**F-Area Hazardous Waste Management Facility Semiannual
Correction Action Report, Vol. I and II**

by

J. Chase

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Savannah River Site

Aiken, South Carolina 29808

Exploration Resources

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DOE Contract No. **DE-AC09-96SR18500**

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F-Area Hazardous Waste Management Facility Semiannual Corrective Action Report (U)

First and Second Quarter 1999

Volume I

October 1999

**Westinghouse Savannah River Company, LLC
Savannah River Site
Aiken, SC 29808**

**Prepared for the U.S. Department of Energy under
Contract No. DE-AC09-96SR18500**

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EXECUTIVE SUMMARY

The groundwater in the uppermost aquifer beneath the F-Area Hazardous Waste Management Facility (HWMF) at the Savannah River Site (SRS) is routinely monitored for selected hazardous and radioactive constituents as required by Module III, Section C, of the 1995 Resource Conservation and Recovery Act (RCRA) Renewal Permit (South Carolina Hazardous and Mixed Waste Permit SC1-890-008-989), effective October 5, 1995 (hereafter referred to as the RCRA permit). Currently, the F-Area HWMF monitoring network consists of 86 FSB wells, 9 FSL wells, and 1 HSB well, each of which is screened in one of the three hydrostratigraphic units that make up the uppermost aquifer beneath the F-Area HWMF (Figures 2-5, Appendix B). This report presents the results of the required groundwater monitoring program as identified in provision IIIC.H.11.c of the RCRA permit and Section C of the Underground Injection Control permit application (hereafter referred to as the UIC application).

The following constituents exceeded the Groundwater Protection Standards (GWPS) during the first half of 1999 in samples from monitoring wells at the F-Area HWMF: cadmium, cobalt, gross alpha, lead, mercury, nickel, nitrate-nitrite as nitrogen, nonvolatile beta, sum of alpha, sum of beta, trichloroethylene, trichlorofluoromethane, tritium, and total radium (sum of radium-226 and radium-228). Although vanadium exceeded GWPS in one well, associated field data suggest that this result is not valid.

The following radionuclides exceeded the GWPS for either sum of alpha activity or sum of beta activity: americium-241, carbon-14, cesium-137, curium-243/244, iodine-129, strontium-90, technetium-99, uranium-233/234, uranium-235, and uranium-238. In addition, radium-226 and radium-228 each individually exceeded the standard for total radium.

At least one constituent exceeded GWPS in 73 (76%) of the 96 F-Area wells. Tritium was the primary constituent detected above the GWPS; it exceeded the GWPS in 68 (71%) of the wells.

Cobalt, gross alpha, nitrate-nitrite as nitrogen, nonvolatile beta, strontium-90, and sum of betas each exceeded GWPS in 30 or more wells.

Constituents exceeding the GWPS were found primarily in Upper Aquifer Zone of the Upper Three Runs Aquifer (UAZ of the UTRA) and Lower Aquifer Zone of the Upper Three Runs Aquifer (LAZ of the UTRA). However, tritium exceeded the GWPS in 11 of the wells in the Gordon Aquifer (GA). Isoconcentration maps included in Volume II of this report indicate both the concentration or activity and the extent of the contamination during the first half of 1999 in each of the three hydrostratigraphic units.

Groundwater flow directions have remained relatively constant since the basins were closed in 1991. Groundwater flow in the UAZ and LAZ of the UTRA is generally south or southeast toward Fourmile Branch. Flow in the GA is generally northwest.

The estimated maximum groundwater flow rate in the UAZ of the UTRA during first quarter 1999 was approximately 274 ft/year and during second quarter 1999 it was approximately 292 ft/year. The flow rate estimate in the LAZ of the UTRA ranged from approximately 23 ft/year during first quarter 1999 to approximately 37 ft/year during second quarter 1999. The flow rate in the GA was estimated at 321 ft/year during first quarter 1999 and 251 ft/year during second quarter 1999.

The operating permit for the F-Area Wastewater Treatment Unit (WTU) was received on April 18, 1997, and shakedown activities began upon receipt of RCRA approval on April 22, 1997. The WTU operated in a shakedown mode through the second quarter of 1999.

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SEMIANNUAL CORRECTIVE ACTION REPORT

Introduction

This report addresses groundwater quality and monitoring data during First and Second Quarter 1999 for the F-Area Hazardous Waste Management Facility (HWMF). The report fulfills the semiannual reporting requirements of Module III, Section C, of the 1995 Resource Conservation and Recovery Act (RCRA) Renewal Permit (South Carolina Hazardous and Mixed Waste Permit SC1-890-008-989), effective October 5, 1995 (hereafter referred to as the RCRA permit), and Section C of the Underground Injection Control Permit Application (hereafter referred to as the UIC permit). The F-Area HWMF is described in the introduction to Module III, Section C, of the RCRA permit.

Savannah River Site (SRS) monitors groundwater quality quarterly at the F-Area HWMF and provides results of this monitoring to the South Carolina Department of Health and Environmental Control (SCDHEC) semiannually. Contaminant concentrations in the groundwater are compared to the GWPS list provided in the RCRA permit. SRS samples effluent from the Wastewater Treatment Unit (WTU) monthly in accordance with the UIC permit.

The F-Area HWMF well network monitors three distinct hydrostratigraphic units in the uppermost aquifer beneath the facility. The hydrostratigraphy at the F-Area HWMF is described in section IIIC.H.2 of the RCRA permit. The groundwater monitoring system is described in section IIIC.H.4 and Appendix IIIC-B of the RCRA permit. A detailed description of the uppermost aquifer is included in the 1992 RCRA Part B Renewal Application for the F-Area HWMF.

System Evaluation

The F-Area HWMF operated in a shakedown mode during the First and Second Quarter 1999. Approximately 12.7 million gallons were treated and injected. During the first half of 1999, significant time was dedicated to modification of the Wastewater Treatment Unit (WTU).

In the first half of 1999, no changes in historical contaminant trends and/or levels were observed, which is expected because of the limited operation of the WTU. The most evident event in the hydrographs is the large recharge to the shallow aquifer systems that occurred during 1998. The resulting water elevation increases and decreases are seen in almost every well, with deeper zones showing lesser responses as would be expected (e.g., well cluster FSB112). The water elevations began to decrease from these high levels in late 1998 and have continued to decrease in the first half of 1999.

The seepage line in the area of the F-Area HWMF has experienced a significant reduction of water in the past six-months. This condition could be due to the current regional drought and/or the operation of nearby extraction wells of the remediation system. However, the specific cause has not yet been identified. The seepage line will continue to be observed.

Water Quality and Elevation Data Tables (IIC.H.11.b.i)

Water quality, elevation data, and field parameters for all F-Area monitoring wells during First and Second Quarter 1999 are presented in Appendix C. The data tables also include modifiers that explain laboratory accuracy and precision. Definitions of the abbreviations and the modifiers used in the data as well as descriptions of holding times, data rounding, and data qualification practices are provided in Appendix C. Analytical results are rounded to two significant digits. Constituents that exceeded either the GWPS or EPA-approved holding times are noted by symbols in columns headed ST and H, respectively.

Variable-speed pumps have been installed in wells with a history of elevated analytical results for metals. Samples from wells with variable-speed pumps can be collected at a slower rate to minimize turbidity, which has been associated with elevated metals levels. The chart below identifies those wells that currently have variable-speed pumps as well as those with single-speed pumps.

Variable-Speed Pumps	Single-Speed Pumps
FSB 77, 78, 78C, 79, 79C, 88D, 89D, 90D, 91D, 92C, 92D, 93D, 94C, 97C, 97D, 98C, 98D, 102C, 104D, 105C, 105DR, 106C, 107D, and 110D FSL 1D, 2D, 3D, 4D, 5D, 6D, 7D, 8D, and 9D	All remaining FSB wells and well HSB 85A have single-speed pumps

Minor maintenance problems at several wells, such as broken flowmeters, did not interfere with scheduled sampling during First and Second Quarter 1999. The well maintenance program was effective in that there were no instances of mechanical problems carrying over from one quarter to another. During First and Second Quarter 1999, 100% of the F-Area monitoring wells were sampled as scheduled.

Analytical Results

All data received from the contracted laboratories are validated and verified according to EPA guidelines. Analytical results that exceeded the GWPS (Appendix A) during First and Second Quarter 1999 in the F-Area HWMF wells are indicated in Appendix C by a black square in the column headed *ST*. Due to analytical limitations, curium-244/246 activities are reported as an upper limit of curium-246 activities and uranium-233/234 activities are reported as an upper limit of uranium-234. Curium-246 and uranium-234 are the contaminants of concern, not curium-245 and uranium-233.

Data received from the laboratories for the following radionuclide analyses were rejected during First Quarter due to analytical difficulties: americium-241 in two wells, carbon-14 in one well, cesium-137 in 11 wells, cobalt-60 in one well, curium-242 in one well, curium-243/244 in two wells, curium-245/246 in 23 wells, iodine-129 in one well, plutonium-238 in 15 wells, plutonium-239/240 in two wells, technetium-99 in two wells, thorium-228 in 24 wells, thorium-230 in 18 wells, uranium-233/234 in four wells, and uranium-238 in four wells. Corrective measures have been implemented to reduce the number of rejected values due to analytical difficulties in the future.

SRS began implementing a data filtering process to better evaluate the data collected during third and fourth quarter 1998, after permission to implement the data filtering process was granted by SCDHEC (Taylor to Cook, April 21, 1998). The data tables in Appendix C include both a column for all data collected and a column for filtered data for comparison purposes. For the purposes of regulatory decision making, data that are qualified during validation by either the laboratory or WSRC contracted validators as rejected (R), not detected (U), or estimated (J) are filtered from the data set for purposes of discussion in this report. Appendix C includes additional information on data filtering.

The following constituents exceeded the GWPS during the first half of 1999 in monitoring wells at the F-Area HWMF: americium-241, carbon-14, cesium-137, curium-243/244, gross alpha, nonvolatile beta, total radium, iodine-129, radium-226, radium-228, strontium-90, sum of alpha, sum of beta, technetium-99, uranium-235, uranium-233/234, uranium-238, tritium, cadmium, cobalt, lead, mercury, nickel, nitrate-nitrite (as nitrogen), trichlorofluoromethane, and trichloroethylene.

The following radionuclides individually exceeded the standard for either sum of alpha or sum of beta: americium-241, curium-243/244, technetium-99, uranium-235, carbon-14, iodine-129, uranium-233/234, uranium-238, cesium-137, and strontium-90. Radium-226 and radium-228

each individually exceeded the standard for total radium (5 pCi/L) in one or more wells. Although beta dose was exceeded in 44 wells, the sum of beta was only exceeded in 37 wells. Conversely, beta dose was not exceeded in two wells that did exceed the sum of beta standard.

Table 1 summarizes the maximum activities detected for indicator radionuclides in the F-Area groundwater during First and Second Quarter 1999, and Table 2 summarizes the maximum concentrations detected for other constituents that exceeded the GWPS during First and Second Quarter 1999.

Table 1. Maximum Activities of Radionuclides

Radionuclide	Maximum Activity	Quarter	Well	Aquifer Unit	GWPS
Tritium	14,000 pCi/mL	First	FSB 94C	LAZ of the UTRA	20 pCi/mL
Gross alpha	1,400 pCi/L	First	FSB 119D	UAZ of the UTRA	15 pCi/L
Nonvolatile beta	2,400 pCi/L	Second	FSB 94C	LAZ of the UTRA	50 pCi/L
Total radium	140 pCi/L	First	FSB 95CR	LAZ of the UTRA	5 pCi/L
Sum of alpha	1,200 pCi/L	First	FSB 119D	UAZ of the UTRA	15 pCi/L
Sum of beta	1,400 pCi/L	First	FSB 78	UAZ of the UTRA	50 pCi/L

Table 2. Maximum Concentrations of Nonradiological Constituents

Constituent	Maximum Concentration	Quarter	Well	Aquifer Unit	GWPS
Cadmium	48 µg/L	First	FSB 112C	LAZ of the UTRA	5 µg/L
Cobalt	630 µg/L	First	FSB 94C	LAZ of the UTRA	3 µg/L
Lead	68 µg/L	Second	FSL 1D	UAZ of the UTRA	15 µg/L
Mercury	17 µg/L	First	FSB 90D	UAZ of the UTRA	2 µg/L
Nickel	170 µg/L	First	FSB 94C	LAZ of the UTRA	100 µg/L
Nitrate/nitrite as nitrogen	320,000 µg/L	First and Second	FSB 94C	LAZ of the UTRA	10,000 µg/L
Trichloro-fluoromethane	7.2 µg/L	First	FSB 107C	LAZ of the UTRA	5 µg/L
Trichloroethylene	76 µg/L	First	FSB 99C	LAZ of the UTRA	5 µg/L

Tritium is the most widespread contaminant and exceeds the GWPS in all three aquifer zones (maps 28–30). The highest activities are downgradient of the seepage basins in UAZ and LAZ of the UTRA. Tritium is also present in the UAZ of the UTRA along the inactive process sewer line to the basins. Tritium exceeded GWPS in 7 GA wells during First Quarter 1999 (FSB-97A, 98AR, 99A, 100A, 112A, 113A, and 120A) and eight GA wells during Second Quarter 1999 (FSB- 96AR, 97A, 98AR, 99A, 100A, 112A, 113A, and 120A).

The extent of the nitrate plume, maps 16–18, is very similar to the extent of the tritium plume in the UAZ and LAZ of the UTRA. The cadmium, gross alpha, and nonvolatile beta plumes (maps 1–F6 and 19–F21) in the UAZ and LAZ of the UTRA are also similar in shape but are less extensive than the tritium plume.

Individual radionuclide plume maps for the UAZ and LAZ of the UTRA between the basins and Fourmile Branch are provided in maps 7-9, 22-24, and 31-36. These include technetium-99, strontium-90, uranium-234, and uranium-238.

Lead is elevated in several UAZ and LAZ wells (maps 10-12) near the basins. There is no clear pattern to the distribution of elevated lead.

Background Results

Wells FSB 76C and 108D and well HSB 85A are the background wells for the F-Area HWMF. These wells are screened in the LAZ of the UTRA, UAZ of the UTRA, and GA, respectively. The only analysis from the background wells to exceed GWPS during the first half of 1999 was nonvolatile beta in HSB 85A during Second Quarter. This result is not considered valid because it was extremely high compared to historical data from HSB 85A, and a second sample result on the same date was below detection.

Appendix IX Analyses (Third Quarter 1998)

Appendix IX analyses were performed during third quarter 1998, as required by the RCRA permit. Beryllium was detected in wells FSB 94C and FSB 95CR. Confirmation sampling was performed in January 1999, and the analytical results indicated that beryllium was present. Consequently, a modification to the 1992 RCRA Part B Renewal Application was submitted to SCDHEC on August 1, 1999, to add beryllium to the quarterly GWPS list with a standard of 4 µg/L.

In addition, SCDHEC added aluminum to the quarterly groundwater monitoring list in the RCRA permit because aluminum is a suspected toxin in the tree kill area downgradient of the F-Area HWMF. However, aluminum is not on the GWPS list and there is no standard.

Water Elevations

Synchronous water-level elevations were measured on March 22 and 23 during First Quarter 1999 and on June 18 through 28 during Second Quarter 1999 in compliance with permit condition IIIC.H.7. Synchronous water levels could not be obtained from well FSB 90D during First Quarter and FSB 87D, FSB 90D, and FSB106D during Second Quarter because the wells were dry.

Hydrographs (IIIC.H.11.b.ii)

Hydrographs showing the water elevations for the F-Area HWMF wells are provided in Appendix E . Hydrograph data include both synchronous measurements and measurements taken during sampling. Clustered wells are shown on a single graph.

Time vs. Concentration Plots (IIIC.H.11.b.iii)

Appendix D contains time series plots for cadmium, lead, nitrate (or nitrate/nitrite), gross alpha, nonvolatile beta, strontium-90, technetium-99, tritium, uranium-233/234, and uranium-238 for selected wells. These wells were selected to delineate the extent of the constituent distribution, to monitor the migration of the constituents, and to follow trends of constituents present at high levels. Rejected data and results below the detection limit do not appear on the plots. Beginning Third Quarter 1998, estimated (J-qualified) values do not appear on the plots. Only unfiltered, consecutive data points are connected.

There is one minor revision to the Time vs. Concentration Plots in this report. The technetium-99 plots now begin in First Quarter 1994 to eliminate scaling problems from the anomalous 1993 data. There was also an analytical method change for technetium-99 in 1994, and the subsequent results are considered more reliable than the earlier results.

Isoconcentration Maps (IIC.H.11.b.iv)

Isoconcentration maps for strontium-90, technetium-99, uranium-233/234, and uranium-238 in the three hydrostratigraphic units during First Quarter 1999 and for cadmium, lead, nitrate (or nitrate-nitrite), gross alpha, nonvolatile beta, and tritium during Second Quarter 1999 are presented in Appendix H.

The contaminant plume maps have been revised from those provided in previous reports to reflect both physical/chemical changes in the aquifer and changes in interpretation. The most significant changes are due to interpretative methods. As discussed with SCDHEC hydrogeological staff during a previous technical meeting, a matrix has been developed to summarize the historical data through 1996. This baseline, along with current knowledge of contaminant levels and aquifer properties, allows for better interpretation of contaminant extent and migration pathways in two dimensions. A time trend analysis of tritium (a conservative tracer) and the spatial distribution of a representative suite of contaminants were used to interpret pathways of migration.

The contaminant concentrations/activities posted on the plume maps have undergone data filtering as described in Appendix C. The filtered maximum value for a given quarter is posted on the isoconcentration and isoactivity maps. However, SRS has made use of some "NDD" (not decision data) values on a case-by-case basis in accordance with SCDHEC guidance. NDD values that are consistent with surrounding data points have been considered in the positioning of the isoconcentration/isoactivity contours, but the NDD values are not posted on the maps because

there is a lower level of certainty associated with the NDD points. All of the values (filtered and unfiltered) are provided in the Appendix C data tables.

Potentiometric Maps (IIC.H.11.b.v)

Piezometric and potentiometric surface maps for the monitored water-bearing units during First and Second Quarter 1999 are located in Appendix H. Synchronous water elevations measured within a two-week time span were used to construct the piezometric and potentiometric maps. The maps illustrate groundwater flow patterns beneath the F-Area HWMF for First and Second Quarter 1999.

Groundwater velocity calculations provide a basis for estimates of the transport rate for constituents originating from the F-Area HWMF. Velocities in the LAZ of the UTRA are calculated along two flow paths (designated flow paths A and B) to characterize the approximate maximum and minimum groundwater velocities within these units in areas downgradient from the basins. The maximum value has been reported. The velocity in the GA is calculated along a single flow path because the velocity within this unit is generally more uniform than in the overlying units.

Groundwater velocities are estimated using the following equation:

$$\text{Velocity (ft/day)} = \frac{\text{Hydraulic Conductivity (ft/day)}}{\text{Porosity (unitless)}} \times \frac{dh(\text{ft})}{dl(\text{ft})}$$

The value dh is the difference in head, and dl is the length of the flow path. Flow path length is calculated to the nearest 50 ft. Velocity estimates vary depending on the vertical gradient between wells, the size of the area under consideration, the number of data points, and the length and location of the flow path. Because these calculations are based on inferred or estimated parameters, velocity estimates are only accurate to an order of magnitude.

Horizontal flow rate estimates for the hydrostratigraphic units during First and Second Quarter are provided in Table 3.

Table 3. Horizontal Groundwater Velocities in the Hydrostratigraphic Units beneath the F-Area HWMF

	UAZ of the UTRA	LAZ of the UTRA	GA
K_h (ft/day)	25	2	40
Effective porosity	0.20	0.20	0.25
dh/dl	Varies	Varies	Varies
Groundwater velocity (ft/yr) (1Q99)	274	23	321
Groundwater velocity (ft/yr) (2Q99)	292	37	251

Flow in the UAZ of the UTRA was south or southeast along both paths during First and Second Quarter 1999. Flow in the LAZ of the UTRA was southeast during both quarters. Flow in the GA was northwest.

Volume and Rates of Groundwater Pumped (IIC.H.11.b.vi)

Table 4 summarizes the average pump rates, monthly volumes, and total 6-month volumes pumped from each extraction well associated with the F-Area WTU during First and Second Quarter 1999.

Table 4. Volume Pumped (gallons) During the First Half of 1999

Well	Avg. Pump Rate* (gpm)	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999	6-Month Total
FEX 1	18.02	118,431	67,735	145,251	581,538	623,312	224,664	1,760,931
FEX 2	18.57	138,816	90,985	143,190	584,193	615,001	126,664	1,698,849
FEX 3	21.74	142,568	58,745	147,311	796,627	694,569	126,975	1,966,795
FEX 4	22.75	122,308	79,825	133,912	791,316	811,692	179,896	2,118,949
FEX 5	5.91	68,783	66,495	55,628	154,014	166,217	102,423	613,560
FEX 6	16.83	51,203	73,470	140,136	573,505	588,839	158,199	1,585,352
FEX 7	16.09	105,040	66,805	67,990	586,849	534,663	74,218	1,435,565
FEX 8	7.41	-	-	37,085	196,702	229,163	77,757	540,707
FEX 9	10.77	85,791	68,956	42,236	355,826	362,906	35,284	950,999
FEX 10	0.26	3,876	-	-	-	-	-	3,876
FEX 11	0.38	5,627	-	-	-	-	-	5,627
Totals		842,443	573,016	912,739	4,620,570	4,626,362	1,106,080	12,681,210

*Estimated due to instrument flow errors. Totals based on recorded well performance and extraction totals.

Volume and Rates of Groundwater Injected (IIC.H.11.b.vii)

Table 5 summarizes the pump rates, monthly volumes, and total volumes pumped into each injection well associated with the F-Area WTU during First and Second Quarter 1999. The difference in total volume extracted (Table 4) and total volume injected (Table 5) is due to water retained in the WTU system and instrumentation accuracy of +/- 1% for all flow meters.

Table 5. Volume Injected (gallons) During the First Half of 1999

Well	Avg. Pump Rate* (gpm)	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999	6-Month Total
FIN 1	24.07	103,921	77,151	139,520	864,688	807,235	224,664	2,217,179
FIN 2	15.47	94,061	49,969	97,446	543,855	525,387	126,664	1,437,382
FIN 3	15.38	95,488	47,773	95,228	516,657	547,278	126,975	1,429,399
FIN 4	22.07	117,544	76,876	132,876	734,239	809,971	179,896	2,051,402
FIN 5	14.19	98,991	55,049	94,158	511,217	456,977	102,423	1,318,815
FIN 6	19.01	106,386	73,307	139,520	614,558	695,043	158,199	1,787,013
FIN 7	11.36	83,293	64,796	90,799	359,801	383,095	74,218	1,056,002
FIN 8	10.32	82,644	50,103	53,150	369,789	325,631	77,757	959,074
FIN 9	5.24	65,250	80,171	55,365	122,484	128,610	35,284	487,164
FIN 10	0.46	6,876	-	-	-	-	-	6,876
Totals		854,454	575,195	898,062	4,637,288	4,679,227	1,106,080	12,750,306

*Estimated due to instrument flow errors. Totals based on recorded well performance and injection totals.

Rainfall and Recharge (IIC.H.11.b.viii)

Table 6 summarizes the rainfall data for F-Area during First and Second Quarter 1999. Recharge to groundwater is estimated to be 30% of rainfall in the General Separations Area.

Table 6. Rainfall (in.) during First and Second Quarter 1999

January	February	March	April	May	June	Total
5.82	2.6	3.04	1.34	2.55	8.67	24.02

Summary of System Downtime (IIC.H.11.b.ix)

Appendix G summarizes the downtime for First and Second Quarter 1999.

The WTU went down on 1/9/99 due to high differential pressure across the roughing filters. In order to clean out the system and prepare for an extended run, exchange media was changed in the polishing system, sludge was removed from the system, and the flocculation tank and clarifier were cleaned of sludge and polymer. This shutdown extended until 1/18/99.

The WTU was down from 1/19/99 to 1/28/99 due to problems with the ferric chloride addition system, and problems obtaining a code certified rupture disk on the discharge line. This applied to both facilities.

On 1/29/99, several bolts failed at the sludge pump surge supressor mounting flange. The unit was repaired and returned to service on 2/2/99.

Sludge buildup, excessive sludge generation, and solids carryover to the polishing system continued to be a problem throughout the month of February. The unit was down intermittently for cleaning and/or sludge removal.

The unit was down from 2/22/99 through 3/19/99 for a scheduled outage. This included sludge pump modifications, grouting of the RO feed skid, air compressor relocation, installation of new chemical mixing tanks, installation of a flocculation tank platform, and lightening protection upgrades to the injection and extraction well systems. Ion exchange media was changed out prior to restart.

During the period from 3/20/99 through 3/30/99, the WTU was down intermittently in support of a special Process Test Plan conducted to evaluate WTU performance under conditions of reduced

chemical feed rates. The objective of the test was to determine the contaminant removal effectiveness of the WTU under test conditions, with and without the use of a reroute for RO concentrate flow, while proving the system's capability in maintaining a continuous well system flow rate of 165 GPM.

From 3/31/99 to 4/6/99 the facility was down to conduct electrical inspections to detect and correct code violations resulting from WSRC subcontractors equipment installation.

From 4/7/99 through 4/10/99, the WTU was down intermittently due to problems with the sludge transfer pump, PolyBlend assembly, loss of the ferric chloride discharge rupture disk (due to corrosion), and removal of plated material from the process piping and tanks.

Other problems resulting in short term downtime included the following:

- Caustic buildup in the caustic addition feed lines.
- PolyBlend system cleaning and minor repairs.
- Fouling and corrosion in the ferric chloride feed lines.
- Piping lateral failure inside the roughing filters.
- Cleaning or replacement of the filter press screens.
- Poor flocculation quality with excessive solids carryover.

The WTU was down from 6/9/99 through 6/30/99 for a scheduled outage. Modifications performed during this outage will be reported in the next semi-annual report.

Minor Modifications to the System (IHC.H.11.b.x)

The sludge pump configuration for the flocculation tank sludge discharge was modified to reduce pressure drop, minimize bends and restrictions in the piping, improve system air supply, and improve the sludge pump and surge suppressor mounting brackets.

The skid for the RO feed pumps was filled with grout to help reduce vibration harmonics in that area. In addition, flexible joints were added to the inlet, discharge and recirculation lines to reduce pump induced vibration in the piping. The pipe supports for the discharge piping were moved from the skid to the pad, and accumulators were added to the pump inlet piping.

The pulleys and sheaves on the RO feed pumps were changed to optimize flow rates for the system.

The two air compressors were relocated to a new pad north of the WTU unit. This was done to reduce noise at the WTU, and to provide room on the pad for other modifications (i.e., chemical mix tanks).

A new ferric chloride addition and mixing tank, and a new caustic addition and mixing tank, were added to the clarification system. These new tank systems included discharge pumps, agitators, and pH and level control instrumentation. The PLC software was revised to show these new tanks. The new tanks provided improved chemical mixing, greater residence time for chemical reactions, and improved pH control of the process. The polymer system feed piping was revised and static mixers added to improve injection mixing and chemical residence time.

A new access stairway and platform were fabricated and installed to provide improved and safer access to the top of the flocculation tank.

A lightning protection upgrade was added to the F-Area instrumentation for the injection and extraction well systems, extraction and injection tanks, and the PLC controllers external to the WTU.

Nature and Extent of Contaminantion

Contaminant Trends

Time trends of key contaminants are provided in Appendix D and plume maps of key contaminants are provided in Appendix H. Each map illustrates the contaminant plumes in the UAZ and LAZ of the UTRA and posts concentration/activity values in the GA. Information from all three aquifer zones is combined on a single map for each contaminant to allow easy comparison of contaminant extent in all three aquifer zones. The contour intervals on each map include the PDWS for that contaminant and additional contours to adequately represent the contaminant distribution

Upper Aquifer Zone of the Upper Three Runs Aquifer (UAZ of the UTRA)

The tritium and nitrates plume maps represent the maximum extent of contamination in the aquifer zones below the HWMF. The primary contaminant migration pathways in the UAZ of the UTRA are clearly visible on the maps. These pathways likely represent areas of higher permeability in the aquifer zone. However, the three-dimensional extent and geological cause of the pathways has not been resolved.

Tritium and nitrate contamination is elevated along the southern portion of the F-Area Inactive Process Sewer Line (FIPSL) and beneath the upper basins and their eastern POC wells. The

pathways diverge at the southern end of Basin F-3. The first pathway migrates directly to Fourmile Branch through wells FSB-110D, FSB-117D, and FSB-79. Maps of other GWPS contaminants show the highest levels of contamination migrating through this pathway. The second pathway is not as visible in the tritium data due to the natural decline in contaminant levels in this area of the aquifer zone. It shows up as an area of anomalous low activity in FSB-112D on the current tritium map. However, tritium activities in previous quarters have been elevated in FSB-95DR and FSB-97D, and southwest in FSB-112D, FSB-122D and FSB-104D. The 100 picocuries per liter (pCi/L) isoactivity contour on the Gross Alpha map also illustrates the two pathways.

The tritium and nitrates plumes are the most extensive contaminant plumes, extending from the seepage basins to Fourmile Branch in the UAZ and LAZ of the UTRA. The both plumes extend from the southern area of the FIPSL to the seepline of Fourmile Branch. The 1,000 pCi/mL tritium contour and 50 mg/L nitrates contour outline the eastern pathway. The highest tritium activities in First and Second Quarter 1999 were in the POC wells on the eastern and southern sides of Basins F-2 and F-3, and in wells FSB-119D and FSB-79. The highest nitrate concentrations in First and Second Quarter 1999 were in the POC wells on the eastern and southern sides of Basins F-2 and F-3, in wells on the southwestern side of Basin F-3, and in wells FSB-119D, FSB-92D, FSB-78, and FSB-79. Tritium activities and nitrate concentrations have both declined significantly in the UAZ of the UTRA since 1992.

The cadmium plume extends from the northern part of Basin F-2 beneath Basin F-3 and through FSB-119D, FSB-117D, and FSB-79 to the seepline of Fourmile Branch. The 5 µg/L contour outlines the eastern pathway. The highest cadmium concentrations in First and Second Quarter 1999 were in POC wells to the east and southeast of Basin F-3. Cadmium in the UAZ of the UTRA has not changed significantly since 1992, suggesting that cadmium is not highly mobile in the aquifer.

Evaluation of historical data reveals that lead concentrations are variable across the monitoring well network and are highly dependent on field parameters indicating the presence of particulate contamination (e.g., turbidity and low purge volumes). Since these parameters vary between monitoring wells, reported values are not considered representative of the aquifer as a whole. Lead is best evaluated on a well-by-well basis. During the First Quarter of 1999, lead values in eight FSB (FSB-76, 97D, 98D, 106D, 111D, 115D, 116D, and 121DR) and two FSL (FSL-1D and 2D) wells exceeded the GWPS limit of 15 $\mu\text{g/L}$ in the UAZ of the UTRA. Lead concentrations in the FSL wells and FSB-76 probably originated from the FIPSL. Lead in the remaining wells either originated from the seepage basins or is not representative of the aquifer.

FSB-76 has historically reported lead concentrations in the 30-50 $\mu\text{g/L}$ range at low turbidity levels. FSL-1D has historically ranged from below detect to over 400 $\mu\text{g/L}$, the higher values being associated with elevated dilution factors in the analysis and therefore not considered representative of the aquifer. FSL-4D has historically ranged from below detect to over 1,400 $\mu\text{g/L}$, the higher values being associated with elevated turbidity and therefore not considered representative of the aquifer.

Lead concentrations in FSB-97D have historically ranged from 18.8 $\mu\text{g/L}$ to 130 $\mu\text{g/L}$. FSB-98D has historically ranged from below detection to 125 $\mu\text{g/L}$, with most results being less than 50 $\mu\text{g/L}$. Since field parameters for these wells were normal during 1Q99, the results probably reflect contamination from the facility.

FSB-111D has historically reported lead below detection in many events, the elevated results being associated with low purge volumes. FSB-106D has historically ranged between 9 $\mu\text{g/L}$ and 222 $\mu\text{g/L}$, with most events being associated with low purge volumes and moderately elevated turbidity. FSB-121DR has historically ranged from below detection to over 80 $\mu\text{g/L}$. There is a clear trend of decreasing lead concentrations over the last three years.

FSB-115D and FSB-116D are located across Fourmile Branch from the HWMF. They are shallow wells and have historically yielded elevated turbidity values in association with low purge volumes. Lead concentrations have varied significantly ranging from less than detect to over 80 µg/L in FSB-115D and from 13.5 µg/L to 94 µg/L in FSB-116D. Samples from these wells are not considered representative of the aquifer. Lead would have to be a more mobile contaminant than tritium to migrate from the HWMF into these wells since tritium activities in these wells are comparable to background tritium activities.

The gross alpha plume extends from the southern portion of the FIPSL to the seepline of Fourmile Branch, similar to tritium and nitrates. The 100 pCi/L contour outlines both pathways of migration, although the highest levels of gross alpha appear to be migrating through the eastern pathway. The highest gross alpha activities in First and Second Quarter 1999 were in FSB-78, FSB-95DR, FSB-92D and FSB-119D. Gross alpha in the UAZ of the UTRA has not decreased significantly since 1992. The primary contributors to gross alpha activity in the groundwater are uranium-234 and uranium-238.

The uranium-234 and uranium-238 plumes are similar in configuration to the gross alpha plume, extending from well FSL-9D to the seepline of Fourmile Branch. The 200 pCi/L contour suggests that the eastern pathway carries most of the uranium-238 contamination. This is consistent with the gross alpha plume, and is also true of uranium-234. The highest uranium-238 activities in First Quarter 1999 are found in FSB-95DR and FSB-119D. The highest uranium-234 activities in First Quarter 1999 are found in FSB-77, FSB-95DR, and FSB-117D.

The nonvolatile beta plume is similar to the tritium and nitrates plumes, extending from FSL-9D to the seepline of Fourmile Branch. The 500 pCi/L contour outlines the eastern pathway. The highest nonvolatile beta activities in First and Second Quarter 1999 are found in FSB-78, FSB-90D, FSB-92D, FSB-93D, and FSB-119D. Nonvolatile beta in the UAZ of the UTRA continues to decrease at this facility.

Strontium-90 is the primary contributor to nonvolatile beta activity levels in the groundwater. The strontium-90 plume is similar to the nonvolatile beta plume, and extending from FSL-9D to the seepage line of Fourmile Branch. The 100 pCi/L contour outlines both migration pathways, and the 200 pCi/L contour shows that most of the strontium-90 contamination is migrating through the eastern pathway. The highest nonvolatile beta activities in First Quarter 1999 are found in FSL-7D, FSB-77, FSB-93D, and FSB-78. Strontium-90 in the UAZ of the UTRA has decreased since 1992.

Technetium-99 does not contribute to nonvolatile beta activity in the groundwater. However, evaluation of groundwater data indicate that technetium-99 is a significant contributor to gross beta activity. The technetium-99 plume is smaller than the nonvolatile beta plume, extending from FSB-90D to the seepage line of Fourmile Branch. It is currently restricted to the eastern pathway. The highest technetium-99 activities in First Quarter 1999 are found in FSB-90D and FSB-110D. Historical technetium-99 data were severely distorted by analytical methods in use at that time. Method EPIA-005 has been in use since 1994, and has been producing more consistent results.

Lower Aquifer Zone of the Upper Three Runs Aquifer (LAZ of the UTRA)

The tritium and nitrates plume maps represent the maximum extent of contamination in the LAZ of the UTRA. The primary pathways of contaminant migration in the UAZ of the UTRA are also visible in the LAZ of the UTRA. This could imply either a duplication of relative aquifer permeability in the LAZ of the UTRA, or that the contaminant trends in the UAZ of the UTRA are superimposed on the LAZ of the UTRA via vertical migration through the Tan Clay Confining Zone. The latter explanation currently appears more likely. Historical aquifer testing has demonstrated the lower permeability and subsequent slower migration through the LAZ of the UTRA relative to the UAZ of the UTRA. Contaminant distributions in the LAZ of the UTRA support this conclusion in three ways: (1) the primary pathways of the UAZ appear "imprinted" on the LAZ over time, (2) greater "spread" between similar contour intervals in the LAZ

suggesting a more significant component of diffusion in transport through the LAZ, and (3) the persistence of elevated levels of contamination in the LAZ.

Tritium and nitrates contamination are most elevated beneath Basin F-3, but extends from the northern end of the upper basins to Fourmile Branch. The concentrations/activities of mobile contaminants (e.g., tritium) are commonly elevated in the LAZ over those in UAZ. Tritium contamination is also more widespread in the LAZ relative to the UAZ based on a comparison of the 20 pCi/mL tritium activity contour in both aquifer zones.

The tritium plume extends from Basin F-1 to Fourmile Branch. The low tritium activities in FSB-115C and FSB-116C strongly suggest that Fourmile Branch is a hydrologic barrier to contaminant migration in the LAZ as well as in the UAZ. The 5,000 pCi/mL contour outlines the superimposed pathways from the UAZ. The highest tritium activities in First and Second Quarter 1999 are found in wells on the southern side of Basin F-3, in wells FSB-78, FSB-94C, and FSB-95CR. Tritium in the LAZ of the UTRA has declined significantly since 1992 in the wells north of Basin F-3. Tritium has only declined slightly in the wells south of Basin F-3. Tritium activities in FSB-78, FSB-94CR, and FSB-95CR have not changed significantly. The dramatic decrease in the UAZ in these well clusters demonstrates that continued high tritium activity levels in the LAZ are not based on ongoing vertical migration from the UAZ. The slow migration of tritium through the LAZ provides additional time for decay prior to discharging to Fourmile Branch.

The nitrates plume extends from the southern portion of the FIPSL to Fourmile Branch. The 100 mg/L contour outlines the "imprinted" migration pathways of the UAZ. The highest nitrate concentrations in First and Second Quarter 1999 were in wells on the southern side of Basin F-3, in wells FSB-78C, FSB-94C, and FSB-95CR. Nitrates concentrations in the LAZ of the UTRA have not dropped significantly since 1992, and concentrations near Basin F-3 continue to exceed 200 mg/L.

The cadmium plume extends from the southern end of Basin F-2, beneath Basin F-3, and through the two UAZ migration pathways to Fourmile Branch. The highest cadmium concentrations in First and Second Quarter 1999 are found in wells to south of Basin F-3, FSB-94C, FSB-78C, and FSB-95CR, and in well FSB-112C. Cadmium in the LAZ of the UTRA has not changed significantly since 1992.

Lead concentrations in the LAZ of the UTRA only exceeded GWPS in one well during First and Second Quarter 1999, FSB-97C.

The gross alpha plume extends from the southern end of Basin F-2 to Fourmile Branch, similar to the tritium and nitrates plumes. The 100 pCi/L contour outlines both UAZ pathways of migration. The highest gross alpha activities in First and Second Quarter 1999 were in FSB-94C, FSB-95CR, FSB-78C, FSB-79, FSB-98C, and FSB-112C. Gross alpha in the LAZ of the UTRA has not decreased significantly since 1992. The primary contributors to gross alpha activity levels in this aquifer zone are uranium-234 and uranium-238.

The uranium-234 and uranium-238 plumes are somewhat similar in configuration to the gross alpha plume, but extend from beneath Basin F-3 through the eastern UAZ pathway, through FSB-79C to Fourmile Branch. The 15 pCi/L contour outline suggests that uranium-238 contamination is restricted to the eastern UAZ pathway. This is consistent with uranium-234 contamination. The highest uranium-238 activities in First Quarter 1999 were in FSB-95CR and FSB-98C. The highest uranium-234 activities in First Quarter 1999 were in FSB-95CR. Uranium-234 and uranium-238 activities have decreased slightly since 1992.

The nonvolatile beta plume is similar to the tritium and nitrates plumes, extending from Basin F-2 to Fourmile Branch. The 1,000 pCi/L contour outlines the superimposed pathways from the UAZ. The highest nonvolatile beta activities in First and Second Quarter 1999 were in wells on the southern side of Basin F-3, in wells FSB-79, FSB-94C, FSB-95CR, and FSB-112D.

Strontium-90 is the primary contributor to nonvolatile beta activity in the groundwater. The strontium-90 plume is similar to the nonvolatile beta plume, extending from Basin F-2 to Fourmile Branch. The 500 pCi/L contour outlines both UAZ migration pathways. The highest strontium-90 activities in First Quarter 1999 were in FSB-78C, FSB-94C, and FSB-112C. Strontium-90 in the LAZ of the UTRA has not declined significantly since 1992.

Technetium-99 is not a contributor to nonvolatile beta activity levels in the groundwater. However, evaluation of groundwater data indicate that technetium-99 is a significant contributor to gross beta activity. The technetium-99 plume is similar to the nonvolatile beta plume, and extending from Basin F-3 to Fourmile Branch. The highest technetium-99 activities in 1Q99 are found in FSB-78C, FSB-94C, FSB-95CR, and FSB-112C. Historical (1992) technetium-99 data were severely distorted by analytical methods in use at that time. Method EPIA-005 has been in use since 1994, and has been producing more consistent results.

Gordon Aquifer (GA)

Although contaminant values are posted, contaminant plumes are not illustrated in the GA. Evaluation of historical data indicates that the Green Clay is an effective confining zone relative to many contaminants. Although nitrates and strontium-90 have a couple scattered hits above GWPS, tritium is the only contaminant that is consistently elevated above the GWPS in the GA. Tritium exceeds the GWPS in ten wells, but the distribution is irregular and the source of tritium in this aquifer zone is not currently understood. Lead, gross alpha, and nonvolatile beta do not exceed GWPS in the GA. Cadmium, technetium-99, uranium-234, and uranium-238 are not detected in the GA.

Underground Injection Control (UIC) Sampling Results

SRS remained in compliance with the F-Area UIC permit during First and Second Quarter 1999. Monthly compliance samples were collected from the F-Area WTU injection tank, and the results are provided in Appendix F along with other pertinent data.

All of the non-radionuclide constituents were below the UIC permit limits during First and Second Quarter 1999. The detection limit for thallium was slightly greater than the UIC permit limit during the first four months of 1999, but SRS has since implemented a new laboratory method for thallium to achieve an appropriate detection limit. The detection limit for vanadium was greater than the UIC permit limit during April because the laboratory used a dilution factor of 10x. Barium, cobalt, and copper were consistently detected during First and Second Quarter 1999, but at concentrations below the UIC permit limits. No organic constituents were detected in the UIC compliance samples during First and Second Quarter 1999.

Uranium isotopes were the most commonly detected alpha-emitting radionuclides in the F-Area UIC compliance samples during First and Second Quarter 1999. Curium, thorium, and plutonium isotopes were not detected in the compliance samples during First and Second Quarter 1999. Americium-241 was detected in April and radium-226 was detected in June, but both were below the UIC permit limits. Uranium-234 was detected in four samples, uranium-235 was detected in two samples, and uranium-238 was detected in five samples. However, all of the uranium detections were below the UIC permit limits. Uranium-234 and uranium-238 were both elevated over previous months during June, but still below the UIC permit limits.

Iodine-129 was the most commonly detected beta-emitting radionuclide in F-Area. Cesium-137, cobalt-60, and radium-228 were not detected during First or Second Quarter 1999. Carbon-14 was detected in April and June, but below the UIC permit limit. Iodine-129 was present every month, and exceeded the UIC permit limit in January. However, there was no confirmed

exceedence since the February result was below the UIC permit standard. Strontium-90 was detected in four samples and technetium-99 was detected in three samples, but all were below the UIC permit limits.

Tritium Activities at Selected Locations in Fourmile Branch

Tritium activities in Fourmile Branch, a tributary of the Savannah River, are measured monthly at the Savannah River Site as part of routine monitoring activities conducted by the Environmental Monitoring Section of Westinghouse Savannah River Company. Four locations have been monitored by the SRS and the U.S. Geological Survey since 1991, and provide a long term record of tritium movement in Fourmile Branch. These include: (1) FM-2 at Road 4, (2) FM-2B above F-Area, (3) FM-3A below F-Area, and (4) FM-A7 at Road A7. These locations are sampled continuously with water samples being collected over a one week period for analysis of tritium activities. The objective of this analysis is to compare mean tritium activities measured in the First and Second Quarter 1999 with those recorded for years 1991 through 1998 in the SRS Environmental Monitoring Reports.

Mean activities and sample size at the four locations from 1991 to 1999 are given in Table 7. Mean tritium activities at FM-2 and Road 4 have declined each year since 1991 (Appendix B, Figure 7). Although the mean tritium activities for the first two quarters of 1999 have increased slightly at locations FM-2B and FM-A7, the general trend has been one of decreasing activities (Appendix B, Figure 7). The mean activity in 1999 also decreased at FM-3A (Appendix B, Figure 7). The general trend since 1991 at these four locations has been declining activity levels. However, it should be noted that the 1999 mean activity is based on a six month period whereas means prior to 1999 are based on a entire year of monitoring. Monitoring of the four locations will continue through 1999. Additionally, USGS and SRS will monitor additional locations on Fourmile Branch to evaluate tritium activities in surface water and its potential effect, if any, on human health and ecological resources.

Table 7. Mean Tritium Activities (pCi/mL) in Fourmile Branch, 1991-1999.

Year	FM-2 at Rd 4		FM-2B		FM-3A		FM-A7	
	Mean	n	Mean	n	Mean	n	Mean	N
1999	14.7	13	60.8	13	1,189	13	349	13
1998	15.8	26	48.7	26	1,305	26	319	26
1997	18.8	27	68.4	25	1,167	26	354	26
1996	22.4	15	90.7	27	1,589	27	469	27
1995	22.6	25	88.4	26	1,856	26	452	26
1994	33.0	25	108.1	26	2,055	26	491	26
1993	43.3	26	127.4	26	2,052	26	519	26
1992	105	26	250.6	9	2,888	9	644	9
1991	117	27	249.9	26	2,567	26	652	26

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APPENDIX A: GROUNDWATER PROTECTION STANDARD**Table A-1. Groundwater Protection Standard**

Established for the F-Area Hazardous Waste Management Facility by the 1995 RCRA Renewal Permit and its revisions.

Analyte	Concentration/Activity Limit	Unit
<i>Inorganic Constituents</i>		
Antimony	6	µg/L
Arsenic	50	µg/L
Barium	2,000	µg/L
Beryllium	4	µg/L
Cadmium	5	µg/L
Chromium	100	µg/L
Cobalt	3 ^a	µg/L
Copper	1,300	µg/L
Cyanide	20 ^b	µg/L
Lead	15	µg/L
Mercury	2	µg/L
Nickel	100	µg/L
Nitrate	10,000	µg/L
Selenium	50	µg/L
Silver	50	µg/L
Thallium	2	µg/L
Vanadium	3.5 ^a	µg/L
Zinc	5,000	µg/L
<i>Organic Constituents</i>		
Benzene	5	µg/L
Bis(2-ethylhexyl) phthalate	10 ^c	µg/L
Dichloromethane (methylene chloride)	5	µg/L
Phenols	2 ^d	µg/L
Tetrachloroethylene	5	µg/L
Trichloroethylene	5	µg/L

Analyte	Concentration/Activity Limit	Unit
Trichlorofluoromethane	5 ^c	µg/L
Radiological Constituents		
Gross alpha	15	pCi/L
Nonvolatile beta	50	pCi/L
Tritium	20,000	pCi/L
Americium-241	Sum of alphas <15 pCi/L	pCi/L
Carbon-14	Sum of beta dose <4 mrem/yr and <50 pCi/L	pCi/L
Cesium-137	Sum of beta dose <4 mrem/yr and <50 pCi/L	pCi/L
Cobalt-60	Sum of beta dose <4 mrem/yr and <50 pCi/L	pCi/L
Curium-242	Sum of alphas <15 pCi/L	pCi/L
Curium-243/244	Sum of alphas <15 pCi/L	pCi/L
Curium-245/246	Sum of alphas <15 pCi/L	pCi/L
Iodine-129	Sum of beta dose <4 mrem/yr and <50 pCi/L	pCi/L
Plutonium-238	Sum of alphas <15 pCi/L	pCi/L
Plutonium-239/240	Sum of alphas <15 pCi/L	pCi/L
Radium-226	Total radium <5 pCi/L	pCi/L
Radium-228	Sum of beta dose <4 mrem/yr and <50 pCi/L and total radium <5 pCi/L	pCi/L
Strontium-90	Sum of beta dose <4 mrem/yr and <50 pCi/L and strontium-90 <8 pCi/L	pCi/L
Technetium-99	Sum of beta dose <4 mrem/yr and <50 pCi/L	pCi/L
Thorium-228	Sum of alphas <15 pCi/L	pCi/L
Thorium-230	Sum of alphas <15 pCi/L	pCi/L
Thorium-232	Sum of alphas <15 pCi/L	pCi/L
Total radium	5 (the sum of radium-226 plus radium-228)	pCi/L
Uranium-233/234	Sum of alphas <15 pCi/L	pCi/L
Uranium-234	Sum of alphas <15 pCi/L	pCi/L
Uranium-235	Sum of alphas <15 pCi/L	pCi/L
Uranium-238	Sum of alphas <15 pCi/L	pCi/L

^a Concentrations are observed background levels.

^b Concentration is the practical quantitation limit (PQL) for EPA Method 335.2 (used by WA) and 335.3 (used by GE).

^c Concentration is the Appendix IX PQL for EPA Method 8270.

^d Concentration is the PQL for EPA Method 420.1 (used by GE) and 420.2 (used by WA).

^e Concentration is the Appendix IX PQL for EPA Method 8240.

APPENDIX B: FIGURES

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Figure 1. Location of the F-Area HWMF at the Savannah River Site

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Figure 2. Location of Groundwater Monitoring Wells at the F-Area HWMF

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Figure 3. Location of Groundwater Monitoring Wells in the UAZ at the F-Area HWMF

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Figure 4. Location of Groundwater Monitoring Wells in the LAZ at the F-Area HWMF

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Figure 5. Location of Groundwater Monitoring Wells in the GA at the F-Area HWMF

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Figure 7. Mean Tritium Activities (pCi/mL) in Fourmile Branch, 1991-1999.

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APPENDIX C: GROUNDWATER MONITORING RESULTS TABLES

Key to Reading the Tables

The following abbreviations may appear in the data tables:

Constituents

Sp. conductance specific conductance

Laboratories

EM	Environmental Protection Department/Environmental Monitoring Section (EPD/EMS) Laboratory
EX	EMAX Laboratories, Inc.
GE and GP	General Engineering Laboratories, Inc.
TM	Thermo NUtech
WA	Recra LabNet Philadelphia (Roy F. Weston, Inc., until June 1997)

Sampling Codes

A	pump was surging excessively; aerated
B	blank sample was collected
C	well was pumping continuously
D	well was dry
E	equipment blank was collected
I	well went dry during sampling; insufficient water to collect all samples
L	well went dry before sampling began; only depth to water can be determined
N	well was not stabilized before sampling began
P	inaccessibility or mechanical failure prevented sample collection and field analysis of the water

S	no water in standpipe; for water-level events only
W	unable to sample because of stabilization or sampling equipment failure; only water-level measurements were obtained
X	well went dry during purging; samples were collected after well recovered

Sampling Methods

B	sample collected using an open-bucket bailer
O	sample collected by method other than bailer or pump
P	sample collected using a bladder pump
S	sample collected using a single-speed centrifugal downhole pump
V	sample collected using a variable-speed pump

Units

mg/L	milligrams per liter
msl	mean sea level
NTU	nephelometric turbidity unit
pCi/L	picocuries per liter
pCi/mL	picocuries per milliliter
pH	pH units
µg/L	micrograms per liter
µS/cm	microsiemens per centimeter

Data Table Column Headings

DF	dilution factor
H	exceeded the holding time
Mod	modifier
ST	exceeded the GWPS

Other

CS	carbon steel
E	exponential notation (e.g., $1.1\text{E}-09 = 1.1 \times 10^{-9} = 0.0000000011$)
PVC	polyvinyl chloride
TOC	top of casing

Data Qualification

The contract laboratories submit sample- or batch-specific quality assurance/quality control information either at the same time as analytical results or in a quarterly summary. Properly defined and used data modifiers (also referred to as qualifiers) can be a key component in assessing data usability. In the data tables, these modifiers appear under the column *Mod*. Three possible fields for modifiers for each quarter are separated by slashes. Functional Guideline qualifiers (FG) may appear before the first slash, STORET codes between the two slashes, and EMS codes after the second slash. For further information on modifiers and their definitions, contact EMS.

Modifiers**Functional Guideline Codes (FG)**

(Blank)	Data are not qualified. Numbers should be interpreted exactly as reported.
J	The analyte was positively identified; the associated numerical value is an estimated concentration of the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
U	Material was analyzed for, but not detected. The analyte concentration is less than the sample-specific estimated quantitation limit (ssEQL).

STORET Codes

C	The result is calculated.
I	The result is less than the ssEQL but equal to or greater than the MDL.
K	The actual concentration is known to be less than the reported result.
L	The actual concentration is known to be greater than the reported result.
Q	The sample was held beyond the normal holding time prior to analysis.
V	The analyte was detected in both the method blank and the sample.
Y	The result is from an unpreserved or incorrectly preserved sample; the data may not be accurate.

