0	14.3
EPA 09	07/15/1997	1.47	0.003	-0.010	-0.01	0.17	-0.05	5.22	-0.10	0.14	-0.001	-0.10	-0.0003	18.3	-0.2	-1.0	13
EPA 09	10/15/1997	2.44	0.002	-0.010	-0.01	0.21	-0.05	6.12	-0.10	0.16	0.001	-0.10	0.0010	25.4	-0.2	5.5	14.1
EPA 09	01/20/1998	1.61	-0.001	-0.010	-0.005	0.22	-0.05	6.33	-0.10	0.15	-0.001	-0.10	0.0008	22.1	-0.2	-1.0	12.3
EPA 09	04/14/1998	1.80	0.003	-0.010	-0.005	0.18	-0.05	5.50	-0.10	0.16	-0.001	-0.10	0.0008	19.7	-0.2	-1.0	15.9
EPA 09	07/14/1998	2.66	0.004	-0.010	-0.005	0.19	-0.05	6.28	-0.10	0.15	-0.001	-0.10	0.0012	18.8	-0.2	-1.0	15.1
EPA 09	10/06/1998	2.84	0.002	-0.010	-0.005	0.119	-0.05	5.67	-0.10	0.15	-0.001	-0.10	0.0008	19.8	-0.2	-1.0	18.9
EPA 09	01/12/1999	2.9	0.005	-0.010	-0.005	0.19	-0.05	5.82	-0.10	0.14	-0.001	-0.10	0.0017	17.5	-0.2	-1.0	10.6
EPA 09	04/13/1999	3.42	-0.001	-0.010	-0.005	0.22	-0.05	6.28	-0.10	0.16	-0.001	-0.10	0.0015	24.1	-0.2	-1.0	17.4
EPA 09	07/20/1999	2.8	0.002	-0.010	-0.005	0.17	-0.05	4.90	-0.10	0.13	-0.001	-0.10	0.0013	21.1	-0.2	-1.0	13.5

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
NRC Standard		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	0.001	0.005
EPA Standard		NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250.0	NA	30.0	NA	NA	NA
EPA 03*	07/26/1989	6895.60	6.8	5.83	4,839	587	465	118	10.5	168	3,358	25.1	0.31	0.02	-0.00100	-0.0010	-0.005
EPA 03*	10/05/1989	6894.90	6.3	6.52	4,742	507	438	115	13.9	159	3,131	24.6	0.27	0.09	-0.00100	-0.0010	-0.005
EPA 03*	01/23/1990	6892.80	6.8	6.29	5,594	616	494	148	12.9	159	3,620	26.3	0.51	0.10	-0.00100	-0.0010	-0.005
EPA 03*	04/18/1990	6891.70	6.4	7.00	5,639	560	523	130	11.1	45.5	3,653	28.9	0.57	0.04	-0.00100	-0.0010	-0.005
EPA 03*	07/17/1990	6890.50	6.7	6.10	5,385	600	536	120	11.9	139	3,368	23.6	0.28	0.04	-0.00100	-0.0010	-0.005
EPA 03*	10/16/1990	6889.50	6.5	6.60	4,846	517	468	127	13.0	142	3,253	29.7	0.26	0.02	-0.00100	-0.0010	-0.005
EPA 03*	01/08/1991	6888.80	6.6	6.25	4,646	532	481	119	22.0	145	3,002	27.3	0.23	0.07	-0.00100	-0.0010	-0.005
EPA 03*	04/17/1991	6888.30	6.6	6.99	4,392	513	349	120	14.1	142	2,888	25.6	0.21	0.02	-0.00100	-0.0010	-0.005
EPA 03*	07/03/1991	6887.70	6.6	6.42	3,939	467	353	112	11.0	137	2,885	31.2	0.35	0.03	-0.00100	-0.0010	-0.005
EPA 03*	10/22/1991	6887.00	6.6	6.51	3,752	493	264	116	13.4	139	2,485	24.2	0.18	0.02	-0.00100	-0.0010	-0.005

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.00	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
EPA 03*	07/26/1989	-0.10	0.003	-0.050	-0.01	0.03	0.07	5.60	-0.10	-0.05	-0.001	-0.10	0.0103	-2.5	2.3	-1.0	4.3
EPA 03*	10/05/1989	-0.10	0.017	-0.050	-0.01	0.02	-0.05	4.80	0.05	-0.05	-0.001	-0.10	0.0160	-2.5	-0.2	-1.0	-1.0
EPA 03*	01/23/1990	-0.10	0.003	-0.050	-0.01	0.11	-0.05	6.10	0.29	0.05	-0.001	-0.10	0.0490	-2.5	4.7	-1.0	6.1
EPA 03*	04/18/1990	-0.10	0.024	-0.050	-0.01	0.07	-0.05	7.20	-0.10	-0.05	-0.001	-0.10	0.0260	-2.0	-0.2	1.9	1.6
EPA 03*	07/17/1990	-0.10	0.016	-0.050	-0.01	0.04	-0.05	6.78	-0.10	-0.05	-0.001	-0.10	0.0330	-1.2	3.2	-1.0	3.0
EPA 03*	10/16/1990	-0.10	0.001	-0.050	-0.01	0.03	-0.05	5.90	0.10	-0.05	-0.001	-0.10	0.0192	-1.8	-0.2	-1.0	-1.0
EPA 03*	01/08/1991	0.20	0.006	-0.010	-0.01	0.05	-0.05	6.07	0.16	0.05	-0.001	-0.10	0.0240	-2.1	-0.2	-1.0	1.0
EPA 03*	04/17/1991	0.25	0.008	-0.010	-0.01	0.03	-0.05	4.24	0.17	-0.05	-0.001	-0.10	0.0250	-1.6	-0.2	-1.0	3.0
EPA 03*	07/03/1991	0.20	0.008	-0.010	-0.01	0.03	-0.05	3.96	0.25	-0.05	-0.001	-0.10	0.0226	-1.8	-0.2	-1.0	-1.0
EPA 03*	10/22/1991	0.22	0.001	-0.010	-0.01	0.02	-0.05	2.87	0.24	-0.05	-0.001	-0.10	0.0145	-1.2	-0.2	-1.0	-1.0

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
NRC Standard		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	0.001	0.005
EPA Standard		NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250.0	NA	30.0	NA	NA	NA
EPA 11	07/07/1989		5.9	5.90	4,245	587	337	151	10.1	176	2,757	29.9	0.56	0.02	-0.00100	-0.0010	-0.005
EPA 11	10/04/1989		5.8	6.30	4,392	565	349	142	12.6	189	2,826	28.3	0.48	0.01	-0.00100	-0.0010	-0.005
EPA 11	01/16/1990		5.6	5.88	4,406	515	335	150	10.4	177	2,813	30.3	0.55	0.07	-0.00100	-0.0010	-0.005
EPA 11	04/17/1990		6.0	6.38	4,505	538	344	148	10.3	177	2,649	31.8	0.60	0.07	-0.00100	-0.0010	-0.005

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.00	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
EPA 11	07/07/1989	0.42	0.137	-0.050	-0.01	0.240	-0.05	3.30	68.00	0.45	-0.001	-0.10	0.0103	7.8	5.8	-1.0	5.3
EPA 11	10/04/1989	0.49	0.604	-0.050	-0.01	0.220	-0.05	3.20	50.00	0.46	-0.001	-0.10	0.0140	8.1	0.5	-1.0	6.1
EPA 11	01/16/1990	0.22	0.481	-0.050	-0.01	0.230	-0.05	3.30	50.00	0.49	-0.001	-0.10	0.0080	9.2	0.4	-1.0	7.1
EPA 11	04/17/1990	0.34	0.357	-0.050	-0.01	0.230	-0.05	3.10	46.00	0.48	-0.001	-0.10	0.0100	7.8	0.6	-1.0	6.8

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard EPA Standard	NA NA	NA NA	NA NA	NA 3,170	NA NA	NA NA	NA NA	NA NA	NA NA	NA 2,160	NA 250.0	NA NA	NA 30.0	0.001 NA	0.001 NA	0.005 NA
EPA 12	07/25/1989	6865.90	6.1	5.96	4,722	582	430	151	9.7	139	3,151	30.2	0.38	0.02	-0.00100	-0.0010	-0.005
EPA 12	10/04/1989	6865.80	5.9	6.40	4,742	534	414	132	10.9	167	3,039	26.4	0.37	0.03	-0.00100	-0.0010	-0.005
EPA 12	01/16/1990	6864.80	5.9	6.01	4,712	505	392	148	9.8	146	3,074	27.1	0.40	0.70	-0.00100	-0.0010	-0.005
EPA 12	04/17/1990	6863.90	5.9	6.47	4,757	521	402	143	9.2	170	2,989	27.0	0.41	0.15	-0.00100	-0.0010	-0.005
EPA 12	07/12/1990	6862.80	6.0	6.26	4,839	532	437	143	10.0	139	2,754	27.9	0.27	0.12	-0.00100	-0.0010	-0.005
EPA 12	10/16/1990	6862.20	6.0	6.65	4,816	491	409	146	10.7	142	3,102	29.0	0.32	0.07	-0.00100	-0.0010	-0.005
EPA 12	01/08/1991	6861.40	6.0	6.29	4,828	536	429	144	24.0	140	3,100	27.3	0.48	0.07	-0.00100	-0.0010	-0.005
EPA 12	04/16/1991	6861.00	5.9	6.86	4,863	527	429	137	8.5	109	3,204	27.6	0.31	0.10	-0.00100	-0.0010	-0.005
EPA 12	07/03/1991	6860.40	5.8	6.32	4,823	486	409	133	8.0	119	3,257	25.1	0.41	0.03	-0.00100	-0.0010	-0.005
EPA 12	10/22/1991	6859.70	5.8	6.28	4,884	507	423	140	8.5	139	3,226	29.5	0.16	-0.01	-0.00100	-0.0010	-0.005
EPA 12	01/23/1992	6858.40	5.9	6.24	5,060	531	423	130	8.2	75.4	3,162	24.8	1.72	-0.01	-0.00100	-0.0010	-0.005
EPA 12	04/02/1992	6857.50	5.6	7.04	4,820	523	457	167	11.1	122	3,297	23.4	1.50	-0.10	-0.00100	-0.0010	-0.005
EPA 12	07/15/1992	6856.00	5.8	7.22	5,073	495	438	149	9.3	50.0	3,264	23.8	0.23	-0.10	-0.00100	-0.0010	-0.005

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.00	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
EPA 12	07/25/1989	-0.10	0.001	-0.050	-0.01	0.11	-0.05	4.10	7.60	0.30	-0.001	-0.10	0.0017	8.3	3.4	-1.0	7.1
EPA 12	10/04/1989	0.11	0.001	-0.050	-0.01	0.11	-0.05	3.50	6.30	0.27	-0.001	-0.10	0.0040	9.0	2.2	2.0	13.0
EPA 12	01/16/1990	-0.10	0.002	-0.050	-0.01	0.13	-0.05	3.50	6.70	0.24	-0.001	-0.10	0.0040	8.6	-0.2	-1.0	5.5
EPA 12	04/17/1990	-0.10	0.002	-0.050	-0.01	0.08	-0.05	3.50	5.30	0.20	-0.001	-0.10	0.0030	12.1	-0.2	-1.0	6.5
EPA 12	07/12/1990	-0.10	0.084	-0.050	-0.01	0.10	-0.05	3.50	7.01	0.19	-0.001	-0.10	0.0029	13.3	-0.2	2.4	-1.0
EPA 12	10/16/1990	-0.10	0.095	-0.050	-0.01	0.13	-0.05	3.35	6.54	0.19	-0.001	-0.10	0.0007	14.4	-0.2	-1.0	5.0
EPA 12	01/08/1991	0.10	0.004	-0.010	-0.01	0.12	-0.05	3.06	3.87	0.21	-0.001	-0.10	0.0036	5.2	-0.2	-1.0	4.0
EPA 12	04/16/1991	0.14	0.066	-0.010	-0.01	0.14	-0.05	3.68	6.26	0.21	-0.001	-0.10	0.0010	16.7	-0.2	2.0	8.0
EPA 12	07/03/1991	0.34	0.055	-0.010	-0.01	0.10	-0.05	2.97	3.82	0.17	-0.001	-0.10	0.0010	8.7	-0.2	-1.0	5.0
EPA 12	10/22/1991	0.20	0.054	-0.010	-0.01	0.11	-0.05	3.32	3.32	0.17	-0.001	-0.10	-0.0003	-5.8	-0.2	-1.0	5.0
EPA 12	01/23/1992	-0.10	0.036	-0.010	-0.01	0.12	-0.05	3.02	3.70	0.17	-0.001	-0.10	0.0070	14.6	-0.2	-1.0	8.0
EPA 12	04/02/1992	-0.10	0.026	-0.010	0.01	0.14	-0.05	3.31	2.40	0.16	-0.001	-0.10	-0.0003	14.3	-0.2	1.1	6.5
EPA 12	07/15/1992	-0.10	0.013	-0.010	-0.01	0.13	-0.05	3.10	1.90	0.14	-0.001	-0.10	0.0070	19.3	-0.2	-1.0	6.5

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250.0	NA	30.0	NA	NA	NA
EPA 13	07/25/1989	6883.71	5.5	5.56	5,054	576	479	136	11.8	31.7	3,454	29.7	0.84	14.10	-0.00100	-0.0010	-0.005
EPA 13	10/04/1989	6882.81	5.5	6.40	4,736	550	407	129	15.1	86.1	3,180	27.6	0.51	26.00	-0.00100	-0.0010	-0.005
EPA 13	01/16/1990	6880.91	5.1	5.30	5,042	482	477	128	12.3	14.4	3,420	26.4	0.96	4.60	-0.00100	-0.0010	-0.005
EPA 13	04/17/1990	6880.11	5.0	5.60	5,258	496	485	122	11.8	66.6	3,377	27.4	1.03	4.10	-0.00100	-0.0010	-0.005
EPA 13	07/17/1990	6879.21	5.3	5.60	5,140	590	527	117	11.3	40.0	3,253	25.0	0.51	10.80	-0.00100	-0.0010	-0.005
EPA 13	10/16/1990	6878.51	5.7	5.98	5,067	513	422	129	12.6	39.0	3,355	31.1	0.57	6.80	-0.00100	-0.0010	-0.005
EPA 13	01/08/1991	6877.61	5.4	5.73	5,153	531	515	121	23.0	35.0	3,432	29.4	0.95	9.60	-0.00100	-0.0010	-0.005
EPA 13	04/16/1991	6877.21	5.3	5.53	5,255	485	457	124	12.8	13.0	3,460	49.5	1.05	5.60	-0.00100	-0.0010	-0.005
EPA 13	07/03/1991	6876.30	5.2	5.66	5,240	472	473	109	10.4	25.0	3,357	23.6	1.20	0.45	-0.00100	-0.0010	-0.005
EPA 13	10/22/1991	6876.10	5.2	5.75	5,409	488	466	114	11.3	39.0	3,611	28.5	0.78	-0.01	-0.00100	-0.0010	-0.005
EPA 13	01/22/1992	6875.52	5.4	5.48	5,640	502	496	115	10.6	15.1	3,733	24.1	0.46	-0.01	-0.00100	-0.0010	-0.005
EPA 13	04/07/1992	6875.22	5.4	6.79	5,228	629	539	149	14.1	59.9	3,924	26.7	0.92	-0.10	-0.00100	-0.0010	-0.005
EPA 13	07/15/1992	6874.00	5.6	4.25	5,888	541	556	131	11.5	0.0	3,862	21.6	0.49	-0.10	-0.00100	-0.0010	-0.005
EPA 13	10/14/1992	6873.50	5.8	5.25	6,201	534	572	131	11.7	29.3	4,186	32.7	0.58	-0.10	-0.00100	-0.0010	-0.005
EPA 13	01/14/1993	6873.00	5.7	5.02	6,412	636	738	128	12.4	92.3	4,391	30.1	0.11	-0.10	-0.00100	-0.0010	-0.005
EPA 13	04/15/1993	6872.00	5.8	5.81	6,848	469	731	155	10.0	38.0	4,315	27.6	0.64	-0.10	-0.00100	-0.0010	-0.005
EPA 13	07/20/1993	6872.10	5.9	5.89	6,564	535	817	137	10.9	28.5	4,790	28.9	0.61	-0.10	-0.00100	-0.0010	-0.005
EPA 13	10/12/1993	6869.80	6.2	5.38	6,064	518	715	135	10.3	21.0	4,387	30.4	0.56	-0.10	-0.00100	-0.0010	-0.005
EPA 13	01/11/1994	6871.60	6.1	6.15	6,208	510	696	145	9.8	57.2	4,444	30.0	0.57	-0.10	-0.00100	-0.0010	-0.005
EPA 13	04/20/1994	6871.60	6.0	6.00	6,118	514	686	132	9.1	79.2	4,436	30.7	1.33	-0.10	-0.00100	-0.0010	-0.005
EPA 13	07/26/1994	6871.60	5.9	6.51	6,088	528	782	154	10.9	67.6	4,343	33.3	0.17	-0.10	-0.00100	-0.0010	-0.005
EPA 13	10/11/1994	6870.40	5.9	6.46	6,762	506	806	162	11.0	80.5	4,794	34.7	0.97	-0.10	-0.00100	-0.0010	-0.005
EPA 13	01/10/1995	6869.90	6.0	6.57	6,748	545	815	142	12.0	98.6	4,810	34.0	1.28	-0.10	-0.00100	-0.0010	-0.005
EPA 13	04/11/1995	6870.20	6.2	6.13	6,718	522	714	154	11.0	94.5	4,729	40.0	1.36	-0.10	-0.00100	-0.0010	-0.005
EPA 13	07/11/1995	6869.40	6.9	6.61	6,107	500	814	141	10.5	67.1	4,435	37.7	1.14	-0.10	-0.00100	-0.0010	-0.005
EPA 13	10/10/1995	6869.30	6.2	6.85	6,119	485	730	154	11.2	78.1	4,340	33.6	1.12	-0.1	-0.00100	-0.0010	-0.005
EPA 13	01/09/1996	6868.90	6.3	6.47	6,144	465	730	141	10.4	95	4,440	33.6	0.45	-0.1	-0.00100	-0.0010	-0.005
EPA 13	04/10/1996	6867.30	6.8	7.09	6,642	544	877	148	11.1	85.8	5,040	35.9	0.53	-0.1	-0.00100	-0.0010	-0.005
EPA 13	07/17/1996	6868.70	6.2	6.23	6,694	468	761	149	11.7	74.5	4,320	39.0	0.45	-0.1	-0.00100	-0.0010	-0.005
EPA 13	10/08/1996	6868.50	6.3	6.32	6,670	519	830	151	11.5	79.1	4,689	36.0	0.5	-0.1	-0.00100	-0.0010	-0.005
EPA 13	01/28/1997	6868.20	6.5	6.95	6,570	512	800	132	10.9	101	4,570	50.1	0.48	-0.1	-0.00100	-0.0010	-0.005
EPA 13	04/15/1997	6868.00	6.3	6.79	6,750	510	828	145	11.6	100	4,740	39.2	0.51	-0.1	-0.00100	-0.0010	-0.005
EPA 13	07/15/1997	6868.00	6.2	7.02	6,740	499	795	145	11.6	83.7	4,620	38.7	0.48	-0.1	-0.00100	-0.0010	-0.005
EPA 13	10/15/1997	6867.50	6.4	7.21	6,670	497	830	144	11.1	89.5	4,620	49.6	0.6	-0.1	-0.00100	-0.0010	-0.005
EPA 13	01/20/1998	6867.80	6.0	7.07	6,610	486	780	152	12.3	84.7	4,700	43.4	0.84	-0.1	-0.00100	-0.0010	-0.005
EPA 13	04/14/1998	6867.60	6.3	7.12	6,630	494	795	138	10.6	83	4,560	38.0	0.55	-0.1	-0.00100	-0.0010	-0.005
EPA 13	07/14/1998	6867.40	6.0	6.89	6,700	473	777	149	11.8	76.8	4,190	35.6	0.59	0.11	-0.00100	-0.0010	-0.005
EPA 13	10/06/1998	6868.50	5.93	7.72	6,440	472	795	151	12	90.2	4,520	36.1	0.65	-0.1	-0.00100	-0.0010	-0.005
EPA 13	01/12/1999	6868.20	6.2	6.99	6,510	410	769	137	11.7	92	4,450	36.8	0.6	-0.1	-0.00100	-0.0010	-0.005
EPA 13	04/13/1999	6868.10	6.1	6.93	6,520	456	776	136	11.1	86	4,200	46	0.69	-0.1	-0.00100	-0.0010	-0.005
EPA 13	07/20/1999	6868.02	6.2	6.94	6,510	476	791	134	12.8	77	4,260	42	0.53	-0.1	-0.00100	-0.0010	-0.005

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.00	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
EPA 13	07/25/1989	0.21	0.007	-0.050	-0.01	0.47	-0.05	6.20	1.50	0.59	-0.001	-0.10	0.0060	8.9	6.4	2.7	5.3
EPA 13	10/04/1989	0.42	0.012	-0.050	-0.01	0.23	-0.05	3.40	1.50	0.37	-0.001	-0.10	-0.0280	8.3	0.8	-1.0	5.9
EPA 13	01/16/1990	0.19	0.021	-0.050	-0.01	0.42	0.08	6.40	0.51	0.60	0.001	-0.10	0.0090	11.9	-0.2	-1.0	5.1
EPA 13	04/17/1990	-0.10	0.024	-0.050	-0.01	0.36	-0.05	5.80	0.57	0.46	-0.001	-0.10	0.0070	8.6	0.0	-1.0	6.9
EPA 13	07/17/1990	0.24	0.033	-0.050	-0.01	0.25	-0.05	5.50	0.69	0.33	-0.001	-0.10	0.0078	7.0	-0.2	-1.0	5.0
EPA 13	10/16/1990	0.10	0.016	-0.050	-0.01	0.22	-0.05	5.21	0.80	0.34	-0.001	-0.10	0.0117	9.3	-0.2	-1.4	5.0
EPA 13	01/08/1991	0.74	0.086	-0.010	-0.01	0.21	-0.05	6.62	0.81	0.39	-0.001	-0.10	0.0054	12.4	-0.2	-1.0	4.0
EPA 13	04/16/1991	-0.10	0.031	-0.010	-0.01	0.33	-0.05	7.16	0.89	0.36	-0.001	-0.10	0.0040	11.3	-0.2	-1.0	3.0
EPA 13	07/03/1991	1.14	0.044	-0.010	-0.01	0.32	-0.05	7.20	0.59	0.37	-0.001	-0.10	0.0029	4.2	-0.2	-1.0	3.0
EPA 13	10/22/1991	0.22	0.100	-0.010	-0.01	0.27	-0.05	7.04	0.58	0.38	0.001	-0.10	0.0156	5.2	-0.2	-2.3	4.0
EPA 13	01/22/1992	-0.10	0.077	-0.010	-0.01	0.23	-0.05	6.59	0.64	0.26	-0.001	-0.10	0.0040	10.4	-0.2	-1.0	7.0
EPA 13	04/07/1992	0.20	0.134	-0.010	0.02	0.21	-0.05	6.56	0.80	0.30	-0.001	-0.10	0.0040	11.7	-0.2	-1.3	4.3
EPA 13	07/15/1992	-0.10	0.084	-0.010	-0.01	0.23	-0.05	6.33	0.83	0.22	0.001	-0.10	0.0090	15.2	-0.2	-1.0	6.1
EPA 13	10/14/1992	0.58	0.175	-0.010	-0.01	0.21	-0.05	6.43	0.90	0.20	-0.001	-0.10	0.0020	13.4	-0.2	-1.2	4.9
EPA 13	01/14/1993	0.42	0.230	-0.010	-0.01	0.15	-0.05	6.24	0.78	0.24	-0.001	-0.10	0.0130	14.4	-0.2	-1.0	6.5
EPA 13	04/15/1993	-0.10	0.186	-0.010	-0.01	0.14	-0.05	5.81	0.59	0.20	-0.001	-0.10	0.0170	10.7	-0.2	-1.0	3.5
EPA 13	07/20/1993	-0.10	0.285	-0.010	-0.01	0.14	-0.05	5.65	0.73	0.18	-0.001	-0.10	0.0170	9.9	-0.2	-1.0	5.1
EPA 13	10/12/1993	-0.10	0.154	-0.010	-0.01	0.11	-0.05	5.51	0.60	0.14	-0.001	-0.10	0.0240	10.9	-0.2	-1.0	6.0
EPA 13	01/11/1994	-0.10	0.225	-0.010	-0.01	0.07	-0.05	5.51	0.67	0.19	-0.001	-0.10	0.0270	10.7	-0.2	-1.0	14.8
EPA 13	04/20/1994	-0.10	0.262	-0.010	-0.01	0.09	-0.05	4.69	0.48	0.14	-0.001	-0.10	0.0230	15.0	-0.2	-1.0	20.1
EPA 13	07/26/1994	0.66	0.199	-0.010	-0.01	0.10	-0.05	5.90	0.66	0.13	-0.001	-0.10	0.0190	19.1	-0.2	-1.7	26.2
EPA 13	10/11/1994	-0.10	0.192	-0.010	-0.01	0.11	-0.05	5.26	0.57	0.13	-0.001	-0.10	0.0220	12.1	-0.2	-1.0	19.5
EPA 13	01/10/1995	-0.10	0.253	-0.010	-0.01	0.14	-0.05	5.88	0.82	0.17	-0.001	-0.10	0.0240	16.0	-0.2	-1.0	20.3
EPA 13	04/11/1995	-0.10	0.230	-0.010	-0.01	0.06	-0.05	5.82	0.47	0.10	-0.001	-0.10	0.0220	14.3	-0.2	-1.0	19.1
EPA 13	07/11/1995	-0.10	0.255	-0.010	-0.01	0.02	-0.05	1.26	-0.10	-0.05	-0.001	-0.10	0.0240	17.0	0.4	2.8	15.9
EPA 13	10/10/1995	-0.10	0.225	-0.010	-0.01	0.05	-0.05	5.91	0.38	0.12	-0.001	-0.10	0.0260	8.6	-0.2	-1.1	11.8
EPA 13	01/09/1996	-0.10	0.227	-0.010	-0.01	-0.01	-0.05	1.19	-0.1	-0.05	-0.001	-0.10	0.0280	13.5	-0.2	-1.0	5.4
EPA 13	04/10/1996	-0.10	0.295	-0.010	-0.01	0.06	-0.05	5.65	0.35	0.11	-0.001	-0.10	0.0290	14.9	-0.2	-1.0	7.6
EPA 13	07/17/1996	-0.10	0.269	-0.010	-0.01	0.06	-0.05	5.94	0.41	0.12	-0.001	-0.10	0.0220	18.7	0.7	-1.0	6
EPA 13	10/08/1996	-0.10	0.301	-0.010	-0.01	0.06	-0.05	5.71	0.34	0.12	-0.001	-0.10	0.0270	11.5	-0.2	-1.0	4.4
EPA 13	01/28/1997	-0.10	0.430	-0.010	-0.01	0.06	-0.05	5.96	0.4	0.12	0.003	-0.10	0.0190	14.4	1.5	-1.0	4.7
EPA 13	04/15/1997	-0.10	0.331	-0.010	-0.01	0.05	-0.05	5.87	0.34	0.12	-0.001	-0.10	0.0130	15.5	-0.2	-1.0	7.8
EPA 13	07/15/1997	-0.10	0.464	-0.010	-0.01	0.05	-0.05	5.46	0.35	0.10	-0.001	-0.10	0.0190	16.1	-0.2	-1.0	4.5
EPA 13	10/15/1997	-0.10	0.595	-0.010	-0.01	0.07	-0.05	6.21	0.45	0.12	-0.001	-0.10	0.0300	15.1	-0.2	-1.0	5.4
EPA 13	01/20/1998	-0.10	0.444	-0.010	-0.005	0.08	-0.05	6.84	0.39	0.13	-0.001	-0.10	0.0270	13.2	-0.2	-1.0	6.1
EPA 13	04/14/1998	-0.10	0.563	-0.010	-0.005	0.05	-0.05	5.80	0.34	0.11	-0.001	-0.10	0.0285	9.2	-0.2	-1.0	6.3
EPA 13	07/14/1998	-0.10	0.450	-0.010	-0.005	0.05	-0.05	6.04	0.29	0.10	-0.001	-0.10	0.0311	9.7	-0.2	-1.0	3.9
EPA 13	10/06/1998	-0.10	0.613	-0.010	-0.005	0.05	-0.05	5.64	0.32	0.12	-0.001	-0.10	0.0244	8.9	-0.2	-1.0	6.6
EPA 13	01/12/1999	-0.10	0.514	-0.010	0.006	0.05	-0.05	5.60	0.26	0.08	-0.001	-0.10	0.0267	11.7	-0.2	-1.0	4.3
EPA 13	04/13/1999	-0.10	0.717	-0.010	-0.005	0.06	-0.05	5.96	0.33	0.10	-0.001	-0.10	0.0284	12.1	-0.2	-1.0	8.4
EPA 13	07/20/1999	-0.10	-0.001	-0.010	-0.005	0.06	-0.05	4.60	0.26	0.10	-0.001	-0.10	0.0242	11.1	-0.2	-1.0	8.6

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard EPA Standard	NA NA	NA NA	NA NA	NA 3,170	NA NA	NA NA	NA NA	NA NA	NA NA	NA 2,160	NA 250.0	NA NA	NA 30.0	0.001 NA	0.001 NA	0.005 NA
EPA 14	07/28/1989	6895.90	6.0	5.82	3,189	471	245	149	4.5	146	2,111	26.8	0.08	16.90	-0.00100	-0.0010	-0.005
EPA 14	10/08/1989	6891.10	5.4	6.00	3,672	407	281	163	6.1	99.3	2,370	31.9	0.09	18.80	-0.00100	-0.0010	-0.005
EPA 14	01/17/1990	6889.50	5.6	6.11	3,446	424	275	155	4.6	159	2,099	29.4	0.08	16.80	-0.00100	-0.0010	-0.005
EPA 14	04/18/1990	6888.20	5.7	6.15	3,529	430	240	140	3.4	176	2,088	28.7	0.15	19.00	-0.00100	-0.0010	-0.005
EPA 14	07/12/1990	6886.60	5.8	6.12	3,559	486	281	146	5.2	173	2,067	30.1	-0.05	21.20	-0.00100	-0.0010	-0.005
EPA 14	10/10/1990	6886.80	5.7	6.43	3,541	380	251	153	5.9	189	2,079	33.3	0.07	20.80	-0.00100	-0.0010	-0.005
EPA 14	01/08/1991	6886.50	5.7	6.35	3,499	462	266	152	22.0	185	2,222	31.8	-0.05	24.60	-0.00100	-0.0010	-0.005
EPA 14	04/16/1991	6886.90	5.6	6.80	3,738	436	321	177	4.3	143	2,380	34.8	0.07	27.50	-0.00100	-0.0010	-0.005
EPA 14	07/03/1991	6883.90	5.3	6.25	3,774	421	313	158	4.0	102	2,558	35.7	0.08	28.90	-0.00100	-0.0010	-0.005
EPA 14	10/22/1991	6875.10	5.7	6.35	3,296	424	229	148	4.1	234	2,117	37.6	0.09	9.20	-0.00100	-0.0010	-0.005
EPA 14	01/23/1992	6880.20	5.5	6.16	4,045	414	296	163	4.5	115	2,463	39.1	-0.05	14.00	-0.00100	-0.0010	-0.005
EPA 14	04/02/1992	6880.20	5.4	7.09	4,058	464	338	213	6.0	126	2,607	33.6	0.18	27.40	-0.00100	-0.0010	-0.005
EPA 14	07/16/1992	6870.30	6.2	6.28	3,186	393	333	183	6.3	316	2,306	30.5	0.07	23.30	-0.00100	-0.0010	-0.005
EPA 14	10/15/1992	6870.60	6.1	6.38	3,753	491	276	179	6.0	159	2,332	32.8	-0.05	24.20	-0.00100	-0.0010	-0.005
EPA 14	01/14/1993	6875.30	5.9	6.47	3,728	485	256	156	4.4	142	2,456	35.5	0.12	26.50	-0.00100	-0.0010	-0.005
EPA 14	04/15/1993	6872.20	5.9	6.54	3,401	420	217	164	3.4	180	2,096	32.2	0.17	27.10	-0.00100	-0.0010	-0.005
EPA 14	07/20/1993	6866.90	6.5	7.46	3,350	444	285	122	3.4	370	2,197	28.9	0.14	14.90	-0.00100	-0.0010	-0.005
EPA 14	10/11/1993	6865.60	6.5	6.49	3,272	503	185	137	3.5	220	1,936	29.6	0.05	25.70	-0.00100	-0.0010	-0.005
EPA 14	01/11/1994	6871.00	5.7	6.49	3,409	446	270	158	3.5	96.8	2,285	37.9	-0.05	31.90	-0.00100		
EPA 14	04/19/1994	6868.40	6.2	6.54	2,743	450	141	144	5.0	250	1,654	27.3	0.18	16.90	-0.00100		
EPA 14	07/26/1994	6866.10	6.3	7.04	2,710	505	151	115	3.6	284	1,732	25.6	0.20	9.94	-0.00100		
EPA 14	10/11/1994	6866.10	6.3	7.05	3,074	500	148	146	4.6	299	1,776	26.9	0.25	23.50	-0.00100		
EPA 14	01/10/1995	6867.80	6.0	6.60	3,516	545	211	154	6.6	121	2,309	35.8	0.48	33.00	-0.00100		
EPA 14	04/10/1995	6867.60	6.1	6.01	4,051	511	284	160	5.6	104	2,570	43.7	0.57	40.00	-0.00100		
EPA 14	07/10/1995	6863.40	6.2	7.62	2,659	500	108	124	4.6	465	1,456	26.2	0.21	18.60	-0.00100		
EPA 14	10/09/1995	6863.60	6.6	7.44	2,864	510	135	118	4.9	439	1,530	25.7	0.16	22.4	-0.00100		
EPA 14	01/08/1996	6861.80	6.5	7.27	2,773	525	103	120	4.7	490	1,440	26.0	-0.05	24.6	-0.00100		
EPA 14	04/09/1996	6861.20	6.8	7.75	2,825	551	109	121	5.1	516	1,468	30.0	0.12	23.9	-0.00100		
EPA 14	07/17/1996	6861.00	6.5	6.91	2,907	532	116	132	5.6	498	1,616	35.0	0.13	23.8	-0.00100		
EPA 14	10/08/1996	6861.10	6.5	7.24	2,900	610	143	137	5.9	511	1,589	33.0	0.11	23.9	-0.00100		
EPA 14	01/28/1997	6861.60	6.5	7.71	3,200	580	170	120	5.51	459	1,927	48.0	0.05	26.7	-0.00100		
EPA 14	04/14/1997	6861.90	6.5	7.45	3,000	641	134	124	5.6	584	1,612	42.3	0.06	22.9	-0.00100		
EPA 14	07/14/1997	6858.50	6.5	7.35	3,160	632	148	116	5.7	627	1,640	48.9	0.08	25.7	-0.00100		
EPA 14	10/14/1997	6859.10	6.6	7.75	3,280	677	165	127	6.1	616	1,750	60.5	0.13	26.2	-0.00100		
EPA 14	01/19/1998	6863.50	6.3	7.66	3,720	600	234	147	7.7	442	2,150	52.8	0.4	33.2	-0.00100		
EPA 14	04/13/1998	6858.00	6.7	7.36	3,310	682	157	121	6	688	1,630	53.3	0.11	26.4	-0.00100		
EPA 14	07/13/1998	6857.40	6.7	7.62	3,660	664	164	132	7	715	1,600	56.9	0.11	25.2	-0.00100		
EPA 14	10/06/1998	6861.20	6.66	8.17	3,810	626	247	149	7.9	527	2,120	54.8	0.34	29.8	-0.00100		
EPA 14	01/12/1999	6858.10	6.7	7.72	3,690	622	212	124	6.7	570	1,900	56.2	0.44	28.1	-0.00100		
EPA 14	04/13/1999	6857.80	6.6	7.93	3,690	656	191	130	7.7	647	1,820	70.2	1.08	33.9	-0.00100		
EPA 14	07/20/1999	6857.41	6.2	7.94	3,730	683	217	124	9.6	667	1,900	70.0	2.07	31.3	-0.00100		

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
NRC Standard EPA Standard		NA 5.00	0.05 0.05	0.05 0.017	0.01 0.01	NA 0.05	0.05 0.05	NA 2.60	NA 1.0	0.05 0.2	0.01 0.01	0.10 0.70	0.3 5.0	5.0 5.0	5.0 NA	1.0 NA	15.0 15.0
EPA 14	07/28/1989	0.79	-0.001	-0.050	-0.01	0.04	-0.05	0.63	-0.10	0.05	-0.001	-0.10	0.0166	6.4	-0.2	-1.0	3.2
EPA 14	10/08/1989	1.10	-0.001	-0.050	-0.01	0.04	-0.05	0.70	0.02	0.07	-0.001	-0.10	0.0140	5.7	-0.2	7.1	2.8
EPA 14	01/17/1990	0.67	-0.001	-0.050	-0.01	0.01	-0.05	0.89	-0.10	-0.05	-0.001	-0.10	0.0190	-3.7	2.9	2.2	5.1
EPA 14	04/18/1990	0.52	-0.001	-0.050	-0.01	-0.01	-0.05	0.56	-0.10	0.07	-0.001	-0.10	0.0220	4.9	-0.2	-1.0	2.4
EPA 14	07/12/1990	0.68	-0.001	-0.050	-0.01	0.02	-0.05	0.61	0.13	-0.05	-0.001	-0.10	0.0223	3.3	-0.2	4.8	2.0
EPA 14	10/10/1990	0.50	-0.001	-0.050	-0.01	0.05	-0.05	0.71	-0.10	0.08	-0.001	-0.10	0.0323	6.6	-0.2	-1.0	4.0
EPA 14	01/08/1991	0.54	-0.001	-0.010	-0.01	0.03	-0.05	0.71	-0.10	0.08	-0.001	-0.10	0.0312	-3.4	-0.2	-1.0	2.0
EPA 14	04/16/1991	0.86	-0.001	-0.010	-0.01	0.04	-0.05	0.70	-0.10	0.06	-0.001	-0.10	0.0180	-2.3	-0.2	-1.0	1.0
EPA 14	07/03/1991	1.06	-0.001	-0.010	-0.01	0.05	-0.05	0.75	-0.10	0.07	-0.001	-0.10	0.0108	5.8	-0.2	-1.0	2.0
EPA 14	10/22/1991	0.31	-0.001	-0.010	-0.01	0.03	-0.05	0.73	-0.10	-0.05	-0.001	-0.10	0.0332	-2.6	-0.2	1.3	2.0
EPA 14	01/23/1992	1.00	-0.001	-0.010	-0.01	0.03	-0.05	0.81	-0.10	-0.05	0.001	-0.10	0.0100	3.7	-0.2	3.3	3.0
EPA 14	04/02/1992	1.00	-0.001	-0.010	-0.01	0.04	-0.05	0.91	-0.10	0.06	0.015	-0.10	0.0070	-2.6	-0.2	-1.0	1.9
EPA 14	07/16/1992	0.45	-0.001	-0.010	-0.01	0.02	-0.05	0.71	-0.10	-0.05	0.001	-0.10	0.0280	6.5	-0.2	-1.0	3.8
EPA 14	10/15/1992	0.73	-0.001	-0.010	-0.01	0.03	-0.05	0.87	-0.10	0.07	-0.001	-0.10	0.0090	6.3	-0.2	1.7	2.6
EPA 14	01/14/1993	0.59	0.002	-0.010	-0.01	0.04	-0.05	0.42	-0.10	0.11	-0.001	-0.10	0.0090	6.3	-0.2	-1.0	3.6
EPA 14	04/15/1993	0.40	-0.001	-0.010	-0.01	0.03	-0.05	0.82	-0.10	-0.05	-0.001	-0.10	0.0170	6.2	-0.2	-1.0	2.1
EPA 14	07/20/1993	-0.10	-0.001	-0.010	-0.01	0.01	-0.05	0.55	0.22	-0.05	-0.001	-0.10	0.0540	6.1	-0.2	-1.0	2.9
EPA 14	10/11/1993	0.40	-0.001	-0.010	-0.01	0.02	-0.05	0.74	-0.10	-0.05	0.001	-0.10	0.0230	6.1	-0.2	-1.0	6.2
EPA 14	01/11/1994	0.88	-0.001	-0.010	-0.01	0.03	-0.05	1.18	-0.10	-0.05	-0.001	-0.10	0.0140	8.5	-0.2	-1.0	12.4
EPA 14	04/19/1994	0.36	-0.001	-0.010	-0.01	0.06	-0.05	0.92	0.16	-0.05	-0.001	-0.10	0.0370	5.9	-0.2	-1.0	7.6
EPA 14	07/26/1994	0.31	-0.001	-0.010	-0.01	0.02	-0.05	1.10	0.21	-0.05	0.011	-0.10	0.0360	-4.1	-0.2	-1.0	7.3
EPA 14	10/11/1994	0.53	-0.001	-0.010	-0.01	0.05	-0.05	1.26	0.11	-0.05	-0.001	-0.10	0.0330	3.3	-0.2	1.7	3.9
EPA 14	01/10/1995	1.25	-0.001	-0.010	-0.01	0.06	-0.05	2.34	-0.10	-0.05	-0.001	-0.10	0.0080	8.1	-0.2	1.1	10.3
EPA 14	04/10/1995	1.68	-0.001	-0.010	-0.01	0.07	-0.05	2.59	-0.10	-0.05	-0.001	-0.10	0.0050	7.8	-0.2	-1.0	10.4
EPA 14	07/10/1995	-0.10	-0.001	-0.010	-0.01	0.01	-0.05	1.05	0.19	-0.05	-0.001	-0.10	0.0640	4.9	-0.2	-1.0	7.9
EPA 14	10/09/1995	0.18	0.001	-0.010	-0.01	-0.01	-0.05	1.33	0.16	-0.05	0.003	-0.10	0.0640	-4.7	-0.2	-1.0	8.4
EPA 14	01/08/1996	-0.10	-0.001	-0.010	-0.01	0.01	-0.05	1.15	-0.10	-0.05	-0.001	-0.10	0.0810	5.6	-0.2	1.8	2.6
EPA 14	04/09/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.26	0.18	-0.05	-0.001	-0.10	0.0830	5.9	-0.2	-1.0	3.9
EPA 14	07/17/1996	-0.10	-0.001	-0.010	-0.01	0.02	-0.05	1.44	0.18	-0.05	-0.001	-0.10	0.0900	-4.4	-0.2	-1.0	3.5
EPA 14	10/08/1996	-0.10	-0.001	-0.010	-0.01	0.02	-0.05	1.52	0.18	-0.05	-0.001	-0.10	0.0750	10.5	-0.2	-1.0	1.9
EPA 14	01/28/1997	-0.10	-0.001	-0.010	-0.01	0.03	-0.05	1.87	0.13	-0.05	0.003	-0.10	0.0540	6.2	-0.2	-1.0	4.2
EPA 14	04/14/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.49	0.18	-0.05	-0.001	-0.10	0.0900	12.1	-0.2	-1.0	3.6
EPA 14	07/14/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.54	0.15	-0.05	-0.001	-0.10	0.0880	8.1	-0.2	-1.0	3
EPA 14	10/14/1997	-0.10	-0.001	-0.010	-0.01	0.02	-0.05	2.05	0.20	-0.05	-0.001	-0.10	0.1010	8.2	-0.2	-1.0	3.5
EPA 14	01/19/1998	-0.10	-0.001	-0.010	-0.005	0.07	-0.05	3.21	0.13	0.06	-0.001	-0.10	0.0750	10.1	-0.2	-1.0	3.9
EPA 14	04/13/1998	-0.10	-0.001	-0.010	-0.005	0.01	-0.05	1.92	0.18	-0.05	-0.001	-0.10	0.1210	7.2	-0.2	-1.0	6
EPA 14	07/13/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	2.2	0.16	-0.05	-0.001	-0.10	0.1200	9.3	-0.2	-1.0	2.9
EPA 14	10/06/1998	-0.10	-0.001	-0.010	-0.005	0.06	-0.05	2.86	0.12	0.08	-0.001	-0.10	0.0906	8.5	-0.2	-1.0	4.4
EPA 14	01/12/1999	-0.10	-0.001	-0.010	-0.005	0.02	-0.05	2.58	0.11	-0.05	-0.001	-0.10	0.1110	10.8	-0.2	-1.0	3.6
EPA 14	04/13/1999	-0.10	0.002	-0.010	0.005	0.03	-0.05	2.83	0.15	-0.05	-0.001	-0.10	0.1100	17.4	-0.2	-1.0	10.8
EPA 14	07/20/1999	-0.10	0.004	-0.010	0.005	0.03	-0.05	2.24	0.14	-0.05	-0.001	-0.10	0.1140	11.9	-0.2	-1.0	6.7

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250.0	NA	30.0	NA	NA	NA
EPA 15	07/29/1989	6890.20	6.5	6.35	2,567	432	145	119	4.8	288	1,487	18.4	0.09	13.2	-0.00100	-0.0010	-0.005
EPA 15	10/08/1989	6883.50	6.0	6.58	2,244	380	120	110	7.0	302	1,319	15.0	0.10	7.4	-0.00100	-0.0010	-0.005
EPA 15	01/16/1990	6881.50	5.9	6.48	2,524	369	139	116	5.8	302	1,499	18.3	0.19	5.9	-0.00100	-0.0010	-0.005
EPA 15	04/18/1990	6880.30	6.1	6.56	2,532	381	140	117	5.6	322	1,419	17.6	0.21	7.8	-0.00100	-0.0010	-0.005
EPA 15	07/10/1990	6879.10	6.2	6.60	2,586	392	146	113	5.1	311	1,475	18.6	0.07	8.9	-0.00100	-0.0010	-0.005
EPA 15	10/10/1990	6879.80	6.4	6.75	2,548	374	143	118	6.0	303	1,412	18.5	0.11	9.6	-0.00100	-0.0010	-0.005
EPA 15	01/10/1991	6878.80	6.3	7.05	2,359	397	142	113	7.1	316	1,347	19.1	0.07	10.4	-0.00100	-0.0010	-0.005
EPA 15	04/16/1991	6879.20	6.2	7.08	2,429	382	135	130	6.1	336	1,360	18.8	0.10	16.1	-0.00100	-0.0010	-0.005
EPA 15	07/03/1991	6876.00	6.4	6.86	2,548	384	149	114	5.2	325	1,565	21.9	0.11	15.6	-0.00100	-0.0010	-0.005
EPA 15	10/23/1991	6871.10	6.2	7.03	2,873	401	176	134	6.0	278	1,789	31.6	0.44	24.8	-0.00100	-0.0010	-0.005
EPA 15	01/23/1992	6873.50	6.1	6.93	2,603	368	175	122	6.3	292	1,588	21.2	0.19	11.1	-0.00100	-0.0010	-0.005
EPA 15	04/02/1992	6873.80	6.1	7.60	2,809	413	209	166	8.4	312	1,753	23.7	0.31	15.0	-0.00100	-0.0010	-0.005
EPA 15	07/16/1992	6866.90	6.1	6.84	3,214	462	262	156	7.8	246	2,206	32.5	0.37	12.7	-0.00100	-0.0010	-0.005
EPA 15	10/15/1992	6866.20	6.0	6.61	4,002	525	263	167	10.0	237	2,451	32.6	0.27	17.3	-0.00100	-0.0010	-0.005
EPA 15	01/13/1993	6869.00	6.2	6.75	2,950	459	181	124	8.2	287	1,748	26.8	0.19	11.0	-0.00100	-0.0010	-0.005
EPA 15	04/15/1993	6869.40	6.3	6.94	2,816	471	150	132	5.0	322	1,666	23.6	0.15	13.3	-0.00100	-0.0010	-0.005
EPA 15	07/20/1993	6864.60	6.3	6.93	3,326	542	240	142	8.2	287	2,133	30.8	0.06	27.5	-0.00100	-0.0010	-0.005
EPA 15	10/12/1993	6860.70	6.4	6.34	4,110	578	306	158	9.0	212	2,766	41.3	1.27	17.0	-0.00100	-0.0010	-0.005
EPA 15	01/11/1994	6864.20	6.5	7.00	3,001	499	187	128	5.7	288	1,774	28.5	-0.05	12.8	-0.00100		
EPA 15	04/19/1994	6863.90	6.4	6.63	2,537	411	137	125	5.8	296	1,537	22.6	0.19	9.5	-0.00100		
EPA 15	07/26/1994	6862.20	6.2	7.43	4,123	627	284	139	7.1	265	2,390	31.0	0.46	33.2	-0.00100		
EPA 15	10/11/1994	6861.60	6.1	6.94	4,502	640	342	163	9.6	214	3,049	39.0	3.12	31.6	-0.00100		
EPA 15	01/10/1995	6861.70	6.1	7.09	4,144	665	204	133	8.5	244	2,567	36.5	1.00	37.2	-0.00100		
EPA 15	04/11/1995	6861.90	6.4	6.51	4,187	674	302	136	7.6	262	2,542	19.9	1.09	44.4	-0.00100		
EPA 15	07/11/1995	6860.30	5.6	5.87	4,189	585	359	144	9.9	24.5	2,833	44.5	0.78	29.5	-0.00100		
EPA 15	10/10/1995	6859.70	5.5	5.82	4,153	585	370	162	10.6	23.2	2,961	40.0	5.86	24.3	-0.00156		
EPA 15	01/08/1996	6858.50	5.3														

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.00	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
EPA 15	07/29/1989	-0.10	-0.001	-0.050	-0.01	-0.01	-0.05	1.30	0.50	-0.05	0.001	-0.10	0.0408	7.4	-0.2	1.3	2.2
EPA 15	10/08/1989	-0.10	-0.001	-0.050	-0.01	-0.01	-0.05	1.00	-0.43	-0.05	0.001	-0.10	0.0660	7.6	57.0	1.1	69.0
EPA 15	01/16/1990	-0.10	-0.001	-0.050	-0.01	0.01	-0.05	1.60	0.37	-0.05	0.001	-0.10	0.0370	4.9	0.2	-1.0	1.7
EPA 15	04/18/1990	-0.10	-0.001	-0.050	-0.01	-0.01	0.08	1.50	0.42	-0.05	0.001	-0.10	0.0390	6.4	-0.2	-1.0	2.9
EPA 15	07/10/1990	-0.10	-0.001	-0.050	-0.01	0.04	-0.05	1.39	0.34	-0.05	0.001	-0.10	0.0740	4.4	-0.2	-1.0	2.8
EPA 15	10/10/1990	-0.10	-0.001	-0.050	-0.01	0.03	-0.05	1.45	0.30	-0.05	0.001	-0.10	0.0618	3.2	-0.2	-1.0	2.0
EPA 15	01/10/1991	-0.10	-0.001	-0.050	-0.01	0.02	-0.05	1.19	0.33	-0.05	0.001	-0.10	0.0554	3.5	-0.2	-1.0	2.1
EPA 15	04/16/1991	-0.10	-0.001	-0.010	-0.01	0.02	-0.05	1.15	0.43	-0.05	0.001	-0.10	0.0780	-3.9	-0.2	-1.0	3.0
EPA 15	07/03/1991	-0.10	-0.001	-0.010	-0.01	0.03	-0.05	1.55	0.42	-0.05	-0.001	-0.10	0.1280	6.0	-0.2	-1.0	2.0
EPA 15	10/23/1991	-0.10	-0.001	-0.010	-0.01	0.02	-0.05	2.06	0.34	-0.05	0.001	-0.10	0.1015	8.4	-0.2	-1.0	-1.0
EPA 15	01/23/1992	-0.10	-0.001	-0.010	-0.01	0.01	-0.05	2.39	-0.56	0.07	-0.001	-0.10	0.0650	3.4	-0.2	-1.4	2.0
EPA 15	04/02/1992	-0.10	-0.001	-0.010	-0.01	0.01	-0.05	2.24	0.58	-0.05	0.001	-0.10	0.0660	6.1	-0.2	-1.0	2.1
EPA 15	07/16/1992	-0.10	0.002	-0.010	-0.01	0.02	-0.05	2.98	0.35	-0.05	-0.001	-0.10	0.0340	13.4	-0.2	-1.0	4.9
EPA 15	10/15/1992	-0.10	-0.003	-0.010	-0.01	0.02	-0.05	3.68	0.59	0.06	-0.001	-0.10	0.0140	8.8	-0.2	-1.0	5.2
EPA 15	01/13/1993	-0.10	-0.001	-0.010	-0.01	0.02	-0.05	2.56	0.72	-0.05	-0.001	-0.10	0.0640	6.5	-0.2	-1.0	2.7
EPA 15	04/15/1993	-0.10	0.001	-0.010	-0.01	0.03	-0.05	1.97	0.62	-0.05	-0.001	-0.10	0.0990	6.1	-0.2	-1.0	2.0
EPA 15	07/20/1993	-0.10	0.001	-0.010	-0.01	0.02	-0.05	2.62	1.13	-0.05	0.002	-0.10	0.0610	7.9	-0.2	-1.0	3.6
EPA 15	10/12/1993	-0.10	-0.001	-0.010	-0.01	0.02	-0.05	4.18	-0.10	-0.05	0.001	-0.10	0.0300	11.9	-0.2	-1.4	8.0
EPA 15	01/11/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.21	1.21	-0.05	-0.001	-0.10	0.0740	8.5	-0.2	-1.0	12.1
EPA 15	04/19/1994	-0.10	0.002	-0.010	-0.01	0.05	-0.05	1.16	1.20	-0.05	0.001	-0.10	0.1210	8.1	-0.2	-1.0	10.8
EPA 15	07/26/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.82	0.93	-0.05	0.009	-0.10	0.0500	12.8	-0.2	1.8	17.1
EPA 15	10/11/1994	0.30	-0.001	-0.010	-0.01	0.07	-0.05	4.42	0.75	-0.05	-0.001	-0.10	0.0290	12.2	-0.2	3.8	14.7
EPA 15	01/10/1995	-0.10	-0.001	-0.010	-0.01	0.02	-0.05	3.08	0.81	-0.05	-0.001	-0.10	0.0450	9.8	-0.2	-1.0	11.9
EPA 15	04/11/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	3.08	0.67	-0.05	-0.001	-0.10	0.0380	9.9	-0.2	-1.0	12.7
EPA 15	07/11/1995	5.65	-0.001	-0.010	-0.01	0.20	-0.05	7.18	0.65	0.19	-0.001	-0.10	0.0120	33.8	-0.2	-1.0	28.5
EPA 15	10/10/1995	5.67	0.001	-0.010	-0.01	0.17	-0.05	7.13	1.05	0.16	0.010	-0.10	0.0087	20.7	-0.2	-1.0	19.8
EPA 15	01/08/1996																

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	0.001	0.005
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250.0	NA	30.0	NA	NA	NA
EPA 17	07/20/1989	6884.40	6.4	6.11	6,709	501	785	167	13.3	159	4,674	35.6	1.22	0.13	-0.00100	-0.0010	-0.005
EPA 17	10/08/1989	6887.00	6.4	6.50	6,714	491	829	160	12.0	154	4,526	35.3	0.59	0.06	-0.00100	-0.0010	-0.005
EPA 17	01/10/1990	6886.30	6.3	6.48	6,822	491	844	158	13.1	162	4,440	34.3	0.57	0.14	-0.00100	-0.0010	-0.005
EPA 17	04/10/1990	6886.20	6.3	6.30	6,855	495	830	153	12.4	151	4,333	33.9	0.67	0.21	-0.00100	-0.0010	-0.005
EPA 17	07/10/1990	6886.00	6.1	6.50	6,930	493	807	154	13.8	159	4,467	33.6	0.29	0.53	-0.00100	-0.0010	-0.005
EPA 17	10/09/1990	6885.90	6.3	6.77	6,854	465	812	162	13.4	135	4,232	32.2	0.22	0.07	-0.00100	-0.0010	-0.005
EPA 17	01/11/1991	6885.60	6.2	6.30	6,678	511	795	160	14.6	122	4,489	36.9	0.57	0.14	-0.00100	-0.0010	-0.005
EPA 17	04/10/1991	6885.40	6.3	6.90	6,751	545	758	156	12.3	143	4,007	34.8	0.45	0.11	-0.00100	-0.0010	-0.005
EPA 17	07/09/1991	6885.10	6.3	6.46	6,742	563	712	139	10.9	112	4,385	33.5	0.68	-0.01	-0.00100	-0.0010	-0.005
EPA 17	10/17/1991	6885.00	6.2	6.86	6,749	514	676	155	14.1	159	4,151	33.5	0.33	0.08	-0.00100	-0.0010	-0.005
EPA 17	01/21/1992	6884.70	6.3	6.66	6,718	473	769	145	11.5	159	4,556	37.5	0.33	-0.10	-0.00100	-0.0010	-0.005
EPA 17	04/14/1992	6884.50	6.4	7.72	5,908	441	528	157	12.5	255	3,632	34.3	0.50	-0.10	-0.00100	-0.0010	-0.005

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.00	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
EPA 17	07/20/1989	0.18	0.224	-0.050	-0.01	0.08	-0.05	6.90	1.20	0.24	-0.001	-0.10	0.0530	5.8	18.4	1.2	14.4
EPA 17	10/08/1989	-0.10	0.253	-0.050	-0.01	0.07	-0.05	6.70	0.83	0.21	-0.001	-0.10	0.0760	3.8	-0.2	-1.0	3.0
EPA 17	01/10/1990	0.16	0.133	-0.050	-0.01	0.12	-0.05	5.90	0.46	0.24	-0.001	-0.10	0.0460	5.0	-0.2	-1.0	2.3
EPA 17	04/10/1990	-0.10	0.140	-0.050	-0.02	0.13		6.70	0.32	0.17	-0.001	-0.10	0.0480	5.9	-0.2	-1.0	3.4
EPA 17	07/10/1990	0.14	0.019	-0.050	-0.01	0.07	-0.05	6.77	0.22	0.25	-0.001	-0.10	0.0450	6.2	-0.2	-1.0	2.9
EPA 17	10/09/1990	-0.10	0.054	-0.050	-0.01	0.09	-0.05	6.63	0.20	0.23	-0.001	-0.10	0.0332	9.8	-0.2	-1.0	2.0
EPA 17	01/11/1991	-0.10	0.022	-0.010	-0.01	0.12	-0.05	7.50	-0.10	0.29	-0.001	-0.10	0.0134	7.3	-0.2	-1.0	3.8
EPA 17	04/10/1991	0.36	0.007	-0.010	-0.01	0.12	-0.05	6.60	0.12	0.29	-0.001	-0.10	0.0147	4.2	-0.2	-1.0	3.0
EPA 17	07/09/1991	0.26	0.002	-0.010	-0.01	0.08	-0.05	6.15	-0.10	0.17	-0.001	-0.10	0.0151	7.1	-0.2	-1.0	2.0
EPA 17	10/17/1991	0.13	0.003	-0.010	-0.01	0.09	-0.05	5.98	-0.10	0.22	-0.001	-0.10	0.0132	3.0	-0.2	-1.0	2.0
EPA 17	01/21/1992	-0.10	0.005	-0.010	-0.01	0.08	-0.05	5.42	0.10	0.17	0.001	-0.10	0.0230	-2.3	-0.2	1.2	1.0
EPA 17	04/14/1992	-0.10	0.022	-0.010	-0.01	0.05	-0.05	5.08	0.37	0.15	0.002	-0.10	0.0410	9.5	-0.2	-1.0	1.2

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)	Al (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250.0	NA	30.0	0.001	0.001	0.005	5.00
EPA 18*	07/25/1989	6884.40	5.7	5.46	5,818	543	608	132	11.6	44.0	3,974	27.1	0.46	0.08	-0.00100	-0.0010	-0.005	-0.10
EPA 18*	10/04/1989	6884.10	5.3	5.97	5,742	513	604	113	12.6	49.0	3,746	27.5	0.43	0.01	-0.00100	-0.0010	-0.005	-0.10
EPA 18*	01/16/1990	6883.30	5.2	5.46	5,514	468	549	123	11.1	19.5	3,654	25.4	0.50	0.06	-0.00100	-0.0010	-0.005	-0.10
EPA 18*	04/17/1990	6882.70	5.2	5.26	5,585	464	520	122	10.5	10.2	3,582	27.0	0.49	0.16	-0.00100	-0.0010	-0.005	-0.10
EPA 18*	07/17/1990	6881.90	5.4	5.68	5,902	543	608	124	31.8	31.5	3,513	26.4	0.27	0.07	-0.00100	-0.0010	-0.005	0.20
EPA 18*	10/16/1990	6881.30	5.4	5.93	5,925	508	588	139	11.0	26.0	3,880	32.2	0.39	0.04	-0.00100	-0.0010	-0.005	0.10
EPA 18*	01/08/1991	6880.60	5.1	5.25	5,905	518	647	129	18.0	12.0	3,917	28.3	0.53	-0.01	-0.00100	-0.0010	-0.005	0.61
EPA 18*	04/16/1991	6880.30	5.0	5.50	5,946	551	712	144	10.6	10.0	3,916	34.1	0.48	-0.01	-0.00100	-0.0010	-0.005	-0.10
EPA 18*	07/03/1991	6879.90	5.3	5.97	6,159	577	698	129	9.4	36.0	4,215	15.8	0.64	0.01	-0.00100	-0.0010	-0.005	0.66
EPA 18*	10/22/1991	6879.60	5.4	5.81	6,202	484	722	139	10.6	69.0	4,235	38.3	0.61	0.02	-0.00100	-0.0010	-0.005	0.34
EPA 18*	01/22/1992	6879.00	5.6	6.00	6,396	484	657	135	10.4	36.8	4,267	29.4	0.61	-0.01	-0.00100	-0.0010	-0.005	0.27
EPA 18*	04/02/1992	6878.80	5.5	7.16	5,799	508	660	167	13.1	75.1	4,351	38.3	0.67	-0.01	-0.00100	-0.0010	-0.005	-0.10
EPA 18*	07/15/1992	6877.70	5.5	6.09	6,375	492	686	131	11.5	8.0	4,196	29.7	0.25	0.10	-0.00100	-0.0010	-0.005	-0.10
EPA 18*	10/14/1992	6877.20	5.3	5.38	6,100	480	624	132	11.3	12.2	4,126	30.5	0.32	-0.10	-0.00100	-0.0010	-0.005	0.18
EPA 18*	01/14/1993	6877.90	5.2	5.74	5,947	455	609	137	9.9	16.8	4,187	30.9	0.69	-0.10	-0.00100	-0.0010	-0.005	-0.10
EPA 18*	04/15/1993	6877.80	5.3	5.79	6,132	414	694	152	9.8	18.1	3,999	31.2	0.51	0.20	-0.00100	-0.0010	-0.005	-0.10
EPA 18*	07/20/1993	6876.50	5.3	5.75	5,982	489	705	147	10.4	12.3	4,215	31.9	0.32	-0.10	-0.00100	-0.0010	-0.005	-0.10
EPA 18*	10/12/1993	6873.80	5.8	5.44	5,825	473	690	135	10.5	18.0	4,264	28.9	0.39	-0.10	-0.00100	-0.0010	-0.005	-0.10
EPA 18*	01/11/1994	6875.60	5.7	6.22	6,038	453	707	134	10.2	20.3	4,228	29.5	0.46	-0.10	-0.00100			-0.10
EPA 18*	04/20/1994	6874.90	5.5	6.00	5,622	458	683	125	9.8	15.3	4,196	33.0	1.09	-0.10	-0.00100			-0.10
EPA 18*	07/26/1994	6875.90	5.7	6.69	5,618	525	682	149	11.3	17.7	4,108	30.7	0.46	-0.10	-0.00100			-0.10
EPA 18*	10/11/1994	6874.50	5.8	6.55	6,374	456	764	157	11.4	22.4	4,604	33.7	0.75	-0.10	-0.00100			-0.10

Refer to page 1 for explanatory notes

TABLE C.1

ZONE 3 DATA SUMMARY
1989 - 1999

Well No.	Date	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	0.05	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
EPA 18*	07/25/1989	0.008	-0.050	-0.01	0.19	-0.05	6.70	0.05	0.23	-0.001	-0.10	0.0310	12.6	6.1	-1.0	8.0
EPA 18*	10/04/1989	0.006	-0.050	-0.01	0.21	-0.05	7.00	-0.01	0.27	-0.001	-0.10	0.0370	12.5	0.3	2.1	6.2
EPA 18*	01/16/1990	0.004	-0.050	-0.01	0.20	-0.05	7.50	-0.10	0.30	-0.001	-0.10	0.0190	12.2	0.7	-1.0	5.3
EPA 18*	04/17/1990	0.002	-0.050	-0.01	0.20	-0.05	6.30	-0.10	0.27	-0.001	-0.10	0.0190	12.5	-0.2	1.2	7.6
EPA 18*	07/17/1990	0.012	-0.050	-0.01	0.17	-0.05	6.09	0.12	0.28	-0.001	-0.10	0.0824	7.6	-0.2	-1.0	4.0
EPA 18*	10/16/1990	0.015	-0.050	-0.01	0.19	-0.05	6.49	-0.10	0.27	-0.001	-0.10	0.0577	18.4	-0.2	1.4	6.0
EPA 18*	01/08/1991	0.001	-0.010	-0.01	0.21	-0.05	6.89	-0.10	0.27	-0.001	-0.10	0.0357	14.0	-0.2	-1.0	6.0
EPA 18*	04/16/1991	0.001	-0.010	-0.01	0.17	-0.05	6.13	-0.10	0.22	-0.001	-0.10	0.0310	15.1	-0.2	2.5	6.0
EPA 18*	07/03/1991	0.024	-0.010	-0.01	0.14	-0.05	6.62	0.10	0.20	-0.001	-0.10	0.0700	12.4	-0.2	-1.0	4.0
EPA 18*	10/22/1991	0.019	-0.010	-0.01	0.13	-0.05	7.44	-0.10	0.21	-0.001	-0.10	0.0005	5.6	-0.2	-1.0	5.0
EPA 18*	01/22/1992	0.014	-0.010	-0.01	0.10	-0.05	6.15	-0.10	0.17	-0.001	-0.10	0.0860	14.7	-0.2	-1.0	8.0
EPA 18*	04/02/1992	0.014	-0.010	-0.01	0.13	-0.05	7.16	0.10	0.26	-0.001	-0.10	0.0780	15.2	-0.2	-1.0	4.7
EPA 18*	07/15/1992	0.003	-0.010	-0.01	0.12	-0.05	6.45	-0.10	0.19	-0.001	-0.10	0.0640	14.1	-0.2	1.0	5.0
EPA 18*	10/14/1992	0.002	-0.010	-0.01	0.15	-0.05	5.97	-0.10	0.24	-0.001	-0.10	0.0810	15.7	-0.2	1.8	5.8
EPA 18*	01/14/1993	-0.001	-0.010	-0.01	0.16	-0.05	7.66	-0.10	0.32	-0.001	-0.10	0.0380	18.1	-0.2	-1.0	6.8
EPA 18*	04/15/1993	0.001	-0.010	-0.01	0.16	-0.05	6.91	-0.10	0.26	-0.001	-0.10	0.0580	13.1	-0.2	-1.0	4.5
EPA 18*	07/20/1993	-0.001	-0.010	-0.01	0.18	-0.05	6.51	-0.10	0.31	-0.001	-0.10	0.0450	19.0	-0.2	-1.0	7.9
EPA 18*	10/12/1993	-0.001	-0.010	-0.01	0.14	-0.05	6.57	-0.10	0.24	-0.001	-0.10	0.0580	14.8	-0.2	1.8	7.0
EPA 18*	01/11/1994	-0.001	-0.010	-0.01	0.12	-0.05	6.70	-0.10	0.28	-0.001	-0.10	0.0410	18.5	-0.2	-1.0	25.6
EPA 18*	04/20/1994	-0.001	-0.010	-0.01	0.12	-0.05	5.69	-0.10	0.27	-0.001	-0.10	0.0230	11.9	-0.2	-1.0	15.5
EPA 18*	07/26/1994	-0.001	-0.010	-0.01	0.15	-0.05	6.64	-0.10	0.23	-0.001	-0.10	0.0120	19.5	-0.2	-1.0	26.4
EPA 18*	10/11/1994	-0.001	-0.010	-0.01	0.08	-0.05	5.30	-0.10	0.16	-0.001	-0.10	0.0080	10.3	-0.2	3.4	12.7

TABLE C.2

**WATER LEVEL DATA FOR ZONE 3
IDLED AND DECOMMISSIONED WELLS
1994 - 1999**

Well Number (a)	Date	Water Elevation (ft AMSL)
0608	01/07/1994	6882.9
0608	04/11/1994	6883.0
0608	07/19/1994	6882.7
0608	10/03/1994	6882.2
0608	01/03/1995	6882.1
0608	04/07/1995	6882.1
0608	07/12/1995	6882.0
0608	10/03/1995	6881.8
0608	01/02/1996	6881.7
0608	04/01/1996	6881.7
0608	07/30/1996	6881.9
0608	10/10/1996	6881.2
0608	01/28/1997	6881.4
0608	04/16/1997	6881.0
0608	10/10/1997	6880.9
0608	01/21/1998	6880.0
0608	04/06/1998	6881.3
0608	07/16/1998	6979.4
0608	10/13/1998	6879.4
0608	01/12/1999	6879.5
0608	04/07/1999	6879.5
0608	07/21/1999	6878.7
0702	01/07/1994	6896.1
0702	04/11/1994	6896.2
0702	07/19/1994	6895.9
0702	10/03/1994	6895.8
0702	01/03/1995	6895.8
0702	04/07/1995	6895.8
0702	07/12/1995	6895.7
0702	10/03/1995	6895.7
0702	01/02/1996	6895.5
0702	04/01/1996	6895.4
0702	07/30/1996	6895.3
0702	10/10/1996	6895.2
0702	01/28/1997	6895.3
0702	04/16/1997	6894.9
0702	07/15/1997	6894.8
0702	10/10/1997	6894.7
0702	01/21/1998	6894.9
0702	04/06/1998	6894.7
0702	07/16/1998	6894.8
0702	10/13/1998	6894.8
0702	01/12/1999	6894.7
0702	04/07/1999	6894.7
0702	07/21/1999	6894.5
0703	01/07/1994	6888.4
0703	04/11/1994	6890.0
0703	07/19/1994	6890.6
0703	10/03/1994	6890.7
0703	01/03/1995	6890.7
0703	04/07/1995	6890.9
0703	07/12/1995	6891.0
0703	10/03/1995	6891.0
0703	01/02/1996	6890.8
0703	04/01/1996	6890.9
0703	07/30/1996	6890.7
0703	10/10/1996	6890.7
0703	01/28/1997	6890.9
0703	04/16/1997	6890.6
0703	07/15/1997	6890.6
0703	10/10/1997	6890.5
0703	01/21/1998	6890.7
0703	04/06/1998	6890.6
0703	07/16/1998	6890.7
0703	10/13/1998	6890.7
0703	01/12/1999	6890.6
0703	04/07/1999	6890.8
0703	07/21/1999	6890.5

TABLE C.2
WATER LEVEL DATA FOR ZONE 3
IDLED AND DECOMMISSIONED WELLS
1994 - 1999

Well Number (a)	Date	Water Elevation (ft AMSL)
0710	01/07/1994	6865.8
0710	04/11/1994	6865.7
0710	07/19/1994	6865.4
0710	10/03/1994	6865.3
0710	01/03/1995	6864.3
0710	04/07/1995	6864.0
0710	07/13/1995	6863.4
0710	10/03/1995	6863.1
0710	01/02/1996	6862.3
0710	04/01/1996	6862.1
0710	07/30/1996	6861.5
0710	10/10/1996	6861.1
0710	01/28/1997	6861.1
0710	04/16/1997	6860.5
0710	07/15/1997	6860.0
0710	10/10/1997	6859.8
0710	01/21/1998	6859.8
0710	04/06/1998	6859.6
0710	07/16/1998	6859.4
0710	10/13/1998	6859.3
0710	01/12/1999	6859
0710	04/07/1999	6859.1
0710	07/21/1999	6858.5
0712	01/07/1994	6858.1
0712	04/11/1994	6858.7
0712	07/19/1994	6857.6
0712	10/03/1994	6857.5
0712	01/03/1995	6856.9
0712	04/07/1995	6856.6
0712	07/13/1995	6856.0
0712	10/03/1995	6855.8
0712	01/02/1996	6854.9
0712	04/01/1996	6854.9
0712	07/30/1996	6854.5
0712	10/10/1996	6854.2
0712	01/28/1997	6854.4
0712	04/16/1997	6853.9
0712	07/15/1997	6853.7
0712	10/10/1997	6853.7
0712	01/21/1998	6853.4
0712	04/06/1998	6853.1
0712	07/16/1998	6852.9
0712	10/13/1998	6852.9
0712	01/12/1999	6852.9
0712	04/07/1999	6852.9
0712	07/21/1999	6852.5
0714	01/07/1994	6871.7
0714	04/11/1994	6880.5
0714	07/19/1994	6879.1
0714	10/03/1994	6878.3
0714	01/03/1995	6879.0
0714	04/07/1995	6877.7
0714	07/13/1995	6876.7
0714	10/03/1995	6876.1
0714	01/02/1996	6875.2
0714	04/01/1996	6874.7
0714	07/30/1996	6874.6
0714	10/10/1996	6873.2
0714	01/28/1997	6872.9
0714	04/16/1997	6872.4
0714	07/15/1997	6871.9
0714	10/10/1997	6871.4
0714	01/21/1998	6871.9
0714	04/06/1998	6871.6
0714	07/16/1998	6871.4
0714	10/13/1998	6871.2
0714	01/12/1999	6870.7
0714	04/07/1999	6870.9
0714	07/21/1999	6870

TABLE C.2

**WATER LEVEL DATA FOR ZONE 3
IDLED AND DECOMMISSIONED WELLS
1994 - 1999**

Well Number (a)	Date	Water Elevation (ft AMSL)
0715	01/07/1994	6882.2
0715	04/11/1994	6873.5
0715	07/19/1994	6870.3
0715	10/03/1994	6870.0
0715	01/03/1995	6870.6
0715	04/07/1995	6870.3
0715	07/13/1995	6867.8
0715	10/03/1995	6867.0
0715	01/02/1996	6874.6
0715	04/01/1996	6865.5
0715	07/30/1996	6865.3
0715	10/10/1996	6863.9
0715	01/28/1997	6864.3
0715	04/16/1997	6863.2
0715	07/15/1997	6861.8
0715	10/10/1997	6862.9
0715	01/21/1998	6862.1
0715	04/06/1998	6861.0
0715	07/16/1998	6860.6
0715	10/13/1998	6860.8
0715	01/12/1999	6859.7
0715	04/07/1999	6860.2
0715	07/21/1999	6858

Notes:
 AMSL - Above Mean Sea Level
 a. Wells 608, 702, 703, 710, and 712 decommissioned at the end of the 1993 operating year and converted to water level monitoring wells.
 Wells 714 and 715 idled at the end of the 1993 operating year and temporarily converted to water level monitoring wells.

LABORATORY ANALYTICAL DATA
1999



ENERGY LABORATORIES, INC.