EMS Codes

A	Compound identification criteria were not met.
C	Laboratory control sample (LCS) or blank spike (BS) criteria were not met.
D	ICP serial dilution criteria were not met.
H	Internal standard (IS) criteria were not met when the IS was used for quantitation.
I	Matrix spike recovery was not within the control limits.
K	A tentatively identified compound is a suspected aldol-condensation product.
L	Initial or continuing calibration criteria were not met.
O	Surrogate or tracer spike recovery is out of specification.
P	Graphite furnace atomic absorption QC a. Duplicate injection criteria were not met. b. Post-digestion spike recovery was not within control limits and the sample absorbance is > 50% of the post-digestion spike absorbance.
S	The sample was analyzed by the method of standard additions.
W	Graphite furnace atomic absorption QC: the post-digestion spike

- recovery is not within control limits and the sample absorbance is < 50% of the post-digestion spike absorbance.
- X The laboratory duplicate RPD or MS/MSD RPD was not within control limits.
 - 4 Matrix interference is present.
 - 5 Matrix spike concentration was < 0.25× the sample concentration, and the percent recovery cannot be determined.
 - 6 The analyte was detected in both the sample and associated field blank.
 - 8 The analyte was detected in both the sample and associated trip blank.
 - 9 The field duplicate RPD was not within control limits.

Results below Detection

For radiological analyses, the analytical result field contains the result recorded on the analytical instrument and reported by the laboratory, even if it is negative. For nonradiological analyses, if the analyte is not detected, the ssEQL is entered into the result field and is reported with a less than [<] sign. The ssEQL is defined as the lowest concentration that can be achieved reliably within specified limits of precision and accuracy during routine laboratory operating conditions. The ssEQL is modified for sample concentration or dilution or unusual aliquot size that affects analytical sensitivity.

Data Filtering

Data in the column headed *Filt.* have been filtered to clarify their usability. In this column, *Rej.* is used to indicate rejected data.

For nondetects, this column contains the less-than symbol and the sample-specific method detection limit or sample-specific minimum detectable activity. For chemical analyses, this is the same numeric value as appears in the unfiltered result column with a few exceptions, generally data that were qualified as nondetects during validation because of contamination in an associated blank.

For all data qualified with the Functional Guideline code *J*, indicating an estimated quantity, the *Filt.* column contains the letters *NDD*, meaning that these data are considered not "decision" data.

None of the filtered data (rejected, undetected, or estimated) are considered in discussions of results above standards in this report.

Holding Times

Standard analytical methods include a limit, called holding time, on the maximum elapsed time between sample collection and extraction or analysis by the laboratory. In the data tables, a large bullet (•) in the *H* (holding time) column indicates that holding time was exceeded. Analyses performed beyond holding times may not yield valid results.

The South Carolina Department of Health and Environmental Control (SCDHEC) allows only 15 minutes to elapse between sampling and analysis for pH. Thus, only field pH measurements can meet the holding time criterion; laboratory pH analyses always will exceed it.

Sampling Dates

Samples for field data are collected once each quarter, but samples for analytical data may be collected more than once each quarter. Because the results tables present the highest analytical results for each quarter, the date of collection for reported analytical results may not coincide with the date of collection for field data.

Beta Dose

If any beta-emitting radionuclides on the GWPS exceeded their minimum detectable activity (MDA), beta dose was calculated and entered into the data tables in this appendix. If the data were filtered out because they were below MDA, rejected, or estimated for any reason, they were not included in the calculation of beta dose.

A number greater than 1 in the beta dose column indicates that the 4mrem/yr standard for beta dose has been exceeded. The values were obtained by dividing each detected, unfiltered beta-emitting radionuclide's measured concentration by the EPA's conversion factor, shown in the table below.

Activity to Dose Conversion Factors for F-Area HWMF Beta Emitters

Analyte	EPA 1976 dose (4mrem/yr) limit
Carbon-14	2,000 pCi/L
Cesium-137	200 pCi/L
Cobalt-60	100 pCi/L
Iodine-129	1 pCi/L
Radium-228*	5 pCi/L
Strontium-90	8 pCi/L
Technetium-99	900 pCi/L

*The EPA's 1976 guidance document gives no equivalent for radium-228, so the GWPS of 5 pCi/L for the sum of radium-226 and -228 is used for radium-228.

For each well, the unfiltered activities (in pCi/L) for each of the beta emitters on the GWPS is divided by its individual limit (also in pCi/L), and all of the resulting ratios (unitless) are added as shown below:

$$A_{C-14}/2,000 + A_{Cs-137}/200 + A_{Co-60}/100 + A_{I-129}/1 + A_{Ra-228}/5 + A_{Sr-90}/8 + A_{Tc-99}/900 = \text{Beta dose factor}$$

where A is the measured activity for each radionuclide.

If the beta dose factor exceeds 1.0, the beta dose for a theoretical person drinking 2 L/day of that well's water exceeds the EPA standard of 4 mrem/yr.

WELL FSB 76

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N76141.6 E51388.8	33.278022 °N 81.679386 °W	227.0-197.0 ft msl	294.2 ft msl	4" PVC	S	UAZ_UTRA

SAMPLE DATE 01/06/99 04/05/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	219.7	218.6	ft msl
pH	4.4	4.2	pH
Sp. conductance	92	100	µS/cm
Water temperature	18.1	21.9	°C
Alkalinity as CaCO ₃	0	0	mg/L
Turbidity	15	2	NTU
Volumes purged	9.8	4.7	well volumes
Sampling code			
Synchronous water level	218.7 (03/23/99)	218.3 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	410	//				1	GE	280	//				1	GE	µg/L
Antimony, total recoverable	<0.61	JU//4	<0.89			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	18	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	0.31	J//	NDD			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	<2.6	U//6	<3.0			1	GE								µg/L
Cobalt, total recoverable	0.76	//				1	GE								µg/L
Copper, total recoverable	520	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	49	//		■		1	GE	46	//		■		1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	4.7	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	10,000	//		■		10	GE	11,000	//		■		5	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<2.5	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	120	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU//O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<11	U//	<11			1	GE								µg/L
Dichloromethane	<5.0	JU//O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU//O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU//O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU//O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 76 (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DE	Lab	2Q99	Mod	Filt.	ST	H	DE	Lab	Unit
Americium-241	<2.1E-01	U//	<5.4E-01			1	GP								pCi/L
Beta dose	0.46														
Carbon-14	<2.1E+00	U//	<7.7E+00			1	GP								pCi/L
Cesium-137	<1.2E+00	JU/L/C	<4.8E+00			1	GP								pCi/L
Cobalt-60	<6.8E-01	U//	<4.1E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<2.8E-01			1	GP								pCi/L
Curium-243/244	<4.3E-02	U//	<5.4E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<2.6E-01			1	GP								pCi/L
Gross alpha	2.2E+01	//		■		1	GP	9.7E+00	//				1	GP	pCi/L
Iodine-129	<2.4E-02	U//	<8.1E-01			1	GP								pCi/L
Nonvolatile beta	1.4E+01	//				1	GP	1.0E+01	//				1	GP	pCi/L
Plutonium-238	<1.3E-02	U//	<1.7E-01			1	GP								pCi/L
Plutonium-239/240	<5.3E-02	U//	<9.7E-02			1	GP								pCi/L
Radium-226	1.2E+01	//		■		1	GP								pCi/L
Radium-228	2.3E+00	//				1	GP								pCi/L
Strontium-90	<1.3E-01	U//	<1.1E+00			1	GP								pCi/L
Technetium-99	<1.5E+01	U//	<2.0E+01			1	GP								pCi/L
Thorium-228	<6.2E-02	U//	<1.3E-01			1	GP								pCi/L
Thorium-230	<6.2E-02	U/V//	<4.5E-02			1	GP								pCi/L
Thorium-232	<3.3E-04	U//	<5.4E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	2.3E+00														pCi/L
Total radium	1.5E+01			■											pCi/L
Tritium	3.1E+02	//		■		1	GP	3.3E+02	//				1	GP	pCi/mL
Uranium-233/234	1.7E-01	J/V	NDD			1	GP								pCi/L
Uranium-235	<1.9E-05	U//	<6.1E-02			1	GP								pCi/L
Uranium-238	1.2E-01	J/V	NDD			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 76A

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N76131.9	33.278005 °N	47.4-36.9 ft msl	293.9 ft msl	4" PVC	S	Gordon
E51391.6	81.679359 °W					

SAMPLE DATE	01/06/99	04/05/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	155.8	155.8	ft msl
pH	6.2	6.4	pH
Sp. conductance	110	120	µS/cm
Water temperature	18.6	21.2	°C
Alkalinity as CaCO ₃	43	39	mg/L
Turbidity	0	0	NTU
Volumes purged	3.7	3.1	well volumes
Sampling code			
Synchronous water level	155.7 (03/23/99)	155.3 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	15	//				1	GE	11	J/V	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	23	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Cobalt, total recoverable	<0.037	JU//4	<0.20			1	GE								µg/L
Copper, total recoverable	<0.31	U/V//	<1.0			1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.54	J/V	NDD			1	GE	<2.0	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	<2.0	U//	<2.0			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	10	J/V	NDD			1	GE	70	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<2.5	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 76A (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<1.8E-02	U//	<8.1E-02			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<-1.9E+00	U//	<7.2E+00			1	GP								pCi/L
Cesium-137	<8.9E-01	JU/L/C	<3.5E+00			1	GP								pCi/L
Cobalt-60	<-1.8E-01	U//	<3.0E+00			1	GP								pCi/L
Curium-242	<0.0E+00	JU/L/I	<8.8E-02			1	GP								pCi/L
Curium-243/244	<0.0E+00	JU/L/I	<8.1E-02			1	GP								pCi/L
Curium-245/246	<0.0E+00	JU/L/I	<8.1E-02			1	GP								pCi/L
Gross alpha	2.6E+00	//				1	GP	1.1E+00	J/V	NDD			1	GP	pCi/L
Iodine-129	<6.1E-01	U//	<1.1E+00			1	GP								pCi/L
Nonvolatile beta	1.2E+00	J/V	NDD			1	GP	1.2E+00	J/V	NDD			1	GP	pCi/L
Plutonium-238	2.6E-01	R//4	Rej			1	GP								pCi/L
Plutonium-239/240	<7.2E-02	U//	<1.4E-01			1	GP								pCi/L
Radium-226	8.1E-01	J/V	NDD			1	GP								pCi/L
Radium-228	<4.0E-01	U//	<1.2E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<-1.6E-01	U//	<1.3E+00			1	GP								pCi/L
Technetium-99	<-1.9E+00	U//	<1.9E+01			1	GP								pCi/L
Thorium-228	<1.1E-01	U/N//	<9.8E-02			1	GP								pCi/L
Thorium-230	<1.3E-02	U//	<6.8E-02			1	GP								pCi/L
Thorium-232	<0.0E+00	U//	<2.4E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	<-2.4E-01	U//	<5.6E-01			1	GP	2.2E+00	//				1	TM	pCi/mL
Uranium-233/234	<3.5E-02	U//	<6.7E-02			1	GP								pCi/L
Uranium-235	<1.3E-02	U//	<5.5E-02			1	GP								pCi/L
Uranium-238	5.2E-02	J/V	NDD			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ, UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ, LTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 76B

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N76122.4 E51394.0	33.277988 °N 81.679335 °W	109.7-99.2 ft msl	293.8 ft msl	4" PVC	S	Gordon

SAMPLE DATE 01/06/99 04/05/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	152.0	152.0	ft msl
pH	6.6	6.2	pH
Sp. conductance	130	120	µS/cm
Water temperature	19.1	21.6	°C
Alkalinity as CaCO3	44	43	mg/L
Turbidity	1	0	NTU
Volumes purged	4.9	3.2	well volumes
Sampling code			
Synchronous water level	151.9 (03/23/99)	151.5 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	<15	U//	<15			1	GE	<15	U//	<15			1	GE	µg/L
Antimony, total recoverable	<0.17	JU//4	<0.89			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	17	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	<1.3	U//6	<3.0			1	GE								µg/L
Cobalt, total recoverable	<0.035	JU//4	<0.20			1	GE								µg/L
Copper, total recoverable	9.1	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	<2.0	U//	<2.0			1	GE	<2.0	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	<2.0	U//	<2.0			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	500	//				1	GE	540	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<2.5	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	1.0	//				1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA = Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 76B (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<7.6E-02	U//	<8.6E-02			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<2.5E+00	U//	<7.3E+00			1	GP								pCi/L
Cesium-137	<4.9E-01	JU/L/C	<3.3E+00			1	GP								pCi/L
Cobalt-60	<2.1E+00	U//	<3.3E+00			1	GP								pCi/L
Curium-242	<0.0E+00	JU/L/I	<9.3E-02			1	GP								pCi/L
Curium-243/244	<2.9E-02	JU/L/I	<8.6E-02			1	GP								pCi/L
Curium-245/246	<0.0E+00	JU/L/I	<8.6E-02			1	GP								pCi/L
Gross alpha	7.5E-01	J//	NDD			1	GP	6.7E-01	J//	NDD			1	GP	pCi/L
Iodine-129	<3.6E-01	U//	<1.2E+00			1	GP								pCi/L
Nonvolatile beta	<2.9E-01	U//	<1.1E+00			1	GP	<7.1E-01	U//	<1.3E+00			1	GP	pCi/L
Plutonium-238	<1.7E-01	U//	<1.9E-01			1	GP								pCi/L
Plutonium-239/240	<2.4E-02	U//	<1.9E-01			1	GP								pCi/L
Radium-226	1.4E+00	J//	NDD			1	GP								pCi/L
Radium-228	<6.1E-01	U//	<1.2E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<3.8E-01	U//	<1.4E+00			1	GP								pCi/L
Technetium-99	<4.5E+00	U//	<1.9E+01			1	GP								pCi/L
Thorium-228	<5.9E-02	U//	<1.3E-01			1	GP								pCi/L
Thorium-230	<7.0E-02	U//	<5.9E-02			1	GP								pCi/L
Thorium-232	<4.1E-03	U//	<4.8E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	<3.7E-01	U//	<5.6E-01			1	GP	<5.2E-01	U//	<5.6E-01			1	GP	pCi/mL
Uranium-233/234	<3.1E-02	U//	<5.9E-02			1	GP								pCi/L
Uranium-235	<1.5E-02	U//	<2.3E-02			1	GP								pCi/L
Uranium-238	<3.9E-03	U//	<6.7E-02			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ, UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ, UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 76C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N76112.4 E51396.4	33.277970 °N 81.679309 °W	165.3-154.8 ft msl	293.6 ft msl	4" PVC	S	LAZ_UTRA

SAMPLE DATE 01/06/99 04/05/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	214.3	213.1	ft msl
pH	6.0	5.6	pH
Sp. conductance	45	50	µS/cm
Water temperature	18.9	21.4	°C
Alkalinity as CaCO ₃	14	6	mg/L
Turbidity	0	1	NTU
Volumes purged	4.8	2.8	well volumes
Sampling code			
Synchronous water level	213.7 (03/23/99)	212.6 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	14	J//	NDD			1	GE	13	J//	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	6.6	//				1	WA								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	<1.2	U//6	<3.0			1	GE								µg/L
Cobalt, total recoverable	<0.083	JU//4	<0.20			1	GE								µg/L
Copper, total recoverable	29	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.94	J//	NDD			1	GE	<0.95	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	<2.0	U//	<2.0			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	1,700	//				1	GE	1,400	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<2.5	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<6.9	U//	<6.9			1	WA								µg/L
Zinc, total recoverable	24	J//	NDD			1	WA								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU//O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	WA								µg/L
Dichloromethane	<5.0	JU//O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU//O	<1.0			1	GE								µg/L
Trichloroethylene	2.9	J//O	NDD			1	GE								µg/L
Trichlorofluoromethane	2.8	J//O	NDD			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

LAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 76C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<9.1E-02	U//	<1.0E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	2.0E+02	R//4	Rej			1	TM								pCi/L
Cesium-137	<4.8E-01	JU//L/C	<3.1E+00			1	GP								pCi/L
Cobalt-60	<1.4E-01	U//	<3.3E+00			1	GP								pCi/L
Curium-242	<0.0E+00	JU//L/I	<1.1E-01			1	GP								pCi/L
Curium-243/244	<0.0E+00	JU//L/I	<1.0E-01			1	GP								pCi/L
Curium-245/246	<3.3E-02	JU//L/I	<1.0E-01			1	GP								pCi/L
Gross alpha	7.6E-01	J//	NDD			1	GP	<2.8E-01	U//	<6.7E-01			1	GP	pCi/L
Iodine-129	<2.2E-01	U//	<1.1E+00			1	GP								pCi/L
Nonvolatile beta	<1.4E-01	U//	<1.9E+00			1	TM	<8.8E-01	U//	<1.2E+00			1	GP	pCi/L
Plutonium-238	1.9E-01	R//4	Rej			1	GP								pCi/L
Plutonium-239/240	<0.0E+00	U//	<2.6E-01			1	TM								pCi/L
Radium-226	2.3E+00	//				1	GP								pCi/L
Radium-228	1.2E+00	J//	NDD			1	GP								pCi/L
Total radium	2.3E+00														
Strontium-90	<8.0E-02	U//	<1.6E+00			1	TM								pCi/L
Technetium-99	<1.4E+00	U//	<1.5E+01			1	TM								pCi/L
Thorium-228	<1.1E-02	U//	<1.3E-01			1	GP								pCi/L
Thorium-230	<3.9E-02	U//	<5.9E-02			1	GP								pCi/L
Thorium-232	<0.0E+00	U//	<2.3E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	2.8E+00	//				1	TM	2.5E+00	//				1	GP	pCi/mL
Uranium-233/234	<5.3E-03	U//	<9.5E-02			1	GP								pCi/L
Uranium-235	<4.3E-03	U//	<6.4E-02			1	GP								pCi/L
Uranium-238	<0.0E+00	U//	<2.4E-01			1	TM								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 77

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N75129.4 E50713.1	33.274681 °N 81.679198 °W	216.4-186.4 ft msl	273.3 ft msl	4" PVC	V	UAZ_UTRA

<u>SAMPLE DATE</u>	01/12/99	04/08/99
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FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	213.9	212.9	ft msl
pH	3.0	3.7	pH
Sp. conductance	600	340	µS/cm
Water temperature	19.0	20.3	°C
Alkalinity as CaCO ₃	0	0	mg/L
Turbidity	3	1	NTU
Volumes purged	6.2	2.0	well volumes
Sampling code			
Synchronous water level	212.9 (03/23/99)	212.5 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Aluminum, total recoverable	37,000	//				20	GE	9,700	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<60	U//	<60			20	GE								µg/L
Barium, total recoverable	120	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	9.8	//		■		1	GE	4.5	//				1	GE	µg/L
Chromium, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Cobalt, total recoverable	12	//		■		1	GE								µg/L
Copper, total recoverable	41	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	1.4	J/N	NDD			1	GE	<20	U//	<20			10	GE	µg/L
Mercury, total recoverable	3.7	//		■		1	GE								µg/L
Nickel, total recoverable	15	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	63,000	//		■		25	GE	29,000	//				25	GE	µg/L
Selenium, total recoverable	<100	U//	<100			20	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	0.30	J/V	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	46	//				1	GE								µg/L

Organic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<9.9	U//	<9.9			1	GE								µg/L
Dichloromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 77 (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	1.4E+01	//				1	GP								pCi/L
Beta dose	206			■											
Carbon-14	1.2E+02	J/L/CI	NDD			1	GP								pCi/L
Cesium-137	<9.9E-01	U//	<3.5E+00			1	GP								pCi/L
Cobalt-60	<5.3E-01	U//	<4.0E+00			1	GP								pCi/L
Curium-242	<2.4E-01	U//	<2.7E-01			1	GP								pCi/L
Curium-243/244	5.2E+00	//				1	GP								pCi/L
Curium-245/246	1.1E+00	R//4	Rej			1	GP								pCi/L
Gross alpha	7.2E+02	J/L/I	NDD			1	GP	3.8E+02	//		■		1	GP	pCi/L
Iodine-129	1.3E+02	//		■		1	GP								pCi/L
Nonvolatile beta	1.2E+03	J/L/I	NDD			1	GP	6.5E+02	//		■		1	GP	pCi/L
Plutonium-238	<8.6E-02	U//	<2.4E-01			1	GP								pCi/L
Plutonium-239/240	<1.7E-02	U//	<1.3E-01			1	GP								pCi/L
Radium-226	2.0E+01	J/L/I	NDD			1	GP								pCi/L
Radium-228	1.1E+01	//		■		1	GP								pCi/L
Total radium	1.1E+01														
Strontium-90	5.9E+02	//		■		1	GP								pCi/L
Technetium-99	9.1E+01	//		■		1	GP								pCi/L
Thorium-228	4.7E-01	J//	NDD			1	GP								pCi/L
Thorium-230	6.3E-01	J//	NDD			1	GP								pCi/L
Thorium-232	<2.4E-02	U//	<1.8E-01			1	GP								pCi/L
Sum of alphas	5.7E+02			■											pCi/L
Sum of betas	8.3E+02			■											pCi/L
Tritium	2.2E+03	//		■		1	GP	7.1E+02	//		■		1	GP	pCi/mL
Uranium-233/234	2.5E+02	//		■		1	GP								pCi/L
Uranium-235	2.5E+01	//		■		1	GP								pCi/L
Uranium-238	2.7E+02	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer, Gordon - Gordon Aquifer

WELL FSB 78

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74764.0 E50164.7	33.272978 °N 81.679932 °W	217.7-187.7 ft msl	272.6 ft msl	4" PVC	V	UAZ_UTRA

SAMPLE DATE 01/11/99 04/07/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	209.2	208.6	ft msl
pH	3.9	3.3	pH
Sp. conductance	1000	990	µS/cm
Water temperature	20.3	20.4	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	1	0	NTU
Volumes purged	2.5	2.8	well volumes
Sampling code			
Synchronous water level	208.8 (03/23/99)	207.7 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	21,000	//				1	GE	22,000	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	470	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	21	//		■		1	GE	18	//		■		1	GE	µg/L
Chromium, total recoverable	2.0	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	13	//		■		1	GE								µg/L
Copper, total recoverable	44	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.96	J/V	NDD			1	GE	<20	U//	<20			10	GE	µg/L
Mercury, total recoverable	0.40	//				1	GE								µg/L
Nickel, total recoverable	17	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	12,000	J/LQ/I	NDD	●		25	GE	120,000	//		■		50	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	0.37	J/V	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	97	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.3	JU/L/O8	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 78 (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	2.7E+01	//		■		1	GP								pCi/L
Beta dose	366			■											
Carbon-14	1.2E+02	J/L/CI	NDD			1	GP								pCi/L
Cesium-137	1.9E+02	//		■		1	GP								pCi/L
Cobalt-60	<1.6E+00	U//	<4.1E+00			1	GP								pCi/L
Curium-242	<-7.8E-04	U//	<2.4E-01			1	GP								pCi/L
Curium-243/244	2.8E+01	//		■		1	GP								pCi/L
Curium-245/246	5.8E-01	R//4	Rej			1	GP								pCi/L
Gross alpha	4.7E+02	J/L/I	NDD			1	GP	6.8E+02	//		■		1	GP	pCi/L
Iodine-129	2.5E+02	//		■		1	GP								pCi/L
Nonvolatile beta	1.6E+03	J/L/I	NDD			1	GP	1.9E+03	//		■		1	GP	pCi/L
Plutonium-238	<8.3E-02	U//	<2.2E-01			1	GP								pCi/L
Plutonium-239/240	<9.1E-03	U//	<1.2E-01			1	GP								pCi/L
Radium-226	1.3E+01	J/L/I	NDD			1	GP								pCi/L
Radium-228	2.9E+01	//		■		1	GP								pCi/L
Total radium	2.9E+01														
Strontium-90	8.7E+02	//		■		1	GP								pCi/L
Technetium-99	9.1E+01	//		■		1	GP								pCi/L
Thorium-228	1.0E+00	J//	NDD			1	GP								pCi/L
Thorium-230	3.0E-01	J//	NDD			1	GP								pCi/L
Thorium-232	<6.6E-02	U//	<9.9E-02			1	GP								pCi/L
Sum of alphas	7.4E+01			■											pCi/L
Sum of betas	1.4E+03			■											pCi/L
Tritium	3.5E+03	//		■		1	GP	3.8E+03	//		■		1	GP	pCi/mL
Uranium-233/234	1.5E+02	J/K/O	NDD			1	GP								pCi/L
Uranium-235	2.0E+01	//		■		1	GP								pCi/L
Uranium-238	4.8E+02	J/K/O	NDD			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 78A

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74757.7 E50172.8	33.272977 °N 81.679898 °W	37.5-27.0 ft msl	272.6 ft msl	4" PVC	S	Gordon

SAMPLE DATE	01/07/99	04/05/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	156.5	156.6	ft msl
pH	7.2	6.2	pH
Sp. conductance	110	110	µS/cm
Water temperature	19.4	20.7	°C
Alkalinity as CaCO3	37	32	mg/L
Turbidity	0	0	NTU
Volumes purged	2.9	3.0	well volumes
Sampling code			
Synchronous water level	156.5 (03/23/99)	155.9 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	14	J/V	NDD			1	GE	31	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	22	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	0.93	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	<0.14	JU//4	<0.20			1	GE								µg/L
Copper, total recoverable	0.84	J/V	NDD			1	GE								µg/L
Cyanide	4.6	J/K/I	NDD			1	GE								µg/L
Lead, total recoverable	<2.0	U//	<2.0			1	GE	<2.0	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	2.9	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	330	//				1	GE	700	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<0.44	JU//4	<1.0			1	GE								µg/L
Thallium, total recoverable	0.89	J/V	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<1.6	U/V/I	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

- = exceeded holding time
- = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 78A (cont.)**Radioactive Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<4.7E-02	JU/L/I	<2.0E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<2.5E+00	U//	<7.4E+00			1	GP								pCi/L
Cesium-137	1.5E+01	R//4	Rej			1	GP								pCi/L
Cobalt-60	<5.7E-01	U//	<3.0E+00			1	GP								pCi/L
Curium-242	<6.9E-02	U//	<2.1E-01			1	GP								pCi/L
Curium-243/244	<4.7E-02	U//	<4.6E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<2.0E-01			1	GP								pCi/L
Gross alpha	1.3E+00	J//	NDD			1	GP	<1.9E-01	U//	<7.6E-01			1	GP	pCi/L
Iodine-129	<6.9E-01	U//	<1.4E+00			1	GP								pCi/L
Nonvolatile beta	1.9E+00	J//	NDD			1	GP	<1.2E+00	U//	<1.3E+00			1	GP	pCi/L
Plutonium-238	<1.6E-01	U//	<1.2E-01			1	GP								pCi/L
Plutonium-239/240	<0.0E+00	U//	<1.2E-01			1	GP								pCi/L
Radium-226	<1.8E+00	U//	<1.8E-01			1	GP								pCi/L
Radium-228	<8.4E-01	U//	<8.8E-01			1	GP								pCi/L
Total radium	NA														
Strontium-90	<7.6E-01	U//	<1.4E+00			1	GP								pCi/L
Technetium-99	7.6E+01	R//4	Rej			1	GP								pCi/L
Thorium-228	<5.0E-02	U//	<4.2E-01			1	GP								pCi/L
Thorium-230	<7.3E-02	U//	<2.7E-01			1	GP								pCi/L
Thorium-232	<0.0E+00	U//	<1.1E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	6.1E+00	//				1	GP	1.2E+01	//				1	GP	pCi/mL
Uranium-233/234	<2.6E-01	JU/LV/C	<2.2E-01			1	GP								pCi/L
Uranium-235	<1.5E-02	JU/L/C	<1.8E-01			1	GP								pCi/L
Uranium-238	<5.8E-02	JU/L/C	<8.7E-02			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 78B

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N74765.9 E50178.8	33.273005 °N 81.679898 °W	92.8-82.4 ft msl	272.8 ft msl	4" PVC	S	Gordon

SAMPLE DATE 01/07/99 04/15/99

FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	155.0	154.8	ft msl
pH	7.6	6.9	pH
Sp. conductance	220	240	µS/cm
Water temperature	19.4	20.5	°C
Alkalinity as CaCO3	74	69	mg/L
Turbidity	1	0	NTU
Volumes purged	4.2	3.5	well volumes
Sampling code			
Synchronous water level	155.0 (03/23/99)	154.4 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Aluminum, total recoverable	14	J/V	NDD			1	GE	9.4	J/V	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	42	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	2.0	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	0.26	//				1	GE								µg/L
Copper, total recoverable	1.2	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.52	J/V	NDD			1	GE	<0.34	JU//46	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	5.3	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	9,800	//				5	GE	12,000	//				5	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	0.29	J/V	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ, UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ, UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 78B (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<1.6E-01	JU/L/I	<2.6E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<6.6E+00	U//	<7.4E+00			1	GP								pCi/L
Cesium-137	<4.6E-01	JU/L/C	<3.2E+00			1	GP								pCi/L
Cobalt-60	<2.6E+00	U//	<3.7E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<2.7E-01			1	GP								pCi/L
Curium-243/244	<0.0E+00	U//	<2.6E-01			1	GP								pCi/L
Curium-245/246	<8.7E-02	U//	<2.6E-01			1	GP								pCi/L
Gross alpha	2.6E+00	//				1	GP	1.6E+00	J/V	NDD			1	GP	pCi/L
Iodine-129	1.5E+00	J/V	NDD			1	GP								pCi/L
Nonvolatile beta	3.1E+00	//				1	GP	1.5E+01	//				1	TM	pCi/L
Plutonium-238	<0.0E+00	U//	<3.0E-01			1	GP								pCi/L
Plutonium-239/240	<5.1E-02	U//	<6.3E-01			1	GP								pCi/L
Radium-226	1.1E+00	J/V	NDD			1	GP								pCi/L
Radium-228	1.3E+00	J/V	NDD			1	GP								pCi/L
Total radium	NA														
Strontium-90	<1.9E-01	U//	<1.5E+00			1	GP								pCi/L
Technetium-99	1.1E+02	R//4	Rej			1	GP								pCi/L
Thorium-228	<7.2E-02	U//	<4.0E-01			1	GP								pCi/L
Thorium-230	<2.6E-02	U//	<2.6E-01			1	GP								pCi/L
Thorium-232	<2.6E-02	U//	<2.6E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	2.6E+02	//		■		1	GP	2.9E+02	//		■		1	GP	pCi/mL
Uranium-233/234	<2.3E-01	JU/L/C	<2.8E-01			1	GP								pCi/L
Uranium-235	<7.8E-02	JU/L/C	<2.4E-01			1	GP								pCi/L
Uranium-238	<8.6E-02	JU/L/C	<2.1E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 78C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74772.5 E50170.2	33.273006 °N 81.679934 °W	151.4-141.6 ft msl	273.5 ft msl	4" PVC	V	LAZ_UTRA

SAMPLE DATE 01/13/99 04/09/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	207.9	206.3	ft msl
pH	4.2	4.1	pH
Sp. conductance	2000	2100	µS/cm
Water temperature	20.3	20.9	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	1	2	NTU
Volumes purged	0.023	0.024	well volumes
Sampling cored	X	X	
Synchronous water level	205.1 (03/23/99)	207.4 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	23,000	J/KCI	NDD			20	GE	34,000	J/KCI	NDD			10	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<60	U//	<60			20	GE								µg/L
Barium, total recoverable	700	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	18	//		■		1	GE	20	//		■		1	GE	µg/L
Chromium, total recoverable	3.7	//				1	GE								µg/L
Cobalt, total recoverable	240	//		■		1	GE								µg/L
Copper, total recoverable	8.5	//				1	GE								µg/L
Cyanide	<10	JU/L/I	<10			1	GE								µg/L
Lead, total recoverable	7.6	//				1	GE	23	//		■		10	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	110	//		■		1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	280,000	//		■		200	GE	280,000	//		■		100	GE	µg/L
Selenium, total recoverable	29	J/V	NDD			20	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	1.0	J/V	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	460	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	1.4	JU/L/O	NDD			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 78C (cont.)**Radioactive Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	1.1E+01	R/O	Rej	■		1	GP								pCi/L
Beta dose	175														
Carbon-14	3.9E+01	J/L/CI	NDD			1	GP								pCi/L
Cesium-137	<2.5E+00	U//	<3.1E+00			1	GP								pCi/L
Cobalt-60	<1.9E+00	U//	<4.1E+00			1	GP								pCi/L
Curium-242	1.2E+00	R/O	Rej			1	GP								pCi/L
Curium-243/244	2.1E+00	R/O	Rej			1	GP								pCi/L
Curium-245/246	5.2E-01	R/O	Rej			1	GP								pCi/L
Gross alpha	2.2E+02	//		■		1	GP	2.5E+02	//		■		1	GP	pCi/L
Iodine-129	1.2E+02	//		■		1	GP				■		1	GP	pCi/L
Nonvolatile beta	1.2E+03	//		■		1	GP	1.6E+03	//		■		1	GP	pCi/L
Plutonium-238	<1.4E-01	JU/L/I	<1.1E+00			1	GP								pCi/L
Plutonium-239/240	<3.5E-01	JU/L/I	<5.7E-01			1	GP								pCi/L
Radium-226	5.6E+01	//		■		1	GP								pCi/L
Radium-228	1.6E+00	J/L/I	NDD			1	GP								pCi/L
Total radium	5.6E+01														
Strontium-90	4.4E+02	//		■		1	GP								pCi/L
Technetium-99	2.7E+02	//		■		1	GP								pCi/L
Thorium-228	<3.9E-01	U//	<5.9E-01			1	GP								pCi/L
Thorium-230	<2.5E-01	U//	<2.8E-01			1	GP								pCi/L
Thorium-232	<-1.3E-02	U//	<2.8E-01			1	GP								pCi/L
Sum of alphas	1.5E+02			■											pCi/L
Sum of betas	8.3E+02			■											pCi/L
Tritium	9.9E+03	//		■		1	GP	9.3E+03	//		■		1	GP	pCi/mL
Uranium-233/234	6.5E+01	//		■		1	GP								pCi/L
Uranium-235	5.3E+00	//		■		1	GP								pCi/L
Uranium-238	7.6E+01	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer, Gordon – Gordon Aquifer

WELL FSB 79

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N73663.1 E50139.7	33.270502 °N 81.677859 °W	204.1-174.1 ft msl	217.8 ft msl	4" PVC	V	UAZ_UTRA

SAMPLE DATE	01/12/99	05/12/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	202.4	199.6	ft msl
pH	3.2	3.6	pH
Sp. conductance	760	750	µS/cm
Water temperature	20.6	22.1	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	1	0	NTU
Volumes purged	2.7	2.7	well volumes
Sampling code			
Synchronous water level	201.3 (03/23/99)	200.3 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	53,000	//				20	GE	28,000	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<60	U//	<60			20	GE								µg/L
Barium, total recoverable	360	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	5.2	//		■		1	GE	5.5	//		■		1	GE	µg/L
Chromium, total recoverable	54	//				1	GE								µg/L
Cobalt, total recoverable	230	//		■		1	GE								µg/L
Copper, total recoverable	39	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.39	J//	NDD			1	GE	<2.0	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.50	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	68	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	74,000	//		■		25	GE	93,000	//		■		50	GE	µg/L
Selenium, total recoverable	<100	U//	<100			20	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	0.72	J//	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	85	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

- = exceeded holding time
- = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)
- NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit
- UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 79 (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	2.3E+01	//		■		1	GP								pCi/L
Beta dose	112			■											
Carbon-14	7.7E+01	J/L/CI	NDD			1	GP								pCi/L
Cesium-137	<2.1E-01	U//	<3.1E+00			1	GP								pCi/L
Cobalt-60	<3.2E+00	U//	<3.3E+00			1	GP								pCi/L
Curium-242	<5.3E-01	U//	<1.7E+00			1	GP								pCi/L
Curium-243/244	5.1E+01	//		■		1	GP								pCi/L
Curium-245/246	2.3E-01	R//4	Rej			1	GP								pCi/L
Gross alpha	3.4E+02	J/L/I	NDD			1	GP	2.8E+02	//		■		1	GP	pCi/L
Iodine-129	8.9E+01	//		■		1	GP				■		1	GP	pCi/L
Nonvolatile beta	4.7E+02	J/L/I	NDD			1	GP	4.8E+02	//						pCi/L
Plutonium-238	<1.4E-01	U//	<9.8E-01			1	GP								pCi/L
Plutonium-239/240	<1.1E-01	U//	<1.6E-01			1	GP								pCi/L
Radium-226	2.4E+01	J/L/I	NDD			1	GP								pCi/L
Radium-228	7.3E+00	//		■		1	GP								pCi/L
Total radium	7.3E+00														
Strontium-90	1.7E+02	//		■		1	GP								pCi/L
Technetium-99	6.6E+01	//		■		1	GP								pCi/L
Thorium-228	7.0E-01	J//	NDD			1	GP								pCi/L
Thorium-230	<1.4E-01	U//	<8.2E-02			1	GP								pCi/L
Thorium-232	<1.3E-02	U//	<1.7E-01			1	GP								pCi/L
Sum of alphas	3.9E+02			■											pCi/L
Sum of betas	3.3E+02			■											pCi/L
Tritium	3.3E+03	//		■		1	GP	4.0E+03	//		■		1	GP	pCi/mL
Uranium-233/234	9.2E+01	//		■		1	GP								pCi/L
Uranium-235	1.0E+01	//				1	GP								pCi/L
Uranium-238	2.1E+02	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 79A

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N73664.5 E50149.6	33.270522 °N 81.677836 °W	34.4-24.0 ft msl	218.1 ft msl	4" PVC	S	Gordon

SAMPLE DATE 01/11/99 04/05/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	158.6	158.5	ft msl
pH	5.6	6.2	pH
Sp. conductance	80	78	µS/cm
Water temperature	19.5	20.5	°C
Alkalinity as CaCO3	23	25	mg/L
Turbidity	0	0	NTU
Volumes purged	2.5	3.3	well volumes
Sampling code			
Synchronous water level	158.5 (03/23/99)	158.1 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	15	J//	NDD			1	WA	<15	U//	<15			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	23	//				1	WA								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	1.3	J//	NDD			1	WA								µg/L
Cobalt, total recoverable	<0.048	JU//4	<0.20			1	GE								µg/L
Copper, total recoverable	<0.96	U//6	<1.0			1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	<2.0	U//	<2.0			1	GE	<2.0	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	<2.0	U//	<2.0			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	1,200	//				1	GE	400	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.55	U//6	<2.5			1	GE								µg/L
Vanadium, total recoverable	<6.9	U//	<6.9			1	WA								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU//O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	U//	<5.0			1	WA								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU//O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU//O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU//O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 79A (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<4.2E-02	JU/L/I	<4.6E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<-1.0E+00	U//	<9.4E+00			1	GP								pCi/L
Cesium-137	<8.1E-02	U//	<3.3E+00			1	GP								pCi/L
Cobalt-60	<9.0E-02	U//	<4.3E+00			1	TM								pCi/L
Curium-242	<0.0E+00	U//	<1.6E-01			1	TM								pCi/L
Curium-243/244	<-1.0E-02	U//	<5.9E-01			1	TM								pCi/L
Curium-245/246	<1.6E-02	U//	<1.7E-01			1	GP								pCi/L
Gross alpha	<-2.4E-01	U//	<1.9E+00			1	TM	<4.2E-01	U//	<6.3E-01			1	GP	pCi/L
Iodine-129	<2.2E-01	U//	<1.0E+00			1	GP								pCi/L
Nonvolatile beta	1.6E+00	J/I/K/C	NDD			1	GP	1.6E+00	J/V	NDD			1	GP	pCi/L
Plutonium-238	<3.8E-03	U//	<1.6E-01			1	GP								pCi/L
Plutonium-239/240	<-5.2E-03	U//	<1.1E-01			1	GP								pCi/L
Radium-226	7.0E-01	J/V	NDD			1	GP								pCi/L
Radium-228	<1.5E-01	U//	<1.1E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<4.0E-02	U//	<1.4E+00			1	TM								pCi/L
Technetium-99	<-6.2E+00	U//	<1.4E+01			1	TM								pCi/L
Thorium-228	<3.7E-02	U//	<1.4E-01			1	GP								pCi/L
Thorium-230	6.6E-02	J/I/L/I	NDD			1	GP								pCi/L
Thorium-232	<0.0E+00	U//	<2.8E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	1.5E+01	//				1	TM	8.1E+00	//				1	GP	pCi/mL
Uranium-233/234	<1.1E-02	U//	<1.4E-01			1	GP								pCi/L
Uranium-235	<-4.1E-03	U//	<9.0E-02			1	GP								pCi/L
Uranium-238	<1.1E-02	U//	<1.4E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA = Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA = Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA = Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon = Gordon Aquifer

WELL FSB 79B

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N73666.1 E50159.2	33.270541 °N 81.677813 °W	91.2-80.7 ft msl	218.2 ft msl	4" PVC	S	Gordon

SAMPLE DATE	01/06/99	04/05/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	158.8	158.8	ft msl
pH	6.4	6.6	pH
Sp. conductance	160	160	µS/cm
Water temperature	18.9	20.3	°C
Alkalinity as CaCO3	0	56	mg/L
Turbidity	1	0	NTU
Volumes purged	2.7	3.5	well volumes
Sampling code			
Synchronous water level	158.8 (03/23/99)	158.3 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	<15	U//	<15			1	GE	<15	U//	<15			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	28	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	1.7	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	<0.049	JU//4	<0.20			1	GE								µg/L
Copper, total recoverable	<0.92	U//	<1.0			1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	<2.0	U//	<2.0			1	GE	<2.0	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	0.83	J//	NDD			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	2,700	//				1	GE	2,900	//				3	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<2.5	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU//O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<9.9	U//	<9.9			1	GE								µg/L
Dichloromethane	<5.0	JU//O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU//O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU//O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU//O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 79B (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<9.3E-03	U//	<9.1E-02			1	GP								pCi/L
Beta dose	0.01														
Carbon-14	2.1E+01	//				1	GP								pCi/L
Cesium-137	<2.1E-01	JU/L/C	<3.2E+00			1	GP								pCi/L
Cobalt-60	<6.8E-01	U//	<4.0E+00			1	GP								pCi/L
Curium-242	<0.0E+00	JU/L/I	<9.8E-02			1	GP								pCi/L
Curium-243/244	<0.0E+00	JU/L/I	<9.1E-02			1	GP								pCi/L
Curium-245/246	<0.0E+00	JU/L/I	<9.1E-02			1	GP								pCi/L
Gross alpha	1.8E+00	J/V	NDD			1	GP	<5.4E-01	U//	<8.0E-01			1	GP	pCi/L
Iodine-129	<9.0E-01	U//	<1.3E+00			1	GP								pCi/L
Nonvolatile beta	2.7E+00	//				1	GP	1.7E+00	J/V	NDD			1	GP	pCi/L
Plutonium-238	<3.7E-02	U//	<1.1E-01			1	GP								pCi/L
Plutonium-239/240	<1.7E-01	U//	<2.1E-01			1	GP								pCi/L
Radium-226	1.4E+00	J/V	NDD			1	GP								pCi/L
Radium-228	<6.1E-01	U//	<1.3E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<6.0E-01	U//	<1.3E+00			1	GP								pCi/L
Technetium-99	<6.9E+00	U//	<2.3E+01			1	GP								pCi/L
Thorium-228	2.0E-01	J/V	NDD			1	GP								pCi/L
Thorium-230	<6.0E-02	U//	<7.9E-02			1	GP								pCi/L
Thorium-232	<0.0E+00	U//	<2.5E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	2.1E+01														pCi/L
Tritium	4.2E+01	//		■		1	GP	4.0E+01	//		■		1	GP	pCi/mL
Uranium-233/234	<7.1E-02	U//	<7.5E-02			1	GP								pCi/L
Uranium-235	<3.2E-03	U//	<6.4E-02			1	GP								pCi/L
Uranium-238	<3.0E-02	U//	<5.6E-02			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 79C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N73668.0 E50171.3	33.270565 °N 81.677785 °W	159.6-149.8 ft msl	218.4 ft msl	4" PVC	V	LAZ_UTRA

SAMPLE DATE 01/04/99 04/07/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	196.6	196.7	ft msl
pH	3.8	3.6	pH
Sp. conductance	1200	1200	µS/cm
Water temperature	17.1	19.2	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	0	1	NTU
Volumes purged	2.3	2.0	well volumes
Sampling code			
Synchronous water level	196.6 (03/23/99)	196.1 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	49,000	//				1	GE	50,000	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	1.3	J/V	NDD			1	GE								µg/L
Barium, total recoverable	490	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	14	//		■		1	GE	16	//		■		1	GE	µg/L
Chromium, total recoverable	1.7	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	110	//		■		1	GE								µg/L
Copper, total recoverable	44	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.49	J/V	NDD			1	GE	<20	U//	<20			10	GE	µg/L
Mercury, total recoverable	2.0	//				1	GE								µg/L
Nickel, total recoverable	36	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	150,000	//		■		100	GE	160,000	//		■		100	GE	µg/L
Selenium, total recoverable	13	//				1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	1.0	J/V	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	110	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<1.9	JU/LV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer, Gordon – Gordon Aquifer

WELL FSB 79C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	2.6E+01	//		■		1	GP								pCi/L
Beta dose	103			■											
Carbon-14	1.2E+02	//		■		1	GP								pCi/L
Cesium-137	<5.6E-01	U//	<4.2E+00			1	GP								pCi/L
Cobalt-60	<2.6E+00	U//	<4.8E+00			1	GP								pCi/L
Curium-242	<1.0E-02	U//	<5.9E-01			1	GP								pCi/L
Curium-243/244	2.5E+01	//		■		1	GP								pCi/L
Curium-245/246	9.0E-01	R//4	Rej			1	GP								pCi/L
Gross alpha	5.4E+02	J/V	NDD			1	GP	4.9E+02	//		■		1	GP	pCi/L
Iodine-129	1.0E+02	//		■		1	GP				■		1	GP	pCi/L
Nonvolatile beta	1.3E+03	//		■		1	GP	1.5E+03	//						pCi/L
Plutonium-238	<3.5E-02	JU/L/CI	<5.3E-02			1	GP								pCi/L
Plutonium-239/240	<5.3E-02	JU/L/CI	<5.3E-02			1	GP								pCi/L
Radium-226	4.5E+01	//		■		1	GP								pCi/L
Radium-228	1.3E+01	//		■		1	GP								pCi/L
Total radium	5.9E+01														
Strontium-90	5.4E+02	J/K/C	NDD			1	GP								pCi/L
Technetium-99	1.6E+02	//		■		1	GP								pCi/L
Thorium-228	5.9E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	<3.7E-02	U//	<9.4E-02			1	GP								pCi/L
Thorium-232	<1.5E-02	U//	<4.5E-02			1	GP								pCi/L
Sum of alphas	4.2E+02			■											pCi/L
Sum of betas	3.9E+02			■											pCi/L
Tritium	8.0E+03	//		■		1	GP	6.5E+03	//		■		1	GP	pCi/mL
Uranium-233/234	1.8E+02	//		■		1	GP								pCi/L
Uranium-235	1.3E+01	//				1	GP								pCi/L
Uranium-238	1.8E+02	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 87A

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N75601.7 E50115.8	33.274751 °N 81.681688 °W	43.6-33.1 ft msl	287.8 ft msl	4" PVC	S	Gordon

SAMPLE DATE 01/07/99 04/06/99

FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	154.4	154.4	ft msl
pH	6.2	6.1	pH
Sp. conductance	86	92	µS/cm
Water temperature	20.2	20.3	°C
Alkalinity as CaCO3	32	32	mg/L
Turbidity	0	0	NTU
Volumes purged	3.3	2.8	well volumes
Sampling code			
Synchronous water level	154.3 (03/23/99)	153.8 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Aluminum, total recoverable	14	J//	NDD			1	GE	13	J//	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	16	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	1.2	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	<0.092	JU//4	<0.20			1	GE								µg/L
Copper, total recoverable	3.1	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	<2.0	U//	<2.0			1	GE	<2.0	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	2.2	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	110	//				1	GE	130	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	0.14	J//	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ - UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ - UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 87A (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<6.3E-02	JU/L/I	<4.3E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<2.3E-01	U//	<7.4E+00			1	GP								pCi/L
Cesium-137	<8.7E-01	JU/L/C	<4.3E+00			1	GP								pCi/L
Cobalt-60	<-1.3E+00	U//	<3.9E+00			1	GP								pCi/L
Curium-242	<-2.1E-02	U//	<4.5E-01			1	GP								pCi/L
Curium-243/244	<-2.0E-02	U//	<4.3E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<2.4E-01			1	GP								pCi/L
Gross alpha	1.1E+00	J//	NDD			1	GP	1.2E+00	J//IK/C	NDD			1	TM	pCi/L
Iodine-129	<6.5E-01	U//	<1.3E+00			1	GP								pCi/L
Nonvolatile beta	<1.0E+00	U//	<1.0E+00			1	GP	2.7E+00	J//	NDD			1	GP	pCi/L
Plutonium-238	<1.5E-01	U//	<1.8E-01			1	GP								pCi/L
Plutonium-239/240	<-1.6E-04	U//	<1.2E-01			1	GP								pCi/L
Radium-226	2.4E+00	//				1	GP								pCi/L
Radium-228	<9.2E-01	U//	<1.1E+00			1	GP								pCi/L
Total radium	2.4E+00														
Strontium-90	<1.6E-01	U//	<1.3E+00			1	GP								pCi/L
Technetium-99	<2.8E-01	U//	<2.1E+01			1	GP								pCi/L
Thorium-228	<2.8E-02	U//	<5.3E-01			1	GP								pCi/L
Thorium-230	<4.9E-02	U//	<2.6E-01			1	GP								pCi/L
Thorium-232	<-2.7E-02	U//	<2.6E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	1.5E+00	//				1	GP	1.6E+00	//				1	GP	pCi/mL
Uranium-233/234	<1.1E-01	JU/L/C	<2.0E-01			1	GP								pCi/L
Uranium-235	<1.3E-03	JU/L/C	<2.5E-01			1	GP								pCi/L
Uranium-238	<1.3E-03	JU/L/C	<2.5E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 87B

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N75597.0 E50104.9	33.274722 °N 81.681708 °W	100.5-90.0 ft msl	287.5 ft msl	4" PVC	S	Gordon

SAMPLE DATE 01/07/99

04/06/99

FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	151.1	151.1	ft msl
pH	5.6	5.2	pH
Sp. conductance	93	100	µS/cm
Water temperature	20.4	20.4	°C
Alkalinity as CaCO ₃	3	3	mg/L
Turbidity	0	0	NTU
Volumes purged	5.3	3.0	well volumes
Sampling code			
Synchronous water level	151.0 (03/23/99)	150.5 (06/25/99)	ft msl

ANALYTICAL DATA*Inorganic Constituents*

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Aluminum, total recoverable	32	//				1	GE	23	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	3.0	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	2.0	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	<0.083	JU//4	<0.20			1	GE								µg/L
Copper, total recoverable	4.7	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	1.5	J//	NDD			1	GE	1.7	J//	NDD			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	3.2	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	8,800	//				5	GE	9,900	//				5	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	0.16	J//	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	JU/Q/	<10			1	GE								µg/L
Dichloromethane	<5.0	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ, UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ, UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 87B (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<2.1E-01	JU/L/I	<3.5E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<2.1E+00	U//	<7.6E+00			1	GP								pCi/L
Cesium-137	<1.5E-01	JU/L/C	<3.8E+00			1	GP								pCi/L
Cobalt-60	<3.7E-01	U//	<3.6E+00			1	GP								pCi/L
Curium-242	<5.9E-02	U//	<7.6E-01			1	GP								pCi/L
Curium-243/244	<2.8E-02	U//	<6.2E-01			1	GP								pCi/L
Curium-245/246	<1.2E-01	U//	<3.5E-01			1	GP								pCi/L
Gross alpha	8.2E-01	J//	NDD			1	GP	<6.3E-01	U//	<7.8E-01			1	GP	pCi/L
Iodine-129	<2.2E-01	U//	<1.4E+00			1	GP								pCi/L
Nonvolatile beta	4.2E+00	//						<7.8E-01	U//	<1.1E+00			1	GP	pCi/L
Plutonium-238	<2.3E-02	U//	<1.3E-01			1	GP								pCi/L
Plutonium-239/240	<6.9E-02	U//	<9.7E-02			1	GP								pCi/L
Radium-226	<1.7E+00	U//	<1.6E-01			1	GP								pCi/L
Radium-228	<4.6E-01	U//	<9.6E-01			1	GP								pCi/L
Total radium	NA														
Strontium-90	<7.2E-01	U//	<1.2E+00			1	GP								pCi/L
Technetium-99	<6.0E+00	U//	<1.9E+01			1	GP								pCi/L
Thorium-228	<1.6E-01	U//	<4.2E-01			1	GP								pCi/L
Thorium-230	<1.5E-03	U//	<2.8E-01			1	GP								pCi/L
Thorium-232	<0.0E+00	U//	<1.1E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	1.4E+02	//		■		1	GP	1.5E+02	//		■		1	GP	pCi/mL
Uranium-233/234	<1.2E-01	JU/L/C	<3.1E-01			1	GP								pCi/L
Uranium-235	<7.2E-02	JU/L/C	<2.2E-01			1	GP								pCi/L
Uranium-238	<7.9E-02	JU/L/C	<2.0E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 87C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75591.9 E50093.4	33.274692 °N 81.681728 °W	159.3-148.8 ft msl	287.5 ft msl	4" PVC	S	LAZ_UTRA