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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 3 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

420	420	420
98-64143	99-10572	99-24251
10-06-99	01-05-99	04-06-99
November 22, 1998	February 13, 1999	April 30, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	657	672	672
Magnesium	Mg	mg/L	0.01	123	123	144
Sodium	Na	mg/L	0.05	148	136	137
Potassium	K	mg/L	0.10	6.9	5.5	6.4
Bicarbonate	HCO ₃	mg/L	0.10	415	422	388
Sulfate	SO ₄	mg/L	1.0	2000	1830	1870
Chloride	Cl	mg/L	1.0	36.3	34.1	39.5
Ammonium as N	NH ₄	mg/L	0.05	1.77	< 0.05	0.11
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	37.3	32.2	28.5

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	3530	3600	3640
pH		std. units	0.10	7.88	7.82	7.96

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	0.007	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	1.89	1.97	2.01
Molybdenum	Mo	mg/L	0.10	0.42	0.37	0.56
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	mg/L	0.0003	0.0674	0.0540	0.0556
Radium 226	²²⁶ Ra	pCi/L	0.2	4.8	3.5	3.2
Radium Precision ±				0.5	0.4	0.4
Radium 228	²²⁸ Ra	pCi/L	1.0	< 1.0	1.5	2.1
Radium Precision ±					0.2	0.3
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	0.8
Thorium Precision ±						0.3
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Precision ±						
Gross Alpha		pCi/L	1.0	3.2	4.7	4.7
G. Alpha Precision ±				0.4	0.3	1.6

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		52.16	48.30	48.47
Cation	meq		49.95	50.03	51.85
WYDEQ A/C Balance	%	-5 - +5	-2.16	1.75	3.37
Calc TDS	mg/L		3348	3156	3191
TDS A/C Balance	dec. %	0.80 - 1.20	1.05	1.14	1.14

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COMPLETE ANALYTICAL SERVICES

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 3 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

420	420	420
99-10572	99-24251	99-35530
01-05-99	04-06-99	07-13-99
February 13, 1999	April 30, 1999	August 27, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	672	672	708
Magnesium	Mg	EPA 200.7	mg/L	0.01	123	144	111
Sodium	Na	EPA 200.7	mg/L	0.05	136	137	123
Potassium	K	EPA 200.7	mg/L	0.10	5.5	6.4	7.0
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	422	388	411
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	1830	1870	1840
Chloride	Cl	EPA 200.7	mg/L	1.0	34.1	39.5	34.6
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	< 0.05	0.11	0.09
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	32.2	28.5	39.8

Non-Metals		Method	Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	3600	3640	3560
pH		SM 4500-H B.	std. units	0.10	7.82	7.96	8.07

Trace Metals		Method	Units	Reporting Limit	Results	Results	Results
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	0.007	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	1.97	2.01	1.98
Molybdenum	Mo	EPA 200.7	mg/L	0.10	0.37	0.56	0.37
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Method	Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0540	0.0556	0.0578
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	3.5	3.2	2.2
Radium Precision ±					0.4	0.4	0.3
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	1.5	2.1	2.0
Radium Precision ±					0.2	0.3	0.2
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	0.8	< 0.2
Thorium Precision ±						0.3	
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Precision ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	4.7	4.7	2.7
G. Alpha Precision ±					0.3	1.6	0.5

Trace Organics		Method	Units	Reporting Limit	Results	Results	Results
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Method	Units	Reporting Limit	Results	Results	Results
Anion			meq		48.30	48.47	48.89
Cation			meq		50.03	51.85	50.30
WYDEQ A/C Balance			%	-5 - +5	1.75	3.37	1.43
Calc TDS			mg/L		3156	3191	3208
TDS A/C Balance			dec. %	0.80 - 1.20	1.14	1.14	1.11



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 3 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

502-B	502-B	502-B
98-64146	99-10575	99-24254
10-06-99	01-06-99	04-06-99
November 22, 1998	February 13, 1999	April 30, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	500	483	472
Magnesium	Mg	mg/L	0.01	559	568	545
Sodium	Na	mg/L	0.05	120	124	108
Potassium	K	mg/L	0.10	14.7	12.7	13.2
Bicarbonate	HCO ₃	mg/L	0.10	< 0.10	< 0.10	4.0
Sulfate	SO ₄	mg/L	1.0	3720	4000	3730
Chloride	Cl	mg/L	1.0	28.3	29.6	34.7
Ammonium as N	NH ₄	mg/L	0.05	0.90	3.72	3.54
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	< 0.10	< 0.10	< 0.10

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	5840	5870	5880
pH		std. units	0.10	4.54	4.53	4.79

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	6.74	8.16	6.86
Arsenic III	As	mg/L	0.001	0.005	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	0.01	< 0.01
Cadmium	Cd	mg/L	0.005	0.006	0.006	0.009
Cobalt	Co	mg/L	0.01	0.50	0.47	0.55
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	9.70	9.65	10.5
Molybdenum	Mo	mg/L	0.10	0.11	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	0.54	0.52	0.54
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	mg/L	0.0003	0.121	0.135	0.125
Radium 226	²²⁶ Ra	pCi/L	0.2	8.3	7.8	8.7
Radium Precision ±				0.7	0.5	0.6
Radium 228	²²⁸ Ra	pCi/L	1.0	22.3	19.6	20.9
Radium Precision ±				2.7	1.6	1.3
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	1.4
Thorium Precision ±						0.6
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Precision ±						
Gross Alpha		pCi/L	1.0	15.4	18.1	27.1
G. Alpha Precision ±				1.2	1.1	1.8

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		78.31	84.18	78.76
Cation	meq		78.52	78.90	75.64
WYDEQ A/C Balance	%	-5 - +5	0.14	-3.24	-2.02
Calc TDS	mg/L		4953	5232	4920
TDS A/C Balance	dec. %	0.80 - 1.20	1.18	1.12	1.20

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**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 3 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

502-B	502-B	502-B
99-10575	99-24254	99-35532
01-06-99	04-06-99	07-13-99
February 13, 1999	April 30, 1999	August 26, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	483	472	487
Magnesium	Mg	EPA 200.7	mg/L	0.01	568	545	580
Sodium	Na	EPA 200.7	mg/L	0.05	124	108	100
Potassium	K	EPA 200.7	mg/L	0.10	12.7	13.2	14.2
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	< 0.10	4.0	< 0.10
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	4000	3730	3800
Chloride	Cl	EPA 200.7	mg/L	1.0	29.6	34.7	24.9
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	3.72	3.54	3.25
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	< 0.10	< 0.10	< 0.10

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	5870	5880	5820
pH		SM 4500-H B.	std. units	0.10	4.53	4.79	3.90

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	8.16	6.86	6.14
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	0.006	0.009	0.006
Cobalt	Co	EPA 200.7	mg/L	0.01	0.47	0.55	0.42
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	9.65	10.5	10.6
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	0.52	0.54	0.42
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.135	0.125	0.120
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	7.8	8.7	7.4
Radium Precision ±					0.5	0.6	0.4
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	19.0	20.9	18.3
Radium Precision ±					1.6	1.3	0.8
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	1.4	< 0.2
Thorium Precision ±						0.6	
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Precision ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	18.1	27.1	14.4
G. Alpha Precision ±					1.1	1.8	1.1

Trace Organics							
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range				
Anion	meq			84.18	78.76	79.88
Cation	meq			78.90	75.64	78.89
WYDEQ A/C Balance	%	-5 - +5		-3.24	-2.02	-0.62
Calc TDS	mg/L			5232	4920	5021
TDS A/C Balance	dec. %	0.80 - 1.20		1.12	1.20	1.16



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 3 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

504-B	504-B	504-B
98-64145	99-10574	99-24253
10-06-98	01-06-99	04-06-99
November 22, 1998	February 13, 1999	April 30, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	543	463	508
Magnesium	Mg	mg/L	0.01	555	524	542
Sodium	Na	mg/L	0.05	158	141	140
Potassium	K	mg/L	0.10	13.8	12.3	12.4
Bicarbonate	HCO ₃	mg/L	0.10	29.7	38.0	31.0
Sulfate	SO ₄	mg/L	1.0	3500	3700	3440
Chloride	Cl	mg/L	1.0	32.7	33.0	38.6
Ammonium as N	NH ₄	mg/L	0.05	3.99	0.70	0.80
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	0.29	0.19	< 0.10

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	5340	5340	5370
pH		std. units	0.10	6.33	6.36	6.53

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	0.24	0.33	0.37
Arsenic III	As	mg/L	0.001	0.019	0.025	0.015
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	0.007	< 0.005
Cobalt	Co	mg/L	0.01	0.31	0.30	0.33
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	5.48	5.60	5.80
Molybdenum	Mo	mg/L	0.10	9.20	12.4	9.48
Nickel	Ni	mg/L	0.05	0.446	0.42	0.43
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	mg/L	0.0003	0.0378	0.0435	0.0531
Radium 226	²²⁶ Ra	pCi/L	0.2	15.9	15.9	18.8
Radium Precision ±				0.9	1.3	1.7
Radium 228	²²⁸ Ra	pCi/L	1.0	13.2	18.5	17.5
Radium Precision ±				1.3	1.6	1.2
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Precision ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Precision ±						
Gross Alpha		pCi/L	1.0	15.8	32.0	50.0
G. Alpha Precision ±				1.2	2.9	4.5

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		74.35	78.65	73.27
Cation	meq		81.23	73.66	77.39
WYDEQ A/C Balance	%	-5 - +5	4.43	-3.28	2.73
Calc TDS	mg/L		4829	4900	4704
TDS A/C Balance	dec. %	0.80 - 1.20	1.11	1.09	1.14

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**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 3 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

504-B	504-B	504-B
99-10574	99-24253	99-35531
01-06-99	04-06-99	07-13-99
February 13, 1999	April 30, 1999	August 26, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	463	508	522
Magnesium	Mg	EPA 200.7	mg/L	0.01	524	542	558
Sodium	Na	EPA 200.7	mg/L	0.05	141	140	132
Potassium	K	EPA 200.7	mg/L	0.10	12.3	12.4	13.3
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	38.0	31.0	28.0
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	3700	3440	3500
Chloride	Cl	EPA 200.7	mg/L	1.0	33.0	38.6	32.0
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	0.70	0.80	0.75
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	0.19	< 0.10	0.38

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	5340	5370	5350
pH		SM 4500-H B.	std. units	0.10	6.36	6.53	6.51

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	0.33	0.37	0.17
Arsenic III	As	EPA 206.3	mg/L	0.001	0.025	0.015	0.020
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	0.007	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	0.30	0.33	0.24
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	5.60	5.80	5.70
Molybdenum	Mo	EPA 200.7	mg/L	0.10	12.4	9.48	14.6
Nickel	Ni	EPA 200.7	mg/L	0.05	0.42	0.43	0.35
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0435	0.0531	0.0288
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	15.9	18.8	11.1
Radium Precision ±					1.3	1.7	1.0
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	18.5	17.5	14.6
Radium Precision ±					1.6	1.2	1.4
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Precision ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Precision ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	32.0	50.0	17.3
G. Alpha Precision ±					2.9	4.5	1.3

Trace Organics							
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range			
Anion	meq		78.65	73.27	74.30
Cation	meq		73.66	77.39	79.06
WYDEQ A/C Balance	%	-5 - +5	-3.28	2.73	3.10
Calc TDS	mg/L		4900	4704	4780
TDS A/C Balance	dec. %	0.80 - 1.20	1.09	1.14	1.12



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 3 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

517	517	517
98-64144	99-10573	99-24252
10-06-98	01-05-99	04-06-99
November 22, 1998	February 13, 1999	April 30, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	506	433	472
Magnesium	Mg	mg/L	0.01	505	477	478
Sodium	Na	mg/L	0.05	171	158	156
Potassium	K	mg/L	0.10	10.2	9.0	9.4
Bicarbonate	HCO ₃	mg/L	0.10	1.4	2.0	4.0
Sulfate	SO ₄	mg/L	1.0	3420	3500	3260
Chloride	Cl	mg/L	1.0	59.9	57.8	62.5
Ammonium as N	NH ₄	mg/L	0.05	40.9	17.0	15.3
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	5.59	4.12	4.45

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	5170	5220	5110
pH		std. units	0.10	4.56	4.60	4.72

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	12.2	12.3	12.3
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	0.009	0.008	0.010
Cobalt	Co	mg/L	0.01	0.54	0.55	0.59
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	7.78	8.11	8.20
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	0.44	0.45	0.46
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	mg/L	0.0003	0.0936	0.0924	0.0851
Radium 226	²²⁶ Ra	pCi/L	0.2	11.0	10.1	20.6
Radium Precision ±				0.8	0.6	1.8
Radium 228	²²⁸ Ra	pCi/L	1.0	13.4	10.9	20.3
Radium Precision ±				1.3	0.7	1.3
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Precision ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Precision ±						
Gross Alpha		pCi/L	1.0	9.9	28.7	61.8
G. Alpha Precision ±				0.5	2.7	4.9

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/L	1.0	4.4	4.5	3.6

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		73.36	74.87	70.06
Cation	meq		79.78	71.52	73.36
WYDEQ A/C Balance	%	-5 - +5	4.19	-2.29	2.30
Calc TDS	mg/L		4758	4684	4488
*DS A/C Balance	dec. %	0.80 - 1.20	1.09	1.11	1.14

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COMPLETE ANALYTICAL SERVICES

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 3 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

517	517	517
99-10573	99-24252	99-35529
01-05-99	04-06-99	07-13-99
February 13, 1999	April 30, 1999	August 26, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	433	472	392
Magnesium	Mg	EPA 200.7	mg/L	0.01	477	478	493
Sodium	Na	EPA 200.7	mg/L	0.05	158	156	149
Potassium	K	EPA 200.7	mg/L	0.10	9.0	9.4	10.0
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	2.0	4.0	< 0.10
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	3500	3260	3300
Chloride	Cl	EPA 200.7	mg/L	1.0	57.8	62.5	52.6
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	17.0	15.3	14.4
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	4.12	4.45	4.19

Non-Metals		Method	Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	5220	5110	5010
pH		SM 4500-H B.	std. units	0.10	4.60	4.72	4.09

Trace Metals		Method	Units	Reporting Limit	Results	Results	Results
Aluminum	Al	EPA 200.7	mg/L	0.10	12.3	12.3	9.96
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	0.008	0.010	0.010
Cobalt	Co	EPA 200.7	mg/L	0.01	0.55	0.59	0.62
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	8.11	8.20	8.00
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	0.45	0.46	0.50
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Method	Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0924	0.0851	0.0758
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	10.1	20.6	9.9
Radium Precision ±					0.6	1.8	0.9
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	10.9	20.3	10.2
Radium Precision ±					0.7	1.3	0.7
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Precision ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Precision ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	28.7	61.8	18.8
G. Alpha Precision ±					2.7	4.9	1.3

Trace Organics		Method	Units	Reporting Limit	Results	Results	Results
Chloroform		EPA 601	µg/L	1.0	4.5	3.6	4.4

Quality Assurance Data		Target Range	Results	Results	Results
Anion			74.87	70.06	70.53
Cation			71.52	73.36	69.99
WYDEQ A/C Balance		-5 - +5	-2.29	2.30	-0.39
Calc TDS			4684	4488	4442
TDS A/C Balance		0.80 - 1.20	1.11	1.14	1.13



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 3 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

518	518	518
98-64147	99-10576	99-24255
10-06-99	01-06-99	04-06-99
November 22, 1998	February 13, 1999	April 30, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	466	482	436
Magnesium	Mg	mg/L	0.01	723	724	699
Sodium	Na	mg/L	0.05	144	150	125
Potassium	K	mg/L	0.10	15.9	14.2	14.4
Bicarbonate	HCO ₃	mg/L	0.10	< 0.10	< 0.10	< 0.10
Sulfate	SO ₄	mg/L	1.0	4800	5000	4800
Chloride	Cl	mg/L	1.0	35.8	38.7	43.5
Ammonium as N	NH ₄	mg/L	0.05	4.48	8.24	7.28
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	1.89	2.26	1.37

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	7050	7640	7380
pH		std. units	0.10	3.66	3.54	3.75

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	90.4	80.4	76.6
Arsenic III	As	mg/L	0.001	0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	0.06	0.06	0.06
Cadmium	Cd	mg/L	0.005	0.007	0.011	0.010
Cobalt	Co	mg/L	0.01	1.16	1.26	1.15
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	17.5	17.2	16.6
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	1.06	1.37	1.15
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	mg/L	0.0003	0.363	0.345	0.328
Radium 226	²²⁶ Ra	pCi/L	0.2	7.9	7.5	6.4
Radium Precision ±				0.6	0.5	0.5
Radium 228	²²⁸ Ra	pCi/L	1.0	< 1.0	< 1.0	1.7
Radium Precision ±						0.3
Thorium 230	²³⁰ Th	pCi/L	0.2	8.0	9.4	4.1
Thorium Precision ±				1.8	1.4	0.8
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Precision ±						
Gross Alpha		pCi/L	1.0	16.6	9.5	15.3
G. Alpha Precision ±				1.2	0.8	1.4

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/L	1.0	10.0	8.3	8.3

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		101.15	105.42	101.32
Cation	meq		101.54	101.78	95.79
WYDEQ A/C Balance	%	-5 - +5	0.19	-1.76	-2.81
Calc TDS	mg/L		6216	6447	6150
DS A/C Balance	dec. %	0.80 - 1.20	1.13	1.19	1.20

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COMPLETE ANALYTICAL SERVICES

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 3 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

518	518	518
99-10576	99-24255	99-35528
01-06-99	04-06-99	07-13-99
February 13, 1999	April 30, 1999	August 23, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	482	436	464
Magnesium	Mg	EPA 200.7	mg/L	0.01	724	699	737
Sodium	Na	EPA 200.7	mg/L	0.05	150	125	129
Potassium	K	EPA 200.7	mg/L	0.10	14.2	14.4	16.1
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	< 0.10	< 0.10	< 0.10
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	5000	4800	5000
Chloride	Cl	EPA 200.7	mg/L	1.0	38.7	43.5	31.7
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	8.24	7.28	7.17
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	2.26	1.37	0.62

Non-Metals		Method	Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	7640	7380	7690
pH		SM 4500-H B.	std. units	0.10	3.54	3.75	3.62

Trace Metals		Method	Units	Reporting Limit	Results	Results	Results
Aluminum	Al	EPA 200.7	mg/L	0.10	80.4	76.6	69.5
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	0.06	0.06	0.05
Cadmium	Cd	EPA 200.8	mg/L	0.005	0.011	0.010	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	1.26	1.15	1.11
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	17.2	16.6	16.2
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	1.37	1.15	1.10
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Method	Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.345	0.328	0.0198
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	7.5	6.4	3.5
Radium Precision ±					0.5	0.5	0.3
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	< 1.0	1.7	< 1.0
Radium Precision ±						0.3	
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	9.4	4.1	7.8
Thorium Precision ±					1.4	0.8	1.4
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Precision ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	9.5	15.3	14.0
G. Alpha Precision ±					0.8	1.4	1.0

Trace Organics		Method	Units	Reporting Limit	Results	Results	Results
Chloroform		EPA 601	µg/L	1.0	8.3	8.3	8.3

Quality Assurance Data			Target Range		
Anion	meq		105.42	101.32	105.11
Cation	meq		101.78	95.79	99.76
WYDEQ A/C Balance	%	-5 - +5	-1.76	-2.81	-2.61
Calc TDS	mg/L		6447	6150	6406
TDS A/C Balance	dec. %	0.80 - 1.20	1.19	1.20	1.20



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 3 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 9	EPA 9	EPA 9
98-64599	99-10943	99-24808
10-13-98	01-12-99	04-13-99
December 6, 1998	February 25, 1999	May 13, 1999
Fourth '98	First '99	Second '99
TE-2-10-98	TE-2-1-99	TE-4-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	484	423	472
Magnesium	Mg	mg/L	0.01	622	601	624
Sodium	Na	mg/L	0.05	116	107	105
Potassium	K	mg/L	0.10	12.6	11.8	11.8
Bicarbonate	HCO ₃	mg/L	0.10	1.2	< 0.10	< 0.10
Sulfate	SO ₄	mg/L	1.0	4000	4000	3750
Chloride	Cl	mg/L	1.0	29.1	28.9	38.9
Ammonium as N	NH ₄	mg/L	0.05	1.08	0.55	0.66
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	0.23	< 0.10	< 0.10

Non-Metals						
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	5820	5870	5860
pH		std. units	0.10	4.56	4.58	4.45

Trace Metals						
Aluminum	Al	mg/L	0.10	2.84	2.90	3.42
Arsenic III	As	mg/L	0.001	0.002	0.005	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.01	0.19	0.19	0.22
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	5.67	5.82	6.28
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	0.15	0.14	0.16
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometric						
Uranium	²³⁸ U	mg/L	0.0003	0.0008	0.0017	0.0015
Radium 226	²²⁶ Ra	pCi/L	0.2	11.8	10.9	11.9
Radium Error Estimate ±				1.0	1.0	1.4
Radium 228	²²⁸ Ra	pCi/L	1.0	8.0	6.6	12.2
Radium Error Estimate ±				0.8	0.2	0.4
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	18.9	10.6	17.4
G. Alpha Error Estimate ±				1.5	1.0	1.2

Trace Organics						
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range			
Anion	meq		84.19	84.16	79.23
Cation	meq		82.10	76.87	81.24
WYDEQ A/C Balance	%	-5 - +5	-1.25	-4.53	1.25
Calc TDS	mg/L		5272	5179	5009
TDS A/C Balance	dec. %	0.80 - 1.20	1.10	1.13	1.17

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 3 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 9	EPA 9	EPA 9
99-10943	99-24808	99-35991
01-12-99	04-13-99	07-20-99
February 25, 1999	May 13, 1999	August 26, 1999
First '99	Second '99	Third '99
TE-2-1-99	TE-4-4-99	TE-6-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	423	472	492
Magnesium	Mg	EPA 200.7	mg/L	0.01	601	624	634
Sodium	Na	EPA 200.7	mg/L	0.05	107	105	104
Potassium	K	EPA 200.7	mg/L	0.10	11.8	11.8	13.1
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	< 0.10	< 0.10	< 0.10
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	4000	3750	3860
Chloride	Cl	EPA 200.7	mg/L	1.0	28.9	38.9	32.9
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	0.55	0.66	0.48
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	< 0.10	< 0.10	< 0.10

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	5870	5860	5930
pH		SM 4500-H B.	std. units	0.10	4.58	4.45	4.18

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	2.90	3.42	2.80
Arsenic III	As	EPA 206.3	mg/L	0.001	0.005	< 0.001	0.002
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	0.19	0.22	0.17
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	5.82	6.28	4.90
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	0.14	0.16	0.13
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometric							
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0017	0.0015	0.0013
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	10.9	11.9	12.7
Radium Error Estimate ±					1.0	1.4	1.0
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	6.6	12.2	8.4
Radium Error Estimate ±					0.2	0.4	0.6
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	10.6	17.4	13.5
G. Alpha Error Estimate ±					1.0	1.2	1.1

Trace Organics							
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range			
Anion		meq		84.16	79.23	81.35
Cation		meq		76.87	81.24	82.90
WYDEQ A/C Balance		%	-5 - +5	-4.53	1.25	0.94
Calc TDS		mg/L		5179	5009	5142
TDS A/C Balance		dec. %	0.80 - 1.20	1.13	1.17	1.15



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 3 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 13	EPA 13	EPA 13
98-64597	99-10942	99-24807
10-13-98	01-12-99	04-13-99
December 6, 1998	February 25, 1999	May 13, 1999
Fourth '98	First '99	Second '99
TE-2-10-98	TE-2-1-99	TE-4-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	472	410	456
Magnesium	Mg	mg/L	0.01	795	769	776
Sodium	Na	mg/L	0.05	151	137	136
Potassium	K	mg/L	0.10	12.0	11.7	11.1
Bicarbonate	HCO ₃	mg/L	0.10	90.2	92.0	86.0
Sulfate	SO ₄	mg/L	1.0	4520	4450	4200
Chloride	Cl	mg/L	1.0	36.1	36.8	46.0
Ammonium as N	NH ₄	mg/L	0.05	0.65	0.60	0.69
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	< 0.10	< 0.10	< 0.10

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	6440	6510	6520
pH		std. units	0.10	7.72	6.99	6.93

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	0.613	0.514	0.717
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	0.006	< 0.005
Cobalt	Co	mg/L	0.01	0.05	0.05	0.06
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	5.64	5.60	5.96
Molybdenum	Mo	mg/L	0.10	0.32	0.26	0.33
Nickel	Ni	mg/L	0.05	0.12	0.08	0.10
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometric		Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	mg/L	0.0003	0.0244	0.0267	0.0284
Radium 226	²²⁶ Ra	pCi/L	0.2	4.2	5.3	5.3
Radium Error Estimate ±				0.3	0.4	0.5
Radium 228	²²⁸ Ra	pCi/L	1.0	4.7	6.4	6.8
Radium Error Estimate ±				0.2	0.6	0.4
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	6.6	4.3	8.4
G. Alpha Error Estimate ±				0.5	0.2	0.9

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range			
Anion	meq		96.67	95.26	90.21
Cation	meq		97.09	91.20	94.05
WYDEQ A/C Balance	%	-5 - +5	0.22	-2.18	2.08
Calc TDS	mg/L		6038	5867	5675
TDS A/C Balance	dec. %	0.80 - 1.20	1.07	1.11	1.15

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 3 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 13	EPA 13	EPA 13
99-10942	99-24807	99-35992
01-12-99	04-13-99	07-20-99
February 25, 1999	May 13, 1999	August 26, 1999
First '99	Second '99	Third '99
TE-2-1-99	TE-4-4-99	TE-6-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	410	456	476
Magnesium	Mg	EPA 200.7	mg/L	0.01	769	776	791
Sodium	Na	EPA 200.7	mg/L	0.05	137	136	134
Potassium	K	EPA 200.7	mg/L	0.10	11.7	11.1	12.8
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	92.0	86.0	77.0
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	4450	4200	4260
Chloride	Cl	EPA 200.7	mg/L	1.0	36.8	46.0	42.0
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	0.60	0.69	0.53
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	< 0.10	< 0.10	< 0.10

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	6510	6520	6510
pH		SM 4500-H B.	std. units	0.10	6.99	6.93	6.94

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	0.514	0.717	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	0.006	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	0.05	0.06	0.06
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	5.60	5.96	4.60
Molybdenum	Mo	EPA 200.7	mg/L	0.10	0.26	0.33	0.26
Nickel	Ni	EPA 200.7	mg/L	0.05	0.08	0.10	0.10
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometric							
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0267	0.0284	0.0242
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	5.3	5.3	4.3
Radium Error Estimate ±					0.4	0.5	0.3
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	6.4	6.8	6.8
Radium Error Estimate ±					0.6	0.4	0.6
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	4.3	8.4	8.6
G. Alpha Error Estimate ±					0.2	0.9	0.9

Trace Organics							
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range			
Anion		meq		95.26	90.21	91.20
Cation		meq		91.20	94.05	96.17
WYDEQ A/C Balance		%	-5 - +5	-2.18	2.08	2.65
Calc TDS		mg/L		5867	5675	5760
TDS A/C Balance		dec. %	0.80 - 1.20	1.11	1.15	1.13



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 3 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 14	EPA 14	EPA 14
98-64598	99-10944	99-24809
10-13-99	01-12-99	04-13-99
December 6, 1998	February 25, 1999	May 13, 1999
Fourth '98	First '99	Second '99
TE-2-10-98	TE-2-1-99	TE-4-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	626	622	656
Magnesium	Mg	mg/L	0.01	247	212	191
Sodium	Na	mg/L	0.05	149	124	130
Potassium	K	mg/L	0.10	7.9	6.7	7.7
Bicarbonate	HCO ₃	mg/L	0.10	527	570	647
Sulfate	SO ₄	mg/L	1.0	2120	1900	1820
Chloride	Cl	mg/L	1.0	54.8	56.2	70.2
Ammonium as N	NH ₄	mg/L	0.05	0.34	0.44	1.08
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	29.8	28.1	33.9

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	3810	3690	3690
pH		std. units	0.10	8.17	7.72	7.93

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	0.002
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	0.005
Cobalt	Co	mg/L	0.01	0.06	0.02	0.03
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	2.86	2.58	2.83
Molybdenum	Mo	mg/L	0.10	0.12	0.11	0.15
Nickel	Ni	mg/L	0.05	0.08	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometric		Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	mg/L	0.0003	0.0906	0.111	0.110
Radium 226	²²⁶ Ra	pCi/L	0.2	3.8	5.2	7.8
Radium Error Estimate ±				0.3	0.4	0.6
Radium 228	²²⁸ Ra	pCi/L	1.0	4.7	5.6	9.4
Radium Error Estimate ±				0.2	0.2	0.4
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	4.4	3.6	10.8
G. Alpha Error Estimate ±				0.5	0.2	1.8

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		56.48	52.52	52.92
Cation	meq		58.76	54.51	54.81
WYDEQ A/C Balance	%	-5 - +5	1.98	1.86	1.75
Calc TDS	mg/L		3604	3334	3353
TDS A/C Balance	dec. %	0.80 - 1.20	1.06	1.11	1.10

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 3 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 14	EPA 14	EPA 14
99-10944	99-24809	99-35993
01-12-99	04-13-99	07-20-99
February 25, 1999	May 13, 1999	August 26, 1999
First '99	Second '99	Third '99
TE-2-1-99	TE-4-4-99	TE-6-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	622	656	683
Magnesium	Mg	EPA 200.7	mg/L	0.01	212	191	217
Sodium	Na	EPA 200.7	mg/L	0.05	124	130	124
Potassium	K	EPA 200.7	mg/L	0.10	6.7	7.7	9.6
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	570	647	667
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	1900	1820	1900
Chloride	Cl	EPA 200.7	mg/L	1.0	56.2	70.2	70.0
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	0.44	1.08	2.07
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	28.1	33.9	31.3

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	3690	3690	3730
pH		SM 4500-H B.	std. units	0.10	7.72	7.93	7.94

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	0.002	0.004
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	0.02	0.03	0.03
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	2.58	2.83	2.24
Molybdenum	Mo	EPA 200.7	mg/L	0.10	0.11	0.15	0.14
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometric							
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.111	0.110	0.114
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	5.2	7.8	5.1
Radium Error Estimate ±					0.4	0.6	0.4
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	5.6	9.4	6.8
Radium Error Estimate ±					0.2	0.4	0.6
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	3.6	10.8	6.7
G. Alpha Error Estimate ±					0.2	1.8	0.8

Trace Organics							
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range			
Anion		meq		52.52	52.92	54.73
Cation		meq		54.51	54.81	58.15
WYDEQ A/C Balance		%	-5 - +5	1.86	1.75	3.04
Calc TDS		mg/L		3334	3353	3481
TDS A/C Balance		dec. %	0.80 - 1.20	1.11	1.10	1.07

APPENDIX D

ZONE 1 MONITORING DATA

APPENDIX D

ZONE 1 MONITORING DATA

Remedial action in Zone 1 consisted of dewatering Borrow Pit No. 2, which was the source of tailings seepage into Zone 1, plus continued operation of the East and North Cross-Dike Pump-Back Wells. Dewatering of Borrow Pit No. 2 was completed in April 1989. The pump-back wells were operated until September 1990 when they were replaced by the Revised East System consisting of Wells 615, 616, 617, and EPA 7. The Revised East System has been operated continuously since 1990.

Remedial action has been monitored by measurement of ground water levels and ground water sampling and analyses at 13 Zone 1 monitoring wells (Wells 515A, 516A, 604, 614, 619, EPA 2, EPA 4, EPA 5, EPA 7, EPA 8, 141, 142, and 143). Table D.1 presents the quarterly water level and water quality data for the monitoring wells from the second quarter 1989, when the borrow pit was dewatered, through the third quarter 1999. Monitoring Well EPA 7 was used as an extraction well from September 1990 until October 1994; consequently, water level data for this well are available only for the time prior to its conversion to an extraction well, during times when the pump was shut off for maintenance, and after October 1994. The 1999 laboratory analytical data for the Zone 1 Monitoring Wells are presented at the end of this appendix.

TABLE

TABLE D.1
ZONE 1 DATA SUMMARY
1989 - 1999

Notes:

1. NRC standard as listed in License Condition 30, Part B.
2. EPA standard as listed in Table 2, "Contaminant-Specific Groundwater ARARs" of the ROD (EPA, 1988).
3. NA - Not applicable.
4. "-" (hyphen) indicates that the concentration is less than the laboratory reporting limit. A hyphen for combined Ra-226 and Ra-228 indicates that at least one of these constituents was less than the laboratory reporting limits, which are 0.2 and 1.0 pCi/l, respectively.
5. All values that exceed the NRC and/or EPA standards are shaded.
6. Gross alpha value excludes contribution from radon and uranium.
7. "*" (Asterisk) indicates a Point of Compliance well.
8. Reporting limit for bicarbonate changed from 0.0 mg/l to 0.1 mg/l in fourth quarter 1997.
9. Reporting limit for cadmium changed from 0.01 mg/l to 0.005 mg/l after fourth quarter 1997. The analytical method changed from EPA 200.7 (ICP) to 200.8 (ICP.MS).

TABLE D.1

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	0.001	0.005
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30.0	NA	NA	NA
0141	04/10/1989	6765.20	7.8	7.75	896	18.9	8.4	290	3.2	242	459	17.2	0.45	0.13	-0.00100	-0.001	-0.005
0141	07/22/1989	6765.10	7.9	7.90	938	21.0	8.0	316	3.7	244	540	17.1	0.42	0.06	-0.00100	-0.001	-0.005
0141	10/12/1989	6765.50	7.7	8.00	938	19.1	8.4	306	4.6	257	482	21.0	0.37	0.10	-0.00100	-0.001	-0.005
0141	01/03/1990	6765.20	7.9	7.60	994	23.9	11.0	306	3.4	262	497	24.8	0.72	0.42	-0.00100	-0.001	-0.005
0141	04/03/1990	6765.20	7.9	7.80	1,024	24.0	9.8	304	3.6	262	458	32.9	0.76	0.44	-0.00100	-0.001	-0.005
0141	07/02/1990	6764.90	7.6	7.72	1,036	25.2	11.0	321	3.9	257	487	37.2	0.10	0.26	-0.00100	-0.001	-0.005
0141	10/02/1990	6764.90	7.6	7.65	1,023	21.5	10.1	305	3.7	243	509	42.0	0.21	0.29	-0.00100	-0.001	-0.005
0141	01/16/1991	6764.90	7.5	7.89	1,051	25.6	11.9	337	5.8	248	534	65.7	0.30	0.35	-0.00100	-0.001	-0.005
0141	04/03/1991	6764.90	7.7	8.10	1,070	23.3	10.6	311	3.1	254	530	41.0	0.32	0.18	-0.00100	-0.001	-0.005
0141	07/16/1991	6764.60	7.6	7.54	1,059	23.1	10.1	305	3.4	248	550	43.5	0.40	0.17	-0.00100	-0.001	-0.005
0141	10/14/1991	6766.70	7.5	7.99	1,133	22.7	11.3	325	3.2	195	539	105.0	0.61	0.26	-0.00100	-0.001	-0.005
0141	01/14/1992	6770.80	7.4	7.62	1,042	25.7	13.1	321	3.5	249	525	88.2	1.87	-0.01	-0.00100	-0.001	-0.005
0141	04/07/1992	6772.10	7.4	7.46	1,123	25.8	13.9	379	3.8	326	511	116.0	0.46	-0.10	-0.00100	-0.001	-0.005
0141	07/07/1992	6772.80	7.5	7.80	1,175	26.3	13.6	414	4.7	239	506	118.0	0.68	-0.10	-0.00100	-0.001	-0.005
0141	10/06/1992	6774.20	7.6	7.61	1,141	31.8	13.6	360	3.4	246	525	108.0	0.23	-0.10	-0.00100	-0.001	-0.005
0141	01/05/1993	6775.10	7.7	7.93	1,370	34.1	14.3	420	4.6	248	638	68.9	0.13	-0.10	-0.00100	-0.001	-0.005
0141	04/06/1993	6775.90	7.8	8.18	1,100	23.4	10.0	371	2.5	244	495	91.3	0.40	-0.10	-0.00100	-0.001	-0.005
0141	07/13/1993	6776.50	7.7	7.12	1,071	23.8	11.1	343	2.9	257	575	79.1	-0.05	-0.10	-0.00100	-0.001	-0.005
0141	10/06/1993	6776.80	7.8	7.31	1,105	27.2	12.0	304	2.7	257	541	64.0	0.47	0.16	-0.00100	-0.001	-0.005
0141	01/05/1994	6775.70	7.7	7.78	1,101	28.7	12.8	313	2.9	237	550	71.0	0.39	0.73	-0.00100	-0.001	-0.005
0141	04/13/1994	6778.30	7.7	7.76	1,017	35.1	11.7	301	2.4	234	499	49.4	0.18	-0.10	-0.00100	-0.001	-0.005
0141	07/20/1994	6778.70	7.7	7.34	1,010	33.3	10.7	312	2.9	240	548	42.8	0.34	0.13	-0.00100	-0.001	-0.005
0141	10/04/1994	6779.20	7.6	8.02	1,076	25.9	11.5	342	3.4	260	537	43.2	0.15	-0.10	-0.00100	-0.001	-0.005
0141	01/04/1995	6779.60	7.5	7.93	995	26.0	11.0	321	3.3	257	493	39.8	0.42	-0.10	-0.00100	-0.001	-0.005
0141	04/05/1995	6780.10	7.6	8.15	1,038	25.0	12.6	291	3.1	254	507	28.2	0.62	5.19	-0.00100	-0.001	-0.005
0141	07/06/1995	6780.30	7.6	8.21	1,073	28.5	13.8	306	3.2	256	528	30.4	0.24	-0.10	-0.00100	-0.001	-0.005
0141	10/03/1995	6780.50	7.2	8.30	1,038	22.8	10.0	297	3.0	261	485	25.9	0.46	-0.10	-0.00100	-0.001	-0.005
0141	01/03/1996	6781.00	7.2	8.24	1,097	26.6	12.1	319	3.2	255	554	15.4	0.08	0.32	-0.00100	-0.001	-0.005
0141	04/02/1996	6781.30	7.2	8.36	1,008	25.5	11.4	283	3.3	259	526	29.1	0.39	0.16	-0.00100	-0.001	-0.005
0141	07/07/1996	6781.50	8.4	7.75	1,034	26.2	11.1	288	3.0	254	481	23.2	0.36	-0.10	-0.00100	-0.001	-0.005
0141	10/01/1996	6781.60	7.3	8.07	1,010	25.1	11.7	300	3.1	254	498	25.4	0.31	-0.10	-0.00100	-0.001	-0.005
0141	01/21/1997	6782.30	6.7	7.93	903	23.9	10.6	303	3.2	256	500	22.5	0.30	-0.10	-0.00100	-0.001	-0.005
0141	04/08/1997	6782.30	7.0	8.25	962	21.5	9.6	293	3.1	256	479	22.4	0.26	0.14	-0.00100	-0.001	-0.005
0141	07/08/1997	6782.20	7.9	8.33	977	25.2	11.3	304	3.2	251	516	24.4	1.33	0.13	-0.00100	-0.001	-0.005
0141	10/07/1997	6782.50	7.1	8.13	997	26.2	12.0	277	2.9	256	504	22.8	0.20	0.19	-0.00100	-0.001	-0.005
0141	01/15/1998	6782.90	7.8	8.29	1,000	27.0	12.1	292	3.3	259	541	26.3	0.17	0.25	-0.00100	-0.001	-0.005
0141	04/07/1998	6783.20	7.5	8.22	999	21.8	9.9	285	2.9	259	490	20.3	0.19	-0.10	-0.00100	-0.001	-0.005
0141	07/07/1998	6783.20	8.0	8.28	976	23.0	10.6	302	3.2	259	469	20.9	0.39	-0.10	-0.00100	-0.001	-0.005
0141	10/06/1998	6783.20	7.4	8.17	1,030	28	12.4	296	3.7	261	545	22.9	3.48	0.34	-0.00100	-0.001	-0.005
0141	01/05/1999	6783.60	7.8	8.06	1,070	30.5	13.1	273	3.7	253	514	25.2	0.07	-0.1	-0.00100	-0.001	-0.005
0141	04/06/1999	6782.90	7.6	8.13	1,070	31.9	16.3	299	3.4	249	516	25.2	0.23	0.21	-0.00100	-0.001	-0.005
0141	07/13/1999	6783.54	6.8	8.28	968	29.7	14.2	285	7.5	258	507	30.2	0.37	-0.1	-0.00100	-0.001	-0.005

TABLE D.1

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.050	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0141	04/10/1989		0.003	-0.050	-0.01		-0.05	0.07		-0.05	-0.001	-0.10	0.0087	-1.2	-0.2	1.8	2.7
0141	07/22/1989	-0.10	0.003	-0.050	-0.01	-0.01	-0.05	0.14	-0.10	-0.05	-0.001	-0.10	0.0069	-3.1	0.6	-1.0	2.0
0141	10/12/1989	-0.10	0.003	-0.050	-0.01	-0.01	-0.05	0.05	0.02	-0.05	0.001	-0.10	0.0190	-7.5	-0.2	1.2	7.1
0141	01/03/1990	-0.10	0.002	-0.050	-0.01	-0.01	-0.05	0.07	0.02	-0.05	-0.001	-0.10	0.0140	-1.6	-0.2	2.0	1.7
0141	04/03/1990	-0.10	0.003	-0.050	-0.01	-0.01	-0.05	0.16	-0.10	-0.05	0.001	-0.10	0.0080	-1.6	1.6	-1.0	2.5
0141	07/02/1990	-0.10	0.007	-0.050	-0.01	-0.01	-0.05	0.18	-0.10	-0.05	0.001	-0.10	0.0078	-1.5	-0.2	-1.0	-1.0
0141	10/02/1990	-0.10	0.006	-0.050	-0.01	-0.01	-0.05	0.15	-0.10	-0.05	0.001	-0.10	0.0070	-1.5	-0.2	-1.0	-1.0
0141	01/16/1991	-0.10	0.002	-0.010	-0.01	0.01	-0.05	0.14	-0.10	-0.05	-0.001	-0.10	0.0065	-1.2	-0.2	-1.0	-1.0
0141	04/03/1991	-0.10	0.003	-0.010	-0.01	0.01	-0.05	0.12	-0.10	-0.05	-0.001	-0.10	0.0050	-1.4	-0.2	-1.0	-1.0
0141	07/16/1991	-0.10	0.003	-0.010	-0.01	-0.01	-0.05	0.19	-0.10	-0.05	-0.001	-0.10	0.0020	-1.2	-0.2	2.0	-1.0
0141	10/14/1991	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.16	-0.10	-0.05	0.001	-0.10	0.0220	-1.8	-0.2	-1.0	-1.0
0141	01/14/1992	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.13	-0.10	-0.05	0.002	-0.10	0.0050	-12.1	-0.2	-1.0	9.0
0141	04/07/1992	-0.10	0.002	-0.010	-0.01	-0.01	-0.05	0.15	-0.10	-0.05	-0.001	-0.10	0.0020	-1.2	-0.2	-1.0	-1.0
0141	07/07/1992	-0.10	0.002	-0.010	-0.01	-0.01	-0.05	0.12	-0.10	-0.05	0.001	-0.10	0.0050	3.8	-0.2	-1.0	2.5
0141	10/06/1992	-0.10	0.002	-0.010	-0.01	-0.01	-0.05	0.20	-0.10	-0.05	0.001	-0.10	0.0100	-1.2	-0.2	-1.0	-1.0
0141	01/05/1993	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	0.41	-0.10	-0.05	0.007	-0.10	0.0110	-0.6	-0.2	-1.0	-1.0
0141	04/06/1993	-0.10	0.002	-0.010	-0.01	-0.01	-0.05	0.19	-0.10	-0.05	-0.001	-0.10	0.0010	-0.7	-0.2	-1.0	-1.0
0141	07/13/1993	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.16	-0.10	-0.05	-0.001	-0.10	0.0050	2.3	-0.2	1.0	-1.0
0141	10/06/1993	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.22	-0.10	-0.05	-0.001	-0.10	0.0060	-0.4	-0.2	-1.0	-1.0
0141	01/05/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.19	-0.10	-0.05	-0.001	-0.10	0.0050	-1.4	-0.2	6.2	-1.0
0141	04/13/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.15	-0.10	-0.05	-0.001	-0.10	0.0080	-1.5	-0.2	1.7	-1.0
0141	07/20/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.20	-0.10	-0.05	0.001	-0.10	0.0040	-2.5	-0.2	-1.0	1.7
0141	10/04/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.26	-0.10	-0.05	-0.001	-0.10	0.0030	-1.5	-0.2	-1.0	-1.0
0141	01/04/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.29	-0.10	-0.05	-0.001	-0.10	0.0160	-1.7	-0.2	-1.0	-1.0
0141	04/05/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.15	-0.10	-0.05	-0.001	-0.10	0.0040	-1.4	-0.2	-1.0	-1.0
0141	07/06/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.30	-0.10	-0.05	0.001	-0.10	0.0033	-2.0	-0.2	-1.0	-1.0
0141	10/03/1995	-0.10	0.004	-0.010	-0.01	-0.01	-0.05	0.14	-0.10	-0.05	-0.001	-0.10	0.0034	-1.2	-0.2	-1.0	-1.0
0141	01/03/1996	-0.10	0.002	-0.010	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	-0.001	-0.10	0.0006	1.7	0.6	-1.0	1.1
0141	04/02/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.10	-0.10	-0.05	-0.001	-0.10	0.0016	-1.2	-0.2	-1.0	-1.0
0141	07/07/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.13	-0.10	-0.05	-0.001	-0.10	0.0039	-1.2	-0.2	-1.0	-1.0
0141	10/01/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.12	-0.10	-0.05	0.007	-0.10	-0.0003	-1.2	-0.2	-1.0	-1.0
0141	01/21/1997	-0.10	0.002	-0.010	-0.01	-0.01	-0.05	0.10	-0.10	-0.05	-0.001	-0.10	0.0020	-1.2	-0.2	-1.0	-1.0
0141	04/08/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.08	-0.10	-0.05	-0.001	-0.10	0.0006	-1.2	-0.2	-1.0	-1.0
0141	07/08/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.12	-0.10	-0.05	-0.001	-0.10	0.0020	-1.2	-0.2	28.0	-1.0
0141	10/07/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.13	-0.10	-0.05	-0.001	-0.10	0.0050	-1.2	-0.2	-1.0	-1.0
0141	01/15/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	0.07	-0.10	-0.05	-0.001	-0.10	0.0031	-1.2	-0.2	-1.0	2.8
0141	04/07/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	0.10	-0.10	-0.05	-0.001	-0.10	0.0029	-1.2	-0.2	-1.0	-1.0
0141	07/07/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	0.09	-0.10	0.05	-0.001	-0.10	0.0027	-1.2	-0.2	-1.0	-1.0
0141	10/06/1998	-0.10	0.009	-0.010	-0.005	-0.01	-0.05	0.37	-0.10	-0.05	-0.001	-0.10	0.3340	-2.5	-0.2	-1.0	-1.0
0141	01/05/1999	-0.10	0.007	-0.010	-0.005	-0.01	-0.05	0.43	0.14	-0.05	-0.001	-0.10	0.0140	-2.5	-0.2	-1.0	-1.0
0141	04/06/1999	-0.10	0.002	-0.010	-0.005	-0.01	-0.05	0.24	-0.10	-0.05	0.001	-0.10	0.0059	-1.0	-0.2	-1.0	-1.0
0141	07/13/1999	-0.10	0.004	-0.010	-0.005	-0.01	-0.05	0.27	-0.10	-0.05	0.001	-0.10	0.0541	-2.1	-0.2	-1.0	-1.0

ZONE 1 DATA SUMMARY 1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	0.001	0.005
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30.0	NA	NA	NA
0142	04/10/1989	6759.80	7.5	7.56	1,064	40.3	17.7	294	4.0	262	567	16.7	0.44	0.26	-0.00100	-0.001	-0.005
0142	07/22/1989	6759.60	7.8	7.80	1,129	37.0	17.0	332	4.4	244	599	17.7	0.45	0.19	-0.00100	-0.001	-0.005
0142	10/12/1989	6759.80	7.7	7.87	1,096	27.9	13.4	333	5.1	247	580	19.2	0.20	0.38	-0.00100	-0.001	-0.005
0142	01/03/1990	6759.80	7.6	7.72	1,130	30.6	13.9	332	3.9	245	579	20.6	0.34	0.40	-0.00100	-0.001	-0.005
0142	04/03/1990	6759.60	7.8	7.92	1,265	47.4	23.1	318	4.4	281	648	18.5	0.71	0.34	-0.00100	-0.001	-0.005
0142	07/02/1990	6759.40	7.6	8.00	1,106	32.2	13.6	317	4.0	253	564	18.1	0.17	0.31	-0.00100	-0.001	-0.005
0142	10/02/1990	6759.60	7.7	7.85	1,116	22.8	11.0	310	3.4	234	590	18.8	0.09	0.33	-0.00100	-0.001	-0.005
0142	01/03/1991	6759.50	7.7	7.10	1,113	29.0	14.3	318	11.9	244	607	18.0	0.36	0.33	-0.00100	-0.001	-0.005
0142	04/09/1991	6759.80	7.7	8.22	1,015	31.1	13.7	308	3.9	250	588	17.4	0.21	0.25	-0.00100	-0.001	-0.005
0142	07/16/1991	6759.60	7.7	7.88	1,085	35.2	16.8	286	3.7	271	643	17.2	0.34	0.21	-0.00100	-0.001	-0.005
0142	10/14/1991	6761.00	7.6	8.07	1,110	31.6	14.8	297	3.4	271	590	15.3	0.30	0.14	-0.00100	-0.001	-0.005
0142	01/14/1992	6764.10	7.4	7.85	1,071	27.6	13.8	296	3.3	259	595	16.4	0.95	0.37	-0.00100	-0.001	-0.005
0142	04/07/1992	6865.70	7.5	8.19	1,023	28.8	15.6	335	4.5	256	579	17.0	0.25	-0.10	-0.00100	-0.001	-0.005
0142	07/07/1992		7.6	8.17	1,101	35.5	19.0	355	4.8	263	588	16.0	0.99	-0.10	-0.00100	-0.001	-0.005
0142	10/06/1992	6767.90	7.8	8.06	1,100	37.0	17.8	332	3.2	260	588	16.8	0.08	-0.10	-0.00100	-0.001	-0.005
0142	01/05/1993	6769.00	7.8	8.14	1,019	27.1	11.9	279	3.9	256	542	17.4	0.31	-0.10	-0.00100	-0.001	
0142	04/06/1993	6770.00	7.8	8.08	1,084	31.8	14.8	326	2.6	254	560	16.1	0.31	-0.10	-0.00100	-0.001	
0142	07/13/1993	6770.50	7.8	7.09	1,066	33.5	15.4	293	2.9	264	597	17.2	-0.05	-0.10	-0.00100	-0.001	
0142	10/06/1993	6771.00	7.8	7.60	1,074	32.3	13.9	295	2.6	255	566	15.9	0.13	0.17	-0.00100	-0.001	
0142	01/05/1994	6770.70	7.8	8.03	1,056	33.7	15.4	307	2.8	246	563	16.4	0.31	0.10	-0.00100	-0.001	
0142	04/13/1994	6772.60	7.9	7.84	989	31.0	13.5	287	2.5	234	531	16.5	0.06	0.10	-0.00100	-0.001	
0142	07/20/1994	6773.00	7.7	8.05	1,088	34.2	14.1	286	2.8	242	538	15.8	0.08	0.45	-0.00100	-0.001	
0142	10/04/1994	6773.80	7.7	8.15	1,032	31.2	14.0	322	3.4	256	589	16.9	0.07	0.32	-0.00100	-0.001	
0142	01/04/1995	6774.30	7.7	8.01	1,036	29.0	12.2	325	3.3	251	550	17.4	0.14	0.20	-0.00100	-0.001	
0142	04/05/1995	6774.70	7.8	8.11	1,327	59.0	31.0	319	4.2	277	714	13.4	0.34	0.38	-0.00100	-0.001	
0142	07/06/1995	6774.80	7.7	8.32	1,230	43.0	20.2	318	3.6	260	625	16.5	0.08	0.10	-0.00100	-0.001	
0142	10/03/1995	6775.30	7.3	8.30	1,222	45.5	21.9	309	3.7	275	617	15.3	0.12	0.20	-0.00100	-0.001	
0142	01/03/1996	6775.50	7.8	8.05	1,018	23.2	11.9	302	3.0	253	492	25.3	0.20	0.19	-0.00100	-0.001	
0142	04/02/1996	6776.10	7.1	8.42	1,074	28.3	12.7	298	3.2	250	593	17.7	0.19	0.25	-0.00100	-0.001	
0142	07/07/1996	6776.10	7.9	7.72	1,075	26.1	11.4	300	3.1	243	481	23.2	0.26	0.44	-0.00100	-0.001	
0142	10/01/1996	6776.20	7.5	8.12	1,060	25.2	11.3	318	3.2	245	540	21.3	0.19	0.20	-0.00100	-0.001	
0142	01/21/1997	6777.10	6.5	7.86	1,020	32.8	15.3	322	3.5	240	567	15.9	0.17	0.15	-0.00100	-0.001	
0142	04/08/1997	6777.20	6.6	8.28	1,040	26.8	12.0	312	3.3	249	551	16.6	0.15	0.29	-0.00100	-0.001	
0142	07/08/1997	6777.20	8.1	8.32	1,030	27.0	12.0	322	3.4	240	575	18.6	0.25	0.12	-0.00100	-0.001	
0142	10/07/1997	6773.00	7.4	8.19	1,070	27.6	12.1	299	3.1	248	572	16.1	0.21	-0.10	-0.00100	-0.001	
0142	01/15/1998	6774.00	7.8	8.32	1,170	39.6	17.9	330	3.8	261	673	20.9	0.35	0.20	-0.00100	-0.001	
0142	04/07/1998	6773.40	7.8	8.26	1,100	26.0	11.6	314	3.2	245	546	18.0	0.13	0.14	-0.00100	-0.001	
0142	07/07/1998	6773.70	8.1	8.27	1,070	25.8	11.7	325	3.4	245	533	17.0	0.18	0.22	-0.00100	-0.001	
0142	10/06/1998	6774.20	7.27	8.29	1,170	36	17.9	325	4	267	640	18.1	2.04	0.31	-0.00100	-0.001	
0142	01/05/1999	6774.00	8	8.21	1,210	37.7	17.9	309	3.6	273	628	18.2	0.12	0.24	-0.00100	-0.001	
0142	04/06/1999	6774.20	8	8.15	1,120	33	15.8	313	3.5	250	562	22.7	0.21	0.25	-0.00100	-0.001	
0142	07/13/1999	6774.40	6.8	8.27	1,030	32.4	15.8	299	6.7	262	498	24.5	0.26	0.16	-0.00100	-0.001	

Library: 22114 Prod: Product: United Nuclear 00AppRayd: INC DATA00 (01 71 Data) 11/2/28/1999

TABLE D.1

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.050	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0142	04/10/1989		-0.001	-0.050	-0.01		-0.05	0.08		-0.05	-0.001	-0.10	0.0069	-1.7	-0.2	-1.0	4.1
0142	07/22/1989	-0.10	0.001	-0.050	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.001	-0.10	0.0046	-1.7	-0.2	-1.0	1.1
0142	10/12/1989	-0.10	0.001	-0.050	-0.01	-0.01	-0.05	0.02	0.03	-0.05	-0.001	-0.10	0.0050	-1.3	-0.2	-1.0	1.1
0142	01/03/1990	0.10	0.002	-0.050	-0.01	-0.01	-0.05	0.03	0.02	-0.05	0.001	-0.10	0.0060	2.4	-0.2	-1.0	1.9
0142	04/03/1990	-0.10	0.001	-0.050	-0.01	-0.01	-0.05	0.12	-0.10	-0.05	0.003	-0.10	0.0080	-2.3	-0.2	-1.0	2.1
0142	07/02/1990	0.10	0.001	-0.050	-0.01	-0.01	-0.05	0.04	-0.10	-0.05	-0.001	-0.10	0.0019	-1.5	-0.2	-1.0	-1.0
0142	10/02/1990	0.10	0.001	-0.050	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	0.0030	-1.2	-0.2	-1.0	-1.0
0142	01/03/1991	-0.10	0.001	-0.010	0.02	-0.01	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	0.0032	-1.2	-0.2	-1.0	-1.0
0142	04/09/1991	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	-0.001	-0.10	0.0029	-1.2	-0.2	-1.0	-1.0
0142	07/16/1991	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	-0.001	-0.10	0.0030	-2.3	-0.2	-1.0	-1.0
0142	10/14/1991	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	-0.001	-0.10	0.0150	-2.5	-0.2	-1.0	-1.0
0142	01/14/1992	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.001	-0.10	0.0020	-1.2	-0.2	-1.0	-1.0
0142	04/07/1992	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	-0.001	-0.10	0.0010	-1.2	-0.2	-1.0	-1.0
0142	07/07/1992	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	0.002	-0.10	0.0030	3.7	-0.2	-1.0	-1.0
0142	10/06/1992	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.001	-0.10	-0.0003	1.5	-0.2	-1.0	-1.0
0142	01/05/1993	-0.10	0.002	-0.010	-0.01	0.01	-0.05	0.01	-0.10	-0.05	0.007	-0.10	0.0100	0.5	-0.2	-1.0	1.6
0142	04/06/1993	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0020	-0.2	-0.2	-1.0	-1.0
0142	07/13/1993	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	-0.0003	-0.7	-0.2	-1.0	-1.0
0142	10/06/1993	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	-0.0003	0.1	-0.2	-1.0	-1.0
0142	01/05/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	0.0060	-1.7	-0.2	-1.0	1.4
0142	04/13/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	-0.0003	2.4	-0.2	-1.0	3.5
0142	07/20/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	-0.001	-0.10	0.0010	-1.8	-0.2	-1.0	-1.0
0142	10/04/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	-0.001	-0.10	0.0010	-1.3	-0.2	-1.0	-1.0
0142	01/04/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0010	2.2	-0.2	-1.0	3.3
0142	04/05/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	0.0010	3.1	-0.2	-1.0	4.5
0142	07/06/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.001	-0.10	-0.0003	-2.2	0.4	-1.0	-1.0
0142	10/03/1995	-0.10	0.003	-0.010	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	-0.001	-0.10	-0.0003	4.3	-0.2	-1.0	-1.0
0142	01/03/1996	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	0.14	-0.10	-0.05	-0.001	-0.10	0.0034	-1.4	0.6	-1.0	-1.0
0142	04/02/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	-0.01	-0.10	-0.05	-0.001	-0.10	0.0004	-1.2	-0.2	-1.0	-1.0
0142	07/07/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	-0.001	-0.10	0.0007	-1.5	-0.2	-1.0	-1.0
0142	10/01/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.003	-0.10	-0.0003	-1.3	-0.2	-1.0	-1.0
0142	01/21/1997	-0.10	0.002	-0.010	-0.01	-0.01	-0.05	0.04	-0.10	-0.05	-0.001	-0.10	-0.0003	-1.2	-0.2	-1.0	-1.0
0142	04/08/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	-0.001	-0.10	-0.0003	-1.2	-0.2	-1.0	-1.0
0142	07/08/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	-0.001	-0.10	-0.0003	-1.5	-0.2	-1.0	-1.0
0142	10/07/1997	-0.10	-0.001	-0.010	-0.01	-0.01	0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0010	-1.2	-0.2	-1.0	-1.0
0142	01/15/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0006	-2.8	-0.2	-1.0	-1.0
0142	04/07/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	0.01	-0.10	-0.05	-0.001	-0.10	0.0008	-1.9	-0.2	-1.0	-1.0
0142	07/07/1998	-0.10	0.001	-0.010	-0.005	-0.01	-0.05	0.01	-0.10	-0.05	-0.001	-0.10	0.0006	-1.2	-0.2	-1.0	-1.0
0142	10/06/1998	-0.10	0.002	-0.01	-0.005	-0.01	-0.05	0.08	-0.10	-0.05	-0.001	-0.10	0.0051	-2.1	-0.2	-1.0	-1.0
0142	01/05/1999	-0.10	0.002	-0.01	-0.005	-0.01	-0.05	0.21	0.14	-0.05	-0.001	-0.10	0.0040	-5.1	-0.2	-1.0	-1.0
0142	04/06/1999	-0.10	-0.001	-0.01	-0.005	-0.01	-0.05	0.01	-0.10	-0.05	-0.001	-0.10	0.0012	-1.2	-0.2	-1.0	-1.0
0142	07/13/1999	-0.10	0.001	-0.01	-0.005	-0.01	-0.05	0.01	-0.10	-0.05	0.001	-0.10	0.0009	-1.2	-0.2	-1.0	-1.0

TABLE D.1

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	0.001	0.005
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30.0	NA	NA	NA
0143	04/10/1989	6759.50	7.9	7.80	954	34.0	17.0	260	3.3	210	521	16.8	0.38	0.43	-0.00100	-0.001	-0.005
0143	07/22/1989	6759.40	7.9	7.86	1,000	34.0	17.0	297	3.7	207	596	16.7	0.44	0.39	-0.00100	-0.001	-0.005
0143	10/11/1989	6759.70	7.8	7.98	1,022	31.3	16.6	285	4.8	220	541	16.8	0.37	0.29	-0.00100	-0.001	-0.005
0143	01/03/1990	6759.60	7.5	7.65	1,002	32.5	16.1	291	3.6	220	542	17.3	0.48	0.22	-0.00100	-0.001	-0.005
0143	04/03/1990	6759.50	7.7	7.80	1,042	33.8	17.0	280	3.7	232	503	19.7	0.57	0.37	-0.00100	-0.001	-0.005
0143	07/02/1990	6759.30	7.4	7.90	1,033	34.5	16.6	292	3.9	226	528	17.2	0.12	1.05	-0.00100	-0.001	-0.005
0143	10/02/1990	6759.30	7.5	7.77	1,051	31.5	19.9	281	4.0	212	591	17.4	0.10	2.08	-0.00100	-0.001	-0.005
0143	01/03/1991	6759.40	7.5	7.15	1,023	31.2	18.7	286	5.2	220	571	15.2	0.36	0.64	-0.00100	-0.001	-0.005
0143	04/09/1991	6759.40	7.5	8.26	944	29.4	16.2	270	3.7	223	558	16.7	0.30	0.25	-0.00100	-0.001	-0.005
0143	07/16/1991	6759.20	7.6	7.73	975	29.1	15.1	264	3.4	228	620	16.6	0.28	0.25	-0.00100	-0.001	-0.005
0143	10/14/1991	6760.90	7.5	7.90	1,007	25.1	13.1	279	3.1	230	533	23.4	0.11	0.06	-0.00100	-0.001	-0.005
0143	01/14/1992	6764.70	7.4	7.54	1,005	28.9	15.8	267	3.2	237	565	17.2	0.78	0.18	-0.00100	-0.001	-0.005
0143	04/07/1992	6766.60	7.5	7.18	964	26.6	16.0	321	3.7	237	523	16.9	0.31	-0.10	-0.00100	-0.001	-0.005
0143	07/07/1992	6766.90	7.6	7.56	1,019	27.5	15.7	334	3.9	238	543	16.2	0.53	-0.10	-0.00100	-0.001	-0.005
0143	10/06/1992	6768.00	7.8	7.86	999	31.2	15.9	284	1.7	236	524	15.5	0.23	-0.10	-0.00100	-0.001	-0.005
0143	01/05/1993	6769.00	7.8	8.14	1,098	29.8	14.7	281	2.5	239	558	9.5	0.34	-0.10	-0.00100	-0.001	-0.005
0143	04/06/1993	6769.80	7.7	8.07	965	25.5	12.8	299	2.2	239	495	16.1	0.28	-0.10	-0.00100	-0.001	-0.005
0143	07/13/1993	6770.30	7.7	7.07	932	29.2	14.2	278	2.7	243	494	16.5	-0.05	-0.10	-0.00100	-0.001	-0.005
0143	10/06/1993	6770.70	7.6	7.62	978	28.2	14.2	271	2.3	243	525	15.6	0.20	0.18	-0.00100	-0.001	-0.005
0143	04/13/1994	6772.30	7.8	7.81	940	29.4	14.5	261	2.3	223	484	15.8	0.12	-0.10	-0.00100	-0.001	-0.005
0143	07/20/1994	6772.60	7.6	8.07	950	38.9	15.4	256	2.5	223	509	14.5	0.23	0.19	-0.00100	-0.001	-0.005
0143	10/04/1994	6773.20	7.6	8.09	927	33.3	16.4	285	3.1	245	525	16.2	0.23	0.16	-0.00100	-0.001	-0.005
0143	01/04/1995	6773.80	7.5	8.05	959	33.0	15.4	283	3.2	243	498	15.2	0.23	-0.10	-0.00100	-0.001	-0.005
0143	04/05/1995	6774.20	7.7	7.93	990	32.0	17.0	267	3.1	249	519	11.6	0.27	0.24	-0.00100	-0.001	-0.005
0143	07/06/1995	6774.40	7.6	8.32	995	30.9	15.6	269	3.1	238	495	15.5	0.14	-0.10	-0.00100	-0.001	-0.005
0143	10/03/1995	6774.90	7.3	8.35	994	30.8	15.8	266	3.1	241	486	14.2	0.22	0.11	-0.00100	-0.001	-0.005
0143	01/03/1996	6775.50	8.0	8.05	971	29.1	15.3	272	3.0	244	489	13.9	0.20	0.13	-0.00100	-0.001	-0.005
0143	04/02/1996	6775.80	7.5	8.41	958	32.5	16.7	257	3.3	244	519	16.9	0.33	0.14	-0.00100	-0.001	-0.005
0143	07/07/1996	6776.00	7.5	7.77	964	30.2	15.3	260	3.1	240	468	14.3	0.37	0.21	-0.00100	-0.001	-0.005
0143	10/01/1996	6776.20	7.5	8.12	1,060	25.2	11.3	318	3.2	245	540	21.3	0.19	0.20	-0.00100	-0.001	-0.005
0143	01/21/1997	6777.10	6.5	7.86	1,020	32.8	15.3	322	3.5	240	567	15.9	0.17	0.15	-0.00100	-0.001	-0.005
0143	04/08/1997	6777.20	6.6	8.28	1,040	26.8	12.0	312	3.3	249	551	16.6	0.15	0.29	-0.00100	-0.001	-0.005
0143	07/08/1997	6777.20	8.1	8.32	1,030	27.0	12.0	322	3.4	240	575	18.6	0.25	0.12	-0.00100	-0.001	-0.005
0143	10/07/1997	6777.30	7.6	8.15	975	32.7	16.8	266	3.2	246	505	12.6	0.21	0.11	-0.00100	-0.001	-0.005
0143	01/15/1998	6776.90	7.8	8.30	974	36.3	18.0	272	3.5	245	542	17.8	0.16	0.27	-0.00100	-0.001	-0.005
0143	04/07/1998	6778.00	7.8	8.21	980	30.0	15.6	263	3.1	243	486	14.8	0.14	0.15	-0.00100	-0.001	-0.005
0143	07/07/1998	6778.10	8.0	8.23	953	32.3	16.9	276	3.4	226	460	14.5	0.29	0.11	-0.00100	-0.001	-0.005
0143	10/06/1998	6778.40	7.51	8.41	986	30.7	15.7	276	3.7	245	526	16	1.00	0.35	-0.00100	-0.001	-0.005
0143	01/05/1999	6778.50	7.9	8.2	979	30.6	14.5	268	3.8	254	509	16.1	0.13	0.13	-0.00100	-0.001	-0.005
0143	04/06/1999	6779.10	8	8.09	975	31.4	16.5	267	3.3	240	477	18.5	0.28	0.15	-0.00100	-0.001	-0.005
0143	07/13/1999	6778.79	6.8	8.24	857	33.3	18.0	284	4.0	247	517	13.9	0.33	-0.10	-0.00100	-0.001	-0.005

TABLE D.1

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.050	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0143	04/10/1989		-0.001	-0.050	-0.01		-0.05	0.03		-0.05	-0.001	-0.10	0.0041	-1.2	-0.2	-1.0	3.4
0143	07/22/1989	-0.10	0.002	-0.050	-0.01	-0.01	-0.05	0.04	-0.10	-0.05	0.001	-0.10	0.0034	-1.7	3.0	-1.0	1.4
0143	10/11/1989	-0.10	0.001	-0.050	-0.01	-0.01	-0.05	0.04		-0.05	0.001	-0.10	0.0060	2.7	0.9	-1.0	3.2
0143	01/03/1990	-0.10	0.001	-0.050	-0.01	-0.01	-0.05	0.04	0.01	-0.05	0.001	-0.10	0.0060	-2.4	-0.2	-1.0	4.0
0143	04/03/1990	-0.10	0.002	-0.050	-0.01	0.01	-0.05	0.06	-0.10	-0.05	-0.001	-0.10	0.0681	-1.8	-0.2	-1.0	1.3
0143	07/02/1990	-0.10	0.002	-0.050	-0.01	-0.01	-0.05	0.04	-0.10	-0.05	-0.001	-0.10	0.0068	-1.6	-0.2	-1.0	-1.0
0143	10/02/1990	-0.10	0.002	-0.050	-0.01	-0.01	-0.05	0.04	-0.10	-0.05	-0.001	-0.10	0.0060	-1.3	-0.2	-1.0	-1.0
0143	01/03/1991	-0.10	0.001	-0.010	0.01	-0.01	-0.05	0.04	-0.10	-0.05	-0.001	-0.10	0.0057	-1.9	-0.2	-1.0	-1.0
0143	04/09/1991	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0020	-1.9	-0.2	-1.0	-1.0
0143	07/16/1991	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	-0.0003	-1.2	-0.2	-1.0	-1.0
0143	10/14/1991	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	0.0030	-1.2	-0.2	-1.0	-1.0
0143	01/14/1992	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.01	0.10	-0.05	-0.001	-0.10	0.0070	-1.2	-0.2	-1.0	-1.0
0143	04/07/1992	-0.10	0.003	-0.010	-0.01	-0.01	-0.05	0.02	0.10	-0.05	-0.001	-0.10	0.0060	-2.0	-0.2	-1.0	-1.0
0143	07/07/1992	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.001	-0.10	0.0080	-1.2	-0.2	-1.0	-1.0
0143	10/06/1992	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.001	-0.10	0.0170	4.0	-0.2	-1.0	-1.0
0143	01/05/1993	-0.10	0.004	-0.010	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	0.007	-0.10	0.0060	-0.6	-0.2	-1.0	-1.0
0143	04/06/1993	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	0.0040	2.0	-0.2	-1.0	-1.0
0143	07/13/1993	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	0.0030	2.0	-0.2	-1.0	-1.0
0143	10/06/1993	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0010	-0.3	-0.2	-1.0	-1.0
0143	04/13/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	-0.0003	3.3	-0.2	-1.0	4.7
0143	07/20/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	0.0020	-2.0	-0.2	-1.0	1.2
0143	10/04/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.04	-0.10	-0.05	-0.001	-0.10	0.0020	-1.7	-0.2	-1.0	-1.0
0143	01/04/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	-0.02	-0.10	-0.05	-0.001	-0.10	0.0020	-1.8	-0.2	-1.0	-1.0
0143	04/05/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	-0.02	-0.10	-0.05	-0.001	-0.10	0.0020	-1.2	-0.2	-1.0	-1.0
0143	07/06/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	-0.03	-0.10	-0.05	0.001	-0.10	-0.0003	-1.5	-0.2	-1.0	-1.0
0143	10/03/1995	-0.10	0.004	-0.010	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0018	1.6	-0.2	-1.0	-1.0
0143	01/03/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0014	3.5	0.4	1.0	2.1
0143	04/02/1996	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	-0.0003	-1.5	-0.2	-1.0	-1.0
0143	07/07/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0020	-1.2	-0.2	-1.0	3.8
0143	10/01/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	0.003	-0.10	-0.0003	-1.3	-0.2	-1.0	-1.0
0143	01/21/1997	-0.10	0.002	-0.010	-0.01	-0.01	-0.05	0.04	-0.10	-0.05	-0.001	-0.10	-0.0003	-1.2	-0.2	-1.0	-1.0
0143	04/08/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	-0.001	-0.10	-0.0003	-1.2	-0.2	-1.0	-1.0
0143	07/08/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.01	-0.10	-0.05	-0.001	-0.10	-0.0003	-1.5	-0.2	-1.0	-1.0
0143	10/07/1997	-0.10	-0.001	-0.010	-0.01	0.01	-0.05	0.03	-0.10	-0.05	-0.001	-0.10	-0.0003	-1.2	-0.2	-1.0	-1.0
0143	01/15/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	-0.01	-0.10	-0.05	-0.001	-0.10	0.0013	-1.2	-0.2	-1.0	-1.0
0143	04/07/1998	-0.10	0.001	-0.010	-0.005	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0015	-1.2	-0.2	-1.0	-1.0
0143	07/07/1998	-0.10	0.001	-0.010	-0.005	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0009	-1.2	-0.2	-1.0	-1.0
0143	10/06/1998	-0.10	0.006	-0.010	-0.005	-0.01	-0.05	0.10	-0.10	-0.05	-0.001	-0.10	0.0081	-1.6	-0.2	-1.0	-1.0
0143	01/05/1999	-0.10	0.004	-0.010	-0.005	-0.01	-0.05	0.09	-0.10	-0.05	-0.001	-0.10	0.0148	-1.2	-0.2	-1.0	-1.0
0143	04/06/1999	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0014	-1.9	-0.2	-1.0	-1.0
0143	07/13/1999	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	0.02	-0.10	-0.05	-0.001	-0.10	0.0011	-1.2	-0.2	-1.0	-1.0

TABLE D.1

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard EPA Standard	NA NA	NA NA	NA NA	NA 3,170	NA NA	NA NA	NA NA	NA NA	NA NA	NA 2,160	NA 250	NA NA	NA 30.0	0.001 NA	0.001 NA	0.005 NA
0515 A	04/03/1989	6920.20	4.3	3.95	7,146	485	818	298	11.3	0.0	4,955	46.1	1.16	75.0	0.00450	-0.001	0.016
0515 A	07/23/1989	6920.50	4.5	4.63	7,411	482	871	340	12.6	18.0	4,982	52.5	0.39	86.0	0.01400	-0.001	-0.005
0515 A	10/12/1989	6920.80	4.7	4.60	7,650	439	861	328	15.8	4.1	4,583	77.8	0.39	84.0	0.01200	-0.001	-0.005
0515 A	01/10/1990	6919.60	4.0	3.94	9,350	449	1,017	335	13.7	0.0	6,227	36.8	3.79	52.0	0.00840	-0.001	-0.005
0515 A	04/05/1990	6918.80	3.9	3.98	9,405	451	1,073	331	13.3	0.0	6,237	30.8	3.25	55.0	0.01180	-0.001	-0.005
0515 A	07/03/1990	6918.10	4.0	4.18	9,187	435	941	320	12.7	0.0	6,084	59.4	0.67	54.2	0.02240	-0.001	-0.005
0515 A	10/03/1990	6917.80	4.4	4.32	9,021	440	992	390	15.7	0.0	5,728	82.6	0.17	51.6	0.02540	-0.001	-0.005
0515 A	01/15/1991	6916.90	4.4	4.31	9,290	523	1,146	407	16.7	0.0	6,476	68.5	0.65	58.5	0.04200	-0.001	-0.005
0515 A	04/03/1991	6916.60	4.6	4.88	9,254	459	1,159	387	12.9	16.0	5,627	83.0	0.31	41.4	0.07530	-0.001	-0.005
0515 A	07/17/1991	6916.50	4.5	4.60	8,966	486	940	342	13.2	12.0	6,653	83.5	0.79	38.6	0.03840	-0.001	-0.005
0515 A	10/15/1991	6916.20	4.8	4.92	9,118	410	749	453	15.0	9.5	5,832	108	-0.05	19.9	0.10200	-0.001	-0.005
0515 A	01/15/1992	6916.10	4.5	4.61	9,035	409	814	396	12.6	16.8	5,854	90.3	0.18	26.5	0.10900	-0.001	-0.005
0515 A	04/08/1992	6916.20	4.3	5.30	9,087	430	723	416	14.5	19.8	5,710	130	1.23	19.2	0.02400	-0.001	-0.005
0515 A	07/08/1992	6915.80	4.3	4.78	8,447	438	687	511	17.7	5.3	5,892	109	1.78	31.0	0.06300	-0.001	-0.005
0515 A	10/07/1992	6915.70	4.6	4.10	8,989	450	953	470	19.4	0.0	6,028	78.2	0.43	15.1	0.04820	-0.001	-0.005
0515 A	01/06/1993	6915.60	5.3	4.98	7,144	415	776	384	13.0	19.3	4,980	145	0.71	21.8	0.10200	-0.001	-0.005
0515 A	04/06/1993	6915.60	4.7	4.55	8,962	389	863	471	12.5	2.5	5,942	150	0.35	27.1	0.08900	-0.001	-0.005
0515 A	07/13/1993	6915.00	5.0	4.60	8,790	449	1,088	458	14.0	7.1	5,755	195	1.14	29.3	0.13300	-0.001	-0.005
0515 A	10/06/1993	6914.80	6.0	6.22	8,235	454	1,038	479	12.6	554	5,500	225	0.94	38.0	0.25500	-0.001	-0.005
0515 A	01/06/1994	6914.70	5.5	6.13	8,633	436	862	478	11.3	373	5,042	227	2.18	45.7	0.31500	-0.001	-0.005
0515 A	04/12/1994	6914.40	5.7	5.98	8,306	433	868	440	11.3	183	5,305	223	2.17	51.9	0.27700	-0.001	-0.005
0515 A	07/20/1994	6913.90	5.6	6.91	8,197	483	902	419	12.5	206	5,157	195	0.97	45.6	0.27100	-0.001	-0.005
0515 A	10/04/1994	6914.00	5.6	6.62	8,173	496	924	493	12.6	260	5,276	236	1.64	51.8	0.24100	-0.001	-0.005
0515 A	01/04/1995	6913.70	5.5	6.69	8,234	485	945	443	14.1	266	5,293	212	1.42	49.0	0.21300	-0.001	-0.005
0515 A	04/04/1995	6913.40	5.6	5.91	7,657	488	802	488	14.1	185	5,196	240	2.00	58.5	0.18200	-0.001	-0.005
0515 A	07/06/1995	6912.90	5.8	7.09	8,297	475	926	449	13.1	315	5,060	236	3.99	49.7	0.18100	-0.001	-0.005
0515 A	10/03/1995	6912.90	5.8	7.16	8,311	490	928	477	13.0	421	5,042	253	6.81	53.3	0.26400	-0.001	-0.005
0515 A	01/03/1996	6912.70	5.8	6.43	8,017	450	876	468	13.5	475	4,830	252	5.60	56.9	0.23600	-0.001	-0.005
0515 A	04/02/1996	6912.40	6.0	7.53	8,300	506	997	457	14.0	392	5,380	279	6.57	61.0	0.24700	-0.001	-0.005
0515 A	07/07/1996	6912.20	5.3	5.94	8,117	447	853	426	13.6	210	4,670	250	1.76	54.7	0.21100	-0.001	-0.005
0515 A	10/01/1996	6912.00	5.7	6.58	8,270	441	910	457	14.5	342	4,834	288	6.97	53.5	0.23800	-0.001	-0.005
0515 A	01/21/1997	6911.90	5.6	6.77	8,110	449	979	455	15.0	428	5,140	253	8.03	48.8	0.23900	-0.001	-0.005
0515 A	04/08/1997	6911.70	5.5	7.37	8,220	456	865	449	15.0	331	4,388	294	6.41	58.5	0.23000	-0.001	-0.005
0515 A	07/08/1997	6911.20	6.4	6.75	8,260	502	950	466	15.1	296	5,130	300	5.39	57.9	0.23800	-0.001	-0.005
0515 A	10/07/1997	6911.20	5.5	6.71	8,200	490	906	450	14.6	254	4,790	265	6.04	56.4	0.24200	-0.001	-0.005
0515 A	01/15/1998	6911.00	5.7	6.80	8,040	455	860	439	14.7	228	4,800	287	10.40	64.8	0.26200	-0.001	-0.005
0515 A	04/07/1998	6911.00	5.5	7.14	8,190	429	821	444	14.1	276	4,420	257	6.47	58.9	0.23600	-0.001	-0.005
0515 A	07/07/1998	6910.90	5.8	7.61	8,170	481	912	456	14.5	291	4,500	291	6.90	63.9	0.27000	-0.001	-0.005
0515 A	10/06/1998	6910.50	5.69	7.32	8,170	465	910	468	15.5	317	5,000	286	3.89	70.5	0.21000	-0.001	-0.005
0515 A	01/05/1999	6910.00	5.7	7.18	8,200	412	867	410	14.2	306	4,900	287	6.47	57.4	0.21000	-0.001	-0.005
0515 A	04/06/1999	6910.10	5.5	6.59	8,130	444	889	404	13.7	292	4,600	286	6.52	57.8	0.19000	-0.001	-0.005
0515 A	07/13/1999	6909.88	5.7	7.42	7,930	486	938	440	18	272	4,800	254	4.52	62.8	0.17200	-0.001	-0.005

TABLE D.1

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.050	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0515 A	04/03/1989		-0.001	-0.050	-0.01		-0.05	11.00		0.23	0.020	-0.10	0.0028	21.0	9.2	1.4	13.6
0515 A	07/23/1989	12.00	-0.001	-0.050	-0.01	0.07	-0.05	7.70	-0.10	0.26	-0.001	-0.10	0.0029	15.7	-0.2	3.0	23.1
0515 A	10/12/1989	15.00	-0.001	-0.050	-0.01	0.09	-0.05	8.50	-0.01	0.26	0.019	-0.10	0.0040	-4.2	-0.2	1.6	3.9
0515 A	01/10/1990	110.00	-0.001	-0.050	-0.01	0.26	-0.05	23.00	-0.10	0.37	-0.001	-0.10	0.0100	14.9	1.7	3.5	9.7
0515 A	04/05/1990	150.00	-0.001	-0.050	-0.01	0.31	-0.05	24.00	-0.10	0.46	-0.001	-0.10	0.0080	10.4	1.8	2.2	7.3
0515 A	07/03/1990	110.00	-0.001	-0.050	-0.01	0.18	-0.05	17.60	-0.10	0.35	-0.001	-0.10	0.0107	13.1	-0.2	-1.0	7.0
0515 A	10/03/1990	75.60	-0.001	-0.050	-0.01	0.17	-0.05	12.80	-0.10	0.31	-0.001	-0.10	0.0050	11.6	-0.2	-1.0	4.0
0515 A	01/15/1991	48.40	-0.001	0.010	0.01	0.16	-0.05	11.60	-0.10	0.32	-0.001	-0.10	0.0070	12.4	-0.2	-1.0	5.7
0515 A	04/03/1991	60.70	-0.001	-0.010	-0.01	0.11	-0.05	7.10	-0.10	0.20	-0.001	-0.10	0.0030	13.3	-0.2	2.0	6.0
0515 A	07/17/1991	45.80	-0.001	0.020	-0.01	0.24	-0.05	14.70	-0.10	0.50	-0.001	-0.10	0.0110	6.2	-0.2	-1.0	3.0
0515 A	10/15/1991	3.30	-0.001	-0.010	-0.01	0.22	-0.05	14.40	-0.10	0.19	-0.001	-0.10	0.0200	11.4	-0.2	-1.0	3.0
0515 A	01/15/1992	26.60	-0.001	0.020	-0.01	0.02	-0.05	15.50	-0.10	0.31	0.010	-0.10	0.0120	7.0	-0.2	4.2	3.0
0515 A	04/08/1992	16.20	0.003	0.010	-0.01	0.19	-0.05	13.60	-0.10	0.27	0.010	-0.10	0.0130	9.8	-0.2	-1.0	3.6
0515 A	07/08/1992	21.00	0.001	-0.010	-0.01	0.19	-0.05	15.70	-0.10	0.26	0.001	-0.10	0.0200	14.2	-0.2	1.6	3.7
0515 A	10/07/1992	48.80	-0.001	-0.010	-0.01	0.28	-0.05	18.70	-0.10	0.38	-0.001	-0.10	0.0200	12.8	-0.2	-1.0	5.9
0515 A	01/06/1993	10.20	-0.001	0.010	-0.01	0.21	-0.05	14.20	-0.10	0.34	0.004	-0.10	0.0150	12.4	-0.2	-1.0	5.9
0515 A	04/06/1993	35.60	-0.001	0.013	-0.01	0.26	-0.05	18.80	-0.10	0.37	0.001	-0.10	0.0150	12.4	-0.2	4.4	3.6
0515 A	07/13/1993	5.73	-0.001	-0.010	-0.01	0.20	-0.05	14.00	-0.10	0.28	-0.001	-0.10	0.0120	9.1	-0.2	2.9	3.4
0515 A	10/06/1993	1.87	-0.001	-0.010	-0.01	0.13	-0.05	9.81	-0.10	0.27	-0.001	-0.10	0.0040	10.5	-0.2	2.6	3.9
0515 A	01/06/1994	2.92	-0.001	-0.010	-0.01	0.15	-0.05	12.10	-0.10	0.26	-0.001	-0.10	0.0040	8.2	-0.2	-1.0	10.6
0515 A	04/12/1994	1.51	-0.001	-0.010	-0.01	-0.01	-0.05	10.60	-0.10	0.21	0.001	-0.10	0.0300	5.8	-0.2	3.9	5.0
0515 A	07/20/1994	1.42	-0.001	-0.010	-0.01	0.18	-0.05	11.40	-0.10	0.25	0.001	-0.10	0.0020	13.5	-0.2	-1.0	24.2
0515 A	10/04/1994	2.45	-0.001	-0.010	-0.01	0.16	-0.05	15.30	-0.10	0.31	-0.001	-0.10	0.0030	10.3	-0.2	1.0	12.3
0515 A	01/04/1995	1.70	-0.001	-0.010	-0.01	0.11	-0.05	10.20	-0.10	0.42	-0.001	-0.10	0.0040	10.9	-0.2	-1.0	13.4
0515 A	04/04/1995	2.04	-0.001	-0.010	-0.01	0.13	-0.05	11.00	-0.10	0.15	-0.001	-0.10	0.0020	12.2	-0.2	2.9	16.1
0515 A	07/06/1995	0.25	-0.001	-0.010	-0.01	0.02	-0.05	2.52	-0.10	-0.05	0.002	-0.10	0.0044	7.2	0.3	-1.0	16.1
0515 A	10/03/1995	0.65	0.002	-0.010	-0.01	0.07	-0.05	11.10	-0.10	0.13	-0.001	-0.10	0.0057	-4.6	-0.2	-1.0	13.6
0515 A	01/03/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	11.40	-0.10	0.14	-0.001	-0.10	0.0038	6.5	0.8	-1.0	7.4
0515 A	04/02/1996	0.60	-0.001	-0.010	-0.01	0.08	-0.05	11.80	-0.10	0.14	-0.001	-0.10	-0.0003	6.3	-0.2	-1.0	5.4
0515 A	07/07/1996	1.42	-0.001	-0.010	-0.01	0.11	-0.05	12.90	-0.10	0.17	-0.001	-0.10	0.0023	-3.6	-0.2	-1.0	3.4
0515 A	10/01/1996	0.85	-0.001	-0.010	-0.01	0.08	-0.05	13.20	-0.10	0.15	0.002	-0.10	0.0028	7.5	-0.2	-1.0	3.8
0515 A	01/21/1997	0.97	-0.001	-0.010	-0.01	0.07	-0.05	12.20	-0.10	0.14	-0.001	-0.10	0.0040	6.5	-0.2	-1.0	2.5
0515 A	04/08/1997	0.75	-0.001	-0.010	-0.01	0.07	-0.05	12.10	-0.10	0.15	0.069	-0.10	0.0019	9.4	-0.2	-1.0	13
0515 A	07/08/1997	1.27	-0.001	-0.010	-0.01	0.09	-0.05	14.60	-0.10	0.15	-0.001	-0.10	0.0030	6.3	-0.2	-1.0	2.2
0515 A	10/07/1997	0.98	-0.001	-0.010	-0.01	0.08	-0.05	12.90	-0.10	0.17	-0.001	-0.10	0.0030	-3.1	-0.2	-1.0	3.2
0515 A	01/15/1998	2.00	-0.001	-0.010	-0.005	0.10	-0.05	15.60	-0.10	0.19	-0.001	-0.10	0.0025	7.1	-0.2	-1.0	2.4
0515 A	04/07/1998	0.78	-0.001	-0.010	-0.005	0.08	-0.05	12.10	-0.10	0.17	-0.001	-0.10	0.0034	8.2	-0.2	-1.0	4.1
0515 A	07/07/1998	0.87	-0.001	-0.010	-0.005	0.07	-0.05	13.90	-0.10	0.15	-0.001	-0.10	0.0031	7.1	-0.2	-1.0	3.8
0515 A	10/06/1998	0.51	-0.001	-0.010	-0.005	0.06	-0.05	11.8	-0.10	0.15	-0.001	-0.10	0.0049	3.5	-0.2	-1.0	2.8
0515 A	01/05/1999	0.69	-0.001	-0.010	0.011	0.05	-0.05	12.3	-0.10	0.12	-0.001	-0.10	0.0035	6.1	-0.2	-1.0	2.5
0515 A	04/06/1999	0.86	-0.001	-0.010	0.006	0.07	-0.05	13.6	-0.10	0.15	-0.001	-0.10	0.0029	8.2	-0.2	-1.0	3.1
0515 A	07/13/1999	0.40	-0.001	-0.010	0.006	0.05	-0.05	13.6	-0.10	0.13	-0.001	-0.10	0.0036	5.2	-0.2	-1.0	2