SAMPLE DATE 01/07/99 04/06/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	210.6	209.4	ft msl
pH	5.3	5.3	pH
Sp. conductance	88	100	µS/cm
Water temperature	20.0	20.7	°C
Alkalinity as CaCO3	6	3	mg/L
Turbidity	0	1	NTU
Volumes purged	4.2	2.6	well volumes
Sampling code			
Synchronous water level	205.4 (03/23/99)	208.7 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	17	//				1	GE	10	J/V	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	16	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	0.26	J/V	NDD			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	0.82	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	0.29	//				1	GE								µg/L
Copper, total recoverable	45	//				1	GE								µg/L
Cyanide	5.4	J/K/I	NDD			1	GE								µg/L
Lead, total recoverable	8.1	//				1	GE	14	//				1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	4.2	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	8,300	//				5	GE	9,700	//				5	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.085	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	16	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	29	//				1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 87C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<2.5E-01	JU/L/I	<2.0E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<3.3E-01	U//	<7.6E+00			1	GP								pCi/L
Cesium-137	<-3.8E-01	JU/L/C	<4.3E+00			1	GP								pCi/L
Cobalt-60	<-8.3E-01	U//	<3.8E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<2.1E-01			1	GP								pCi/L
Curium-243/244	<-1.6E-02	U//	<3.5E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<2.0E-01			1	GP								pCi/L
Gross alpha	2.1E+00	//				1	GP	1.4E+00	J/V	NDD			1	GP	pCi/L
Iodine-129	<8.0E-01	U//	<1.3E+00			1	GP								pCi/L
Nonvolatile beta	4.3E+00	//				1	GP	3.1E+00	//				1	GP	pCi/L
Plutonium-238	<6.7E-02	U//	<1.6E-01			1	GP								pCi/L
Plutonium-239/240	<2.5E-02	U//	<1.1E-01			1	GP								pCi/L
Radium-226	1.1E+00	J/V	NDD			1	GP								pCi/L
Radium-228	<7.2E-01	U//	<9.1E-01			1	GP								pCi/L
Total radium	NA														
Strontium-90	<-3.8E-01	U//	<1.5E+00			1	GP								pCi/L
Technetium-99	<5.7E+00	U//	<2.0E+01			1	GP								pCi/L
Thorium-228	<1.6E-01	U//	<5.0E-01			1	GP								pCi/L
Thorium-230	<1.1E-01	U//	<2.1E-01			1	GP								pCi/L
Thorium-232	<-1.9E-02	U//	<2.5E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	6.1E+02	//		■		1	GP	6.7E+02	//		■		1	GP	pCi/mL
Uranium-233/234	<6.1E-02	JU/L/C	<2.4E-01			1	GP								pCi/L
Uranium-235	<1.3E-01	JU/L/C	<1.4E-01			1	GP								pCi/L
Uranium-238	<1.4E-02	JU/L/C	<1.6E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ, UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ, LTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 87D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75586.3 E50081.1	33.274660 °N 81.681749 °W	216.8-187.4 ft msl	287.3 ft msl	4" PVC	S	UAZ_UTRA

SAMPLE DATE 01/07/99 04/26/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	214.1		ft msl
pH	4.2	3.8	pH
Sp. conductance	53	80	µS/cm
Water temperature	19.9	21.5	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	0	0	NTU
Volumes purged	7.7		well volumes
Sampling code			
Synchronous water level	212.4 (03/23/99)	(06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	390	//				1	GE	680	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	14	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	0.98	J/V	NDD			1	GE	0.81	J/V	NDD			1	GE	µg/L
Chromium, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Cobalt, total recoverable	1.2	//				1	GE								µg/L
Copper, total recoverable	64	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	2.5	//				1	GE	2.5	//				1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	1.6	J/V	NDD			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	2,700	//				1	GE	12,000	//				5	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.043	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	35	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 87D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<1.4E-01	JU/L/I	<2.4E-01			1	GP								pCi/L
Beta dose	0.65														
Carbon-14	<4.0E+00	U//	<7.4E+00			1	GP								pCi/L
Cesium-137	<2.3E+00	JU/L/C	<3.7E+00			1	GP								pCi/L
Cobalt-60	<1.1E+00	U//	<3.9E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<2.5E-01			1	GP								pCi/L
Curium-243/244	<2.4E-01	U//	<2.4E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<2.4E-01			1	GP								pCi/L
Gross alpha	6.5E+01	//		■		1	GP	8.8E+01	//		■		1	GP	pCi/L
Iodine-129	2.3E+00	J//	NDD			1	GP								pCi/L
Nonvolatile beta	3.6E+01	//				1	GP	5.6E+01	//		■		1	GP	pCi/L
Plutonium-238	<3.1E-02	U//	<1.8E-01			1	GP								pCi/L
Plutonium-239/240	<3.0E-04	U//	<1.4E-01			1	GP								pCi/L
Radium-226	1.0E+00	J//	NDD			1	GP								pCi/L
Radium-228	8.3E-01	J//	NDD			1	GP								pCi/L
Total radium	NA														
Strontium-90	5.2E+00	//				1	GP								pCi/L
Technetium-99	<1.3E+00	U//	<2.0E+01			1	GP								pCi/L
Thorium-228	<3.4E-02	U//	<4.5E-01			1	GP								pCi/L
Thorium-230	<1.2E-01	U//	<2.5E-01			1	GP								pCi/L
Thorium-232	<2.7E-02	U//	<1.9E-01			1	GP								pCi/L
Sum of alphas	6.2E+01			■											pCi/L
Sum of betas	5.2E+00														pCi/L
Tritium	1.6E+01	//				1	GP	5.8E+02	//		■		1	GP	pCi/mL
Uranium-233/234	1.7E+01	//		■		1	GP								pCi/L
Uranium-235	1.6E+00	//				1	GP								pCi/L
Uranium-238	4.3E+01	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 88C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75619.4 E51518.0	33.277078 °N 81.678031 °W	168.4-158.4 ft msl	283 ft msl	4" PVC	S	LAZ_UTRA

SAMPLE DATE 01/11/99 04/07/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	213.7	213.2	ft msl
pH	5.4	5.0	pH
Sp. conductance	46	43	µS/cm
Water temperature	18.8	21.0	°C
Alkalinity as CaCO3	7	5	mg/L
Turbidity	0	0	NTU
Volumes purged	7.4	4.7	well volumes
Sampling code			
Synchronous water level	213.6 (03/23/99)	212.3 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	<15	U//	<15			1	GE	<15	U//	<15			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	10	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Cobalt, total recoverable	0.18	J//	NDD			1	GE								µg/L
Copper, total recoverable	0.65	J//	NDD			1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	<2.0	U//	<2.0			1	GE	<0.52	JU//4	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	<2.0	U//	<2.0			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	1,800	//				1	GE	1,600	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.11	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<9.8	JU/LV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	0.84	J//L/O	NDD			1	GE								µg/L
Trichloroethylene	0.72	J//L/O	NDD			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

LAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 88C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<1.6E-02	U//	<7.5E-02			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<1.6E+00	U//	<7.7E+00			1	GP								pCi/L
Cesium-137	<3.9E-01	U//	<3.6E+00			1	GP								pCi/L
Cobalt-60	<1.5E+00	U//	<4.1E+00			1	GP								pCi/L
Curium-242	<1.2E-02	U//	<1.6E-01			1	GP								pCi/L
Curium-243/244	<2.5E-02	U//	<7.5E-02			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<7.5E-02			1	GP								pCi/L
Gross alpha	7.7E-01	J//	NDD			1	GP	9.2E-01	J//	NDD			1	GP	pCi/L
Iodine-129	<1.0E+00	U//	<1.3E+00			1	GP								pCi/L
Nonvolatile beta	<6.9E-01	U//	<1.4E+00			1	GP	<8.4E-01	U//	<9.6E-01			1	GP	pCi/L
Plutonium-238	<1.7E-02	U//	<1.2E-01			1	GP								pCi/L
Plutonium-239/240	<0.0E+00	U//	<6.7E-02			1	GP								pCi/L
Radium-226	3.1E-01	J//	NDD			1	GP								pCi/L
Radium-228	<1.3E+00	U//	<1.2E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<9.5E-02	U//	<1.3E+00			1	GP								pCi/L
Technetium-99	<9.4E-01	U//	<2.1E+01			1	GP								pCi/L
Thorium-228	1.6E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	<4.2E-02	JU//L/I	<6.8E-02			1	GP								pCi/L
Thorium-232	<0.0E+00	JU//L/I	<2.3E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	1.9E+01	//				1	GP	1.1E+01	//				1	GP	pCi/mL
Uranium-233/234	<3.5E-02	U//	<2.0E-01			1	GP								pCi/L
Uranium-235	<2.3E-02	U//	<2.2E-01			1	GP								pCi/L
Uranium-238	<1.2E-02	U//	<1.4E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA = Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ, UTRA = Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ, UTRA = Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon = Gordon Aquifer

WELL FSB 88D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75621.8 E51527.0	33.277098 °N 81.678012 °W	222.1-202.1 ft msl	282.4 ft msl	4" PVC	V	UAZ_UTRA

SAMPLE DATE 01/14/99 04/06/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	217.7	216.7	ft msl
pH	4.0	4.0	pH
Sp. conductance	240	320	µS/cm
Water temperature	20.1	19.9	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	3	3	NTU
Volumes purged	0.098	2.0	well volumes
Sampling code	X		
Synchronous water level	217.0 (03/23/99)	216.5 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	8,800	//				1	GE	9,900	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	67	//				1	GE								µg/L
Beryllium, total recoverable	0.99	J/V	NDD			1	GE	1.2	//				1	GE	µg/L
Cadmium, total recoverable	8.8	//				1	GE								µg/L
Chromium, total recoverable	8.3	//				1	GE								µg/L
Cobalt, total recoverable	16	//				1	GE								µg/L
Copper, total recoverable	<10	U//	<10			1	GE								µg/L
Cyanide	5.5	//				1	GE	5.3	//				1	GE	µg/L
Lead, total recoverable	3.8	//				1	GE								µg/L
Mercury, total recoverable	18	//				1	GE								µg/L
Nickel, total recoverable	33,000	//				25	GE	31,000	//				25	GE	µg/L
Nitrate as nitrogen	<5.0	U//	<5.0			1	GE								µg/L
Nitrate-nitrite as nitrogen	<1.0	U//	<1.0			1	GE								µg/L
Selenium, total recoverable	<0.082	U/V	<2.5			1	GE								µg/L
Silver, total recoverable	<10	U//	<10			1	GE								µg/L
Thallium, total recoverable	86	//				1	GE								µg/L
Vanadium, total recoverable															
Zinc, total recoverable															

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<9.9	U//	<9.9			1	GE								µg/L
Dichloromethane	<1.7	JU/LV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 88D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	1.2E+01	//		■		1	GP								pCi/L
Beta dose	85														
Carbon-14	2.2E+01	//				1	GP								pCi/L
Cesium-137	<4.7E-01	U//	<3.7E+00			1	GP								pCi/L
Cobalt-60	<5.0E-01	U//	<4.1E+00			1	GP								pCi/L
Curium-242	<1.8E-02	U//	<2.7E-02			1	GP								pCi/L
Curium-243/244	3.2E+01	//		■		1	GP								pCi/L
Curium-245/246	3.2E-01	R//4	Rej			1	GP								pCi/L
Gross alpha	3.3E+02	J/L/I	NDD			1	GP	3.0E+02	//		■		1	GP	pCi/L
Iodine-129	6.9E+01	//		■		1	GP								pCi/L
Nonvolatile beta	3.7E+02	//		■		1	GP	2.7E+02	//		■		1	GP	pCi/L
Plutonium-238	<1.1E-02	U//	<2.4E-01			1	GP								pCi/L
Plutonium-239/240	<2.5E-02	U//	<1.8E-01			1	GP								pCi/L
Radium-226	2.4E+00	//				1	GP								pCi/L
Radium-228	5.2E+00	//		■		1	GP								pCi/L
Total radium	7.6E+00														
Strontium-90	1.2E+02	//		■		1	GP								pCi/L
Technetium-99	2.6E+01	J/V	NDD			1	GP								pCi/L
Thorium-228	<6.1E-02	U//	<1.1E-01			1	GP								pCi/L
Thorium-230	5.0E-02	R//4	Rej			1	GP								pCi/L
Thorium-232	<2.0E-02	U//	<2.0E-02			1	GP								pCi/L
Sum of alphas	3.1E+02			■											pCi/L
Sum of betas	2.2E+02			■											pCi/L
Tritium	3.5E+02	//		■		1	GP	2.3E+02	//		■		1	GP	pCi/mL
Uranium-233/234	1.2E+02	//		■		1	GP								pCi/L
Uranium-235	1.2E+01	//		■		1	GP								pCi/L
Uranium-238	1.4E+02	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 89C

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N75553.2 E51345.2	33.276650 °N 81.678357 °W	166.1-156.1 ft msl	281.3 ft msl	4" PVC	S	LAZ_UTRA

SAMPLE DATE 01/20/99 04/06/99

FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	213.0	212.3	ft msl
pH	5.9	5.4	pH
Sp. conductance	56	54	µS/cm
Water temperature	19.1	20.1	°C
Alkalinity as CaCO ₃	12	8	mg/L
Turbidity	0	1	NTU
Volumes purged	2.3	3.4	well volumes
Sampling code			
Synchronous water level	213.0 (03/23/99)	211.7 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	<15	U//	<15			1	GE	<15	U//	<15			1	GE	µg/L
Antimony, total recoverable	1.2	//				1	GE								µg/L
Arsenic, total recoverable	1.1	J//	NDD			1	GE								µg/L
Barium, total recoverable	16	//				1	WA								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	0.49	J//	NDD			1	WA	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	2.3	J//	NDD			1	WA								µg/L
Cobalt, total recoverable	0.42	//				1	GE								µg/L
Copper, total recoverable	<1.7	U//6	<1.0			1	GE								µg/L
Cyanide	3.7	J//	NDD			1	GE								µg/L
Lead, total recoverable	1.2	J//	NDD			1	GE	0.59	J//	NDD			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	1.5	J//	NDD			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	1,800	//				5	WA	1,800	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	2.1	J//	NDD			1	GE								µg/L
Thallium, total recoverable	1.8	J//	NDD			1	GE								µg/L
Vanadium, total recoverable	<6.9	U//	<6.9			1	WA								µg/L
Zinc, total recoverable	16	J//	NDD			1	WA								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<2.2	JU/KV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	1.1	J/K/O	NDD			1	GE								µg/L
Trichloroethylene	1.0	J/K/O	NDD			1	GE								µg/L
Trichlorofluoromethane	3.9	J/K/O	NDD			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 89C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DE	Lab	2Q99	Mod	Filt.	ST	H	DE	Lab	Unit
Americium-241	<5.5E-02	U//	<4.8E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<3.3E-01	U//	<7.7E+00			1	GP								pCi/L
Cesium-137	<1.4E-01	U//	<3.5E+00			1	GP								pCi/L
Cobalt-60	<3.9E-02	U//	<2.7E+00			1	GP								pCi/L
Curium-242	<8.7E-03	U//	<5.4E-01			1	GP								pCi/L
Curium-243/244	<2.0E-03	U//	<3.9E-01			1	GP								pCi/L
Curium-245/246	<6.1E-02	U//	<1.8E-01			1	GP								pCi/L
Gross alpha	<6.1E-02	U//	<5.8E-01			1	GP	<3.9E-01	U//	<5.5E-01			1	GP	pCi/L
Iodine-129	<3.0E-01	U//	<9.6E-01			1	GP								pCi/L
Nonvolatile beta	<2.6E-01	U//	<1.2E+00			1	GP	<6.0E-01	U//	<9.7E-01			1	GP	pCi/L
Plutonium-238	<0.0E+00	U//	<5.0E-02			1	GP								pCi/L
Plutonium-239/240	<0.0E+00	U//	<3.1E-01			1	TM								pCi/L
Radium-226	6.3E-01	J/V	NDD			1	GP								pCi/L
Radium-228	<1.7E-01	U//	<1.0E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<2.0E-02	U//	<1.7E+00			1	GP								pCi/L
Technetium-99	<4.9E-01	U//	<2.2E+01			1	GP								pCi/L
Thorium-228	<2.2E-02	U//	<4.4E-01			1	GP								pCi/L
Thorium-230	<1.5E-03	U//	<2.8E-01			1	GP								pCi/L
Thorium-232	<4.0E-03	U//	<8.7E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	1.4E+01	J/K/C	NDD			1	TM	1.2E+01	//				1	GP	pCi/mL
Uranium-233/234	4.3E-01	R//4	Rej			1	GP								pCi/L
Uranium-235	<0.0E+00	U//	<3.0E-01			1	TM								pCi/L
Uranium-238	<3.0E-02	U//	<8.9E-02			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 89D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75548.3 E51335.8	33.276623 °N 81.678372 °W	221.9-201.9 ft msl	281.2 ft msl	4" PVC	V	UAZ_UTRA

SAMPLE DATE	01/14/99	04/06/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	217.0	216.0	ft msl
pH	3.2	4.0	pH
Sp. conductance	250	280	µS/cm
Water temperature	19.8	19.5	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	1	2	NTU
Volumes purged	3.7	2.3	well volumes
Sampling code			
Synchronous water level	216.2 (03/23/99)	215.8 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	3,800	//				1	GE	4,200	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	38	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	1.6	//				1	GE	1.8	//				1	GE	µg/L
Chromium, total recoverable	2.4	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	24	//		■		1	GE								µg/L
Copper, total recoverable	11	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	1.6	J//	NDD			1	GE	2.0	J//	NDD			1	GE	µg/L
Mercury, total recoverable	9.6	//		■		1	GE								µg/L
Nickel, total recoverable	6.1	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	21,000	//		■		10	GE	27,000	//				25	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.055	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	23	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<9.9	U//	<9.9			1	GE								µg/L
Dichloromethane	<1.6	JU/LV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 89D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	6.3E+00	//				1	GP								pCi/L
Beta dose	62			■											
Carbon-14	2.1E+01	//				1	GP								pCi/L
Cesium-137	<6.1E-01	U//	<3.7E+00			1	GP								pCi/L
Cobalt-60	<1.6E-01	U//	<4.0E+00			1	GP								pCi/L
Curium-242	<4.6E-03	U//	<5.7E-02			1	GP								pCi/L
Curium-243/244	4.4E+00	//				1	GP								pCi/L
Curium-245/246	2.0E-01	R//4	Rej			1	GP								pCi/L
Gross alpha	1.6E+02	J/L/1	NDD			1	GP	1.7E+02	//		■		1	GP	pCi/L
Iodine-129	4.4E+01	//				1	GP								pCi/L
Nonvolatile beta	3.5E+02	//		■		1	GP	3.7E+02	//		■		1	GP	pCi/L
Plutonium-238	<2.4E-02	U//	<1.9E-01			1	GP								pCi/L
Plutonium-239/240	<3.6E-02	U//	<8.2E-02			1	GP								pCi/L
Radium-226	3.7E+00	//				1	GP								pCi/L
Radium-228	2.7E+00	J/V	NDD			1	GP								pCi/L
Total radium	3.7E+00														
Strontium-90	1.4E+02	//		■		1	GP								pCi/L
Technetium-99	4.2E+01	J/V	NDD			1	GP								pCi/L
Thorium-228	1.3E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	3.2E-02	R//4	Rej			1	GP								pCi/L
Thorium-232	<4.0E-03	U//	<5.0E-02			1	GP								pCi/L
Sum of alphas	1.2E+02			■											pCi/L
Sum of betas	2.0E+02			■											pCi/L
Tritium	7.7E+02	//		■		1	GP	7.4E+02	//		■		1	GP	pCi/mL
Uranium-233/234	4.7E+01	//		■		1	GP								pCi/L
Uranium-235	5.1E+00	//		■		1	GP								pCi/L
Uranium-238	6.1E+01	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 90C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75382.9 E51148.6	33.275952 °N 81.678544 °W	168.1-158.1 ft msl	278.4 ft msl	4" PVC	S	LAZ_UTRA

SAMPLE DATE	01/07/99	04/06/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	211.9	210.9	ft msl
pH	5.6	5.5	pH
Sp. conductance	200	180	µS/cm
Water temperature	16.6	20.3	°C
Alkalinity as CaCO3	1	27	mg/L
Turbidity	1.4	0	NTU
Volumes purged	0.03	2.9	well volumes
Sampling code	X		
Synchronous water level	211.4 (03/23/99)	210.4 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	1,100	//				1	GE	2,300	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	50	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	0.84	J/V	NDD			1	GE	0.95	J/V	NDD			1	GE	µg/L
Chromium, total recoverable	<0.61	JU//4	<3.0			1	GE								µg/L
Cobalt, total recoverable	11	//		■		1	GE								µg/L
Copper, total recoverable	9.6	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	9.8	//				1	GE	5.5	//				1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	19	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	16,000	//		■		10	GE	12,000	//		■		10	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.062	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	120	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	JU/Q/	<10	●		1	GE								µg/L
Dichloromethane	<5.0	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	1.5	//				1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 90C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<6.4E-03	JU/L/I	<6.2E-01			1	GP								pCi/L
Beta dose	0.59														
Carbon-14	3.0E+01	//				1	GP								pCi/L
Cesium-137	<1.7E-01	JU/L/C	<3.7E+00			1	GP								pCi/L
Cobalt-60	<-1.1E+00	U//	<3.1E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<2.8E-01			1	GP								pCi/L
Curium-243/244	<-4.3E-02	U//	<5.5E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<2.7E-01			1	GP								pCi/L
Gross alpha	6.9E+00	//				1	GP	3.0E+00	//				1	GP	pCi/L
Iodine-129	3.9E+00	J/V	NDD			1	GP								pCi/L
Nonvolatile beta	2.1E+01	//				1	GP	1.5E+01	//				1	GP	pCi/L
Plutonium-238	<-8.2E-03	U//	<1.8E-01			1	GP								pCi/L
Plutonium-239/240	<-7.7E-03	U//	<9.6E-02			1	GP								pCi/L
Radium-226	1.6E+00	//				1	GP								pCi/L
Radium-228	6.6E-01	J/V	NDD			1	GP								pCi/L
Total radium	1.6E+00														
Strontium-90	4.6E+00	//				1	GP								pCi/L
Technetium-99	2.8E+01	J/V	NDD			1	GP								pCi/L
Thorium-228	<-8.8E-02	U//	<4.8E-01			1	GP								pCi/L
Thorium-230	<1.5E-03	U//	<2.8E-01			1	GP								pCi/L
Thorium-232	<3.7E-02	U//	<1.1E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	3.4E+01														
Tritium	4.7E+02	//		■		1	GP	3.9E+02	//		■		1	GP	pCi/mL
Uranium-233/234	<1.4E-01	JU/L/C	<1.9E-01			1	GP								pCi/L
Uranium-235	<1.4E-02	JU/L/C	<1.7E-01			1	GP								pCi/L
Uranium-238	<7.5E-03	JU/L/C	<1.9E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 90D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75376.9 E51140.7	33.275926 °N 81.678553 °W	225.1-205.1 ft msl	278.6 ft msl	4" PVC	V	UAZ_UTRA

SAMPLE DATE 01/04/99 04/09/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	208.3		ft msl
pH	4.2	3.7	pH
Sp. conductance	1060	600	µS/cm
Water temperature	15.7	18.9	°C
Alkalinity as CaCO ₃	0	0	mg/L
Turbidity	0.7	3	NTU
Volumes purged	31	0.021	well volumes
Sampling code	X	XD	
Synchronous water level	(03/23/99)	(06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	19,000	//				1	GE	19,000	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	150	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	8.3	//		■		1	GE	7.1	//		■		1	GE	µg/L
Chromium, total recoverable	6.3	//				1	GE								µg/L
Cobalt, total recoverable	17	//		■		1	GE								µg/L
Copper, total recoverable	27	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	14	//				1	GE	20	//		■		1	GE	µg/L
Mercury, total recoverable	17	//		■		2	GE								µg/L
Nickel, total recoverable	18	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	74,000	//		■		25	GE	64,000	//		■		50	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	0.18	J/V	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	51	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<1.3	JU/LV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

- = exceeded holding time
- = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 90D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	1.6E+01	//		■		1	GP								pCi/L
Beta dose	205			■											
Carbon-14	2.9E+01	//				1	GP								pCi/L
Cesium-137	<1.1E+00	U//	<3.7E+00			1	GP								pCi/L
Cobalt-60	<1.6E+00	U//	<3.6E+00			1	GP								pCi/L
Curium-242	<-1.7E-01	U//	<6.4E-01			1	GP								pCi/L
Curium-243/244	5.9E+00	//				1	GP								pCi/L
Curium-245/246	2.8E-01	R//4	Rej			1	GP								pCi/L
Gross alpha	5.3E+02	J/V	NDD			1	GP	5.7E+02	//		■		1	GP	pCi/L
Iodine-129	2.0E+02	//		■		1	GP								pCi/L
Nonvolatile beta	1.3E+03	//		■		1	GP	1.1E+03	//		■		1	GP	pCi/L
Plutonium-238	2.3E-01	J/IL/CI	NDD			1	GP								pCi/L
Plutonium-239/240	<3.4E-02	JU/L/CI	<1.0E-01			1	GP								pCi/L
Radium-226	1.7E+01	//		■		1	GP								pCi/L
Radium-228	2.4E+01	//		■		1	GP								pCi/L
Total radium	4.1E+01														
Strontium-90	4.3E+02	J/K/C	NDD			1	GP								pCi/L
Technetium-99	1.2E+02	//		■		1	GP								pCi/L
Thorium-228	4.8E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	<7.8E-03	U//	<1.7E-01			1	GP								pCi/L
Thorium-232	<-4.2E-02	U//	<2.1E-01			1	GP								pCi/L
Sum of alphas	4.5E+02			■											pCi/L
Sum of betas	3.7E+02			■											pCi/L
Tritium	2.2E+03	//		■		1	GP	1.8E+03	//		■		1	GP	pCi/mL
Uranium-233/234	2.0E+02	//		■		1	GP								pCi/L
Uranium-235	1.4E+01	//				1	GP								pCi/L
Uranium-238	2.2E+02	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ, UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ, LTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 91C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75213.3 E50953.5	33.275259 °N 81.678728 °W	159.1-149.1 ft msl	279.3 ft msl	4" PVC	S	LAZ_UTRA

SAMPLE DATE 01/14/99 04/06/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	211.8	211.1	ft msl
pH	4.6	5.4	pH
Sp. conductance	120	140	µS/cm
Water temperature	20.4	19.1	°C
Alkalinity as CaCO3	1	3	mg/L
Turbidity	5	2	NTU
Volumes purged	0.024	0.025	well volumes
Sampling code	X	X	
Synchronous water level	211.2 (03/23/99)	210.6 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	1,500	//				1	GE	2,000	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<30	U//	<30			10	GE								µg/L
Barium, total recoverable	47	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	2.1	//				1	GE	2.8	//				1	GE	µg/L
Chromium, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Cobalt, total recoverable	9.7	//		■		1	GE								µg/L
Copper, total recoverable	6.9	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	1.7	J//	NDD			1	GE	3.1	//				1	GE	µg/L
Mercury, total recoverable	<0.22	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	6.1	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	13,000	//		■		20	GE	12,000	//		■		10	GE	µg/L
Selenium, total recoverable	<100	U//	<100			20	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.053	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	29	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU//O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<9.9	U//	<9.9			1	GE								µg/L
Dichloromethane	<1.3	JU//V/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU//O	<1.0			1	GE								µg/L
Trichloroethylene	1.8	J//O	NDD			1	GE								µg/L
Trichlorofluoromethane	2.7	J//L/O	NDD			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 91C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<5.1E-02	U//	<3.5E-01	■		1	GP								pCi/L
Beta dose	19			■											
Carbon-14	2.6E+01	//				1	GP								pCi/L
Cesium-137	<6.9E-01	U//	<3.1E+00			1	GP								pCi/L
Cobalt-60	<3.0E-01	U//	<2.7E+00			1	GP								pCi/L
Curium-242	<9.4E-02	U//	<4.3E-01			1	GP								pCi/L
Curium-243/244	<2.6E-02	U//	<4.9E-01			1	GP								pCi/L
Curium-245/246	<8.8E-02	U//	<2.7E-01			1	GP								pCi/L
Gross alpha	2.4E+01	J/L/I	NDD			1	GP	2.7E+01	//		■		1	GP	pCi/L
Iodine-129	1.7E+01	//				1	GP								pCi/L
Nonvolatile beta	2.4E+02	//		■		1	GP	2.4E+02	//		■		1	GP	pCi/L
Plutonium-238	<4.7E-02	U//	<2.8E-01			1	GP								pCi/L
Plutonium-239/240	<2.5E-02	U//	<1.8E-01			1	GP								pCi/L
Radium-226	1.1E+01	//		■		1	GP								pCi/L
Radium-228	3.2E+00	//				1	GP								pCi/L
Total radium	1.4E+01														
Strontium-90	1.1E+01	//		■		1	GP								pCi/L
Technetium-99	2.4E+01	J/I	NDD			1	GP								pCi/L
Thorium-228	<4.1E-02	U//	<1.1E-01			1	GP								pCi/L
Thorium-230	6.2E-02	R//4	Rej			1	GP								pCi/L
Thorium-232	<6.8E-03	U//	<2.1E-02			1	GP								pCi/L
Sum of alphas	1.3E+00														pCi/L
Sum of betas	5.7E+01			■											pCi/L
Tritium	2.4E+02	//		■		1	GP	2.0E+02	//		■		1	GP	pCi/mL
Uranium-233/234	7.4E-01	//				1	GP								pCi/L
Uranium-235	<2.6E-02	U//	<6.4E-02			1	GP								pCi/L
Uranium-238	5.3E-01	//				1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 91D

SRS Coord	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75207.6 E50946.6	33.275235 °N 81.678735 °W	220.9-200.9 ft msl	279.2 ft msl	4" PVC	V	UAZ_UTRA

SAMPLE DATE 01/14/99 04/06/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	214.7	213.6	ft msl
pH	3.2	3.9	pH
Sp. conductance	220	160	µS/cm
Water temperature	19.8	19.8	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	1	2	NTU
Volumes purged	3.3	2.9	well volumes
Sampling code			
Synchronous water level	213.8 (03/23/99)	213.5 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	4,600	//				1	GE	4,400	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	33	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	0.67	J/V	NDD			1	GE	1.1	//				1	GE	µg/L
Chromium, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Cobalt, total recoverable	1.5	//				1	GE								µg/L
Copper, total recoverable	5.8	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	1.2	J/V	NDD			1	GE	1.1	J/V	NDD			1	GE	µg/L
Mercury, total recoverable	<0.25	U/V//	<0.20			1	GE								µg/L
Nickel, total recoverable	2.1	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	12,000	//		■		10	GE	12,000	//		■		10	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.060	U/V//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	9.4	J/V	NDD			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<9.9	U//	<9.9			1	GE								µg/L
Dichloromethane	<1.5	JU/LV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 91D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	1.4E+00	//				1	GP								pCi/L
Beta dose	20			■											
Carbon-14	9.5E+00	J/IL/I	NDD			1	GP								pCi/L
Cesium-137	<3.2E-01	U//	<4.0E+00			1	GP								pCi/L
Cobalt-60	<4.2E-01	U//	<3.8E+00			1	GP								pCi/L
Curium-242	<4.6E-03	U//	<5.7E-02			1	GP								pCi/L
Curium-243/244	1.0E+00	//				1	GP								pCi/L
Curium-245/246	4.9E-02	R//4	Rej			1	GP								pCi/L
Gross alpha	9.7E+01	J/L/I	NDD			1	GP	8.2E+01	//		■		1	GP	pCi/L
Iodine-129	1.9E+01	//				1	GP								pCi/L
Nonvolatile beta	7.9E+01	//		■		1	GP	7.5E+01	//		■		1	GP	pCi/L
Plutonium-238	<9.1E-03	U//	<1.4E-01			1	GP								pCi/L
Plutonium-239/240	<3.6E-02	U//	<3.6E-02			1	GP								pCi/L
Radium-226	2.7E+00	//				1	GP								pCi/L
Radium-228	4.4E+00	//				1	GP								pCi/L
Total radium	7.1E+00														
Strontium-90	1.9E+01	J/V	NDD			1	GP								pCi/L
Technetium-99	<9.1E+00	U//	<2.1E+01			1	GP								pCi/L
Thorium-228	1.1E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	<2.2E-02	U//	<5.5E-02			1	GP								pCi/L
Thorium-232	<8.8E-03	U//	<2.6E-02			1	GP								pCi/L
Sum of alphas	8.8E+01			■											pCi/L
Sum of betas	2.3E+01														pCi/L
Tritium	9.6E+01	//		■		1	GP	2.4E+02	//		■		1	GP	pCi/mL
Uranium-233/234	3.2E+01	//		■		1	GP								pCi/L
Uranium-235	3.2E+00	//				1	GP								pCi/L
Uranium-238	5.0E+01	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 92C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75053.2 E50564.0	33.274269 °N 81.679442 °W	157.6-147.6 ft msl	275.7 ft msl	4" PVC	V	LAZ_UTRA

SAMPLE DATE	01/14/99	04/06/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	210.6	209.8	ft msl
pH	5.2	5.4	pH
Sp. conductance	260	290	µS/cm
Water temperature	19.6	20.0	°C
Alkalinity as CaCO ₃	5	9	mg/L
Turbidity	3	1	NTU
Volumes purged	0.024	1.9	well volumes
Sampling code	X		
Synchronous water level	209.2 (03/23/99)	209.3 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	2,000	//				1	GE	1,000	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<60	U//	<60			20	GE								µg/L
Barium, total recoverable	120	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	7.0	//		■		1	GE	4.4	//				1	GE	µg/L
Chromium, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Cobalt, total recoverable	43	//		■		1	GE								µg/L
Copper, total recoverable	6.7	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	1.1	J/V	NDD			1	GE	<0.39	JU/V/4	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.22	U/V/	<0.20			1	GE								µg/L
Nickel, total recoverable	16	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	33,000	//		■		25	GE	32,000	//		■		25	GE	µg/L
Selenium, total recoverable	<100	U//	<100			20	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.11	U/V/	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	89	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<1.2	JU/LV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	3.4	J/L/O	NDD			1	GE								µg/L
Trichlorofluoromethane	1.9	J/L/O	NDD			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer, Gordon – Gordon Aquifer

WELL FSB 92C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<1.2E-01	U//	<3.2E-01	■		1	GP								pCi/L
Beta dose	32														
Carbon-14	1.6E+01	J//L/I	NDD			1	GP								pCi/L
Cesium-137	<-7.0E-01	U//	<4.1E+00			1	GP								pCi/L
Cobalt-60	<-2.4E-01	U//	<3.7E+00			1	GP								pCi/L
Curium-242	<-2.7E-02	U//	<3.4E-01			1	GP								pCi/L
Curium-243/244	<8.4E-02	U//	<4.4E-01			1	GP								pCi/L
Curium-245/246	<2.1E-02	U//	<1.4E-01			1	GP								pCi/L
Gross alpha	4.4E+01	J//L/I	NDD			1	GP	3.2E+01	//		■		1	GP	pCi/L
Iodine-129	1.5E+01	//				1	GP								pCi/L
Nonvolatile beta	3.0E+02	//		■		1	GP	2.7E+02	//		■		1	GP	pCi/L
Plutonium-238	<8.4E-02	U//	<1.9E-01			1	GP								pCi/L
Plutonium-239/240	<4.1E-02	U//	<9.3E-02			1	GP								pCi/L
Radium-226	2.2E+01	//		■		1	GP								pCi/L
Radium-228	3.8E+00	//				1	GP								pCi/L
Total radium	2.6E+01														
Strontium-90	1.3E+02	//		■		1	GP								pCi/L
Technetium-99	4.5E+01	J//I	NDD			1	GP								pCi/L
Thorium-228	<6.5E-02	U//	<1.2E-01			1	GP								pCi/L
Thorium-230	7.6E-02	R//4	Rej			1	GP								pCi/L
Thorium-232	<1.1E-02	U//	<4.8E-02			1	GP								pCi/L
Sum of alphas	2.5E+00														pCi/L
Sum of betas	1.5E+02			■											pCi/L
Tritium	8.9E+02	//		■		1	GP	7.4E+02	//		■		1	GP	pCi/mL
Uranium-233/234	1.5E+00	//				1	GP								pCi/L
Uranium-235	<7.4E-03	U//	<9.5E-02			1	GP								pCi/L
Uranium-238	1.1E+00	//				1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 92D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75045.8 E50557.6	33.274242 °N 81.679445 °W	221.7-201.7 ft msl	275.9 ft msl	4" PVC	V	UAZ_UTRA

SAMPLE DATE	01/04/99	04/08/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	212.9	212.0	ft msl
pH	4.5	3.6	pH
Sp. conductance	695	910	µS/cm
Water temperature	18.5	20.1	°C
Alkalinity as CaCO ₃	0	0	mg/L
Turbidity	1	1	NTU
Volumes purged	3.4	2.4	well volumes
Sampling code			
Synchronous water level	212.0 (03/23/99)	211.6 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	19,000	//				1	GE	29,000	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	530	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	22	//		■		1	GE	19	//		■		1	GE	µg/L
Chromium, total recoverable	1.5	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	13	//		■		1	GE								µg/L
Copper, total recoverable	17	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	1.0	J/V	NDD			1	GE	4.9	//				1	GE	µg/L
Mercury, total recoverable	0.56	//				1	GE								µg/L
Nickel, total recoverable	11	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	86,000	//		■		50	GE	100,000	//		■		50	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.10	JU//A	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	71	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<1.7	JU/LV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 92D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	1.4E+01	//		■		1	GP								pCi/L
Beta dose	59			■											
Carbon-14	6.2E+01	//		■		1	GP								pCi/L
Cesium-137	5.9E+00	J/V	NDD			1	GP								pCi/L
Cobalt-60	<2.3E-01	U//	<3.8E+00			1	GP								pCi/L
Curium-242	<9.4E-02	U//	<4.8E-01			1	GP								pCi/L
Curium-243/244	8.3E+00	//				1	GP								pCi/L
Curium-245/246	2.8E-01	R//4	Rej			1	GP								pCi/L
Gross alpha	4.6E+02	J/V	NDD			1	GP	6.3E+02	//		■		1	GP	pCi/L
Iodine-129	5.2E+01	//		■		1	GP				■		1	GP	pCi/L
Nonvolatile beta	1.5E+03	//		■		1	GP	1.4E+03	//						pCi/L
Plutonium-238	<0.0E+00	JU/L/CI	<1.1E-01			1	GP								pCi/L
Plutonium-239/240	<0.0E+00	JU/L/CI	<1.1E-01			1	GP								pCi/L
Radium-226	3.3E+01	//		■		1	GP								pCi/L
Radium-228	3.4E+01	//		■		1	GP								pCi/L
Total radium	6.7E+01														
Strontium-90	4.6E+02	J/K/C	NDD			1	GP								pCi/L
Technetium-99	5.6E+01	//		■		1	GP								pCi/L
Thorium-228	5.9E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	<1.6E-02	U//	<1.3E-01			1	GP								pCi/L
Thorium-232	<1.6E-02	U//	<1.3E-01			1	GP								pCi/L
Sum of alphas	3.8E+02			■											pCi/L
Sum of betas	2.0E+02			■											pCi/L
Tritium	2.4E+03	//		■		1	GP	3.8E+03	//		■		1	GP	pCi/mL
Uranium-233/234	1.5E+02	//		■		1	GP								pCi/L
Uranium-235	1.0E+01	//				1	GP								pCi/L
Uranium-238	2.0E+02	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 93C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74897.3	33.273752 °N	152.0-142.0 ft msl	276.2 ft msl	4" PVC	S	LAZ_UTRA
E50458.3	81.679418 °W					

SAMPLE DATE	01/12/99	04/06/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	209.7	208.7	ft msl
pH	4.7	4.4	pH
Sp. conductance	270	280	µS/cm
Water temperature	19.5	20.4	°C
Alkalinity as CaCO ₃	0	1	mg/L
Turbidity	0	0	NTU
Volumes purged	5.2	4.7	well volumes
Sampling code			
Synchronous water level	207.3 (03/23/99)	208.4 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	39	//					1 GE	50	//					1 GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20				1 GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0				1 GE								µg/L
Barium, total recoverable	51	//					1 GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	1.2	//					1 GE	<1.3	U//6	<4.7				1 WA	µg/L
Chromium, total recoverable	<3.0	U//	<3.0				1 GE								µg/L
Cobalt, total recoverable	2.7	//					1 GE								µg/L
Copper, total recoverable	3.9	//					1 GE								µg/L
Cyanide	<10	U//	<10				1 GE								µg/L
Lead, total recoverable	1.8	J//	NDD				1 GE	<1.0	U//6	<2.0				1 GE	µg/L
Mercury, total recoverable	0.093	J//	NDD				1 GE								µg/L
Nickel, total recoverable	8.2	//					1 GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	32,000	J/L/I	NDD				25 GE	33,000	//					100 WA	µg/L
Selenium, total recoverable	<5.0	U//	<5.0				1 GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0				1 GE								µg/L
Thallium, total recoverable	<0.13	U//	<2.5				1 GE								µg/L
Vanadium, total recoverable	<10	U//	<10				1 GE								µg/L
Zinc, total recoverable	77	//					1 GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0				1 GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10				1 GE								µg/L
Dichloromethane	<1.5	JU/LV/O	<5.0				1 GE								µg/L
Phenols	<5.0	U//	<5.0				1 GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0				1 GE								µg/L
Trichloroethylene	2.5	J/L/O	NDD				1 GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0				1 GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 93C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<2.2E-01	JU/L/I	<2.5E-01	■		1	GP								pCi/L
Beta dose	12														
Carbon-14	1.3E+01	J/I	NDD			1	GP								pCi/L
Cesium-137	<1.9E+00	JU/L/I	<3.4E+00			1	GP								pCi/L
Cobalt-60	<5.1E-01	U//	<3.4E+00			1	GP								pCi/L
Curium-242	<1.4E-01	JU/L/C	<3.4E-01			1	GP								pCi/L
Curium-243/244	<4.4E-02	JU/L/C	<4.3E-01			1	GP								pCi/L
Curium-245/246	<3.0E-02	JU/L/C	<1.8E-01			1	GP								pCi/L
Gross alpha	2.6E+00	//				1	GP	8.8E+00	//				1	GP	pCi/L
Iodine-129	8.8E+00	//				1	GP								pCi/L
Nonvolatile beta	6.4E+01	J/K/C	NDD			1	GP	7.9E+01	//		■		1	TM	pCi/L
Plutonium-238	<1.5E-02	U//	<4.6E-02			1	GP								pCi/L
Plutonium-239/240	<3.8E-02	U//	<9.5E-02			1	GP								pCi/L
Radium-226	2.7E+00	//				1	GP								pCi/L
Radium-228	<1.5E+00	JU/LV/I	<8.8E-01			1	GP								pCi/L
Total radium	2.7E+00														
Strontium-90	2.3E+01	//		■		1	GP								pCi/L
Technetium-99	3.0E+01	J/I	NDD			1	GP								pCi/L
Thorium-228	<2.1E-02	U//	<2.4E-01			1	GP								pCi/L
Thorium-230	<6.4E-02	U//	<8.9E-02			1	GP								pCi/L
Thorium-232	<1.4E-04	U//	<1.1E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	3.1E+01														pCi/L
Tritium	1.0E+03	//		■		1	GP	9.4E+02	//		■		1	GP	pCi/mL
Uranium-233/234	<3.4E-02	U//	<1.0E-01			1	GP								pCi/L
Uranium-235	<1.4E-02	U//	<1.1E-01			1	GP								pCi/L
Uranium-238	<2.6E-02	U//	<7.9E-02			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 93D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74888.5 E50452.4	33.273723 °N 81.679416 °W	217.9-197.9 ft msl	276.1 ft msl	4" PVC	V	UAZ_UTRA

SAMPLE DATE	01/13/99	04/12/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	211.1	210.4	ft msl
pH	3.4	3.9	pH
Sp. conductance	560	660	µS/cm
Water temperature	21.0	18.8	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	2	1	NTU
Volumes purged	0.12	0.12	well volumes
Sampling code	X	X	
Synchronous water level	210.6 (03/23/99)	209.9 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	28,000	J//CI	NDD			1	GE	24,000	J/K/CI	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	280	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	9.6	//		■		1	GE	12	//		■		1	GE	µg/L
Chromium, total recoverable	1.1	J//V	NDD			1	GE								µg/L
Cobalt, total recoverable	8.8	//		■		1	GE								µg/L
Copper, total recoverable	28	//				1	GE								µg/L
Cyanide	<10	JU//I	<10			1	GE								µg/L
Lead, total recoverable	4.3	//				1	GE	5.4	//				1	GE	µg/L
Mercury, total recoverable	0.31	//				1	GE								µg/L
Nickel, total recoverable	14	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	79,000	//		■		100	GE	71,000	//		■		50	GE	µg/L
Selenium, total recoverable	9.1	//				1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.094	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	70	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<25	JU//O	<25			25	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	3.1	J//L/O	NDD			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<25	JU//O	<25			25	GE								µg/L
Trichloroethylene	<25	JU//O	<25			25	GE								µg/L
Trichlorofluoromethane	<130	JU//O	<130			25	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 93D (cont.)**Radioactive Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	3.6E+00	//		■		1	GP								pCi/L
Beta dose	109														
Carbon-14	4.0E+01	J/L/CI	NDD			1	GP								pCi/L
Cesium-137	<4.2E-01	U//	<3.6E+00			1	GP								pCi/L
Cobalt-60	<4.7E+00	U//	<5.0E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<2.6E-01			1	GP								pCi/L
Curium-243/244	2.5E+00	//				1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<2.2E-01			1	GP								pCi/L
Gross alpha	1.4E+02	//		■		1	GP	1.6E+02	//		■		1	GP	pCi/L
Iodine-129	5.1E+01	//		■		1	GP								pCi/L
Nonvolatile beta	9.0E+02	//		■		1	GP	1.5E+03	//		■		1	GP	pCi/L
Plutonium-238	<2.3E-01	JU/L/I	<8.0E-01			1	GP								pCi/L
Plutonium-239/240	<2.0E-02	JU/L/I	<4.3E-01			1	GP								pCi/L
Radium-226	1.4E+01	//		■		1	GP								pCi/L
Radium-228	1.3E+01	J/L/I	NDD			1	GP								pCi/L
Total radium	1.4E+01														
Strontium-90	4.6E+02	//		■		1	GP								pCi/L
Technetium-99	6.6E+01	//		■		1	GP								pCi/L
Thorium-228	4.0E-01	J//	NDD			1	GP								pCi/L
Thorium-230	<1.2E-01	U//	<1.7E-01			1	GP								pCi/L
Thorium-232	<0.0E+00	U//	<9.8E-02			1	GP								pCi/L
Sum of alphas	1.3E+02			■											pCi/L
Sum of betas	5.8E+02			■											pCi/L
Tritium	2.5E+03	//		■		1	GP	2.0E+03	//		■		1	GP	pCi/mL
Uranium-233/234	5.1E+01	//		■		1	GP								pCi/L
Uranium-235	5.1E+00	//				1	GP								pCi/L
Uranium-238	6.6E+01	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 94C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74869.0 E50180.0	33.273235 °N 81.680096 °W	149.8-139.8 ft msl	281.1 ft msl	4" PVC	V	LAZ_UTRA

SAMPLE DATE	01/13/99	04/09/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	208.6	206.5	ft msl
pH	3.8	4.1	pH
Sp. conductance	2000	2200	µS/cm
Water temperature	20.3	20.1	°C
Alkalinity as CaCO ₃	0	0	mg/L
Turbidity	2	1	NTU
Volumes purged	0.022	0.023	well volumes
Sampling code	X	X	
Synchronous water level	206.5 (03/23/99)	207.3 (06/25/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	79,000	J//CI	NDD			20	GE	84,000	J/K/CI	NDD			10	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<60	U//	<60			20	GE								µg/L
Barium, total recoverable	760	//				1	GE								µg/L
Beryllium, total recoverable	20	//				1	GE								µg/L
Cadmium, total recoverable	38	//		■		1	GE	36	//		■		1	GE	µg/L
Chromium, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Cobalt, total recoverable	630	//		■		1	GE								µg/L
Copper, total recoverable	65	//				1	GE								µg/L
Cyanide	<10	JU/L/I	<10			1	GE								µg/L
Lead, total recoverable	14	J/V	NDD			20	GE	35	//		■		10	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	170	//		■		1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	320,000	//		■		200	GE	320,000	//		■		200	GE	µg/L
Selenium, total recoverable	28	J/V	NDD			20	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	27	J/V	NDD			20	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	350	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<11	U//	<11			1	GE								µg/L
Dichloromethane	2.5	J/L/O	NDD			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

● = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 94C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	2.2E+00	J/V	NDD			1	GP								pCi/L
Beta dose	255			■											
Carbon-14	6.7E+01	J/L/CI	NDD			1	GP								pCi/L
Cesium-137	<2.1E-01	U//	<4.4E+00			1	GP								pCi/L
Cobalt-60	<-1.1E+00	U//	<3.9E+00			1	GP								pCi/L
Curium-242	<1.6E-01	U//	<4.9E-01			1	GP								pCi/L
Curium-243/244	<7.1E-01	U//	<1.0E+00			1	GP								pCi/L
Curium-245/246	<1.4E-01	U//	<4.2E-01			1	GP								pCi/L
Gross alpha	2.0E+02	//		■		1	GP	1.5E+02	//				1	GP	pCi/L
Iodine-129	1.4E+02	//		■		1	GP								pCi/L
Nonvolatile beta	2.1E+03	//		■		1	GP	2.4E+03	//				1	GP	pCi/L
Plutonium-238	8.3E-01	R//4	Rej			1	GP								pCi/L
Plutonium-239/240	<4.2E-01	JU/L/I	<4.2E-01			1	GP								pCi/L
Radium-226	7.5E+01	//		■		1	GP								pCi/L
Radium-228	1.8E+01	J/L/I	NDD			1	GP								pCi/L
Total radium	7.5E+01														
Strontium-90	9.2E+02	//		■		1	GP								pCi/L
Technetium-99	2.7E+02	//		■		1	GP								pCi/L
Thorium-228	7.2E-01	//				1	GP								pCi/L
Thorium-230	<5.1E-02	U//	<6.4E-02			1	GP								pCi/L
Thorium-232	<8.1E-03	U//	<6.4E-02			1	GP								pCi/L
Sum of alphas	1.0E+02			■											pCi/L
Sum of betas	1.3E+03			■											pCi/L
Tritium	1.4E+04	//		■		1	GP	1.2E+04	//				1	GP	pCi/mL
Uranium-233/234	5.1E+01	//		■		1	GP								pCi/L
Uranium-235	3.2E+00	//				1	GP								pCi/L
Uranium-238	4.9E+01	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 94DR

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N74869.1 E50162.9	33.273207 °N 81.680141 °W	203.4-183.3 ft msl	280.5 ft msl	4" PVC	S	UAZ_UTRA

<u>SAMPLE DATE</u>	01/14/99	04/07/99
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FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	210.2	209.6	ft msl
pH	4.4	3.4	pH
Sp. conductance	410	440	µS/cm
Water temperature	19.0	20.7	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	0.3	1	NTU
Volumes purged	3.7	2.9	well volumes
Sampling code			
Synchronous water level	209.7 (03/23/99)	208.8 (06/25/99)	ft msl

ANALYTICAL DATA*Inorganic Constituents*

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Aluminum, total recoverable	14,000	//				1	GE	13,000	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	260	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	2.2	//				1	GE	1.8	//				1	GE	µg/L
Chromium, total recoverable	1.3	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	16	//		■		1	GE								µg/L
Copper, total recoverable	29	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	2.6	//				1	GE	<1.6	U/V/	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	10	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	50,000	//		■		25	GE	45,000	//				100	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	0.22	J/V	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	45	//				1	GE								µg/L

Organic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	JU/Q/	<10	●		1	GE								µg/L
Dichloromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	5.6	J/L/O	NDD			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 94DR (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	2.0E+01	//		■		1	GP								pCi/L
Beta dose	40			■											
Carbon-14	3.4E+01	//				1	GP								pCi/L
Cesium-137	9.6E+01	//		■		1	GP								pCi/L
Cobalt-60	<6.2E-01	U//	<3.8E+00			1	GP								pCi/L
Curium-242	<-1.6E-01	U//	<1.1E+00			1	GP								pCi/L
Curium-243/244	2.9E+01	//		■		1	GP								pCi/L
Curium-245/246	6.2E-01	R//4	Rej			1	GP								pCi/L
Gross alpha	9.2E+02	J//V	NDD			1	GP	5.2E+02	//		■		1	GP	pCi/L
Iodine-129	3.5E+01	//				1	GP								pCi/L
Nonvolatile beta	7.9E+02	J//V	NDD			1	GP	5.1E+02	//		■		1	GP	pCi/L
Plutonium-238	<0.0E+00	JU//CI	<1.4E-01			1	GP								pCi/L
Plutonium-239/240	<4.6E-02	JU//CI	<1.4E-01			1	GP								pCi/L
Radium-226	5.4E+00	//		■		1	GP								pCi/L
Radium-228	2.4E+01	//		■		1	GP								pCi/L
Total radium	3.0E+01														
Strontium-90	1.4E+02	J/K/C	NDD			1	GP								pCi/L
Technetium-99	5.3E+01	//		■		1	GP								pCi/L
Thorium-228	7.2E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	<-4.0E-04	U//	<1.9E-01			1	GP								pCi/L
Thorium-232	<-1.0E-02	U//	<1.3E-01			1	GP								pCi/L
Sum of alphas	6.7E+02			■											pCi/L
Sum of betas	2.4E+02			■											pCi/L
Tritium	2.5E+03	//		■		1	GP	1.9E+03	//		■		1	GP	pCi/mL
Uranium-233/234	1.9E+02	//		■		1	GP								pCi/L
Uranium-235	1.8E+01	//		■		1	GP								pCi/L
Uranium-238	4.2E+02	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 95CR

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75001.9 E49987.8	33.273215 °N 81.680860 °W	161.9-151.9 ft msl	284 ft msl	4" PVC	S	LAZ_UTRA

SAMPLE DATE	01/12/99	04/07/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	208.2	206.4	ft msl
pH	3.0	3.7	pH
Sp. conductance	2000	2000	µS/cm
Water temperature	20.6	20.6	°C
Alkalinity as CaCO ₃	0	0	mg/L
Turbidity	0	1	NTU
Volumes purged	2.5	2.8	well volumes
Sampling code			
Synchronous water level	205.7 (03/23/99)	206.8 (06/25/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	65,000	//					1 GE	66,000	J/K/I	NDD				1 GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20				1 GE								µg/L
Arsenic, total recoverable	1.8	J/V	NDD				1 GE								µg/L
Barium, total recoverable	970	//					1 GE								µg/L
Beryllium, total recoverable	14	//					1 GE								µg/L
Cadmium, total recoverable	17	//		■			1 GE	20	//		■			1 GE	µg/L
Chromium, total recoverable	1.4	J/V	NDD				1 GE								µg/L
Cobalt, total recoverable	450	//		■			1 GE								µg/L
Copper, total recoverable	54	//					1 GE								µg/L
Cyanide	<10	U//	<10				1 GE								µg/L
Lead, total recoverable	0.87	J/V	NDD				1 GE	<20	U//	<20				10 GE	µg/L
Mercury, total recoverable	1.1	//					1 GE								µg/L
Nickel, total recoverable	99	//					1 GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	270,000	//		■		100	GE	270,000	//		■		125	GE	µg/L
Selenium, total recoverable	7.0	//					1 GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0				1 GE								µg/L
Thallium, total recoverable	1.1	J/V	NDD				1 GE								µg/L
Vanadium, total recoverable	<10	U//	<10				1 GE								µg/L
Zinc, total recoverable	310	//					1 GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0				1 GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10				1 GE								µg/L
Dichloromethane	<5.0	JU/L/O	<5.0				1 GE								µg/L
Phenols	<5.0	U//	<5.0				1 GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0				1 GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0				1 GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0				1 GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer, Gordon – Gordon Aquifer

WELL FSB 95CR (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	2.0E+01	//		■		1	GP								pCi/L
Beta dose	116			■											
Carbon-14	9.0E+01	//		■		1	GP								pCi/L
Cesium-137	<-9.9E-01	U//	<4.5E+00			1	GP								pCi/L
Cobalt-60	<-2.6E-01	U//	<3.7E+00			1	GP								pCi/L
Curium-242	<-4.6E-01	U//	<1.0E+00			1	GP								pCi/L
Curium-243/244	2.9E+01	//		■		1	GP								pCi/L
Curium-245/246	7.5E-01	R//4	Rej			1	GP								pCi/L
Gross alpha	1.2E+03	J//	NDD			1	GP	8.6E+02	//		■		1	GP	pCi/L
Iodine-129	1.1E+02	//		■		1	GP								pCi/L
Nonvolatile beta	2.1E+03	//		■		1	GP	1.9E+03	//		■		1	GP	pCi/L
Plutonium-238	<8.6E-02	JU//CI	<2.1E-01			1	GP								pCi/L
Plutonium-239/240	<4.6E-02	JU//CI	<1.4E-01			1	GP								pCi/L
Radium-226	1.1E+02	//		■		1	GP								pCi/L
Radium-228	2.7E+01	//		■		1	GP								pCi/L
Total radium	1.4E+02														
Strontium-90	5.2E+02	J/K/C	NDD			1	GP								pCi/L
Technetium-99	2.8E+02	//		■		1	GP								pCi/L
Thorium-228	6.4E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	<5.8E-02	U//	<1.0E-01			1	GP								pCi/L
Thorium-232	<2.5E-02	U//	<1.0E-01			1	GP								pCi/L
Sum of alphas	9.3E+02			■											pCi/L
Sum of betas	5.1E+02			■											pCi/L
Tritium	1.1E+04	//		■		1	GP	9.4E+03	//		■		1	GP	pCi/mL
Uranium-233/234	4.0E+02	//		■		1	GP								pCi/L
Uranium-235	3.1E+01	//		■		1	GP								pCi/L
Uranium-238	4.5E+02	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 95DR

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74991.7	33.273206 °N	207.0-187.0 ft msl	284.1 ft msl	4" PVC	S	UAZ_UTRA
E49996.0	81.680818 °W					

SAMPLE DATE	01/04/99	04/07/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	210.6	209.7	ft msl
pH	3.2	3.4	pH
Sp. conductance	1000	840	µS/cm
Water temperature	18.6	20.4	°C
Alkalinity as CaCO ₃	0	0	mg/L
Turbidity	1	1	NTU
Volumes purged	2.8	2.8	well volumes
Sampling code			
Synchronous water level	209.8 (03/23/99)	209.0 (06/25/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	29,000	//				1	GE	29,000	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.23	JU//4	<0.89			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	290	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	2.5	//				1	GE	1.6	//				1	GE	µg/L
Chromium, total recoverable	4.1	//				1	GE								µg/L
Cobalt, total recoverable	11	//		■		1	GE								µg/L
Copper, total recoverable	100	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	15	//				1	GE	14	//				1	GE	µg/L
Mercury, total recoverable	1.5	//				1	GE								µg/L
Nickel, total recoverable	16	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	97,000	//		■		50	GE	82,000	//		■		50	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	0.28	J//	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	85	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU//O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	JU//O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU//O	<1.0			1	GE								µg/L
Trichloroethylene	0.60	J//L/O	NDD			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU//O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 95DR (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	6.8E+01	//		■		1	GP								pCi/L
Beta dose	121			■											
Carbon-14	6.6E+01	//		■		1	GP								pCi/L
Cesium-137	3.3E+02	//		■		1	GP								pCi/L
Cobalt-60	<4.5E-01	U//	<3.8E+00			1	GP								pCi/L
Curium-242	-2.8E-02	J/K/O	NDD			1	GP								pCi/L
Curium-243/244	3.4E+01	//		■		1	GP								pCi/L
Curium-245/246	8.4E-01	R//4	Rej			1	GP								pCi/L
Gross alpha	1.3E+03	//		■		1	GP	6.0E+02	//		■		1	GP	pCi/L
Iodine-129	1.1E+02	//		■		1	GP								pCi/L
Nonvolatile beta	1.4E+03	//		■		1	GP	6.7E+02	//		■		1	GP	pCi/L
Plutonium-238	<6.3E-03	JU/L/CI	<2.4E-01			1	GP								pCi/L
Plutonium-239/240	<4.6E-02	JU/L/CI	<2.4E-01			1	GP								pCi/L
Radium-226	6.7E+00	//		■		1	GP								pCi/L
Radium-228	4.4E+01	//		■		1	GP								pCi/L
Total radium	5.1E+01														
Strontium-90	5.3E+01	J/K/C	NDD			1	GP								pCi/L
Technetium-99	6.6E+01	//		■		1	GP								pCi/L
Thorium-228	8.5E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	<5.2E-02	U//	<1.9E-01			1	GP								pCi/L
Thorium-232	<-1.8E-02	U//	<1.3E-01			1	GP								pCi/L
Sum of alphas	1.1E+03			■											pCi/L
Sum of betas	6.1E+02			■											pCi/L
Tritium	2.9E+03	//		■		1	GP	1.5E+03	//		■		1	GP	pCi/mL
Uranium-233/234	2.3E+02	//		■		1	GP								pCi/L
Uranium-235	2.6E+01	//		■		1	GP								pCi/L
Uranium-238	7.3E+02	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA = Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA = Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA = Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon = Gordon Aquifer

WELL FSB 96AR

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74914.9 E49746.6	33.272629 °N 81.681326 °W	89.0-79.0 ft msl	281.2 ft msl	4" PVC	S	Gordon

SAMPLE DATE	01/08/99	04/07/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	153.4	153.4	ft msl
pH	7.0	6.6	pH
Sp. conductance	160	170	µS/cm
Water temperature	19.3	21.2	°C
Alkalinity as CaCO ₃	81	58	mg/L
Turbidity	0	0	NTU
Volumes purged	5.8	2.9	well volumes
Sampling code			
Synchronous water level	153.5 (03/23/99)	152.9 (06/25/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	<15	U//	<15			1	GE	<23	U//	<15			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	37	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	1.6	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	<0.12	U//	<0.20			1	GE								µg/L
Copper, total recoverable	1.7	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.31	J//	NDD			1	GE	<2.0	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	2.8	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	1,200	//				1	GE	1,600	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<0.39	JU//4	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.72	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<9.1	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 96AR (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<6.6E-03	JU/LV/I	<1.5E-01			1	GP								pCi/L
Beta dose	0.01														
Carbon-14	2.6E+01	//				1	GP								pCi/L
Cesium-137	<2.2E+00	U//	<3.8E+00			1	GP								pCi/L
Cobalt-60	<8.0E-01	U//	<4.3E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<4.9E-02			1	GP								pCi/L
Curium-243/244	1.3E+00	//				1	GP								pCi/L
Curium-245/246	2.3E-01	J/V	NDD			1	GP								pCi/L
Gross alpha	<6.5E-01	U//	<8.8E-01			1	GP	9.2E-01	J/V	NDD			1	GP	pCi/L
Iodine-129	<6.2E-01	U//	<8.4E-01			1	GP								pCi/L
Nonvolatile beta	1.5E+00	J/V	NDD			1	GP	2.0E+00	J/V	NDD			1	GP	pCi/L
Plutonium-238	<8.8E-02	U//	<2.9E-01			1	GP								pCi/L
Plutonium-239/240	<0.0E+00	U//	<4.7E-02			1	GP								pCi/L
Radium-226	9.1E-01	J/V	NDD			1	GP								pCi/L
Radium-228	<7.0E-01	U//	<1.0E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<2.2E-01	U//	<1.3E+00			1	GP								pCi/L
Technetium-99	<1.8E+01	U//	<4.9E+01			1	GP								pCi/L
Thorium-228	2.0E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	7.5E-02	R//4	Rej			1	GP								pCi/L
Thorium-232	<1.9E-02	U//	<2.8E-02			1	GP								pCi/L
Sum of alphas	1.3E+00														pCi/L
Sum of betas	2.6E+01														pCi/L
Tritium	1.7E+01	//				1	GP	2.3E+01	//				1	GP	pCi/mL
Uranium-233/234	<2.3E-02	U//	<3.0E-01			1	GP								pCi/L
Uranium-235	<2.5E-02	U//	<2.7E-01			1	GP								pCi/L
Uranium-238	<6.1E-02	U//	<2.5E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 97A

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75171.2 E49965.7	33.273554 °N 81.681247 °W	95.8-85.8 ft msl	286.1 ft msl	4" PVC	S	Gordon

SAMPLE DATE	01/06/99	04/07/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	152.4	152.4	ft msl
pH	6.6	6.5	pH
Sp. conductance	230	260	µS/cm
Water temperature	19.1	21.0	°C
Alkalinity as CaCO3	0	67	mg/L
Turbidity	1	1	NTU
Volumes purged	2.3	3.4	well volumes
Sampling code	S		
Synchronous water level	152.5 (03/23/99)	151.9 (06/25/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	11	J/V	NDD			1	GE	<12	U/V	<15			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	39	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	4.0	//				1	GE								µg/L
Cobalt, total recoverable	<0.078	JU//4	<0.20			1	GE								µg/L
Copper, total recoverable	<0.86	U/V	<1.0			1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.36	J/V	NDD			1	GE	<0.34	JU//4	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	1.7	J/V	NDD			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	13,000	//		■		5	GE	13,000	//		■		25	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.023	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	JU/Q/	<10	●		1	GE								µg/L
Dichloromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ, UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ, LTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 97A (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<5.8E-02	U//	<1.0E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	1.4E+01	J/V	NDD			1	GP								pCi/L
Cesium-137	<3.7E-01	JU/L/C	<3.4E+00			1	GP								pCi/L
Cobalt-60	<4.2E-01	U//	<3.0E+00			1	GP								pCi/L
Curium-242	<1.8E-02	JU/L/I	<2.3E-01			1	GP								pCi/L
Curium-243/244	<5.0E-02	JU/L/I	<2.1E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	JU/L/I	<1.0E-01			1	GP								pCi/L
Gross alpha	4.0E+00	//				1	GP	2.9E+00	//				1	GP	pCi/L
Iodine-129	1.2E+00	J/V	NDD			1	GP								pCi/L
Nonvolatile beta	4.3E+00	//				1	GP	2.7E+00	//				1	GP	pCi/L
Plutonium-238	<9.8E-02	U//	<9.8E-02			1	GP								pCi/L
Plutonium-239/240	<0.0E+00	U//	<9.8E-02			1	GP								pCi/L
Radium-226	1.9E+01	//		■		1	GP								pCi/L
Radium-228	1.2E+00	J/V	NDD			1	GP								pCi/L
Total radium	1.9E+01														
Strontium-90	<2.3E-01	U//	<1.3E+00			1	GP								pCi/L
Technetium-99	<1.9E+01	U//	<2.0E+01			1	GP								pCi/L
Thorium-228	<3.3E-02	U//	<1.3E-01			1	GP								pCi/L
Thorium-230	<6.6E-02	U/V//	<2.2E-02			1	GP								pCi/L
Thorium-232	<3.8E-03	U//	<4.6E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	3.5E+02	//		■		1	GP	4.0E+02	//				1	GP	pCi/mL
Uranium-233/234	1.5E-01	J/V	NDD			1	GP								pCi/L
Uranium-235	<6.4E-04	U//	<6.6E-02			1	GP								pCi/L
Uranium-238	9.1E-02	J/V	NDD			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 97C

SRS Coord	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75179.6 E49970.6	33.273580 °N 81.681250 °W	153.8-143.8 ft msl	286.1 ft msl	4" PVC	V	LAZ_UTRA

SAMPLE DATE	01/11/99	04/05/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	209.2	208.4	ft msl
pH	4.2	3.8	pH
Sp. conductance	820	1000	µS/cm
Water temperature	22.2	21.4	°C
Alkalinity as CaCO ₃	0	0	mg/L
Turbidity	1	0.6	NTU
Volumes purged	0.023	1.9	well volumes
Sampling code	X		
Synchronous water level	207.9 (03/23/99)	207.9 (06/25/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	34,000	//				1	GE	35,000	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<30	U//	<30			10	GE								µg/L
Barium, total recoverable	270	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	5.4	//		■		1	GE	6.4	//		■		1	GE	µg/L
Chromium, total recoverable	2.4	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	130	//		■		1	GE								µg/L
Copper, total recoverable	130	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	33	//		■		1	GE	3.6	J/V	NDD			10	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	43	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	120,000	J/L/I	NDD			50	GE	120,000	//		■		50	GE	µg/L
Selenium, total recoverable	<50	U//	<50			10	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	0.52	J/V	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	180	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.8	JU/L/O8	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	27	J/L/O	NDD			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA = Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 97C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	1.2E+01	//		■		1	GP								pCi/L
Beta dose	63														
Carbon-14	4.2E+01	J/L/CI	NDD			1	GP								pCi/L
Cesium-137	7.4E+00	R//4	Rej			1	GP								pCi/L
Cobalt-60	<1.1E+00	U//	<4.5E+00			1	GP								pCi/L
Curium-242	<-1.8E-02	U//	<1.9E-01			1	GP								pCi/L
Curium-243/244	7.7E+00	//				1	GP								pCi/L
Curium-245/246	7.9E-01	R//4	Rej			1	GP								pCi/L
Gross alpha	3.9E+02	J/L/I	NDD			1	GP	5.0E+02	J/K/I	NDD			1	GP	pCi/L
Iodine-129	4.0E+01	//				1	GP								pCi/L
Nonvolatile beta	4.5E+02	J/L/I	NDD			1	GP	5.8E+02	J/K/I	NDD			1	GP	pCi/L
Plutonium-238	<6.6E-02	U//	<1.8E-01			1	GP								pCi/L
Plutonium-239/240	<4.1E-02	U//	<1.0E-01			1	GP								pCi/L
Radium-226	2.5E+01	J/L/I	NDD			1	GP								pCi/L
Radium-228	1.4E+01	//		■		1	GP								pCi/L
Total radium	1.4E+01														
Strontium-90	1.6E+02	//		■		1	GP								pCi/L
Technetium-99	7.7E+01	//		■		1	GP								pCi/L
Thorium-228	6.5E-01	J//	NDD			1	GP								pCi/L
Thorium-230	5.0E-01	J//	NDD			1	GP								pCi/L
Thorium-232	<-1.5E-02	U//	<1.8E-01			1	GP								pCi/L
Sum of alphas	3.4E+02			■											pCi/L
Sum of betas	2.9E+02			■											pCi/L
Tritium	3.7E+03	//		■		1	GP	4.1E+03	//		■		1	GP	pCi/mL
Uranium-233/234	1.4E+02	//		■		1	GP								pCi/L
Uranium-235	1.4E+01	J/K/O	NDD			1	GP								pCi/L
Uranium-238	1.8E+02	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 97D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75188.9 E49975.5	33.273609 °N 81.681255 °W	216.9-196.9 ft msl	286 ft msl	4" PVC	V	UAZ_UTRA

SAMPLE DATE	01/11/99	04/07/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	211.7	210.8	ft msl
pH	4.4	3.8	pH
Sp. conductance	400	510	µS/cm
Water temperature	19.9	20.5	°C
Alkalinity as CaCO3		0	mg/L
Turbidity	4	6	NTU
Volumes purged	0.21	0.11	well volumes
Sampling code	X	X	
Synchronous water level	210.9 (03/23/99)	210.3 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	7,900	//				1	GE	13,000	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	210	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	4.3	//				1	GE	3.3	//				1	GE	µg/L
Chromium, total recoverable	3.3	//				1	GE								µg/L
Cobalt, total recoverable	7.4	//		■		1	GE								µg/L
Copper, total recoverable	79	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	54	//		■		1	GE	61	//				1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	11	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	53,000	J/L/I	NDD			50	GE	64,000	//				25	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.055	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	120	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.2	JU/L/O8	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 97D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	1.4E+01	//		■		1	GP								pCi/L
Beta dose	56			■											
Carbon-14	3.8E+01	J/L/CI	NDD			1	GP								pCi/L
Cesium-137	<3.1E+00	U//	<4.6E+00			1	GP								pCi/L
Cobalt-60	<8.5E-01	U//	<3.8E+00			1	GP								pCi/L
Curium-242	<4.9E-02	U//	<1.6E-01			1	GP								pCi/L
Curium-243/244	1.2E+01	//				1	GP								pCi/L
Curium-245/246	3.1E-01	R//4	Rej			1	GP								pCi/L
Gross alpha	5.8E+02	J/L/I	NDD			1	GP	4.8E+02	//		■		1	GP	pCi/L
Iodine-129	4.0E+01	//				1	GP								pCi/L
Nonvolatile beta	4.9E+02	J/L/I	NDD			1	GP	4.8E+02	//		■		1	GP	pCi/L
Plutonium-238	<1.4E-01	U//	<2.3E-01			1	GP								pCi/L
Plutonium-239/240	<8.6E-03	U//	<1.1E-01			1	GP								pCi/L
Radium-226	1.2E+01	J/L/I	NDD			1	GP								pCi/L
Radium-228	1.1E+01	//		■		1	GP								pCi/L
Total radium	1.1E+01			■		1	GP								pCi/L
Strontium-90	1.1E+02	//		■		1	GP								pCi/L
Technetium-99	3.2E+01	J//I	NDD			1	GP								pCi/L
Thorium-228	4.2E-01	J//I	NDD			1	GP								pCi/L
Thorium-230	<1.4E-01	U//	<2.2E-01			1	GP								pCi/L
Thorium-232	<0.0E+00	U//	<7.5E-02			1	GP								pCi/L
Sum of alphas	5.9E+02			■											pCi/L
Sum of betas	1.6E+02			■											pCi/L
Tritium	1.3E+03	//		■		1	GP	1.4E+03	//		■		1	GP	pCi/mL
Uranium-233/234	1.6E+02	//		■		1	GP								pCi/L
Uranium-235	1.9E+01	//		■		1	GP								pCi/L
Uranium-238	3.9E+02	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 98AR

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75362.0 E50105.8	33.274204 °N 81.681249 °W	92.1-82.1 ft msl	284 ft msl	4" PVC	S	Gordon

SAMPLE DATE 01/08/99 04/15/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	151.9	151.7	ft msl
pH	6.6	6.8	pH
Sp. conductance	160	160	µS/cm
Water temperature	19.9	20.5	°C
Alkalinity as CaCO3	62	61	mg/L
Turbidity	0	1	NTU
Volumes purged	5.7	3.1	well volumes
Sampling code			
Synchronous water level	151.8 (03/23/99)	151.2 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	17	//				1	GE	<15	U//	<15			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	34	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	2.0	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	<0.078	U//	<0.20			1	GE								µg/L
Copper, total recoverable	0.77	J//	NDD			1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	<2.0	U//	<2.0			1	GE	<2.0	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.072	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	1.2	J//	NDD			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	3,500	//				2	GE	3,400	//				2	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.35	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<9.9	U//	<9.9			1	GE								µg/L
Dichloromethane	<7.1	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 98AR (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DE	Lab	2Q99	Mod	Filt.	ST	H	DE	Lab	Unit
Americium-241	<9.3E-03	JU/LV/I	<6.0E-02			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<2.4E+00	U//	<7.2E+00			1	GP								pCi/L
Cesium-137	<1.9E-01	U//	<3.0E+00			1	GP								pCi/L
Cobalt-60	<4.3E-01	U//	<3.5E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<6.2E-02			1	GP								pCi/L
Curium-243/244	<0.0E+00	U//	<6.0E-02			1	GP								pCi/L
Curium-245/246	<2.0E-02	U//	<6.0E-02			1	GP								pCi/L
Gross alpha	<4.1E-01	U//	<7.9E-01			1	GP	1.6E+00	J/K/C	NDD			1	TM	pCi/L
Iodine-129	1.2E+00	R//4	Rej			1	GP								pCi/L
Nonvolatile beta	2.6E+00	J//	NDD			1	GP	5.8E+00	//				1	TM	pCi/L
Plutonium-238	<1.0E-01	U//	<2.0E-01			1	GP								pCi/L
Plutonium-239/240	<7.2E-03	U//	<9.1E-02			1	GP								pCi/L
Radium-226	4.3E-01	J//	NDD			1	GP								pCi/L
Radium-228	<4.0E-01	U//	<1.1E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<2.7E-01	U//	<1.2E+00			1	GP								pCi/L
Technetium-99	<9.3E+00	U//	<1.8E+01			1	GP								pCi/L
Thorium-228	2.5E-01	J//	NDD			1	GP								pCi/L
Thorium-230	<3.9E-02	U//	<7.0E-02			1	GP								pCi/L
Thorium-232	<0.0E+00	U//	<3.3E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	5.2E+01	//		■		1	GP	4.7E+01	//		■		1	GP	pCi/mL
Uranium-233/234	<1.9E-02	U//	<3.5E-01			1	GP								pCi/L
Uranium-235	<9.3E-05	U//	<7.1E-02			1	GP								pCi/L
Uranium-238	<4.5E-03	U//	<8.1E-02			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 98C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75381.2 E50116.5	33.274264 °N 81.681258 °W	158.4-148.4 ft msl	284.5 ft msl	4" PVC	V	LAZ_UTRA

SAMPLE DATE 01/11/99 05/12/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	210.1	209.8	ft msl
pH	3.2	3.4	pH
Sp. conductance	660	570	µS/cm
Water temperature	20.1	22.4	°C
Alkalinity as CaCO3		0	mg/L
Turbidity	0	0	NTU
Volumes purged	2.9	2.7	well volumes
Sampling code			
Synchronous water level	206.1 (03/23/99)	208.7 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	16,000	//				1	GE	16,000	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<30	U//	<30			10	GE								µg/L
Barium, total recoverable	190	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	5.5	//		■		1	GE	6.2	//		■		1	GE	µg/L
Chromium, total recoverable	0.71	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	130	//		■		1	GE								µg/L
Copper, total recoverable	27	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.38	J//	NDD			1	GE	<2.0	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	21	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	65,000	J/L/	NDD			50	GE	59,000	//		■		25	GE	µg/L
Selenium, total recoverable	<50	U//	<50			10	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	0.46	J//	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	71	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<4.2	JU/L/O8	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	54	J/L/O	NDD			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 98C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	9.7E+00	//		■		1	GP								pCi/L
Beta dose	49														
Carbon-14	3.5E+01	J/L/CI	NDD			1	GP								pCi/L
Cesium-137	<-1.1E+00	U//	<3.5E+00			1	GP								pCi/L
Cobalt-60	<4.9E-01	U//	<3.5E+00			1	GP								pCi/L
Curium-242	<-3.8E-01	U//	<2.6E+00			1	GP								pCi/L
Curium-243/244	6.7E+00	//				1	GP								pCi/L
Curium-245/246	5.4E-01	R//4	Rej			1	GP								pCi/L
Gross alpha	4.9E+02	J/L/I	NDD			1	GP	3.8E+02	//		■		1	GP	pCi/L
Iodine-129	3.1E+01	//				1	GP								pCi/L
Nonvolatile beta	5.1E+02	J/L/I	NDD			1	GP	4.3E+02	//		■		1	GP	pCi/L
Plutonium-238	<-4.7E-02	U//	<2.4E-01			1	GP								pCi/L
Plutonium-239/240	<1.8E-02	U//	<5.5E-02			1	GP								pCi/L
Radium-226	2.3E+01	J/L/I	NDD			1	GP								pCi/L
Radium-228	3.1E+00	//				1	GP								pCi/L
Total radium	3.1E+00														
Strontium-90	1.4E+02	//		■		1	GP								pCi/L
Technetium-99	5.9E+01	//		■		1	GP								pCi/L
Thorium-228	<3.4E-01	U//	<5.2E-01			1	GP								pCi/L
Thorium-230	<2.9E-01	U//	<3.2E-01			1	GP								pCi/L
Thorium-232	<-1.4E-02	U//	<1.7E-01			1	GP								pCi/L
Sum of alphas	6.0E+02			■											pCi/L
Sum of betas	2.3E+02			■											pCi/L
Tritium	3.1E+03	//		■		1	GP	2.6E+03	//		■		1	GP	pCi/mL
Uranium-233/234	2.0E+02	//		■		1	GP								pCi/L
Uranium-235	2.5E+01	//		■		1	GP								pCi/L
Uranium-238	3.6E+02	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 98D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75371.9 E50111.6	33.274235 °N 81.681253 °W	220.3-200.3 ft msl	284.5 ft msl	4" PVC	V	UAZ_UTRA

SAMPLE DATE	01/28/99	05/04/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	212.9	212.7	ft msl
pH	3.6	6.0	pH
Sp. conductance	670	460	µS/cm
Water temperature	19.1	20.0	°C
Alkalinity as CaCO3	0	46	mg/L
Turbidity	7	3	NTU
Volumes purged	0.12	0.12	well volumes
Sampling code	X	X	
Synchronous water level	209.5 (03/23/99)	211.8 (06/25/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	20,000	//				1	GE	7,600	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	300	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	13	//		■		1	GE	6.1	//		■		1	GE	µg/L
Chromium, total recoverable	6.0	//				1	GE								µg/L
Cobalt, total recoverable	26	//		■		1	GE								µg/L
Copper, total recoverable	100	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	43	//		■		1	GE	10	//				1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	19	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	75,000	//		■		50	GE	46,000	//		■		25	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.094	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	88	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	JU/Q/	<10	●		1	GE								µg/L
Dichloromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 98D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<3.3E-01	U//	<5.0E-01			1	GP								pCi/L
Beta dose	40			■											
Carbon-14	3.3E+01	//				1	GP								pCi/L
Cesium-137	<-2.3E-01	U//	<3.7E+00			1	GP								pCi/L
Cobalt-60	<3.2E-01	U//	<3.6E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<5.4E-01			1	GP								pCi/L
Curium-243/244	<-1.2E-01	U//	<1.2E+00			1	GP								pCi/L
Curium-245/246	<3.3E-01	U//	<5.0E-01			1	GP								pCi/L
Gross alpha	2.5E+02	//		■		1	GP	1.7E+02	//		■		1	GP	pCi/L
Iodine-129	3.6E+01	//				1	GP								pCi/L
Nonvolatile beta	8.8E+02	//		■		1	GP	5.3E+02	//		■		1	GP	pCi/L
Plutonium-238	<-4.2E-01	U//	<1.3E+00			1	GP								pCi/L
Plutonium-239/240	<6.0E-02	U//	<4.4E-01			1	GP								pCi/L
Radium-226	7.6E+00	//		■		1	GP								pCi/L
Radium-228	2.0E+01	//		■		1	GP								pCi/L
Total radium	2.7E+01														
Strontium-90	3.8E+02	J/K/C	NDD			1	GP								pCi/L
Technetium-99	<2.3E+01	U//	<2.4E+01			1	GP								pCi/L
Thorium-228	3.5E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	<2.7E-02	U//	<2.7E-01			1	GP								pCi/L
Thorium-232	<0.0E+00	U//	<1.0E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	8.9E+01			■											pCi/L
Tritium	2.0E+03	//		■		1	GP	1.0E+03	//		■		1	GP	pCi/mL
Uranium-233/234	9.8E-01	J//	NDD			1	GP								pCi/L
Uranium-235	<0.0E+00	U//	<3.2E-01			1	GP								pCi/L
Uranium-238	<-6.6E-02	U//	<7.0E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 99A

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75675.6 E50314.8	33.275239 °N 81.681308 °W	102.9-92.9 ft msl	287.6 ft msl	4" PVC	S	Gordon

SAMPLE DATE 01/07/99 04/07/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	150.9	150.8	ft msl
pH	6.5	6.6	pH
Sp. conductance	160	150	µS/cm
Water temperature	20.0	21.6	°C
Alkalinity as CaCO3	3	40	mg/L
Turbidity	0	0	NTU
Volumes purged	2.8	4.0	well volumes
Sampling code			
Synchronous water level	150.9 (03/23/99)	150.4 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	16	//				1	GE	<20	U//	<15			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	0.90	J//	NDD			1	GE								µg/L
Barium, total recoverable	27	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	1.2	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	<0.13	JU//4	<0.20			1	GE								µg/L
Copper, total recoverable	1.2	//				1	GE								µg/L
Cyanide	2.5	J//	NDD			1	GE								µg/L
Lead, total recoverable	0.51	J//	NDD			1	GE	<0.32	JU//4	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	4.3	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	5,400	//				5	GE	5,900	//				5	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	0.29	J//	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	9.8	J//	NDD			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	JU//Q/	<10			1	GE								µg/L
Dichloromethane	<5.0	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ, UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ, LTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 99A (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<3.8E-02	JU/L/I	<4.2E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	9.8E+00	J/V	NDD			1	GP								pCi/L
Cesium-137	<9.2E-01	JU/L/C	<3.3E+00			1	GP								pCi/L
Cobalt-60	<5.9E-01	U//	<3.5E+00			1	GP								pCi/L
Curium-242	<4.0E-02	U//	<5.2E-01			1	GP								pCi/L
Curium-243/244	<3.8E-02	U//	<5.0E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<2.4E-01			1	GP								pCi/L
Gross alpha	1.3E+00	J/V	NDD			1	GP	1.1E+00	J/V	NDD			1	GP	pCi/L
Iodine-129	<8.8E-02	U//	<7.2E-01			1	GP								pCi/L
Nonvolatile beta	2.5E+00	//				1	GP	1.7E+00	//				1	GP	pCi/L
Plutonium-238	<7.0E-02	U//	<2.6E-01			1	GP								pCi/L
Plutonium-239/240	<1.7E-02	U//	<5.2E-02			1	GP								pCi/L
Radium-226	5.3E-01	J/V	NDD			1	GP								pCi/L
Radium-228	9.1E-01	J/V	NDD			1	GP								pCi/L
Total radium	NA														
Strontium-90	<9.4E-02	U//	<1.5E+00			1	GP								pCi/L
Technetium-99	<1.4E+01	U//	<2.2E+01			1	GP								pCi/L
Thorium-228	<1.3E-02	U//	<4.2E-01			1	GP								pCi/L
Thorium-230	2.2E-01	R//4	Rej			1	GP								pCi/L
Thorium-232	<3.4E-02	U//	<2.7E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	1.6E+02	//		■		1	GP	1.7E+02	//		■		1	GP	pCi/mL
Uranium-233/234	<1.9E-01	JU/L/C	<2.4E-01			1	GP								pCi/L
Uranium-235	<4.0E-02	JU/L/C	<2.2E-01			1	GP								pCi/L
Uranium-238	<8.8E-03	JU/L/C	<2.2E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 99C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75683.7 E50320.6	33.275266 °N 81.681308 °W	167.2-157.2 ft msl	287.7 ft msl	4" PVC	S	LAZ_UTRA

SAMPLE DATE 01/14/99 04/06/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	210.8	210.1	ft msl
pH	5.0	5.4	pH
Sp. conductance	250	250	µS/cm
Water temperature	20.4	19.8	°C
Alkalinity as CaCO ₃	8	6	mg/L
Turbidity	0	0	NTU
Volumes purged	2.3	2.6	well volumes
Sampling code			
Synchronous water level	211.0 (03/23/99)	209.5 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	69	//				1	GE	77	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	55	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	1.1	//				1	GE	1.2	//				1	GE	µg/L
Chromium, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Cobalt, total recoverable	2.7	//				1	GE								µg/L
Copper, total recoverable	2.4	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	1.7	J//	NDD			1	GE	1.9	J//	NDD			1	GE	µg/L
Mercury, total recoverable	<0.18	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	2.4	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	28,000	//		■		25	GE	39,000	//		■		25	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.041	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	24	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<9.9	U//	<9.9			1	GE								µg/L
Dichloromethane	<5.0	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	76	//		■		1	GE								µg/L
Trichlorofluoromethane	2.9	J//	NDD			1	GE								µg/L

Notes:

- = exceeded holding time
- = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 99C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<2.2E-02	U//	<1.7E-01	■		1	GP								pCi/L
Beta dose	14														
Carbon-14	8.6E+00	J//L/I	NDD			1	GP								pCi/L
Cesium-137	<-1.2E+00	U//	<3.5E+00			1	GP								pCi/L
Cobalt-60	<4.1E-01	U//	<3.6E+00			1	GP								pCi/L
Curium-242	<4.9E-02	U//	<1.6E-01			1	GP								pCi/L
Curium-243/244	<-7.8E-03	U//	<1.5E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<4.4E-02			1	GP								pCi/L
Gross alpha	2.5E+01	J//L/I	NDD			1	GP	2.5E+01	//		■		1	GP	pCi/L
Iodine-129	1.2E+01	//				1	GP								pCi/L
Nonvolatile beta	6.3E+01	//		■		1	GP	6.8E+01	//		■		1	GP	pCi/L
Plutonium-238	<2.2E-01	U//	<4.0E-01			1	GP								pCi/L
Plutonium-239/240	<1.8E-02	U//	<2.1E-01			1	GP								pCi/L
Radium-226	5.5E+00	//		■		1	GP								pCi/L
Radium-228	1.8E+00	J//N	NDD			1	GP								pCi/L
Total radium	5.5E+00														
Strontium-90	1.3E+01	//		■		1	GP								pCi/L
Technetium-99	5.5E+01	//		■		1	GP								pCi/L
Thorium-228	<6.7E-02	U//	<1.3E-01			1	GP								pCi/L
Thorium-230	4.2E-02	R//4	Rej			1	GP								pCi/L
Thorium-232	<8.3E-03	U//	<2.5E-02			1	GP								pCi/L
Sum of alphas	1.3E+01														pCi/L
Sum of betas	7.9E+01			■											pCi/L
Tritium	9.1E+02	//		■		1	GP	7.9E+02	//		■		1	GP	pCi/mL
Uranium-233/234	5.8E+00	//				1	GP								pCi/L
Uranium-235	8.7E-01	//				1	GP								pCi/L
Uranium-238	6.6E+00	//				1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB 99D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75691.7 E50326.9	33.275294 °N 81.681307 °W	218.1-198.1 ft msl	287.6 ft msl	4" PVC	S	UAZ_UTRA

SAMPLE DATE	01/07/99	04/07/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	215.1	213.8	ft msl
pH	4.6	4.7	pH
Sp. conductance	26	34	µS/cm
Water temperature	20.5	22.3	°C
Alkalinity as CaCO3	1	0	mg/L
Turbidity	1	1	NTU
Volumes purged	3.6	5.2	well volumes
Sampling code			
Synchronous water level	213.9 (03/23/99)	213.4 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	SI	H	DF	Lab	2Q99	Mod	Filt.	SI	H	DF	Lab	Unit
Aluminum, total recoverable	84	//				1	GE	120	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	7.7	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Cobalt, total recoverable	<0.13	JU//4	<0.20			1	GE								µg/L
Copper, total recoverable	32	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	9.6	//				1	GE	5.9	//				1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	1.1	J/V	NDD			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	1,400	//				1	GE	1,900	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<2.5	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	26	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	SI	H	DF	Lab	2Q99	Mod	Filt.	SI	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB 99D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<2.7E-02	JU/L/I	<3.1E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<3.2E+00	U//	<7.3E+00			1	GP								pCi/L
Cesium-137	<8.6E-01	JU/L/C	<3.6E+00			1	GP								pCi/L
Cobalt-60	<1.3E+00	U//	<3.8E+00			1	GP								pCi/L
Curium-242	<-1.5E-02	U//	<3.3E-01			1	GP								pCi/L
Curium-243/244	<-1.4E-02	U//	<3.1E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<1.8E-01			1	GP								pCi/L
Gross alpha	9.4E+00	//				1	GP	8.8E+00	//				1	GP	pCi/L
Iodine-129	<2.0E-01	U//	<1.1E+00			1	GP								pCi/L
Nonvolatile beta	8.8E+00	//				1	GP	1.0E+01	//				1	GP	pCi/L
Plutonium-238	<1.8E-02	U//	<5.4E-02			1	GP								pCi/L
Plutonium-239/240	<3.9E-02	U//	<9.9E-02			1	GP								pCi/L
Radium-226	6.6E-01	J/V	NDD			1	GP								pCi/L
Radium-228	<6.0E-01	U//	<9.3E-01			1	GP								pCi/L
Total radium	NA														
Strontium-90	2.1E+00	J/V	NDD			1	GP								pCi/L
Technetium-99	<1.9E+00	U//	<2.1E+01			1	GP								pCi/L
Thorium-228	<6.0E-02	U//	<4.0E-01			1	GP								pCi/L
Thorium-230	1.6E-01	R//4	Rej			1	GP								pCi/L
Thorium-232	<1.7E-02	U//	<2.0E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	1.7E+01	//				1	GP	7.7E+01	//				1	GP	pCi/mL
Uranium-233/234	2.0E+00	J/L/C	NDD			1	GP								pCi/L
Uranium-235	4.5E-01	J/L/C	NDD			1	GP								pCi/L
Uranium-238	5.3E+00	J/L/C	NDD			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ, UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ, LTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB100A

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75534.4 E50958.4	33.275977 °N 81.679339 °W	105.8-95.8 ft msl	286 ft msl	4" PVC	S	Gordon

SAMPLE DATE	01/08/99	04/07/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	151.9	151.8	ft msl
pH	6.8	6.5	pH
Sp. conductance	160	140	µS/cm
Water temperature	19.9	22.1	°C
Alkalinity as CaCO ₃	70	44	mg/L
Turbidity	0	1	NTU
Volumes purged	5.5	5.0	well volumes
Sampling code			
Synchronous water level	151.8 (03/23/99)	151.4 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	<15	U//	<15			1	GE	<13	U//	<15			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	37	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	1.2	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	<0.032	U//	<0.20			1	GE								µg/L
Copper, total recoverable	0.57	J//	NDD			1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.43	J//	NDD			1	GE	<2.0	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.058	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	0.99	J//	NDD			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	4,300	//				2	GE	3,800	//				5	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.41	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<7.8	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA = Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA = Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA = Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon = Gordon Aquifer

WELL FSB100A (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<1.8E-02	JU/LV//	<1.2E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	9.9E+00	J//	NDD			1	GP								pCi/L
Cesium-137	<2.4E-04	U//	<3.2E+00			1	GP								pCi/L
Cobalt-60	<4.2E-02	U//	<3.0E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<5.7E-02			1	GP								pCi/L
Curium-243/244	<-1.8E-04	U//	<1.4E-01			1	GP								pCi/L
Curium-245/246	<5.5E-02	U//	<5.5E-02			1	GP								pCi/L
Gross alpha	<8.3E-01	U//	<8.4E-01			1	GP	1.4E+00	J//	NDD			1	GP	pCi/L
Iodine-129	<1.4E+00	U//	<1.0E+00			1	GP								pCi/L
Nonvolatile beta	1.9E+00	J//	NDD			1	GP	2.1E+00	J//	NDD			1	GP	pCi/L
Plutonium-238	<1.4E-02	U//	<2.7E-01			1	GP								pCi/L
Plutonium-239/240	<-3.1E-04	U//	<1.5E-01			1	GP								pCi/L
Radium-226	8.0E-01	J//	NDD			1	GP								pCi/L
Radium-228	<5.2E-01	U//	<8.8E-01			1	GP								pCi/L
Total radium	NA														
Strontium-90	<4.9E-01	U//	<1.1E+00			1	GP								pCi/L
Technetium-99	<7.7E+00	U//	<2.0E+01			1	GP								pCi/L
Thorium-228	<3.4E-02	U//	<1.7E-01			1	GP								pCi/L
Thorium-230	<4.0E-02	U//	<3.0E-02			1	GP								pCi/L
Thorium-232	<5.1E-03	U//	<6.3E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	7.5E+01	//		■		1	GP	6.8E+01	//		■		1	GP	pCi/mL
Uranium-233/234	1.4E-01	R//4	Rej			1	GP								pCi/L
Uranium-235	<4.7E-03	U//	<8.0E-02			1	GP								pCi/L
Uranium-238	<4.1E-02	U//	<8.0E-02			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB101A

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N75719.0 E51191.3	33.276765 °N 81.679085 °W	102.9-92.9 ft msl	285.2 ft msl	4" PVC	S	Gordon

<u>SAMPLE DATE</u>	01/08/99	04/12/99
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FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	152.1	152.0	ft msl
pH	7.4	6.8	pH
Sp. conductance	160	150	µS/cm
Water temperature	19.6	20.9	°C
Alkalinity as CaCO ₃	56	55	mg/L
Turbidity	0	0	NTU
Volumes purged	7.7	2.8	well volumes
Sampling code			
Synchronous water level	152.0 (03/23/99)	151.7 (06/28/99)	ft msl

ANALYTICAL DATAInorganic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Aluminum, total recoverable	<15	U//	<15			1	GE	<15	U//	<15			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	30	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	1.4	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Copper, total recoverable	0.39	J//	NDD			1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	<2.0	U//	<2.0			1	GE	<2.0	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.081	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	<2.0	U//	<2.0			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	1,600	//				1	GE	1,600	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.19	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<7.2	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	0.65	J//	NDD			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA = Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB101A (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<-9.4E-03	JU/LV/I	<1.4E-01			1	GP								pCi/L
Beta dose	0.01														
Carbon-14	2.4E+01	//				1	GP								pCi/L
Cesium-137	5.9E+00	R//4	Rej			1	GP								pCi/L
Cobalt-60	<2.0E+00	U//	<3.4E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<5.6E-02			1	GP								pCi/L
Curium-243/244	<-1.8E-02	U//	<1.4E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<5.4E-02			1	GP								pCi/L
Gross alpha	<5.7E-01	U//	<8.7E-01			1	GP	<5.0E-01	U//	<8.7E-01			1	GP	pCi/L
Iodine-129	<7.6E-01	U//	<1.3E+00			1	GP								pCi/L
Nonvolatile beta	1.8E+00	J//V	NDD			1	GP	2.0E+00	J//V	NDD			1	GP	pCi/L
Plutonium-238	<-3.6E-02	U//	<2.2E-01			1	GP								pCi/L
Plutonium-239/240	<6.2E-02	U//	<1.2E-01			1	GP								pCi/L
Radium-226	<4.7E-01	U//	<5.2E-01			1	GP								pCi/L
Radium-228	<-2.2E-02	U//	<1.1E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<1.6E-01	U//	<1.2E+00			1	GP								pCi/L
Technetium-99	<-5.3E+00	U//	<2.0E+01			1	GP								pCi/L
Thorium-228	7.0E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	<1.6E-01	JU/L/I	<2.3E-01			1	GP								pCi/L
Thorium-232	<-1.0E-02	JU/L/I	<2.3E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	2.4E+01														pCi/L
Tritium	<1.9E-01	U//	<6.8E-01			1	GP	<-1.5E-01	U//	<7.0E-01			1	GP	pCi/mL
Uranium-233/234	<1.0E-01	U//	<3.0E-01			1	GP								pCi/L
Uranium-235	<-9.0E-03	U//	<2.0E-01			1	GP								pCi/L
Uranium-238	<7.5E-02	U//	<1.1E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ, UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ, LTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB102C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N73582.9 E50834.8	33.271459 °N 81.675873 °W	155.9-145.9 ft msl	201.1 ft msl	4" PVC	V	LAZ_UTRA

SAMPLE DATE 01/20/99 04/06/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	195.3	195.2	ft msl
pH	4.4	4.8	pH
Sp. conductance	200	200	µS/cm
Water temperature	18.5	17.7	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	0	0	NTU
Volumes purged	4.2	2.2	well volumes
Sampling code			
Synchronous water level	195.2 (03/23/99)	194.8 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	460	//				1	GE	340	//				1	GE	µg/L
Antimony, total recoverable	<0.36	JU//4	<0.89			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	70	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	3.6	//				1	GE	3.2	//				1	GE	µg/L
Chromium, total recoverable	0.99	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	28	//				1	GE								µg/L
Copper, total recoverable	1.8	//				1	GE								µg/L
Cyanide	<10	JU/L/I	<10			1	GE								µg/L
Lead, total recoverable	0.43	J/V	NDD			1	GE	<2.0	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	0.37	//				1	GE								µg/L
Nickel, total recoverable	11	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	1,600	//				1	GE	21,000	//				25	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	0.67	J/IL/I	NDD			1	GE								µg/L
Thallium, total recoverable	<0.64	U/V/I	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	33	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<1.3	JU/KV/O	<5.0			1	GE								µg/L
Phenols	2.2	J/V	NDD			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	0.86	J/IK/O	NDD			1	GE								µg/L
Trichlorofluoromethane	2.1	J/IK/O	NDD			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB102C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<2.1E-01	U//	<5.2E-01	■		1	GP								pCi/L
Beta dose	12														
Carbon-14	3.0E+01	//				1	GP								pCi/L
Cesium-137	<6.8E-01	U//	<4.1E+00			1	GP								pCi/L
Cobalt-60	<1.7E+00	U//	<4.1E+00			1	GP								pCi/L
Curium-242	<1.2E-02	U//	<7.2E-01			1	GP								pCi/L
Curium-243/244	<8.2E-02	U//	<5.5E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<2.0E-01			1	GP								pCi/L
Gross alpha	4.9E+00	//				1	GP	4.5E+00	//				1	GP	pCi/L
Iodine-129	2.5E+01	J/K/C	NDD			1	GP								pCi/L
Nonvolatile beta	2.5E+02	//		■		1	GP	2.2E+02	//				1	GP	pCi/L
Plutonium-238	<4.9E-02	U//	<4.9E-02			1	GP								pCi/L
Plutonium-239/240	9.8E-02	R//4	Rej			1	GP								pCi/L
Radium-226	3.3E+00	//				1	GP								pCi/L
Radium-228	2.0E+00	J/V	NDD			1	GP								pCi/L
Total radium	3.3E+00														
Strontium-90	1.0E+02	//		■		1	GP								pCi/L
Technetium-99	4.1E+01	J/V	NDD			1	GP								pCi/L
Thorium-228	<8.8E-02	U//	<3.6E-01			1	GP								pCi/L
Thorium-230	<2.8E-02	U//	<2.1E-01			1	GP								pCi/L
Thorium-232	<1.3E-02	U//	<1.7E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	1.3E+02			■											pCi/L
Tritium	4.4E+02	//		■		1	GP	4.3E+02	//				1	GP	pCi/mL
Uranium-233/234	2.7E-01	J/V	NDD			1	GP								pCi/L
Uranium-235	<2.3E-02	U//	<1.6E-01			1	GP								pCi/L
Uranium-238	1.8E-01	J/V	NDD			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB103C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74210.0 E49651.3	33.270915 °N 81.680207 °W	157.1-147.1 ft msl	242.4 ft msl	4" PVC	S	LAZ_UTRA

SAMPLE DATE 01/08/99 04/12/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	201.1	202.0	ft msl
pH	5.9	5.6	pH
Sp. conductance	220	240	µS/cm
Water temperature	18.3	20.6	°C
Alkalinity as CaCO3	8	8	mg/L
Turbidity	1	0	NTU
Volumes purged	2.8	2.7	well volumes
Sampling code			
Synchronous water level	199.4 (03/23/99)	201.7 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	<15	U//	<15			1	GE	9.3	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	38	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	0.26	J/V	NDD			1	GE	<0.34	JU/V/4	<1.0			1	GE	µg/L
Chromium, total recoverable	1.5	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	<0.14	U/V//	<0.20			1	GE								µg/L
Copper, total recoverable	3.9	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.83	J/V	NDD			1	GE	<1.1	U/V//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.046	U/V//	<0.20			1	GE								µg/L
Nickel, total recoverable	5.1	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	30,000	//		■		25	GE	1,100	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.19	U/V//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	39	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<8.0	U/V//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB103C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	7.0E-02	R//4	Rej			1	GP								pCi/L
Beta dose	0.69														
Carbon-14	1.4E+01	J//	NDD			1	GP								pCi/L
Cesium-137	1.3E+01	R//4	Rej			1	GP								pCi/L
Cobalt-60	<5.5E-01	U//	<2.9E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<4.1E-02			1	GP								pCi/L
Curium-243/244	<1.3E-02	U//	<4.0E-02			1	GP								pCi/L
Curium-245/246	<1.3E-02	U//	<4.0E-02			1	GP								pCi/L
Gross alpha	<7.7E-01	U//	<8.4E-01			1	GP	<5.8E-01	U//	<7.3E-01			1	GP	pCi/L
Iodine-129	<2.5E+00	U//	<8.2E-01			1	GP								pCi/L
Nonvolatile beta	7.8E+00	//				1	GP	1.7E+01	//				1	GP	pCi/L
Plutonium-238	<8.2E-02	U//	<1.9E-01			1	GP								pCi/L
Plutonium-239/240	<7.7E-03	U//	<1.3E-01			1	GP								pCi/L
Radium-226	7.4E-01	J//	NDD			1	GP								pCi/L
Radium-228	3.2E+00	//				1	GP								pCi/L
Total radium	3.2E+00														
Strontium-90	<2.4E-01	U//	<1.2E+00			1	GP								pCi/L
Technetium-99	4.9E+01	//				1	GP								pCi/L
Thorium-228	<3.3E-01	JU//L/I	<4.6E-01			1	GP								pCi/L
Thorium-230	2.1E-01	R//4	Rej			1	GP								pCi/L
Thorium-232	<8.7E-03	JU//L/I	<1.9E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	5.2E+01			■											
Tritium	6.3E+02	//		■		1	GP	5.8E+02	//				1	GP	pCi/L
Uranium-233/234	<4.1E-02	U//	<1.2E-01			1	GP								pCi/mL
Uranium-235	<4.0E-02	U//	<3.1E-01			1	GP								pCi/L
Uranium-238	<7.3E-02	U//	<2.2E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB104C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N73872.6 E49248.6	33.269511 °N 81.680612 °W	160.7-150.7 ft msl	219.1 ft msl	4" PVC	S	LAZ_UTRA