TABLE D.1
ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard EPA Standard	NA NA	NA NA	NA NA	NA 3,170	NA NA	NA NA	NA NA	NA NA	NA NA	NA 2,160	NA 250	NA NA	NA 30.0	0.001 NA	0.001 NA	0.005 NA
0516 A*	04/03/1989	6919.10	4.2	4.15	12,312	459	1,568	377	8.8	0.0	6,360	253	24.00	147	-0.00100	-0.001	0.0051
0516 A*	07/23/1989	6918.70	4.2	4.08	12,629	454	1,519	399	9.3	0.0	6,605	207	30.50	146	-0.00100	-0.001	-0.005
0516 A*	10/12/1989	6918.50	4.4	4.22	11,560	449	1,343	358	13.6	0.0	6,992	264	39.80	188	-0.00100	-0.001	-0.005
0516 A*	01/10/1990	6917.80	4.4	4.31	10,892	463	1,281	409	11.7	0.0	6,654	230	25.00	181	-0.00100	-0.001	-0.005
0516 A*	04/06/1990	6917.40	4.5	4.27	11,343	463	1,300	379	12.1	0.0	6,989	216	57.30	186	-0.00100	-0.001	-0.005
0516 A*	07/03/1990	6916.40	4.2	4.28	11,462	472	1,212	359	10.2	0.0	7,003	216	95.50	208	-0.00100	-0.001	-0.005
0516 A*	10/09/1990	6915.60	4.6	4.51	10,430	429	1,243	416	13.3	0.1	6,467	203	78.00	208	-0.00100	-0.001	-0.005
0516 A*	01/15/1991	6915.10	4.6	4.50	10,179	482	1,207	436	19.4	0.0	5,983	261	80.80	240	-0.00100	-0.001	-0.005
0516 A*	04/02/1991	6914.40	4.9	4.99	10,493	464	1,250	387	13.4	25.0	6,165	267	97.90	240	-0.00100	-0.001	-0.005
0516 A*	07/17/1991	6913.80	4.8	5.75	9,771	430	1,097	390	12.8	100	6,873	326	74.00	281	-0.00100	-0.001	-0.005
0516 A*	10/15/1991	6911.40	5.1	6.39	9,878	450	1,068	451	16.5	213	6,047	275	99.00	234	-0.00100	-0.001	-0.005
0516 A*	01/15/1992	6913.20	4.9	4.70	9,588	403	1,186	364	11.9	21.6	6,079	241	201.00	93.5	0.00120	-0.001	-0.005
0516 A*	04/08/1992	6912.90	4.9	5.51	10,129	444	669	395	15.1	83.0	6,152	389	117.00	97.1	0.00160	-0.001	-0.005
0516 A*	07/08/1992	6912.40	4.8	6.21	9,577	495	916	413	25.2	117	6,065	234	129.00	119	0.00140	0.002	-0.005
0516 A*	10/07/1992	6912.20	5.0	5.19	9,800	492	1,090	433	17.2	73.2	6,244	229	80.10	15.9	0.00130	-0.001	-0.005
0516 A*	01/06/1993	6912.10	5.1	5.70	8,137	502	889	398	15.5	168	5,252	245	93.70	144	0.00210	0.002	-0.005
0516 A*	04/06/1993	6911.80	5.4	6.26	9,954	423	1,037	456	13.7	250	6,106	252	112.00	141	0.00180	-0.001	-0.005
0516 A*	07/13/1993	6911.20	5.6	6.48	9,291	485	1,102	401	14.4	421	5,879	241	92.90	142	0.00230	-0.001	-0.005
0516 A*	10/07/1993	6910.50	5.8	6.16	9,168	481	1,109	417	13.3	348	5,596	255	101.00	169	0.00160	-0.001	-0.005
0516 A*	01/06/1994	6910.70	5.7	6.26	10,048	478	1,044	445	12.7	477	5,747	237	112.00	150	0.00250		
0516 A*	04/12/1994	6910.20	5.8	6.52	9,862	472	1,121	413	14.6	610	5,815	249	138.00	155	0.00087		
0516 A*	07/20/1994	6906.80	6.0	6.96	10,276	526	1,293	389	17.6	953	6,286	246	149.00	157	0.00204		
0516 A*	10/04/1994	6909.50	6.2	7.37	10,221	533	1,221	488	17.2	949	6,371	249	164.00	138	0.00160		
0516 A*	01/04/1995	6909.10	6.1	7.01	10,761	495	1,245	458	19.0	939	6,901	255	198.00	130	0.00180		
0516 A*	04/05/1995	6908.80	6.1	6.36	10,757	505	1,275	478	20.7	1,069	6,510	255	180.00	133	0.00130		
0516 A*	07/06/1995	6903.90	6.2	7.21	10,428	491	1,290	476	18.7	1,302	6,259	258	164.00	129	0.00190		
0516 A*	10/03/1995	6903.70	6.1	7.44	10,761	527	1,298	450	19.4	1,332	6,394	238	178.00	126	0.00172		
0516 A*	01/03/1996	6908.20	6.4	7.03	11,314	469	1,340	485	18.5	1,302	6,480	237	137.00	142	0.00176		
0516 A*	04/02/1996	6904.10	6.4	7.29	11,345	527	1,530	491	19.0	1,320	7,150	259	152.00	146	0.00209		
0516 A*	07/07/1996	6904.20	6.1	7.15	11,529	465	1,480	485	19.6	1,309	6,190	240	150.00	134	0.00256		
0516 A*	10/01/1996	6903.80	6.4	6.93	11,500	494	1,600	485	18.9	1,270	6,640	247	149.00	128	0.00213		
0516 A*	01/22/1997	6903.70	6.1	7.36	11,200	510	1,560	481	20.5	1,420	6,760	241	155.00	110	0.00246		
0516 A*	04/08/1997	6902.20	6.3	7.57	11,500	457	1,320	484	19.7	1,360	6,500	258	136.00	126	0.00206		
0516 A*	07/08/1997	6902.10	6.7	7.61	11,700	528	1,580	507	19.7	1,360	7,120	271	135.00	124	0.00226		
0516 A*	10/07/1997	6901.40	6.3	7.45	11,600	516	1,480	480	18.4	1,370	6,530	258	132.00	106	0.00250		
0516 A*	01/15/1998	6902.50	6.4	7.59	11,600	474	1,450	493	20.2	1,370	7,100	293	129.00	137	0.00290		
0516 A*	04/07/1998	6901.40	6.2	7.39	11,800	450	1,310	469	18.2	1,360	6,220	230	141.00	116	0.00300		
0516 A*	07/07/1998	6902.10	6.5	7.36	11,800	491	1,450	492	18.5	1,380	6,500	257	145.00	117	0.00300		
0516 A*	10/06/1998	6902.10	6.25	7.66	11,800	478	1,460	514	20.7	1,390	7,000	256	140.00	132	0.00290		
0516 A*	01/05/1999	6902.20	6.4	7.57	11,900	421	1,400	446	19.2	1,350	7,100	259	152.00	103	0.00220		
0516 A*	04/06/1999	6902.40	6.3	7.28	11,900	456	1,480	461	17.7	1,350	6,840	246	137.00	118	0.00180		
0516 A*	07/13/1999	6901.04	6.5	7.78	11,900	485	1,540	518	24.9	1,370	6,920	254	137.00	106	0.00260		

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.050	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0516 A*	04/03/1989		-0.001	-0.050	-0.01		-0.05	33.00		0.47	-0.001	0.10	0.0018	11.0	-0.2	-1.0	26.0
0516 A*	07/23/1989	240.00	-0.001	-0.050	-0.01	0.45	-0.05	37.00	-0.10	0.05	-0.001	-0.10	0.0023	21.9	-0.2	2.9	53.8
0516 A*	10/12/1989	150.00	-0.001	-0.050	-0.01	0.40	0.12	29.00	-0.01	0.41	0.010	-0.10	0.0050	21.4	-0.2	1.8	2.5
0516 A*	01/10/1990	110.00	-0.001	-0.050	-0.01	0.42	-0.05	25.00	-0.10	0.35	-0.001	-0.10	0.0030	7.7	-0.2	-1.0	3.5
0516 A*	04/06/1990	130.00	-0.001	-0.050	-0.01	0.35	-0.05	27.00	-0.10	0.34	-0.001	-0.10	0.0040	8.6	-0.2	-1.0	4.0
0516 A*	07/03/1990	144.00	-0.001	-0.050	-0.01	0.25	-0.05	28.00	-0.10	0.45	0.001	-0.10	0.0029	6.3	-0.2	-1.0	3.0
0516 A*	10/09/1990	80.30	-0.001	-0.050	-0.01	0.25	-0.05	21.90	-0.10	0.30	-0.001	-0.10	0.0035	7.9	-0.2	-1.0	4.0
0516 A*	01/15/1991	42.60	-0.001	0.010	-0.01	0.24	-0.05	20.60	-0.10	0.32	-0.001	-0.10	0.0028	12.9	-0.2	-1.0	6.7
0516 A*	04/02/1991	20.50	-0.001	-0.010	-0.01	0.19	-0.05	20.30	-0.10	0.28	-0.001	-0.10	0.0003	12.8	-0.2	3.9	6.0
0516 A*	07/17/1991	12.30	-0.001	-0.010	-0.01	0.22	-0.05	18.70	-0.10	0.27	0.002	-0.10	0.0010	5.4	-0.2	-1.0	2.0
0516 A*	10/15/1991	4.18	-0.001	-0.010	-0.01	0.18	-0.05	15.30	-0.10	0.22	0.002	-0.10	0.0040	10.8	-0.2	-1.0	1.0
0516 A*	01/15/1992	22.20	-0.001	0.010	-0.01	0.21	-0.05	19.20	-0.10	0.29	0.063	-0.10	0.0630	11.3	-0.2	-1.0	2.0
0516 A*	04/08/1992	11.40	0.002	0.010	-0.01	0.20	-0.05	15.80	-0.10	0.22	0.001	-0.10	0.0010	11.8	-0.2	-1.0	2.0
0516 A*	07/08/1992	6.56	-0.001	-0.010	-0.01	0.17	-0.05	16.20	-0.10	0.21	-0.001	-0.10	0.0020	9.3	-0.2	2.6	2.5
0516 A*	10/07/1992	29.30	-0.001	-0.010	-0.01	0.23	-0.05	18.00	-0.10	0.28	0.003	-0.10	-0.0003	10.0	-0.2	3.0	4.6
0516 A*	01/06/1993	7.80	-0.001	0.010	0.01	0.41	-0.05	16.00	-0.10	0.37	0.009	-0.10	0.0050	7.1	-0.2	-1.0	3.9
0516 A*	04/06/1993	2.90	-0.001	-0.010	-0.01	0.14	-0.05	13.00	-0.10	0.21	0.001	-0.10	0.0040	3.2	-0.2	2.8	2.0
0516 A*	07/13/1993	2.00	-0.001	-0.010	-0.01	0.13	-0.05	10.30	-0.10	0.17	0.005	-0.10	0.0030	5.7	-0.2	3.0	2.0
0516 A*	10/07/1993	2.40	-0.001	-0.010	-0.01	0.18	-0.05	12.40	-0.10	0.22	0.002	-0.10	0.0070	7.7	-0.2	-1.0	4.0
0516 A*	01/06/1994	2.87	-0.001	-0.010	-0.01	0.11	-0.05	10.20	-0.10	0.15	-0.001	-0.10	0.0010	5.1	-0.2	-1.0	6.8
0516 A*	04/12/1994	0.97	-0.001	-0.010	-0.01	0.08	-0.05	7.80	-0.10	0.14	0.001	-0.10	0.0030	8.4	-0.2	1.5	11.3
0516 A*	07/20/1994	0.46	-0.001	-0.010	-0.01	0.05	-0.05	4.95	-0.10	0.08	-0.001	-0.10	0.0110	6.9	-0.2	-1.0	8.6
0516 A*	10/04/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	5.22	-0.10	-0.05	0.001	-0.10	0.0130	-5.3	-0.2	3.4	4.5
0516 A*	01/04/1995	0.24	-0.001	-0.010	-0.01	0.04	-0.05	4.74	-0.10	0.08	-0.001	-0.10	0.0100	4.3	-0.2	2.0	5.9
0516 A*	04/05/1995	0.12	-0.001	-0.010	-0.01	-0.01	-0.05	3.74	-0.10	-0.05	0.001	-0.10	0.0160	3.6	-0.2	3.1	4.9
0516 A*	07/06/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.79	-0.10	-0.05	0.003	-0.10	0.0183	-1.9	0.2	-1.0	2.0
0516 A*	10/03/1995	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	2.54	-0.10	-0.05	0.001	-0.10	0.0256	-2.3	-0.2	-1.0	2.5
0516 A*	01/03/1996	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	2.34	-0.10	-0.05	-0.001	-0.10	0.0140	2.5	-0.2	1.7	2.7
0516 A*	04/02/1996	-0.10	0.002	-0.010	-0.01	-0.01	-0.05	2.10	-0.10	-0.05	-0.001	-0.10	0.0140	-1.8	-0.2	-1.0	1.4
0516 A*	07/07/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.00	-0.10	-0.05	-0.001	-0.10	0.0180	-1.7	-0.2	-1.0	-1.0
0516 A*	10/01/1996	-0.10	-0.001	-0.010	-0.01	0.02	-0.05	2.20	-0.10	-0.05	0.002	-0.10	0.0130	-1.9	-0.2	-1.0	-1.0
0516 A*	01/22/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.79	-0.10	-0.05	-0.001	-0.10	0.0160	4.4	-0.2	-1.0	-1.0
0516 A*	04/08/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.77	-0.10	-0.05	0.078	-0.10	0.0160	5.2	-0.2	-1.0	-1.0
0516 A*	07/08/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.80	-0.10	-0.05	-0.001	-0.10	0.0150	-1.8	-0.2	-1.0	-1.0
0516 A*	10/07/1997	-0.10	-0.001	-0.010	-0.01	0.02	-0.05	1.83	-0.10	-0.05	-0.001	-0.10	0.0150	-2.2	-0.2	-1.0	-1.0
0516 A*	01/15/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	2.03	-0.10	-0.05	-0.001	-0.10	0.0200	-2.1	-0.2	-1.0	-1.0
0516 A*	04/07/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	1.61	-0.10	-0.05	-0.001	-0.10	0.0190	-2.2	-0.2	-1.0	-1.0
0516 A*	07/07/1998	-0.10	-0.001	-0.010	-0.005	0.02	-0.05	1.59	-0.10	-0.05	-0.001	-0.10	0.0181	-2.1	-0.2	-1.0	2.2
0516 A*	10/06/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	1.57	-0.1	-0.05	-0.001	-0.10	0.0211	2.7	-0.2	-1.0	-1.0
0516 A*	01/05/1999	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	1.66	-0.1	-0.05	-0.001	-0.10	0.0189	2.7	-0.2	-1.0	-1.0
0516 A*	04/06/1999	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	1.59	-0.1	-0.05	0.001	-0.10	0.0197	4.1	-0.2	-1.0	-1.0
0516 A*	07/13/1999	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	1.67	-0.1	-0.05	0.001	-0.10	0.0199	-1.7	-0.2	-1.0	-1.0

Refer to page 1 for explanatory notes

TABLE D.1
ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	0.001	0.005
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30.0	NA	NA	NA
0604*	04/03/1989	6917.80	3.9	4.37	6,418	470	650	217	10.7	0.0	4,736	68.3	8.90	18.4	-0.00100	-0.001	-0.005
0604*	07/23/1989	6917.20	3.9	4.04	6,697	454	707	251	11.6	0.0	3,891	21.4	6.39	31.0	-0.00100	-0.001	-0.005
0604*	10/12/1989	6916.40	3.9	4.11	6,728	428	644	235	14.6	0.0	4,407	33.7	6.05	39.0	-0.00100	-0.001	-0.005
0604*	01/10/1990	6915.80	3.9	4.06	6,602	444	691	291	13.7	0.0	4,325	23.1	6.70	33.0	-0.00100	-0.001	-0.005
0604*	04/05/1990	6914.90	4.2	4.20	6,806	455	670	240	11.6	0.0	4,352	33.4	6.80	43.0	-0.00100	-0.001	-0.005
0604*	07/03/1990	6914.60	4.0	4.24	6,824	461	662	240	9.6	0.0	4,321	26.8	5.38	50.9	-0.00100	-0.001	-0.005
0604*	10/03/1990	6914.80	4.1	4.11	6,616	453	628	264	13.3	0.0	4,290	31.1	3.27	44.0	-0.00100	-0.001	-0.005
0604*	01/15/1991	6914.30	4.1	4.21	6,802	475	710	265	15.2	0.0	4,627	31.6	5.48	52.0	-0.00100	-0.001	-0.005
0604*	04/02/1991	6914.50	4.2	4.51	6,380	432	659	215	11.1	0.0	4,923	33.0	4.60	58.5	-0.00100	-0.001	-0.005
0604*	07/17/1991	6914.40	4.0	4.46	6,949	408	624	218	11.1	0.0	5,307	28.4	5.34	51.4	-0.00100	-0.001	-0.005
0604*	10/15/1991	6914.40	3.9	4.26	6,909	432	570	275	12.5	0.0	4,502	34.7	7.86	47.3	-0.00100	-0.001	-0.005
0604*	01/15/1992	6914.20	3.8	4.11	6,837	414	702	222	10.0	0.0	4,554	31.6	3.70	35.4	-0.00100	-0.001	-0.005
0604*	04/08/1992	6914.10	3.8	4.24	7,106	454	654	252	12.2	0.0	4,691	40.8	3.75	41.4	-0.00100	-0.001	-0.005
0604*	07/08/1992	6914.00	3.7	4.22	6,654	495	610	285	12.3	0.0	4,669	33.3	3.94	49.2	-0.00100	-0.001	-0.005
0604*	10/07/1992	6913.50	4.1	4.04	7,185	447	702	273	15.1	0.0	4,860	35.5	3.80	15.7	-0.00100	-0.001	-0.005
0604*	01/06/1993	6913.30	4.3	4.45	5,855	411	642	236	12.0	0.0	4,042	56.3	2.09	88.6	0.00120	-0.001	-0.005
0604*	04/06/1993	6913.10	4.4	4.36	7,409	414	687	284	10.2	0.0	4,639	62.0	1.83	89.1	-0.00100	-0.001	-0.005
0604*	07/13/1993	6912.80	4.4	4.30	7,711	449	816	265	11.9	0.0	4,973	62.7	1.45	84.4	0.00100	-0.001	-0.005
0604*	10/07/1993	6912.30	4.5	4.24	6,891	475	785	250	10.8	0.0	4,744	47.6	1.07	91.8	-0.00100	-0.001	-0.005
0604*	01/06/1994	6912.40	4.3	4.32	7,520	450	691	243	10.3	0.0	4,543	52.6	1.19	97.6	0.00180	-0.001	-0.005
0604*	04/12/1994	6912.10	4.4	4.39	7,215	423	729	254	10.2	0.0	4,838	51.6	2.70	90.7	-0.00100	-0.001	-0.005
0604*	07/20/1994	6911.90	4.5	4.33	7,069	491	856	232	11.2	0.0	4,790	60.6	1.02	89.2	-0.00100	-0.001	-0.005
0604*	10/04/1994	6911.40	4.5	4.38	7,504	493	837	280	11.6	0.0	4,935	60.0	1.61	92.5	-0.00100	-0.001	-0.005
0604*	01/04/1995	6919.30	4.4	4.50	7,621	490	835	256	12.5	0.0	5,023	62.6	1.67	86.9	-0.00100	-0.001	-0.005
0604*	04/05/1995	6919.20	4.5	4.50	7,614	475	850	260	12.0	0.5	4,870	53.0	1.97	92.5	-0.00100	-0.001	-0.005
0604*	07/06/1995	6919.10	4.5	4.42	6,741	455	760	260	11.5	0.0	4,650	60.2	1.83	87.7	-0.00100	-0.001	-0.005
0604*	10/03/1995	6911.50	4.6	4.49	7,616	496	877	279	11.5	0.0	5,010	58.0	1.19	87.6	-0.00100	-0.001	-0.005
0604*	01/03/1996	6911.20	4.7	4.43	7,223	440	827	277	11.8	0.0	4,760	54.5	0.20	96.1	-0.00100	-0.001	-0.005
0604*	04/02/1996	6911.30	4.7	4.58	7,638	497	920	260	12.0	2.5	5,180	64.2	0.15	100	-0.00100	-0.001	-0.005
0604*	07/07/1996	6910.60	4.4	4.48	7,742	452	816	262	12.4	0.0	4,610	64.3	0.24	83.2	-0.00100	-0.001	-0.005
0604*	10/01/1996	6910.30	4.8	4.52	7,690	464	850	265	12.3	0.9	4,708	57.9	0.36	88.7	-0.00100	-0.001	-0.005
0604*	01/22/1997	6910.20	4.8	4.61	7,560	441	897	262	12.4	3.9	4,830	57	0.21	74.9	-0.00100	-0.001	-0.005
0604*	04/08/1997	6909.90	4.6	4.56	7,650	539	458	170	8.0	3.0	3,370	45	0.19	87.9	-0.00100	-0.001	-0.005
0604*	07/08/1997	6910.00	5.5	4.60	7,740	496	904	275	12.9	3.4	5,050	69.2	0.21	83.8	-0.00100	-0.001	-0.005
0604*	10/07/1997	6909.60	4.5	4.63	7,590	489	868	261	12.4	5.1	4,790	62.1	0.38	77.3	-0.00100	-0.001	-0.005
0604*	01/15/1998	6910.40	4.7	4.61	7,530	474	847	271	13.0	2.9	5,100	75.1	0.79	89.8	-0.00100	-0.001	-0.005
0604*	04/07/1998	6909.70	4.5	4.73	7,570	489	773	255	11.8	7.4	4,300	60.9	0.35	87.4	-0.00100	-0.001	-0.005
0604*	07/07/1998	6908.90	4.9	4.64	7,600	471	860	274	12.5	4.1	4,600	61.5	0.46	80.7	-0.00100	-0.001	-0.005
0604*	10/06/1998	6908.90	4.55	4.63	7,760	463	874	287	13.7	3.7	4,860	61.6	0.78	89.3	-0.00100	-0.001	-0.005
0604*	01/05/1999	6908.90	4.7	4.6	7,830	420	851	257	12.7	3.0	5,100	64.9	0.45	70.7	-0.00100	-0.001	-0.005
0604*	04/06/1999	6908.40	4.6	4.69	7,980	446	893	259	12.2	5.0	4,740	62.7	0.83	92.4	-0.00100	-0.001	-0.005
0604*	07/13/1999	6907.80	4.6	4.61	8,030	479	964	292	16.3	3.0	5,120	55.3	0.57	73.2	-0.00100	-0.001	-0.005

TABLE D.1

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard EPA Standard	NA NA	NA NA	NA NA	NA 3,170	NA NA	NA NA	NA NA	NA NA	NA NA	NA 2,160	NA 250	NA NA	NA 30.0	0.001 NA	0.001 NA	0.005 NA
0614*	04/03/1989	6930.20	6.6	6.97	6,306	724	643	406	6.8	1,763	2,896	370	33.30	112	0.01100	-0.001	0.031
0614*	07/23/1989	6929.30	6.6	6.84	6,868	697	672	491	9.8	1,501	3,485	381	51.00	99	0.08200	-0.001	-0.005
0614*	10/12/1989	6929.00	6.5	6.98	6,734	624	612	479	11.6	1,540	3,002	377	38.60	126	0.05900	-0.001	-0.005
0614*	01/10/1990	6928.00	6.4	6.80	6,892	609	640	491	10.6	1,586	3,121	359	69.00	108	0.10000	-0.001	-0.005
0614*	04/05/1990	6927.50	6.4	7.06	6,877	622	680	492	11.2	1,632	3,277	350	94.00	107	0.16400	-0.001	-0.005
0614*	07/03/1990	6926.60	6.3	6.86	6,754	640	619	429	10.9	1,492	2,996	341	111.00	151	0.15200	-0.001	-0.005
0614*	10/03/1990	6926.30	6.3	7.23	6,567	585	577	507	14.1	1,362	2,894	334	76.60	106	0.17600	-0.001	-0.005
0614*	01/15/1991	6926.40	6.4	6.96	6,633	647	623	478	9.6	1,412	3,253	322	68.00	125	0.17000	-0.001	-0.005
0614*	04/02/1991	6926.20	6.4	7.18	6,539	619	495	420	10.1	1,257	3,165	322	78.30	131	0.25400	-0.001	-0.005
0614*	07/17/1991	6925.90	6.4	7.49	6,970	573	551	443	9.7	1,680	3,645	327	69.40	169	0.38000	-0.001	-0.005
0614*	10/15/1991	6925.30	6.3	7.15	7,145	664	526	418	10.0	1,515	3,239	313	53.80	119	0.36100	-0.001	-0.005
0614*	01/15/1992	6925.20	6.3	7.34	7,026	584	645	449	10.1	1,268	3,376	287	94.90	123	0.32500	-0.001	-0.005
0614*	04/08/1992	6925.10	6.3	7.48	7,207	691	601	486	10.8	1,568	3,603	279	101.00	70.2	0.47100	-0.001	-0.005
0614*	07/08/1992	6924.80	6.2	7.51	6,583	697	496	640	11.3	1,512	3,249	274	79.80	116	0.30300	-0.001	-0.005
0614*	10/07/1992	6924.70	6.4	8.08	6,914	661	577	566	12.9	803	3,248	273	48.60	15.8	0.42600	-0.001	-0.005
0614*	01/06/1993	6924.50	6.4	7.04	6,464	626	563	487	10.8	1,459	3,008	270	86.10	117	0.52700	-0.001	-0.005
0614*	04/06/1993	6924.40	6.5	7.26	7,340	616	607	521	10.1	1,620	3,518	288	97.40	47.5	0.40000	-0.001	-0.005
0614*	07/13/1993	6923.90	6.5	7.11	7,485	651	607	506	10.7	1,454	3,370	262	103.00	146	0.55300	-0.001	-0.005
0614*	10/07/1993	6923.60	6.7	6.95	7,439	642	660	476	10.8	1,431	3,505	244	105.00	166	0.66700	-0.001	-0.005
0614*	01/06/1994	6923.40	6.7	7.14	7,380	594	565	485	10.0	1,221	3,435	242	91.40	192	0.61700	-0.001	-0.005
0614*	04/12/1994	6923.10	6.6	6.96	7,496	576	650	446	11.5	1,174	3,743	242	142.00	170	0.86600	-0.001	-0.005
0614*	07/20/1994	6922.70	6.5	7.28	7,490	641	748	425	13.5	1,322	4,078	231	140.00	140	0.79900	-0.001	-0.005
0614*	10/04/1994	6922.60	6.6	7.54	7,700	642	750	519	14.4	1,465	4,430	246	170.00	149	0.82900	-0.001	-0.005
0614*	01/04/1995	6922.30	6.5	7.38	7,528	606	636	446	15.2	1,330	4,176	237	213.00	155	0.52000	-0.001	-0.005
0614*	04/04/1995	6922.00	6.5	6.90	7,731	604	654	451	15.0	1,370	4,048	277	183.00	171	0.75600	-0.001	-0.005
0614*	07/06/1995	6922.40	6.5	7.93	7,816	565	685	440	15.4	1,331	4,000	241	227.00	154	0.58500	-0.001	-0.005
0614*	10/03/1995	6921.30	6.5	7.71	7,857	560	690	445	16.0	1,357	4,040	205	222.00	179	0.63800	-0.001	-0.005
0614*	01/03/1996	6921.10	6.6	7.20	7,886	543	750	470	17.7	1,352	4,260	204	234.00	179	0.58300	-0.001	-0.005
0614*	04/02/1996	6920.60	6.5	7.92	7,896	605	852	442	17.2	1,286	4,780	221	262.00	182	0.62400	-0.001	-0.005
0614*	07/07/1996	6920.30	6.3	6.99	8,045	537	750	432	18.5	1,313	4,210	238	243.00	181	0.58700	-0.001	-0.005
0614*	10/01/1996	6919.70	6.5	6.89	8,120	574	805	436	18.4	1,320	4,394	223	288.00	189	0.58800	-0.001	-0.005
0614*	01/21/1997	6919.80	6.0	7.01	7,850	555	800	437	18.8	1,272	4,355	201	290.00	188	0.63500	-0.001	-0.005
0614*	04/08/1997	6919.00	6.6	7.79	7,970	531	760	428	18.7	1,280	4,360	218	271.00	226	0.48200	-0.001	-0.005
0614*	07/08/1997	6918.60	6.8	7.81	8,100	594	841	449	18.6	1,290	4,520	233	264.00	223	0.44400	-0.001	-0.005
0614*	10/07/1997	6918.30	6.4	7.62	7,930	602	816	420	16.9	1,320	4,170	262	253.00	200	0.46100	-0.001	-0.005
0614*	01/15/1998	6917.80	6.9	8.01	7,980	558	775	446	17.0	1,330	4,200	267	225.00	214	0.28900	-0.001	-0.005
0614*	04/07/1998	6917.70	6.8	7.72	7,930	516	739	447	14.0	1,440	3,740	218	170.00	162	0.37700	-0.001	-0.005
0614*	07/07/1998	6917.10	6.8	7.96	7,990	579	823	466	14.0	1,490	3,600	281	171.00	202	0.39200	-0.001	-0.005
0614*	10/06/1998	6916.90	7.16	7.87	7,730	563	822	496	12.2	1,380	4,050	261	100	115	0.17600	-0.001	-0.005
0614*	01/05/1999	6916.20	6.9	7.86	7,900	551	786	434	9.9	1,520	4,000	262	81.2	85.5	0.25500	-0.001	-0.005
0614*	04/06/1999	6916.20	6.7	7.9	7,910	552	844	436	10.2	1,590	3,780	261	71.5	81.3	0.25800	-0.001	-0.005
0614*	07/13/1999	6915.51	7	7.73	7,680	605	891	439	12.7	1,280	4,000	239	58.1	90.7	0.18800	-0.001	-0.005

TABLE D.1

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.050	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0614*	04/03/1989		-0.001	-0.050	-0.01		-0.05	0.07		-0.05	0.003	-0.10	0.0668	-2.2	-0.2	-1.0	3.0
0614*	07/23/1989	-0.10	-0.001	-0.050	-0.01	-0.01	-0.05	0.13	-0.10	-0.05	0.003	-0.10	0.0624	6.3	0.6	-1.0	8.9
0614*	10/12/1989	0.18	-0.001	-0.050	-0.01	-0.01	-0.05	0.08	-0.01	-0.05	0.020	-0.10	0.0640	5.5	-0.2	2.1	1.5
0614*	01/10/1990	-0.10	-0.001	-0.050	0.01	-0.01	-0.05	0.06	-0.10	-0.05	0.002	-0.10	0.0640	-1.6	-0.2	-1.0	0.9
0614*	04/05/1990	-0.10	-0.001	-0.050	-0.01	-0.01	-0.05	0.09	-0.10	-0.05	0.003	-0.10	0.0450	-2.0	-0.2	-1.0	1.7
0614*	07/03/1990	0.13	-0.001	-0.050	-0.01	-0.01	-0.05	0.07	-0.10	-0.05	0.002	-0.10	0.0611	2.5	-0.2	-1.0	-1.0
0614*	10/03/1990	0.10	0.005	-0.050	-0.01	-0.01	-0.05	0.08	-0.10	-0.05	-0.001	-0.10	0.0360	3.4	-0.2	-1.0	-1.0
0614*	01/15/1991	0.20	-0.001	-0.010	-0.01	-0.01	-0.05	0.09	-0.10	-0.05	0.001	-0.10	0.0425	-2.9	-0.2	1.3	2.3
0614*	04/02/1991	0.11	-0.001	-0.010	-0.01	-0.02	-0.05	0.08	-0.10	-0.05	-0.002	-0.10	0.0589	4.5	2.2	1.3	3.0
0614*	07/17/1991	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.10	-0.10	-0.05	0.002	-0.10	0.0640	-1.5	-0.2	-1.0	-1.0
0614*	10/15/1991	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	0.11	-0.10	-0.05	0.003	-0.10	0.0760	6.1	-0.2	-1.0	-1.0
0614*	01/15/1992	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.12	-0.10	-0.05	0.059	-0.10	0.0390	-1.4	-0.2	-1.0	-1.0
0614*	04/08/1992	-0.10	0.003	-0.010	-0.01	-0.01	-0.05	0.14	-0.10	-0.05	0.004	-0.10	0.0510	4.8	-0.2	-1.0	-1.0
0614*	07/08/1992	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	0.17	-0.10	-0.05	0.003	-0.10	0.0500	4.4	-0.2	-1.0	1.1
0614*	10/07/1992	0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.15	-0.10	-0.05	0.005	-0.10	0.0780	5.8	-0.2	1.9	1.8
0614*	01/06/1993	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.19	-0.10	-0.05	0.012	-0.10	0.0820	5.1	-0.2	-1.0	3.9
0614*	04/06/1993	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.24	-0.10	-0.05	0.003	-0.10	0.0720	7.0	-0.2	-1.0	2.1
0614*	07/13/1993	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.16	-0.10	-0.05	0.008	-0.10	0.0660	4.8	-0.2	2.3	1.9
0614*	10/07/1993	-0.10	-0.001	-0.010	-0.01	0.02	-0.05	0.17	-0.10	-0.05	0.002	-0.10	0.0370	1.8	-0.2	1.8	2.9
0614*	01/06/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.17	-0.10	-0.05	-0.001	-0.10	0.0480	-2.6	-0.2	-1.0	2.6
0614*	04/12/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.21	-0.10	-0.05	0.004	-0.10	0.0520	-2.5	-0.2	5.2	1.7
0614*	07/20/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.24	-0.10	-0.05	0.001	-0.10	0.0540	4.7	-0.2	-1.0	3.8
0614*	10/04/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.41	-0.10	-0.05	-0.001	-0.10	0.0590	3.0	-0.2	-1.0	4.1
0614*	01/04/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.23	-0.10	-0.05	-0.001	-0.10	0.0400	4.2	-0.2	-1.0	5.6
0614*	04/04/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.33	-0.10	-0.05	0.001	-0.10	0.0440	4.1	-0.2	-1.0	5.7
0614*	07/06/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.30	-0.10	-0.05	0.003	-0.10	0.0520	15.6	0.5	-1.0	22.8
0614*	10/03/1995	-0.10	0.003	-0.010	-0.01	-0.01	-0.05	0.31	-0.10	-0.05	-0.001	-0.10	0.0450	2	-0.2	1.7	6.2
0614*	01/03/1996	-0.10	0.002	-0.010	-0.01	-0.01	-0.05	0.35	-0.10	-0.05	-0.001	-0.10	0.0470	7.2	0.7	1.5	12
0614*	04/02/1996	-0.10	0.003	-0.010	-0.01	-0.01	-0.05	0.32	-0.10	-0.05	-0.001	-0.10	0.0500	4.6	-0.2	-1.0	3.5
0614*	07/07/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.37	-0.10	-0.05	-0.001	-0.10	0.0530	-5.9	-0.2	-1.0	5.3
0614*	10/01/1996	0.60	-0.001	-0.010	-0.01	-0.01	-0.05	0.41	-0.10	-0.05	0.002	-0.10	0.0440	-2.6	-0.2	-1.0	2.1
0614*	01/21/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.41	-0.10	-0.05	-0.001	-0.10	0.0380	4.7	-0.2	-1.0	-1.0
0614*	04/08/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.39	-0.10	-0.05	0.074	-0.10	0.0490	11.4	-0.2	-1.0	20.4
0614*	07/08/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.42	-0.10	-0.05	-0.001	-0.10	0.0430	-2.5	-0.2	-1.0	-1.0
0614*	10/07/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	0.47	-0.10	-0.05	-0.001	-0.10	0.0510	8.1	-0.2	-1.0	7.8
0614*	01/15/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	0.44	-0.10	-0.05	-0.001	-0.10	0.0590	-2.4	-0.2	-1.0	-1.0
0614*	04/07/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	0.32	-0.10	-0.05	-0.001	-0.10	0.0600	-3.2	-0.2	-1.0	-1.0
0614*	07/07/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	0.34	-0.10	-0.05	-0.001	-0.10	0.0631	-3.3	-0.2	-1.0	2.3
0614*	10/06/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	0.26	-0.10	-0.05	-0.001	-0.10	0.0732	-1.6	-0.2	-1.0	-1.0
0614*	01/05/1999	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	0.23	-0.10	-0.05	-0.001	-0.10	0.0682	2.29	-0.2	-1.0	-1.0
0614*	04/06/1999	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	0.26	-0.10	-0.05	0.001	-0.10	0.0641	6.5	-0.2	5.2	3.3
0614*	07/13/1999	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	0.23	-0.10	-0.05	0.001	-0.10	0.0672	2.1	-0.2	-1.0	-1.0

TABLE D.1

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	0.001	0.005
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30.0	NA	NA	NA
0619	04/03/1989	6887.90	6.8	7.76	5,148	551	563	157	8.2	238	3,729	19.2	0.55	0.39	-0.00100	-0.001	-0.005
0619	07/23/1989	6888.10	6.6	6.50	5,513	593	596	184	8.4	176	3,852	35.0	0.61	0.34	-0.00100	-0.001	-0.005
0619	10/12/1989	6888.20	6.7	7.28	5,086	486	491	158	11.1	229	3,251	36.6	0.44	1.56	-0.00100	-0.001	-0.005
0619	01/10/1990	6887.60	6.5	7.08	5,278	505	539	168	8.8	206	3,360	40.5	0.74	1.01	-0.00100	-0.001	-0.005
0619	04/06/1990	6887.60	6.8	6.92	4,840	527	512	150	8.8	251	2,966	38.5	0.69	0.22	-0.00100	-0.001	-0.005
0619	07/03/1990	6887.00	6.5	7.32	5,020	527	478	151	7.8	234	3,160	34.2	0.27	0.09	-0.00100	-0.001	-0.005
0619	10/03/1990	6886.90	6.7	7.21	4,526	487	392	147	10.1	254	2,738	36.6	0.13	-0.01	-0.00100	-0.001	-0.005
0619	01/15/1991	6887.20	6.5	6.59	5,538	572	611	185	12.1	176	3,616	41.4	0.54	0.18	-0.00100	-0.001	-0.005
0619	04/02/1991	6887.60	6.4	6.50	5,610	479	459	172	8.0	184	3,589	43.1	0.63	1.00	-0.00100	-0.001	-0.005
0619	07/17/1991	6888.10	6.4	7.15	5,446	452	471	168	7.9	195	3,882	43.7	0.68	0.17	-0.00100	-0.001	-0.005
0619	10/15/1991	6888.50	6.4	7.02	5,399	540	508	189	7.6	165	3,520	44.8	0.63	0.17	-0.00100	-0.001	-0.005
0619	01/15/1992	6888.60	6.4	7.34	5,182	455	544	177	7.8	231	3,398	53.5	1.20	0.87	-0.00100	-0.001	-0.005
0619	04/08/1992	6888.60	6.4	6.52	5,323	537	466	204	9.4	180	3,504	41.8	0.82	-0.10	-0.00100	-0.001	-0.005
0619	07/08/1992	6888.70	6.3	7.64	5,017	500	548	302	12.9	175	3,863	41.7	1.04	3.70	-0.00100	-0.001	-0.005
0619	10/07/1992	6889.00	6.5	7.26	5,257	538	499	222	10.2	168	3,427	39.5	0.59	5.20	-0.00100	-0.001	-0.005
0619	01/06/1993	6889.30	6.5	7.06	5,176	563	507	315	12.6	166	3,487	252	0.13	51.8	-0.00100	-0.001	-0.005
0619	04/06/1993	6889.70	6.6	7.14	5,314	487	439	213	7.0	272	3,359	46.6	0.68	0.60	-0.00100	-0.001	-0.005
0619	07/13/1993	6889.60	6.6	6.66	5,057	531	471	200	8.1	190	3,310	46.2	0.66	0.29	-0.00100	-0.001	-0.005
0619	10/07/1993	6889.50	6.5	6.57	4,615	512	460	188	7.4	165	3,207	43.5	0.50	-0.10	-0.00100	-0.001	-0.005
0619	01/06/1994	6889.80	6.6	7.01	5,111	505	416	179	7.0	171	3,192	50.5	2.23	-0.10	-0.00100		
0619	04/12/1994	6889.70	6.6	7.03	4,764	502	432	177	7.0	173	3,035	45.8	1.64	39.8	-0.00100		
0619	07/20/1994	6889.50	6.6	6.66	5,111	565	427	158	7.5	177	3,424	45.5	0.60	-0.10	-0.00100		
0619	10/04/1994	6889.70	6.7	7.56	5,045	573	453	187	8.1	200	3,658	46.0	0.62	-0.10	-0.00100		
0619	01/04/1995	6889.50	6.5	7.21	5,078	580	432	172	8.8	203	3,349	44.8	1.19	-0.10	-0.00100		
0619	04/05/1995	6889.40	6.7	6.94	5,148	540	500	174	7.7	212	3,405	47.0	1.30	0.13	-0.00100		
0619	07/06/1995	6888.00	6.7	7.66	4,288	515	410	153	7.2	216	2,963	40.0	0.74	-0.10	-0.00100		
0619	10/03/1995	6888.90	6.3	7.78	4,677	530	457	175	7.5	192	3,255	41.0	0.74	0.17	-0.00100		
0619	01/03/1996	6888.80	6.7	7.31	4,731	505	445	182	7.8	179	3,260	39.5	0.62	0.12	-0.00100		
0619	04/02/1996	6888.60	6.8	7.90	5,039	545	473	164	7.9	204	3,395	47.0	0.52	0.11	-0.00100		
0619	07/07/1996	6888.30	6.4	7.15	5,207	515	450	180	8.6	179	3,195	50.0	0.69	-0.10	-0.00100		
0619	10/01/1996	6888.10	6.4	6.95	5,140	547	478	182	8.1	190	3,232	47.1	0.46	-0.10	-0.00100		
0619	01/22/1997	6888.50	6.2	7.53	5,060	540	490	177	8.1	182	3,350	44.0	0.42	-0.10	-0.00100		
0619	04/08/1997	6887.80	6.5	7.82	5,110	539	458	170	8.0	193	3,370	45.0	0.20	0.17	-0.00100		
0619	07/08/1997	6887.40	7.1	7.73	5,130	586	514	182	8.3	190	3,510	49.2	0.50	0.21	-0.00100		
0619	10/07/1997	6887.30	6.2	7.78	5,080	569	483	178	8.2	217	3,190	47.1	0.46	-0.10	-0.00100		
0619	01/15/1998	6887.20	6.9	8.09	5,310	521	484	187	8.8	190	3,300	55.0	0.67	0.13	-0.00100		
0619	04/07/1998	6887.10	6.6	7.42	5,280	504	469	176	7.9	188	3,120	41.1	0.42	0.26	-0.00100		
0619	07/07/1998	6886.70	6.9	7.61	5,210	505	478	181	8.4	195	3,200	40.7	0.63	-0.10	-0.00100		
0619	10/06/1998	6887.00	6.83	7.88	5,390	535	532	197	9.4	191	3,480	44.8	0.42	0.42	-0.00100		
0619	01/05/1999	6886.20	6.8	7.72	5,350	523	497	175	8.5	186	3,500	44.3	0.33	0.17	-0.00100		
0619	04/06/1999	6886.40	6.7	7.79	5,430	528	534	167	8.1	181	3,440	54.4	0.57	0.21	-0.00100		
0619	07/13/1999	6885.69	6.6	7.96	5,400	551	565	195	11.4	194	3,460	50.3	0.49	0.29	-0.00100		

TABLE D.1

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.050	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
0619	04/03/1989		-0.001	-0.050	-0.01		-0.05	1.90		-0.05	-0.001	-0.10	0.0067	-1.9	1.4	-1.0	2.3
0619	07/23/1989	-0.10	-0.001	-0.050	-0.01	-0.010	-0.05	2.00	-0.10	-0.05	-0.001	-0.10	0.0034	6.2	4.9	-1.0	9.1
0619	10/12/1989	-0.10	-0.001	-0.050	-0.01	0.020	-0.05	1.30	-0.10	-0.05	-0.001	-0.10	0.0110	3.3	-0.2	-1.0	1.7
0619	01/10/1990	-0.10	-0.001	-0.050	-0.01	0.030	-0.05	1.40	-0.10	-0.05	-0.001	-0.10	0.0090	3.1	-0.2	-1.0	1.5
0619	04/06/1990	-0.10	-0.001	-0.050	-0.01	-0.010	-0.05	1.00	-0.10	-0.05	0.001	-0.10	0.0090	3.7	-0.2	-1.0	2.5
0619	07/03/1990	-0.10	-0.001	-0.050	-0.01	0.010	-0.05	1.23	-0.10	-0.05	-0.001	-0.10	0.0068	-2.7	0.5	-1.0	2.0
0619	10/03/1990	-0.10	-0.001	-0.050	-0.01	0.030	-0.05	0.89	-0.10	-0.05	-0.001	-0.10	0.0080	4.0	-0.2	-1.0	-1.0
0619	01/15/1991	-0.10	-0.001	-0.010	0.01	-0.010	-0.05	2.50	-0.10	-0.05	-0.001	-0.10	0.0050	7.3	-0.2	-1.0	3.1
0619	04/02/1991	0.12	-0.001	-0.010	-0.01	0.010	-0.05	2.01	-0.10	-0.05	-0.001	-0.10	0.0050	5.0	-0.2	-1.0	2.0
0619	07/17/1991	-0.10	-0.001	-0.010	-0.01	0.010	-0.05	-0.01	-0.10	-0.05	-0.001	-0.10	0.0040	2.1	0.2	-1.0	1.0
0619	10/15/1991	0.27	0.001	-0.010	-0.01	-0.01	-0.05	2.22	-0.10	-0.05	-0.001	-0.10	0.0090	5.2	-0.2	-1.0	-1.0
0619	01/15/1992	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.82	-0.10	-0.05	0.003	-0.10	0.0070	2.4	-0.2	-1.0	1.0
0619	04/08/1992	-0.10	0.002	-0.010	-0.01	-0.01	-0.05	1.92	-0.10	-0.05	-0.001	-0.10	0.0060	2.5	-0.2	-1.0	-1.0
0619	07/08/1992	0.14	-0.001	-0.010	-0.01	-0.01	-0.05	1.91	-0.10	-0.05	0.001	-0.10	0.0030	6.2	-0.2	-1.0	1.5
0619	10/07/1992	-0.10	0.002	-0.010	-0.01	-0.01	-0.05	2.04	-0.10	-0.05	-0.001	-0.10	0.0003	4.9	-0.2	-1.0	1.9
0619	01/06/1993	-0.10	0.003	-0.010	-0.01	0.01	-0.05	0.66	-0.10	-0.05	0.003	-0.10	0.0070	10.3	-0.2	-1.0	-1.0
0619	04/06/1993	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.90	-0.10	-0.05	-0.001	-0.10	0.0070	7.9	-0.2	-1.0	-1.0
0619	07/13/1993	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.80	-0.10	-0.05	-0.001	-0.10	0.0060	4.9	-0.2	-1.0	1.8
0619	10/07/1993	0.32	0.002	-0.010	-0.01	0.01	-0.05	1.75	-0.10	-0.05	0.002	-0.10	0.0050	10.3	-0.2	-1.0	1.4
0619	01/06/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.80	-0.10	-0.05	-0.001	-0.10	0.0040	5.0	-0.2	-1.0	7.4
0619	04/12/1994	0.21	-0.001	-0.010	-0.01	0.02	-0.05	1.75	-0.10	-0.05	-0.001	-0.10	0.0050	9.9	-0.2	-1.0	14.0
0619	07/20/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.57	-0.10	-0.05	-0.001	-0.10	0.0100	2.8	-0.2	-1.0	3.6
0619	10/04/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.85	-0.10	-0.05	-0.001	-0.10	0.0120	3.2	-0.2	-1.0	4.3
0619	01/04/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.45	-0.10	-0.05	-0.001	-0.10	0.0100	5.2	-0.2	-1.0	7.3
0619	04/05/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.78	-0.10	-0.05	-0.001	-0.10	0.0080	4.4	-0.2	-1.0	5.9
0619	07/06/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.65	-0.10	-0.05	-0.001	-0.10	0.0065	4.2	0.6	-1.0	2.7
0619	10/03/1995	-0.10	0.002	-0.010	-0.01	-0.01	-0.05	1.79	-0.10	-0.05	-0.001	-0.10	0.0101	-2.3	-0.2	-1.0	3.1
0619	01/03/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.78	-0.10	-0.05	-0.001	-0.10	0.0067	-2.5	1	-1.0	2.5
0619	04/02/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.71	-0.10	-0.05	-0.001	-0.10	0.0180	6.5	-0.2	-1.0	3.5
0619	07/07/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.9	-0.10	-0.05	-0.001	-0.10	0.0080	-2.7	-0.2	-1.0	1.1
0619	10/01/1996	0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.86	-0.10	-0.05	0.001	-0.10	0.0036	-2.5	-0.2	-1.0	2
0619	01/22/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.84	-0.10	-0.05	-0.001	-0.10	0.0080	-2.3	-0.2	-1.0	-1.0
0619	04/08/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.87	-0.10	-0.05	0.004	-0.10	0.0056	6.2	-0.2	-1.0	4.7
0619	07/08/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	1.94	-0.10	-0.05	-0.001	-0.10	0.0050	6.8	-0.2	-1.0	-1.0
0619	10/07/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.05	-0.10	-0.05	-0.001	-0.10	0.0070	-3	-0.2	-1.0	-1.0
0619	01/15/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	2.26	-0.10	-0.05	-0.001	-0.10	0.0100	7.9	-0.2	-1.0	7.5
0619	04/07/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	1.94	-0.10	-0.05	-0.001	-0.10	0.0062	8.3	-0.2	-1.0	2.3
0619	07/07/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	1.97	-0.10	-0.05	-0.001	-0.10	0.0051	4.8	-0.2	-1.0	-1.0
0619	10/06/1998	-0.10	-0.001	-0.010	-0.005	0.01	-0.05	2.04	-0.10	-0.05	-0.001	-0.10	0.0160	4.6	-0.2	-1.0	-1.0
0619	01/05/1999	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	2.17	-0.10	-0.05	-0.001	-0.10	0.0072	5.4	-0.2	-1.0	2.4
0619	04/06/1999	-0.10	-0.001	-0.010	0.005	-0.01	-0.05	2.19	-0.10	-0.05	-0.001	-0.10	0.0053	7.3	-0.2	-1.0	2
0619	07/13/1999	-0.10	-0.001	-0.010	0.005	-0.01	-0.05	2.34	-0.10	-0.05	-0.001	-0.10	0.0072	4.4	-0.2	-1.0	-1.0

TABLE D.1

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
NRC Standard		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	0.001	0.005
EPA Standard		NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30.0	NA	NA	NA
EPA 02	04/20/1989	6843.30	6.5	6.89	3,936	503	257	242	8.4	234	2,674	31.7	0.64	0.03	-0.00100	-0.001	-0.005
EPA 02	07/26/1989	6843.90	6.8	6.80	3,959	526	275	267	8.9	256	2,463	32.1	0.89	0.01	-0.00100	-0.001	-0.005
EPA 02	10/05/1989	6844.30	6.4	7.00	4,088	528	264	268	11.7	262	2,589	29.7	0.89	0.08	-0.00100	-0.001	-0.005
EPA 02	01/17/1990	6844.80	6.2	6.62	3,622	446	216	265	8.2	293	2,197	29.3	0.77	0.12	-0.00100	-0.001	-0.005
EPA 02	04/18/1990	6845.00	6.5	6.80	3,704	440	220	250	7.8	293	2,173	30.3	0.88	0.03	-0.00100	-0.001	-0.005
EPA 02	07/17/1990	6844.90	6.6	6.70	3,623	479	208	253	8.5	305	2,104	28.8	0.51	0.05	-0.00100	-0.001	-0.005
EPA 02	10/16/1990	6845.10	6.4	7.17	3,965	445	230	259	7.5	259	2,462	36.2	0.79	0.01	-0.00100	-0.001	-0.005
EPA 02	01/08/1991	6845.30	6.5	6.85	3,834	451	236	263	11.0	264	2,388	35.6	0.76	0.01	-0.00100	-0.001	-0.005
EPA 02	04/17/1991	6845.80	6.3	7.37	3,708	452	238	268	7.6	284	2,300	24.6	0.67	-0.01	-0.00100	-0.001	-0.005
EPA 02	07/03/1991	6846.00	6.4	6.83	4,500	523	285	230	7.8	183	3,175	38.1	1.07	-0.01	-0.00100	-0.001	-0.005
EPA 02	10/22/1991	6846.50	6.4	6.59	3,843	475	244	242	7.7	275	2,435	34.4	0.96	0.04	-0.00100	-0.001	-0.005
EPA 02	01/23/1992	6846.70	6.5	7.02	3,478	455	235	229	7.4	226	2,364	32.6	0.88	-0.01	-0.00100	-0.001	-0.005
EPA 02	04/02/1992	6847.10	6.4	7.86	3,799	483	243	279	8.4	282	2,486	29.5	0.92	-0.01	-0.00100	-0.001	-0.005
EPA 02	07/16/1992	6846.50	6.5	6.71	3,885	412	224	290	9.0	237	2,606	33.4	0.58	0.20	-0.00100	-0.001	-0.005
EPA 02	10/15/1992	6846.70	6.3	7.02	4,554	580	300	286	10.6	198	2,890	36.1	0.92	-0.10	-0.00100	-0.001	-0.005
EPA 02	01/14/1993	6847.00	6.6	7.12	3,380	436	196	213	8.3	276	2,201	29.0	0.88	-0.10	-0.00100	-0.001	-0.005
EPA 02	04/15/1993	6847.50	6.6	7.68	3,534	455	186	255	6.3	270	2,292	30.4	0.67	0.20	-0.00100	-0.001	-0.005
EPA 02	07/21/1993	6848.20	6.6	7.43	3,321	458	207	256	8.0	315	2,247	24.3	0.40	-0.10	-0.00100	-0.001	-0.005
EPA 02	10/12/1993	6845.50	6.7	6.50	3,692	498	222	231	7.2	300	2,274	29.6	0.57	-0.10	-0.00100	-0.001	-0.005
EPA 02	01/11/1994	6847.80	6.7	7.10	2,674	353	160	194	5.6	300	1,765	26.3	0.55	-0.10	-0.00100		
EPA 02	04/19/1994	6847.90	6.6	8.05	2,781	357	159	223	6.9	284	1,771	24.3	0.78	-0.10	-0.00100		
EPA 02	07/26/1994	6848.10	6.7	6.93	3,353	469	216	223	6.8	273	2,026	26.6	0.59	-0.10	-0.00100		
EPA 02	10/11/1994	6848.00	6.7	7.70	3,036	462	182	222	6.4	304	2,057	25.2	0.71	-0.10	-0.00100		
EPA 02	01/10/1995	6848.10	6.6	7.16	3,316	486	144	208	7.6	294	2,057	27.5	0.98	-0.10	-0.00100		
EPA 02	04/06/1995	6848.50	6.7	6.91	3,267	423	183	216	6.7	295	2,070	26.5	1.06	-0.10	-0.00100		
EPA 02	07/11/1995	6848.40	6.8	7.14	2,674	390	177	203	6.2	325	1,705	25.4	0.81	-0.10	-0.00100		
EPA 02	10/10/1995	6842.60	6.7	7.43	2,782	393	156	216	6.4	321	1,741	24.2	0.60	-0.10	-0.00100		
EPA 02	01/09/1996	6848.50	6.8	7.73	2,801	382	155	213	6.7	334	1,791	24.7	0.46	-0.10	-0.00100		
EPA 02	04/10/1996	6842.70	6.9	7.70	3,018	408	168	191	6.0	321	1,831	22.7	0.52	-0.10	-0.00100		
EPA 02	07/17/1996	6848.50	6.7	6.88	3,042	390	164	208	16.0	312	1,746	29.0	0.45	-0.10	-0.00100		
EPA 02	10/08/1996	6848.70	6.7	7.17	3,150	453	198	211	6.7	315	1,866	24.5	0.56	-0.10	-0.00100		
EPA 02	01/28/1997	6848.70	6.9	7.75	3,000	400	185	190	6.2	318	1,883	29.9	0.48	-0.10	-0.00100		
EPA 02	04/15/1997	6848.70	6.7	7.77	2,970	410	184	202	6.6	325	1,775	26.4	0.46	-0.10	-0.00100		
EPA 02	07/15/1997	6848.50	6.5	7.46	3,090	411	186	192	6.6	321	1,780	27.7	0.51	-0.10	-0.00100		
EPA 02	10/15/1997	6848.50	6.6	7.64	2,920	400	185	195	6.1	322	1,740	31.6	0.50	-0.10	-0.00100		
EPA 02	01/20/1998	6849.20	6.5	7.76	3,060	407	182	208	6.9	318	2,000	26.8	0.73	-0.10	-0.00100		
EPA 02	04/14/1998	6848.90	6.4	7.47	3,130	438	199	194	6.3	316	1,830	26.2	0.54	-0.10	-0.00100		
EPA 02	07/14/1998	6848.70	7.0	7.66	3,120	385	190	207	6.9	313	1,700	22.3	0.49	-0.10	-0.00100		
EPA 02	10/06/1998	6849.50	6.6	7.82	3,390	454	227	221	7.9	292	2,150	28.6	0.75	-0.10	-0.00100		
EPA 02	01/12/1999	6849.30	6.8	7.65	3,060	364	180	181	6.7	311	1,740	27.8	0.55	-0.10	-0.00100		
EPA 02	04/13/1999	6849.50	6.7	7.69	3,110	420	182	198	6.8	304	1,800	31.3	0.64	-0.10	-0.00100		
EPA 02	07/20/1999	6849.19	6.7	7.67	3,080	385	186	187	8.8	307	1,650	29.0	0.59	-0.10	-0.00100		

Refer to page 1 for explanatory notes

ZONE 1 DATA SUMMARY
1989 - 1999

Refer to page 1 for explanatory notes

TABLE D.1

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	0.001	0.005
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30.0	NA	NA	NA
EPA 04*	04/17/1989	6868.40	6.8	7.10	4,506	529	350	217	8.5	184	2,962	36.5	0.81	-0.01	-0.00100	-0.001	-0.005
EPA 04*	07/26/1989	6868.80	6.9	5.97	4,433	559	373	242	9.1	183	3,039	37.1	0.91	0.03	-0.00100	-0.001	-0.005
EPA 04*	10/05/1989	6869.10	6.5	6.90	4,760	560	371	244	12.3	182	3,043	38.9	0.98	0.10	-0.00100	-0.001	-0.005
EPA 04*	01/16/1990	6869.40	6.5	6.76	4,554	491	343	229	9.0	217	2,919	37.5	0.99	0.10	-0.00100	-0.001	-0.005
EPA 04*	04/17/1990	6869.30	6.5	6.90	4,604	500	347	223	7.7	194	2,851	38.4	1.02	0.15	-0.00100	-0.001	-0.005
EPA 04*	07/17/1990	6869.10	6.4	6.70	4,642	526	367	226	9.2	201	2,855	36.4	0.70	0.06	-0.00100	-0.001	-0.005
EPA 04*	10/16/1990	6869.10	6.4	7.15	4,645	515	368	232	9.2	193	2,987	42.7	0.82	0.11	-0.00100	-0.001	-0.005
EPA 04*	01/08/1991	6869.00	6.5	6.65	4,644	494	337	225	17.0	185	3,039	40.1	0.99	0.04	-0.00100	-0.001	-0.005
EPA 04*	04/17/1991	6869.50	6.5	7.22	4,759	525	392	238	8.9	161	3,260	40.2	0.97	-0.01	-0.00100	-0.001	-0.005
EPA 04*	07/03/1991	6869.60	6.6	6.80	4,686	504	352	210	7.7	184	3,345	37.8	1.04	0.05	-0.00100	-0.001	-0.005
EPA 04*	10/22/1991	6870.20	6.5	6.56	4,651	502	350	221	8.2	188	2,948	44.2	1.16	0.04	-0.00100	-0.001	-0.005
EPA 04*	01/23/1992	6870.50	6.4	6.52	4,263	490	344	211	8.0	184	2,997	42.4	1.14	-0.01	-0.00100	-0.001	-0.005
EPA 04*	04/02/1992	6870.50	6.4	7.82	4,554	495	348	258	9.3	210	2,963	37.3	1.19	-0.01	-0.00100	-0.001	-0.005
EPA 04*	07/15/1992	6869.70	6.6	7.55	4,808	482	336	238	9.0	173	3,072	41.2	0.73	0.20	-0.00100	-0.001	-0.005
EPA 04*	10/14/1992	6869.80	6.8	6.87	4,904	526	357	230	8.6	174	3,164	40.2	0.79	-0.10	-0.00100	-0.001	-0.005
EPA 04*	01/13/1993	6870.00	6.6	6.98	4,631	506	343	228	9.7	177	3,107	38.8	0.21	-0.10	-0.00100	-0.001	-0.005
EPA 04*	04/15/1993		6.6	7.05	4,684	452	337	242	7.4	175	3,006	39.4	0.98	0.10	-0.00100	-0.001	-0.005
EPA 04*	07/20/1993	6871.10	6.7	7.11	4,351	519	369	211	7.8	203	3,081	37.4	0.84	-0.10	-0.00100	-0.001	-0.005
EPA 04*	10/12/1993	6868.80	7.1	6.47	4,585	533	332	217	7.8	189	2,962	34.3	0.79	-0.10	-0.00100	-0.001	-0.005
EPA 04*	01/11/1994	6869.50	6.8	6.88	4,530	543	336	219	7.2	178	3,119	35.8	0.89	-0.10	-0.00100		
EPA 04*	04/20/1994	6870.50	6.7	6.44	4,612	544	346	233	7.3	167	3,065	37.9	1.42	-0.10	-0.00100		
EPA 04*	07/26/1994	6870.40	6.7	6.45	4,420	578	359	225	8.2	172	2,863	35.7	0.93	-0.10	-0.00100		
EPA 04*	10/11/1994	6870.30	6.6	7.42	4,528	539	380	229	8.3	195	3,133	37.9	1.11	-0.10	-0.00100		
EPA 04*	01/10/1995	6870.40	6.5	6.98	4,598	640	286	210	9.5	190	3,090	38.3	1.48	-0.10	-0.00100		
EPA 04*	04/06/1995	6870.60	6.6	6.99	4,715	640	328	212	8.3	189	3,268	39.3	1.70	-0.10	-0.00100		
EPA 04*	07/11/1995	6870.30	6.8	7.44	3,894	485	325	194	7.4	253	2,490	35.1	1.29	-0.10	-0.00100		
EPA 04*	10/10/1995	6870.40	6.7	7.04	4,004	515	335	220	8.0	217	2,641	33.1	1.04	-0.10	-0.00100		
EPA 04*	01/09/1996	6870.30	6.8	7.89	4,093	505	335	213	8.3	257	2,637	34.4	0.75	-0.10	-0.00100		
EPA 04*	04/10/1996	6870.20	6.9	7.63	4,412	544	338	199	7.6	223	3,002	36.6	0.85	-0.10	-0.00100		
EPA 04*	07/17/1996	6870.20	6.8	6.76	4,161	485	300	221	8.3	216	2,580	38.0	0.69	-0.10	-0.00100		
EPA 04*	10/08/1996	6870.10	6.6	7.12	4,390	555	358	211	8.3	196	2,721	35.3	0.79	-0.10	-0.00100		
EPA 04*	01/28/1997	6870.10	6.8	7.51	4,290	510	335	192	7.8	222	2,895	44.0	0.77	-0.10	-0.00100		
EPA 04*	04/15/1997	6869.90	6.4	7.38	4,390	544	354	212	8.5	222	2,829	39.4	0.83	-0.10	-0.00100		
EPA 04*	07/15/1997	6869.50	6.5	7.22	4,320	556	338	200	8.0	227	2,800	38.9	0.79	-0.10	-0.00100		
EPA 04*	10/15/1997	6869.40	6.4	7.60	4,480	591	372	202	7.8	209	2,900	49.1	0.82	-0.10	-0.00100		
EPA 04*	01/20/1998	6870.30	6.6	7.85	4,480	588	366	216	8.7	212	3,100	41.9	1.08	-0.10	-0.00100		
EPA 04*	04/14/1998	6869.50	6.7	7.08	4,480	586	340	226	8.2	209	3,010	35.1	0.85	-0.10	-0.00100		
EPA 04*	07/14/1998	6869.20	6.6	7.25	4,620	576	366	223	8.8	200	3,000	36.7	0.86	-0.10	-0.00100		
EPA 04*	10/06/1998	6871.80	6.41	7.84	4,520	579	348	228	8.6	218	3,000	36.1	0.98	-0.10	-0.00100		
EPA 04*	01/12/1999	6869.50	6.6	7.53	4,590	615	347	199	8.0	214	3,000	37.2	0.92	-0.10	-0.00100		
EPA 04*	04/13/1999	6869.80	6.5	7.46	4,590	582	343	206	8.2	208	2,860	43.8	0.97	0.11	-0.00100		
EPA 04*	07/20/1999	6869.50	6.5	7.11	4,790	555	323	193	10.4	207	2,550	40.0	0.85	-0.10	-0.00100		

TABLE D.1

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
		NA	0.05	0.050	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
		5.0	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
EPA 04*	04/17/1989		-0.001	-0.050	-0.01		-0.05	2.80		-0.05	-0.001	-0.10	0.0004	3.1	-0.2	-1.0	1.2
EPA 04*	07/26/1989	-0.10	-0.001	-0.050	-0.01	-0.01	-0.05	3.40	-0.10	-0.05	-0.001	-0.10	0.0040	3.3	0.9	-1.0	3.0
EPA 04*	10/05/1989	-0.10	-0.001	-0.050	-0.01	-0.01	-0.05	3.10	-0.01	-0.05	-0.001	-0.10	0.0030	3.9	0.3	2.2	3.0
EPA 04*	01/16/1990	-0.10	-0.001	-0.050	-0.01	-0.01	-0.05	3.40	-0.10	-0.05	-0.001	-0.10	0.0007	4.7	2.8	-1.0	3.5
EPA 04*	04/17/1990	-0.10	-0.001	-0.050	-0.01	-0.01	-0.05	2.50	-0.10	-0.05	-0.001	-0.10	0.0020	2.4	-0.2	2.4	1.5
EPA 04*	07/17/1990	-0.10	-0.001	-0.050	-0.01	-0.01	-0.05	3.31	-0.10	-0.05	-0.001	-0.10	0.0010	5.2	-0.2	1.5	-1.0
EPA 04*	10/16/1990	-0.10	-0.001	-0.050	-0.01	0.01	-0.05	3.31	-0.10	-0.05	-0.001	-0.10	-0.0003	-2.5	-0.2	1.1	2.0
EPA 04*	01/08/1991	-0.10	-0.001	-0.010	-0.01	0.01	-0.05	3.27	-0.10	-0.05	-0.001	-0.10	-0.0003	4.2	-0.2	-1.0	2.0
EPA 04*	04/17/1991	0.11	-0.001	-0.010	-0.01	-0.01	-0.05	3.87	-0.10	-0.05	-0.001	-0.10	0.0010	5.6	-0.2	-1.0	-1.0
EPA 04*	07/03/1991	0.30	-0.001	-0.010	-0.01	0.01	-0.05	3.21	0.03	-0.05	-0.001	-0.10	0.0029	6.6	-0.2	-1.0	1.0
EPA 04*	10/22/1991	-0.10	-0.001	-0.010	-0.01	0.02	-0.05	3.28	-0.10	-0.05	-0.001	-0.10	0.0684	4.6	-0.2	1.8	-1.0
EPA 04*	01/23/1992	0.14	-0.001	-0.010	-0.01	-0.01	-0.05	2.95	-0.10	-0.05	-0.001	-0.10	0.0070	-2.2	-0.2	1.9	1.0
EPA 04*	04/02/1992	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	3.34	-0.10	-0.05	-0.001	-0.10	0.0010	5.9	-0.2	1.1	-1.0
EPA 04*	07/15/1992	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	3.19	-0.10	-0.05	-0.001	-0.10	0.0040	8.9	-0.2	-1.0	2.0
EPA 04*	10/14/1992	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	3.41	-0.10	-0.05	-0.001	-0.10	0.0290	9.0	-0.2	-1.0	2.1
EPA 04*	01/13/1993	0.10	-0.001	-0.010	-0.01	0.02	-0.05	3.47	-0.10	-0.05	-0.001	-0.10	-0.0003	14.8	-0.2	-1.0	1.1
EPA 04*	04/15/1993	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	3.55	-0.10	-0.05	-0.001	-0.10	-0.0003	2.1	-0.2	-1.0	1.2
EPA 04*	07/20/1993	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.81	-0.10	-0.05	-0.001	-0.10	-0.0003	4.6	-0.2	-1.0	1.5
EPA 04*	10/12/1993	-0.10	-0.001	-0.010	-0.01	0.01	-0.05	3.08	-0.10	-0.05	-0.001	-0.10	0.0030	3.9	-0.2	1.3	5.2
EPA 04*	01/11/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	3.59	-0.10	-0.05	-0.001	-0.10	0.0010	4.1	-0.2	-1.0	6.6
EPA 04*	04/20/1994	0.15	0.002	-0.010	-0.01	-0.01	-0.05	2.77	-0.10	-0.05	-0.001	-0.10	0.0010	5.0	-0.2	1.8	6.7
EPA 04*	07/26/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	3.40	-0.10	-0.05	-0.001	-0.10	0.0020	7.0	-0.2	-1.0	9.7
EPA 04*	10/11/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.95	-0.10	-0.05	-0.001	-0.10	0.0010	3.9	-0.2	-1.0	5.2
EPA 04*	01/10/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	3.42	-0.10	-0.05	-0.001	-0.10	0.0010	4.2	0.2	3.0	5.6
EPA 04*	04/06/1995	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	3.25	-0.10	-0.05	-0.001	-0.10	0.0010	4.4	-0.2	-1.0	6.1
EPA 04*	07/11/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.76	-0.10	-0.05	-0.001	-0.10	-0.0003	3.8	0.4	-1.0	5.0
EPA 04*	10/10/1995	-0.10	0.002	-0.010	-0.01	-0.01	-0.05	2.89	-0.10	-0.05	-0.001	-0.10	0.0008	5.7	0.4	-1.0	2.2
EPA 04*	01/09/1996	-0.10	0.003	-0.010	-0.01	-0.01	-0.05	2.83	-0.10	-0.05	-0.001	-0.10	0.0010	3.5	-0.2	2.6	-1.0
EPA 04*	04/10/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	3.20	-0.10	-0.05	-0.001	-0.10	-0.0003	4.5	-0.2	-1.0	-1.0
EPA 04*	07/17/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.85	-0.10	-0.05	-0.001	-0.10	0.0009	-1.5	-0.2	-1.0	-1.0
EPA 04*	10/08/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.89	-0.10	-0.05	-0.001	-0.10	-0.0003	-2.2	-0.2	-1.0	-1.0
EPA 04*	01/28/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.82	-0.10	-0.05	-0.001	-0.10	-0.0003	-2.5	-0.2	-1.0	2.1
EPA 04*	04/15/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.97	-0.10	-0.05	-0.001	-0.10	0.0010	2.1	-0.2	-1.0	2.3
EPA 04*	07/15/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.58	-0.10	-0.05	-0.001	-0.10	0.0009	5.1	-0.2	-1.0	-1.0
EPA 04*	10/15/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	3.06	-0.10	-0.05	-0.001	-0.10	-0.0003	-1.6	-0.2	-1.0	-1.0
EPA 04*	01/20/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	3.25	-0.10	-0.05	-0.001	-0.10	0.0011	-2	-0.2	-1.0	-1.0
EPA 04*	04/14/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	2.88	-0.10	-0.05	-0.001	-0.10	0.0011	-2.5	-0.2	-1.0	-1.0
EPA 04*	07/14/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	2.98	-0.10	-0.05	-0.001	-0.10	0.0009	4.3	-0.2	-1.0	-1.0
EPA 04*	10/06/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	2.87	-0.10	-0.05	-0.001	-0.10	0.001	5.1	-0.2	-1.0	-1.0
EPA 04*	01/12/1999	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	2.78	-0.10	-0.05	-0.001	-0.10	0.0033	5.7	-0.2	-1.0	-1.0
EPA 04*	04/13/1999	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	3.00	-0.10	-0.05	-0.001	-0.10	0.0017	5.7	-0.2	-1.0	2.2
EPA 04*	07/20/1999	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	2.33	-0.10	-0.05	-0.001	-0.10	0.0013	2.4	-0.2	-1.0	1.5

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
NRC Standard EPA Standard		NA NA	NA NA	NA NA	NA 3,170	NA NA	NA NA	NA NA	NA NA	NA NA	NA 2,160	NA 250	NA NA	NA 30.0	0.001 NA	0.001 NA	0.005 NA
EPA 05	04/17/1989	6895.20	6.6	7.25	4,684	560	454	110	7.7	322	2,985	59.3	0.21	3.10	-0.00100	-0.001	-0.005
EPA 05	07/26/1989	6895.20	6.5	6.15	5,192	625	508	151	8.5	295	3,279	93.1	0.30	15.8	-0.00100	-0.001	-0.005
EPA 05	10/05/1989	6895.40	6.1	6.90	5,726	639	531	171	12.3	512	3,255	141	0.12	29.0	-0.00100	-0.001	-0.005
EPA 05	01/16/1990	6895.60	6.1	6.40	5,698	628	539	186	9.5	567	3,175	169	0.18	53.2	-0.00100	-0.001	-0.005
EPA 05	04/17/1990	6895.50	6.0	6.80	5,882	662	555	199	9.5	671	3,159	172	0.31	53.0	-0.00100	-0.001	-0.005
EPA 05	07/17/1990	6895.10	6.0	6.46	5,886	723	548	204	10.3	672	3,146	152	0.15	41.0	-0.00100	-0.001	-0.005
EPA 05	10/16/1990	6895.00	6.0	7.11	6,192	647	540	215	9.0	742	3,391	199	0.18	53.0	-0.00100	-0.001	-0.005
EPA 05	01/08/1991	6894.80	6.1	7.22	5,554	641	485	171	7.3	586	3,088	137	0.27	36.0	-0.00100	-0.001	-0.005
EPA 05	04/17/1991	6894.90	5.9	7.43	6,608	678	591	241	10.6	380	3,536	219	0.23	68.0	-0.00100	-0.001	-0.005
EPA 05	07/03/1991	6894.60	6.1	6.69	5,926	634	512	187	8.7	326	3,440	146	0.38	99.4	-0.00100	-0.001	-0.005
EPA 05	10/22/1991	6894.70	6.0	6.95	7,076	676	712	263	10.2	653	3,873	226	0.32	43.1	-0.00100	-0.001	-0.005
EPA 05	01/23/1992	6894.70	6.1	6.81	6,207	607	679	246	9.7	312	3,679	183	0.25	26.3	-0.00100	-0.001	-0.005
EPA 05	04/02/1992	6894.60	5.9	7.21	7,719	703	695	336	13.3	1,091	4,080	289	0.32	28.9	-0.00100	-0.001	-0.005
EPA 05	07/15/1992	6894.20	6.2	7.18	7,158	570	659	328	11.4	878	3,934	192	0.23	29.6	-0.00100	-0.001	-0.005
EPA 05	10/15/1992	6894.10	6.2	6.85	7,824	612	774	365	12.9	857	4,186	215	0.19	67.4	-0.00100	-0.001	-0.005
EPA 05	01/12/1993	6894.50	6.1	6.78	8,011	599	791	344	12.7	880	4,407	214	0.19	93.5	-0.00100	-0.001	-0.005
EPA 05	04/15/1993	6894.50	6.1	7.01	7,246	621	751	303	8.8	926	4,024	179	0.34	118	-0.00100	-0.001	-0.005
EPA 05	07/20/1993	6894.30	6.2	7.14	6,893	598	748	371	9.7	1,000	3,990	224	0.22	91.6	-0.00100	-0.001	-0.005
EPA 05	10/12/1993	6892.00	6.5	6.76	7,441	599	923	345	9.4	1,177	4,387	197	0.05	72.0	-0.00100	-0.001	-0.005
EPA 05	01/11/1994	6894.00	6.5	7.19	8,037	549	857	318	8.4	1,109	4,491	208	0.15	95.2	-0.00100		
EPA 05	04/19/1994	6893.80	6.3	7.72	8,035	625	930	408	10.2	693	4,651	121	0.25	91.0	-0.00100		
EPA 05	07/26/1994	6893.70	6.3	7.32	7,684	601	926	399	9.5	1,116	4,492	209	0.12	91.9	-0.00100		
EPA 05	10/11/1994	6893.50	6.3	7.41	7,630	572	998	371	9.4	1,077	4,448	204	0.13	99.8	-0.00100		
EPA 05	01/11/1995	6893.50	6.3	7.02	8,106	581	960	325	10.8	1,032	4,533	192	0.17	87.3	-0.00100		
EPA 05	04/11/1995	6894.10	6.5	6.85	8,693	595	1,070	388	10.4	1,168	4,895	245	0.36	96.0	-0.00100		
EPA 05	07/11/1995	6893.30	6.5	7.41	8,075	547	1,043	388	9.8	1,150	4,604	205	0.47	82.9	-0.00100		
EPA 05	10/10/1995	6893.40	6.5	7.56	8,070	550	1,018	385	10.2	1,258	4,529	201	0.67	86.6	-0.00100		
EPA 05	01/09/1996	6893.20	6.6	7.52	7,693	508	966	376	10.9	1,182	4,420	198	1.44	94.0	-0.00100		
EPA 05	04/10/1996	6893.10	6.7	7.54	8,569	590	1,110	362	10.7	1,221	5,200	211	2.74	89.2	-0.00100		
EPA 05	07/17/1996	6893.00	6.4	6.87	8,522	510	957	372	11.9	1,275	4,404	221	1.05	100	0.00142		
EPA 05	10/08/1996	6892.90	6.4	7.29	8,870	581	1,091	389	12.0	1,294	4,869	211	5.80	93.1	0.00142		
EPA 05	01/28/1997	6892.70	6.5	7.81	8,450	538	1,050	343	11.3	1,208	4,620	246	6.24	86.7	-0.00100		
EPA 05	04/15/1997	6892.60	6.4	7.65	8,670	544	1,040	376	12.1	1,220	4,740	221	6.61	77.1	-0.00100		
EPA 05	07/15/1997	6892.20	6.3	7.43	8,720	555	1,010	351	12.4	1,180	4,570	216	7.60	78	-0.00100		
EPA 05	10/21/1997	6892.00	6.7	7.70	8,610	587	1,100	368	12.7	1,240	4,840	264	9.31	90	-0.00100		
EPA 05	01/20/1998	6892.60	6.4	7.75	8,290	532	1,050	372	13.8	1,100	5,000	223	8.79	81	0.00110		
EPA 05	04/14/1998	6892.40	6.6	7.16	8,500	575	1,010	374	13.2	1,220	4,720	195	1.72	84	0.00130		
EPA 05	07/14/1998	6891.90	6.6	7.69	8,620	541	963	364	14.0	1,210	4,200	201	11.40	68	0.00110		
EPA 05	10/06/1998	6897.80	6.45	7.75	8,240	540	979	370	15	1190	4,680	198	12.9	80	0.00100		
EPA 05	01/12/1999	6892.00	6.5	7.75	8,160	462	909	308	14.4	1140	4,600	192	15.5	71.2	-0.00100		
EPA 05	04/13/1999	6892.20	6.5	7.71	8,100	522	934	322	12.7	1100	4,160	191	12.9	76.4	-0.00100		
EPA 05	07/20/1999	6891.94	6.5	7.55	8,130	567	949	82	16.6	1090	4,580	198	15	73.9	-0.00100		