SAMPLE DATE 01/08/99 04/07/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	200.5	200.5	ft msl
pH	4.9	4.5	pH
Sp. conductance	400	440	µS/cm
Water temperature	18.3	19.9	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	3	0	NTU
Volumes purged	4.6	3.6	well volumes
Sampling code			
Synchronous water level	199.8 (03/23/99)	199.8 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	52	//				1	GE	<53	U/V/	<15			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	88	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	0.87	J/V/	NDD			1	GE	<0.73	JU/V/4	<1.0			1	GE	µg/L
Chromium, total recoverable	<0.64	JU//4	<3.0			1	GE								µg/L
Cobalt, total recoverable	0.54	//				1	GE								µg/L
Copper, total recoverable	4.0	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.77	J/V/	NDD			1	GE	0.61	J/V/	NDD			1	GE	µg/L
Mercury, total recoverable	<0.065	U/V/	<0.20			1	GE								µg/L
Nickel, total recoverable	16	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	52,000	//		■		25	GE	50,000	//		■		25	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.21	U/V/	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	49	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<4.4	JU/KV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB104C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<5.2E-04	U//	<2.8E-01			1	GP								pCi/L
Beta dose	0.11														
Carbon-14	3.1E+01	//				1	GP								pCi/L
Cesium-137	<7.6E-01	U//	<5.1E+00			1	GP								pCi/L
Cobalt-60	<-1.9E+00	U//	<4.0E+00			1	GP								pCi/L
Curium-242	<6.7E-02	U//	<2.2E-01			1	GP								pCi/L
Curium-243/244	<3.2E-02	U//	<1.4E-01			1	GP								pCi/L
Curium-245/246	<2.1E-02	U//	<6.4E-02			1	GP								pCi/L
Gross alpha	3.4E+00	//				1	GP	1.7E+00	J/V	NDD			1	GP	pCi/L
Iodine-129	<7.3E+00	U/V	<3.0E+00			1	GP								pCi/L
Nonvolatile beta	2.3E+01	//				1	GP	3.0E+01	//				1	GP	pCi/L
Plutonium-238	<-3.8E-02	U//	<2.2E-01			1	GP								pCi/L
Plutonium-239/240	<-2.2E-02	U//	<1.3E-01			1	GP								pCi/L
Radium-226	9.0E-01	J/V	NDD			1	GP								pCi/L
Radium-228	<5.7E-02	U//	<1.1E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<1.4E-01	U//	<9.0E-01			1	GP								pCi/L
Technetium-99	8.4E+01	//		■		1	GP								pCi/L
Thorium-228	7.2E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	<-9.0E-03	JU/L/I	<2.0E-01			1	GP								pCi/L
Thorium-232	<-2.7E-02	JU/L/I	<2.6E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	1.1E+02			■											pCi/L
Tritium	1.1E+03	//		■		1	GP	1.0E+03	//				1	GP	pCi/mL
Uranium-233/234	<7.0E-02	U//	<2.9E-01			1	GP								pCi/L
Uranium-235	<7.0E-02	U//	<2.9E-01			1	GP								pCi/L
Uranium-238	<3.5E-02	U//	<2.4E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB104D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N73865.2 E49255.4	33.269506 °N 81.680579 °W	210.4-190.4 ft msl	219.2 ft msl	4" PVC	V	UAZ_UTRA

SAMPLE DATE 01/26/99 05/04/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	204.7	202.2	ft msl
pH	3.8	3.8	pH
Sp. conductance	270	230	µS/cm
Water temperature	17.7	17.5	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	1	0	NTU
Volumes purged	3.6	2.8	well volumes
Sampling code			
Synchronous water level	204.3 (03/23/99)	202.7 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	9,900	//				1	GE	9,300	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	66	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	3.1	//				1	GE	2.3	//				1	GE	µg/L
Chromium, total recoverable	1.7	J//V	NDD			1	GE								µg/L
Cobalt, total recoverable	13	//				1	GE								µg/L
Copper, total recoverable	18	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	<2.0	U//	<2.0			1	GE	<2.0	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	6.5	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	24,000	//				25	GE	23,000	//				25	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.094	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	22	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	JU/Q/	<10			1	GE								µg/L
Dichloromethane	<2.0	JU/KV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB104D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	3.8E+00	//		■		1	GP								pCi/L
Beta dose	13														
Carbon-14	1.3E+01	J//	NDD			1	GP								pCi/L
Cesium-137	<1.3E+00	U//	<3.1E+00			1	GP								pCi/L
Cobalt-60	<1.1E+00	U//	<3.2E+00			1	GP								pCi/L
Curium-242	<-3.1E-02	U//	<4.0E-01			1	GP								pCi/L
Curium-243/244	4.2E+00	//				1	GP								pCi/L
Curium-245/246	<5.6E-02	U//	<1.7E-01			1	GP								pCi/L
Gross alpha	1.8E+02	//		■		1	GP	2.0E+02	//		■		1	GP	pCi/L
Iodine-129	5.7E+00	//				1	GP								pCi/L
Nonvolatile beta	2.3E+02	//		■		1	GP	2.3E+02	//		■		1	GP	pCi/L
Plutonium-238	<0.0E+00	U//	<2.4E-01			1	GP								pCi/L
Plutonium-239/240	<7.9E-02	U//	<2.4E-01			1	GP								pCi/L
Radium-226	5.7E+00	//		■		1	GP								pCi/L
Radium-228	<4.1E-01	U//	<8.5E-01			1	GP								pCi/L
Total radium	5.7E+00														
Strontium-90	5.6E+01	//		■		1	GP								pCi/L
Technetium-99	<1.1E+01	U//	<2.4E+01			1	GP								pCi/L
Thorium-228	<-3.0E-02	U//	<4.3E-01			1	GP								pCi/L
Thorium-230	<3.1E-02	U//	<2.3E-01			1	GP								pCi/L
Thorium-232	<-8.3E-03	U//	<1.8E-01			1	GP								pCi/L
Sum of alphas	2.1E+02			■											pCi/L
Sum of betas	6.2E+01			■											pCi/L
Tritium	7.8E+02	//		■		1	GP	6.6E+02	//		■		1	GP	pCi/mL
Uranium-233/234	8.8E+01	//		■		1	GP								pCi/L
Uranium-235	1.2E+01	//				1	GP								pCi/L
Uranium-238	1.1E+02	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB105C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75234.2 E49828.0	33.273468 °N 81.681732 °W	151.5-141.5 ft msl	285.8 ft msl	4" PVC	V	LAZ_UTRA

SAMPLE DATE 01/12/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	208.6	208.0	ft msl
pH	3.9	3.5	pH
Sp. conductance	1000	1100	µS/cm
Water temperature	20.6	20.3	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	1	0.3	NTU
Volumes purged	2.4	2.2	well volumes
Sampling code			
Synchronous water level	206.6 (03/23/99)	207.2 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	34,000	//				20	GE	38,000	//				1	GE	µg/L
Antimony, total recoverable	<0.29	JU//4	<0.89			1	GE								µg/L
Arsenic, total recoverable	<60	U//	<60			20	GE								µg/L
Barium, total recoverable	380	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	13	//		■		1	GE	15	//		■		1	GE	µg/L
Chromium, total recoverable	1.1	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	290	//		■		1	GE								µg/L
Copper, total recoverable	47	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.40	J/V	NDD			1	GE	<20	U//	<20			10	GE	µg/L
Mercury, total recoverable	<0.35	U/V	<0.20			1	GE								µg/L
Nickel, total recoverable	44	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	140,000	//		■		50	GE	130,000	//		■		50	GE	µg/L
Selenium, total recoverable	<100	U//	<100			20	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	0.53	J/V	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	130	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	17	//		■		1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB105C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	1.3E+01	//		■		1	GP								pCi/L
Beta dose	95			■											
Carbon-14	7.2E+01	J/L/C1	NDD			1	GP								pCi/L
Cesium-137	<-1.8E+00	U//	<3.6E+00			1	GP								pCi/L
Cobalt-60	<-2.6E-01	U//	<3.9E+00			1	GP								pCi/L
Curium-242	<-2.3E-01	U//	<7.8E-01			1	GP								pCi/L
Curium-243/244	8.7E+00	//				1	GP								pCi/L
Curium-245/246	4.6E-01	R//4	Rej			1	GP								pCi/L
Gross alpha	3.2E+02	J/L/I	NDD			1	GP	4.7E+02	J/K/I	NDD			1	GP	pCi/L
Iodine-129	5.2E+01	//		■		1	GP								pCi/L
Nonvolatile beta	5.9E+02	J/L/I	NDD			1	GP	7.6E+02	J/K/I	NDD			1	GP	pCi/L
Plutonium-238	2.2E-01	J/V	NDD			1	GP								pCi/L
Plutonium-239/240	<-1.8E-04	U//	<1.3E-01			1	GP								pCi/L
Radium-226	5.8E+01	J/L/I	NDD			1	GP								pCi/L
Radium-228	1.6E+01	//		■		1	GP								pCi/L
Total radium	1.6E+01			■											
Strontium-90	3.2E+02	//		■		1	GP								pCi/L
Technetium-99	1.3E+02	//		■		1	GP								pCi/L
Thorium-228	1.1E+00	J/V	NDD			1	GP								pCi/L
Thorium-230	2.4E-01	J/V	NDD			1	GP								pCi/L
Thorium-232	<0.0E+00	U//	<8.9E-02			1	GP								pCi/L
Sum of alphas	3.2E+02			■											pCi/L
Sum of betas	5.2E+02			■											pCi/L
Tritium	5.7E+03	//		■		1	GP	4.8E+03	//		■		1	GP	pCi/mL
Uranium-233/234	1.4E+02	//		■		1	GP								pCi/L
Uranium-235	1.3E+01	//		■		1	GP								pCi/L
Uranium-238	1.5E+02	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA = Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB105DR

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75258.1 E49841.0	33.273542 °N 81.681744 °W	208.6-188.5 ft msl	285.6 ft msl	4" PVC	V	UAZ_UTRA

SAMPLE DATE	01/19/99	04/06/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	211.6	210.7	ft msl
pH	3.7	4.2	pH
Sp. conductance	85	68	µS/cm
Water temperature	20.3	19.9	°C
Alkalinity as CaCO ₃	0	0	mg/L
Turbidity	14	1	NTU
Volumes purged	3.2	2.5	well volumes
Sampling code			
Synchronous water level	210.8 (03/23/99)	210.0 (06/25/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	530	J//CI	NDD			1	GE	390	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	47	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Cobalt, total recoverable	2.0	//				1	GE								µg/L
Copper, total recoverable	7.5	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	1.7	J//V	NDD			1	GE	1.0	J//V	NDD			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	1.7	J//V	NDD			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	6,300	//				5	GE	5,500	//				2	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.060	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	12	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU//O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	JU//O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU//O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU//O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU//O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB105DR (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<3.8E-01	U//	<4.0E-01	■		1	GP								pCi/L
Beta dose	13														
Carbon-14	9.9E+00	J/V	NDD			1	GP								pCi/L
Cesium-137	<7.8E-01	U//	<3.7E+00			1	GP								pCi/L
Cobalt-60	<4.7E-01	U//	<4.4E+00			1	GP								pCi/L
Curium-242	<4.2E-02	U//	<3.3E-01			1	GP								pCi/L
Curium-243/244	<9.1E-02	U//	<6.0E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<1.2E-01			1	GP								pCi/L
Gross alpha	6.4E+01	//		■		1	GP	5.9E+01	//		■		1	GP	pCi/L
Iodine-129	1.2E+01	//				1	GP								pCi/L
Nonvolatile beta	4.8E+01	//				1	GP	3.2E+01	//				1	GP	pCi/L
Plutonium-238	<5.1E-02	U//	<1.1E-01			1	GP								pCi/L
Plutonium-239/240	<4.8E-03	U//	<8.2E-02			1	GP								pCi/L
Radium-226	3.2E+00	//				1	GP								pCi/L
Radium-228	1.9E+00	J/V	NDD			1	GP								pCi/L
Total radium	3.2E+00														
Strontium-90	4.4E+00	//				1	GP								pCi/L
Technetium-99	<8.3E+00	U//	<1.9E+01			1	GP								pCi/L
Thorium-228	<1.7E-01	U//	<4.1E-01			1	GP								pCi/L
Thorium-230	<5.4E-02	U//	<1.6E-01			1	GP								pCi/L
Thorium-232	<2.3E-02	U//	<1.6E-01			1	GP								pCi/L
Sum of alphas	8.1E+01			■											pCi/L
Sum of betas	1.6E+01														pCi/L
Tritium	7.7E+01	//		■		1	GP	5.1E+01	//		■		1	GP	pCi/mL
Uranium-233/234	2.1E+01	//		■		1	GP								pCi/L
Uranium-235	2.3E+00	//				1	GP								pCi/L
Uranium-238	5.7E+01	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB106C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74190.1 E50651.3	33.272503 °N 81.677536 °W	166.0-156.0 ft msl	235.1 ft msl	4" PVC	V	LAZ_UTRA

SAMPLE DATE	01/20/99	04/06/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	201.2	201.1	ft msl
pH	5.1	5.3	pH
Sp. conductance	500	470	µS/cm
Water temperature	18.8	18.4	°C
Alkalinity as CaCO3	2	5	mg/L
Turbidity	2	1	NTU
Volumes purged	2.7	2.5	well volumes
Sampling code			
Synchronous water level	201.0 (03/23/99)	200.3 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	3,900	//				1	GE	4,100	//				1	GE	µg/L
Antimony, total recoverable	<0.16	JU//4	<0.89			1	GE								µg/L
Arsenic, total recoverable	1.3	J/V	NDD			1	GE								µg/L
Barium, total recoverable	130	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	10	//		■		1	GE	8.5	//		■		1	GE	µg/L
Chromium, total recoverable	0.76	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	47	//		■		1	GE								µg/L
Copper, total recoverable	6.6	//				1	GE								µg/L
Cyanide	<10	JU/L/I	<10			1	GE								µg/L
Lead, total recoverable	0.35	J/V	NDD			1	GE	<2.0	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	0.19	J/V	NDD			1	GE								µg/L
Nickel, total recoverable	14	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	68,000	//		■		50	GE	61,000	//		■		50	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<0.50	JU/L/I4	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.43	U/N/I	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	42	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<1.3	JU/KV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	1.5	J/K/O	NDD			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB106C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<1.8E-01	U//	<2.7E-01	■		1	GP								pCi/L
Beta dose	31			■		1	GP								pCi/L
Carbon-14	1.1E+02	//		■		1	GP								pCi/L
Cesium-137	<1.3E+00	U//	<3.9E+00			1	GP								pCi/L
Cobalt-60	<1.9E+00	U//	<4.9E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<2.5E-01			1	GP								pCi/L
Curium-243/244	<0.0E+00	U//	<2.2E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<2.7E-01			1	GP								pCi/L
Gross alpha	2.5E+01	//		■		1	GP	4.6E+01	//		■		1	GP	pCi/L
Iodine-129	7.1E+01	J/K/C	NDD			1	GP				■		1	GP	pCi/L
Nonvolatile beta	5.6E+02	//		■		1	GP	5.6E+02	//		■		1	GP	pCi/L
Plutonium-238	<7.8E-03	U//	<9.9E-02			1	GP								pCi/L
Plutonium-239/240	<0.0E+00	U//	<4.7E-02			1	GP								pCi/L
Radium-226	1.8E+01	//		■		1	GP								pCi/L
Radium-228	<2.3E-01	U//	<8.9E-01			1	GP								pCi/L
Total radium	1.8E+01														pCi/L
Strontium-90	2.5E+02	//		■		1	GP								pCi/L
Technetium-99	1.1E+02	//		■		1	GP								pCi/L
Thorium-228	<6.7E-02	U//	<4.1E-01			1	GP								pCi/L
Thorium-230	<9.0E-02	U//	<1.6E-01			1	GP								pCi/L
Thorium-232	<2.0E-02	U//	<1.4E-01			1	GP								pCi/L
Sum of alphas	NA														pCi/L
Sum of betas	4.7E+02			■											pCi/L
Tritium	1.1E+03	//		■		1	GP	1.0E+03	//		■		1	GP	pCi/mL
Uranium-233/234	3.9E-01	J/V	NDD			1	GP								pCi/L
Uranium-235	<1.0E-01	U//	<1.9E-01			1	GP								pCi/L
Uranium-238	5.5E-01	J/V	NDD			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB106D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74193.0 E50636.8	33.272485 °N 81.677580 °W	222.9-202.9 ft msl	234.9 ft msl	4" PVC	S	UAZ_UTRA

SAMPLE DATE 01/12/99 04/26/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	205.6		ft msl
pH	5.9	6.2	pH
Sp. conductance	130	80	µS/cm
Water temperature	17.6	21.2	°C
Alkalinity as CaCO3	37	33	mg/L
Turbidity	109	4	NTU
Volumes purged			
Sampling code	XN	X	
Synchronous water level	205.5 (03/23/99)	(06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	1,200	J/L/I	NDD			1	GE	210	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.52	JU//4	<0.89			1	GE								µg/L
Arsenic, total recoverable	<3.0	JU/L/I	<3.0			1	GE								µg/L
Barium, total recoverable	20	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	0.32	J/V	NDD			1	GE	<0.43	JU//4	<1.0			1	GE	µg/L
Chromium, total recoverable	32	//				1	GE								µg/L
Cobalt, total recoverable	0.93	//				1	GE								µg/L
Copper, total recoverable	35	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	53	//		■		1	GE	19	//		■		1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	31	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	560	J/L/I	NDD			1	GE	960	//				1	GE	µg/L
Selenium, total recoverable	<5.0	JU/L/I	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.077	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	6.1	J/V	NDD			1	GE								µg/L
Zinc, total recoverable	390	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<2.4	JU/LV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB106D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<1.5E-01	JU/L/I	<4.1E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<5.9E+00	U//	<6.7E+00			1	GP								pCi/L
Cesium-137	<5.3E-01	JU/L/I	<3.7E+00			1	GP								pCi/L
Cobalt-60	<4.1E-01	U//	<3.5E+00			1	GP								pCi/L
Curium-242	<2.5E-02	JU/L/C	<3.8E-01			1	GP								pCi/L
Curium-243/244	<7.3E-02	JU/L/C	<2.2E-01			1	GP								pCi/L
Curium-245/246	<3.2E-02	JU/L/C	<2.2E-01			1	GP								pCi/L
Gross alpha	2.7E+00	J//	NDD			1	GP	1.6E+00	J//	NDD			1	GP	pCi/L
Iodine-129	<3.6E-01	U//	<1.3E+00			1	GP								pCi/L
Nonvolatile beta	4.3E+00	J/K/C	NDD			1	GP	3.7E+00	//				1	GP	pCi/L
Plutonium-238	<0.0E+00	U//	<5.3E-02			1	GP								pCi/L
Plutonium-239/240	<3.1E-02	U//	<9.3E-02			1	GP								pCi/L
Radium-226	1.1E+00	J//	NDD			1	GP								pCi/L
Radium-228	<4.9E-01	JU/L/I	<1.2E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<1.3E+00	U//	<2.0E+00			1	GP								pCi/L
Technetium-99	<4.3E-01	U//	<2.1E+01			1	GP								pCi/L
Thorium-228	<5.1E-02	U//	<1.9E-01			1	GP								pCi/L
Thorium-230	1.2E-01	R//4	Rej			1	GP								pCi/L
Thorium-232	<5.1E-02	U//	<9.2E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	1.0E+02	//		■		1	GP	2.0E+01	//				1	GP	pCi/mL
Uranium-233/234	<5.8E-02	U//	<1.4E-01			1	GP								pCi/L
Uranium-235	<8.5E-03	U//	<1.0E-01			1	GP								pCi/L
Uranium-238	1.1E-01	R//4	Rej			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB107C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75184.0 E51158.1	33.275528 °N 81.678133 °W	160.8-150.8 ft msl	270.9 ft msl	4" PVC	S	LAZ_UTRA

SAMPLE DATE	01/07/99	04/07/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	211.8	210.9	ft msl
pH	5.7	5.8	pH
Sp. conductance	170	140	µS/cm
Water temperature	19.2	20.7	°C
Alkalinity as CaCO ₃	31	31	mg/L
Turbidity	2	2	NTU
Volumes purged	3.0	2.6	well volumes
Sampling code			
Synchronous water level	211.1 (03/23/99)	210.3 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	50	//				1	GE	<56	U//	<15			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	40	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	0.84	J//	NDD			1	GE	<0.29	JU//4	<1.0			1	GE	µg/L
Chromium, total recoverable	1.2	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	0.34	//				1	GE								µg/L
Copper, total recoverable	1.3	//				1	GE								µg/L
Cyanide	2.2	J//	NDD			1	GE								µg/L
Lead, total recoverable	0.47	J//	NDD			1	GE	<2.0	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	0.067	J//	NDD			1	GE								µg/L
Nickel, total recoverable	4.7	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	9,700	//				5	GE	7,500	//				5	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.072	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	22	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<9.9	U//	<9.9			1	GE								µg/L
Dichloromethane	<1.4	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	1.4	//				1	GE								µg/L
Trichloroethylene	1.5	//				1	GE								µg/L
Trichlorofluoromethane	7.2	//				1	GE								µg/L

Notes:

● = exceeded holding time

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NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB107C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<3.9E-02	U//	<8.7E-02	■		1	GP								pCi/L
Beta dose	1.9														
Carbon-14	9.9E+00	J/V	NDD			1	GP								pCi/L
Cesium-137	<9.7E-02	JU/L/C	<3.5E+00			1	GP								pCi/L
Cobalt-60	<4.9E-01	U//	<4.0E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<4.5E-02			1	GP								pCi/L
Curium-243/244	<2.1E-02	U//	<8.7E-02			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<4.1E-02			1	GP								pCi/L
Gross alpha	3.7E+00	//				1	GP	1.6E+00	J/V	NDD			1	GP	pCi/L
Iodine-129	2.3E+00	J/V	NDD			1	GP								pCi/L
Nonvolatile beta	4.0E+01	//				1	GP	3.1E+01	//				1	GP	pCi/L
Plutonium-238	2.2E-01	R//4	Rej			1	GP								pCi/L
Plutonium-239/240	<1.7E-02	U//	<2.6E-02			1	GP								pCi/L
Radium-226	1.1E+00	J/V	NDD			1	GP								pCi/L
Radium-228	<4.2E-01	U//	<4.3E-01			1	GP								pCi/L
Total radium	NA														
Strontium-90	1.5E+01	//		■		1	GP								pCi/L
Technetium-99	<1.6E+01	U//	<1.9E+01			1	GP								pCi/L
Thorium-228	<2.9E-01	U//	<3.0E-01			1	GP								pCi/L
Thorium-230	<1.3E-01	U//	<2.1E-01			1	GP								pCi/L
Thorium-232	<0.0E+00	U//	<5.6E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	1.5E+01														
Tritium	1.3E+02	//		■		1	GP	1.0E+02	//		■		1	GP	pCi/L
Uranium-233/234	2.2E-01	J/V	NDD			1	GP								pCi/mL
Uranium-235	<3.0E-02	U//	<1.4E-01			1	GP								pCi/L
Uranium-238	<8.9E-02	U//	<1.1E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB107D

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N75177.2 E51149.8	33.275499 °N 81.678141 °W	220.9-200.9 ft msl	271 ft msl	4" PVC	V	UAZ_UTRA

<u>SAMPLE DATE</u>	02/02/99	05/04/99
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FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	214.9	214.6	ft msl
pH	3.9	3.7	pH
Sp. conductance	200	270	µS/cm
Water temperature	18.8	19.3	°C
Alkalinity as CaCO ₃	0	0	mg/L
Turbidity	1	0	NTU
Volumes purged	4.4	2.4	well volumes
Sampling code			
Synchronous water level	214.3 (03/23/99)	213.9 (06/28/99)	ft msl

ANALYTICAL DATA*Inorganic Constituents*

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Aluminum, total recoverable	4,000	//				1	GE	6,100	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	59	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	1.4	//				1	GE	1.4	//				1	GE	µg/L
Chromium, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Cobalt, total recoverable	7.4	//		■		1	GE								µg/L
Copper, total recoverable	9.7	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.74	J//	NDD			1	GE	1.0	J//	NDD			1	GE	µg/L
Mercury, total recoverable	3.6	//		■		1	GE								µg/L
Nickel, total recoverable	4.8	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	17,000	//		■		25	GE	25,000	//				25	GE	µg/L
Selenium, total recoverable	<2.4	JU//4	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<2.5	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	23	//				1	GE								µg/L

Organic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	2.2	J/L/O	NDD			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA = Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB107D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	5.8E+00	//		■			1 GP								pCi/L
Beta dose	73			■			1 GP								pCi/L
Carbon-14	5.1E+01	//		■			1 GP								pCi/L
Cesium-137	<1.1E+00	U//	<4.0E+00				1 GP								pCi/L
Cobalt-60	<3.1E-01	U//	<3.2E+00				1 GP								pCi/L
Curium-242	<0.0E+00	U//	<1.1E-01				1 GP								pCi/L
Curium-243/244	2.3E+00	//					1 GP								pCi/L
Curium-245/246	1.4E-01	R//4	Rej				1 GP								pCi/L
Gross alpha	2.0E+02	//		■			1 GP	3.1E+02	//		■		1	GP	pCi/L
Iodine-129	6.1E+01	//		■			1 GP								pCi/L
Nonvolatile beta	2.3E+02	//		■			1 GP	4.3E+02	//		■		1	GP	pCi/L
Plutonium-238	<0.0E+00	U//	<1.8E-01				1 GP								pCi/L
Plutonium-239/240	<7.7E-02	U//	<5.4E-01				1 GP								pCi/L
Radium-226	8.6E+00	//		■			1 GP								pCi/L
Radium-228	1.6E+00	//					1 GP								pCi/L
Total radium	1.0E+01														pCi/L
Strontium-90	9.3E+01	//		■			1 GP								pCi/L
Technetium-99	3.7E+01	J//	NDD				1 GP								pCi/L
Thorium-228	<1.4E-01	JU//C	<2.0E-01				1 GP								pCi/L
Thorium-230	<3.8E-02	JU//C	<5.7E-02				1 GP								pCi/L
Thorium-232	<4.5E-03	JU//C	<1.0E-01				1 GP								pCi/L
Sum of alphas	2.9E+02			■											pCi/L
Sum of betas	2.1E+02			■											pCi/L
Tritium	3.8E+02	//		■			1 GP	7.7E+02	//		■		1	GP	pCi/mL
Uranium-233/234	1.3E+02	//		■			1 GP								pCi/L
Uranium-235	1.2E+01	//					1 GP								pCi/L
Uranium-238	1.4E+02	//		■			1 GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB108D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N76260.7 E51142.3	33.277883 °N 81.680266 °W	223.8-203.8 ft msl	298 ft msl	4" PVC	S	UAZ_UTRA

SAMPLE DATE	01/11/99	04/12/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	219.6	218.5	ft msl
pH	5.6	5.0	pH
Sp. conductance	38	31	µS/cm
Water temperature	21.3	20.8	°C
Alkalinity as CaCO3	3	4	mg/L
Turbidity	1	3	NTU
Volumes purged	2.8	0.10	well volumes
Sampling code		X	
Synchronous water level	218.6 (03/23/99)	218.2 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	14	J//	NDD			1	GE	69	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	9.5	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Cobalt, total recoverable	0.16	J//	NDD			1	GE								µg/L
Copper, total recoverable	5.4	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	4.4	//				1	GE	8.9	//				1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	1.9	J//	NDD			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	1,200	//				1	GE	1,100	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.051	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	27	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<10	JU/LV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB108D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<4.1E-02	U//	<7.6E-02			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<4.3E-01	U//	<7.7E+00			1	GP								pCi/L
Cesium-137	6.6E+00	R//4	Rej			1	GP								pCi/L
Cobalt-60	<3.4E-01	U//	<3.3E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<8.1E-02			1	GP								pCi/L
Curium-243/244	<3.2E-02	U//	<2.1E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<7.6E-02			1	GP								pCi/L
Gross alpha	<7.2E-01	U//	<9.2E-01			1	GP	1.2E+00	J//	NDD			1	GP	pCi/L
Iodine-129	<3.4E-01	U//	<1.1E+00			1	GP								pCi/L
Nonvolatile beta	<2.0E-01	U//	<1.4E+00			1	GP	<1.2E+00	U//	<1.2E+00			1	GP	pCi/L
Plutonium-238	<0.0E+00	U//	<6.9E-02			1	GP								pCi/L
Plutonium-239/240	<2.3E-02	U//	<6.9E-02			1	GP								pCi/L
Radium-226	<3.6E-01	U//	<6.2E-01			1	GP								pCi/L
Radium-228	<3.4E-01	U//	<1.2E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<5.7E-01	U//	<1.5E+00			1	GP								pCi/L
Technetium-99	<1.1E+00	U//	<1.8E+01			1	GP								pCi/L
Thorium-228	1.6E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	6.0E-02	J//L/I	NDD			1	GP								pCi/L
Thorium-232	<0.0E+00	JU//L/I	<2.4E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	1.1E+01	//				1	GP	1.1E+01	//				1	GP	pCi/mL
Uranium-233/234	<9.3E-03	U//	<1.7E-01			1	GP								pCi/L
Uranium-235	<1.9E-02	U//	<1.5E-01			1	GP								pCi/L
Uranium-238	<5.7E-02	U//	<5.7E-02			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB109D

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N75855.9 E50488.6	33.275921 °N 81.681200 °W	225.8-205.8 ft msl	293.1 ft msl	4" PVC	S	UAZ_UTRA

SAMPLE DATE 01/11/99 04/07/99

FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	215.9	214.6	ft msl
pH	6.0	5.4	pH
Sp. conductance	50	32	µS/cm
Water temperature	20.1	22.6	°C
Alkalinity as CaCO3	16	3	mg/L
Turbidity	5	5	NTU
Volumes purged	6.2	4.1	well volumes
Sampling code			
Synchronous water level	214.8 (03/23/99)	214.2 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Aluminum, total recoverable	550	//				1	GE	<34	U/V/	<15			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	12	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	1.3	J/V/	NDD			1	GE								µg/L
Cobalt, total recoverable	0.21	//				1	GE								µg/L
Copper, total recoverable	6.4	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	4.7	//				1	GE	4.0	//				1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	2.6	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	1,400	//				1	GE	1,500	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.034	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	190	//				1	GE								µg/L

Organic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<11	JU/LV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

- = exceeded holding time
- = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB109D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<4.3E-02	U//	<7.9E-02			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<-2.3E+00	U//	<7.5E+00			1	GP								pCi/L
Cesium-137	<3.3E-01	U//	<3.5E+00			1	GP								pCi/L
Cobalt-60	<-1.6E+00	U//	<3.2E+00			1	GP								pCi/L
Curium-242	<2.8E-02	U//	<8.4E-02			1	GP								pCi/L
Curium-243/244	<-1.1E-02	U//	<1.6E-01			1	GP								pCi/L
Curium-245/246	<2.6E-02	U//	<7.9E-02			1	GP								pCi/L
Gross alpha	<7.6E-01	U//	<9.0E-01			1	GP	7.4E-01	J/V	NDD			1	GP	pCi/L
Iodine-129	<6.6E-01	U//	<1.3E+00			1	GP								pCi/L
Nonvolatile beta	1.7E+00	J/V	NDD			1	GP	1.3E+00	J/V	NDD			1	GP	pCi/L
Plutonium-238	<1.1E-02	U//	<1.3E-01			1	GP								pCi/L
Plutonium-239/240	<0.0E+00	U//	<6.2E-02			1	GP								pCi/L
Radium-226	<4.1E-01	U//	<4.8E-01			1	GP								pCi/L
Radium-228	<2.7E-01	U//	<1.1E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<4.1E-01	U//	<1.4E+00			1	GP								pCi/L
Technetium-99	<-1.3E+00	U//	<1.9E+01			1	GP								pCi/L
Thorium-228	1.5E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	6.3E-02	J//L/I	NDD			1	GP								pCi/L
Thorium-232	<1.6E-02	JU//L/I	<2.4E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	1.0E+01	//				1	GP	9.1E+00	//				1	GP	pCi/mL
Uranium-233/234	<4.6E-02	U//	<6.9E-02			1	GP								pCi/L
Uranium-235	<0.0E+00	U//	<6.9E-02			1	GP								pCi/L
Uranium-238	<-2.3E-02	U//	<1.8E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB110C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74190.7 E50150.6	33.271687 °N 81.678855 °W	147.2-137.2 ft msl	234.5 ft msl	4" PVC	S	LAZ_UTRA

SAMPLE DATE	01/08/99	04/12/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	200.2	200.6	ft msl
pH	5.4	5.5	pH
Sp. conductance	720	730	µS/cm
Water temperature	20.8	21.0	°C
Alkalinity as CaCO3	4	6	mg/L
Turbidity	1	0	NTU
Volumes purged	2.3	3.0	well volumes
Sampling code			
Synchronous water level	199.5 (03/23/99)	200.2 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	18	//				1	GE	73	J/K/CI	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	160	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	2.2	//				1	GE	3.1	//				1	GE	µg/L
Chromium, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Cobalt, total recoverable	1.4	//				1	GE								µg/L
Copper, total recoverable	33	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	1.8	J//	NDD			1	GE	1.2	J//	NDD			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	17	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	92,000	//		■		50	GE	88,000	//		■		100	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.31	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	210	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<9.9	U//	<9.9			1	GE								µg/L
Dichloromethane	<1.6	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB110C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<6.4E-02	U//	<3.0E-01	■		1	GP								pCi/L
Beta dose	27														
Carbon-14	2.1E+01	//				1	GP								pCi/L
Cesium-137	<6.7E-01	U//	<3.5E+00			1	GP								pCi/L
Cobalt-60	<8.2E-01	U//	<3.2E+00			1	GP								pCi/L
Curium-242	<2.7E-02	U//	<3.5E-01			1	GP								pCi/L
Curium-243/244	<1.3E-02	U//	<2.2E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<7.4E-02			1	GP								pCi/L
Gross alpha	3.0E+00	J/V	NDD			1	GP	5.0E+00	//				1	GP	pCi/L
Iodine-129	2.4E+01	//				1	GP								pCi/L
Nonvolatile beta	8.9E+01	//		■		1	GP	1.2E+02	//				1	GP	pCi/L
Plutonium-238	<6.4E-02	U//	<1.3E-01			1	GP								pCi/L
Plutonium-239/240	<5.8E-02	U//	<1.9E-01			1	GP								pCi/L
Radium-226	1.7E+00	//				1	GP								pCi/L
Radium-228	2.2E+00	//				1	GP								pCi/L
Total radium	3.9E+00														
Strontium-90	2.0E+01	//		■		1	GP								pCi/L
Technetium-99	1.4E+02	//		■		1	GP								pCi/L
Thorium-228	1.6E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	<7.1E-02	JU/L/I	<1.4E-01			1	GP								pCi/L
Thorium-232	<0.0E+00	JU/L/I	<7.7E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	2.0E+02			■											pCi/L
Tritium	2.1E+03	//		■		1	GP	1.9E+03	//				1	GP	pCi/mL
Uranium-233/234	<6.2E-02	U//	<3.4E-01			1	GP								pCi/L
Uranium-235	<1.2E-02	U//	<2.6E-01			1	GP								pCi/L
Uranium-238	<0.0E+00	U//	<1.5E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB110D

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N74193.3 E50141.6	33.271678 °N 81.678884 °W	211.1-191.1 ft msl	234.5 ft msl	4" PVC	V	UAZ_UTRA

<u>SAMPLE DATE</u>	01/12/99	04/05/99
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FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	205.0	205.0	ft msl
pH	3.1	3.6	pH
Sp. conductance	480	390	µS/cm
Water temperature	19.8	20.3	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	0	0.4	NTU
Volumes purged	4.4	2.3	well volumes
Sampling code			
Synchronous water level	205.0 (03/23/99)	203.8 (06/28/99)	ft msl

ANALYTICAL DATAInorganic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Aluminum, total recoverable	14,000	//				1	GE	9,500	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	140	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	2.6	//				1	GE	1.7	//				1	GE	µg/L
Chromium, total recoverable	1.3	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	5.3	//				1	GE								µg/L
Copper, total recoverable	21	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.34	J/V	NDD			1	GE	<0.55	U/V	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.087	U/V	<0.20			1	GE								µg/L
Nickel, total recoverable	9.9	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	62,000	//				50	GE	60,000	//				25	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.13	U/V	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	46	//				1	GE								µg/L

Organic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<9.9	U//	<9.9			1	GE								µg/L
Dichloromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time
 ■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB110D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	1.0E+01	//		■		1	GP								pCi/L
Beta dose	420			■											
Carbon-14	8.2E+01	J/L/CI	NDD			1	GP								pCi/L
Cesium-137	<1.9E+00	U//	<3.1E+00			1	GP								pCi/L
Cobalt-60	<8.3E-01	U//	<3.3E+00			1	GP								pCi/L
Curium-242	<1.0E-01	U//	<1.9E-01			1	GP								pCi/L
Curium-243/244	1.5E+01	//		■		1	GP								pCi/L
Curium-245/246	4.5E-01	R//4	Rej			1	GP								pCi/L
Gross alpha	4.7E+02	J/L/I	NDD			1	GP	3.1E+02	J/K/I	NDD			1	GP	pCi/L
Iodine-129	4.0E+02	//		■		1	GP								pCi/L
Nonvolatile beta	5.2E+02	J/L/I	NDD			1	GP	3.1E+02	J/K/I	NDD			1	GP	pCi/L
Plutonium-238	<1.5E-02	U//	<4.5E-02			1	GP								pCi/L
Plutonium-239/240	<0.0E+00	U//	<4.5E-02			1	GP								pCi/L
Radium-226	1.5E+01	J/L/I	NDD			1	GP								pCi/L
Radium-228	1.1E+01	//		■		1	GP								pCi/L
Total radium	1.1E+01														
Strontium-90	1.5E+02	//		■		1	GP								pCi/L
Technetium-99	1.0E+02	//		■		1	GP								pCi/L
Thorium-228	<4.3E-01	U//	<4.4E-01			1	GP								pCi/L
Thorium-230	3.6E-01	J//	NDD			1	GP								pCi/L
Thorium-232	<5.4E-02	U//	<8.0E-02			1	GP								pCi/L
Sum of alphas	6.9E+02			■											pCi/L
Sum of betas	6.7E+02			■											pCi/L
Tritium	1.9E+03	//		■		1	GP	2.5E+03	//		■		1	GP	pCi/mL
Uranium-233/234	1.7E+02	//		■		1	GP								pCi/L
Uranium-235	1.5E+01	//		■		1	GP								pCi/L
Uranium-238	4.9E+02	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB111C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75383.3 E51526.3	33.276569 °N 81.677550 °W	169.0-159.0 ft msl	276.3 ft msl	4" PVC	S	LAZ_UTRA

SAMPLE DATE 01/07/99

04/05/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	213.6	212.4	ft msl
pH	4.6	5.7	pH
Sp. conductance	56	58	µS/cm
Water temperature	19.3	20.5	°C
Alkalinity as CaCO ₃	10	8	mg/L
Turbidity	0	0	NTU
Volumes purged	3.4	2.8	well volumes
Sampling code			
Synchronous water level	213.0 (03/23/99)	211.9 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	9.7	J/V	NDD			1	GE	<15	U//	<15			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	8.1	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	0.25	J/V	NDD			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	1.2	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	0.16	J/V	NDD			1	GE								µg/L
Copper, total recoverable	1.2	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.55	J/V	NDD			1	GE	<0.37	U/V	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	2.3	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	1,700	//				1	GE	1,900	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.037	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	2.4	//				1	GE								µg/L
Trichloroethylene	1.8	//				1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB111C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<2.8E-03	U//	<8.2E-02			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<4.2E+00	U//	<7.3E+00			1	GP								pCi/L
Cesium-137	<2.8E-01	JU/L/C	<2.9E+00			1	GP								pCi/L
Cobalt-60	<2.5E+00	U//	<3.3E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<4.2E-02			1	GP								pCi/L
Curium-243/244	<6.4E-03	U//	<8.2E-02			1	GP								pCi/L
Curium-245/246	<1.3E-02	U//	<3.9E-02			1	GP								pCi/L
Gross alpha	<5.7E-01	U//	<5.8E-01			1	GP	<5.8E-03	U//	<6.2E-01			1	GP	pCi/L
Iodine-129	<5.3E-01	U//	<1.2E+00			1	GP								pCi/L
Nonvolatile beta	<7.6E-01	U//	<1.2E+00			1	GP	<3.8E-01	U//	<1.2E+00			1	GP	pCi/L
Plutonium-238	1.6E-01	R//4	Rej			1	GP								pCi/L
Plutonium-239/240	<1.8E-02	U//	<2.7E-02			1	GP								pCi/L
Radium-226	1.1E+00	J/V	NDD			1	GP								pCi/L
Radium-228	<5.1E-01	U//	<6.5E-01			1	GP								pCi/L
Total radium	NA														
Strontium-90	<3.4E-01	U//	<8.9E-01			1	GP								pCi/L
Technetium-99	<1.8E+00	U//	<2.1E+01			1	GP								pCi/L
Thorium-228	<1.2E-01	U//	<2.2E-01			1	GP								pCi/L
Thorium-230	1.0E-01	J/V	NDD			1	GP								pCi/L
Thorium-232	<0.0E+00	U//	<4.6E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	5.0E+00	//				1	GP	5.0E+00	//				1	GP	pCi/mL
Uranium-233/234	<2.1E-02	U//	<1.9E-01			1	GP								pCi/L
Uranium-235	<7.4E-03	U//	<1.9E-01			1	GP								pCi/L
Uranium-238	<1.4E-02	U//	<1.1E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB111D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75382.9 E51515.9	33.276552 °N 81.677577 °W	221.7-201.7 ft msl	276.6 ft msl	4" PVC	S	UAZ_UTRA

SAMPLE DATE	01/07/99	04/05/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	216.8	215.8	ft msl
pH	4.6	5.0	pH
Sp. conductance	48	44	µS/cm
Water temperature	17.2	20.4	°C
Alkalinity as CaCO ₃	12	0	mg/L
Turbidity	8	0	NTU
Volumes purged	0.10	2.6	well volumes
Sampling code	X		
Synchronous water level	215.9 (03/23/99)	215.5 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	99	//				1	GE	24	//				1	GE	µg/L
Antimony, total recoverable	<0.17	JU//4	<0.89			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	21	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	0.31	J/V	NDD			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	2.1	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	1.2	//				1	GE								µg/L
Copper, total recoverable	350	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	21	//				1	GE	5.8	//				1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	4.6	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	1,100	//				1	GE	2,500	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.043	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	170	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	JU/Q/	<10			1	GE								µg/L
Dichloromethane	<5.0	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB111D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<4.7E-03	U//	<4.2E-02			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<3.8E+00	U//	<9.2E+00			1	GP								pCi/L
Cesium-137	<3.1E-01	JU/L/C	<3.9E+00			1	GP								pCi/L
Cobalt-60	<3.3E-01	U//	<4.5E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<4.5E-02			1	GP								pCi/L
Curium-243/244	<6.8E-03	U//	<1.2E-01			1	GP								pCi/L
Curium-245/246	<7.0E-03	U//	<8.8E-02			1	GP								pCi/L
Gross alpha	3.6E+00	//				1	GP	1.7E+00	J/V	NDD			1	GP	pCi/L
Iodine-129	<1.7E-01	U//	<1.2E+00			1	GP								pCi/L
Nonvolatile beta	2.8E+00	//				1	GP	2.2E+00	J/V	NDD			1	GP	pCi/L
Plutonium-238	9.4E-02	R//4	Rej			1	GP								pCi/L
Plutonium-239/240	<0.0E+00	U//	<2.4E-02			1	GP								pCi/L
Radium-226	5.7E-01	J/V	NDD			1	GP								pCi/L
Radium-228	9.2E-01	J/V	NDD			1	GP								pCi/L
Total radium	NA														
Strontium-90	<3.1E-01	U//	<1.1E+00			1	GP								pCi/L
Technetium-99	<6.6E-01	U//	<2.0E+01			1	GP								pCi/L
Thorium-228	<1.6E-01	U//	<3.3E-01			1	GP								pCi/L
Thorium-230	<8.4E-03	U//	<1.1E-01			1	GP								pCi/L
Thorium-232	<1.7E-02	U//	<1.3E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	5.9E+01	//		■		1	GP	2.4E+02	//		■		1	GP	pCi/mL
Uranium-233/234	<7.3E-02	U//	<1.6E-01			1	GP								pCi/L
Uranium-235	<2.0E-02	U//	<8.4E-02			1	GP								pCi/L
Uranium-238	<4.0E-02	U//	<1.0E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA = Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA = Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA = Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon = Gordon Aquifer

WELL FSB112A

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74231.4 E48809.1	33.269588 °N 81.682466 °W	91.0-81.0 ft msl	229.1 ft msl	4" PVC	S	Gordon

SAMPLE DATE	01/11/99	04/12/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	153.6	153.5	ft msl
pH	6.4	6.5	pH
Sp. conductance	150	150	µS/cm
Water temperature	17.0	19.9	°C
Alkalinity as CaCO ₃	48	37	mg/L
Turbidity	1	0	NTU
Volumes purged	5.0	2.7	well volumes
Sampling code			
Synchronous water level	153.5 (03/23/99)	152.9 (06/25/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	13	J/V	NDD			1	GE	53	J/K/CI	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	38	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Cobalt, total recoverable	<0.088	JU//4	<0.20			1	GE								µg/L
Copper, total recoverable	0.68	J/V	NDD			1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	<2.0	U//	<2.0			1	GE	<2.0	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	0.87	J/V	NDD			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	1,700	//				1	GE	2,700	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.037	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<11	JU/LV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB112A (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<3.6E-02	U//	<2.4E-01			1	GP								pCi/L
Beta dose	0.34														
Carbon-14	<-1.3E+00	U//	<7.7E+00			1	GP								pCi/L
Cesium-137	<2.4E+00	U//	<3.9E+00			1	GP								pCi/L
Cobalt-60	<1.3E+00	U//	<4.1E+00			1	GP								pCi/L
Curium-242	<-1.1E-02	U//	<1.6E-01			1	GP								pCi/L
Curium-243/244	<-2.0E-02	U//	<1.8E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<7.2E-02			1	GP								pCi/L
Gross alpha	<4.2E-01	U//	<6.5E-01			1	GP	9.9E-01	J/V	NDD			1	GP	pCi/L
Iodine-129	<6.9E-01	U//	<1.0E+00			1	GP								pCi/L
Nonvolatile beta	8.3E+00	//				1	GP	1.3E+01	//				1	GP	pCi/L
Plutonium-238	<5.4E-02	U//	<8.1E-02			1	GP								pCi/L
Plutonium-239/240	<0.0E+00	U//	<8.1E-02			1	GP								pCi/L
Radium-226	<4.7E-01	U//	<4.8E-01			1	GP								pCi/L
Radium-228	<-2.6E-02	U//	<1.2E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	2.7E+00	//				1	GP								pCi/L
Technetium-99	<1.1E+00	U//	<1.9E+01			1	GP								pCi/L
Thorium-228	1.5E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	7.6E-02	J//L/I	NDD			1	GP								pCi/L
Thorium-232	<2.3E-02	JU//L/I	<2.3E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	2.7E+00														pCi/L
Tritium	4.2E+01	//		■		1	GP	7.4E+01	//		■		1	GP	pCi/mL
Uranium-233/234	<4.3E-02	U//	<6.5E-02			1	GP								pCi/L
Uranium-235	<0.0E+00	U//	<6.5E-02			1	GP								pCi/L
Uranium-238	<2.2E-02	U//	<1.7E-01			1	GP								pCi/L

Notes:

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UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB112C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74227.5 E48794.8	33.269556 °N 81.682496 °W	139.1-129.1 ft msl	229.1 ft msl	4" PVC	S	LAZ_UTRA

SAMPLE DATE	01/13/99	04/09/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	201.8	200.8	ft msl
pH	4.1	4.2	pH
Sp. conductance	2000	1700	µS/cm
Water temperature	19.6	19.5	°C
Alkalinity as CaCO ₃	0	0	mg/L
Turbidity	7	1	NTU
Volumes purged	2.3	2.3	well volumes
Sampling code			
Synchronous water level	201.1 (03/23/99)	200.3 (06/25/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	28,000	J//CI	NDD			20	GE	29,000	J/K/CI	NDD			10	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<60	U//	<60			20	GE								µg/L
Barium, total recoverable	790	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	48	//		■		1	GE	44	//		■		1	GE	µg/L
Chromium, total recoverable	0.91	J//V	NDD			1	GE								µg/L
Cobalt, total recoverable	300	//		■		1	GE								µg/L
Copper, total recoverable	25	//				1	GE								µg/L
Cyanide	<10	JU//L/I	<10			1	GE								µg/L
Lead, total recoverable	<40	U//	<40			20	GE	<20	U//	<20			10	GE	µg/L
Mercury, total recoverable	0.43	//				1	GE								µg/L
Nickel, total recoverable	95	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	240,000	//		■		100	GE	220,000	//		■		100	GE	µg/L
Selenium, total recoverable	<100	U//	<100			20	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	24	J//V	NDD			20	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	220	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU//L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	1.4	J//L/O	NDD			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU//L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU//L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU//L/O	<5.0			1	GE								µg/L

Notes:

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■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA = Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB112C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	4.3E+01	//		■		1	GP								pCi/L
Beta dose	207			■											
Carbon-14	8.9E+00	J/IL/CI	NDD			1	GP								pCi/L
Cesium-137	<8.0E-01	U//	<4.1E+00			1	GP								pCi/L
Cobalt-60	<2.7E+00	U//	<5.3E+00			1	GP								pCi/L
Curium-242	<5.7E-01	U//	<4.3E-01			1	GP								pCi/L
Curium-243/244	1.5E+00	J/V	NDD			1	GP								pCi/L
Curium-245/246	2.5E+00	R//4	Rej			1	GP								pCi/L
Gross alpha	2.1E+02	//		■		1	GP	1.8E+02	//		■		1	GP	pCi/L
Iodine-129	1.1E+02	//		■		1	GP								pCi/L
Nonvolatile beta	1.8E+03	//		■		1	GP	1.9E+03	//		■		1	GP	pCi/L
Plutonium-238	<2.9E-01	JU/L/I	<3.4E-01			1	GP								pCi/L
Plutonium-239/240	<2.9E-02	JU/L/I	<2.1E-01			1	GP								pCi/L
Radium-226	1.3E+02	//		■		1	GP								pCi/L
Radium-228	<1.5E+00	JU/L/I	<1.5E+00			1	GP								pCi/L
Total radium	1.3E+02														
Strontium-90	7.7E+02	//		■		1	GP								pCi/L
Technetium-99	3.5E+02	//		■		1	GP								pCi/L
Thorium-228	9.4E-01	J/V	NDD			1	GP								pCi/L
Thorium-230	<8.5E-03	U//	<1.9E-01			1	GP								pCi/L
Thorium-232	<0.0E+00	U//	<1.1E-01			1	GP								pCi/L
Sum of alphas	5.0E+01			■											pCi/L
Sum of betas	1.2E+03			■											pCi/L
Tritium	8.0E+03	//		■		1	GP	6.7E+03	//		■		1	GP	pCi/mL
Uranium-233/234	4.1E+00	//				1	GP								pCi/L
Uranium-235	<4.5E-01	U//	<5.1E-01			1	GP								pCi/L
Uranium-238	3.3E+00	//				1	GP								pCi/L

Notes:

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NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB112D

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N74223.7 E48780.0	33.269523 °N 81.682527 °W	208.9-188.9 ft msl	229.6 ft msl	4" PVC	S	UAZ_UTRA

SAMPLE DATE	01/20/99	04/12/99
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FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	205.6	205.1	ft msl
pH	3.3	4.0	pH
Sp. conductance	140	220	µS/cm
Water temperature	18.6	18.7	°C
Alkalinity as CaCO ₃	0	0	mg/L
Turbidity	1	1	NTU
Volumes purged	4.3	3.0	well volumes
Sampling code			
Synchronous water level	205.4 (03/23/99)	203.8 (06/25/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Aluminum, total recoverable	4,500	//				1	GE	7,500	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	180	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	1.8	//				1	GE	3.6	//				1	GE	µg/L
Chromium, total recoverable	0.99	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	6.5	//				1	GE								µg/L
Copper, total recoverable	36	//				1	GE								µg/L
Cyanide	<10	JU/L/I	<10			1	GE								µg/L
Lead, total recoverable	2.2	//				1	GE	2.5	//				1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	4.9	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	12,000	//				25	GE	20,000	//				25	GE	µg/L
Selenium, total recoverable	2.8	J/V	NDD			1	GE								µg/L
Silver, total recoverable	<0.42	JU/L/I4	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.23	U/V	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	39	//				1	GE								µg/L

Organic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<1.3	JU/KV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB112D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<6.4E-02	U//	<8.3E-01	■		1	GP								pCi/L
Beta dose	17														
Carbon-14	<6.1E+00	U//	<8.0E+00			1	GP								pCi/L
Cesium-137	9.1E+00	J//	NDD			1	GP								pCi/L
Cobalt-60	<1.4E+00	U//	<3.8E+00			1	GP								pCi/L
Curium-242	<3.5E-02	U//	<7.7E-01			1	GP								pCi/L
Curium-243/244	<3.7E-01	U//	<7.0E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<4.0E-01			1	GP								pCi/L
Gross alpha	3.2E+01	//		■		1	GP	5.6E+01	//		■		1	GP	pCi/L
Iodine-129	7.6E+00	J/K/C	NDD			1	GP								pCi/L
Nonvolatile beta	3.5E+02	//		■		1	GP	5.8E+02	//		■		1	GP	pCi/L
Plutonium-238	<7.3E-03	U//	<1.2E-01			1	GP								pCi/L
Plutonium-239/240	<1.4E-04	U//	<1.1E-01			1	GP								pCi/L
Radium-226	2.0E+01	//		■		1	GP								pCi/L
Radium-228	3.0E+00	//				1	GP								pCi/L
Total radium	2.3E+01														
Strontium-90	1.3E+02	//		■		1	GP								pCi/L
Technetium-99	<4.8E+00	U//	<2.3E+01			1	GP								pCi/L
Thorium-228	<4.4E-02	U//	<3.5E-01			1	GP								pCi/L
Thorium-230	<5.8E-02	U//	<1.8E-01			1	GP								pCi/L
Thorium-232	<6.1E-03	U//	<1.3E-01			1	GP								pCi/L
Sum of alphas	4.4E+00														pCi/L
Sum of betas	1.4E+02			■											pCi/L
Tritium	1.4E+02	//		■		1	GP	3.9E+02	//		■		1	GP	pCi/mL
Uranium-233/234	2.5E+00	//				1	GP								pCi/L
Uranium-235	<2.6E-02	U//	<1.8E-01			1	GP								pCi/L
Uranium-238	1.9E+00	//				1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB113A

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74167.5 E51068.1	33.273133 °N 81.676395 °W	91.3-81.0 ft msl	223.2 ft msl	4" PVC	S	Gordon

SAMPLE DATE 01/07/99 04/05/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	160.6	159.6	ft msl
pH	11.3	11.4	pH
Sp. conductance	2300	2200	µS/cm
Water temperature	18.0	19.7	°C
Alkalinity as CaCO3	438	473	mg/L
Turbidity	0	0	NTU
Volumes purged	0.096	0.019	well volumes
Sampling code	X	X	
Synchronous water level	160.5 (03/23/99)	159.8 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	1,600	//				1	GE	1,300	//				1	GE	µg/L
Antimony, total recoverable	<0.16	JU//4	<0.89			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	370	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	4.5	//				1	GE								µg/L
Cobalt, total recoverable	1.3	//				1	GE								µg/L
Copper, total recoverable	2.2	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	2.6	//				1	GE	<0.56	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	17	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	6,900	//				3	GE	5,500	//				2	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<2.5	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<3.8	JU//4	<4.1			1	GE								µg/L
Zinc, total recoverable	29	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB113A (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<5.0E-03	U//	<4.3E-02			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<3.9E+00	U//	<7.5E+00			1	GP								pCi/L
Cesium-137	1.3E+01	R//4	Rej			1	GP								pCi/L
Cobalt-60	<6.3E-01	U//	<2.8E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<4.6E-02			1	GP								pCi/L
Curium-243/244	<-1.4E-04	U//	<1.1E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<4.3E-02			1	GP								pCi/L
Gross alpha	5.4E+00	//				1	GP	1.9E+00	J/V	NDD			1	GP	pCi/L
Iodine-129	<9.5E-01	U//	<1.2E+00			1	GP								pCi/L
Nonvolatile beta	7.1E+00	//				1	GP	4.0E+00	//				1	GP	pCi/L
Plutonium-238	<1.3E-02	U//	<1.0E-01			1	GP								pCi/L
Plutonium-239/240	<8.5E-03	U//	<8.3E-02			1	GP								pCi/L
Radium-226	2.6E+00	//				1	GP								pCi/L
Radium-228	7.8E-01	J/V	NDD			1	GP								pCi/L
Total radium	2.6E+00														
Strontium-90	<2.7E-02	U//	<1.0E+00			1	GP								pCi/L
Technetium-99	<1.1E+01	U//	<1.9E+01			1	GP								pCi/L
Thorium-228	<9.8E-02	U//	<2.8E-01			1	GP								pCi/L
Thorium-230	<8.4E-02	U//	<1.1E-01			1	GP								pCi/L
Thorium-232	<-7.1E-03	U//	<8.8E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	1.7E+02	//		■		1	GP	1.1E+02	//		■		1	GP	pCi/mL
Uranium-233/234	<-2.2E-02	U//	<1.9E-01			1	GP								pCi/L
Uranium-235	<-2.2E-02	U//	<1.5E-01			1	GP								pCi/L
Uranium-238	<1.4E-02	U//	<1.4E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB113C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74160.7 E51084.2	33.273144 °N 81.676339 °W	164.0-154.0 ft msl	222.9 ft msl	4" PVC	S	LAZ_UTRA

SAMPLE DATE	01/07/99	04/05/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	202.4	202.4	ft msl
pH	7.6	6.6	pH
Sp. conductance	150	130	µS/cm
Water temperature	17.8	21.4	°C
Alkalinity as CaCO ₃	30	27	mg/L
Turbidity	4	1	NTU
Volumes purged	0.031	2.3	well volumes
Sampling code	X		
Synchronous water level	202.3 (03/23/99)	201.6 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	1,000	//				1	GE	62	//				1	GE	µg/L
Antimony, total recoverable	<0.25	JU//4	<0.89			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	60	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	1.3	//				1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	1.3	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	6.2	//				1	GE								µg/L
Copper, total recoverable	13	//				1	GE								µg/L
Cyanide	2.9	J//	NDD			1	GE								µg/L
Lead, total recoverable	14	//				1	GE	<0.49	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	15	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	5,600	//				3	GE	4,700	//				2	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	0.14	J//	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	120	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	JU/Q/	<10			1	GE								µg/L
Dichloromethane	<11	JU/KV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	4.0	J/K/O	NDD			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB113C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<-1.7E-03	U//	<9.6E-02			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<2.1E+00	U//	<7.3E+00			1	GP								pCi/L
Cesium-137	<8.8E-01	U//	<4.2E+00			1	GP								pCi/L
Cobalt-60	<-8.9E-01	U//	<4.1E+00			1	GP								pCi/L
Curium-242	<-8.3E-03	U//	<1.0E-01			1	GP								pCi/L
Curium-243/244	<-7.7E-03	U//	<9.6E-02			1	GP								pCi/L
Curium-245/246	<7.6E-03	U//	<9.6E-02			1	GP								pCi/L
Gross alpha	1.7E+00	J//	NDD			1	GP	<2.5E-01	U//	<7.9E-01			1	GP	pCi/L
Iodine-129	<1.2E-01	U//	<1.3E+00			1	GP								pCi/L
Nonvolatile beta	2.5E+00	J//	NDD			1	GP	1.7E+00	J//	NDD			1	GP	pCi/L
Plutonium-238	1.5E-01	R//4	Rej			1	GP								pCi/L
Plutonium-239/240	<2.1E-02	U//	<7.3E-02			1	GP								pCi/L
Radium-226	1.1E+00	//				1	GP								pCi/L
Radium-228	<5.7E-01	U//	<7.5E-01			1	GP								pCi/L
Total radium	1.1E+00														
Strontium-90	<-1.0E-01	U//	<1.0E+00			1	GP								pCi/L
Technetium-99	<9.4E+00	U//	<1.9E+01			1	GP								pCi/L
Thorium-228	<1.9E-01	U//	<2.7E-01			1	GP								pCi/L
Thorium-230	<1.2E-01	U//	<1.3E-01			1	GP								pCi/L
Thorium-232	<8.5E-03	U//	<1.1E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	6.5E+01	//		■		1	GP	5.3E+01	//		■		1	GP	pCi/mL
Uranium-233/234	<7.0E-02	U//	<1.4E-01			1	GP								pCi/L
Uranium-235	<-1.6E-04	U//	<1.2E-01			1	GP								pCi/L
Uranium-238	<3.9E-02	U//	<1.4E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ, UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ, UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB113D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74154.8 E51098.4	33.273154 °N 81.676290 °W	209.6-189.6 ft msl	222.5 ft msl	4" PVC	S	UAZ_UTRA

SAMPLE DATE 01/07/99 04/05/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	206.9	206.7	ft msl
pH	4.1	4.7	pH
Sp. conductance	25	26	µS/cm
Water temperature	20.1	20.1	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	2	1	NTU
Volumes purged	4.2	2.9	well volumes
Sampling code			
Synchronous water level	206.8 (03/23/99)	205.8 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	47	//				1	GE	38	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	5.0	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	1.2	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	0.31	//				1	GE								µg/L
Copper, total recoverable	13	//				1	GE								µg/L
Cyanide	3.2	J//	NDD			1	GE								µg/L
Lead, total recoverable	1.1	J//	NDD			1	GE	<0.92	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	1.6	J//	NDD			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	630	//				1	GE	610	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<2.5	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<12	JU/KV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

● = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB113D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<1.9E-02	U//	<4.2E-02			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<6.2E+00	U//	<7.4E+00			1	GP								pCi/L
Cesium-137	<5.7E-02	U//	<4.2E+00			1	GP								pCi/L
Cobalt-60	<-1.3E+00	U//	<3.5E+00			1	GP								pCi/L
Curium-242	<-7.7E-03	U//	<9.6E-02			1	GP								pCi/L
Curium-243/244	<4.2E-02	U//	<4.2E-02			1	GP								pCi/L
Curium-245/246	<1.4E-02	U//	<4.2E-02			1	GP								pCi/L
Gross alpha	8.0E-01	J//	NDD			1	GP	8.3E-01	J//	NDD			1	GP	pCi/L
Iodine-129	<-8.9E-02	U//	<1.3E+00			1	GP								pCi/L
Nonvolatile beta	<8.5E-01	U//	<1.1E+00			1	GP	<4.1E-01	U//	<1.1E+00			1	GP	pCi/L
Plutonium-238	<7.4E-02	U//	<1.6E-01			1	GP								pCi/L
Plutonium-239/240	<4.5E-03	U//	<8.1E-02			1	GP								pCi/L
Radium-226	7.6E-01	J//	NDD			1	GP								pCi/L
Radium-228	<4.2E-01	U//	<5.0E-01			1	GP								pCi/L
Total radium	NA														
Strontium-90	<9.7E-01	U//	<1.0E+00			1	GP								pCi/L
Technetium-99	<4.4E+00	U//	<2.1E+01			1	GP								pCi/L
Thorium-228	<1.7E-01	U//	<2.6E-01			1	GP								pCi/L
Thorium-230	<-8.1E-03	U//	<1.4E-01			1	GP								pCi/L
Thorium-232	<3.1E-02	U//	<1.2E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	5.9E+00	//				1	GP	6.7E+00	//				1	GP	pCi/mL
Uranium-233/234	<1.5E-02	U//	<1.5E-01			1	GP								pCi/L
Uranium-235	<7.5E-03	U//	<1.4E-01			1	GP								pCi/L
Uranium-238	<-7.9E-03	U//	<1.3E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ, UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ, UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB114A

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75297.4 E52046.6	33.277229 °N 81.676014 °W	105.0-95.2 ft msl	252 ft msl	4" PVC	S	Gordon

SAMPLE DATE 01/07/99 04/05/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	155.7	155.8	ft msl
pH	7.0	7.3	pH
Sp. conductance	200	180	µS/cm
Water temperature	21.0	21.9	°C
Alkalinity as CaCO3	3	64	mg/L
Turbidity	1	1	NTU
Volumes purged	2.7	3.1	well volumes
Sampling code			
Synchronous water level	155.8 (03/23/99)	155.4 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	20	//				1	GE	17	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	36	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	1.4	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	0.19	J//	NDD			1	GE								µg/L
Copper, total recoverable	1.5	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.33	J//	NDD			1	GE	<2.0	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	3.4	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	1,900	//				1	GE	2,100	//				2	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.072	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<11	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	1.6	//				1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ - UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ - UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB114A (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<1.2E-02	U//	<3.2E-02			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<-3.1E+00	U//	<7.2E+00			1	GP								pCi/L
Cesium-137	<4.5E-01	U//	<4.3E+00			1	GP								pCi/L
Cobalt-60	<1.3E+00	U//	<4.2E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<3.5E-02			1	GP								pCi/L
Curium-243/244	<-5.5E-03	U//	<9.4E-02			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<3.2E-02			1	GP								pCi/L
Gross alpha	<2.3E-01	U//	<9.2E-01			1	GP	<5.6E-01	U//	<9.3E-01			1	GP	pCi/L
Iodine-129	<2.7E-01	U//	<1.2E+00			1	GP								pCi/L
Nonvolatile beta	<5.3E-01	U//	<1.5E+00			1	GP	1.2E+00	J//	NDD			1	GP	pCi/L
Plutonium-238	1.9E-01	R//4	Rej			1	GP								pCi/L
Plutonium-239/240	<3.5E-03	U//	<4.5E-02			1	GP								pCi/L
Radium-226	4.7E-01	J//	NDD			1	GP								pCi/L
Radium-228	<5.5E-01	U//	<5.9E-01			1	GP								pCi/L
Total radium	NA														
Strontium-90	<2.2E-01	U//	<1.1E+00			1	GP								pCi/L
Technetium-99	<-4.6E-01	U//	<1.9E+01			1	GP								pCi/L
Thorium-228	2.4E-01	J//	NDD			1	GP								pCi/L
Thorium-230	<7.2E-02	U//	<1.4E-01			1	GP								pCi/L
Thorium-232	<-9.2E-03	U//	<1.1E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	9.2E-01	J//	NDD			1	GP	8.4E-01	J//	NDD			1	GP	pCi/mL
Uranium-233/234	<3.8E-02	U//	<1.6E-01			1	GP								pCi/L
Uranium-235	<2.3E-02	U//	<9.8E-02			1	GP								pCi/L
Uranium-238	<2.3E-02	U//	<9.8E-02			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB114C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75288.5 E52033.8	33.277188 °N 81.676030 °W	168.0-158.0 ft msl	252.2 ft msl	4" PVC	S	LAZ_UTRA

SAMPLE DATE 01/07/99 04/05/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	214.4	213.4	ft msl
pH	5.6	5.3	pH
Sp. conductance	58	49	µS/cm
Water temperature	19.9	21.1	°C
Alkalinity as CaCO3	1	5	mg/L
Turbidity	1	1	NTU
Volumes purged	2.4	3.4	well volumes
Sampling code			
Synchronous water level	213.9 (03/23/99)	212.8 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DE	Lab	2Q99	Mod	Filt.	ST	H	DE	Lab	Unit
Aluminum, total recoverable	11	J//	NDD			1	GE	87	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	8.8	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	0.23	J//	NDD			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	1.9	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	<0.12	JU//4	<0.20			1	GE								µg/L
Copper, total recoverable	8.4	//				1	GE								µg/L
Cyanide	2.7	J//	NDD			1	GE								µg/L
Lead, total recoverable	3.4	//				1	GE	<3.1	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	2.2	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	2,200	//				1	GE	2,100	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<2.5	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	47	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DE	Lab	2Q99	Mod	Filt.	ST	H	DE	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<10	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	0.76	J//	NDD			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB114C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<1.6E-02	U//	<3.8E-02			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<2.5E+00	U//	<7.3E+00			1	GP								pCi/L
Cesium-137	<1.2E+00	U//	<3.5E+00			1	GP								pCi/L
Cobalt-60	<5.7E-01	U//	<3.6E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<4.1E-02			1	GP								pCi/L
Curium-243/244	<6.3E-03	U//	<8.0E-02			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<3.8E-02			1	GP								pCi/L
Gross alpha	9.0E-01	J//V	NDD			1	GP	1.2E+00	J//V	NDD			1	GP	pCi/L
Iodine-129	<1.6E-01	U//	<7.7E-01			1	GP								pCi/L
Nonvolatile beta	3.7E+00	//				1	GP	<1.1E+00	U//	<1.2E+00			1	GP	pCi/L
Plutonium-238	<1.1E-01	U//	<1.1E-01			1	GP								pCi/L
Plutonium-239/240	<7.8E-03	U//	<7.6E-02			1	GP								pCi/L
Radium-226	4.0E-01	J//V	NDD			1	GP								pCi/L
Radium-228	<2.8E-01	U//	<1.2E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<4.3E-01	U//	<1.1E+00			1	GP								pCi/L
Technetium-99	<6.4E-01	U//	<1.9E+01			1	GP								pCi/L
Thorium-228	3.6E-01	J//V	NDD			1	GP								pCi/L
Thorium-230	1.5E-01	R//4	Rej			1	GP								pCi/L
Thorium-232	<8.7E-03	U//	<1.5E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	4.0E+00	//				1	GP	2.6E+00	//				1	GP	pCi/mL
Uranium-233/234	<4.4E-02	U//	<4.4E-02			1	GP								pCi/L
Uranium-235	<2.2E-02	U//	<9.2E-02			1	GP								pCi/L
Uranium-238	<4.3E-02	U//	<1.1E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB114D

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N75278.6 E52018.6	33.277141 °N 81.676051 °W	217.8-197.7 ft msl	252.2 ft msl	4" PVC	S	UAZ_UTRA

<u>SAMPLE DATE</u>	01/07/99	04/05/99
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FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	217.4	215.7	ft msl
pH	4.3	4.7	pH
Sp. conductance	47	46	µS/cm
Water temperature	19.7	20.2	°C
Alkalinity as CaCO3		0	mg/L
Turbidity	1	0	NTU
Volumes purged	4.6	4.6	well volumes
Sampling code			
Synchronous water level	216.8 (03/23/99)	216.2 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Aluminum, total recoverable	43	//				1	GE	42	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	9.2	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Cobalt, total recoverable	0.82	//				1	GE								µg/L
Copper, total recoverable	30	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	5.2	//				1	GE	<3.5	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	0.081	J//	NDD			1	GE								µg/L
Nickel, total recoverable	0.94	J//	NDD			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	1,900	//				1	GE	2,300	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<2.5	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	19	//				1	GE								µg/L

Organic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<11	JU/KV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB114D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<1.5E-02	U//	<3.7E-02			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<5.5E-01	U//	<7.2E+00			1	GP								pCi/L
Cesium-137	<-1.5E+00	U//	<4.1E+00			1	GP								pCi/L
Cobalt-60	<-1.2E+00	U//	<4.0E+00			1	GP								pCi/L
Curium-242	<-5.9E-03	U//	<7.4E-02			1	GP								pCi/L
Curium-243/244	<0.0E+00	U//	<3.7E-02			1	GP								pCi/L
Curium-245/246	<1.2E-02	U//	<3.7E-02			1	GP								pCi/L
Gross alpha	1.5E+00	J//V	NDD			1	GP	1.7E+00	J//V	NDD			1	GP	pCi/L
Iodine-129	<-3.3E-01	U//	<1.2E+00			1	GP								pCi/L
Nonvolatile beta	<1.5E+00	U//	<1.9E+00			1	GP	1.2E+00	J//V	NDD			1	GP	pCi/L
Plutonium-238	1.4E-01	R//4	Rej			1	GP								pCi/L
Plutonium-239/240	<0.0E+00	U//	<2.4E-02			1	GP								pCi/L
Radium-226	1.5E+00	//				1	GP								pCi/L
Radium-228	<4.0E-01	U//	<9.3E-01			1	GP								pCi/L
Total radium	1.5E+00														
Strontium-90	<-3.7E-02	U//	<1.3E+00			1	GP								pCi/L
Technetium-99	<-1.3E+00	U//	<1.8E+01			1	GP								pCi/L
Thorium-228	<1.1E-01	U//	<1.9E-01			1	GP								pCi/L
Thorium-230	1.2E-01	R//4	Rej			1	GP								pCi/L
Thorium-232	<3.6E-02	U//	<9.1E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	7.2E+00	//				1	GP	6.1E+00	//				1	GP	pCi/mL
Uranium-233/234	<5.5E-02	U//	<1.4E-01			1	GP								pCi/L
Uranium-235	<-1.6E-04	U//	<1.2E-01			1	GP								pCi/L
Uranium-238	<-8.2E-03	U//	<1.4E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB115C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N72515.5 E49736.0	33.267306 °N 81.676692 °W	173.8-163.8 ft msl	207.8 ft msl	4" PVC	S	LAZ_UTRA

SAMPLE DATE 01/11/99 04/06/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	184.6	184.5	ft msl
pH	5.0	5.9	pH
Sp. conductance	18	19	µS/cm
Water temperature	17.6	18.1	°C
Alkalinity as CaCO3	6	1	mg/L
Turbidity	4	1	NTU
Volumes purged	2.7	0.074	well volumes
Sampling code		X	
Synchronous water level	184.6 (03/23/99)	184.3 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	18	//				1	GE	29	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	3.4	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	1.2	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	0.38	//				1	GE								µg/L
Copper, total recoverable	4.0	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	2.3	//				1	GE	3.1	//				1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	<2.0	U//	<2.0			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	660	//				1	GE	540	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.028	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	9.3	J//	NDD			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<11	JU/LV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB115C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<4.2E-02	U//	<2.4E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<4.1E+00	U//	<7.4E+00			1	GP								pCi/L
Cesium-137	<1.4E+00	U//	<3.8E+00			1	GP								pCi/L
Cobalt-60	<3.1E+00	U//	<3.4E+00			1	GP								pCi/L
Curium-242	<1.8E-02	U//	<1.9E-01			1	GP								pCi/L
Curium-243/244	<2.9E-02	U//	<8.8E-02			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<8.8E-02			1	GP								pCi/L
Gross alpha	<1.4E-01	U//	<6.2E-01			1	GP	<3.1E-01	U//	<5.6E-01			1	GP	pCi/L
Iodine-129	<2.8E-01	U//	<8.9E-01			1	GP								pCi/L
Nonvolatile beta	<1.5E-01	U//	<1.2E+00			1	GP	<7.1E-01	U//	<1.0E+00			1	GP	pCi/L
Plutonium-238	1.9E-01	R//4	Rej			1	GP								pCi/L
Plutonium-239/240	<2.1E-02	U//	<1.4E-01			1	GP								pCi/L
Radium-226	<1.5E-01	U//	<6.0E-01			1	GP								pCi/L
Radium-228	<1.3E-01	U//	<1.4E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<2.0E-01	U//	<1.3E+00			1	GP								pCi/L
Technetium-99	<2.1E+00	U//	<1.8E+01			1	GP								pCi/L
Thorium-228	2.1E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	6.0E-02	R//4	Rej			1	GP								pCi/L
Thorium-232	<4.2E-03	JU/L/1	<5.4E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	6.7E+00	//				1	GP	7.1E+00	//				1	GP	pCi/mL
Uranium-233/234	<4.8E-02	U//	<1.2E-01			1	GP								pCi/L
Uranium-235	<1.9E-02	U//	<5.7E-02			1	GP								pCi/L
Uranium-238	<7.6E-02	U//	<5.7E-02			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB115D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N72504.3 E49728.3	33.267268 °N 81.676691 °W	192.5-182.5 ft msl	208.5 ft msl	4" PVC	S	UAZ_UTRA

SAMPLE DATE 01/11/99 04/06/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	189.4	191.2	ft msl
pH	4.8	4.9	pH
Sp. conductance	15	15	µS/cm
Water temperature	18.6	22.0	°C
Alkalinity as CaCO3	1	0	mg/L
Turbidity	36	1	NTU
Volumes purged	13	2.6	well volumes
Sampling code			
Synchronous water level	191.2 (03/23/99)	190.5 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	2,900	//				1	GE	62	//				1	GE	µg/L
Antimony, total recoverable	<0.15	JU//4	<0.89			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	37	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	8.7	//				1	GE								µg/L
Cobalt, total recoverable	2.3	//				1	GE								µg/L
Copper, total recoverable	63	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	16	//		■		1	GE	6.1	//				1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	3.4	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	440	//				1	GE	150	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.065	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	11	//		■		1	GE								µg/L
Zinc, total recoverable	57	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<13	JU/LV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB115D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<6.1E-02	U//	<7.1E-02			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<3.4E-01	U//	<7.7E+00			1	GP								pCi/L
Cesium-137	<1.1E-01	U//	<3.7E+00			1	GP								pCi/L
Cobalt-60	<2.4E+00	U//	<3.8E+00			1	GP								pCi/L
Curium-242	<2.5E-02	U//	<7.5E-02			1	GP								pCi/L
Curium-243/244	<4.7E-02	U//	<7.1E-02			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<7.1E-02			1	GP								pCi/L
Gross alpha	1.7E+00	J//	NDD			1	GP	7.5E-01	J//	NDD			1	GP	pCi/L
Iodine-129	<1.0E-01	U//	<7.9E-01			1	GP								pCi/L
Nonvolatile beta	2.7E+00	J//	NDD			1	GP	<7.8E-01	U//	<9.6E-01			1	GP	pCi/L
Plutonium-238	<6.2E-02	U//	<9.4E-02			1	GP								pCi/L
Plutonium-239/240	<7.5E-03	U//	<1.6E-01			1	GP								pCi/L
Radium-226	9.8E-01	J//	NDD			1	GP								pCi/L
Radium-228	<2.6E-01	U//	<1.0E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<1.9E-01	U//	<1.3E+00			1	GP								pCi/L
Technetium-99	<1.7E+00	U//	<1.9E+01			1	GP								pCi/L
Thorium-228	1.6E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	<3.8E-02	JU//L/I	<5.4E-02			1	GP								pCi/L
Thorium-232	<0.0E+00	JU//L/I	<2.6E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	7.4E+00	//				1	GP	7.3E+00	//				1	GP	pCi/mL
Uranium-233/234	<1.6E-02	U//	<2.9E-01			1	GP								pCi/L
Uranium-235	<1.7E-02	U//	<2.1E-01			1	GP								pCi/L
Uranium-238	<1.6E-02	U//	<3.4E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB116C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N72725.5 E50645.9	33.269255 °N 81.674705 °W	170.5-160.5 ft msl	202.5 ft msl	4" PVC	S	LAZ_UTRA

SAMPLE DATE	01/11/99	04/06/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	189.7	189.5	ft msl
pH	4.9	4.8	pH
Sp. conductance	20	21	µS/cm
Water temperature	17.7	19.0	°C
Alkalinity as CaCO ₃	1	0	mg/L
Turbidity	2	2	NTU
Volumes purged	4.0	3.8	well volumes
Sampling code			
Synchronous water level	189.5 (03/23/99)	189.0 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	35	//					GE	70	//					GE	µg/L
Antimony, total recoverable	<0.24	JU//4	<0.89				GE							GE	µg/L
Arsenic, total recoverable	<3.0	U//	<3.0				GE							GE	µg/L
Barium, total recoverable	4.9	//					GE							GE	µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0				GE	<1.0	U//	<1.0				GE	µg/L
Chromium, total recoverable	4.2	//					GE							GE	µg/L
Cobalt, total recoverable	0.84	//					GE							GE	µg/L
Copper, total recoverable	7.3	//					GE							GE	µg/L
Cyanide	<10	U//	<10				GE							GE	µg/L
Lead, total recoverable	1.6	J/N	NDD				GE	2.4	//					GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20				GE							GE	µg/L
Nickel, total recoverable	3.3	//					GE							GE	µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	1,100	//					GE	780	//					GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0				GE							GE	µg/L
Silver, total recoverable	<1.0	U//	<1.0				GE							GE	µg/L
Thallium, total recoverable	<0.032	JU//4	<2.5				GE							GE	µg/L
Vanadium, total recoverable	<10	U//	<10				GE							GE	µg/L
Zinc, total recoverable	<10	U//	<10				GE							GE	µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0				GE							GE	µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10				GE							GE	µg/L
Dichloromethane	<14	JU/LV/O	<5.0				GE							GE	µg/L
Phenols	<5.0	U//	<5.0				GE							GE	µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0				GE							GE	µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0				GE							GE	µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0				GE							GE	µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB16C (cont.)

Radioactive Constituents

Constituents	1099	Mod	Fill	SI H	DE	Lab	2099	Mod	Fill	SI H	DE	Lab	Unit
Americium-241	<6.0E-02	U//	<4.0E-01		1	GP							PC/L
Beta dose	NA												
Carbon-14	<-3.1E+00	U//	<7.6E+00		1	GP							PC/L
Cesium-137	<-6.6E-01	U//	<3.0E+00		1	GP							PC/L
Cobalt-60	<-2.9E-01	U//	<3.2E+00		1	GP							PC/L
Curium-242	<-1.3E-02	U//	<3.2E-01		1	GP							PC/L
Curium-243/244	<-2.1E-02	U//	<4.6E-01		1	GP							PC/L
Curium-245/246	<-1.2E-02	U//	<3.0E-01		1	GP							PC/L
Gross alpha	<-2.8E-01	U//	<6.1E-01		1	GP	7.5E-01	J/V	NDD		1	GP	PC/L
Iodine-129	<4.4E-01	U//	<1.1E+00		1	GP							PC/L
Nonvolatile beta	1.5E+00	J/V	NDD		1	GP	<5.0E-01	U//	<1.0E+00		1	GP	PC/L
Plutonium-238	<-9.0E-02	U//	<6.7E-02		1	GP							PC/L
Plutonium-239/240	<-1.1E-02	U//	<1.4E-01		1	GP							PC/L
Radium-226	<-2.1E-01	U//	<4.8E-01		1	GP							PC/L
Radium-228	<-3.6E-01	U//	<1.1E+00		1	GP							PC/L
Total radium	NA												
Strontium-90	<-2.0E-01	U//	<1.2E+00		1	GP							PC/L
Technetium-99	<-1.7E+00	U//	<1.8E+01		1	GP							PC/L
Thorium-228	1.9E-01	R//4	Rej		1	GP							PC/L
Thorium-230	<-2.9E-02	J/V/L	<5.6E-02		1	GP							PC/L
Thorium-232	<-7.3E-03	J/V/L	<2.2E-02		1	GP							PC/L
Sum of alphas	NA												
Sum of betas	NA												
Tritium	1.0E+01	//			1	GP	9.2E+00	//			1	GP	PC/L
Uranium-233/234	<-1.1E-01	U//	<2.2E-01		1	GP							PC/L
Uranium-235	<-2.3E-04	U//	<-1.8E-01		1	GP							PC/L
Uranium-238	1.8E-01	R//4	Rej		1	GP							PC/L

Notes:

- = exceeded holding time
- = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)
- NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit
- UAZ, UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ, UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

F-Area HWMF

C-153

First and Second Quarter 1999

WELL FSB116D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N72727.4 E50629.7	33.269233 °N 81.674751 °W	196.4-186.4 ft msl	202.9 ft msl	4" PVC	S	UAZ_UTRA

SAMPLE DATE 01/11/99 04/06/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	192.1	191.7	ft msl
pH	5.6	5.2	pH
Sp. conductance	31	27	µS/cm
Water temperature	18.4	25.8	°C
Alkalinity as CaCO3	10	2	mg/L
Turbidity	113	14	NTU
Volumes purged	1.6	1.4	well volumes
Sampling code	XN	X	
Synchronous water level	192.0 (03/23/99)	191.3 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	5,900	//				1	GE	520	//				1	GE	µg/L
Antimony, total recoverable	<0.47	JU//4	<0.89			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	18	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	0.31	J/V	NDD			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	12	//				1	GE								µg/L
Cobalt, total recoverable	1.2	//				1	GE								µg/L
Copper, total recoverable	250	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	58	//		■		1	GE	13	//				1	GE	µg/L
Mercury, total recoverable	0.098	J/V	NDD			1	GE								µg/L
Nickel, total recoverable	5.3	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	140	//				1	GE	370	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.042	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	14	//		■		1	GE								µg/L
Zinc, total recoverable	590	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<13	JU/LV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB116D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<1.6E-01	U//	<4.6E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<1.2E+00	U//	<7.5E+00			1	GP								pCi/L
Cesium-137	<2.3E+00	U//	<3.8E+00			1	GP								pCi/L
Cobalt-60	<7.2E-01	U//	<3.9E+00			1	GP								pCi/L
Curium-242	<3.2E-02	U//	<4.0E-01			1	GP								pCi/L
Curium-243/244	<2.7E-02	U//	<7.3E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<9.2E-02			1	GP								pCi/L
Gross alpha	3.0E+00	//				1	GP	6.8E-01	J/V	NDD			1	GP	pCi/L
Iodine-129	<6.3E-01	U//	<1.2E+00			1	GP								pCi/L
Nonvolatile beta	5.3E+00	//				1	GP	<8.2E-01	U//	<1.2E+00			1	GP	pCi/L
Plutonium-238	<1.8E-02	U//	<1.3E-01			1	GP								pCi/L
Plutonium-239/240	<5.7E-03	U//	<1.2E-01			1	GP								pCi/L
Radium-226	<2.4E-01	U//	<4.5E-01			1	GP								pCi/L
Radium-228	<1.9E-01	U//	<1.0E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<4.0E-02	U//	<1.0E+00			1	GP								pCi/L
Technetium-99	<1.2E+00	U//	<2.0E+01			1	GP								pCi/L
Thorium-228	<3.2E-02	U//	<2.4E-01			1	GP								pCi/L
Thorium-230	<7.1E-02	U//	<1.0E-01			1	GP								pCi/L
Thorium-232	<1.6E-02	U//	<1.2E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	8.4E+00	//				1	GP	9.5E+00	//				1	GP	pCi/mL
Uranium-233/234	<1.0E-01	U//	<2.3E-01			1	GP								pCi/L
Uranium-235	<1.1E-02	U//	<1.4E-01			1	GP								pCi/L
Uranium-238	1.6E-01	R//4	Rej			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB117D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74070.4 E50486.8	33.271970 °N 81.677736 °W	209.7-189.7 ft msl	230.7 ft msl	4" PVC	S	UAZ_UTRA

SAMPLE DATE	01/12/99	04/09/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	204.4	204.2	ft msl
pH	3.2	3.7	pH
Sp. conductance	300	300	µS/cm
Water temperature	20.4	18.6	°C
Alkalinity as CaCO ₃	0	0	mg/L
Turbidity	2	1	NTU
Volumes purged	3.1	3.7	well volumes
Sampling code			
Synchronous water level	204.4 (03/23/99)	203.4 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	11,000	//				1	GE	8,900	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	120	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	5.3	//		■		1	GE	3.5	//				1	GE	µg/L
Chromium, total recoverable	3.4	//				1	GE								µg/L
Cobalt, total recoverable	10	//		■		1	GE								µg/L
Copper, total recoverable	18	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	1.6	J//	NDD			1	GE	<0.78	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	1.3	//				1	GE								µg/L
Nickel, total recoverable	12	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	37,000	//		■		25	GE	27,000	//				25	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.047	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	37	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB117D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	5.0E+00	//				1	GP								pCi/L
Beta dose	106			■											
Carbon-14	5.0E+01	J/L/CI	NDD			1	GP								pCi/L
Cesium-137	<3.7E-01	U//	<3.3E+00			1	GP								pCi/L
Cobalt-60	<2.1E-01	U//	<3.2E+00			1	GP								pCi/L
Curium-242	<1.5E-02	U//	<1.8E-01			1	GP								pCi/L
Curium-243/244	1.5E+00	//				1	GP								pCi/L
Curium-245/246	2.3E-01	R//4	Rej			1	GP								pCi/L
Gross alpha	5.2E+02	J/L/I	NDD			1	GP	5.2E+02	//		■		1	GP	pCi/L
Iodine-129	7.5E+01	//		■		1	GP				■		1	GP	pCi/L
Nonvolatile beta	6.4E+02	J/L/I	NDD			1	GP	5.5E+02	//						pCi/L
Plutonium-238	<2.6E-02	U//	<1.5E-01			1	GP								pCi/L
Plutonium-239/240	<1.8E-02	U//	<5.3E-02			1	GP								pCi/L
Radium-226	1.0E+01	J/L/I	NDD			1	GP								pCi/L
Radium-228	4.3E+00	//				1	GP								pCi/L
Total radium	4.3E+00														
Strontium-90	2.4E+02	//		■		1	GP								pCi/L
Technetium-99	6.1E+01	//		■		1	GP								pCi/L
Thorium-228	6.0E-01	J//	NDD			1	GP								pCi/L
Thorium-230	<2.0E-01	U//	<2.5E-01			1	GP								pCi/L
Thorium-232	<3.3E-02	U//	<9.9E-02			1	GP								pCi/L
Sum of alphas	5.6E+02			■											pCi/L
Sum of betas	3.8E+02			■											pCi/L
Tritium	1.4E+03	//		■		1	GP	6.3E+02	//		■		1	GP	pCi/mL
Uranium-233/234	2.6E+02	//		■		1	GP								pCi/L
Uranium-235	3.6E+01	//		■		1	GP								pCi/L
Uranium-238	2.7E+02	//		■		1	GP								pCi/L

Notes:

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■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

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UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB118D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74697.9 E51276.3	33.274646 °N 81.676877 °W	211.3-191.3 ft msl	243.3 ft msl	4" PVC	S	UAZ_UTRA

SAMPLE DATE	01/11/99	04/07/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	211.7	211.2	ft msl
pH	4.7	4.6	pH
Sp. conductance	28	28	µS/cm
Water temperature	18.2	20.0	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	1	1	NTU
Volumes purged	8.1	6.3	well volumes
Sampling code			
Synchronous water level	211.4 (03/23/99)	210.7 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	37	//				1	GE	<51	U//	<15			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	8.1	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Cobalt, total recoverable	0.60	//				1	GE								µg/L
Copper, total recoverable	23	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	2.7	//				1	GE	3.6	//				1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	<2.0	U//	<2.0			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	1,200	//				1	GE	850	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<2.5	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	18	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<13	JU/L/V/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB118D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<2.5E-02	U//	<4.9E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<-1.0E+00	U//	<7.4E+00			1	GP								pCi/L
Cesium-137	<2.9E-01	U//	<3.6E+00			1	GP								pCi/L
Cobalt-60	<2.9E-01	U//	<4.1E+00			1	GP								pCi/L
Curium-242	<-8.9E-02	U//	<4.1E-01			1	GP								pCi/L
Curium-243/244	<4.7E-01	U//	<6.3E-01			1	GP								pCi/L
Curium-245/246	<-1.3E-02	U//	<1.8E-01			1	GP								pCi/L
Gross alpha	1.2E+00	J/V	NDD			1	GP	1.3E+00	J/V	NDD			1	GP	pCi/L
Iodine-129	<6.1E-01	U//	<8.2E-01			1	GP								pCi/L
Nonvolatile beta	1.5E+00	J/V	NDD			1	GP	1.3E+00	J/V	NDD			1	GP	pCi/L
Plutonium-238	3.1E-01	J/V	NDD			1	GP								pCi/L
Plutonium-239/240	<8.7E-02	U//	<1.5E-01			1	GP								pCi/L
Radium-226	1.5E+00	J/V	NDD			1	GP								pCi/L
Radium-228	<9.8E-01	U//	<1.4E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<-9.8E-02	U//	<1.5E+00			1	GP								pCi/L
Technetium-99	<1.3E+00	U//	<1.9E+01			1	GP								pCi/L
Thorium-228	1.3E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	3.8E-02	J//L/I	NDD			1	GP								pCi/L
Thorium-232	<-3.8E-03	JU//L/I	<4.8E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	6.9E+00	//				1	GP	6.6E+00	//				1	GP	pCi/mL
Uranium-233/234	<5.4E-02	U//	<2.6E-01			1	GP								pCi/L
Uranium-235	<2.2E-02	U//	<6.5E-02			1	GP								pCi/L
Uranium-238	<7.6E-02	U//	<1.4E-01			1	GP								pCi/L

Notes:

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UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB119D

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N74599.7 E50600.6	33.273326 °N 81.678465 °W	213.1-193.1 ft msl	254.1 ft msl	4" PVC	S	UAZ_UTRA

SAMPLE DATE 01/13/99 04/09/99

FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	208.1	207.7	ft msl
pH	3.2	3.6	pH
Sp. conductance	800	900	µS/cm
Water temperature	20.2	19.2	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	15	121	NTU
Volumes purged	1.1	0.10	well volumes
Sampling code	X	X	
Synchronous water level	207.9 (03/23/99)	206.8 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Aluminum, total recoverable	40,000	J/C/I	NDD			20	GE	35,000	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<60	U//	<60			20	GE								µg/L
Barium, total recoverable	290	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	6.8	//		■		1	GE	7.5	//		■		1	GE	µg/L
Chromium, total recoverable	7.1	//				1	GE								µg/L
Cobalt, total recoverable	21	//		■		1	GE								µg/L
Copper, total recoverable	41	//				1	GE								µg/L
Cyanide	<10	JU/L/I	<10			1	GE								µg/L
Lead, total recoverable	5.8	//				1	GE	30	//		■		1	GE	µg/L
Mercury, total recoverable	1.6	//				1	GE								µg/L
Nickel, total recoverable	28	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	100,000	//		■		100	GE	100,000	//		■		50	GE	µg/L
Selenium, total recoverable	<100	U//	<100			20	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	0.30	J/I	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	79	//				1	GE								µg/L

Organic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<9.9	U//	<9.9			1	GE								µg/L
Dichloromethane	3.8	J/I/L/O	NDD			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

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UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB119D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	1.8E+01	//		■		1	GP								pCi/L
Beta dose	175			■											
Carbon-14	4.3E+01	J/L/C1	NDD			1	GP								pCi/L
Cesium-137	<9.4E-02	U//	<4.5E+00			1	GP								pCi/L
Cobalt-60	<1.8E+00	U//	<4.7E+00			1	GP								pCi/L
Curium-242	<1.2E-01	U//	<6.5E-01			1	GP								pCi/L
Curium-243/244	3.6E+00	//				1	GP								pCi/L
Curium-245/246	5.7E-01	R//4	Rej			1	GP								pCi/L
Gross alpha	1.4E+03	//		■		1	GP	1.3E+03	//		■		1	GP	pCi/L
Iodine-129	1.4E+02	//		■		1	GP								pCi/L
Nonvolatile beta	1.1E+03	//		■		1	GP	1.3E+03	//		■		1	GP	pCi/L
Plutonium-238	3.4E-01	R//4	Rej			1	GP								pCi/L
Plutonium-239/240	<8.4E-02	JU/L/I	<1.6E-01			1	GP								pCi/L
Radium-226	3.4E+01	//		■		1	GP								pCi/L
Radium-228	<2.4E+00	JU/L/I	<1.4E+00			1	GP								pCi/L
Total radium	3.4E+01														
Strontium-90	2.8E+02	//		■		1	GP								pCi/L
Technetium-99	8.6E+01	//		■		1	GP								pCi/L
Thorium-228	8.8E-01	J//	NDD			1	GP								pCi/L
Thorium-230	<2.7E-02	U//	<1.9E-01			1	GP								pCi/L
Thorium-232	<7.2E-02	U//	<1.1E-01			1	GP								pCi/L
Sum of alphas	1.2E+03			■											pCi/L
Sum of betas	5.1E+02			■											pCi/L
Tritium	4.5E+03	//		■		1	GP	3.7E+03	//		■		1	GP	pCi/mL
Uranium-233/234	5.3E+02	//		■		1	GP								pCi/L
Uranium-235	5.0E+01	//		■		1	GP								pCi/L
Uranium-238	6.0E+02	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer, Gordon – Gordon Aquifer

WELL FSB120A

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75538.9 E49175.7	33.273077 °N 81.684041 °W	109.0-99.0 ft msl	280.1 ft msl	4" PVC	S	Gordon

SAMPLE DATE 01/08/99 04/06/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	178.8	179.7	ft msl
pH	11.4	11.5	pH
Sp. conductance	3000	2400	µS/cm
Water temperature	19.8	18.4	°C
Alkalinity as CaCO3	609	461	mg/L
Turbidity	1	0	NTU
Volumes purged	0.019	0.019	well volumes
Sampling code	X	X	
Synchronous water level	180.6 (03/23/99)	164.1 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	1,800	//				1	GE	1,200	//				1	GE	µg/L
Antimony, total recoverable	<0.14	JU//4	<0.89			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	98	//				1	GE								µg/L
Beryllium, total recoverable															µg/L
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	1.9	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	0.48	//				1	GE								µg/L
Copper, total recoverable	0.85	J//	NDD			1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	1.5	J//	NDD			1	GE	2.5	//				1	GE	µg/L
Mercury, total recoverable	<0.042	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	4.1	//				1	GE								µg/L
Nitrate as nitrogen															µg/L
Nitrate-nitrite as nitrogen	18,000	//		■		10	GE	26,000	//		■		25	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.083	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<9.9	U//	<9.9			1	GE								µg/L
Dichloromethane	<2.2	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	1.4	//				1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time
■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)
NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit
UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB120A (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<1.9E-02	U//	<2.2E-01	■		1	GP								pCi/L
Beta dose	8.5														
Carbon-14	<4.7E+00	U//	<7.3E+00			1	GP								pCi/L
Cesium-137	<9.2E-03	U//	<3.2E+00			1	GP								pCi/L
Cobalt-60	5.6E+00	R//4	Rej			1	GP								pCi/L
Curium-242	<1.8E-02	U//	<1.7E-01			1	GP								pCi/L
Curium-243/244	<1.7E-02	U//	<1.3E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<5.1E-02			1	GP								pCi/L
Gross alpha	5.8E+00	//				1	GP	4.4E+00	//				1	GP	pCi/L
Iodine-129	7.4E+00	//				1	GP								pCi/L
Nonvolatile beta	2.7E+01	//				1	GP	2.3E+01	//				1	GP	pCi/L
Plutonium-238	<8.0E-03	U//	<2.0E-01			1	GP								pCi/L
Plutonium-239/240	<1.4E-02	U//	<4.3E-02			1	GP								pCi/L
Radium-226	2.4E+00	//				1	GP								pCi/L
Radium-228	<7.8E-01	U//	<9.0E-01			1	GP								pCi/L
Total radium	2.4E+00														
Strontium-90	9.0E+00	//		■		1	GP								pCi/L
Technetium-99	3.1E+01	J//	NDD			1	GP								pCi/L
Thorium-228	5.0E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	<9.7E-02	JU//I	<1.9E-01			1	GP								pCi/L
Thorium-232	<8.4E-03	JU//I	<1.9E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	1.6E+01														pCi/L
Tritium	4.2E+02	//		■		1	GP	5.6E+02	//				1	GP	pCi/mL
Uranium-233/234	<7.0E-03	U//	<8.3E-01			1	GP								pCi/L
Uranium-235	<3.1E-01	U//	<5.5E-01			1	GP								pCi/L
Uranium-238	<4.6E-02	U//	<5.5E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ, UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ, LTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB120C

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N75549.8 E49171.1	33.273094 °N 81.684074 °W	160.7-150.7 ft msl	279.7 ft msl	4" PVC	S	LAZ_UTRA

<u>SAMPLE DATE</u>	01/08/99	04/06/99
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FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	207.1	206.1	ft msl
pH	5.8	6.2	pH
Sp. conductance	280	280	µS/cm
Water temperature	20.3	19.6	°C
Alkalinity as CaCO ₃	9	11	mg/L
Turbidity	0	0	NTU
Volumes purged	3.5	2.9	well volumes
Sampling code			
Synchronous water level	205.8 (03/23/99)	205.3 (06/25/99)	ft msl

ANALYTICAL DATAInorganic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Aluminum, total recoverable	58	//				1	GE	54	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	90	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	0.43	J//	NDD			1	GE	<0.47	JU//4	<1.0			1	GE	µg/L
Chromium, total recoverable	<0.61	JU//4	<3.0			1	GE								µg/L
Cobalt, total recoverable	3.7	//		■		1	GE								µg/L
Copper, total recoverable	0.95	J//	NDD			1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.32	J//	NDD			1	GE	<0.40	JU//4	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.076	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	5.1	//				1	GE								µg/L
Nitrate as nitrogen				■							■				
Nitrate-nitrite as nitrogen	30,000	//				25	GE	28,000	//				25	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.090	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	22	//				1	GE								µg/L

Organic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<9.9	U//	<9.9			1	GE								µg/L
Dichloromethane	<3.3	JU/KV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	3.2	J/K/O	NDD			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA = Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA = Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA = Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon = Gordon Aquifer

WELL FSB120C (cont.)**Radioactive Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<6.1E-02	U//	<3.2E-01	■		1	GP								pCi/L
Beta dose	7.9														
Carbon-14	2.1E+01	//				1	GP								pCi/L
Cesium-137	<1.3E+00	U//	<3.6E+00			1	GP								pCi/L
Cobalt-60	<1.7E+00	U//	<3.6E+00			1	GP								pCi/L
Curium-242	<9.7E-02	U//	<2.8E-01			1	GP								pCi/L
Curium-243/244	<0.0E+00	U//	<6.1E-02			1	GP								pCi/L
Curium-245/246	<2.0E-02	U//	<6.1E-02			1	GP								pCi/L
Gross alpha	1.2E+01	//				1	GP	2.1E+01	//		■		1	GP	pCi/L
Iodine-129	7.9E+00	//				1	GP								pCi/L
Nonvolatile beta	3.2E+01	//				1	GP	3.6E+01	//				1	GP	pCi/L
Plutonium-238	<1.6E-02	U//	<2.2E-01			1	GP								pCi/L
Plutonium-239/240	<7.7E-03	U//	<9.6E-02			1	GP								pCi/L
Radium-226	6.3E+00	//		■		1	GP								pCi/L
Radium-228	1.7E+00	J//	NDD			1	GP								pCi/L
Total radium	6.3E+00														
Strontium-90	3.2E+00	J//	NDD			1	GP								pCi/L
Technetium-99	4.1E+01	J//	NDD			1	GP								pCi/L
Thorium-228	<1.7E-01	JU/L/I	<4.6E-01			1	GP								pCi/L
Thorium-230	<3.9E-02	JU/L/I	<2.8E-01			1	GP								pCi/L
Thorium-232	<9.0E-03	JU/L/I	<2.0E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	2.8E+01														
Tritium	7.5E+02	//		■		1	GP	6.6E+02	//		■		1	GP	pCi/mL
Uranium-233/234	<7.4E-02	U//	<2.2E-01			1	GP								pCi/L
Uranium-235	<3.0E-02	U//	<2.9E-01			1	GP								pCi/L
Uranium-238	<2.0E-01	U//	<2.2E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB120D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75568.7 E49163.7	33.273124 °N 81.684130 °W	216.5-196.5 ft msl	280.5 ft msl	4" PVC	S	UAZ_UTRA

SAMPLE DATE	01/08/99	04/06/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	210.6	209.5	ft msl
pH	5.5	7.9	pH
Sp. conductance	51	36	µS/cm
Water temperature	17.1	18.7	°C
Alkalinity as CaCO ₃	12	8	mg/L
Turbidity	8	3	NTU
Volumes purged	0.11	0.12	well volumes
Sampling code	X	X	
Synchronous water level	209.7 (03/23/99)	208.7 (06/25/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	130	//				1	GE	13	J/V	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	26	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	6.6	//				1	GE								µg/L
Cobalt, total recoverable	<0.093	U/V//	<0.20			1	GE								µg/L
Copper, total recoverable	5.2	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	3.2	//				1	GE	2.6	//				1	GE	µg/L
Mercury, total recoverable	<0.060	U/V//	<0.20			1	GE								µg/L
Nickel, total recoverable	6.4	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	30	J/V	NDD			1	GE	40	J/V	NDD			1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.037	U/V//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	57	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/LQ/O	<1.0	●		1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	JU/LQ/O	<5.0	●		1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/LQ/O	<1.0	●		1	GE								µg/L
Trichloroethylene	<1.0	JU/LQ/O	<1.0	●		1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/LQ/O	<5.0	●		1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB120D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<8.5E-02	U//	<2.8E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<-2.8E+00	U//	<7.1E+00			1	GP								pCi/L
Cesium-137	<-2.7E-01	U//	<4.0E+00			1	GP								pCi/L
Cobalt-60	<1.5E-01	U//	<3.9E+00			1	GP								pCi/L
Curium-242	<-7.3E-02	U//	<4.0E-01			1	GP								pCi/L
Curium-243/244	<-2.8E-02	U//	<2.1E-01			1	GP								pCi/L
Curium-245/246	<5.4E-02	U//	<8.2E-02			1	GP								pCi/L
Gross alpha	8.2E-01	J//	NDD			1	GP	9.2E-01	J//	NDD			1	GP	pCi/L
Iodine-129	<3.0E-01	U//	<7.9E-01			1	GP								pCi/L
Nonvolatile beta	<8.0E-01	U//	<1.2E+00			1	GP	<9.2E-01	U//	<1.2E+00			1	GP	pCi/L
Plutonium-238	<-2.2E-02	U//	<2.2E-01			1	GP								pCi/L
Plutonium-239/240	<-1.4E-02	U//	<1.1E-01			1	GP								pCi/L
Radium-226	6.9E-01	J//	NDD			1	GP								pCi/L
Radium-228	<3.6E-01	U//	<9.0E-01			1	GP								pCi/L
Total radium	NA														
Strontium-90	<5.0E-02	U//	<1.4E+00			1	GP								pCi/L
Technetium-99	<-2.0E+00	U//	<1.5E+01			1	GP								pCi/L
Thorium-228	<2.7E-01	JU//L/I	<3.1E-01			1	GP								pCi/L
Thorium-230	<5.3E-02	JU//L/I	<2.2E-01			1	GP								pCi/L
Thorium-232	<2.6E-02	JU//L/I	<1.8E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	1.7E+01	//				1	GP	1.8E+01	//				1	GP	pCi/mL
Uranium-233/234	<-6.2E-03	U//	<1.3E-01			1	GP								pCi/L
Uranium-235	<1.5E-02	U//	<4.6E-02			1	GP								pCi/L
Uranium-238	<-1.1E-02	U//	<1.0E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ, UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ, UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB121C