Refer to page 1 for explanatory notes

TABLE D.1

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30.0	0.001	0.001	0.005
EPA 07*	04/17/1989	6907.80	5.1	4.31	7,750	482	850	190	9.3	0.0	5,263	166	3.20	88.0	-0.00100	-0.001	0.022
EPA 07*	07/26/1989	6907.80	4.4	4.01	7,774	526	871	212	9.1	0.0	5,092	134	3.45	94.0	-0.00100	-0.001	-0.005
EPA 07*	10/05/1989	6908.00	4.2	4.26	8,076	497	877	221	12.0	0.0	5,272	192	3.41	69.0	-0.00100	-0.001	-0.005
EPA 07*	01/16/1990	6908.00	4.2	4.22	8,190	449	915	226	9.1	0.0	5,108	174	3.46	88.0	-0.00100	-0.001	-0.005
EPA 07*	04/17/1990	6907.70	4.2	4.30	9,172	453	1,100	226	8.7	0.0	5,392	182	3.95	96.0	-0.00100	-0.001	-0.005
EPA 07*	07/17/1990	6907.10	4.4	4.35	9,566	496	1,009	230	10.0	0.1	5,739	176	1.90	84.0	-0.00100	-0.001	-0.005
EPA 07*	10/09/1990		4.4	4.63	8,003	449	928	241	10.5	10.0	5,204	169	1.17	36.2	-0.00100	-0.001	-0.005
EPA 07*	01/03/1991		4.6	4.68	7,145	475	829	262	24.4	6.1	4,572	117	1.67	29.3	-0.00100	-0.001	-0.005
EPA 07*	04/17/1991		5.0	5.37	6,918	454	757	252	12.4	15.0	4,676	117	1.30	40.5	-0.00100	-0.001	-0.005
EPA 07*	07/11/1991		5.0	5.80	6,957	386	759	230	10.1	39.0	4,506	99.7	1.01	28.1	-0.00100	-0.001	-0.005
EPA 07*	10/17/1991		5.2	5.69	6,827	473	712	257	12.6	39.3	4,296	111	1.25	25.0	-0.00100	-0.001	-0.005
EPA 07*	01/16/1992		5.1	6.31	6,893	397	769	235	10.0	43.8	4,409	113	1.50	29.8	-0.00100	-0.001	-0.005
EPA 07*	04/13/1992		5.2	6.25	6,768	409	568	263	11.6	68.6	4,167	116	1.10	25.1	-0.00100	-0.001	-0.005
EPA 07*	07/15/1992		5.5	6.37	6,446	390	628	287	11.4	95.0	4,088	94.4	0.60	30.6	-0.00100	-0.001	-0.005
EPA 07*	10/07/1992		5.6	6.14	6,406	449	654	333	15.2	112	4,150	90.8	0.85	15.3	-0.00100	-0.001	-0.005
EPA 07*	01/07/1993		5.6	6.79	5,654	469	640	281	11.8	134	3,675	98.4	0.92	45.6	-0.00100	-0.001	-0.005
EPA 07*	04/07/1993		5.6	6.32	5,787	409	639	293	9.2	108	4,101	115	0.78	35.9	-0.00100	-0.001	-0.005
EPA 07*	07/14/1993		5.7	6.08	6,729	495	696	270	9.7	144	4,208	65.9	0.84	27.8	-0.00100	-0.001	-0.005
EPA 07*	10/07/1993		5.6	6.07	5,989	460	678	250	9.6	142	4,049	106	0.75	41.4	-0.00100	-0.001	-0.005
EPA 07*	01/06/1994		5.7	6.27	6,870	454	646	277	9.2	135	4,312	126	0.87	39.6	-0.00100		
EPA 07*	04/12/1994		5.8	6.33	6,573	443	669	257	9.5	140	4,378	121	1.88	35.7	-0.00100		
EPA 07*	07/26/1994		5.9	6.87	6,463	511	689	289	10.1	139	4,144	120	0.88	37.4	-0.00100		
EPA 07*	10/04/1994		5.8	7.16	7,011	559	822	299	10.3	160	4,647	141	2.94	46.2	-0.00100		
EPA 07*	01/11/1995	6903.70	5.8	6.45	8,136	540	900	353	9.4	326	4,737	215	1.37	131	0.00104		
EPA 07*	04/11/1995	6904.40	5.9	6.35	7,549	510	798	370	7.2	397	4,566	244	1.27	139	0.00108		
EPA 07*	07/11/1995	6903.90	6.0	6.96	7,971	475	931	346	6.9	426	4,475	235	1.25	145	-0.00100		
EPA 07*	10/10/1995	6904.10	6.0	7.50	7,558	507	916	371	7.7	403	4,368	200	1.12	137	-0.00100		
EPA 07*	01/09/1996	6903.90	6.1	7.36	7,349	474	894	352	7.6	438	4,400	200	1.03	141	0.00105		
EPA 07*	04/10/1996	6903.80	6.3	7.26	8,204	552	1,040	349	7.4	428	5,070	214	1.07	147	-0.00100		
EPA 07*	07/17/1996	6903.60	6.2	6.36	8,403	483	923	344	7.9	392	4,529	222	0.72	156	0.00156		
EPA 07*	10/08/1996	6903.40	6.1	6.97	8,440	534	1,018	346	7.9	400	4,920	206	1.20	142	0.00502		
EPA 07*	01/28/1997	6903.30	6.2	7.61	8,280	485	1,041	308	7.6	389	4,555	239	1.21	137	0.00123		
EPA 07*	04/15/1997	6903.10	6.1	7.26	8,440	504	999	338	8.3	386	4,820	215	1.27	132	-0.00100		
EPA 07*	07/15/1997	6902.80	5.9	7.15	8,390	437	984	318	8.2	372	4,780	209	1.28	137	0.00120		
EPA 07*	10/15/1997	6902.50	5.9	7.64	8,410	528	1,000	314	7.5	349	5,010	238	1.49	130	-0.00100		
EPA 07*	01/20/1998	6903.90	5.9	7.48	8,340	534	947	335	9.6	340	5,100	217	1.89	139	0.00110		
EPA 07*	04/14/1998	6902.60	6.0	6.75	8,310	514	969	337	8.0	333	4,870	184	1.32	138	0.00120		
EPA 07*	07/14/1998	6902.20	6.1	7.30	8,460	486	942	322	8.3	342	4,300	186	1.37	133	0.00120		
EPA 07*	10/06/1998	6904.00	6.1	8.09	8,150	481	951	327	8.4	325	4,730	183	1.58	139	0.00130		
EPA 07*	01/12/1999	6903.00	6	7.7	8,180	424	900	294	8.6	345	4,750	189	1.31	137	-0.00100		
EPA 07*	04/13/1999	6903.00	6	7.26	8,020	468	926	308	7.9	355	4,320	186	1.31	140	-0.00100		
EPA 07*	07/20/1999	6903.06	6.06	7.2	8,120	491	880	307	9.5	361	4,500	166	1.11	130	-0.00100		

TABLE D.1

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.050	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
EPA 07*	04/17/1989		-0.001	-0.050	-0.01		-0.05	25.00		0.25	-0.001	-0.10	0.0072	9.0	-0.2	-1.0	3.1
EPA 07*	07/26/1989	94.00	-0.001	-0.050	-0.01	0.25	-0.05	24.00	-0.10	0.27	-0.001	-0.10	0.0080	6.1	6.0	-1.0	9.0
EPA 07*	10/05/1989	99.00	-0.001	-0.050	-0.01	0.26	0.09	25.00	-0.01	0.29	0.002	-0.10	0.0120	5.3	0.8	-1.0	2.5
EPA 07*	01/16/1990	96.00	-0.001	-0.050	-0.01	0.34	-0.05	27.00	-0.10	0.35	0.002	-0.10	0.0080	6.9	-0.2	-1.0	1.5
EPA 07*	04/17/1990	100.00	-0.001	-0.050	-0.01	0.36	-0.05	42.00	-0.10	0.44	-0.001	-0.10	0.0060	8.5	-0.2	-1.0	2.8
EPA 07*	07/17/1990	80.10	-0.001	-0.050	-0.01	0.30	-0.05	42.30	-0.10	0.45	-0.001	-0.10	0.0155	5.8	-0.2	-1.0	-1.0
EPA 07*	10/09/1990	39.10	-0.001	-0.050	0.01	0.46	-0.05	26.90	-0.10	0.48	-0.001	-0.10	0.0052	7.3	-0.2	-1.0	4.0
EPA 07*	01/03/1991	18.00	-0.001	-0.010	-0.01	0.25	-0.05	17.60	-0.10	0.30	0.001	-0.10	0.0081	16.3	-0.2	-1.0	8.0
EPA 07*	04/17/1991	6.15	-0.001	-0.010	-0.01	0.12	-0.05	13.28	-0.10	0.18	-0.001	-0.10	0.0020	13.0	-0.2	-1.7	2.0
EPA 07*	07/11/1991	0.18	-0.001	-0.010	-0.01	0.12	-0.05	12.51	-0.10	0.16	0.017	-0.10	0.0038	12.1	-0.2	-1.0	3.0
EPA 07*	10/17/1991	1.15	0.001	-0.010	-0.01	0.15	-0.05	13.51	-0.10	0.16	0.001	-0.10	0.0009	9.3	-0.2	-1.0	2.0
EPA 07*	01/16/1992	1.91	-0.001	-0.010	-0.01	0.13	-0.05	13.60	-0.10	0.19	0.018	-0.10	0.0050	9.2	-0.2	-1.0	3.0
EPA 07*	04/13/1992	0.60	-0.001	-0.010	-0.01	0.13	-0.05	13.30	-0.10	0.16	0.014	-0.10	0.0010	9.8	-0.2	-1.0	2.4
EPA 07*	07/15/1992	0.72	-0.001	-0.010	-0.01	0.10	-0.05	10.50	-0.10	0.13	-0.001	-0.10	0.0030	14.8	-0.2	-1.0	3.0
EPA 07*	10/07/1992	0.80	-0.001	-0.010	-0.01	0.10	-0.05	11.00	-0.10	0.15	-0.001	-0.10	0.0003	10.1	-0.2	-1.0	2.6
EPA 07*	01/07/1993	0.60	-0.001	-0.010	-0.01	0.12	-0.05	11.30	-0.10	0.21	-0.010	-0.10	0.0070	9.2	-0.2	-1.0	2.1
EPA 07*	04/07/1993	1.40	0.001	-0.010	-0.01	0.17	-0.05	11.60	-0.10	0.17	-0.001	-0.10	-0.0003	10.3	-0.2	-1.3	1.5
EPA 07*	07/14/1993	0.53	-0.001	-0.010	-0.01	0.13	-0.05	10.20	-0.10	0.19	0.002	-0.10	-0.0003	8.0	-0.2	-1.0	2.8
EPA 07*	10/07/1993	0.62	-0.001	-0.010	-0.01	0.12	-0.05	7.99	-0.10	0.21	-0.001	-0.10	-0.0060	9.2	-0.2	-1.8	13.0
EPA 07*	01/06/1994	0.84	-0.001	-0.010	-0.01	0.13	-0.05	9.79	-0.10	0.22	-0.001	-0.10	-0.0003	-4.1	-0.2	-1.7	4.1
EPA 07*	04/12/1994	0.63	-0.001	-0.010	-0.01	0.12	-0.05	9.59	-0.10	0.21	-0.001	-0.10	0.0010	8.3	-0.2	-1.0	8.2
EPA 07*	07/26/1994	0.59	-0.001	-0.010	-0.01	0.16	-0.05	9.72	-0.10	0.21	0.003	-0.10	0.0020	3.7	-0.2	-1.0	4.6
EPA 07*	10/04/1994	0.74	-0.001	-0.010	-0.01	0.10	-0.05	8.52	-0.10	0.15	-0.001	-0.10	0.0030	7.6	-0.2	-1.0	9.8
EPA 07*	01/11/1995	0.50	-0.001	-0.010	-0.01	0.06	-0.05	4.44	-0.10	0.10	-0.001	-0.10	0.0010	7.8	-0.2	-4.8	11.1
EPA 07*	04/11/1995	0.41	-0.001	-0.010	-0.01	-0.01	-0.05	3.81	-0.10	-0.05	-0.001	-0.10	0.0010	6.6	-0.2	-1.0	9.0
EPA 07*	07/11/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	4.02	-0.10	-0.05	-0.001	-0.10	0.0020	-3.0	0.5	14.9	16.3
EPA 07*	10/10/1995	0.22	0.002	-0.010	-0.01	0.04	-0.05	4.84	-0.10	-0.05	0.040	-0.10	0.0023	9.0	-0.2	-1.0	5.4
EPA 07*	01/09/1996	0.17	0.003	-0.010	-0.01	0.04	-0.05	5.35	-0.10	-0.05	0.067	-0.10	0.0038	4.7	-0.2	-1.0	2.4
EPA 07*	04/10/1996	0.22	-0.001	-0.010	-0.01	0.06	-0.05	6.60	-0.10	-0.05	-0.001	-0.10	0.0024	3.3	0.8	-1.0	3.1
EPA 07*	07/17/1996	0.25	-0.001	-0.010	-0.01	0.08	-0.05	9.71	-0.10	0.08	-0.001	-0.10	0.0032	-2.2	-0.2	-1.0	4.3
EPA 07*	10/08/1996	0.27	-0.001	-0.010	-0.01	0.08	-0.05	10.50	-0.10	0.09	-0.001	-0.10	0.0003	-2.3	-0.2	-1.0	-1.0
EPA 07*	01/28/1997	0.27	-0.001	-0.010	-0.01	0.07	-0.05	11.20	-0.10	0.09	-0.001	-0.10	0.0003	-3.3	-0.2	-7.9	2.0
EPA 07*	04/15/1997	0.38	-0.001	-0.010	-0.01	0.09	-0.05	12.40	-0.10	0.12	0.060	-0.10	0.0010	2.8	-0.2	-1.0	-1.0
EPA 07*	07/15/1997	0.19	-0.001	-0.010	-0.01	-0.01	-0.05	12.50	-0.10	0.11	-0.001	-0.10	0.0010	4.5	-0.2	-1.0	-1.0
EPA 07*	10/15/1997	0.25	-0.001	-0.010	-0.01	0.13	-0.05	15.20	-0.10	0.13	-0.001	-0.10	0.0020	-1.2	-0.2	-1.0	-1.0
EPA 07*	01/20/1998	0.80	-0.001	-0.010	-0.005	0.14	-0.05	17.60	-0.10	0.16	-0.001	-0.10	0.0021	-2.0	-0.2	-1.0	-1.0
EPA 07*	04/14/1998	0.48	-0.001	-0.010	-0.005	0.10	-0.05	12.50	-0.10	0.10	-0.001	-0.10	0.0020	-2.5	-0.2	-1.0	-1.0
EPA 07*	07/14/1998	0.18	-0.001	-0.010	-0.005	0.10	-0.05	15.10	-0.10	0.12	-0.001	-0.10	0.0023	3.2	-0.2	-1.0	-1.0
EPA 07*	10/06/1998	0.24	-0.001	-0.010	-0.005	-0.01	-0.05	13.4	-0.10	0.14	-0.001	-0.10	0.0019	3.5	-0.2	-1.0	4.9
EPA 07*	01/12/1999	0.13	-0.001	-0.010	-0.007	0.09	-0.05	12.6	-0.10	0.08	-0.001	-0.10	0.0110	6.9	-0.2	-1.0	-1.0
EPA 07*	04/13/1999	0.29	-0.001	-0.010	-0.005	0.09	-0.05	12.5	-0.10	0.11	-0.001	-0.10	0.0017	3.3	-0.2	-1.0	3.8
EPA 07*	07/20/1999	-0.01	-0.001	-0.010	-0.005	0.09	-0.05	9.3	-0.10	-0.05	-0.001	-0.10	0.0019	-3.0	-0.2	-1.0	5.2

TABLE D.1

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Water Elevation (ft AMSL)	Field pH (SU)	Lab pH (SU)	Lab TDS (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	HCO ₃ (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	NH ₄ as N (mg/l)	NO ₃ as N (mg/l)	Chloro- form (mg/l)	Naphtha- lene (mg/l)	Cyanide (mg/l)
	NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001	0.001	0.005
	EPA Standard	NA	NA	NA	3,170	NA	NA	NA	NA	NA	2,160	250	NA	30.0	NA	NA	NA
EPA 08	04/17/1989	6856.80	7.0														
EPA 08	05/04/1989		6.8	6.25	4,442	468	370	210	7.9	118	2,970	33.1	0.76	0.02	-0.00100	-0.001	-0.005
EPA 08	07/26/1989	6857.40	6.8	5.89	4,304	521	366	222	8.1	163	3,007	35.9	0.88	0.06	-0.00100	-0.001	-0.005
EPA 08	10/05/1989	6858.00	6.5	6.96	4,454	513	379	206	9.9	169	2,863	35.4	0.84	0.09	-0.00100	-0.001	-0.005
EPA 08	01/16/1990	6858.50	6.5	6.40	4,478	486	348	209	8.2	165	2,860	33.2	0.91	0.11	-0.00100	-0.001	-0.005
EPA 08	04/17/1990	6858.70	6.4	6.61	4,577	496	344	210	7.9	165	2,738	36.3	0.93	0.16	-0.00100	-0.001	-0.005
EPA 08	07/17/1990	6858.70	6.5	6.46	4,699	613	431	183	8.5	159	2,893	35.7	0.54	0.06	-0.00100	-0.001	-0.005
EPA 08	10/16/1990	6859.20	6.5	6.73	4,681	509	383	189	8.0	148	3,053	43.4	0.71	0.03	-0.00100	-0.001	-0.005
EPA 08	01/08/1991	6859.40	6.5	6.50	4,648	530	387	194	19.0	159	2,959	39.4	0.86	0.04	-0.00100	-0.001	-0.005
EPA 08	04/17/1991	6860.00	6.4	7.18	4,833	543	379	198	8.1	140	3,164	45.4	0.82	3.30	-0.00100	-0.001	-0.005
EPA 08	07/03/1991	6859.90	6.3	6.40	4,711	514	373	161	7.1	141	3,242	22.1	0.86	0.06	-0.00100	-0.001	-0.005
EPA 08	10/22/1991	6860.50	6.3	6.29	4,612	497	366	182	7.6	166	2,998	39.6	1.01	0.23	-0.00100	-0.001	-0.005
EPA 08	01/22/1992	6860.80	6.4	6.51	4,311	525	376	155	7.3	128	3,014	73.4	0.88	-0.01	-0.00100	-0.001	-0.005
EPA 08	04/02/1992	6860.80	6.3	7.65	4,704	559	394	203	8.8	165	3,034	36.4	0.98	-0.01	-0.00100	-0.001	-0.005
EPA 08	07/15/1992	6860.10	6.4	6.64	4,809	521	388	176	7.7	126	3,120	39.6	0.58	-0.10	-0.00100	-0.001	-0.005
EPA 08	10/14/1992	6860.30	6.6	6.47	4,762	536	384	159	9.4	132	3,158	39.3	0.66	-0.10	-0.00100	-0.001	-0.005
EPA 08	01/13/1993	6860.10	6.6	6.63	4,739	528	637	157	7.8	147	3,159	37.7	1.08	-0.10	-0.00100	-0.001	-0.005
EPA 08	04/15/1993	6861.00	6.6	6.53	4,910	479	359	183	6.6	125	3,019	40.8	0.80	-0.10	-0.00100	-0.001	-0.005
EPA 08	07/20/1993	6862.80	6.6	7.10	4,144	562	352	159	7.9	134	2,956	39.6	0.69	-0.10	-0.00100	-0.001	-0.005
EPA 08	10/12/1993	6859.40	6.7	6.19	4,366	561	370	169	7.1	117	3,110	36.9	0.71	-0.10	-0.00100	-0.001	-0.005
EPA 08	01/11/1994	6861.30	6.7	6.46	4,765	528	366	177	6.7	111	3,197	39.4	0.74	-0.10	-0.00100		
EPA 08	04/20/1994	6861.40	6.5	6.22	4,532	530	368	162	6.4	116	3,154	39.6	1.33	-0.10	-0.00100		
EPA 08	07/26/1994	6862.60	6.5	7.13	4,389	592	379	142	7.5	109	3,049	38.7	0.72	-0.10	-0.00100		
EPA 08	10/11/1994	6861.50	6.5	6.90	4,809	572	425	157	7.5	119	3,367	41.5	1.08	-0.10	-0.00100		
EPA 08	01/10/1995	6861.70	6.4	6.62	4,848	644	388	142	8.5	139	3,277	42.0	1.31	-0.10	-0.00100		
EPA 08	04/06/1995	6861.60	6.5	6.48	4,867	651	345	154	7.5	108	3,364	40.2	1.52	-0.10	-0.00100		
EPA 08	07/11/1995	6861.80	6.9	7.05	4,212	550	408	144	7.3	127	2,906	42.0	1.29	-0.10	-0.00100		
EPA 08	10/10/1995	6861.90	6.6	7.13	4,348	575	411	160	7.3	127	2,965	38.4	0.93	-0.10	-0.00100		
EPA 08	01/09/1996	6862.00	6.7	7.29	4,185	545	401	156	7.9	162	2,863	37.6	0.68	-0.10	-0.00100		
EPA 08	04/10/1996	6862.20	6.9	7.24	4,857	620	444	148	7.6	149	3,460	41.8	0.75	-0.10	-0.00100		
EPA 08	07/17/1996	6862.30	6.8	6.63	4,876	560	395	159	8.0	165	3,085	37.6	0.13	-0.10	-0.00100		
EPA 08	10/08/1996	6862.30	6.6	6.98	4,880	603	441	157	8.0	148	3,061	39.0	0.73	-0.10	-0.00100		
EPA 08	01/28/1997	6862.30	6.9	7.31	4,870	565	415	141	7.6	143	3,130	51.0	0.69	-0.10	-0.00100		
EPA 08	04/15/1997	6862.40	6.6	7.10	4,890	604	440	160	8.2	156	3,330	42.0	0.73	-0.10	-0.00100		
EPA 08	07/15/1997	6862.20	6.6	7.11	4,860	603	432	145	7.8	138	3,200	45.2	0.73	-0.10	-0.00100		
EPA 08	10/15/1997	6862.40	6.5	7.49	4,850	617	444	147	7.6	133	3,190	53.7	0.75	-0.10	-0.00100		
EPA 08	01/20/1998	6863.00	6.6	7.53	4,840	598	439	156	8.4	133	3,400	45.3	1.12	-0.10	-0.00100		
EPA 08	04/14/1998	6862.70	6.7	6.93	4,850	592	431	151	7.8	159	3,300	39.6	0.74	-0.10	-0.00100		
EPA 08	07/14/1998	6862.40	6.6	7.17	4,820	594	430	154	8.3	132	3,000	39.7	0.85	-0.10	-0.00100		
EPA 08	10/06/1998	6864.80	6.47	7.58	4,780	566	428	156	8.3	134	3,150	38.5	1.07	-0.10	-0.00100		
EPA 08	01/12/1999	6865.50	6.6	7.2	4,840	594	432	139	8	130	3,200	41.0	0.81	-0.10	-0.00100		
EPA 08	04/13/1999	6863.30	6.6	7.35	4,630	558	420	136	7.7	131	3,000	45.7	0.91	-0.10	-0.00100		
EPA 08	07/20/1999	6863.00	6.36	7.18	4,780	514	379	169	10.3	119	2,710	47.0	0.76	-0.10	-0.00100		

TABLE D.1

ZONE 1 DATA SUMMARY
1989 - 1999

Well No.	Date	Al (mg/l)	As (mg/l)	Be (mg/l)	Cd (mg/l)	Co (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	Se (mg/l)	V (mg/l)	U (mg/l)	Ra-226+ Ra-228 (pCi/l)	Th-230 (pCi/l)	Pb-210 (pCi/l)	Gross Alpha (pCi/l)
	NRC Standard	NA	0.05	0.050	0.01	NA	0.05	NA	NA	0.05	0.01	0.10	0.3	5.0	5.0	1.0	15.0
	EPA Standard	5.0	0.05	0.017	0.01	0.05	0.05	2.60	1.0	0.2	0.01	0.70	5.0	5.0	NA	NA	15.0
EPA 08	04/17/1989																
EPA 08	05/04/1989		0.001	-0.050	-0.01		-0.05	3.00		-0.05	-0.001	-0.10	-0.2000	3.9	0.3	-1.0	5.9
EPA 08	07/26/1989	-0.10	-0.001	-0.050	-0.01	-0.01	-0.05	3.00	-0.10	-0.05	-0.001	-0.10	0.0012	3.1	0.9	1.7	-1.0
EPA 08	10/05/1989	0.13	-0.001	-0.050	-0.01	-0.01	-0.05	2.90	-0.01	-0.05	-0.001	-0.10	0.0040	-2.0	-0.2	2.1	1.5
EPA 08	01/16/1990	-0.10	0.001	-0.050	-0.01	-0.01	-0.05	3.30	-0.10	-0.05	-0.001	-0.10	0.0030	3.3	-0.2	-1.0	0.9
EPA 08	04/17/1990	-0.10	0.001	-0.050	-0.01	-0.01	-0.05	3.00	-0.10	-0.05	-0.001	-0.10	0.0030	2.4	-0.2	1.7	1.9
EPA 08	07/17/1990	0.14	0.002	-0.050	-0.01	-0.01	-0.05	3.41	-0.10	-0.05	-0.001	-0.10	0.0019	-1.6	-0.2	-1.0	-1.0
EPA 08	10/16/1990	-0.10	0.002	-0.050	-0.01	-0.01	-0.05	3.40	-0.10	-0.05	-0.001	-0.10	0.0007	3.2	-0.2	-1.0	-1.0
EPA 08	01/08/1991	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	3.32	-0.10	-0.05	-0.001	-0.10	0.0027	3.5	-0.2	-1.0	2.0
EPA 08	04/17/1991	0.16	-0.001	-0.010	-0.01	-0.01	-0.05	3.82	-0.10	-0.05	-0.001	-0.10	0.0020	6.6	-0.2	-1.0	2.0
EPA 08	07/03/1991	0.60	0.002	-0.010	-0.01	-0.01	-0.05	2.93	-0.10	-0.05	-0.001	-0.10	0.0015	2.9	-0.2	-1.0	-1.0
EPA 08	10/22/1991	0.24	-0.001	-0.010	-0.01	0.02	-0.05	3.22	-0.10	-0.05	-0.001	-0.10	0.0015	2.8	-0.2	-1.0	-1.0
EPA 08	01/22/1992	-0.10	-0.001	-0.010	-0.01	0.01	0.05	2.88	-0.10	-0.05	-0.001	-0.10	0.0010	6.4	-0.2	1.3	5.0
EPA 08	04/02/1992	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	3.43	-0.10	-0.05	-0.001	-0.10	0.0010	4.3	-0.2	-1.0	-1.0
EPA 08	07/15/1992	-0.10	0.002	-0.010	-0.01	-0.01	-0.05	3.17	-0.10	-0.05	-0.001	-0.10	0.0030	6.8	-0.2	-1.0	1.5
EPA 08	10/14/1992	0.21	0.001	-0.010	-0.01	-0.01	-0.05	3.09	-0.10	-0.05	-0.001	-0.10	0.0003	3.4	-0.2	-1.0	1.9
EPA 08	01/13/1993	0.20	-0.001	-0.010	-0.01	-0.01	-0.05	3.46	-0.10	-0.05	-0.001	-0.10	-0.0003	11.1	-0.2	-1.0	-1.0
EPA 08	04/15/1993	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	3.05	-0.10	-0.05	-0.001	-0.10	0.0060	4.3	-0.2	-1.0	-1.0
EPA 08	07/20/1993	-0.10	0.002	-0.010	-0.01	-0.01	-0.05	2.78	-0.10	-0.05	-0.001	-0.10	-0.0003	4.4	-0.2	-1.0	1.4
EPA 08	10/12/1993	0.16	-0.001	-0.010	-0.01	0.02	-0.05	2.80	-0.10	-0.05	-0.001	-0.10	0.0020	7.0	-0.2	-1.0	2.0
EPA 08	01/11/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	3.07	-0.10	-0.05	-0.001	-0.10	0.0060	8.1	-0.2	-1.0	9.6
EPA 08	04/20/1994	0.10	0.001	-0.010	-0.01	-0.01	-0.05	2.49	-0.10	-0.05	-0.001	-0.10	0.0010	4.8	-0.2	1.3	6.7
EPA 08	07/26/1994	0.12	-0.001	-0.010	-0.01	-0.01	-0.05	3.12	-0.10	-0.05	-0.001	-0.10	-0.0003	5.3	-0.2	-1.0	7.2
EPA 08	10/11/1994	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.46	-0.10	-0.05	-0.001	-0.10	0.0010	3.0	-0.2	-1.0	4.1
EPA 08	01/10/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.95	-0.10	-0.05	-0.001	-0.10	0.0010	4.9	-0.2	-1.0	6.4
EPA 08	04/06/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	3.15	-0.10	-0.05	-0.001	-0.10	0.0020	3.8	-0.2	-1.0	5.3
EPA 08	07/11/1995	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.92	0.27	-0.05	-0.001	-0.10	0.0016	2.9	0.5	4.9	6.6
EPA 08	10/10/1995	-0.10	0.002	-0.010	-0.01	-0.01	-0.05	2.99	-0.10	-0.05	-0.001	-0.10	0.0017	3.9	-0.2	-1.0	1.8
EPA 08	01/09/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.80	0.13	-0.05	-0.001	-0.10	0.0010	2.5	-0.2	3.8	-1.0
EPA 08	04/10/1996	-0.10	0.001	-0.010	-0.01	-0.01	-0.05	2.98	0.14	-0.05	-0.001	-0.10	0.0006	2.5	0.7	-1.0	1.2
EPA 08	07/17/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	3.21	-0.10	-0.05	0.002	-0.10	0.0016	-1.7	0.8	-1.0	-1.0
EPA 08	10/08/1996	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	3.00	-0.10	-0.05	-0.001	-0.10	0.0005	-1.9	-0.2	-1.0	-1.0
EPA 08	01/28/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	3.07	-0.10	-0.05	-0.001	-0.10	0.0010	-2.1	-0.2	-1.0	1.1
EPA 08	04/15/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	3.01	-0.10	-0.05	-0.001	-0.10	-0.0003	-2.1	-0.2	-1.0	-1.0
EPA 08	07/15/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	2.82	-0.10	-0.05	-0.001	-0.10	-0.0003	-1.7	-0.2	-1.0	-1.0
EPA 08	10/15/1997	-0.10	-0.001	-0.010	-0.01	-0.01	-0.05	3.24	-0.10	-0.05	-0.001	-0.10	0.0010	-1.7	-0.2	-1.0	-1.0
EPA 08	01/20/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	3.42	-0.10	-0.05	-0.001	-0.10	0.0010	-2.1	-0.2	-1.0	-1.0
EPA 08	04/14/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	2.99	-0.10	-0.05	-0.001	-0.10	0.0009	-2	-0.2	-1.0	-1.0
EPA 08	07/14/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	2.84	-0.10	-0.05	-0.001	-0.10	0.0009	-1.9	-0.2	-1.0	-1.0
EPA 08	10/06/1998	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	3.05	-0.10	-0.05	-0.001	-0.10	0.0010	5.2	-0.2	-1.0	2.3
EPA 08	01/12/1999	-0.10	0.003	-0.010	-0.005	-0.01	-0.05	2.98	-0.10	-0.05	-0.001	-0.10	0.0038	3.3	-0.2	-1.0	-1.0
EPA 08	04/13/1999	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	2.98	-0.10	-0.05	-0.001	-0.10	0.0011	5.4	-0.2	-1.0	3.0
EPA 08	07/20/1999	-0.10	-0.001	-0.010	-0.005	-0.01	-0.05	2.40	-0.10	-0.05	-0.001	-0.10	0.0016	2.9	-0.2	-1.0	1.8

LABORATORY ANALYTICAL DATA
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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

515-A	515-A	515-A
98-64152	99-10581	99-24245
10-06-98	01-05-99	04-06-99
December 2, 1998	February 13, 1999	May 6, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	465	412	444
Magnesium	Mg	mg/L	0.01	910	867	889
Sodium	Na	mg/L	0.05	468	410	404
Potassium	K	mg/L	0.10	15.5	14.2	13.7
Bicarbonate	HCO ₃	mg/L	0.10	317	306	292
Sulfate	SO ₄	mg/L	1.0	5000	4900	4600
Chloride	Cl	mg/L	1.0	286	287	286
Ammonium as N	NH ₄	mg/L	0.05	3.89	6.47	6.52
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	70.5	57.4	57.8

Non-Metals						
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	8170	8200	8130
pH		std. units	0.10	7.32	7.18	6.59

Trace Metals						
Aluminum	Al	mg/L	0.10	0.51	0.69	0.86
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	0.011	0.006
Cobalt	Co	mg/L	0.01	0.06	0.05	0.07
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	11.8	12.3	13.6
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	0.15	0.12	0.15
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometric						
Uranium	²³⁸ U	mg/L	0.0003	0.0049	0.0035	0.0029
Radium 226	²²⁶ Ra	pCi/L	0.2	2.3	2.2	3.4
Radium Error Estimate ±				0.3	0.1	0.4
Radium 228	²²⁸ Ra	pCi/L	1.0	1.2	3.9	4.8
Radium Error Estimate ±				0.2	0.2	0.3
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	2.8	2.5	3.1
G. Alpha Error Estimate ±				0.3	0.2	0.6

Trace Organics						
Chloroform		µg/L	1.0	210	210	190

Quality Assurance Data		Target Range			
Anion	meq		122.46	119.28	112.81
Cation	meq		120.81	112.25	115.50
WYDEQ A/C Balance	%	-5 - +5	-0.68	-3.04	1.18
Calc TDS	mg/L		7632	7318	7061
TDS A/C Balance	dec. %	0.80 - 1.20	1.07	1.12	1.15

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COMPLETE ANALYTICAL SERVICES

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

515-A	515-A	515-A
99-10581	99-24245	99-35522
01-05-99	04-06-99	07-13-99
February 13, 1999	May 6, 1999	August 23, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	412	444	486
Magnesium	Mg	EPA 200.7	mg/L	0.01	867	889	938
Sodium	Na	EPA 200.7	mg/L	0.05	410	404	440
Potassium	K	EPA 200.7	mg/L	0.10	14.2	13.7	18.0
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	306	292	272
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	4900	4600	4800
Chloride	Cl	EPA 200.7	mg/L	1.0	287	286	254
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	6.47	6.52	4.52
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	57.4	57.8	62.6

Non-Metals		Method	Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	8200	8130	7930
pH		SM 4500-H B.	std. units	0.10	7.18	6.59	7.42

Trace Metals		Method	Units	Reporting Limit	Results	Results	Results
Aluminum	Al	EPA 200.7	mg/L	0.10	0.69	0.86	0.40
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	0.011	0.006	0.006
Cobalt	Co	EPA 200.7	mg/L	0.01	0.05	0.07	0.05
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	12.3	13.6	13.6
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	0.12	0.15	0.13
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometric		Method	Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0035	0.0029	0.0036
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	2.2	3.4	2.3
Radium Error Estimate ±					0.1	0.4	0.3
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	3.9	4.8	2.9
Radium Error Estimate ±					0.2	0.3	0.2
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	2.5	3.1	2.0
G. Alpha Error Estimate ±					0.2	0.6	1.0

Trace Organics		Method	Units	Reporting Limit	Results	Results	Results
Chloroform		EPA 601	µg/L	1.0	210	190	172

Quality Assurance Data			Target Range		
Anion	meq			119.28	112.81
Cation	meq			112.25	115.50
WYDEQ A/C Balance	%	-5 - +5		-3.04	1.18
Calc TDS	mg/L			7318	7061
TDS A/C Balance	dec. %	0.80 - 1.20		1.12	1.15



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

516-A	516-A	516-A
98-64155	99-10584	99-24247
10-06-98	01-05-99	04-06-99
December 2, 1998	February 13, 1999	May 6, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	478	421	456
Magnesium	Mg	mg/L	0.01	1460	1400	1480
Sodium	Na	mg/L	0.05	514	446	461
Potassium	K	mg/L	0.10	20.7	19.2	17.7
Bicarbonate	HCO ₃	mg/L	0.10	1390	1350	1350
Sulfate	SO ₄	mg/L	1.0	7000	7100	6840
Chloride	Cl	mg/L	1.0	256	259	246
Ammonium as N	NH ₄	mg/L	0.05	140	152	137
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	132	103	118

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	11800	11900	11900
pH		std. units	0.10	7.66	7.57	7.28

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	1.57	1.66	1.59
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Units	Reporting Limit	Results	Results	Results
Uranium	Nat U	mg/L	0.0003	0.0211	0.0189	0.0197
Radium 226	²²⁶ Ra	pCi/L	0.2	1.1	0.8	0.7
Radium Error Estimate ±				0.2	0.1	0.2
Radium 228	²²⁸ Ra	pCi/L	1.0	1.6	1.9	3.4
Radium Error Estimate ±				0.2	0.2	0.3
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±						

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/L	1.0	2.9	2.2	1.8

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		185.26	184.70	179.99
Cation	meq		178.54	168.56	176.51
WYDEQ A/C Balance	%	-5 - +5	-1.85	-4.57	-0.97
Calc TDS	mg/L		11191	10974	10877
TDS A/C Balance	dec. %	0.80 - 1.20	1.05	1.08	1.09

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

516-A	516-A	516-A
99-10584	99-24247	99-35525
01-05-99	04-06-99	07-13-99
February 13, 1999	May 6, 1999	August 23, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	421	456	485
Magnesium	Mg	EPA 200.7	mg/L	0.01	1400	1480	1540
Sodium	Na	EPA 200.7	mg/L	0.05	446	461	518
Potassium	K	EPA 200.7	mg/L	0.10	19.2	17.7	24.9
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	1350	1350	1370
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	7100	6840	6920
Chloride	Cl	EPA 200.7	mg/L	1.0	259	246	254
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	152	137	137
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	103	118	106

Non-Metals		Method	Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	11900	11900	11900
pH		SM 4500-H B.	std. units	0.10	7.57	7.28	7.78

Trace Metals		Method	Units	Reporting Limit	Results	Results	Results
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	1.66	1.59	1.67
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Method	Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0189	0.0197	0.0199
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	0.8	0.7	0.7
Radium Error Estimate ±					0.1	0.2	0.2
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	1.9	3.4	< 1.0
Radium Error Estimate ±					0.2	0.3	
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±							

Trace Organics		Method	Units	Reporting Limit	Results	Results	Results
Chloroform		EPA 601	µg/L	1.0	2.2	1.8	2.6