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N75155.7 E48413.1	33.270985 °N 81.685304 °W	158.4-148.4 ft msl	256.5 ft msl	4" PVC	S	LAZ_UTRA

<u>SAMPLE DATE</u>	01/11/99	04/12/99
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FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	204.9	204.0	ft msl
pH	5.4	5.6	pH
Sp. conductance	57	49	µS/cm
Water temperature	18.2	20.5	°C
Alkalinity as CaCO ₃	1	7	mg/L
Turbidity	0	0	NTU
Volumes purged	2.7	3.7	well volumes
Sampling code			
Synchronous water level	204.1 (03/23/99)	203.2 (06/25/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Aluminum, total recoverable	29	//				1	GE	27	J/K/CI	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	130	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	1.5	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	0.80	J/V	NDD			1	WA								µg/L
Copper, total recoverable	4.0	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	1.7	J/V	NDD			1	GE	0.61	J/V	NDD			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	3.8	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	3,100	//				3	GE	2,600	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.23	U/V	<2.5			1	GE								µg/L
Vanadium, total recoverable	<6.9	U//	<6.9			1	WA								µg/L
Zinc, total recoverable	38	//				1	GE								µg/L

Organic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	5.6	JU/O8	NDD			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	1.4	J/V	NDD			1	WA								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB121C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<4.9E-02	U//	<3.6E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<8.0E-01	U//	<7.6E+00			1	GP								pCi/L
Cesium-137	1.4E+01	R//4	Rej			1	GP								pCi/L
Cobalt-60	<1.9E-01	U//	<2.9E+00			1	GP								pCi/L
Curium-242	<2.7E-02	JU//C	<3.6E-01			1	GP								pCi/L
Curium-243/244	<9.0E-03	JU//C	<2.0E-01			1	GP								pCi/L
Curium-245/246	<9.0E-03	JU//C	<2.0E-01			1	GP								pCi/L
Gross alpha	1.8E+00	J//	NDD			1	TM	1.6E+00	J//	NDD			1	GP	pCi/L
Iodine-129	1.1E+00	J//	NDD			1	GP								pCi/L
Nonvolatile beta	9.6E+00	//				1	TM	4.7E+00	//				1	GP	pCi/L
Plutonium-238	2.2E-01	R//4	Rej			1	GP								pCi/L
Plutonium-239/240	<5.5E-03	U//	<1.2E-01			1	GP								pCi/L
Radium-226	2.3E+00	//				1	GP								pCi/L
Radium-228	<8.2E-01	U//	<9.3E-01			1	GP								pCi/L
Total radium	2.3E+00														
Strontium-90	<1.5E-01	U//	<1.5E+00			1	TM								pCi/L
Technetium-99	<2.0E+00	U//	<1.9E+01			1	GP								pCi/L
Thorium-228	2.2E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	5.2E-02	J//	NDD			1	GP								pCi/L
Thorium-232	4.9E-01	J//	NDD			1	TM								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	1.2E+02	//		■		1	TM	1.0E+02	//		■		1	GP	pCi/mL
Uranium-233/234	<5.9E-04	U//	<2.2E-01			1	GP								pCi/L
Uranium-235	<1.0E-02	U//	<2.6E-01			1	TM								pCi/L
Uranium-238	<1.0E-02	U//	<3.0E-01			1	TM								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ – UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ – UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB121DR

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N75151.9 E48429.7	33.271004 °N 81.685253 °W	211.3-191.3 ft msl	255.5 ft msl	4" PVC	S	UAZ_UTRA

SAMPLE DATE 01/08/99 04/07/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	207.9	207.1	ft msl
pH	3.9	4.4	pH
Sp. conductance	34	32	µS/cm
Water temperature	17.7	20.0	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	3	2	NTU
Volumes purged	0.092	0.097	well volumes
Sampling code	X	X	
Synchronous water level	207.2 (03/23/99)	206.0 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	590	//				1	GE	670	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	21	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	0.24	J//	NDD			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	0.71	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	1.7	//				1	GE								µg/L
Copper, total recoverable	9.6	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	29	//		■		1	GE	21	//		■		1	GE	µg/L
Mercury, total recoverable	<0.043	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	2.1	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	2,800	//				1	GE	2,500	//				2	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.033	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	19	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/LQ/O	<1.0	●		1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	JU/LQ/O	<5.0	●		1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/LQ/O	<1.0	●		1	GE								µg/L
Trichloroethylene	<1.0	JU/LQ/O	<1.0	●		1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/LQ/O	<5.0	●		1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB121DR (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<-3.6E-03	U//	<9.6E-01	■		1	GP								pCi/L
Beta dose	1.0														
Carbon-14	<5.0E+00	U//	<7.4E+00			1	GP								pCi/L
Cesium-137	<-2.0E+00	U//	<2.9E+00			1	GP								pCi/L
Cobalt-60	<1.3E-01	U//	<3.5E+00			1	GP								pCi/L
Curium-242	<8.7E-01	U//	<8.8E-01			1	GP								pCi/L
Curium-243/244	<6.7E-01	U//	<1.4E+00			1	GP								pCi/L
Curium-245/246	<-7.2E-02	U//	<5.5E-01			1	GP								pCi/L
Gross alpha	9.2E+00	//				1	GP	8.1E+00	//				1	GP	pCi/L
Iodine-129	<8.7E-01	U//	<1.2E+00			1	GP								pCi/L
Nonvolatile beta	2.9E+01	//				1	GP	3.2E+01	//				1	GP	pCi/L
Plutonium-238	<-8.8E-03	U//	<2.5E-01			1	GP								pCi/L
Plutonium-239/240	<1.5E-02	U//	<1.5E-01			1	GP								pCi/L
Radium-226	3.0E+00	//				1	GP								pCi/L
Radium-228	1.2E+00	J/V	NDD			1	GP								pCi/L
Total radium	3.0E+00														
Strontium-90	8.1E+00	//		■		1	GP								pCi/L
Technetium-99	<2.2E+00	U//	<1.9E+01			1	GP								pCi/L
Thorium-228	<1.1E-01	JU/L/I	<4.8E-01			1	GP								pCi/L
Thorium-230	<-1.9E-02	JU/L/I	<2.5E-01			1	GP								pCi/L
Thorium-232	<0.0E+00	JU/L/I	<1.2E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	8.1E+00														
Tritium	1.5E+01	//				1	GP	1.2E+01	//				1	GP	pCi/mL
Uranium-233/234	1.2E+00	R//4	Rej			1	GP								pCi/L
Uranium-235	<9.4E-02	U//	<2.8E-01			1	GP								pCi/L
Uranium-238	1.0E+00	R//4	Rej			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB122C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N73881.8 E48195.0	33.267812 °N 81.683403 °W	170.0-160.0 ft msl	218 ft msl	4" PVC	S	LAZ_UTRA

SAMPLE DATE 01/12/99 04/07/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	199.6	199.2	ft msl
pH	4.4	4.2	pH
Sp. conductance	460	460	µS/cm
Water temperature	17.8	19.2	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	1	2	NTU
Volumes purged	2.3	4.6	well volumes
Sampling code			
Synchronous water level	199.3 (03/23/99)	198.0 (06/25/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	720	//				1	GE	730	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<15	U//	<15			5	GE								µg/L
Barium, total recoverable	130	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	1.2	//				1	GE	1.0	//				1	GE	µg/L
Chromium, total recoverable	0.92	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	16	//				1	GE								µg/L
Copper, total recoverable	1.5	//				1	GE								µg/L
Cyanide	<10	JU//	<10			1	GE								µg/L
Lead, total recoverable	<2.0	U//	<2.0			1	GE	0.68	J//	NDD			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	15	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	57,000	//				25	GE	54,000	//				25	GE	µg/L
Selenium, total recoverable	<25	U//	<25			5	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	0.35	J//	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	79	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<9.9	JU//	<9.9			1	GE								µg/L
Dichloromethane	<5.0	U//	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB122C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<0.0E+00	U//	<7.4E-01	■		1	GP								pCi/L
Beta dose	12														
Carbon-14	1.4E+01	J/I/L/C/I	NDD			1	GP								pCi/L
Cesium-137	<8.1E-01	U//	<3.5E+00			1	GP								pCi/L
Cobalt-60	<-1.4E+00	U//	<2.8E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<8.5E-01			1	GP								pCi/L
Curium-243/244	<1.9E-01	U//	<1.3E+00			1	GP								pCi/L
Curium-245/246	<4.9E-01	U//	<7.4E-01			1	GP								pCi/L
Gross alpha	2.8E+01	J/L/I	NDD			1	GP	1.6E+01	//		■		1	GP	pCi/L
Iodine-129	1.2E+01	//				1	GP								pCi/L
Nonvolatile beta	5.9E+01	J/L/I	NDD			1	GP	6.8E+01	//		■		1	GP	pCi/L
Plutonium-238	<5.3E-01	JU/L/I	<1.1E+00			1	GP								pCi/L
Plutonium-239/240	<1.6E-01	JU/L/I	<4.8E-01			1	GP								pCi/L
Radium-226	1.1E+01	//		■		1	GP								pCi/L
Radium-228	<-5.0E-01	JU/L/I	<1.3E+00			1	GP								pCi/L
Total radium	1.1E+01														
Strontium-90	<5.1E-01	U//	<2.0E+00			1	GP								pCi/L
Technetium-99	1.3E+02	//		■		1	GP								pCi/L
Thorium-228	<6.2E-02	U//	<3.7E-01			1	GP								pCi/L
Thorium-230	<7.3E-02	U//	<2.2E-01			1	GP								pCi/L
Thorium-232	<0.0E+00	U//	<9.7E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	1.5E+02			■											pCi/L
Tritium	1.6E+03	//		■		1	GP	1.4E+03	//		■		1	GP	pCi/mL
Uranium-233/234	<5.0E-01	U//	<3.4E-01			1	GP								pCi/L
Uranium-235	<4.9E-01	U//	<1.5E-01			1	GP								pCi/L
Uranium-238	<1.5E-01	U//	<1.5E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB122D

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N73865.5 E48201.7	33.267787 °N 81.683354 °W	206.6-186.6 ft msl	217.6 ft msl	4" PVC	S	UAZ_UTRA

<u>SAMPLE DATE</u>	01/08/99	04/07/99
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FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	203.0	202.7	ft msl
pH	4.1	4.5	pH
Sp. conductance	210	180	µS/cm
Water temperature	18.6	19.3	°C
Alkalinity as CaCO ₃	0	0	mg/L
Turbidity	0	0	NTU
Volumes purged	7.5	4.3	well volumes
Sampling code			
Synchronous water level	202.8 (03/23/99)	201.3 (06/25/99)	ft msl

ANALYTICAL DATA*Inorganic Constituents*

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Aluminum, total recoverable	220	//				1	GE	260	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	77	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Cobalt, total recoverable	2.1	//				1	GE								µg/L
Copper, total recoverable	3.3	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	2.7	//				1	GE	3.2	//				1	GE	µg/L
Mercury, total recoverable	<0.065	U/N/	<0.20			1	GE								µg/L
Nickel, total recoverable	4.9	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	19,000	//		■		25	GE	19,000	//		■		25	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.029	U/N/	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	38	//				1	GE								µg/L

Organic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Benzene	<1.0	JU/Q/	<1.0	●		1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	JU/Q/	<5.0	●		1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/Q/	<1.0	●		1	GE								µg/L
Trichloroethylene	<1.0	JU/Q/	<1.0	●		1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/Q/	<5.0	●		1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB122D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	SI	H	DF	Lab	2Q99	Mod	Filt.	SI	H	DF	Lab	Unit
Americium-241	<7.5E-02	U//	<2.5E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<5.1E+00	U//	<7.3E+00			1	GP								pCi/L
Cesium-137	5.3E+00	R//4	Rej			1	GP								pCi/L
Cobalt-60	<7.7E-01	U//	<4.1E+00			1	GP								pCi/L
Curium-242	<3.3E-02	U//	<2.5E-01			1	GP								pCi/L
Curium-243/244	<6.9E-03	U//	<1.1E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<3.7E-02			1	GP								pCi/L
Gross alpha	6.8E+00	//				1	GP	4.1E+00	//				1	GP	pCi/L
Iodine-129	<1.4E+00	U//	<1.3E+00			1	GP								pCi/L
Nonvolatile beta	4.2E+01	//				1	GP	2.5E+01	//				1	GP	pCi/L
Plutonium-238	<2.8E-02	U//	<1.2E-01			1	GP								pCi/L
Plutonium-239/240	<3.1E-03	U//	<1.2E-01			1	GP								pCi/L
Radium-226	2.2E+00	//				1	GP								pCi/L
Radium-228	1.5E+00	J//	NDD			1	GP								pCi/L
Total radium	2.2E+00														
Strontium-90	<1.7E-02	U//	<1.3E+00			1	GP								pCi/L
Technetium-99	3.3E+01	J//	NDD			1	GP								pCi/L
Thorium-228	5.3E-01	R//4	Rej			1	GP								pCi/L
Thorium-230	<1.1E-01	JU//L/I	<1.1E-01			1	GP								pCi/L
Thorium-232	<1.8E-02	JU//L/I	<2.3E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	4.9E+02	//		■		1	GP	4.8E+02	//		■		1	GP	pCi/mL
Uranium-233/234	1.3E-01	J//	NDD			1	GP								pCi/L
Uranium-235	<9.2E-03	U//	<9.0E-02			1	GP								pCi/L
Uranium-238	<3.4E-02	U//	<1.1E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB123C

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N74566.7 E51750.5	33.275129 °N 81.675374 °W	165.3-155.3 ft msl	238.1 ft msl	4" PVC	S	LAZ_UTRA

<u>SAMPLE DATE</u>	01/20/99	04/07/99
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FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	210.6	210.2	ft msl
pH	5.8	5.4	pH
Sp. conductance	62	64	µS/cm
Water temperature	19.1	20.0	°C
Alkalinity as CaCO ₃	15	8	mg/L
Turbidity	0	0	NTU
Volumes purged	2.5	2.9	well volumes
Sampling code			
Synchronous water level	210.2 (03/23/99)	209.5 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Aluminum, total recoverable	29	//				1	GE	<17	U//	<15			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	15	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	3.3	J//	NDD			1	WA								µg/L
Cobalt, total recoverable	<0.047	U//	<0.20			1	GE								µg/L
Copper, total recoverable	1.5	//				1	GE								µg/L
Cyanide	<10	JU/L/I	<10			1	GE								µg/L
Lead, total recoverable	6.5	//				1	GE	<0.35	JU//4	<2.0			1	GE	µg/L
Mercury, total recoverable	0.050	J//	NDD			1	GE								µg/L
Nickel, total recoverable	1.3	J//	NDD			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	2,900	//				10	WA	3,000	//				2	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<0.38	JU/L/I4	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.037	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<6.9	U//	<6.9			1	WA								µg/L
Zinc, total recoverable	13	//				1	GE								µg/L

Organic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Benzene	<1.0	U//	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<2.0	JU/KV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	U//	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	U//	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSB123C (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<6.5E-02	U//	<4.4E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<1.8E+00	U//	<9.4E+00			1	GP								pCi/L
Cesium-137	<4.0E-01	U//	<4.1E+00			1	GP								pCi/L
Cobalt-60	<7.4E-01	U//	<3.4E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<2.3E-01			1	GP								pCi/L
Curium-243/244	<3.0E-02	U//	<5.1E-01			1	TM								pCi/L
Curium-245/246	<0.0E+00	U//	<2.2E-01			1	GP								pCi/L
Gross alpha	<8.7E-02	U//	<5.9E-01			1	GP	<3.9E-01	U//	<5.1E-01			1	GP	pCi/L
Iodine-129	<1.7E-01	U//	<9.8E-01			1	GP								pCi/L
Nonvolatile beta	1.2E+00	J/V	NDD			1	GP	1.2E+00	J/V	NDD			1	GP	pCi/L
Plutonium-238	6.8E-01	R/O	Rej			1	TM								pCi/L
Plutonium-239/240	2.3E-01	R/O	Rej			1	TM								pCi/L
Radium-226	<3.2E-01	U//	<2.9E-01			1	TM								pCi/L
Radium-228	<5.6E-01	U//	<1.3E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<4.4E-01	U//	<1.4E+00			1	GP								pCi/L
Technetium-99	<4.0E+00	U//	<1.3E+01			1	TM								pCi/L
Thorium-228	<1.1E-02	U//	<4.4E-01			1	GP								pCi/L
Thorium-230	<7.9E-02	U//	<3.1E-01			1	GP								pCi/L
Thorium-232	<8.1E-03	U//	<1.8E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	2.6E+00	J/K/C	NDD			1	TM	2.5E+00	//				1	GP	pCi/mL
Uranium-233/234	<9.1E-02	U//	<2.3E-01			1	GP								pCi/L
Uranium-235	<7.2E-03	U//	<1.6E-01			1	GP								pCi/L
Uranium-238	<1.5E-02	U//	<1.9E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ, UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ, LTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB123D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N74562.7 E51734.8	33.275095 °N 81.675407 °W	214.1-194.1 ft msl	238.1 ft msl	4" PVC	S	UAZ_UTRA

SAMPLE DATE	01/11/99	04/07/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	211.8	211.5	ft msl
pH	4.3	4.6	pH
Sp. conductance	40	41	µS/cm
Water temperature	19.4	19.1	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	0	0	NTU
Volumes purged	3.1	3.9	well volumes
Sampling code			
Synchronous water level	211.6 (03/23/99)	211.0 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	60	//				1	GE	<57	U/V	<15			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	10	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Cobalt, total recoverable	0.77	//				1	GE								µg/L
Copper, total recoverable	6.0	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	1.8	J/V	NDD			1	GE	1.9	J/V	NDD			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	1.2	J/V	NDD			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	2,200	//				1	GE	2,000	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<2.5	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	10	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<13	JU/LV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

- = exceeded holding time
- = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)
- NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit
- UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSB123D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<1.0E-02	U//	<5.0E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<2.8E-01	U//	<7.6E+00			1	GP								pCi/L
Cesium-137	<7.1E-02	U//	<3.3E+00			1	GP								pCi/L
Cobalt-60	<7.3E-01	U//	<4.1E+00			1	GP								pCi/L
Curium-242	<4.9E-03	U//	<2.7E-01			1	GP								pCi/L
Curium-243/244	<2.8E-02	U//	<4.7E-01			1	GP								pCi/L
Curium-245/246	<2.0E-02	U//	<2.1E-01			1	GP								pCi/L
Gross alpha	8.4E-01	J/V	NDD			1	GP	1.3E+00	J/V	NDD			1	GP	pCi/L
Iodine-129	<3.1E-01	U//	<1.3E+00			1	GP								pCi/L
Nonvolatile beta	5.6E+00	//				1	GP	<6.6E-01	U//	<1.1E+00			1	GP	pCi/L
Plutonium-238	<0.0E+00	U//	<8.2E-02			1	GP								pCi/L
Plutonium-239/240	<2.1E-02	U//	<1.4E-01			1	GP								pCi/L
Radium-226	7.3E-01	J/V	NDD			1	GP								pCi/L
Radium-228	<1.3E-01	U//	<1.4E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<2.2E-01	U//	<1.7E+00			1	GP								pCi/L
Technetium-99	<6.2E+00	U//	<1.8E+01			1	GP								pCi/L
Thorium-228	<1.7E-01	JU/L/I	<1.9E-01			1	GP								pCi/L
Thorium-230	<3.2E-02	JU/L/I	<4.8E-02			1	GP								pCi/L
Thorium-232	<3.8E-03	JU/L/I	<8.4E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	7.5E+00	//				1	GP	7.7E+00	//				1	GP	pCi/mL
Uranium-233/234	<4.5E-02	U//	<1.6E-01			1	GP								pCi/L
Uranium-235	<1.8E-02	U//	<1.4E-01			1	GP								pCi/L
Uranium-238	<1.8E-04	U//	<1.4E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSL 1D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N79063.1 E52992.5	33.287100 °N 81.680840 °W	228.6-208.5 ft msl	310.8 ft msl	2" PVC	V	UAZ_UTRA

SAMPLE DATE	01/26/99	04/28/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	224.7	224.3	ft msl
pH	4.0	4.0	pH
Sp. conductance	120	60	µS/cm
Water temperature	20.0	22.2	°C
Alkalinity as CaCO ₃	0	0	mg/L
Turbidity	9.3	8	NTU
Volumes purged	0.38	0.39	well volumes
Sampling code	X	XN	
Synchronous water level	224.3 (03/30/99)	223.9 (06/30/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	910	J/L/I	NDD			1	GE	770	//				1	GE	µg/L
Antimony, total recoverable	<0.18	U/V/	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	22	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	1.0	//				1	GE	1.3	//				1	GE	µg/L
Chromium, total recoverable	4.1	//				1	GE								µg/L
Cobalt, total recoverable	5.6	//		■		1	GE								µg/L
Copper, total recoverable	14	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	40	//		■		1	GE	68	//		■		1	GE	µg/L
Mercury, total recoverable	0.042	J/V/	NDD			1	GE								µg/L
Nickel, total recoverable	7.4	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	11,000	//		■		25	GE	6,000	//				3	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	0.32	J/V/	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	31	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	2.7	J/L/O	NDD			1	GE								µg/L
Trichlorofluoromethane	12	J/L/O	NDD			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSL 1D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<1.3E-01	U//	<5.7E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<2.9E-01	U//	<9.7E+00			1	GP								pCi/L
Cesium-137	<3.2E-01	JU/L/I	<3.7E+00			1	GP								pCi/L
Cobalt-60	<4.8E-01	U//	<3.7E+00			1	GP								pCi/L
Curium-242	<6.5E-02	U//	<5.1E-01			1	GP								pCi/L
Curium-243/244	<1.3E-02	U//	<5.1E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<1.9E-01			1	GP								pCi/L
Gross alpha	1.3E+01	//				1	GP	7.1E+00	//				1	GP	pCi/L
Iodine-129	2.9E+00	J/V	NDD			1	GP								pCi/L
Nonvolatile beta	1.0E+01	//				1	GP	5.9E+00	//				1	GP	pCi/L
Plutonium-238	<0.0E+00	U//	<1.1E-01			1	GP								pCi/L
Plutonium-239/240	<4.4E-02	U//	<3.0E-01			1	GP								pCi/L
Radium-226	3.9E+00	//				1	GP								pCi/L
Radium-228	<8.7E-01	JU/LV/I	<8.6E-01			1	GP								pCi/L
Total radium	3.9E+00														
Strontium-90	<7.4E-01	U//	<1.4E+00			1	GP								pCi/L
Technetium-99	<5.1E+00	U//	<2.2E+01			1	GP								pCi/L
Thorium-228	<1.0E-01	U//	<4.3E-01			1	GP								pCi/L
Thorium-230	<2.7E-02	U//	<2.7E-01			1	GP								pCi/L
Thorium-232	<0.0E+00	U//	<1.0E-01			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	1.9E+02	//		■		1	GP	8.3E+01	//		■		1	GP	pCi/mL
Uranium-233/234	<1.5E-01	U//	<2.7E-01			1	GP								pCi/L
Uranium-235	<5.5E-02	U//	<3.0E-01			1	GP								pCi/L
Uranium-238	<7.8E-02	U//	<3.5E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSL 2D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N78636.5 E52790.6	33.285827 °N 81.680542 °W	228.8-208.7 ft msl	305.8 ft msl	2" PVC	V	UAZ_UTRA

SAMPLE DATE 01/13/99 04/12/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	225.6	225.1	ft msl
pH	6.1	6.4	pH
Sp. conductance	110	90	µS/cm
Water temperature	20.5	23.1	°C
Alkalinity as CaCO3	22	29	mg/L
Turbidity	9	10	NTU
Volumes purged	3.2	0.37	well volumes
Sampling code	XN	XN	
Synchronous water level	225.3 (03/23/99)	224.7 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	860	//				1	GE	330	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	32	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<0.25	JU//4	<1.0			1	GE	µg/L
Chromium, total recoverable	11	//				1	GE								µg/L
Cobalt, total recoverable	2.5	//				1	GE								µg/L
Copper, total recoverable	5.9	//				1	GE								µg/L
Cyanide	5.2	J/V	NDD			1	GE								µg/L
Lead, total recoverable	3.8	//				1	GE	6.3	//				1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	7.6	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	1,500	J/L/I	NDD			1	GE	730	//				1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.10	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	5.3	J/V	NDD			1	GE								µg/L
Zinc, total recoverable	17	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<4.1	JU/L/O8	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSL 2D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<1.6E-02	U//	<1.0E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<5.5E+00	U//	<9.3E+00			1	GP								pCi/L
Cesium-137	6.5E+00	R//4	Rej			1	GP								pCi/L
Cobalt-60	<2.1E+00	U//	<4.1E+00			1	GP								pCi/L
Curium-242	<0.0E+00	U//	<5.4E-02			1	GP								pCi/L
Curium-243/244	<8.0E-02	U//	<1.2E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	U//	<4.8E-02			1	GP								pCi/L
Gross alpha	2.6E+00	//				1	GP	4.8E+00	//				1	GP	pCi/L
Iodine-129	<1.9E-01	U//	<9.6E-01			1	GP								pCi/L
Nonvolatile beta	6.8E+00	//				1	GP	6.4E+00	//				1	GP	pCi/L
Plutonium-238	<8.1E-03	U//	<1.5E-01			1	GP								pCi/L
Plutonium-239/240	<1.5E-02	U//	<9.0E-02			1	GP								pCi/L
Radium-226	9.6E-01	J//	NDD			1	GP								pCi/L
Radium-228	<1.0E+00	JU//1	<1.1E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	1.8E+00	J//	NDD			1	GP								pCi/L
Technetium-99	<-3.9E+00	U//	<2.4E+01			1	GP								pCi/L
Thorium-228	<6.6E-03	U//	<1.3E-01			1	GP								pCi/L
Thorium-230	<5.4E-02	U//	<8.4E-02			1	GP								pCi/L
Thorium-232	<-3.8E-03	U//	<7.5E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	9.4E+00	//				1	GP	6.7E+00	//				1	GP	pCi/mL
Uranium-233/234	<2.7E-02	U//	<6.8E-02			1	GP								pCi/L
Uranium-235	<1.3E-02	U//	<5.6E-02			1	GP								pCi/L
Uranium-238	<4.0E-02	U//	<5.6E-02			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSL 3D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N77765.2 E52465.2	33.283369 °N 81.679706 °W	226.0-205.9 ft msl	302 ft msl	2" PVC	V	UAZ_UTRA

SAMPLE DATE	01/12/99	04/12/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	223.6	222.9	ft msl
pH	8.0	6.2	pH
Sp. conductance	98	80	µS/cm
Water temperature	22.0	28.7	°C
Alkalinity as CaCO3	41	26	mg/L
Turbidity	4	6	NTU
Volumes purged	7.6	5.8	well volumes
Sampling code			
Synchronous water level	223.1 (03/23/99)	222.3 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	990	J/L/I	NDD			1	GE	130	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.33	JU//4	<0.89			1	GE								µg/L
Arsenic, total recoverable	2.0	J/L/I	NDD			1	GE								µg/L
Barium, total recoverable	120	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	9.4	//				1	GE								µg/L
Cobalt, total recoverable	1.2	//				1	GE								µg/L
Copper, total recoverable	3.7	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	1.9	J//	NDD			1	GE	<1.8	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	5.0	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	3,000	J/L/I	NDD			2	GE	2,500	//				1	GE	µg/L
Selenium, total recoverable	<5.0	JU/L/I	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.12	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	7.2	J//	NDD			1	GE								µg/L
Zinc, total recoverable	11	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<11	U//	<11			1	GE								µg/L
Dichloromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	1.7	J/L/O	NDD			1	GE								µg/L
Trichlorofluoromethane	14	J/L/O	NDD			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSL 3D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<7.5E-02	JU/L/I	<3.8E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<1.6E+00	U//	<6.6E+00			1	GP								pCi/L
Cesium-137	<2.1E+00	JU/L/I	<3.7E+00			1	GP								pCi/L
Cobalt-60	<9.4E-01	U//	<4.0E+00			1	GP								pCi/L
Curium-242	<7.2E-02	JU/L/C	<4.3E-01			1	GP								pCi/L
Curium-243/244	<1.1E-02	JU/L/C	<2.5E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	JU/L/C	<1.4E-01			1	GP								pCi/L
Gross alpha	3.7E+00	//				1	GP	1.6E+00	J/V	NDD			1	GP	pCi/L
Iodine-129	<7.8E-02	U//	<9.1E-01			1	GP								pCi/L
Nonvolatile beta	4.6E+00	//				1	GP	3.1E+00	//				1	GP	pCi/L
Plutonium-238	<6.8E-02	U//	<1.5E-01			1	GP								pCi/L
Plutonium-239/240	<5.4E-02	U//	<5.4E-02			1	GP								pCi/L
Radium-226	1.5E+00	J/V	NDD			1	GP								pCi/L
Radium-228	<7.0E-01	JU/L/I	<9.7E-01			1	GP								pCi/L
Total radium	NA														
Strontium-90	<1.3E+00	U//	<1.3E+00			1	GP								pCi/L
Technetium-99	<1.5E+01	U//	<2.4E+01			1	GP								pCi/L
Thorium-228	<1.2E-01	U//	<1.7E-01			1	GP								pCi/L
Thorium-230	1.4E-01	R//4	Rej			1	GP								pCi/L
Thorium-232	<0.0E+00	U//	<4.3E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	3.6E+01	//		■		1	GP	3.1E+01	//		■		1	GP	pCi/mL
Uranium-233/234	<9.7E-02	U//	<1.2E-01			1	GP								pCi/L
Uranium-235	<7.7E-03	U//	<1.0E-01			1	GP								pCi/L
Uranium-238	<8.5E-02	U//	<1.1E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer, Gordon - Gordon Aquifer

WELL FSL 4D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N77452.4 E52230.4	33.282294 °N 81.679717 °W	224.1-204.0 ft msl	294.1 ft msl	2" PVC	V	UAZ_UTRA

SAMPLE DATE	01/12/99	04/12/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	218.1	217.9	ft msl
pH	5.2	4.5	pH
Sp. conductance	39	40	µS/cm
Water temperature	22.1	23.7	°C
Alkalinity as CaCO3	7	4	mg/L
Turbidity	3	2	NTU
Volumes purged	1.7	0.44	well volumes
Sampling code		XN	
Synchronous water level	217.5 (03/23/99)	216.6 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	150	J/L/I	NDD			1	GE	160	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	JU/L/I	<3.0			1	GE								µg/L
Barium, total recoverable	8.6	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	0.39	J//	NDD			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	5.5	//				1	GE								µg/L
Cobalt, total recoverable	1.2	//				1	GE								µg/L
Copper, total recoverable	8.1	//				1	GE								µg/L
Cyanide	2.2	J//	NDD			1	GE								µg/L
Lead, total recoverable	21	//				1	GE	13	//				1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	3.1	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	2,200	J/L/I	NDD			1	GE	1,800	//				1	GE	µg/L
Selenium, total recoverable	<5.0	JU/L/I	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.071	U//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	10	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	3.2	J/L/O	NDD			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSL 4D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<2.3E-02	JU/L/I	<2.2E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<5.3E+00	U//	<6.9E+00			1	GP								pCi/L
Cesium-137	<8.0E-01	JU/L/I	<3.7E+00			1	GP								pCi/L
Cobalt-60	<4.4E-01	U//	<4.0E+00			1	GP								pCi/L
Curium-242	<3.3E-02	JU/L/C	<1.8E-01			1	GP								pCi/L
Curium-243/244	<5.9E-03	JU/L/C	<1.3E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	JU/L/C	<7.3E-02			1	GP								pCi/L
Gross alpha	8.0E-01	J/V	NDD			1	GP	1.3E+00	J/V	NDD			1	GP	pCi/L
Iodine-129	<8.0E-01	U//	<1.3E+00			1	GP								pCi/L
Nonvolatile beta	2.9E+00	//				1	GP	2.6E+00	//				1	GP	pCi/L
Plutonium-238	<2.9E-02	U//	<2.1E-01			1	GP								pCi/L
Plutonium-239/240	<8.3E-04	U//	<1.6E-01			1	GP								pCi/L
Radium-226	9.0E-01	J/V	NDD			1	GP								pCi/L
Radium-228	<3.4E-01	JU/L/I	<1.4E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<4.6E-01	U//	<1.7E+00			1	GP								pCi/L
Technetium-99	<2.7E+00	U//	<2.2E+01			1	GP								pCi/L
Thorium-228	<1.5E-02	U//	<2.2E-01			1	GP								pCi/L
Thorium-230	1.1E-01	R//4	Rej			1	GP								pCi/L
Thorium-232	<0.0E+00	U//	<4.1E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	4.9E+00	//				1	GP	4.2E+00	//				1	GP	pCi/mL
Uranium-233/234	<5.2E-02	U//	<1.1E-01			1	GP								pCi/L
Uranium-235	<2.4E-02	U//	<7.3E-02			1	GP								pCi/L
Uranium-238	<6.6E-02	U//	<7.3E-02			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSL 5D

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N77047.7 E51903.3	33.280865 °N 81.679791 °W	223.7-203.5 ft msl	291.8 ft msl	2" PVC	V	UAZ_UTRA

<u>SAMPLE DATE</u>	01/26/99	04/12/99
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FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	221.7	221.0	ft msl
pH	6.1	6.0	pH
Sp. conductance	220	190	µS/cm
Water temperature	23.0	22.8	°C
Alkalinity as CaCO3	60	35	mg/L
Turbidity	3	1	NTU
Volumes purged	4.5	2.4	well volumes
Sampling code			
Synchronous water level	221.3 (03/23/99)	220.5 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Aluminum, total recoverable	30	J/L/I	NDD			1	GE	260	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	1.7	J/V	NDD			1	GE								µg/L
Barium, total recoverable	26	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	0.70	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	1.2	//				1	GE								µg/L
Copper, total recoverable	<2.8	U/V//	<1.0			1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	<2.0	U//	<2.0			1	GE	6.0	//				1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	1.7	J/V	NDD			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	9,800	//				25	GE	12,000	//				25	GE	µg/L
Selenium, total recoverable	<5.6	U/V//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	0.18	J/V	NDD			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	1.2	J/L/O	NDD			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSL 5D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<5.3E-03	U//	<6.2E-01	■		1	GP								pCi/L
Beta dose	2.2														pCi/L
Carbon-14	<8.7E+00	U//	<1.1E+01			1	GP								pCi/L
Cesium-137	7.3E+00	R//4	Rej			1	GP								pCi/L
Cobalt-60	<5.3E-02	U//	<2.9E+00			1	GP								pCi/L
Curium-242	<9.3E-02	U//	<6.3E-01			1	GP								pCi/L
Curium-243/244	<6.4E-02	U//	<5.0E-01			1	GP								pCi/L
Curium-245/246	<3.4E-02	U//	<4.1E-01			1	GP								pCi/L
Gross alpha	1.2E+01	//				1	GP	6.4E+00	//				1	GP	pCi/L
Iodine-129	3.0E+00	J//V	NDD			1	GP								pCi/L
Nonvolatile beta	7.5E+01	//		■		1	GP	7.7E+01	//		■		1	GP	pCi/L
Plutonium-238	<4.7E-02	U//	<2.6E-01			1	GP								pCi/L
Plutonium-239/240	<1.6E-02	U//	<1.9E-01			1	GP								pCi/L
Radium-226	3.4E+00	//				1	GP								pCi/L
Radium-228	<1.5E+00	JU/LV//	<9.6E-01			1	GP								pCi/L
Total radium	3.4E+00														pCi/L
Strontium-90	1.1E+01	//		■		1	GP								pCi/L
Technetium-99	7.4E+02	//		■		1	GP								pCi/L
Thorium-228	<2.8E-02	U//	<5.8E-01			1	GP								pCi/L
Thorium-230	<9.6E-02	U//	<2.4E-01			1	GP								pCi/L
Thorium-232	<6.7E-02	U//	<2.0E-01			1	GP								pCi/L
Sum of alphas	NA														pCi/L
Sum of betas	7.5E+02			■											pCi/mL
Tritium	8.3E+01	//		■		1	GP	1.5E+02	//		■		1	GP	pCi/mL
Uranium-233/234	<9.3E-02	U//	<3.2E-01			1	GP								pCi/L
Uranium-235	<1.7E-02	U//	<2.0E-01			1	GP								pCi/L
Uranium-238	<1.6E-02	U//	<2.0E-01			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

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UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSL 6D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N76733.1 E51727.9	33.279883 °N 81.679642 °W	222.1-202.1 ft msl	286.2 ft msl	2" PVC	V	UAZ_UTRA

SAMPLE DATE 01/12/99 04/12/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	221.1	220.2	ft msl
pH	4.9	4.8	pH
Sp. conductance	120	140	µS/cm
Water temperature	20.6	23.1	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	14	1	NTU
Volumes purged	20	7.1	well volumes
Sampling code			
Synchronous water level	220.4 (03/23/99)	219.7 (06/28/99)	ft msl

ANALYTICAL DATA

Inorganic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	200	J/L/I	NDD			1	GE	37	J/K/I	NDD			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	JU/L/I	<3.0			1	GE								µg/L
Barium, total recoverable	6.4	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	1.7	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	0.65	//				1	GE								µg/L
Copper, total recoverable	2.9	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.58	J/V	NDD			1	GE	<2.0	U//	<2.0			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	1.7	J/V	NDD			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	4,900	J/L/I	NDD			3	GE	6,200	//				5	GE	µg/L
Selenium, total recoverable	<5.0	JU/L/I	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.045	U/V//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<2.2	JU/LV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	2.4	//				1	GE								µg/L
Trichlorofluoromethane	3.4	J/IL/O	NDD			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSL 6D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<1.8E-02	JU/L/I	<3.2E-01	■		1	GP								pCi/L
Beta dose	50														
Carbon-14	1.1E+01	J/V	NDD			1	GP								pCi/L
Cesium-137	<-5.6E-01	JU/L/I	<4.2E+00			1	GP								pCi/L
Cobalt-60	<1.5E+00	U//	<3.8E+00			1	GP								pCi/L
Curium-242	<2.8E-03	JU/L/C	<3.3E-01			1	GP								pCi/L
Curium-243/244	<-7.9E-03	JU/L/C	<1.7E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	JU/L/C	<1.1E-01			1	GP								pCi/L
Gross alpha	4.5E+00	//				1	GP	1.8E+00	J/V	NDD			1	GP	pCi/L
Iodine-129	5.0E+01	//		■		1	GP								pCi/L
Nonvolatile beta	1.7E+01	//				1	GP	9.4E+00	//				1	GP	pCi/L
Plutonium-238	5.0E-02	R/I	Rej			1	GP								pCi/L
Plutonium-239/240	<-3.2E-04	U//	<2.5E-01			1	GP								pCi/L
Radium-226	4.1E+00	//				1	GP								pCi/L
Radium-228	<9.0E-01	JU/LV/I	<9.0E-01			1	GP								pCi/L
Total radium	4.1E+00														
Strontium-90	<1.3E+00	U//	<1.4E+00			1	GP								pCi/L
Technetium-99	3.6E+01	J/V	NDD			1	GP								pCi/L
Thorium-228	<9.7E-02	U//	<2.5E-01			1	GP								pCi/L
Thorium-230	<9.6E-02	U//	<1.2E-01			1	GP								pCi/L
Thorium-232	<4.8E-02	U//	<4.8E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	5.0E+01			■											pCi/L
Tritium	6.6E+01	//		■		1	GP	9.1E+01	//				1	GP	pCi/mL
Uranium-233/234	2.5E-01	J/V	NDD			1	GP								pCi/L
Uranium-235	<1.2E-02	U//	<8.5E-02			1	GP								pCi/L
Uranium-238	2.6E-01	J/V	NDD			1	GP								pCi/L

Notes:

● = exceeded holding time

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NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer, LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer, Gordon – Gordon Aquifer

WELL FSL 7D

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N76327.8 E51485.6	33.278592 °N 81.679492 °W	219.6-199.5 ft msl	287.6 ft msl	2" PVC	V	UAZ_UTRA

SAMPLE DATE 01/12/99 04/07/99

FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	219.9	218.9	ft msl
pH	4.3	3.8	pH
Sp. conductance	360	340	µS/cm
Water temperature	18.8	21.8	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	3	3	NTU
Volumes purged	0.30	0.31	well volumes
Sampling code	X	X	
Synchronous water level	219.0 (03/23/99)	218.5 (06/28/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	2,400	J/L/I	NDD			1	GE	3,000	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<15	JU/L/I	<15			5	GE								µg/L
Barium, total recoverable	99	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	14	//		■		1	GE	16	//		■		1	GE	µg/L
Chromium, total recoverable	2.1	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	3.0	//		■		1	GE								µg/L
Copper, total recoverable	8.7	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	1.7	J/V	NDD			1	GE	6.3	J/V	NDD			10	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Nickel, total recoverable	6.3	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	45,000	J/L/I	NDD			25	GE	42,000	//		■		25	GE	µg/L
Selenium, total recoverable	<25	JU/L/I	<25			5	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.054	U/V//	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	18	//				1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<1.9	JU/LV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA - Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA - Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA - Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon - Gordon Aquifer

WELL FSL 7D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<4.4E-03	JU/L/I	<6.2E-02	■		1	GP								pCi/L
Beta dose	78														
Carbon-14	<3.1E+00	U//	<6.6E+00			1	GP								pCi/L
Cesium-137	<2.3E+00	JU/L/I	<3.5E+00			1	GP								pCi/L
Cobalt-60	<8.9E-01	U//	<3.5E+00			1	GP								pCi/L
Curium-242	<0.0E+00	JU/L/C	<3.2E-02			1	GP								pCi/L
Curium-243/244	3.9E-02	R//4	Rej			1	GP								pCi/L
Curium-245/246	<9.8E-03	JU/L/C	<2.9E-02			1	GP								pCi/L
Gross alpha	6.1E+01	//		■		1	GP	1.3E+02	//		■		1	GP	pCi/L
Iodine-129	<3.9E-01	U//	<9.1E-01			1	GP								pCi/L
Nonvolatile beta	1.1E+03	//		■		1	GP	1.3E+03	//		■		1	GP	pCi/L
Plutonium-238	<3.9E-02	U//	<1.8E-01			1	GP								pCi/L
Plutonium-239/240	<1.0E-02	U//	<1.4E-01			1	GP								pCi/L
Radium-226	4.5E+01	//		■		1	GP								pCi/L
Radium-228	4.8E+00	J/L/I	NDD			1	GP								pCi/L
Total radium	4.5E+01														
Strontium-90	6.2E+02	//		■		1	GP								pCi/L
Technetium-99	5.0E+01	//				1	GP								pCi/L
Thorium-228	<1.6E-01	U//	<2.1E-01			1	GP								pCi/L
Thorium-230	2.3E-01	R//4	Rej			1	GP								pCi/L
Thorium-232	<0.0E+00	U//	<4.7E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	6.6E+02			■											pCi/L
Tritium	1.0E+02	//		■		1	GP	8.7E+01	//		■		1	GP	pCi/mL
Uranium-233/234	3.4E-01	J//V	NDD			1	GP								pCi/L
Uranium-235	<5.1E-03	U//	<1.4E-01			1	GP								pCi/L
Uranium-238	9.1E-02	J//V	NDD			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSL 8D

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N76054.7 E51513.5	33.278033 °N 81.678888 °W	222.8-202.7 ft msl	290.8 ft msl	2" PVC	V	UAZ_UTRA

<u>SAMPLE DATE</u>	01/12/99	04/07/99
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FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	219.0	218.1	ft msl
pH	4.6	4.2	pH
Sp. conductance	78	100	µS/cm
Water temperature	19.6	22.1	°C
Alkalinity as CaCO ₃	0	0	mg/L
Turbidity	2	2	NTU
Volumes purged	3.7	0.40	well volumes
Sampling code		X	
Synchronous water level	218.2 (03/23/99)	217.4 (06/28/99)	ft msl

ANALYTICAL DATAInorganic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Aluminum, total recoverable	42	J/L/I	NDD			1	GE	200	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	JU/L/I	<3.0			1	GE								µg/L
Barium, total recoverable	22	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<1.0	U//	<1.0			1	GE	µg/L
Chromium, total recoverable	2.6	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	1.2	//				1	GE								µg/L
Copper, total recoverable	8.2	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	1.5	J/V	NDD			1	GE	3.9	//				1	GE	µg/L
Mercury, total recoverable	0.058	J/V	NDD			1	GE								µg/L
Nickel, total recoverable	3.3	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	6,600	J/L/I	NDD			5	GE	7,400	//				5	GE	µg/L
Selenium, total recoverable	<5.0	JU/L/I	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.042	U/V	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	9.8	J/V	NDD			1	GE								µg/L

Organic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<5.0	JU/L/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	1.8	J/L/O	NDD			1	GE								µg/L
Trichlorofluoromethane	4.8	J/L/O	NDD			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSL 8D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<1.8E-02	JU/L/I	<3.9E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<4.1E+00	U//	<6.6E+00			1	GP								pCi/L
Cesium-137	<1.7E-01	JU/L/I	<3.9E+00			1	GP								pCi/L
Cobalt-60	<8.0E-01	U//	<3.6E+00			1	GP								pCi/L
Curium-242	<6.5E-02	JU/L/C	<3.4E-01			1	GP								pCi/L
Curium-243/244	<5.1E-02	JU/L/C	<1.5E-01			1	GP								pCi/L
Curium-245/246	<0.0E+00	JU/L/C	<8.6E-02			1	GP								pCi/L
Gross alpha	1.4E+00	J//	NDD			1	GP	4.7E+00	//				1	GP	pCi/L
Iodine-129	9.2E-01	J//	NDD			1	GP								pCi/L
Nonvolatile beta	3.3E+00	//				1	GP	6.4E+00	//				1	GP	pCi/L
Plutonium-238	<2.1E-02	U//	<1.5E-01			1	GP								pCi/L
Plutonium-239/240	<7.7E-03	U//	<1.0E-01			1	GP								pCi/L
Radium-226	6.8E+00	//		■		1	GP								pCi/L
Radium-228	<8.2E-01	JU/L/I	<9.3E-01			1	GP								pCi/L
Total radium	6.8E+00														pCi/L
Strontium-90	<1.4E-01	U//	<1.8E+00			1	GP								pCi/L
Technetium-99	<1.1E+01	U//	<2.3E+01			1	GP								pCi/L
Thorium-228	<1.3E-02	U//	<2.1E-01			1	GP								pCi/L
Thorium-230	3.6E-01	R//4	Rej			1	GP								pCi/L
Thorium-232	<6.6E-03	U//	<8.4E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	2.3E+01	//		■		1	GP	3.6E+01	//				1	GP	pCi/mL
Uranium-233/234	<1.8E-02	U//	<5.3E-02			1	GP								pCi/L
Uranium-235	<1.8E-02	U//	<5.4E-02			1	GP								pCi/L
Uranium-238	<6.7E-02	U//	<9.4E-02			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSL 9D

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N75768.4 E51543.9	33.277450 °N 81.678252 °W	221.5-201.4 ft msl	285.9 ft msl	2" PVC	V	UAZ_UTRA

<u>SAMPLE DATE</u>	01/12/99	04/07/99
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FIELD DATA

<u>Constituents</u>	<u>1Q99</u>	<u>2Q99</u>	<u>Unit</u>
Water elevation	217.8	216.9	ft msl
pH	4.3	3.8	pH
Sp. conductance	250	340	µS/cm
Water temperature	20.0	23.9	°C
Alkalinity as CaCO3	0	0	mg/L
Turbidity	2	9	NTU
Volumes purged	8.2	0.39	well volumes
Sampling code		X	
Synchronous water level	217.1 (03/23/99)	216.5 (06/28/99)	ft msl

ANALYTICAL DATAInorganic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Aluminum, total recoverable	4,100	J/L/I	NDD			1	GE	5,800	//				1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	JU/L/I	<3.0			1	GE								µg/L
Barium, total recoverable	53	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	0.61	J/V	NDD			1	GE	<0.49	JU/V/4	<1.0			1	GE	µg/L
Chromium, total recoverable	2.3	J/V	NDD			1	GE								µg/L
Cobalt, total recoverable	15	//		■		1	GE								µg/L
Copper, total recoverable	22	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	1.8	J/V	NDD			1	GE	1.3	J/V	NDD			1	GE	µg/L
Mercury, total recoverable	4.4	//		■		1	GE								µg/L
Nickel, total recoverable	7.2	//				1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	41,000	J/L/I	NDD			25	GE	39,000	//		■		25	GE	µg/L
Selenium, total recoverable	<5.0	JU/L/I	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.14	U/V/I	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	25	//				1	GE								µg/L

Organic Constituents

<u>Constituents</u>	<u>1Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>2Q99</u>	<u>Mod</u>	<u>Filt.</u>	<u>ST</u>	<u>H</u>	<u>DF</u>	<u>Lab</u>	<u>Unit</u>
Benzene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<1.4	JU/LV/O	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU/L/O	<1.0			1	GE								µg/L
Trichloroethylene	1.5	J/L/O	NDD			1	GE								µg/L
Trichlorofluoromethane	7.0	J/L/O	NDD			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL FSL 9D (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt	ST	H	DF	Lab	2Q99	Mod	Filt	ST	H	DF	Lab	Unit
Americium-241	5.0E+00	J/L/I	NDD	■		1	GP								pCi/L
Beta dose	194			■											
Carbon-14	1.3E+01	J/I	NDD			1	GP								pCi/L
Cesium-137	1.4E+01	R/I	Rej			1	GP								pCi/L
Cobalt-60	<1.7E-01	U//	<3.6E+00			1	GP								pCi/L
Curium-242	<8.3E-03	JU/L/C	<1.4E-01			1	GP								pCi/L
Curium-243/244	7.2E+00	J/L/C	NDD			1	GP								pCi/L
Curium-245/246	2.9E-01	R//4	Rej			1	GP								pCi/L
Gross alpha	1.3E+02	//		■		1	GP	2.1E+02	//		■		1	GP	pCi/L
Iodine-129	1.8E+02	//		■		1	GP								pCi/L
Nonvolatile beta	1.8E+02	//		■		1	GP	3.1E+02	//		■		1	GP	pCi/L
Plutonium-238	<1.3E-02	U//	<1.5E-01			1	GP								pCi/L
Plutonium-239/240	<7.1E-02	U//	<9.7E-02			1	GP								pCi/L
Radium-226	1.7E+01	//		■		1	GP								pCi/L
Radium-228	3.3E+00	J/L/I	NDD			1	GP								pCi/L
Total radium	1.7E+01														
Strontium-90	1.1E+02	//		■		1	GP								pCi/L
Technetium-99	3.9E+01	J/I	NDD			1	GP								pCi/L
Thorium-228	<3.2E-02	U//	<2.7E-01			1	GP								pCi/L
Thorium-230	1.6E-01	R//4	Rej			1	GP								pCi/L
Thorium-232	<1.6E-02	U//	<4.9E-02			1	GP								pCi/L
Sum of alphas	1.2E+02			■											pCi/L
Sum of betas	2.9E+02			■											pCi/L
Tritium	1.4E+03	//		■		1	GP	1.4E+03	//		■		1	GP	pCi/mL
Uranium-233/234	5.2E+01	//		■		1	GP								pCi/L
Uranium-235	4.3E+00	//				1	GP								pCi/L
Uranium-238	6.0E+01	//		■		1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA = Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA = Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA = Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon = Gordon Aquifer

WELL HSB 85A

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N73791.9 E58943.4	33.285152 °N 81.654930 °W	71.1-61.1 ft msl	294.4 ft msl	4" PVC	S	Gordon

SAMPLE DATE	01/13/99	04/21/99
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FIELD DATA

Constituents	1Q99	2Q99	Unit
Water elevation	169.4	169.2	ft msl
pH	6.5	6.6	pH
Sp. conductance	160	180	µS/cm
Water temperature	20.3	19.8	°C
Alkalinity as CaCO ₃	73	71	mg/L
Turbidity	0	0	NTU
Volumes purged	3.2	2.3	well volumes
Sampling code			
Synchronous water level	169.3 (03/22/99)	168.8 (06/18/99)	ft msl

ANALYTICAL DATA**Inorganic Constituents**

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Aluminum, total recoverable	<15	U//	<15			1	GE	<15	U//	<15			1	GE	µg/L
Antimony, total recoverable	<0.20	U//	<0.20			1	GE								µg/L
Arsenic, total recoverable	<3.0	U//	<3.0			1	GE								µg/L
Barium, total recoverable	29	//				1	GE								µg/L
Beryllium, total recoverable															
Cadmium, total recoverable	<1.0	U//	<1.0			1	GE	<0.33	JU//4	<1.0			1	GE	µg/L
Chromium, total recoverable	1.4	J//	NDD			1	GE								µg/L
Cobalt, total recoverable	<0.11	JU//4	<0.20			1	GE								µg/L
Copper, total recoverable	5.4	//				1	GE								µg/L
Cyanide	<10	U//	<10			1	GE								µg/L
Lead, total recoverable	0.61	J//	NDD			1	GE	0.63	J//	NDD			1	GE	µg/L
Mercury, total recoverable	<0.20	U//	<0.20			1	GE	<0.20	U//	<0.20			1	GE	µg/L
Nickel, total recoverable	1.9	J//	NDD			1	GE								µg/L
Nitrate as nitrogen															
Nitrate-nitrite as nitrogen	200	J/L/I	NDD			1	GE	30	J//	NDD			1	GE	µg/L
Selenium, total recoverable	<5.0	U//	<5.0			1	GE								µg/L
Silver, total recoverable	<1.0	U//	<1.0			1	GE								µg/L
Thallium, total recoverable	<0.023	JU//4	<2.5			1	GE								µg/L
Vanadium, total recoverable	<10	U//	<10			1	GE								µg/L
Zinc, total recoverable	<10	U//	<10			1	GE								µg/L

Organic Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Benzene	<1.0	JU//O	<1.0			1	GE								µg/L
Bis(2-ethylhexyl) phthalate	<10	U//	<10			1	GE								µg/L
Dichloromethane	<3.8	JU//O8	<5.0			1	GE								µg/L
Phenols	<5.0	U//	<5.0			1	GE								µg/L
Tetrachloroethylene	<1.0	JU//O	<1.0			1	GE								µg/L
Trichloroethylene	<1.0	JU//O	<1.0			1	GE								µg/L
Trichlorofluoromethane	<5.0	JU//O	<5.0			1	GE								µg/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ, UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ, UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

WELL HSB 85A (cont.)

Radioactive Constituents

Constituents	1Q99	Mod	Filt.	ST	H	DF	Lab	2Q99	Mod	Filt.	ST	H	DF	Lab	Unit
Americium-241	<2.3E-02	U//	<1.8E-01			1	GP								pCi/L
Beta dose	NA														
Carbon-14	<1.2E+00	U//	<6.7E+00			1	GP								pCi/L
Cesium-137	<-2.2E+00	U//	<4.5E+00			1	GP								pCi/L
Cobalt-60	<1.7E+00	U//	<5.9E+00			1	GP								pCi/L
Curium-242	<-1.3E-02	U//	<1.7E-01			1	GP								pCi/L
Curium-243/244	<2.4E-02	U//	<7.1E-02			1	GP								pCi/L
Curium-245/246	<-1.2E-02	U//	<1.5E-01			1	GP								pCi/L
Gross alpha	<1.3E-01	U//	<8.0E-01			1	GP	3.9E+00	//				1	GP	pCi/L
Iodine-129	<6.1E-02	U//	<8.1E-01			1	GP								pCi/L
Nonvolatile beta	1.3E+00	J/V	NDD			1	GP	9.2E+02	//				1	GP	pCi/L
Plutonium-238	<7.4E-02	U//	<1.0E-01			1	GP								pCi/L
Plutonium-239/240	<4.8E-02	U//	<1.0E-01			1	GP								pCi/L
Radium-226	7.4E-01	J/V	NDD			1	GP								pCi/L
Radium-228	<4.0E-01	JU/L/1	<1.0E+00			1	GP								pCi/L
Total radium	NA														
Strontium-90	<8.2E-01	U//	<1.4E+00			1	GP								pCi/L
Technetium-99	<-8.6E+00	U//	<2.0E+01			1	GP								pCi/L
Thorium-228	<2.0E-02	U//	<1.2E-01			1	GP								pCi/L
Thorium-230	<3.6E-02	U//	<5.1E-02			1	GP								pCi/L
Thorium-232	<8.0E-03	U//	<2.4E-02			1	GP								pCi/L
Sum of alphas	NA														
Sum of betas	NA														
Tritium	<-6.1E-02	U//	<6.2E-01			1	GP	<-2.5E-01	U//	<6.5E-01			1	GP	pCi/mL
Uranium-233/234	5.0E-02	R//4	Rej			1	GP								pCi/L
Uranium-235	<1.3E-02	U//	<5.3E-02			1	GP								pCi/L
Uranium-238	<1.3E-02	U//	<5.3E-02			1	GP								pCi/L

Notes:

● = exceeded holding time

■ = exceeded groundwater protection or monitoring constituent standard (See Appendix A.)

NA – Not applicable. Applies to beta dose and sum of betas if there are no beta-emitting radionuclides above detection limits; to sum of alphas if there are no alpha-emitting radionuclides above detection limits; and to total radium if neither radium-226 or radium-228 was above detection limit

UAZ_UTRA – Upper Aquifer Zone of the Upper Three Runs Aquifer; LAZ_UTRA – Lower Aquifer Zone of the Upper Three Runs Aquifer; Gordon – Gordon Aquifer

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APPENDIX D: TIME SERIES PLOTS

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Cadmium Concentrations Well Cluster FSB 79

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Cadmium Concentrations Well FSB 91D

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

F-Area HWMF

D-4

First and Second Quarter 1999

Cadmium Concentrations Well FSB 93D

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Cadmium Concentrations Well FSB 95CR

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Cadmium Concentrations Well FSB102C

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Cadmium Concentrations Well Cluster FSB104

Rejected data or values below the detection limit do not appear on the plots. Beginning third quarter 1998, estimated (J-qualified) values also do not appear. Only unfiltered consecutive data points are connected.
GWPS 5 µg/L

—■— FSB104D (U) —▲— FSB104C (L) - - - - - GWPS

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Cadmium Concentrations Well Cluster FSB106

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Cadmium Concentrations Well FSB112C

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

F-Area HWMF

D-10

First and Second Quarter 1999

Cadmium Concentrations Well FSB119D

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Lead Concentrations Well FSB 76

Rejected data or values below the detection limit do not appear on the plots. Beginning third quarter 1998, estimated (J-qualified) values also do not appear. Only unfiltered consecutive data points are connected.
GWPS 15 µg/L

—■— FSB 76 (U)GWPS

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Lead Concentrations Well FSB 77

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Lead Concentrations Well Cluster FSB 78

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Lead Concentrations Well FSB 90D

Rejected data or values below the detection limit do not appear on the plots. Beginning third quarter 1998, estimated (J-qualified) values also do not appear. Only unfiltered consecutive data points are connected.
GWPS 15 µg/L

—■— FSB 90D (U)GWPS

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Lead Concentrations Well Cluster FSB 94

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Lead Concentrations Well FSB 95DR

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Lead Concentrations Well Cluster FSB 97

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Lead Concentrations Well FSB108D

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Lead Concentrations Well FSB119D

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Tritium Activities Well Cluster FSB 79

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Tritium Activities Well Cluster FSB 94

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Tritium Activities Well Cluster FSB 97

Rejected data or values below the detection limit do not appear on the plots. Beginning third quarter 1998, estimated (J-qualified) values also do not appear. Only unfiltered consecutive data points are connected.
GWPS 20 pCi/mL

■ FSB 97D (U)
▲ FSB 97C (L)
● FSB 97A (G)
----- GWPS

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Tritium Activities Well Cluster FSB 99

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Tritium Activities Well FSB102C

Rejected data or values below the detection limit do not appear on the plots. Beginning third quarter 1998, estimated (J-qualified) values also do not appear. Only unfiltered consecutive data points are connected.
GWPS 20 pCi/mL

—▲— FSB102C (L) - - - - - GWPS

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Tritium Activities Well Cluster FSB107

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Tritium Activities Well FSB108D

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Tritium Activities Well Cluster FSB110

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Tritium Activities Well Cluster FSB120

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Tritium Activities Well Cluster FSB122

Rejected data or values below the detection limit do not appear on the plots. Beginning third quarter 1998, estimated (J-qualified) values also do not appear. Only unfiltered consecutive data points are connected. GWPS 20 pCi/mL

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Nitrate Concentrations Well Cluster FSB 87

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Nitrate Concentrations Well FSB 88D

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

F-Area HWMF

D-32

First and Second Quarter 1999

Nitrate Concentrations Well FSB 91D

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Nitrate Concentrations Well FSB102C

Rejected data or values below the detection limit do not appear on the plots. Beginning third quarter 1998, estimated (J-qualified) values also do not appear. Only unfiltered consecutive data points are connected. GWPS 10,000 µg/L

—▲— FSB102C (L)GWPS

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

F-Area HWMF

D-34

First and Second Quarter 1999

Nitrate Concentrations Well Cluster FSB104

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Nitrate Concentrations Well FSB110D

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

F-Area HWMF

D-36

First and Second Quarter 1999

Nitrate Concentrations Well FSB117D

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Nitrate Concentrations Well FSB119D

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Nitrate Concentrations Well Cluster FSB120

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Nitrate Concentrations Well Cluster FSB122

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Uranium-233/234 Activities Well FSB 77

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Uranium-233/234 Activities Well Cluster FSB 79

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Uranium-233/234 Activities Well Cluster FSB 88

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Uranium-233/234 Activities Well Cluster FSB 94

■ FSB 94DR (U) ▲ FSB 94C (L) Sum of alphas < 15 pCi/L

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

F-Area HWMF

D-44

First and Second Quarter 1999

Uranium-233/234 Activities Well Cluster FSB 95

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Uranium-233/234 Activities Well Cluster FSB 97

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

F-Area HWMF

D-46

First and Second Quarter 1999

Uranium-233/234 Activities Well Cluster FSB 98

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Uranium-233/234 Activities Well Cluster FSB104

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Uranium-233/234 Activities Well Cluster FSB107

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Uranium-238 Activities Well FSB 77

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

F-Area HWMF

D-50

First and Second Quarter 1999

Uranium-238 Activities Well Cluster FSB 79

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Uranium-238 Activities Well Cluster FSB 88

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Uranium-238 Activities Well Cluster FSB 94

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Uranium-238 Activities Well Cluster FSB 95

■ FSB 95DR (U) ▲ FSB 95CR (L) Sum of alphas < 15 pCi/L

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

F-Area HWMF

D-54

First and Second Quarter 1999

Uranium-238 Activities Well Cluster FSB 97

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Uranium-238 Activities Well Cluster FSB 98

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

F-Area HWMF

D-56

First and Second Quarter 1999

Uranium-238 Activities Well Cluster FSB104

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Uranium-238 Activities Well Cluster FSB107

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

F-Area HWMF

D-58

First and Second Quarter 1999

Strontium-90 Activities Well Cluster FSB 78

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Strontium-90 Activities Well Cluster FSB 90

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

F-Area HWMF

D-60

First and Second Quarter 1999

Strontium-90 Activities Well Cluster FSB 92

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Strontium-90 Activities Well Cluster FSB 94

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Strontium-90 Activities Well Cluster FSB 95

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Strontium-90 Activities Well Cluster FSB 97

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Strontium-90 Activities Well Cluster FSB 98

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Strontium-90 Activities Well FSB102C

—▲— FSB102C (L)GWPS

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

F-Area HWMF

D-66

First and Second Quarter 1999

Strontium-90 Activities Well Cluster FSB110

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Strontium-90 Activities Well Cluster FSB112

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

F-Area HWMF

D-68

First and Second Quarter 1999

Technetium-99 Activities Well Cluster FSB 78

Note: The time-series plots for technetium-99 begin with 1994 data because results during 1993 were anomalously high.

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Technetium-99 Activities Well Cluster FSB 90

Note: The time-series plots for technetium-99 begin with 1994 data because results during 1993 were anomalously high.

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Technetium-99 Activities Well Cluster FSB 92

Note: The time-series plots for technetium-99 begin with 1994 data because results during 1993 were anomalously high.

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Technetium-99 Activities Well Cluster FSB 94

Note: The time-series plots for technetium-99 begin with 1994 data because results during 1993 were anomalously high.

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Technetium-99 Activities Well Cluster FSB 95

Note: The time-series plots for technetium-99 begin with 1994 data because results during 1993 were anomalously high.

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Technetium-99 Activities Well Cluster FSB 97

Note: The time-series plots for technetium-99 begin with 1994 data because results during 1993 were anomalously high.

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Technetium-99 Activities Well Cluster FSB 98

Note: The time-series plots for technetium-99 begin with 1994 data because results during 1993 were anomalously high.

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Technetium-99 Activities Well FSB102C

Rejected data or values below the detection limit do not appear on the plots. Beginning third quarter 1998, estimated (J-qualified) values also do not appear. Only unfiltered consecutive data points are connected.

—▲— FSB102C (L) sum of betas < 50 pCi/L

Note: The time-series plots for technetium-99 begin with 1994 data because results during 1993 were anomalously high.

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Technetium-99 Activities Well Cluster FSB110

Note: The time-series plots for technetium-99 begin with 1994 data because results during 1993 were anomalously high.

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Technetium-99 Activities Well Cluster FSB112

Rejected data or values below the detection limit do not appear on the plots. Beginning third quarter 1998, estimated (J-qualified) values also do not appear. Only unfiltered consecutive data points are connected.

—■— FSB112D (U) —▲— FSB112C (L) - - - - - sum of betas < 50 pCi/L

Note: The time-series plots for technetium-99 begin with 1994 data because results during 1993 were anomalously high.

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Gross Alpha Activities Well FSB 77

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Gross Alpha Activities Well Cluster FSB 79

■ FSB 79 (U) ▲ FSB 79C (L)GWPS

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

F-Area HWMF

D-80

First and Second Quarter 1999

Gross Alpha Activities Well Cluster FSB 88

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Gross Alpha Activities Well Cluster FSB 94

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Gross Alpha Activities Well Cluster FSB 95

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Gross Alpha Activities Well Cluster FSB 97

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

F-Area HWMF

D-84

First and Second Quarter 1999

Gross Alpha Activities Well Cluster FSB 98

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Gross Alpha Activities Well Cluster FSB104

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Gross Alpha Activities Well Cluster FSB107

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Nonvolatile Beta Activities Well Cluster FSB 78

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Nonvolatile Beta Activities Well Cluster FSB 90

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Nonvolatile Beta Activities Well Cluster FSB 92

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

F-Area HWMF

D-90

First and Second Quarter 1999

Nonvolatile Beta Activities Well Cluster FSB 94

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Nonvolatile Beta Activities Well Cluster FSB 95

Rejected data or values below the detection limit do not appear on the plots. Beginning third quarter 1998, estimated (J-qualified) values also do not appear. Only unfiltered consecutive data points are connected. GWPS 50 pCi/L

—■— FSB 95DR (U) —▲— FSB 95CR (L) - - - - GWPS

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

F-Area HWMF

D-92

First and Second Quarter 1999

Nonvolatile Beta Activities Well Cluster FSB 97

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Nonvolatile Beta Activities Well Cluster FSB 98

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

F-Area HWMF

D-94

First and Second Quarter 1999

Nonvolatile Beta Activities Well FSB102C

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Nonvolatile Beta Activities Well Cluster FSB110

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

Nonvolatile Beta Activities Well Cluster FSB112

U = Upper Aquifer Zone of the Upper Three Runs Aquifer; L = Lower Aquifer Zone of the Upper Three Runs Aquifer; G = Gordon Aquifer

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APPENDIX E: HYDROGRAPHS

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Hydrograph Well Cluster FSB 76

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSB 77

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB 78

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB 79

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB 87

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB 88

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB 89

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB 90

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB 91

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB 92

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB 93

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB 94

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB 95

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSB 96AR

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB 97

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB 98

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB 99

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSB100A

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSB101A

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSB102C

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSB103C

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB104

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB105

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB106

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB107

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSB108D

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSB109D

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB110

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB111

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB112

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB113

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB114

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB115

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB116

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSB117D

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSB118D

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSB119D

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB120

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB121

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB122

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well Cluster FSB123

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSL 1D

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSL 2D

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSL 3D

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSL 4D

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSL 5D

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSL 6D

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSL 7D

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSL 8D

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well FSL 9D

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

Hydrograph Well HSB 85A

Note: U=Upper Aquifer Zone of the Upper Three Runs Aquifer; L=Lower Aquifer Zone of the Upper Three Runs Aquifer; G=Gordon Aquifer

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APPENDIX F: UIC SAMPLING RESULTS

F-Area WTU UIC Sample Results: January-June 1999

UIC Permitted Constituents		Reg	Jan-99	Feb-99	Mar-99	Apr-99	May-99	Jun-99
Constituent	Unit	Limit	Result	Result	Result	Result	Result	Result
Section I, INORGANICS								
Antimony	µg/L	6	<0.2	<0.2	<0.2	<0.2	<2	<2
Arsenic	µg/L	50	<3	<3	<3	<3	<3	<3
Barium	µg/L	2000	14.80	14.20	4.93	8.84	6.88	6.74
Cadmium	µg/L	5	<1	<1	<1	<1	<1	<1
Chromium	µg/L	100	<3	<3	<3	<3	<3	3.42
Cobalt	µg/L	140	3.54	7.52	2.00	3.57	2.81	2.50
Copper	µg/L	1300	1.94	6.96	5.02	2.52	3.28	1.68
Cyanide	µg/L	200000	<10	<10	<10	<10	<10	<10
Lead	µg/L	50	<2	<2	<2	<2	<2	<2
Mercury	µg/L	2	<0.2	<0.2	<0.2	0.24	<0.2	0.28
Nickel	µg/L	100	1.78	2.33	<2	<2	<2	3.47
Selenium	µg/L	50	<5	<5	<5	<5	<5	<5
Silver	µg/L	50	<1	<1	<1	<1	<1	<1
Thallium	µg/L	2	<2.5	<2.5	<2.5	<2.5	<0.5	<0.5
Vanadium	µg/L	49	<2	<2	<10	<100	<10	<10
Zinc	µg/L	5000	<5	<5	<10	26.90	<10	<10
Section II, ORGANICS								
Benzene	µg/L	5	<1	<1	<1	<1	<1	<1
B2EHP	µg/L	140	<10.8	<10	<10	<9.9	<11.1	<10
Methylene Chloride	µg/L	5	<5	<5	<5	<5	<5	<5
Phenol	µg/L	10	<5	<5	<5	<5	<5	<5
Tetrachloroethylene	µg/L	5	<1	<1	<1	<1	<1	<1
Trichloroethylene	µg/L	5	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	µg/L	100	<5	<5	<5	<1	<5	<5

F-Area WTU UIC Sample Results: January-June 1999, cont.

UIC Permitted Constituents		Reg	Jan-99	Feb-99	Mar-99	Apr-99	May-99	Jun-99
Constituent	Unit	Limit	Result	Result	Result	Result	Result	Result
Section III, RADIONUCLIDES								
Americium-241	pCi/L	<15	<1.096	<2.934	<2.624	1.73	<1.54	<2.11
Cesium-137	pCi/L	<50	<7.41	<7.35	<7.7	<5.71	<7.42	<8.03
Curium-242	pCi/L	<15	<0.587	<2.332	<2.098	<0.553	<0.944	<0.952
Curium-243/244	pCi/L	<15	<0.81	<4.3	<0.929	<1.96	<2.1	<2.51
Curium-246	pCi/L	<15	<0.286	<1.198	<0.878	<1.03	<0.378	<1.3
Carbon-14	pCi/L	<150	<50	<22.04	<39.2	61.90	<23.6	18.80
Cobalt-60	pCi/L	<50	<5.21	<7.68	<8.96	<6.47	<8.1	<7.71
Iodine-129	pCi/L	<60	100.00	45.80	36.00	39.30	6.99	36.90
Plutonium-238	pCi/L	<15	<0.448	<0.678	<1.512	<1.4	<6.33	<0.321
Plutonium-239/240	pCi/L	<15	<0.254	<0.549	<0.953	<1.76	<1.86	<0.321
Radium-226	pCi/L	TR<25	<1.307	<2.145	<2.403	<1.45	<2.25	1.29
Radium-228	pCi/L	TR<25	<2.696	<1.897	<1.994	<1.79	<1.87	<1.97
Strontium-90	pCi/L	<170	5.38	4.75	<2.682	3.65	5.49	<6.85
Technetium-99	pCi/L	<170	<44.4	16.00	<12.16	12.20	<11.3	27.10
Thorium-228	pCi/L	<15	<2.34	<2.418	<2.586	<1.92	<8.45	<1.74
Thorium-230	pCi/L	<15	<1.148	<1.133	<2.057	<0.781	<3.67	<0.707
Thorium-232	pCi/L	<15	<0.222	<1.062	<1.752	<0.467	<0.918	<0.429
Uranium-233/234	pCi/L	<25	3.18	4.57	3.78	<6.1	<5.89	18.00
Uranium-235	pCi/L	<15	<0.819	<1.739	<0.966	9.43	<3.81	2.17
Uranium-238	pCi/L	<50	6.21	9.27	4.00	6.41	<4.97	31.90

F-Area WTU UIC Sample Results: January 1999

UIC Permitted Constituents		Reg	Raw	Rad			January	Exceedence
Constituent	Unit	Limit	Result	Acc	Qual.	QL	Result	Y/N
Section I, INORGANICS								
Antimony	µg/L	6	0.2		U	0.2	<0.2	N
Arsenic	µg/L	50	3		U	3	<3	N
Barium	µg/L	2000	14.8			0.2	14.80	N
Cadmium	µg/L	5	0.254		JI	1	<1	N
Chromium	µg/L	100	3		U	3	<3	N
Cobalt	µg/L	140	3.54			0.2	3.54	N
Copper	µg/L	1300	1.94			0.2	1.94	N
Cyanide	µg/L	200000	10		U	10	<10	N
Lead	µg/L	50	2		U	2	<2	N
Mercury	µg/L	2	0.2		U	0.2	<0.2	N
Nickel	µg/L	100	1.78			0.2	1.78	N
Selenium	µg/L	50	5		U	5	<5	N
Silver	µg/L	50	1		U	1	<1	N
Thallium*	µg/L	2	0.492		JIV	2.5	<2.5	
Vanadium	µg/L	49	2		U	2	<2	N
Zinc	µg/L	5000	5		U	5	<5	N
Section II, ORGANICS								
Benzene	µg/L	5	1		U	1	<1	N
B2EHP	µg/L	140	10.8		U	10.8	<10.8	N
Methylene Chloride	µg/L	5	5.41		UV	5	<5	N
Phenol	µg/L	10	5		U	5	<5	N
Tetrachloroethylene	µg/L	5	1		U	1	<1	N
Trichloroethylene	µg/L	5	1		U	1	<1	N
Trichlorofluoromethane	µg/L	100	5		U	5	<5	N
Section III, RADIONUCLIDES								
Americium-241	pCi/L	<15	0.821	0.377	JI	1.096	<1.096	N
Cesium-137	pCi/L	<50	0.231	1.93	U	7.41	<7.41	N
Curium-242	pCi/L	<15	0.137	0.162	U	0.587	<0.587	N
Curium-243/244	pCi/L	<15	0.61	0.301	JI	0.81	<0.81	N
Curium-246	pCi/L	<15	0.0659	0.0936	U	0.286	<0.286	N
Carbon-14	pCi/L	<150	26.3	4.68	J	16.15	<50	N
Cobalt-60	pCi/L	<50	-1.42	1.47	U	5.21	<5.21	N
Iodine-129	pCi/L	<60	100	12.3		25.67	100.00	Y
Plutonium-238	pCi/L	<15	0.0903	0.117	U	0.448	<0.448	N
Plutonium-239/240	pCi/L	<15	0.00802	0.055	U	0.254	<0.254	N
Radium-226	pCi/L	TR<25	0.712	0.435	JI	1.307	<1.307	N
Radium-228	pCi/L	TR<25	-1.44	0.613	UJ	2.696	<2.696	N
Strontium-90	pCi/L	<170	5.38	0.799		2	5.38	N
Technetium-99	pCi/L	<170	38.6	11.8	JI	44.4	<44.4	N
Thorium-228	pCi/L	<15	0.819	0.665	U	2.34	<2.34	N
Thorium-230	pCi/L	<15	0.665	0.463	JI	1.148	<1.148	N
Thorium-232	pCi/L	<15	0	0	U	0.222	<0.222	N
Uranium-233/234	pCi/L	<25	3.18	0.892		2.116	3.18	N
Uranium-235	pCi/L	<15	0.237	0.243	U	0.819	<0.819	N
Uranium-238	pCi/L	<50	6.21	1.32		2.798	6.21	N

Notes: Samples collected 1/13/99

*Thallium DL is too high

F-Area WTU UIC Sample Results: February 1999

UIC Permitted Constituents		Reg	Raw	Rad			February	Exceedence
Constituent	Unit	Limit	Result	Acc	Qual.	QL	Result	Y/N
Section I, INORGANICS								
Antimony	µg/L	6	0.2		U	0.2	<0.2	N
Arsenic	µg/L	50	3		U	3	<3	N
Barium	µg/L	2000	14.2			0.2	14.20	N
Cadmium	µg/L	5	1		U	1	<1	N
Chromium	µg/L	100	3		U	3	<3	N
Cobalt	µg/L	140	7.52			0.2	7.52	N
Copper	µg/L	1300	6.96			0.2	6.96	N
Cyanide	µg/L	200000	10		U	10	<10	N
Lead	µg/L	50	2		U	2	<2	N
Mercury	µg/L	2	0.144		J	0.2	<0.2	N
Nickel	µg/L	100	2.33			0.2	2.33	N
Selenium	µg/L	50	5		U	5	<5	N
Silver	µg/L	50	1		U	1	<1	N
Thallium*	µg/L	2	0.246		JL	2.5	<2.5	
Vanadium	µg/L	49	2		U	2	<2	N
Zinc	µg/L	5000	5		U	5	<5	N
Section II, ORGANICS								
Benzene	µg/L	5	1		UJ	1	<1	N
B2EHP	µg/L	140	10		U	10	<10	N
Methylene Chloride	µg/L	5	2.29		UJ	5	<5	N
Phenol	µg/L	10	5		U	5	<5	N
Tetrachloroethylene	µg/L	5	1		UJ	1	<1	N
Trichloroethylene	µg/L	5	1		UJ	1	<1	N
Trichlorofluoromethane	µg/L	100	5		UJ	5	<5	N
Section III, RADIONUCLIDES								
Americium-241	pCi/L	<15	0.549	0.757	U	2.934	<2.934	N
Cesium-137	pCi/L	<50	-0.7	1.96	U	7.35	<7.35	N
Curium-242	pCi/L	<15	-0.404	0.466	U	2.332	<2.332	N
Curium-243/244	pCi/L	<15	0.065	1.04	U	4.3	<4.3	N
Curium-246	pCi/L	<15	0.0847	0.271	U	1.198	<1.198	N
Carbon-14	pCi/L	<150	16.9	6.18	JL	22.04	<22.04	N
Cobalt-60	pCi/L	<50	1.55	1.96	U	7.68	<7.68	N
Iodine-129	pCi/L	<60	45.8	6.42		14.72	45.80	N
Plutonium-238	pCi/L	<15	-0.118	0.123	U	0.678	<0.678	N
Plutonium-239/240	pCi/L	<15	-0.051	0.101	U	0.549	<0.549	N
Radium-226	pCi/L	TR<25	1.03	0.673	JL	2.145	<2.145	N
Radium-228	pCi/L	TR<25	-0.326	0.486	U	1.897	<1.897	N
Strontium-90	pCi/L	<170	4.75	1.23		4.47	4.75	N
Technetium-99	pCi/L	<170	16	2.59		9.58	16.00	N
Thorium-228	pCi/L	<15	0.865	0.679	U	2.418	<2.418	N
Thorium-230	pCi/L	<15	0.276	0.323	U	1.133	<1.133	N
Thorium-232	pCi/L	<15	0.0815	0.235	U	1.062	<1.062	N
Uranium-233/234	pCi/L	<25	4.57	1.23		3.076	4.57	N
Uranium-235	pCi/L	<15	1.07	0.574	JL	1.739	<1.739	N
Uranium-238	pCi/L	<50	9.27	1.88		3.956	9.27	N

Notes: Samples collected 2/17/99

*Thallium DL is too high

F-Area WTU UIC Sample Results: March 1999

UIC Permitted Constituents		Reg	Raw	Rad			March	Exceedence
Constituent	Unit	Limit	Result	Acc	Qual.	QL	Result	Y/N
Section I, INORGANICS								
Antimony	µg/L	6	0.168		JI	0.2	<0.2	N
Arsenic	µg/L	50	3		U	3	<3	N
Barium	µg/L	2000	4.93			2	4.93	N
Cadmium	µg/L	5	1		U	1	<1	N
Chromium	µg/L	100	3		U	3	<3	N
Cobalt	µg/L	140	2			0.2	2.00	N
Copper	µg/L	1300	5.02			1	5.02	N
Cyanide	µg/L	200000	6.1		JI	10	<10	N
Lead	µg/L	50	2		U	2	<2	N
Mercury	µg/L	2	0.0648		JI	0.2	<0.2	N
Nickel	µg/L	100	2		U	2	<2	N
Selenium	µg/L	50	5		U	5	<5	N
Silver	µg/L	50	1		U	1	<1	N
Thallium*	µg/L	2	0.662		JI	2.5	<2.5	
Vanadium	µg/L	49	10		U	10	<10	N
Zinc	µg/L	5000	10		U	10	<10	N
Section II, ORGANICS								
Benzene	µg/L	5	1		UJ	1	<1	N
B2EHP	µg/L	140	10		U	10	<10	N
Methylene Chloride	µg/L	5	5		UJ	5	<5	N
Phenol	µg/L	10	5		U	5	<5	N
Tetrachloroethylene	µg/L	5	1		UJ	1	<1	N
Trichloroethylene	µg/L	5	1		UJ	1	<1	N
Trichlorofluoromethane	µg/L	100	5		UJ	5	<5	N
Section III, RADIONUCLIDES								
Americium-241	pCi/L	<15	0.601	0.687	U	2.624	<2.624	N
Cesium-137	pCi/L	<50	1.58	1.94	U	7.7	<7.7	N
Curium-242	pCi/L	<15	0.23	0.519	U	2.098	<2.098	N
Curium-243/244	pCi/L	<15	0.513	0.368	JI	0.929	<0.929	N
Curium-246	pCi/L	<15	0.449	0.343	JI	0.878	<0.878	N
Carbon-14	pCi/L	<150	-0.695	10.5	U	39.2	<39.2	N
Cobalt-60	pCi/L	<50	2.23	2.16	U	8.96	<8.96	N
Iodine-129	pCi/L	<60	36	4.94		11.24	36.00	N
Plutonium-238	pCi/L	<15	-0.239	0.304	U	1.512	<1.512	N
Plutonium-239/240	pCi/L	<15	0.176	0.251	U	0.953	<0.953	N
Radium-226	pCi/L	TR<25	1.43	0.785	JI	2.403	<2.403	N
Radium-228	pCi/L	TR<25	-0.556	0.452	U	1.994	<1.994	N
Strontium-90	pCi/L	<170	1.76	0.711	JI	2.682	<2.682	N
Technetium-99	pCi/L	<170	3.49	2.83	U	12.16	<12.16	N
Thorium-228	pCi/L	<15	0.775	0.713	U	2.586	<2.586	N
Thorium-230	pCi/L	<15	0.641	0.583	U	2.057	<2.057	N
Thorium-232	pCi/L	<15	-0.175	0.346	U	1.752	<1.752	N
Uranium-233/234	pCi/L	<25	3.78	1.38		3.559	3.78	N
Uranium-235	pCi/L	<15	0.223	0.316	U	0.966	<0.966	N
Uranium-238	pCi/L	<50	4	1.39		3.113	4.00	N

Notes: Samples collected 3/18/99

*Thallium DL is too high

F-Area WTU UIC Sample Results: April 1999

UIC Permitted Constituents		Reg	Raw	Rad			April	Exceedence
Constituent	Unit	Limit	Result	Acc	Qual.	QL	Result	Y/N
Section I, INORGANICS								
Antimony	µg/L	6	0.26		U	0.2	<0.2	N
Arsenic	µg/L	50	3		U	3	<3	N
Barium	µg/L	2000	8.84			2	8.84	N
Cadmium	µg/L	5	1		U	1	<1	N
Chromium	µg/L	100	0.851		U	3	<3	N
Cobalt	µg/L	140	3.57			0.2	3.57	N
Copper	µg/L	1300	2.52			1	2.52	N
Cyanide	µg/L	200000	10		U	10	<10	N
Lead	µg/L	50	0.374		U	2	<2	N
Mercury	µg/L	2	0.241			0.2	0.24	N
Nickel	µg/L	100	0.947		JI	2	<2	N
Selenium	µg/L	50	5		U	5	<5	N
Silver	µg/L	50	1		U	1	<1	N
Thallium*	µg/L	2	0.417		U	2.5	<2.5	
Vanadium**	µg/L	49	100		U	100	<100	?
Zinc	µg/L	5000	26.9			10	26.90	N
Section II, ORGANICS								
Benzene	µg/L	5	1		U	1	<1	N
B2EHP	µg/L	140	9.9		UJ	9.9	<9.9	N
Methylene Chloride	µg/L	5	5		U	5	<5	N
Phenol	µg/L	10	5		U	5	<5	N
Tetrachloroethylene	µg/L	5	1		U	1	<1	N
Trichloroethylene	µg/L	5	1		UJ	1	<1	N
Trichlorofluoromethane	µg/L	100	0.752		JI	1	<1	N
Section III, RADIONUCLIDES								
Americium-241	pCi/L	<15	1.73	0.74		1.71	1.73	N
Cesium-137	pCi/L	<50	0.0865	1.5	U	5.71	<5.71	N
Curium-242	pCi/L	<15	0.0791	0.158	U	0.553	<0.553	N
Curium-243/244	pCi/L	<15	0.982	0.624	JI	1.96	<1.96	N
Curium-246	pCi/L	<15	0.525	0.4	JI	1.03	<1.03	N
Carbon-14	pCi/L	<150	61.9	6.03		19.4	61.90	N
Cobalt-60	pCi/L	<50	-0.563	1.84	U	6.47	<6.47	N
Iodine-129	pCi/L	<60	39.3	5.36		12	39.30	N
Plutonium-238	pCi/L	<15	0.0283	0.314	U	1.4	<1.4	N
Plutonium-239/240	pCi/L	<15	0.455	0.498	U	1.76	<1.76	N
Radium-226	pCi/L	TR<25	1.17	0.611	JI	1.45	<1.45	N
Radium-228	pCi/L	TR<25	-0.289	0.439	U	1.79	<1.79	N
Strontium-90	pCi/L	<170	3.65	0.687		2.39	3.65	N
Technetium-99	pCi/L	<170	12.2	3.26		11.7	12.20	N
Thorium-228	pCi/L	<15	1E-07	0.414	U	1.92	<1.92	N
Thorium-230	pCi/L	<15	0.0389	0.158	U	0.781	<0.781	N
Thorium-232	pCi/L	<15	-0.0179	0.0361	U	0.467	<0.467	N
Uranium-233/234	pCi/L	<25	5.74	2.04	JI	6.1	<6.1	N
Uranium-235	pCi/L	<15	9.43	2.51		6.43	9.43	N
Uranium-238	pCi/L	<50	9.4	2.5		6.41	6.41	N

Notes: Samples collected 4/8/99

*DL is too high

**Dilution factor of 100

F-Area WTU UIC Sample Results: May 1999

UIC Permitted Constituents		Reg	Raw	Rad			May	Exceedence
Constituent	Unit	Limit	Result	Acc	Qual.	QL	Result	Y/N
Section I, INORGANICS								
Antimony	µg/L	6	2		U	2	<2	N
Arsenic	µg/L	50	2.75		JI	3	<3	N
Barium	µg/L	2000	6.88			2	6.88	N
Cadmium	µg/L	5	1		U	1	<1	N
Chromium	µg/L	100	2.37		JI	3	<3	N
Cobalt	µg/L	140	2.81			1	2.81	N
Copper	µg/L	1300	3.28			1	3.28	N
Cyanide	µg/L	200000	10		U	10	<10	N
Lead	µg/L	50	2		U	2	<2	N
Mercury	µg/L	2	0.185		JI	0.2	<0.2	N
Nickel	µg/L	100	2		U	2	<2	N
Selenium	µg/L	50	5		U	5	<5	N
Silver	µg/L	50	1		U	1	<1	N
Thallium	µg/L	2	0.06		JI	0.5	<0.5	N
Vanadium	µg/L	49	10		U	10	<10	N
Zinc	µg/L	5000	10		U	10	<10	N
Section II, ORGANICS								
Benzene	µg/L	5	1		UJ	1	<1	N
B2EHP	µg/L	140	11.1		UJ	11.1	<11.1	N
Methylene Chloride	µg/L	5	5		UJ	5	<5	N
Phenol	µg/L	10	5		U	5	<5	N
Tetrachloroethylene	µg/L	5	1		UJ	1	<1	N
Trichloroethylene	µg/L	5	1		UJ	1	<1	N
Trichlorofluoromethane	µg/L	100	5		UJ	5	<5	N
Section III, RADIONUCLIDES								
Americium-241	pCi/L	<15	0.028	0.32	U	1.54	<1.54	N
Cesium-137	pCi/L	<50	0.0102	1.94	U	7.42	<7.42	N
Curium-242	pCi/L	<15	0.135	0.27	U	0.944	<0.944	N
Curium-243/244	pCi/L	<15	0.533	0.601	U	2.1	<2.1	N
Curium-246	pCi/L	<15	0	0	U	0.378	<0.378	N
Carbon-14	pCi/L	<150	10.9	6.48	JI	23.6	<23.6	N
Cobalt-60	pCi/L	<50	-0.386	2.1	U	8.1	<8.1	N
Iodine-129	pCi/L	<60	6.99	1.45		4.39	6.99	N
Plutonium-238	pCi/L	<15	-0.534	1.21	U	6.33	<6.33	N
Plutonium-239/240	pCi/L	<15	-0.0712	0.143	U	1.86	<1.86	N
Radium-226	pCi/L	TR<25	0.94	0.689	JI	2.25	<2.25	N
Radium-228	pCi/L	TR<25	-0.279	0.431	U	1.87	<1.87	N
Strontium-90	pCi/L	<170	5.49	1.08		3.71	5.49	N
Technetium-99	pCi/L	<170	6.4	3.11	JI	11.3	<11.3	N
Thorium-228	pCi/L	<15	2.92	2.39	U	8.45	<8.45	N
Thorium-230	pCi/L	<15	0.0122	0.679	U	3.67	<3.67	N
Thorium-232	pCi/L	<15	0	0	U	0.918	<0.918	N
Uranium-233/234	pCi/L	<25	3.18	1.95	JI	5.89	<5.89	N
Uranium-235	pCi/L	<15	0.932	1.08	U	3.81	<3.81	N
Uranium-238	pCi/L	<50	3.96	2.09	JI	4.97	<4.97	N

Note: Samples collected 5/11/99

F-Area WTU UIC Sample Results: June 1999

UIC Permitted Constituent	Reg Unit	Limit	Raw Result	Rad Acc	Qual.	QL	June Result	Exceedence Y/N
Section I, INORGANICS								
Antimony	µg/L	6	0.155		JI	2	<2	N
Arsenic	µg/L	50	3		U	3	<3	N
Barium	µg/L	2000	6.74			2	6.74	N
Cadmium	µg/L	5	1		U	1	<1	N
Chromium	µg/L	100	3.42			3	3.42	N
Cobalt	µg/L	140	2.5			1	2.50	N
Copper	µg/L	1300	1.68			1	1.68	N
Cyanide	µg/L	200000	10		U	10	<10	N
Lead	µg/L	50	2		U	2	<2	N
Mercury	µg/L	2	0.28			0.2	0.28	N
Nickel	µg/L	100	3.47			2	3.47	N
Selenium	µg/L	50	5		U	5	<5	N
Silver	µg/L	50	0.355		JI	1	<1	N
Thallium	µg/L	2	0.289		JI	0.5	<0.5	N
Vanadium	µg/L	49	10		U	10	<10	N
Zinc	µg/L	5000	10		U	10	<10	N
Section II, ORGANICS								
Benzene	µg/L	5	1		UJ	1	<1	N
B2EHP	µg/L	140	10		UJ	10	<10	N
Methylene Chloride	µg/L	5	2.46		UJ	5	<5	N
Phenol	µg/L	10	5		U	5	<5	N
Tetrachloroethylene	µg/L	5	1		UJ	1	<1	N
Trichloroethylene	µg/L	5	1		UJ	1	<1	N
Trichlorofluorometh	µg/L	100	5		UJ	5	<5	N
Section III, RADIONUCLIDES								
Americium-241	pCi/L	<15	0.812	0.598	U	2.11	<2.11	N
Cesium-137	pCi/L	<50	0.653	2.09	U	8.03	<8.03	N
Curium-242	pCi/L	<15	-0.0151	0.171	U	0.952	<0.952	N
Curium-243/244	pCi/L	<15	0.614	0.645	U	2.51	<2.51	N
Curium-246	pCi/L	<15	0.236	0.331	U	1.3	<1.3	N
Carbon-14	pCi/L	<150	18.8	4.96		17.5	18.80	N
Cobalt-60	pCi/L	<50	0.716	1.92	U	7.71	<7.71	N
Iodine-129	pCi/L	<60	36.9	6.61		16.1	36.90	N
Plutonium-238	pCi/L	<15	0	0	U	0.321	<0.321	N
Plutonium-239/240	pCi/L	<15	0	0	U	0.321	<0.321	N
Radium-226	pCi/L	TR<25	1.29	0.477		1.08	1.29	N
Radium-228	pCi/L	TR<25	-1.02	0.534	U	1.97	<1.97	N
Strontium-90	pCi/L	<170	4.09	1.85	JI	6.85	<6.85	N
Technetium-99	pCi/L	<170	27.1	6.16		21.9	27.10	N
Thorium-228	pCi/L	<15	-0.103	0.356	U	1.74	<1.74	N
Thorium-230	pCi/L	<15	-0.0825	0.0755	U	0.707	<0.707	N
Thorium-232	pCi/L	<15	-0.0165	0.0322	U	0.429	<0.429	N
Uranium-233/234	pCi/L	<25	18	3.01		6.46	18.00	N
Uranium-235	pCi/L	<15	2.17	0.762		1.88	2.17	N
Uranium-238	pCi/L	<50	31.9	4.76		9.88	31.90	N

Note: Samples collected 6/7/99

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APPENDIX G: OPERATIONAL DOWNTIME

Downtime During the First Half of 1999

Date	Hours of Operation	Downtime Explanation
1/1/99	24.0	WTU operated for 24 hours.
1/2/99	20.0	WTU down to clean the flocculation tank and clarifier.
1/3 to 1/8/99	144.0	WTU operated for 24 hours.
1/9/99	22.5	WTU system down due to high differential pressure across the roughing filters. Backwashing was not effective.
1/10/99	0.0	WTU down to change out the resin and modify the flow transmitter.
1/11/99	0.0	WTU system down to relocate control valve.
1/12/99	0.0	WTU system down to replace resin in ion-exchange columns and roughing filters.
1/13/99	0.0	WTU system down to replace resin in ion-exchange columns and roughing filters and perform hydrostatic testing of process lines and calibration of flow control valve.
1/14/99	0.0	WTU system down to complete resin changeout, desludge the system, and make final preparation for an extended run.
1/15 to 1/18/99	0.0	WTU system down to desludge and make preparation for an extended run.
1/19 to 1/27/99	0.0	WTU system down to resolve nonconformance report (NCR) dealing with chemical pump discharge lines and to modify procedures to operate in a manual mode.
1/28/99	15.0	WTU system restarted after resolution of NCR dealing with chemical pump discharge line and working on procedure modifications to operate in the manual mode.
1/29/99	22.5	WTU system down due to failed bolts in the sludge pump surge suppressor.
1/30 to 1/31/99	0.0	WTU system down due to failed bolts in the sludge pump surge suppressor.
January Totals	248.00	
2/1/99	0.0	WTU down due to failed bolts in the sludge pump surge suppressor.
2/2/99	7.0	WTU down to replace the extruder on the small press.
2/3/99	15.5	WTU down to desludge and clean the small press.
2/4/99	3.5	WTU down to desludge and empty the small press.

Date	Hours of Operation	Downtime Explanation
2/5/99	4.5	WTU down to desludge and empty the small press.
2/6/99	20.5	WTU down due to failure of surge suppressor on sludge pump.
2/7/99	0.0	WTU down due to failure of surge suppressor on sludge pump.
2/8/99	0.0	WTU down due to failure of surge suppressor, sludge pump, and changing out filter press media.
2/9 to 2/10/99	0.0	WTU down to desludge the clarifier and flocculation tank.
2/11/99	1.0	WTU down to desludge the clarifier and flocculation tank.
2/12/99	2.5	WTU down to desludge clarifier and flush process lines.
2/13/99	14.5	WTU down to desludge the process lines.
2/14/99	21.0	WTU down due to carryover from the flocculation tank.
2/15/99	20.0	WTU down due to carryover in the flocculation tank.
2/16/99	24.0	WTU operated for 24 hours.
2/17/99	1.5	WTU down to clean clarifier/flocculation system components.
2/18/99	15.0	WTU down to clean clarifier/flocculation system components
2/19/99	0.0	WTU down to clean clarifier/flocculation system components.
2/20/99	0.0	WTU down to clean clarifier/flocculation system components and prepare for planned outage.
2/21/99	0.5	WTU down to clean clarifier/flocculation system components and prepare for planned outage. Planned maintenance and upgrade outage includes: replace resins, install lightning protection, eliminate RO pump vibration, sludge pump modifications, relocate air compressors, and chemical mixing modifications.
2/22/99 to 2/28/99	0.0	WTU down for planned maintenance and upgrade outage.
February Totals	151.00	
3/1/99 to 3/14/99	0.0	WTU down for planned maintenance and upgrade outage.
3/15/99	0.0	WTU down for planned maintenance and upgrade outage. Ops continued procedure walkdowns and valve tagging.

Date	Hours of Operation	Downtime Explanation
3/16/99	0.0	WTU down for planned maintenance and upgrade outage. Engineering started loop verifications and software installations of PLC. Ops started procedure validations.
3/17/99	0.0	WTU down for planned maintenance and upgrade outage. Engineering completed loop verifications and software installation of the PLC. Ops completed procedure validation, flushed preservative from the RO trains, and established lockout for resin changeouts on 3/18/99.
3/18/99	0.0	WTU down for planned maintenance and upgrade outage. Maintenance changed out resin in the roughing filter C&D and carbon column (INEX-3).
3/19/99	0.0	WTU down for planned maintenance and upgrade outage. Ops completed initial valve alignment per procedure and cleaned out caustic and FeCl_3 mix tanks. Maintenance changed out resin in roughing filters A&B, zeolite column (INEX-1), and dowex column (INEX-2).
3/20/99	1.0	Shakedown testing conducted which included leak checks, general operating tests, etc., of newly installed system modifications. Following testing, operations backwashed INEX-1, INEX-2, and INEX-3 and changed out prefilters and bag filter.
3/21/99	0.0	WTU system down to perform housekeeping on the pad and in preparation for continued system testing on 3/22.
3/22/99	21.0	WTU system down in preparation for testing. Shakedown testing began at 0820; injection began at 0900.
3/23/99	24.0	WTU operated for 24 hours.
3/24/99	16.0	WTU down following breakthrough of the resin columns. Ops deinventoried system and made preparations for resin changeouts.
3/25 to 3/26/99	0.0	WTU down to replace resins for the ion exchange columns and roughing filters.
3/27/99	4.0	Shakedown testing conducted which included use of new chemical addition tanks. WTU system down to troubleshoot system components and delivery rate of chemicals.
3/28/99	16.5	WTU system down to modify feed to top of FeCl_3 mixing tank.
3/29/99	16.0	WTU down due to NaOH injection system repair caused by computer data table error which caused loss of pH in caustic mix tank.

Date	Hours of Operation	Downtime Explanation
3/30/99	15.0	WTU down due to NaOH injection system repair caused by computer data table error which caused loss of pH in caustic mix tank.
3/31/99	0.0	WTU system down due to electrical code violations that were discovered in the MCC.
March Totals	113.50	
4/1 to 4/5/99	0.0	WTU down due to electrical inspections to detect and correct code violations resulting from WSRC subcontractor equipment installation on the WTU pad.
4/6/99	20.0	WTU down due to electrical inspections to detect and correct code violations resulting from WSRC subcontractor equipment installation on the WTU pad.
4/7/99	11.5	WTU system down to repair/replace pumps and motors (sludge pump, polyblend pump, and FeCl_3 rupture disc).
4/8/99	21.0	WTU system down to repair/replace pumps and motors (sludge pump, polyblend pump, and FeCl_3 rupture disc).
4/9/99	19.5	WTU system down due to FeCl_3 injection system repair (rupture disc).
4/10/99	1.5	WTU system down to dissolve/remove plating material from process piping/tanks.
4/11/99	0.0	WTU system down to replace resin in the ion exchange columns and roughing filters.
4/12/99	14.75	WTU system down to replace resin in the ion exchange columns and roughing filters.
4/13 to 4/14/99	48.0	WTU system operated for 24 hours.
4/15/99	19.0	WTU system down to remove resin from process piping and repair roughing filter lateral; system down for 3 hours due to a tornado shelter alarm resulting in personnel evacuation to 724-7E.
4/16/99	18.5	WTU system down to clean clarifier/flocculation system components following an upset condition stemming from the shutdown of the system for the tornado shelter alarm.
4/17/99	22.0	WTU system down to repair NaOH injection system.
4/18/99	15.5	WTU system down to repair NaOH injection system.
4/19/99	24.0	WTU system operated for 24 hours.
4/20/99	21.5	WTU system down due to FeCl_3 injection system pump rupture disc failure.

Date	Hours of Operation	Downtime Explanation
4/21/99	20.5	WTU system down due to repair/replacement of pumps and motors (FeCl ₃ injection system).
4/22 to 4/23/99	48.0	WTU operated for 24 hours.
4/24/99	22.0	WTU system down to evacuate the areas due to tornado warning.
4/25 to 4/27/99	72.0	WTU operated for 24 hours.
4/28/99	16.0	WTU system down to clean clarifier/flocculation system.
4/29/99	10.0	WTU system down to clean clarifier/flocculation system.
4/30/99	19.0	WTU system down for Polyblend injection sysem maintenance.
April Totals	464.25	
5/1 to 5/2/99	48.0	WTU operated for 24 hours.
5/3/99	21.5	WTU down to clean clarifier/flocculation system components.
5/4/99	12.25	WTU down to repair polymer injection system.
5/5/99	20.25	WTU down to repair polymer injection system.
5/6/99	16.5	WTU down due to roughing filter A lateral screen failure.
5/7 to 5/10/99	96.0	WTU operated for 24 hours.
5/11/99	11.5	WTU down to repair polymer injection system.
5/12/99	12.25	WTU down to repair polymer injection system.
5/13/99	18.5	WTU down to repair polymer injection system.
5/14 to 5/16/99	72.0	WTU system operated for 24 hours.
5/17/99	9.5	WTU system down to clean clarifier/flocculation system components and resin changeout.
5/18/99	0.0	WTU system down to clean clarifier/flocculation system components and resin changeout.
5/19/99	7.0	WTU system down to repair small filter press components.
5/20/99	12.0	WTU system down to clean clarifier/flocculation system components.
5/21 to 5/24/99	96.0	WTU operated for 24 hours.
5/25/99	12.0	WTU system down to clean clarifier/flocculation system components.

Date	Hours of Operation	Downtime Explanation
5/26/99	0.0	WTU system down to clean clarifier/flocculation system components.
5/27 to 5/28/99	0.0	WTU system down due to replacement of large filter press screens.
5/29 to 5/31/99	0.0	WTU system down to install inline polymer mixing vessel and develop/approve test plan.
May Totals	465.25	
6/1/99	9.0	WTU system down due to poor flocculation quality and to reassess the test plan path forward. Resin in roughing filters C&D was changed out.
6/2/99	5.0	WTU system down due to poor flocculation quality and to reassess the test plan path forward.
6/3/99	13.33	WTU system down to install the split caustic/polymer addition temporary modification.
6/4 to 6/6/99	72.0	WTU operated for 24 hours.
6/7/99	7.5	WTU system down for scheduled outage. Roughing filters A&B, C&D were deinventoried. Preservative was added to RO trains B and C, and the flocculation tank and clarifier were desludged.
6/8 to 6/30/99	0.0	WTU down for scheduled outage to install RO pump vibration modifications, Cuno filter addition, roughing filter relocation, chemical addition modifications, PLC upgrades, piping modifications, and RO pump rebuilding.
June Totals	106.83	
Grand Totals, January to June, 1999	1548.83	

**General Separations Area Maps For the
F- And H-Area Hazardous Waste Management Facilities
Semiannual Corrective Action Reports (U)**

Document Reference Numbers:

WSRC-TR-98-00147 F-Area HWMF

WSRC-TR-98-00148 H-Area HWMF

First and Second Quarter 1999

Volume II

Publication Date: October 1999

**Westinghouse Savannah River Company, LLC
Savannah River Site
Aiken, SC 29808**

**Prepared for the U.S. Department of Energy under
Control Contract No. DE-AC09-96SR18500**

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Available to the public from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161.

Printed in the United States of America

Prepared for
U. S. Department of Energy
and
Westinghouse Savannah River Company, LLC

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**APPENDIX H: GENERAL SEPARATIONS AREA MAPS FOR THE F- AND H-AREA
HAZARDOUS WASTE MANAGEMENT FACILITIES SEMIANNUAL CORRECTIVE
ACTION REPORTS**

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