Quality Assurance Data			Target Range		Results	Results	Results
Anion	meq				184.70	179.99	181.35
Cation	meq				168.56	176.51	185.63
WYDEQ A/C Balance	%	-5 - +5			-4.57	-0.97	1.17
Calc TDS	mg/L				10974	10877	11075
TDS A/C Balance	dec. %	0.80 - 1.20			1.08	1.09	1.07



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

604	604	604
98-64153	99-10582	99-24248
10-06-98	01-05-99	04-06-99
December 2, 1998	February 13, 1999	May 6, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	463	420	446
Magnesium	Mg	mg/L	0.01	874	851	893
Sodium	Na	mg/L	0.05	287	257	259
Potassium	K	mg/L	0.10	13.7	12.7	12.2
Bicarbonate	HCO ₃	mg/L	0.10	3.7	3.0	5.0
Sulfate	SO ₄	mg/L	1.0	4860	5100	4740
Chloride	Cl	mg/L	1.0	61.6	64.9	62.7
Ammonium as N	NH ₄	mg/L	0.05	0.78	0.45	0.83
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	89.3	70.7	92.4

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	7760	7830	7980
pH		std. units	0.10	4.63	4.60	4.69

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	18.7	20.2	20.4
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	0.01	0.01	0.01
Cadmium	Cd	mg/L	0.005	0.006	0.011	0.015
Cobalt	Co	mg/L	0.01	0.37	0.37	0.41
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	12.0	12.8	12.6
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	0.45	0.40	0.44
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	mg/L	0.0003	0.0078	0.0033	0.0034
Radium 226	²²⁶ Ra	pCi/L	0.2	2.4	2.4	4.0
Radium Error Estimate ±				0.3	0.1	0.4
Radium 228	²²⁸ Ra	pCi/L	1.0	4.1	7.4	7.8
Radium Error Estimate ±				0.2	0.2	0.3
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	3.4	4.3	3.2
G. Alpha Error Estimate ±				0.4	0.2	0.6

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		109.42	113.18	107.20
Cation	meq		111.60	106.39	111.30
WYDEQ A/C Balance	%	-5 - +5	0.99	-3.09	1.88
Calc TDS	mg/L		6970	7034	6838
TDS A/C Balance	dec. %	0.80 - 1.20	1.11	1.11	1.17

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

604	604	604
99-10582	99-24248	99-35523
01-05-99	04-06-99	07-13-99
February 13, 1999	May 6, 1999	August 23, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	420	446	479
Magnesium	Mg	EPA 200.7	mg/L	0.01	851	893	964
Sodium	Na	EPA 200.7	mg/L	0.05	257	259	292
Potassium	K	EPA 200.7	mg/L	0.10	12.7	12.2	16.3
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	3.0	5.0	3.0
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	5100	4740	5120
Chloride	Cl	EPA 200.7	mg/L	1.0	64.9	62.7	55.3
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	0.45	0.83	0.57
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	70.7	92.4	73.2

Non-Metals		Method	Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	7830	7980	8030
pH		SM 4500-H B.	std. units	0.10	4.60	4.69	4.61

Trace Metals		Method	Units	Reporting Limit	Results	Results	Results
Aluminum	Al	EPA 200.7	mg/L	0.10	20.2	20.4	15.7
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	0.01	0.01	0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	0.011	0.015	0.009
Cobalt	Co	EPA 200.7	mg/L	0.01	0.37	0.41	0.42
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	12.8	12.6	14.0
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	0.40	0.44	0.62
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Method	Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0033	0.0034	0.0071
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	2.4	4.0	3.0
Radium Error Estimate ±					0.1	0.4	0.3
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	7.4	7.8	5.2
Radium Error Estimate ±					0.2	0.3	0.2
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	4.3	3.2	3.7
G. Alpha Error Estimate ±					0.2	0.6	1.2

Trace Organics		Method	Units	Reporting Limit	Results	Results	Results
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range	Results	Results	Results
Anion		meq		113.18	107.20	113.50
Cation		meq		106.39	111.30	119.95
WYDEQ A/C Balance		%	-5 - +5	-3.09	1.88	2.76
Calc TDS		mg/L		7034	6838	7267
TDS A/C Balance		dec. %	0.80 - 1.20	1.11	1.17	1.10



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

614	614	614
98-64151	99-10580	99-24244
10-06-98	01-05-99	04-06-99
December 2, 1998	February 13, 1999	May 6, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	563	551	552
Magnesium	Mg	mg/L	0.01	822	786	844
Sodium	Na	mg/L	0.05	496	434	436
Potassium	K	mg/L	0.10	12.2	9.9	10.2
Bicarbonate	HCO ₃	mg/L	0.10	1380	1520	1590
Sulfate	SO ₄	mg/L	1.0	4050	4000	3780
Chloride	Cl	mg/L	1.0	261	262	261
Ammonium as N	NH ₄	mg/L	0.05	100	81.2	71.5
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	115	85.5	81.3

Non-Metals						
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	7730	7900	7910
pH		std. units	0.10	7.87	7.86	7.90

Trace Metals						
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	0.26	0.23	0.26
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics						
Uranium	²³⁸ U	mg/L	0.0003	0.0732	0.0682	0.0641
Radium 226	²²⁶ Ra	pCi/L	0.2	0.6	0.9	2.9
Radium Error Estimate ±				0.3	0.1	0.4
Radium 228	²²⁸ Ra	pCi/L	1.0	< 1.0	2.2	3.6
Radium Error Estimate ±					0.2	0.3
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	5.2
Lead Error Estimate ±						1.8
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	3.3
G. Alpha Error Estimate ±						0.6

Trace Organics						
Chloroform		µg/L	1.0	176	255	258

Quality Assurance Data		Target Range			
Anion	meq		122.56	121.74	117.97
Cation	meq		125.70	118.00	122.28
WYDEQ A/C Balance	%	-5 - +5	1.26	-1.56	1.79
Calc TDS	mg/L		7533	7287	7131
TDS A/C Balance	dec. %	0.80 - 1.20	1.03	1.08	1.11

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COMPLETE ANALYTICAL SERVICES

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

614	614	614
99-10580	99-24244	99-35521
01-05-99	04-06-99	07-13-99
February 13, 1999	May 6, 1999	August 23, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	551	552	605
Magnesium	Mg	EPA 200.7	mg/L	0.01	786	844	891
Sodium	Na	EPA 200.7	mg/L	0.05	434	436	439
Potassium	K	EPA 200.7	mg/L	0.10	9.9	10.2	12.7
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	1520	1590	1280
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	4000	3780	4000
Chloride	Cl	EPA 200.7	mg/L	1.0	262	261	239
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	81.2	71.5	58.1
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	85.5	81.3	90.7

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	7900	7910	7680
pH		SM 4500-H B.	std. units	0.10	7.86	7.90	7.73

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	0.23	0.26	0.23
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	0.001	0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0682	0.0641	0.0672
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	0.9	2.9	0.9
Radium Error Estimate ±					0.1	0.4	0.2
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	2.2	3.6	1.2
Radium Error Estimate ±					0.2	0.3	0.2
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	5.2	< 1.0
Lead Error Estimate ±						1.8	
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	3.3	< 1.0
G. Alpha Error Estimate ±						0.6	

Trace Organics							
Chloroform		EPA 601	µg/L	1.0	255	258	188

Quality Assurance Data			Target Range		
Anion	meq		121.74	117.97	117.53
Cation	meq		118.00	122.28	128.09
WYDEQ A/C Balance	%	-5 - +5	-1.56	1.79	4.30
Calc TDS	mg/L		7287	7131	7304
TDS A/C Balance	dec. %	0.80 - 1.20	1.08	1.11	1.05



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

619	619	619
98-64154	99-10583	99-24246
10-06-98	01-05-99	04-06-99
December 2, 1998	February 13, 1999	May 6, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	535	523	528
Magnesium	Mg	mg/L	0.01	532	497	534
Sodium	Na	mg/L	0.05	197	175	167
Potassium	K	mg/L	0.10	9.4	8.5	8.1
Bicarbonate	HCO ₃	mg/L	0.10	191	186	181
Sulfate	SO ₄	mg/L	1.0	3480	3500	3440
Chloride	Cl	mg/L	1.0	44.8	44.3	54.4
Ammonium as N	NH ₄	mg/L	0.05	0.42	0.33	0.57
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	0.42	0.17	0.21

Non-Metals						
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	5390	5350	5430
pH		std. units	0.10	7.88	7.72	7.79

Trace Metals						
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	0.005
Cobalt	Co	mg/L	0.01	0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	2.04	2.17	2.19
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics						
Uranium	²³⁵ U	mg/L	0.0003	0.0160	0.0072	0.0053
Radium 226	²²⁶ Ra	pCi/L	0.2	1.4	1.3	2.5
Radium Error Estimate ±				0.2	0.1	0.4
Radium 228	²²⁸ Ra	pCi/L	1.0	3.2	4.1	4.8
Radium Error Estimate ±				0.2	0.2	0.3
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	< 1.0	2.4	2.0
G. Alpha Error Estimate ±					0.2	0.5

Trace Organics						
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range			
Anion	meq		76.92	77.23	76.18
Cation	meq		80.04	75.55	78.54
WYDEQ A/C Balance	%	-5 - +5	1.99	-1.10	1.52
Calc TDS	mg/L		4898	4844	4826
TDS A/C Balance	dec. %	0.80 - 1.20	1.10	1.10	1.13

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

619	619	619
99-10583	99-24246	99-35524
01-05-99	04-06-99	07-13-99
February 13, 1999	May 6, 1999	August 23, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	523	528	551
Magnesium	Mg	EPA 200.7	mg/L	0.01	497	534	565
Sodium	Na	EPA 200.7	mg/L	0.05	175	167	195
Potassium	K	EPA 200.7	mg/L	0.10	8.5	8.1	11.4
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	186	181	194
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	3500	3440	3460
Chloride	Cl	EPA 200.7	mg/L	1.0	44.3	54.4	50.3
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	0.33	0.57	0.49
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	0.17	0.21	0.29

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	5350	5430	5400
pH		SM 4500-H B.	std. units	0.10	7.72	7.79	7.96

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	2.17	2.19	2.34
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0072	0.0053	0.0072
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	1.3	2.5	1.4
Radium Error Estimate ±					0.1	0.4	0.3
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	4.1	4.8	3.0
Radium Error Estimate ±					0.2	0.3	0.2
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	2.4	2.0	< 1.0
G. Alpha Error Estimate ±					0.2	0.5	

Trace Organics							
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range			
Anion	meq		77.23	76.18	76.70
Cation	meq		75.55	78.54	83.58
WYDEQ A/C Balance	%	-5 - +5	-1.10	1.52	4.29
Calc TDS	mg/L		4844	4826	4934
TDS A/C Balance	dec. %	0.80 - 1.20	1.10	1.13	1.09



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 2	EPA 2	EPA 2
98-64604	99-10937	99-24818
10-13-98	01-12-99	04-13-99
December 9, 1998	February 25, 1999	May 15, 1999
Fourth '98	First '99	Second '99
TE-2-10-98	TE-2-1-99	TE-4-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	454	364	420
Magnesium	Mg	mg/L	0.01	227	180	182
Sodium	Na	mg/L	0.05	221	181	198
Potassium	K	mg/L	0.10	7.9	6.7	6.8
Bicarbonate	HCO ₃	mg/L	0.10	292	311	304
Sulfate	SO ₄	mg/L	1.0	2150	1740	1800
Chloride	Cl	mg/L	1.0	28.6	27.8	31.3
Ammonium as N	NH ₄	mg/L	0.05	0.75	0.55	0.64
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	< 0.10	< 0.10	< 0.10

Non-Metals						
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	3390	3060	3110
pH		std. units	0.10	7.82	7.65	7.69

Trace Metals						
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	1.94	1.44	1.64
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics						
Uranium	²³⁸ U	mg/L	0.0003	0.0007	0.0028	0.0009
Radium 226	²²⁶ Ra	pCi/L	0.2	1.0	0.9	1.1
Radium Error Estimate ±				0.1	0.1	0.2
Radium 228	²²⁸ Ra	pCi/L	1.0	2.5	2.5	< 1.0
Radium Error Estimate ±				0.2	0.2	
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	1.8
G. Alpha Error Estimate ±						0.5

Trace Organics						
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range			
Anion	meq		50.39	42.14	43.37
Cation	meq		51.60	41.37	45.10
WYDEQ A/C Balance	%	-5 - +5	1.18	-0.92	1.95
Calc TDS	mg/L		3238	2658	2793
TDS A/C Balance	dec. %	0.80-1.20	1.05	1.15	1.11

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COMPLETE ANALYTICAL SERVICES

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 2	EPA 2	EPA 2
99-10937	99-24818	99-36000
01-12-99	04-13-99	07-20-99
February 25, 1999	May 15, 1999	August 31, 1999
First '99	Second '99	Third '99
TE-2-1-99	TE-4-4-99	TE-6-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	364	420	385
Magnesium	Mg	EPA 200.7	mg/L	0.01	180	182	186
Sodium	Na	EPA 200.7	mg/L	0.05	181	198	187
Potassium	K	EPA 200.7	mg/L	0.10	6.7	6.8	8.8
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	311	304	307
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	1740	1800	1650
Chloride	Cl	EPA 200.7	mg/L	1.0	27.8	31.3	29.0
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	0.55	0.64	0.59
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	< 0.10	< 0.10	< 0.10

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	3060	3110	3080
pH		SM 4500-H B.	std. units	0.10	7.65	7.69	7.67

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	1.44	1.64	1.35
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium	NatU	EPA 200.8	mg/L	0.0003	0.0028	0.0009	0.0012
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	0.9	1.1	1.2
Radium Error Estimate ±					0.1	0.2	0.2
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	2.5	< 1.0	2.1
Radium Error Estimate ±					0.2		0.2
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	1.8	2.1
G. Alpha Error Estimate ±						0.5	0.5

Trace Organics							
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range			
Anion		meq		42.14	43.37	40.23
Cation		meq		41.37	45.10	43.23
WYDEQ A/C Balance		%	-5 - +5	-0.92	1.95	3.60
Calc TDS		mg/L		2658	2793	2602
TDS A/C Balance		dec. %	0.80-1.20	1.15	1.11	1.18



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 4	EPA 4	EPA 4
98-64601	99-10934	99-24815
10-13-98	01-12-99	04-13-99
December 9, 1998	February 25, 1999	May 15, 1999
Fourth '98	First '99	Second '99
TE-2-10-98	TE-2-1-99	TE-4-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	579	615	582
Magnesium	Mg	mg/L	0.01	348	347	343
Sodium	Na	mg/L	0.05	228	199	206
Potassium	K	mg/L	0.10	8.6	8.0	8.2
Bicarbonate	HCO ₃	mg/L	0.10	218	214	208
Sulfate	SO ₄	mg/L	1.0	3000	3000	2860
Chloride	Cl	mg/L	1.0	36.1	37.2	43.8
Ammonium as N	NH ₄	mg/L	0.05	0.98	0.92	0.97
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	< 0.10	< 0.10	0.11

Non-Metals						
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	4520	4590	4590
pH		std. units	0.10	7.84	7.53	7.46

Trace Metals						
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	2.87	2.78	3.00
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics						
Uranium	²³⁸ U	mg/L	0.0003	0.0010	0.0033	0.0017
Radium 226	²²⁶ Ra	pCi/L	0.2	1.2	1.5	2.2
Radium Error Estimate ±				0.1	0.1	0.3
Radium 228	²²⁸ Ra	pCi/L	1.0	3.9	4.2	3.5
Radium Error Estimate ±				0.2	0.2	0.2
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	2.2
G. Alpha Error Estimate ±						0.5

Trace Organics						
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range			
Anion	meq		67.10	67.06	64.23
Cation	meq		68.32	68.75	67.09
WYDEQ A/C Balance	%	-5 - +5	0.90	1.24	2.18
Calc TDS	mg/L		4313	4318	4152
TDS A/C Balance	dec %	0.80-1.20	1.05	1.06	1.11

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 4	EPA 4	EPA 4
99-10934	99-24815	99-35997
01-12-99	04-13-99	07-20-99
February 25, 1999	May 15, 1999	August 31, 1999
First '99	Second '99	Third '99
TE-2-1-99	TE-4-4-99	TE-6-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	615	582	555
Magnesium	Mg	EPA 200.7	mg/L	0.01	347	343	323
Sodium	Na	EPA 200.7	mg/L	0.05	199	206	193
Potassium	K	EPA 200.7	mg/L	0.10	8.0	8.2	10.4
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	214	208	207
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	3000	2860	2550
Chloride	Cl	EPA 200.7	mg/L	1.0	37.2	43.8	40.0
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	0.92	0.97	0.85
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	< 0.10	0.11	< 0.10

Non-Metals		Method	Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	4590	4590	4790
pH		SM 4500-H B.	std. units	0.10	7.53	7.46	7.11

Trace Metals		Method	Units	Reporting Limit	Results	Results	Results
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	2.78	3.00	2.33
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Method	Units	Reporting Limit	Results	Results	Results
Uranium	Nat ²³⁸ U	EPA 200.8	mg/L	0.0003	0.0033	0.0017	0.0013
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	1.5	2.2	0.9
Radium Error Estimate ±					0.1	0.3	0.2
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	4.2	3.5	1.5
Radium Error Estimate ±					0.2	0.2	0.2
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	2.2	1.5
G. Alpha Error Estimate ±						0.5	0.4

Trace Organics		Method	Units	Reporting Limit	Results	Results	Results
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range		
Anion	meq		67.06	64.23	57.65
Cation	meq		68.75	67.09	63.52
WYDEQ A/C Balance	%	-5 - +5	1.24	2.18	4.85
Calc TDS	mg/L		4318	4152	3779
TDS A/C Balance	dec. %	0.80-1.20	1.06	1.11	1.27



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 5	EPA 5	EPA 5
98-64603	99-10936	99-24817
10-13-98	01-12-99	04-13-99
December 9, 1998	February 25, 1999	May 15, 1999
Fourth '98	First '99	Second '99
TE-2-10-98	TE-2-1-99	TE-4-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	540	462	522
Magnesium	Mg	mg/L	0.01	979	909	934
Sodium	Na	mg/L	0.05	370	308	322
Potassium	K	mg/L	0.10	15.0	14.4	12.7
Bicarbonate	HCO ₃	mg/L	0.10	1190	1140	1100
Sulfate	SO ₄	mg/L	1.0	4680	4600	4160
Chloride	Cl	mg/L	1.0	198	192	191
Ammonium as N	NH ₄	mg/L	0.05	12.9	15.5	12.9
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	80.0	71.2	76.4

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	8240	8160	8100
pH		std. units	0.10	7.75	7.75	7.71

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.01	0.05	0.04	0.06
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	0.53	0.53	0.53
Molybdenum	Mo	mg/L	0.10	0.55	0.43	0.44
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	0.005	< 0.001	0.004
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	mg/L	0.0003	0.139	0.149	0.130
Radium 226	²²⁶ Ra	pCi/L	0.2	1.4	1.1	1.0
Radium Error Estimate ±				0.1	0.1	0.2
Radium 228	²²⁸ Ra	pCi/L	1.0	3.1	3.8	2.1
Radium Error Estimate ±				0.2	0.2	0.2
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	2.2	< 1.0	3.5
G. Alpha Error Estimate ±				0.4		0.6

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/L	1.0	1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		128.30	125.02	115.54
Cation	meq		126.02	113.76	119.22
WYDEQ A/C Balance	%	-5 - +5	-0.90	-4.72	1.57
Calc TDS	mg/L		7749	7391	7047
TDS A/C Balance	dec. %	0.80-1.20	1.06	1.10	1.15

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 5	EPA 5	EPA 5
99-10936	99-24817	99-35999
01-12-99	04-13-99	07-20-99
February 25, 1999	May 15, 1999	August 31, 1999
First '99	Second '99	Third '99
TE-2-1-99	TE-4-4-99	TE-6-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	462	522	567
Magnesium	Mg	EPA 200.7	mg/L	0.01	909	934	949
Sodium	Na	EPA 200.7	mg/L	0.05	308	322	82.0
Potassium	K	EPA 200.7	mg/L	0.10	14.4	12.7	16.6
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	1140	1100	1090
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	4600	4160	4580
Chloride	Cl	EPA 200.7	mg/L	1.0	192	191	198
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	15.5	12.9	15.0
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	71.2	76.4	73.9

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	8160	8100	8130
pH		SM 4500-H B.	std. units	0.10	7.75	7.71	7.55

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	0.04	0.06	0.05
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	0.53	0.53	0.49
Molybdenum	Mo	EPA 200.7	mg/L	0.10	0.43	0.44	0.36
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	0.004	0.004
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.149	0.130	0.127
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	1.1	1.0	1.6
Radium Error Estimate ±					0.1	0.2	0.2
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	3.8	2.1	< 1.0
Radium Error Estimate ±					0.2	0.2	
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	3.5	2.2
G. Alpha Error Estimate ±						0.6	0.5

Trace Organics							
Chloroform		EPA 601	µg/L	1.0	1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range				
Anion		meq			125.02	115.54	124.14
Cation		meq			113.76	119.22	112.53
WYDEQ A/C Balance		%	-5 - +5		-4.72	1.57	-4.90
Calc TDS		mg/L			7391	7047	7285
TDS A/C Balance		dec. %	0.80-1.20		1.10	1.15	1.12



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 7	EPA 7	EPA 7
98-64602	99-10935	99-24816
10-13-98	01-12-99	04-13-99
December 9, 1998	February 25, 1999	May 15, 1999
Fourth '98	First '99	Second '99
TE-2-10-98	TE-2-1-99	TE-4-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	481	424	468
Magnesium	Mg	mg/L	0.01	951	900	926
Sodium	Na	mg/L	0.05	327	294	308
Potassium	K	mg/L	0.10	8.4	8.6	7.9
Bicarbonate	HCO ₃	mg/L	0.10	325	345	355
Sulfate	SO ₄	mg/L	1.0	4730	4750	4320
Chloride	Cl	mg/L	1.0	183	189	186
Ammonium as N	NH ₄	mg/L	0.05	1.58	1.31	1.31
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	139	137	140

Non-Metals						
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	8150	8180	8020
pH		std. units	0.10	8.09	7.70	7.26

Trace Metals						
Aluminum	Al	mg/L	0.10	0.24	0.13	0.29
Arsenic III	As	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	0.007	< 0.005
Cobalt	Co	mg/L	0.01	0.10	0.09	0.09
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	13.4	12.6	12.5
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	0.14	0.08	0.11
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics						
Uranium	²³⁸ U	mg/L	0.0003	0.0019	0.0110	0.0017
Radium 226	²²⁶ Ra	pCi/L	0.2	1.7	3.2	1.2
Radium Error Estimate ±				0.1	0.3	0.2
Radium 228	²²⁸ Ra	pCi/L	1.0	1.8	3.7	2.1
Radium Error Estimate ±				0.2	0.2	0.2
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	4.9	< 1.0	3.8
G. Alpha Error Estimate ±				0.5		0.6

Trace Organics						
Chloroform		µg/L	1.0	1.3	< 1.0	< 1.0

Quality Assurance Data		Target Range			
Anion	meq		118.95	119.72	111.06
Cation	meq		118.60	110.00	114.97
WYDEQ A/C Balance	%	-5 - +5	-0.15	-4.23	1.73
Calc TDS	mg/L		7474	7359	7028
TDS A/C Balance	dec. %	0.80-1.20	1.09	1.11	1.14

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 7	EPA 7	EPA 7
99-10935	99-24816	99-35998
01-12-99	04-13-99	07-20-99
February 25, 1999	May 15, 1999	August 31, 1999
First '99	Second '99	Third '99
TE-2-1-99	TE-4-4-99	TE-6-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	424	468	491
Magnesium	Mg	EPA 200.7	mg/L	0.01	900	926	880
Sodium	Na	EPA 200.7	mg/L	0.05	294	308	307
Potassium	K	EPA 200.7	mg/L	0.10	8.6	7.9	9.5
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	345	355	361
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	4750	4320	4500
Chloride	Cl	EPA 200.7	mg/L	1.0	189	186	166
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	1.31	1.31	1.11
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	137	140	130

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	8180	8020	8120
pH		SM 4500-H B.	std. units	0.10	7.70	7.26	7.20

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	0.13	0.29	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	0.007	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	0.09	0.09	< 0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	12.6	12.5	9.30
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	0.08	0.11	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0110	0.0017	0.0019
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	3.2	1.2	3.0
Radium Error Estimate ±					0.3	0.2	0.3
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	3.7	2.1	< 1.0
Radium Error Estimate ±					0.2	0.2	
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	3.8	5.2
G. Alpha Error Estimate ±						0.6	0.7

Trace Organics							
Chloroform		EPA 601	µg/L	1.0	1.3	< 1.0	< 1.0

Quality Assurance Data		Target Range				
Anion	meq			119.72	111.06	113.63
Cation	meq			110.00	114.97	112.07
WYDEQ A/C Balance	%	-5 - +5		-4.23	1.73	-0.69
Calc TDS	mg/L			7359	7028	7121
TDS A/C Balance	dec. %	0.80-1.20		1.11	1.14	1.14



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:

LABORATORY ID:

SAMPLE DATE:

REPORT DATE:

QUARTER REPRESENTED:

UNC SUBMITTAL #:

EPA 8	EPA 8	EPA 8
98-64600	99-10953	99-24814
10-13-98	01-12-99	04-13-99
December 9, 1998	February 25, 1999	May 15, 1999
Fourth '98	First '99	Second '99
TE-2-10-98	TE-2-1-99	TE-4-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	566	594	558
Magnesium	Mg	mg/L	0.01	428	432	420
Sodium	Na	mg/L	0.05	156	139	136
Potassium	K	mg/L	0.10	8.3	8.0	7.7
Bicarbonate	HCO ₃	mg/L	0.10	134	130	131
Sulfate	SO ₄	mg/L	1.0	3150	3200	3000
Chloride	Cl	mg/L	1.0	38.5	41.0	45.7
Ammonium as N	NH ₄	mg/L	0.05	1.07	0.81	0.91
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	< 0.10	< 0.10	< 0.10

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	4780	4840	4630
pH		std. units	0.10	7.58	7.20	7.35

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	< 0.001	0.003	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	3.05	2.98	2.98
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	mg/L	0.0003	0.0010	0.0038	0.0011
Radium 226	²²⁶ Ra	pCi/L	0.2	1.4	1.0	2.0
Radium Error Estimate ±				0.1	0.1	0.3
Radium 228	²²⁸ Ra	pCi/L	1.0	3.8	2.3	3.4
Radium Error Estimate ±				0.2	0.2	0.2
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	2.3	< 1.0	3.0
G. Alpha Error Estimate ±				0.4		0.6

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		68.91	69.96	65.94
Cation	meq		71.22	72.18	69.25
WYDEQ A/C Balance	%	-5 - +5	1.64	1.56	2.45
Calc TDS	mg/L		4419	4483	4237
TDS A/C Balance	dec %	0.80-1.20	1.08	1.08	1.09

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COMPLETE ANALYTICAL SERVICES

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

EPA 8	EPA 8	EPA 8
99-10953	99-24814	99-35996
01-12-99	04-13-99	07-20-99
February 25, 1999	May 15, 1999	August 31, 1999
First '99	Second '99	Third '99
TE-2-1-99	TE-4-4-99	TE-6-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	594	558	514
Magnesium	Mg	EPA 200.7	mg/L	0.01	432	420	379
Sodium	Na	EPA 200.7	mg/L	0.05	139	136	169
Potassium	K	EPA 200.7	mg/L	0.10	8.0	7.7	10.3
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	130	131	119
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	3200	3000	2710
Chloride	Cl	EPA 200.7	mg/L	1.0	41.0	45.7	47.0
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	0.81	0.91	0.76
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	< 0.10	< 0.10	< 0.10

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	4840	4630	4780
pH		SM 4500-H B.	std. units	0.10	7.20	7.35	7.18

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	0.003	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	2.98	2.98	2.40
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0038	0.0011	0.0016
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	1.0	2.0	1.4
Radium Error Estimate ±					0.1	0.3	0.2
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	2.3	3.4	1.5
Radium Error Estimate ±					0.2	0.2	0.2
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	3.0	1.8
G. Alpha Error Estimate ±						0.6	0.4

Trace Organics							
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range			
Anion	meq		69.96	65.94	59.74
Cation	meq		72.18	69.25	65.09
WYDEQ A/C Balance	%	-5 - +5	1.56	2.45	4.29
Calc TDS	mg/L		4483	4237	3893
TDS A/C Balance	dec. %	0.80-1.20	1.08	1.09	1.23

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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

TWQ 141	TWQ 141	TWQ 141
98-64148	99-10577	99-24241
10-06-99	01-05-99	04-06-99
December 2, 1998	February 13, 1999	May 6, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	28.0	30.5	31.9
Magnesium	Mg	mg/L	0.01	12.4	13.1	16.3
Sodium	Na	mg/L	0.05	296	273	299
Potassium	K	mg/L	0.10	3.7	3.7	3.4
Bicarbonate	HCO ₃	mg/L	0.10	261	253	249
Sulfate	SO ₄	mg/L	1.0	545	514	516
Chloride	Cl	mg/L	1.0	22.9	25.2	25.2
Ammonium as N	NH ₄	mg/L	0.05	3.48	0.07	0.23
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	0.34	< 0.10	0.21

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	1030	1070	1070
pH		std. units	0.10	8.17	8.06	8.13

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	0.009	0.007	0.002
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	0.37	0.43	0.24
Molybdenum	Mo	mg/L	0.10	< 0.10	0.14	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	mg/L	0.0003	0.334	0.0140	0.0059
Radium 226	²²⁶ Ra	pCi/L	0.2	1.5	1.5	1.0
Radium Error Estimate ±				0.3	0.1	0.3
Radium 228	²²⁸ Ra	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±						
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±						

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		16.30	15.57	15.56
Cation	meq		15.68	14.62	16.08
WYDEQ A/C Balance	%	-5 - +5	-1.95	-3.15	1.66
Calc TDS	mg/L		1045	987	1018
TDS A/C Balance	dec %	0.80 - 1.20	0.99	1.08	1.05

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

TWQ 141	TWQ 141	TWQ 141
99-10577	99-24241	99-35518
01-05-99	04-06-99	07-13-99
February 13, 1999	May 6, 1999	August 23, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	30.5	31.9	29.7
Magnesium	Mg	EPA 200.7	mg/L	0.01	13.1	16.3	14.2
Sodium	Na	EPA 200.7	mg/L	0.05	273	299	285
Potassium	K	EPA 200.7	mg/L	0.10	3.7	3.4	7.5
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	253	249	258
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	514	516	507
Chloride	Cl	EPA 200.7	mg/L	1.0	25.2	25.2	30.2
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	0.07	0.23	0.37
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	< 0.10	0.21	< 0.10

Non-Metals		Method	Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	1070	1070	968
pH		SM 4500-H B.	std. units	0.10	8.06	8.13	8.28

Trace Metals		Method	Units	Reporting Limit	Results	Results	Results
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	0.007	0.002	0.004
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	0.43	0.24	0.27
Molybdenum	Mo	EPA 200.7	mg/L	0.10	0.14	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Method	Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0140	0.0059	0.0541
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	1.5	1.0	1.1
Radium Error Estimate ±					0.1	0.3	0.3
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±							
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±							

Trace Organics		Method	Units	Reporting Limit	Results	Results	Results
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		15.57	15.56	15.65
Cation	meq		14.62	16.08	15.30
WYDEQ A/C Balance	%	-5 - +5	-3.15	1.66	-1.12
Calc TDS	mg/L		987	1018	1004
TDS A/C Balance	dec. %	0.80 - 1.20	1.08	1.05	0.96



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

TWQ 142	TWQ 142	TWQ 142
98-64149	99-10578	99-24242
10-06-99	01-05-99	04-06-99
December 2, 1998	February 13, 1999	May 6, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	36.0	37.7	33.0
Magnesium	Mg	mg/L	0.01	17.9	17.9	15.8
Sodium	Na	mg/L	0.05	325	309	313
Potassium	K	mg/L	0.10	4.0	3.6	3.5
Bicarbonate	HCO ₃	mg/L	0.10	267	273	250
Sulfate	SO ₄	mg/L	1.0	640	628	562
Chloride	Cl	mg/L	1.0	18.1	18.2	22.7
Ammonium as N	NH ₄	mg/L	0.05	2.04	0.12	0.21
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	0.31	0.24	0.25

Non-Metals		Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	1170	1210	1120
pH		std. units	0.10	8.29	8.21	8.15

Trace Metals		Units	Reporting Limit	Results	Results	Results
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	0.002	0.002	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	0.08	0.21	0.01
Molybdenum	Mo	mg/L	0.10	< 0.10	0.14	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Units	Reporting Limit	Results	Results	Results
Uranium	Nat U	mg/L	0.0003	0.0051	0.0040	0.0012
Radium 226	²²⁶ Ra	pCi/L	0.2	1.1	2.1	< 0.2
Radium Error Estimate ±				0.3	0.1	
Radium 228	²²⁸ Ra	pCi/L	1.0	< 1.0	3.0	< 1.0
Radium Error Estimate ±					0.3	
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	4.9
Lead Error Estimate ±						1.8
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±						

Trace Organics		Units	Reporting Limit	Results	Results	Results
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		18.24	18.09	16.46
Cation	meq		17.69	16.93	16.69
WYDEQ A/C Balance	%	-5 - +5	-1.55	-3.29	0.69
Calc TDS	mg/L		1179	1152	1076
TDS A/C Balance	dec. %	0.80 - 1.20	0.99	1.05	1.04

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

TWQ 142	TWQ 142	TWQ 142
99-10578	99-24242	99-35519
01-05-99	04-06-99	07-13-99
February 13, 1999	May 6, 1999	August 23, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	37.7	33.0	32.4
Magnesium	Mg	EPA 200.7	mg/L	0.01	17.9	15.8	15.8
Sodium	Na	EPA 200.7	mg/L	0.05	309	313	299
Potassium	K	EPA 200.7	mg/L	0.10	3.6	3.5	6.7
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	273	250	262
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	628	562	498
Chloride	Cl	EPA 200.7	mg/L	1.0	18.2	22.7	24.5
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	0.12	0.21	0.26
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	0.24	0.25	0.16

Non-Metals							
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	1210	1120	1030
pH		SM 4500-H B.	std. units	0.10	8.21	8.15	8.27

Trace Metals							
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	0.002	< 0.001	0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	0.21	0.01	0.01
Molybdenum	Mo	EPA 200.7	mg/L	0.10	0.14	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0040	0.0012	0.0009
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	2.1	< 0.2	< 0.2
Radium Error Estimate ±					0.1		
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	3.0	< 1.0	< 1.0
Radium Error Estimate ±					0.3		
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	4.9	< 1.0
Lead Error Estimate ±						1.8	
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±							

Trace Organics							
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range			
Anion		meq		18.09	16.46	15.37
Cation		meq		16.93	16.69	16.14
WYDEQ A/C Balance		%	-5 - +5	-3.29	0.69	2.43
Calc TDS		mg/L		1152	1076	1008
TDS A/C Balance		dec. %	0.80 - 1.20	1.05	1.04	1.02



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UNC MINING AND MILLING: CHURCHROCK OPERATIONS GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

TWQ 143	TWQ 143	TWQ 143
98-64150	99-10579	99-24243
10-06-99	01-05-99	04-06-99
December 2, 1998	February 13, 1999	May 6, 1999
Fourth '98	First '99	Second '99
TE-1-10-98	TE-1-1-99	TE-3-4-99

Major Ions		Units	Reporting Limit	Results	Results	Results
Calcium	Ca	mg/L	0.05	30.7	30.6	31.4
Magnesium	Mg	mg/L	0.01	15.7	14.5	16.5
Sodium	Na	mg/L	0.05	276	268	267
Potassium	K	mg/L	0.10	3.7	3.8	3.3
Bicarbonate	HCO ₃	mg/L	0.10	245	254	240
Sulfate	SO ₄	mg/L	1.0	526	509	477
Chloride	Cl	mg/L	1.0	16.0	16.1	18.5
Ammonium as N	NH ₄	mg/L	0.05	1.00	0.13	0.28
Nitrate + Nitrite as N	NO ₃ + NO ₂	mg/L	0.10	0.35	0.13	0.15

Non-Metals						
Total Dissolved Solids @ 180°C	TDS	mg/L	1.0	986	979	975
pH		std. units	0.10	8.41	8.20	8.09

Trace Metals						
Aluminum	Al	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	mg/L	0.001	0.006	0.004	< 0.001
Beryllium	Be	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	mg/L	0.01	0.10	0.09	0.02
Molybdenum	Mo	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics						
Uranium	NatU	mg/L	0.0003	0.0081	0.0148	0.0014
Radium 226	²²⁶ Ra	pCi/L	0.2	0.6	< 0.2	< 0.2
Radium Error Estimate ±				0.2		
Radium 228	²²⁸ Ra	pCi/L	1.0	< 1.0	< 1.0	1.7
Radium Error Estimate ±						0.2
Thorium 230	²³⁰ Th	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±						
Lead 210	²¹⁰ Pb	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±						
Gross Alpha		pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±						

Trace Organics						
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range			
Anion	meq		15.45	15.23	14.40
Cation	meq		15.03	14.51	14.67
WYDEQ A/C Balance	%	-5 - +5	-1.39	-2.41	0.92
Calc TDS	mg/L		994	970	935
TDS A/C Balance	dec. %	0.80 - 1.20	0.99	1.01	1.04

**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS**

WELL ID:
LABORATORY ID:
SAMPLE DATE:
REPORT DATE:
QUARTER REPRESENTED:
UNC SUBMITTAL #:

TWQ 143	TWQ 143	TWQ 143
99-10579	99-24243	99-35520
01-05-99	04-06-99	07-13-99
February 13, 1999	May 6, 1999	August 23, 1999
First '99	Second '99	Third '99
TE-1-1-99	TE-3-4-99	TE-5-7-99

Major Ions		Method	Units	Reporting Limit	Results	Results	Results
Calcium	Ca	EPA 200.7	mg/L	0.05	30.6	31.4	33.3
Magnesium	Mg	EPA 200.7	mg/L	0.01	14.5	16.5	18.0
Sodium	Na	EPA 200.7	mg/L	0.05	268	267	284
Potassium	K	EPA 200.7	mg/L	0.10	3.8	3.3	4.0
Bicarbonate	HCO ₃	SM 2320 B.	mg/L	0.10	254	240	247
Sulfate	SO ₄	EPA 200.7	mg/L	1.0	509	477	517
Chloride	Cl	EPA 200.7	mg/L	1.0	16.1	18.5	13.9
Ammonium as N	NH ₄	SM 4500-NH ₃ G.	mg/L	0.05	0.13	0.28	0.33
Nitrate + Nitrite as N	NO ₃ + NO ₂	EPA 353.2	mg/L	0.10	0.13	0.15	< 0.10

Non-Metals		Method	Units	Reporting Limit	Results	Results	Results
Total Dissolved Solids @ 180°C	TDS	SM 2540 C. Mod.	mg/L	1.0	979	975	857
pH		SM 4500-H B.	std. units	0.10	8.20	8.09	8.24

Trace Metals		Method	Units	Reporting Limit	Results	Results	Results
Aluminum	Al	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	As	EPA 206.3	mg/L	0.001	0.004	< 0.001	< 0.001
Beryllium	Be	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	Cd	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	Pb	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	Mn	EPA 200.7	mg/L	0.01	0.09	0.02	0.02
Molybdenum	Mo	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	Ni	EPA 200.7	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	Se	EPA 270.3	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	V	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics		Method	Units	Reporting Limit	Results	Results	Results
Uranium	²³⁸ U	EPA 200.8	mg/L	0.0003	0.0148	0.0014	0.0011
Radium 226	²²⁶ Ra	EPA 903.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Radium Error Estimate ±							
Radium 228	²²⁸ Ra	EPA 904.0	pCi/L	1.0	< 1.0	1.7	< 1.0
Radium Error Estimate ±						0.2	
Thorium 230	²³⁰ Th	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							
Lead 210	²¹⁰ Pb	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							
Gross Alpha		EPA 900.1	pCi/L	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±							

Trace Organics		Method	Units	Reporting Limit	Results	Results	Results
Chloroform		EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range	Results	Results	Results
Anion	meq		15.23	14.40	15.22
Cation	meq		14.51	14.67	15.65
WYDEQ A/C Balance	%	-5 - +5	-2.41	0.92	1.40
Calc TDS	mg/L		970	935	995
TDS A/C Balance	dec. %	0.80 - 1.20	1.01	1.04	0.86